



## ***Austrolebias reicherti* Loureiro & García, a valid species of annual fish (Cyprinodontiformes: Rivulidae) from Uruguay**

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### **Abstract**

This article analyzes the available morphological (morphometric, meristic, and coloration patterns) and molecular evidence that supports the taxonomic validity of *Austrolebias reicherti*. The species can be differentiated from *A. charrua* Costa & Cheffe, recently proposed as a senior synonym (Costa 2006), by the following combination of characters (characters of *A. charrua* in parenthesis): 1) origin of dorsal fin anterior to that of the anal fin (origin of dorsal fin posterior to that of the anal fin), 2) 18 to 24 caudal fin rays (23–26), 3) black supraorbital band well developed (moderately developed), 4) a vertical band present on the posterior borders of dorsal and anal fins (band absent), 5) base of dorsal fin banded and anal fin uniformly pigmented (both fins dotted at least on their proximal section), and 6) vertical dark bands on body flank narrower or equal in width to the lighter space between bands (vertical bands equal or wider than space between bands). According to morphological and molecular data, it is also concluded that *A. salviai* Costa, Litz & Laurino is a junior synonym of *A. reicherti*.

**Keywords:** Rivulidae, Taxonomy, Patos-Merín drainage system

### **Introduction**

Annual fishes of the *Austrolebias adloffii* species group (Family Rivulidae) are endemic to the lowlands of the Patos-Merín drainage system (Costa 2006). Taxonomy of this group is problematic due to the overall morphological similarity among species and, at the same time, the high morphological variation within species. Since the description of *Austrolebias adloffii* (Ahl 1922), the existence of high morphological (Vaz-Ferreira & Melgarejo 1984; Loureiro 1996; Reichert 1994), chromosomal (García *et al.* 1993, 1995, 2001), and molecular (García *et al.* 2002) variability has been reported for this taxon throughout the southern Laguna Merín basin. Subsequently, part of the variability was recognized as representing species level differences. Costa & Cheffe (2001) described three new species from specimens previously assigned to *A. adloffii*: *A. minuano* Costa & Cheffe, *A. charrua*, and *A. nigrofasciatus* Costa & Cheffe. More recently, Loureiro and García (2004) described *A. reicherti* from an area between the distributions of *A. charrua* and *A. nigrofasciatus*, without an explicit comparison with adjacent species. Costa (2006) considered *A. reicherti* a junior synonym of *A. charrua* based solely on the species distribution. Subsequently, Costa (2006) described two additional species in this group: *A. salviai*, based on specimens from Río Tacuarí basin, Uruguay, and occupying the reported range of *A. reicherti* (Loureiro & García 2004), and *A. nachtigalli* Costa & Cheffe, from specimens originally described as *A. nigrofasciatus* from Río Yaguarón and A° Grande basins (Brazil) (Fig. 1).

The goal of this study is to report on molecular and morphological evidence that supports *Austrolebias reicherti* as a valid taxon of the *A. adloffii* species group, and diagnosable from *A. charrua* and *A. nigrofascia-*