



Re-description of the tadpole of *Pseudopaludicola falcipes* (Anura: Leiuperidae), with comments on larval diversity of the genus

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Abstract

The genus *Pseudopaludicola* consists of 12 Neotropical species, whose biology is not well known. Only four larvae of this genus have been described. The first one to be described was *P. falcipes*, but available reports are incomplete and the morphology description is inconsistent, especially in oral disc configuration. *P. falcipes* was posteriorly re-described based only on adult specimens, and its geographic distribution was restricted. Therefore, there is a need to examine tadpole morphology of this genus in order to provide a new larval description. In this paper we re-describe the tadpole of *P. falcipes* and compare it with other species of the genus *Pseudopaludicola*. Our description is based on specimens collected at three different localities in northern Uruguay, with series reared in the laboratory. We report a novel oral disc configuration: the uniserial marginal papillae present a wide upper gap and a narrow lower gap followed by two lateral gaps. We also analyze the previously ignored oral disc diversity among Leiuperidae larvae, which must be taken into account in comparisons between species for systematic purposes and ecological studies. Morphometric comparisons with *P. boliviana* tadpole reveal that *P. falcipes* is larger, having a narrower and shorter snout, and a greater narial-ocular distance. *P. falcipes* larvae belong to the lentic benthic ecomorphological guild.

Key Words: larval morphology, *Pseudopaludicola falcipes*, *P. boliviana*, Uruguay

Introduction

The Neotropical genus *Pseudopaludicola* Miranda-Ribeiro is widely distributed throughout the eastern region of South America (from northern Colombia to central Argentina). These small sized (< 20 mm SVL [snout-vent length]) frogs are closely related to *Physalaemus* Fitzinger. Despite being common species, the natural history of *Pseudopaludicola* is little known (Lynch 1989; Lobo 1992; Maneyro 2000). Species identification has been problematic, and misidentifications were common within the genera *Pseudopaludicola* (Lobo 1992) and with other close genera (Barrio 1953). These problems may have resulted from errors in species determination and from lack of taxonomic and biogeographical data (Lobo 1994).

Lynch (1989) and Lobo (1995; 1996) thoroughly studied the systematics of the genus based mainly on adult traits. To date, twelve *Pseudopaludicola* species have been recognized (Frost 2007), and they are divided in two taxonomic groups: the monophyletic *P. pusilla* group, *P. pusilla* (Ruthven), *P. boliviana* Parker, *P. llanera* Lynch, *P. ceratophryes* Rivero & Serna, and the paraphyletic *P. falcipes* group, *P. falcipes* (Hensel), *P. canga* Giaretta & de C. Kokubum, *P. mirandae* Mercadal de Barrio & Barrio, *P. mineira* Lobo, *P. mystacalis* (Cope), *P. riopiedadensis* Mercadal de Barrio & Barrio, *P. saltica* (Cope), *P. ternetzi* Miranda-Ribeiro. Until now, only four tadpoles have been described: *P. boliviana* (Kehr & Schaefer 2005), *P. mineira* (Pereira & Nascimento 2004), *P. ternetzi* (Lobo 1991) and *P. falcipes* (Barrio 1945; 1953; Cei 1980). *Pseudopaludicola* larvae were considered to have conserved morphologies which are not useful for systematic purposes