



Redescription of the tadpoles of three species of frogs from Uruguay (Amphibia: Anura: Leiuperidae and Leptodactylidae), with notes on natural history

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Abstract

In this work the tadpoles of the neotropical frogs *Leptodactylus latinasus*, *Physalaemus biligonigerus* and *Physalaemus riograndensis* are redescribed. Relevant features of *L. latinasus* tadpoles are a medial vent tube, labial tooth row formula (LTRF) 2(2)/3(1), and oral disc with a single row of marginal papillae interrupted by a dorsal gap, similarly to other species within the *L. fuscus* species group. Tadpoles of *P. riograndensis* have a medial vent tube, LTRF 2(2)/2(1), oral disc with single row of marginal papillae, interrupted by a dorsal gap and usually two ventrolateral gaps. The tadpole of *P. biligonigerus* has a dextral vent tube, the oral disc presents a single row of marginal papillae (sometimes double ventrally) with dorsal gap, and LTRF 2(2)/2(1). Although considered relevant for the taxonomy of *Physalaemus*, character variation of larval external morphology is incongruous with the phenetic species group arrangements proposed up to date. A reproductive mode previously unreported for *P. riograndensis* and *P. henselii* was observed: foam nests in the humid ground outside ponds. We also report the display of deimatic behavior in *L. latinasus*, *L. ocellatus*, *P. henselii*, and *P. biligonigerus*, in the last case with exhibition of the eye-like inguinal glands.

Key words: *Leptodactylus latinasus*, *Physalaemus biligonigerus*, *Physalaemus riograndensis*, larval morphology, distribution, defensive behavior, reproductive mode

Introduction

The knowledge of tadpole morphology is a valuable tool for different biological studies, i.e., taxonomic, ecological, biogeographic and faunistic inventories (Altig & McDiarmid 1999; Haas 2003; Frost *et al.* 2006; Rossa-Feres & Nomura 2006). The external morphology of the tadpoles of some well known neotropical frogs was described early in the 20th century in pioneer works (i.e., Budgett 1899; Fernández & Fernández 1921; Fernández 1927) which were sometimes reproduced in more recent monographs (Ceï 1980), and are still the source of information about these species. Despite being very valuable, these early descriptions were based on a single or few individuals not taking into account intraspecific variation, usually without morphometrics and complete illustrations, thus limiting interspecific comparisons with more recent works. An example is the tadpole of the common and widespread South-American frog *Leptodactylus latinasus* Jiménez de la Espada (Leptodactylidae, *L. fuscus* group, Fig. 1 A) which was studied by Fernández and Fernández (1921) on material from Buenos Aires Province, Argentina (as *L. prognathus* Boulenger). These authors provide a general description of external morphology along with an illustration of the oral disc. In a recent review of the tadpoles of the *L. fuscus* group (Langone & de Sá 2005), those of two other species were redescribed, showing important intraspecific variation when compared with previous descriptions, but the work of Fernández and Fernández (1921) remained as the sole source of information about *L. latinasus*. Recently, Vera Candioti *et al.*