



The *Leptobrachium* (Anura: Megophryidae) of the Langbian Plateau, southern Vietnam, with description of a new species

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Abstract

We sampled two forms of *Leptobrachium* in syntopy at the type locality of *L. pullum* at upper elevations on the Langbian Plateau, southern Vietnam. The two forms differed in morphology (primarily in coloration), mitochondrial DNA, and male advertisement calls. One form closely agrees with the type series of *L. pullum* (but not to its original description due to error), and the other is described as new. *Leptobrachium leucops* **sp. nov.** is distinguished from its congeners by having small body size (males with SVL 38.8–45.2), the upper one-third to one-half of iris white, a blue scleral arc, a dark venter, and sexually active males without spines on the upper lip. *Leptobrachium pullum* and *L. mouhoti*, a recently described species from low-elevation slopes of the Langbian Plateau in eastern Cambodia, are morphologically divergent but genetically similar, warranting further investigation into geographic variation in the red-eyed *Leptobrachium* of southern Indochina.

Key words: Langbian Plateau; *Leptobrachium pullum*; Vietnam

Introduction

Smith (1921) described the megophryid frog *Megalophrys hasseltii* var. *pullus*, now known as *Leptobrachium pullum*, based on a series of 20 specimens that he and C. Boden Kloss collected in 1918 on the Langbian Plateau of southern Vietnam (Kloss 1919). Most *Leptobrachium* have conspicuously colored eyes, and this prominent feature is often used to diagnose species (e.g., Dubois & Ohler 1998; Lathrop *et al.* 1998; Matsui *et al.* 1999; Ohler *et al.* 2004; Matsui *et al.* 2010). Unfortunately, this coloration is usually lost over time in fluid preservation, making original field notes (and more recently, color photographs) essential for later determination of eye coloration in preserved specimens. In his brief description, Smith (1921: 440) stated that *L. pullum* had the “upper half of iris (in life) scarlet.” Smith’s comment is supported by a note from co-collector Kloss found in the jar of paralectotype males BMNH 1972.1465–66 that stated “Black eyeball with scarlet iris. C. B. K.” (B. L. Stuart, personal observation, April 2009). Stuart *et al.* (2006) used Smith’s (1921) statement on eye coloration, in addition to body size, to distinguish *L. pullum* from a new species, *L. mouhoti*, collected from low-elevation, western slopes of the Langbian Plateau in eastern Cambodia. Specifically, *L. mouhoti* has scarlet (= bright orange-red) coloration restricted to a scleral arc under the palpebrum (visible in the posterior corner of the eye and when the palpebrum is retracted), whereas *L. pullum* has, according to its original collectors, scarlet on the upper half of the iris.

Our fieldwork in 2008 at upper elevations on the Langbian Plateau, Vietnam, revealed two syntopic forms of *Leptobrachium* that were readily distinguished from one another, but which exhibited a perplexing pattern of adult eye coloration that made assigning one of these forms to *L. pullum* difficult using Smith’s (1921) original description. One form had scarlet restricted to a scleral arc under the palpebrum, and the other had white on the upper half of the iris, but neither had scarlet on the upper half of the iris. This means that Smith and Kloss’ statements on eye