



Taxonomic review of *Physalaemus olfersii* (Lichtenstein & Martens, 1856) with revalidation of *Physalaemus lateristriga* (Steindachner, 1864) and description of two new related species (Anura: Leiuperidae)

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Abstract

Physalaemus olfersii was described by M.H.K. Lichtenstein and E.K. Martens in 1856 based on two syntypes collected by I.M. Olfers between the years 1818 and 1819. Due to the brevity of its original description and high interpopulational variation, a taxonomic review of material assigned to the species is proposed. Morphological comparisons allowed us to associate the syntype of *P. olfersii* to populations distributed between the state of Espírito Santo and of São Paulo to which the southern limit is the to the municipality of São Paulo. Historical documents allowed us to define an area within Serra do Mar mountain range as the type locality of the species. Morphological and acoustics comparisons of *P. olfersii* from different localities in southern and southeastern Brazil revealed considerable variation among populations. Differences in call parameters and morphology, led us to conclude that three more species were under the name *P. olfersii*: *Physalaemus lateristriga* (Steindachner, 1864) comb. nov. and two new species, *Physalaemus feioi* sp. nov. and *P. orophilus* sp. nov.

Key words: Amphibia; *Physalaemus lateristriga* comb. nov.; *Physalaemus feioi* sp. nov.; *Physalaemus orophilus* sp. nov.; Atlantic Rain Forest Domain; Geographic distribution; Advertisement call

Introduction

The genus *Physalaemus* is currently composed by 43 species (Cruz *et al.* 2008; Frost 2010) and arranged in seven fenetic groups: *P. cuvieri* group, *P. signifer* group, *P. albifrons* group, *P. deimaticus* group, *P. gracilis* group, *P. henselii* group, and *P. olfersii* group (Nascimento *et al.* 2005). The *P. olfersii* group, as currently recognized, is composed by five species: *P. aguirrei* Bokermann, 1966, *P. insperatus* Cruz, Cassini & Caramaschi, 2008, *P. soaresi* Izecksohn, 1965, *P. maximus* Feio, Pombal & Caramaschi, 1999, and *P. olfersii* (Lichtenstein & Martens, 1856).

Physalaemus olfersii occurs in open areas associated to forests (Dixo & Verdade 2006) and have been considered a species broadly distributed in the states of Espírito Santo, Minas Gerais, Rio de Janeiro, São Paulo, Paraná, and Santa Catarina (Nascimento *et al.* 2005; Frost 2010). It was described by Lichtenstein & Martens (1856) as *Phryniscus olfersii*, based on two syntypes. The authors briefly characterized the species and determined its type locality as “Brazil” (Lichtenstein & Martens 1856).

Morphological and natural history variations between populations of *P. olfersii* had been observed by some authors (Feio *et al.* 1999; Canelas & Bertolucci 2007; Cruz *et al.* 2008, Giaretta *et al.* 2009), which suggest a possible complex of species.