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Larval morphology and advertisement call of *Phyllodytes acuminatus* Bokermann, 1966 (Anura: Hylidae) from Northeastern Brazil

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Abstract

This paper describes the tadpole and advertisement call of *Phyllodytes acuminatus*, based on specimens from the Parque Nacional do Catimbau, in the municipality of Buíque, State of Pernambuco, Northeastern Brazil. The overall morphology of *P. acuminatus* tadpole is similar to that of most species of the genus. The presence of a double row of marginal papillae surrounding all the oral apparatus (except on most of the upper labium which has a dorsal gap) was a characteristic that differentiate *P. acuminatus* from the other species of the genus. Furthermore, the call structure of the species (unpulsed notes with harmonic structure) fits it in the group composed of *P. kautskyi* and *P. melanomystax*.

Key words: Lophiohylini, tadpole, vocalization, Parque Nacional do Catimbau, Caatinga

Resumo

O girino e o canto de anúncio de *Phyllodytes acuminatus* são descritos baseados em espécimes provenientes do Parque Nacional do Catimbau, no município de Buíque, estado de Pernambuco, nordeste do Brasil. A morfologia geral de *P. acuminatus* é similar a das demais espécies do gênero. A presença de uma fileira dupla de papilas marginais circundando o aparato oral (exceto em parte do lábio superior) foi uma característica que diferenciou *P. acuminatus* das demais espécies do gênero. Além disso, a estrutura do canto (nota sem pulsos com estrutura harmônica) alocou a espécie no grupo composto por *P. kautskyi* e *P. melanomystax*.

Palavras-chave: Lophiohylini, girino, vocalização, Parque Nacional do Catimbau, Caatinga

Introduction

One of the major obstacles in amphibian surveys during faunal inventories is identifying the larval forms (Rossa-Feres & Nomura 2006). Tadpoles are more easily located and captured than adults given that they remain longer at the reproduction site (Altig & McDiarmid 1999a). As such, knowledge of larval morphology can be an important source of information for taxonomic, natural history, and ecological studies of anuran species (Heyer *et al.* 1990; Duellman & Trueb 1994; Altig & McDiarmid 1999b). Additionally, amphibian advertisement call (*sensu* Wells 1977) plays a number of different roles, including announcing their location within the reproduction site to other individuals, attracting reproductive females, defending the courtship site and signaling aggressive behavior (Fouquette 1960; Littlejonh & Lofthus-Hills 1968; Haddad & Cardoso 1992); it can also be used in the taxonomic elucidation of closely related species (*e.g.*Pombal *et al.* 1995; Napoli & Cruz 2005; Nunes *et al.* 2007).

The genus *Phyllodytes* Wagler, 1830 is currently composed of 11 species with distribution restricted to Eastern

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Phyllodytes acuminatus presented the dominant frequency oscillating between values of fundamental frequency and dominant frequency, a feature also recorded by Nunes *et al.* (2007) for *P. melanomystax.* Furthermore, the call of *P. acuminatus* agrees with that of *P. luteolus* and *P. melanomystax*, none showing frequency modulation. This is in contrast with *P. kautskyi* that exhibits ascending modulation in the first half of the call and descending in the second half.

Caramaschi *et al.* (2004) proposed three species groups for *Phyllodytes* based on adult color pattern. *Phyllodytes acuminatus* is allocated to the *P. luteolus* species group along with *P. brevirostris*, *P. edelmoi*, *P. kautskyi*, *P. wuchereri* (Peters, 1873 "1872") and *P. melanomystax*; although there is no evidence about the monophyly of these groups (Faivovich *et al.* 2005). Recently, Roberto and Ávila (2013), based on advertisement call data of *Phyllodytes* species, propose two different species groups: one with unpulsed notes with harmonic structure composed by *P. kautskyi* and *P. melanomystax* (*P. kautskyi* species group); and another with pulsed notes, composed by *P. edelmoi, P. luteolus* and *P. gyrinaethes* (*P. luteolus* species group). The call structure of *P. acuminatus* fits it in the group of *P. kautskyi* (unpulsed notes with harmonic structure). On the other hand, there is no clear concordance between the tadpole morphology and these two proposed groups, being necessary to properly test them to shed light on the phylogenetic relationships of the genus.

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