



Morphological variation in *Xenoxybelis boulengeri* (Procter, 1923) (Serpentes, Xenodontinae, Philodryadini)

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Abstract

The genus *Xenoxybelis* contains two species, *X. argenteus* and *X. boulengeri*, characterized by semi-arboreal habits and an extremely thin rostral area, classified in the subfamily Xenodontinae (Colubridae). *Xenoxybelis boulengeri* is considered a rare species and is poorly represented in scientific collections. Its external morphology is known only from the original description and seven other specimens. In this study, twenty additional specimens were examined from the Brazilian states of Acre, Amazonas and Rondônia. Variation in meristic and morphometric characters are described, and new characters are incorporated in a revised diagnosis of the species. Illustrations and a description of the hemipenes of *X. boulengeri* are presented for the first time. Analysis of morphological and molecular characters permit allocation of *Xenoxybelis* to the tribe Philodryadini, together with *Ditaxodon*, *Philodryas*, *Pseudablakes* and *Tropidodryas*.

Key words: *Xenoxybelis boulengeri*; morphology; hemipenis, Philodryadini

Introduction

The genus *Xenoxybelis* Machado, 1993 contains two species: *X. argenteus* (Daudin, 1803) and *X. boulengeri* (Procter, 1923). Prior to Machado's study (1993), these species were allocated to the genus *Oxybelis* Wagler, 1830, together with *O. aeneus* (Wagler, 1824), *O. brevirostris* (Cope, 1861) and *O. fulgidus* (Daudin, 1803), traditionally included in the Colubrinae Opper, 1811 (Ferrarezzi, 1994). Machado (1993) observed that *Oxybelis* (*sensu* Keiser, 1974; 1989) was polyphyletic, proposing the genus *Xenoxybelis* for *X. argenteus* and *X. boulengeri*, based on hemipenial structure (semicapitate and bilobed, with a forked sulcus spermaticus). Machado removed *Xenoxybelis* from Colubrinae, and allocated it to the subfamily Xenodontinae Bonaparte, 1845 (tribe Alsophiini Fitzinger, 1843). Zaher (1999) described the hemipenes of *X. argenteus* and affirmed that this species shares a common hemipenial pattern with other Xenodontinae related to species of *Philodryas* Wagler, 1830 of the "olfersii" group (*P. olfersii* Lichtenstein [1823], *P. viridissimus* Linnaeus [1758] and *P. cordata* Donnelly and Myers [1991]).

Xenoxybelis argenteus was described by Daudin (1803) as *Coluber argenteus* Linnaeus, 1758, being later transferred by Boulenger (1896) to *Oxybelis*. This species occurs in the humid forests of Venezuela, Guyana, Ecuador, Colombia, Peru, Bolivia, Paraguay and in Brazil, where it is found in the Amazonian region (Keiser, 1974; Cunha & Nascimento, 1978, 1993; Machado, 1993; Cisneros-Heredia, 2007). According to Martins & Oliveira (1999), *X. argenteus* is semi-arboreal, occurring mainly in primary forests. *Xenoxybelis boulengeri*