

## NOTE

**THE IMPORTANCE OF VERIFIABLE RECORDS AND OCCURRENCE RECTIFICATION OF  
*SIBYNOMORPHUS MIKANII* (SERPENTES: DIPSADIDAE) FOR THE COASTAL LOWLANDS OF SANTA  
CATARINA, SOUTHERN BRAZIL**

**Omar Machado Entiauspe-Neto<sup>1\*</sup>, Arthur Diesel Abegg<sup>2</sup>, Felipe Caseiro<sup>1</sup> & Daniel Loebmann<sup>1</sup>**

<sup>1</sup> Universidade Federal do Rio Grande, Instituto de Ciências Biológicas, Laboratório de Vertebrados, Av. Itália Km 8, CEP: 96203-900, Vila Carreiros, Rio Grande, Rio Grande do Sul, Brazil.

<sup>2</sup> Universidade Federal de Santa Maria, Laboratório de Biologia Evolutiva, 1000, CEP: 97105-900. Santa Maria, Rio Grande do Sul, Brazil.

Corresponding author: omarentiauspe@hotmail.com

**ABSTRACT**

Voucher specimens are the physical representatives of a species, being an elementary tool for specimen-based research. In this work, we revisit a recent record of *Sibynomorphus mikanii* for Santa Catarina, providing arguments for its invalidation, while reinforcing the need for a cautious review of new records based on incomplete or doubtful data.

**Key words:** taxonomy, vouchers, collections, variation.

**RESUMO**

**A importância de registros verificáveis e retificação de ocorrência de *Sibynomorphus mikanii* (Serpentes: Dipsadidae) para as planícies costeiras de Santa Catarina, Sul do Brasil.** Exemplares-testemunho são os representantes físicos de espécies, sendo uma ferramenta essencial para pesquisa baseada em espécimes. Neste trabalho, revisitamos um registro recente de *Sibynomorphus mikanii* para Santa Catarina, apresentando argumentos para sua invalidação, e reforçando a necessidade de uma revisão mais cautelosa de novos registros baseados em dados incompletos ou duvidosos.

**Palavras-chave:** taxonomia, exemplares-testemunho, coleções, variação.

Voucher individuals, under a scientific framework, are physical representatives of a species, deposited in a collection or curated museum, accompanied by metadata, and if possible, DNA samples (Turney *et al.*, 2015); several authors (Huber, 1998; Suarez & Tsutsui, 2004; Astrin *et al.*, 2013; Turney *et al.*, 2015) have argued on behalf of the voucher individuals's importance, as it's an elementary tool for specimen-based researches.

Agudo-Padrón & Luz (2015) report the encounter of a young *Sibynomorphus mikanii* (Schlegel, 1837) on the locality of "Bosque Vereador Pedro Medeiros",

in the continental area of Florianópolis municipality (27°35'49"S, 48°32'56"W), Santa Catarina state, Brazil. According to the authors, this would represent the first specimen of *S. mikanii* for this state, as well as a distribution expansion, being the southernmost record of the species in Brazil. However, the authors express uncertainty on the correct identification of the species, claiming that "*características do espécime levam a crer que seja um exemplar de S. mikanii*" (en = characteristics of the specimen led us to believe that it would be an individual of *S. mikanii*), highlighting that "*de acordo com alguns pesquisadores, o espécime poderia ser um juvenil de Sibynomorphus neuwiedi (Ihering, 1911)*" (en = accordingly to some researchers, the specimen could be a juvenile individual of *Sibynomorphus neuwiedi* (Ihering, 1911).

Although the authors were clearly uncertain about the identity of the specimen, no diagnosis or any morphological data is given in their work, which prevents further comparisons with both species. This issue could be easily solved with verification of the voucher specimen. Oddly enough, the referred individual was not collected, therefore, making the only available tool for its examination the pictures provided in the article (Agudo-Padrón & Luz, 2015: Figure 1, page 170).

According to Franco (1994), the distinction between *S. mikanii* and *S. neuwiedii* can be readily made based on the following characters: (1) vertebral scale row condition (wider than paravertebrals in *S. neuwiedii*; indistinct in *S. mikanii*); (2) oral and cloacal mucosa coloration (clear in *S. neuwiedii*; dark in *S. mikanii*); (3) snout coloration (dark in *S. neuwiedii*; clear in *S. mikanii*).

An evident negligence was committed by the authors in reviewing the diagnostic features of both species, considering that the portrayed specimen presents a dark snout and coloration pattern matching the "B" pattern of Franco (1994), both characteristics presented by the populations of *S. neuwiedii* recorded for the Florianópolis municipality.

Considering that *S. mikanii* has been recorded by Franco (1994) for Jaraguá do Sul, Santa Catarina, 130

km northeast of Florianópolis, as plausible as the occurrence of the species for Florianópolis may be, the unconvincing evidence presented by Agudo-Padrón & Luz (2015) led us to believe that there are no arguments supporting this record, and that the specimen represents a typical individual of *S. newwiedii*.

Such confusions could be avoided with better practices in taxonomy and deposition of voucher specimens in collections; we highlight that, in order to reduce taxonomic instability and proliferation of incorrect records, authors should refrain from publishing new records based on incomplete or doubtful data, as these incorrect records may negatively affect further studies on fields such as biogeography and conservation biology.

OME-N and DL thank CNPQ for the granted PIBIC grant.

## REFERENCES

- Agudo-Padrón A.I. & Luz J.S. 2015. First record of the snail-eating snake *Sibynomorphus mikanii* (Schlegel, 1837) (Serpentes: Dipsadidae) from Santa Catarina State, Central Southern Brazil. *Brazilian Journal of Biological Sciences*, 2(3): 169-171.
- Astrin J.A., Zhou X. & Misof B. 2013. The importance of Biobanking in molecular taxonomy, with proposed definitions for vouchers in a molecular context. *Zookeys*, 365: 67-70.
- Franco F.L. 1994. O gênero *Sibynomorphus* Fitzinger, 1843 no Brasil (Colubridae, Xenodontinae, Dipsadini). Dissertação de Mestrado, Instituto de Biociências, PUCRS. Porto Alegre. 148 pp.
- Huber J.T. 1998. The importance of voucher specimens with practical guidelines for preserving specimens of the major invertebrate phyla for identification. *Journal of Natural History*, 32(3): 367-385.
- Suarez A.V. & Tsutsui N.D. 2004. The value of museum collections for research and society. *BioScience*, 54(1): 66-74.
- Turney S., Cameron E.R., Cloutier C.A. & Buddle C.M. 2015. Non-repeatable science: assessing the frequency of voucher specimen deposition reveals that most arthropod research cannot be verified. *PeerJ*, 3:1168.

*Fecha de Recepción: 6 de setiembre de 2016*  
*Fecha de Aceptación: 29 de octubre de 2016*