

**New records of *Leptophis ahaetulla ahaetulla* (Serpentes, Colubridae) for Venezuela, Colombia and the placement of *L. a. copei* into the synonymy of *L. a. ahaetulla***

*Nelson Rufino de Albuquerque*<sup>1,2</sup>

<sup>1</sup>Departamento de Ciências do Ambiente, Universidade Federal de Mato Grosso do Sul –UFMS  
Av. Rio Branco 1270, Campus do Pantanal, CEP 79304-020, Corumbá, MS, Brazil

<sup>2</sup>Corresponding author: Nelson Rufino de Albuquerque, e-mail: nelson.rufino@ufms.br

ALBUQUERQUE, N.R. New records of *Leptophis ahaetulla ahaetulla* (Serpentes, Colubridae) for Venezuela, Colombia and the placement of *L. a. copei* into the synonymy of *L. a. ahaetulla*. *Biota Neotrop.* 9(4): <http://www.biotaneotropica.org.br/v9n4/en/abstract?short-communication+bn03209042009>.

**Abstract:** The taxonomic validity of *Leptophis ahaetulla copei* is assessed. This subspecies is distinct from the nominal subspecies on the basis of differences in the number of ventral scales, maxillary teeth and dorsal coloration. However, comparison of its type specimens with specimens of *L. a. ahaetulla* revealed that *L. a. copei* is a junior synonym of the latter. In addition, the distribution of *L. a. ahaetulla* is expanded from Brazil to southwestern Venezuela and southern Colombia.

**Keywords:** *Leptophis ahaetulla*, taxonomy, distribution, South America.

ALBUQUERQUE, N.R. Novos registros de *Leptophis ahaetulla ahaetulla* (Serpentes, Colubridae) para Venezuela, Colômbia e a colocação de *L. a. copei* na sinonímia de *L. a. ahaetulla*. *Biota Neotrop.* 9(4): <http://www.biotaneotropica.org.br/v9n4/pt/abstract?short-communication+bn03209042009>.

**Resumo:** A validade taxonômica de *Leptophis ahaetulla copei* é avaliada. Esta subespécie é distinta da subespécie nominal com base em diferenças no número de escamas ventrais, dentes maxilares e coloração dorsal. Porém, uma comparação dos seus espécimes-tipo com espécimes de *L. a. ahaetulla* revelou que *L. a. copei* é um sinônimo júnior desta última. Em adição, a distribuição de *L. a. ahaetulla* é expandida do Brasil para o sudoeste da Venezuela e sul da Colômbia.

**Palavras-chave:** *Leptophis ahaetulla*, taxonomia, distribuição, América do Sul.

## Introduction

As defined by Oliver (1948) and Mertens (1973) the Neotropical tree snake *Leptophis ahaetulla* (Linnaeus, 1758) contains 12 subspecies: *L. a. ahaetulla*, *L. a. bocourti*, *L. a. bolivianus*, *L. a. coeruleodorsus*, *L. a. copei*, *L. a. liocercus*, *L. a. marginatus*, *L. a. nigromarginatus*, *L. a. occidentalis*, *L. a. ortoni*, *L. a. praestans* and *L. a. uroscopicus*.

Prior to its recognition as a distinct subspecies of *L. ahaetulla*, Oliver (1942) described *Leptophis copei* from three specimens collected at the Venezuela-Brazil boundary on Salto do Huá, one specimen from San Antonio, upper Orinoco River, Venezuela, and two specimens from the Colombia-Brazil boundary on Vaupés, upper Carurú River. Oliver (1942) did not propose a formal diagnosis of a new taxon; rather, he furnished morphometric and meristic data such as the number of ventral and subcaudal scales and snout-vent length, in addition to the variation observed on the black ocular stripe and dorsal coloration of the type specimens. Subsequently, Oliver (1948: 231) redescribed the pattern of coloration of *L. a. copei* in detail, pointing out that the anterior body coloration of this subspecies differs from that on the posterior region of the body. According to Oliver (1948), the dorsal coloration pattern of *L. a. copei* consists of two dark lateral stripes separated from each other by a light gray to light brown vertebral stripe, which is always obliterated on the midbody, with the exception of irregular spots on concealed portions of scales.

Oliver (1948: 201) used the presence of two dark blue dorsolateral stripes separated by a light vertebral stripe, which always continues onto the tail, to distinguish *L. a. ahaetulla* from the other subspecies of *L. ahaetulla*. Oliver (1948: 232) stated also that *L. a. ahaetulla* differs from *L. a. copei* in having a lower average number of maxillary teeth (25.3 vs. 27) and a lower number of ventral scales (156-178 vs. 173-179). Availability of new specimens in several museum collections revealed, however, that there is more geographic variation in *L. a. ahaetulla* than previously assumed by Oliver (1948).

## Material and Methods

I compared specimens from the type series of *L. copei* with specimens from the Roraima State, Amapá, Amazonas, Pará, western Maranhão, Venezuela, and data from Cunha & Nascimento (1993) (Appendix). In addition, I counted the number of maxillary, palatine, pterygoid, and dentary teeth of MHNLS 14011, MPEG 17375 and UMMZ 149833. The map was made with the program ArcView GIS with some localities obtained from the on line version of the Global Gazetteer Version 2.1 by Falling Grain Genomics (<http://www.fallingrain.com/world/>). Skulls were removed by peeling back the skin from the mouth such that head integument remained intact and with the rest of the specimen. A pair of forceps and a small surgical scissors was used to cut the skin. The extracted skulls were prepared as dry skeletons. Ventral scales were counted according to Dowling (1951).

**Table 1.** Number of maxillary, palatine, pterygoid, and dentary teeth counted in three skulls of *L. a. ahaetulla*.

**Tabela 1.** Número de dentes maxilares, palatinos, pterigóideos, e dentários contados em três crânios de *L. a. ahaetulla*.

Specimens	Maxillary	Palatine	Pterygoid	Dentary
MPEG 17375 (♂)	27/26	16/18	30/30	28/28
MHNLS 14011 (♀)	27/27	16/16	28/28	*/*
UMMZ 149833 (♂)	27/26	15/16	27/25	26+/28+

## Results and Discussion

The analysis revealed that the variation in number of ventral and subcaudal scales and number of maxillary teeth, which were employed by Oliver (1948) for the diagnosis of *L. a. copei*, falls within the variation of *L. a. ahaetulla* (Tables 1 and 2). I examined specimens from

**Table 2.** Variation in number of ventral scales for all specimens of *L. a. ahaetulla* examined in this study. \*Paratypes of *L. copei*; \*\*Holotype of *L. copei*.

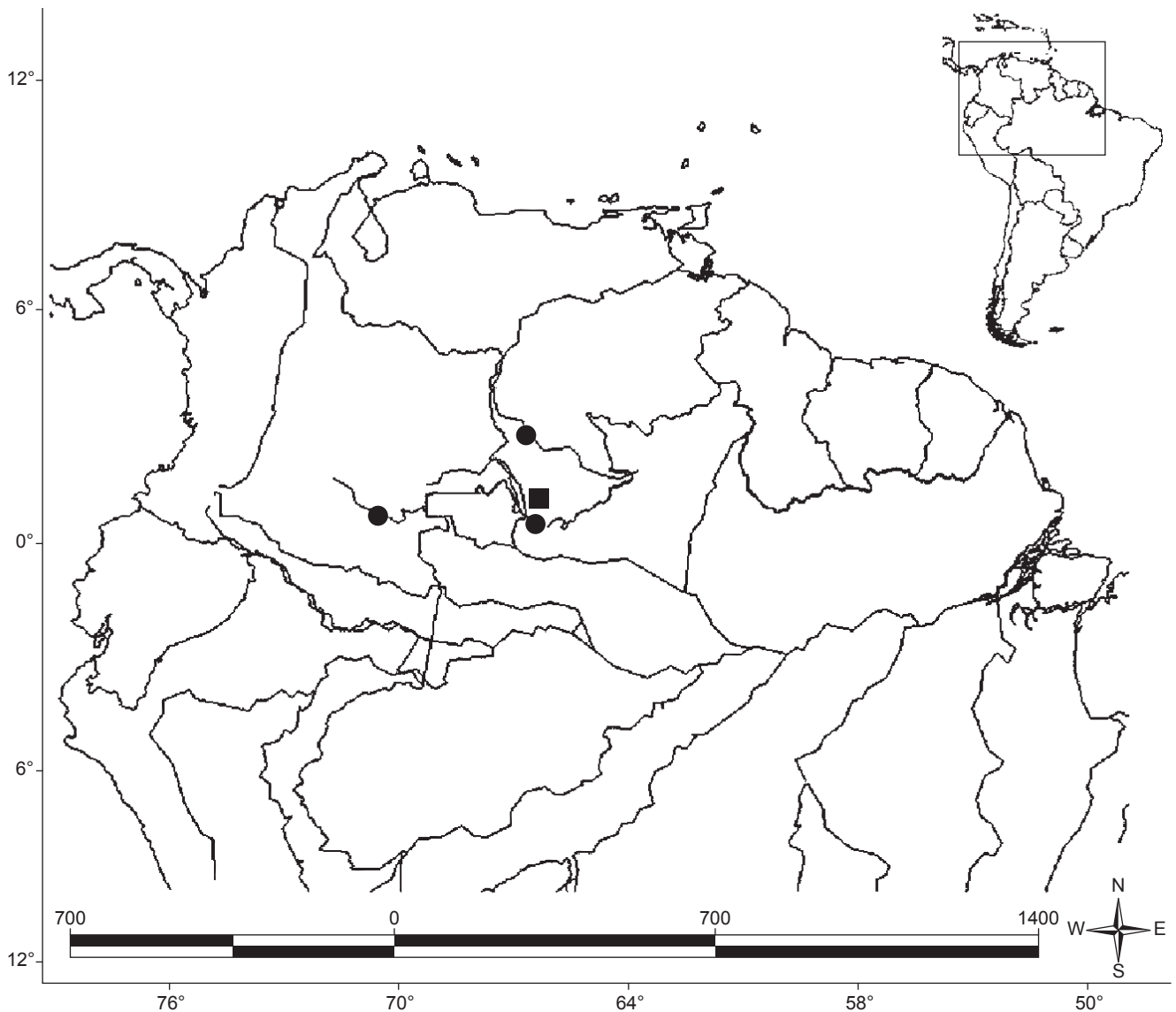
**Tabela 2.** Variação no número de escamas ventrais para todos os espécimes de *L. a. ahaetulla* examinados neste estudo. \*Parátipos de *L. copei*; \*\*Holótipo de *L. copei*.

Specimens	Locality	Ventrals
IBSP 13778 (♂)	Oiapoque, Amapá	172
MHNLS 14011 (♀)	Río Siapa, Amazonas	172
MPEG 16567 (♀)	Barcarena, Pará	172
AMNH 4464 (♂)*	upper Carurú River, Vaupés	173
INPA 9783 (♀)	Parque Nacional do Jaú, Amazonas	173
MPEG 17394 (♀)	Presidente Figueiredo, Amazonas	173
MPEG 17379 (♂)	Presidente Figueiredo, Amazonas	174
MPEG 1554 (♀)	Castanhal, Pará	174
MZUSP 5470 (♂)	Santa Isabel do Rio Negro, Amazonas	175
USNM 83570 (♀)*	Salto do Huá, Amazonas	176
USNM 83617 (♂)*	upper Orinoco River, Amazonas	176
MPEG 477 (♀)	Taiano village, Roraima	176
MPEG 19774 (♀)	Oriximiná, Pará	176
AMNH 4463 (♂)*	upper Carurú River, Vaupés	177
AMNH 38097 (♂)*	Santa Isabel, Amazonas	177
MZUSP 9986 (♀)	Confiança village, Roraima	177
HUFMA 288 (♀)	Urbano Santos, Maranhão	179
USNM 83564 (♂)**	Salto do Huá, Amazonas	179
MPEG 17021 (♀)	Rio Fresco, Pará	192



**Figure 1.** Paratype of *Leptophis copei* (USNM 83570). Note the two blue dorsolateral stripes separated from each other by a vertebral stripe along the entire length of the body.

**Figura 1.** Parátipo de *Leptophis copei* (USNM 83570). Note as duas faixas dorsolaterais azuis separadas uma da outra por uma faixa vertebral ao longo do comprimento total do corpo.



**Figure 2.** New records of *Leptophis ahaetulla ahaetulla* for Venezuela and Colombia based on specimens formerly described as *Leptophis copei* (circles) and the specimen MHNLS 14011 (square).

**Figura 2.** Novos registros de *Leptophis ahaetulla ahaetulla* para Venezuela e Colômbia baseado em espécimes previamente descritos como *Leptophis copei* (círculos) e no espécime MHNLS 14011 (quadrado).

eastern Pará (*L. a. ahaetulla*), (see Cunha & Nascimento 1993) where the dorsal stripes are not continuous for the entire length of the body, becoming diffuse at mid-body (see also Cunha & Nascimento 1993, for description of dorsal coloration). On the other hand, I examined the type series of *L. copei* and noted that in some of the paratypes the dorsal stripes are continuous for the entire length of the body (Figure 1). The dorsolateral stripes are not visible in the midbody of holotype of *L. copei* because the color faded over time, so that the original color pattern is absent.

Thus there is no reason to maintain *L. a. ahaetulla* and *L. a. copei* as distinct taxa; *L. a. copei* should be placed as a junior synonymy of

*L. a. ahaetulla* and the distribution of the latter expanded to southwestern Venezuela and southern Colombia (Figure 2).

### Acknowledgements

I would like to thank Darrel R. Frost and David Kizirian (AMNH), Roy W. McDiarmid and Steve Gotte (USNM) for access to specimens under their care. I also thank Ana Prudente (MPEG), Francisco L. Franco (IBSP), Gilda V. Andrade (UFMA), Gilson Rivas (MHNLS), Greg Schneider (UMMZ), Hussam Zaher (MZUSP) and Richard Vogt (INPA), who kindly loaned specimens and Robert Pascocello

Albuquerque, N.R.

for english revision. Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES) provided me a partial doctoral fellowship to support my studies while at the American Museum of Natural History.

## References

- CUNHA, O.R. & NASCIMENTO, F.P. 1993. Ofídios da Amazônia X: as cobras da região Leste do Pará. Bol. Mus. Para. Emilio Goeldi. 31(1):1-191.
- DOWLING, H.G. 1951. A proposed standard system of counting ventral scales in snakes. Brit. J. Herpetol. 1:97-99.
- FALLING GRAIN GENOMICS. 1996. Global Gazetteer. Version 2.1. Palo Alto, CA. <http://www.fallingrain.com/world/> (accessed 16 August 2009).
- MERTENS, R. 1973. Bemerkenswerte Schlangentatters der neotropischen Gattung *Leptophis*. Stud. Neotrop. Fauna Environ. 8:141-154.
- OLIVER, J.A. 1942. A check list of the snakes of the genus *Leptophis*, with descriptions of new forms. Occas. Papers Mus. Zool. Univ. Mich. 462:1-19.
- OLIVER, J.A. 1948. The relationships and zoogeography of the genus *Thalerophis* Oliver. Bull. Am. Mus. Nat. Hist. 92(4):157-280.

Recebido em 18/08/09

Versão reformulada recebida em: 26/11/09

Publicado em 01/12/09