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Short Communication

Record of the occurrence of *Lachesis muta* (Serpentes, Viperidae) in an Atlantic Forest fragment in Paraíba, Brazil, with comments on the species' preservation status

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Resumo

Registro de ocorrência de *Lachesis muta* (Serpentes, Viperidae) em um fragmento de Mata Atlântica na Paraíba, Brasil, com comentários sobre o *status* de preservação da espécie. Neste estudo é descrito um novo registro da serpente pico-de-jaca, *Lachesis muta,* em um fragmento de Mata Atlântica no estado da Paraíba, Nordeste do Brasil. Essa espécie é considerada a maior das serpentes peçonhentas do Novo Mundo. O espécime foi encontrado durante a noite, cruzando um atalho estreito, próximo a um declive, a aproximadamente 20m de uma queda d'água. A ocorrência de *L. muta* nesse fragmento demonstra a importância da conservação dos fragmentos de Mata Atlântica para a preservação dessa espécie.

Palavras-chave: Conservação; *Lachesis muta*; Mata Atlântica; Surucucu-pico-de-jaca; Viperidae

Abstract

In this study, one describes a new record of the bushmaster snake, *Lachesis muta*, in an Atlantic Forest fragment in the state of Paraíba, northeastern Brazil. This species is regarded as the largest venomous snake from the New World. The specimen was found at night, crossing a narrow shortcut, close to a slope, about 20m away from a waterfall. The occurrence of *L. muta* in this fragment demonstrates the importance of conservating Atlantic Forest fragments for preservating this species.

Key words: Atlantic Forest; Bushmaster; Conservation; *Lachesis muta*; Viperidae

The bushmaster, *Lachesis muta* (Linnaeus, 1766), is the largest venomous snake species from the New World, and it is the longest viperid in the world. This species is widely distributed in tropical forests of Brazil, the Guyanas, Venezuela, Trinidad, Bolivia, Peru, Ecuador, and Colombia (CAMPBELL; LAMAR, 2004).

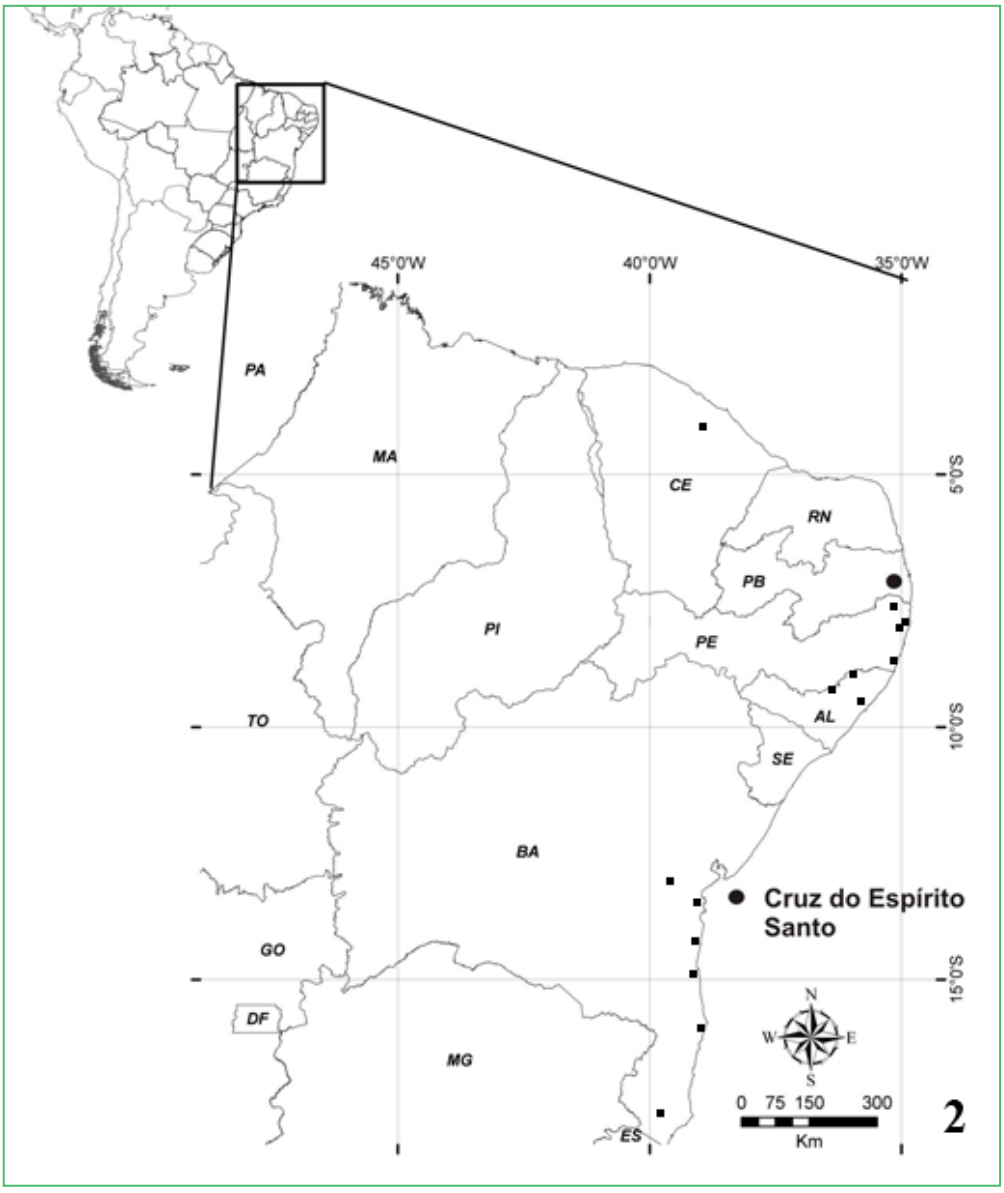
Until 2004, *L. muta* was recognized as a polytypic species, consisting of two subspecies: *L. muta muta* (Linnaeus, 1766), occurring in the Amazon Forest, and *L. muta rhombeata* (Wied-Neuwied, 1824), occurring in the Brazilian Atlantic Forest (ZAMUDIO; GREENE, 1997; CAMPBELL; LAMAR, 2004). According to the *Livro vermelho da fauna brasileira ameaçada de extinção* (IUCN redlist), *L. m. rhombeata* is regarded as being from vulnerable (VU) to critically endangered (CE) (MARTINS; MOLINA, 2008). In a systematic review on the genus, Fernandes et al. (2004) regarded both names as being synonyms of *L. muta*, something which, as a consequence, excludes the species from the IUCN redlist (IUCN, 2012). However, the population identified in the Atlantic Forest is still regarded as endangered due to nearly complete habitat destruction (over 90%) in order to create agricultural areas (WARREL et al., 2010).

This paper reports a new record of *Lachesis muta* in the Atlantic Forest, in the town of Cruz do Espírito Santo, Paraíba, Brazil (07º10'48.8"S, 35º05'39.0"W; Figure 1). This area is a legal reserve of Usina de São João, called "Mata do Açude Cafundó", within a monoculture sugarcane matrix. The habitat, around 730ha in size, is a seasonal semideciduous forest area, with a tropical equatorial climate. It is characterized by a mix of secondary-growth Atlantic Forest vegetation, with isolated open Cerrado areas, called "tabuleiros". The *L. muta* specimen (Figure 2) was observed on November 6, 2010, at night (9:15 p.m.). The animal was observed crossing a shortcut, on a slope, about 20m away from a waterfall. The specimen was an adult male, 1.99m long. The specimen presented an aggressive defensive behavior, striking on the collector's direction (1.5m away and 1.5m in height), when touched with a snake hook. After this initial aggressive response, the specimen remained coiled on the ground until it was collected. The specimen was incorporated into the Herpetological Collection of Universidade Federal da Paraíba, under the label CHUFPB 00001 (collection permit 15363-1 IBAMA/SISBIO).

FIGURE 1: *Lachesis muta* in Cruz do Espírito Santo, Paraíba, Brazil (CHUFPB 00001).

Source: Photograph taken by Diego José Santana.

FIGURE 2: Distribution of *Lachesis muta* in northeastern Brazil*.



*Circle: new record; squares: records in the literature (CAMPBELL; LAMAR, 2004; FERNANDES et al., 2004).

Accidents involving venomous snakes constitute a public health problem in Brazil. The severity of these cases could be minimized through useful information with regard to snake accidents (LEMOS et al., 2009). Nevertheless, Argôlo (2003) presented another perspective on the aggressiveness of bushmasters, reporting that out of the 26 cases observed, only 3 specimens showed an aggressive defensive behavior, i.e. striking towards the collector. In the state of Paraíba, there is evidence of two cases of envenomation by *Lachesis* bites, both of them occurred in 1994 and non-lethal. These specimens were 1.78m and 1.85m long, male and female, respectively, and they were incorporated into the collection of the Toxicological Assistance Center (CEATOX, UFPB) (CARVALHO-JÚNIOR et al., 1994).

The Atlantic Forest is one of the most important biodiversity hotspots in the world (MITTERMEIER et al., 2005). In Brazil, this biome and its associated ecosystems have about 100,000ha nowadays – only

7-8% of the original area still remains (MMA, 2000). Lira-da-Silva et al. (2009) carried out a survey in 17 Brazilian scientific collections and they recorded only 101 *L. muta* specimens from northeastern Brazil. Out of these, 93% were collected in the state of Bahia. This survey reveals the rarity of bushmaster populations in northeastern Brazil, presumably because this species is restricted to forest fragments (CAMPBELL; LAMMAR, 2004), which are very scarce nowadays (MMA, 2000). Decrease in the remaining Atlantic Forest fragments, combined with increase in its discontinuity, and, as a consequence, geographical population isolation, is the main cause of biodiversity reduction in these areas, something which could also reduce the survival rate of future generations (PÔRTO et al., 2006). The occurrence of *L. muta* in the forest fragment in Cruz do Espírito Santo provides positive evidence with regard to the importance of these remaining Atlantic Forest fragments.

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