

SHORT NOTE

First record of *Micrurus lemniscatus* (Elapidae) in the state of Piauí, northeastern Brazil

Primer registro de *Micrurus lemniscatus* (Elapidae) en el estado de Piauí, noreste de Brasil

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ABSTRACT

Micrurus lemniscatus is widely distributed in South America, and in Brazil is known from the Amazonian Forest, Cerrado, and Babassu Palm Forest biomes. Herein, we provide the first record of this species for the state of Piauí in northeastern Brazil and the first record from a Cerrado/Caatinga transition zone. We also present an updated distribution map for *M. lemniscatus*.

Keywords: Serpentes, coral snake, species distribution, ecotone.

RESUMEN

Micrurus lemniscatus se encuentra ampliamente distribuida en América del Sur, siendo registrada en Brasil en la Selva Amazónica, Cerrado y palmares de Babasu. Aquí proporcionamos el primer registro de esta especie para el estado de Piauí en el noreste de Brasil, y el primer registro de la especie de una zona de transición entre Cerrado/Caatinga. También presentamos un mapa de distribución actualizado de *M. lemniscatus*.

Palabras clave: Serpentes, coralillo, distribución de especies, ecotono.

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The coral snakes (Reptilia: Squamata: *Micrurus*) are venomous species distributed throughout much of the Americas (Silva Jr. *et al.* 2021). In Brazil, 35 species of *Micrurus* are recognized (Silva Jr. *et al.* 2021, Guedes *et al.* 2023). This Brazilian assemblage includes the *M. lemniscatus* complex, which is taxonomically challenging. Based on morphological, molecular, and meristic analyses of this complex, Pires *et al.* (2021) proposed recognizing the subspecies *M. l. carvalhoi* Roze 1967, *M. l. frontifasciatus* (Werner, 1927), and *M. l. lemniscatus* (Linnaeus, 1758) as full species. Those same authors also proposed synonymizing *M. l. helleri* (Schmidt and Schmidt 1925) with *M. lemniscatus*. We follow Pires *et al.* (2021) herein but see Hurtado Gómez *et al.* (2021) for an alternative view.

Micrurus lemniscatus ranges widely across northern South America, and it has been recorded in Brazil from the Amazonian Forest, Cerrado, and Babassu Palm Forest biomes (Pires *et al.* 2021). Herein, we present the first record of the species for the state of Piauí in northeastern Brazil, from a novel ecotone between biomes. The *M. lemniscatus* specimen originated from the municipality of

Pedro II (4°26' S, 41°28' W, 607 m elevation), which is located in a transition zone between the Cerrado and Caatinga biomes (IBGE 2019) known as the Serra dos Matões. We collected the adult female snake (snout-vent length 941 mm, tail length 48 mm; Fig. 1) from a residential yard on 6 May 2021 at about 09:00h, after it was killed by a domestic cat. We did not take tissue samples, but we fixed the entire specimen in 10% formalin and deposited it in the Biological Collection of the Instituto Federal do Piauí (CBPII-242) under collection permit SISBio #61838-4/21.

We identified the specimen using Pires *et al.* (2021), with later confirmation by N. J. Silva Jr., based on the presence of the following characters: 232 ventral scales; 24 subcaudal scales; ten body triads; one tail triad; snout black (rostral, internasals, first supralabial, and anterior portion of nasal scales); white transverse band passes through the posterior region of the nasal scales and second supralabial, reaching the anterior portion of the frontal and supraocular; gular region red; black triangular mark extends from mental scale to the first infralabial to the anterior portion of the anterior genial. Among coral snakes, only *M. ibibob-*



Figure 1. Comparison of the similar, co-occurring coral snakes *Micrurus lemniscatus* and *M. ibiboboca*. **a-b.** Body dorsal and ventral view, and **c-d.** head dorsal and ventral view of *M. lemniscatus* specimen CBPII-242 and **e.** head/body of live *M. ibiboboca* from the municipality of Pedro II, Piauí State, Brazil. Note the difference in snout tip coloration.

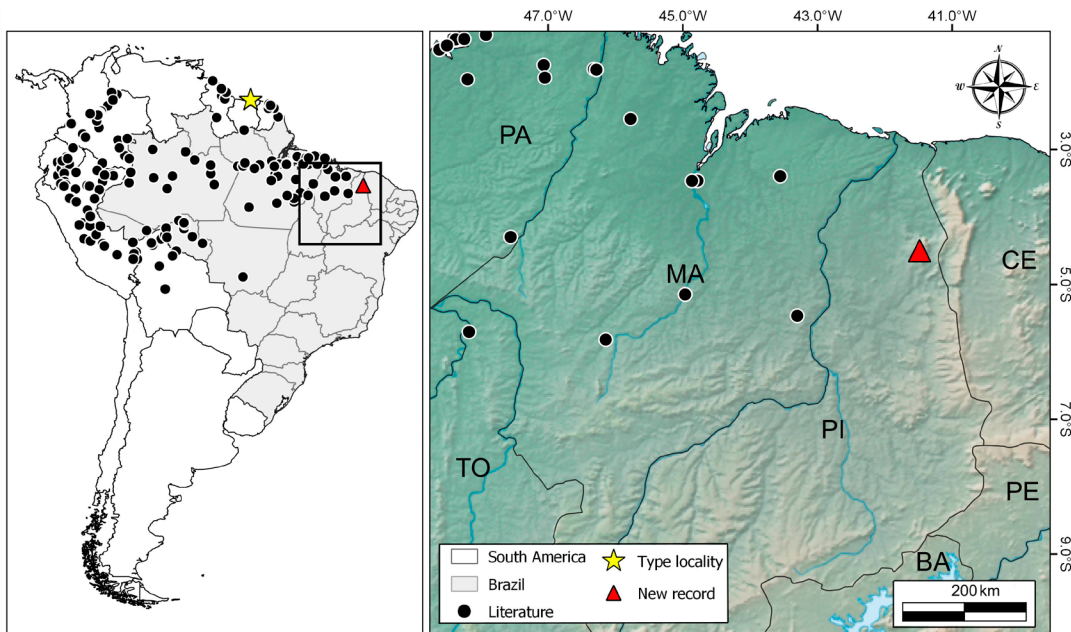


Figure 2. Geographic distribution of *Micrurus lemniscatus* based on Pires *et al.* (2021), including the new record from the municipality of Pedro II, Piauí State, Brazil.

oca (Merrem 1820) was previously recorded in Piauí State (Silva Jr. *et al.* 2021, Guedes *et al.* 2023), and it has a white mottled snout vs. an immaculate black snout in *M. lemniscatus* (Silva Jr. *et al.* 2021; Fig. 1).

This new record extends the known distribution of *M. lemniscatus* about 253 km northeast of the previous easternmost record from São Raimundo BR 316, municipality of Matões, Maranhão State, Brazil (Pires *et al.* 2021; Fig. 2). It also represents the first documentation of the species in a Cerrado/Caatinga ecotone. Because *M. lemniscatus* is potently venomous (Floriano *et al.* 2019), our report is relevant to epidemiology and public health in addition to its biogeographical and ecological importance.

AUTHOR'S CONTRIBUTION

SCMA, CAC, and FPS design and writing; SCMA and EBA obtaining data and descriptions; LRU writing and illustration; EBA photographs and review.

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CONFLICT OF INTEREST

The authors have no conflicts of interest to declare.

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