

***Loxocemus bicolor* (SERPENTES: LOXOCEMIDAE): ELEVATIONAL AND GEOGRAPHIC RANGE EXTENSION IN MICHOACAN, MEXICO**

Rubén Alonso Carbajal-Márquez^{1*}, Jose Carlos Arenas-Monroy², Marco Antonio Domínguez-De la Riva³ and Eric Abdel Rivas-Mercado³

¹Centro de Investigaciones Biológicas del Noroeste, La Paz, Baja California Sur, 23096, México.

²Laboratorio de Herpetología, Museo de Zoología, Departamento de Biología Evolutiva, Facultad de Ciencias, Universidad Nacional Autónoma de México, 04510. Distrito Federal, México.

³Universidad Autónoma de Aguascalientes, Centro de Ciencias Básicas, Departamento de Biología, Aguascalientes, Aguascalientes 20131, México.

*Correspondent: redman031@hotmail.com

Abstract.— We document the occurrence of *Loxocemus bicolor* in the arid tropical scrub forest at Hoyo del Aire, Municipality of Taretan, Michoacan, an adult specimen that represents a new municipality record, which increases the geographic range and elevational gradient of the species in the state.

Keywords.— Mexican Burrowing Python, Taretan, Squamata.

Resumen.— Se registra la presencia de *Loxocemus bicolor* en el bosque tropical caducifolio de Hoyo del Aire, municipio de Taretan, Michoacán; un ejemplar adulto que representa un nuevo registro municipal y que incrementa la distribución geográfica y el gradiente de altitud para la especie en el estado.

Palabras clave.— Pitón de Madriguera Mexicano, Taretan, Squamata

The Mexican burrowing python is the only species in the monotypic genus *Loxocemus* and family Loxocemidae (Uetz 2013). It lives in dry forests and savannas, from sea level up to ~600 m, from Nayarit, Mexico to Costa Rica on the Pacific Versant, and on the Atlantic Versant from Guatemala to Honduras (Nelson and Meyer 1967, Savage 2002). *Loxocemus bicolor* spends most of the time underground inside self-constructed burrows; however, it has been collected in rock piles, under leaf litter, logs, basking on the surface or on roads (Nelson and Meyer 1967). This medium-sized snake can reach 1530 mm in total length (Savage 2002). Whiptail lizards (*Aspidoscelis*), juvenile iguanas (*Iguana iguana*), and small rodents have been reported as prey items for *L. bicolor*, as well as sea turtle (*Lepidochelys olivacea*), *Ctenosaura similis* and *Iguana*

iguana eggs (Greene 1983, Mora and Robinson 1984, Mora 1987). This is an oviparous species, with the largest documented clutch of four eggs (Köhler 2003). However, because of its semifossorial habits, the natural history of this species is poorly known.

In Mexico *L. bicolor* occurs at low and moderate elevations, from Nayarit to Chiapas including the Rio Grijalva basin, with most records clustered around major highways (Nelson and Meyer 1967, Ramírez-Bautista and Arizmendi 2004). It is catalogued in the Norma Oficial Mexicana in special protection (Pr), not evaluated in the IUCN, and in the category of medium vulnerability species in Michoacan due to its restricted distribution within the state (Alvarado-Díaz et al. 2013). The arid tropical scrub forest is the most

extensive tropical habitat in the Michoacan lowlands and slopes, and occurs across two biogeographic provinces, the Pacific Coastal Plains and the Balsas-Tepalcatepec Valley. Duellman (1965) noted *L. bicolor* is rare in arid tropical scrub forest of Michoacán, within 0 to 640 m in elevation, and represented by roughly 11 museum specimens, with only 9 of these associated with locality data. Seven of these specimens are from the Balsas-Tepalcatepec Valley including one for the Municipality of Huetamo (Reyna-Álvarez et al. 2010), one for the Municipality of Gabriel Zamora, and five for the Municipality of Apatzingan (Nelson and Meyer 1967, VertNet 2015). There are two specimens from the Pacific Coastal Plains, one for the Municipality of Lazaro Cardenas, and one for the Municipality of Arteaga (Peters 1954, VertNet 2015). Here we document an additional specimen of *L. bicolor* for the Balsas-Tepalcatepec Valley, northeast of previous records.



Figure 1. Adult specimen of *Loxocemus bicolor* (LSUDPC 7003), from Hoyo del Aire, Taretan, Michoacan.

On 31 August 2010 ca. 1200 h, during an herpetological survey, we found an adult male *L. bicolor* (Fig. 1) under a pile of rocks at the base of a *Ficus* sp. tree at Hoyo del Aire, Municipality of Taretan, Michoacán (photographic vouchers LSUDPC 7003-7004; 19.272461°N, 101.886725°W; WGS 84), elevation 979 m, in arid tropical scrub forest. The snake was released after taking photos.

Lee Grismer verified the photographic vouchers of the snake.

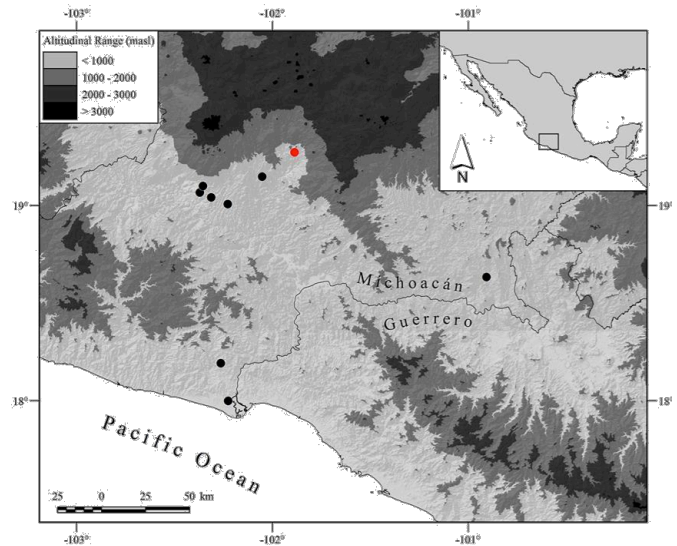


Figure 2. Map depicting known records of *Loxocemus bicolor* in Michoacan. Black dots represent previous records, and the red dot the new record.

This new Municipality record extends the geographic range of the species ca. 22.3 km NE of 1.77 km south of Lombardia, Michoacan (628 m; Nelson and Meyer 1967), and represents the most inland record for the state (Fig. 2). Furthermore, this record is significant because it increases the elevational range of *L. bicolor* by 339 m within Michoacan.

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LITERATURE CITED

- Alvarado-Díaz, J., I. Suazo-Ortuño, L.D. Wilson, and O. Medina-Aguilar. 2013. Patterns of physiographic status of the herpetofauna of Michoacán, Mexico. *Amphibian and Reptile Conservation*. 1:128-170.
- Duellman, W.E. 1965. A biogeographic account of the herpetofauna of Michoacán, México. University of Kansas Publications, Museum of Natural History. 15(14):627-709.

- Greene, H.W. 1983. Dietary correlates of the origin and radiation of snakes. *American Zoologist*. 23(2):431-441.
- Köhler, G. 2003. *Reptiles of Central America*. Herpeton-Verlag. Germany.
- Mora, J.M. 1987. Predation by *Loxocemus bicolor* on the eggs of *Ctenosaura similis* and *Iguana iguana*. *Journal of Herpetology*. 21(4):334-35.
- Mora, J.M. and D.C. Robinson. 1984. Predation of sea turtle eggs (*Lepidochelys*) by the snake *Loxocemus bicolor* Cope. *Revista de Biología Tropical*. 32(1): 161-162.
- Nelson, C.E. and J.R. Meyer. 1967. Variation and distribution of the Middle American snake genus, *Loxocemus* Cope. *The Southwestern Naturalist*. 12(4):439-453.
- Peters, J.A. 1954. The amphibians and reptiles of the coast and coastal sierra of Michoacán, México. *Occasional Papers of the Museum of Zoology, University of Michigan*. 554:1-37.
- Ramírez-Bautista, A. and M.C. Arizmendi. 2004. *Loxocemus bicolor*. Sistemática e historia natural de algunos anfibios y reptiles de México. FES Iztacala, UBIPRO, Universidad Nacional Autónoma de México. SNIB-CONABIO, Proyecto W013. México, D.F.
- Reyna-Álvarez, J., I. Suazo-Ortuño and J. Alvarado-Díaz. 2010. Herpetofauna del municipio de Huetamo, Michoacán, México. *Biológicas*. 12(1):40-45.
- Savage, J.M. 2002. *The Amphibians and Reptiles of Costa Rica: A Herpetofauna Between two Continents, Between two Seas*. University Of Chicago Press. USA.
- Uetz, P. 2013. *The Reptile Database*. Accessed at: <http://www.reptile-database.org>
- VertNet.2015. Accessible at: <http://www.vetnet.org>