



Predator-prey Interactions of Neotropical Whipsnakes (*Masticophis mentovarius*) and Mexican Patch-nosed Snakes (*Salvadora mexicana*) (Squamata: Colubridae) in the Balsas Basin, Mexico

Rodolfo Rodríguez-Ruiz¹, Ricardo Palacios-Aguilar^{2,3}, and Luis Eduardo Bucio-Jiménez⁴

¹Área de Conservación de la Biodiversidad, El Colegio de la Frontera Sur (ECOSUR), Periférico Sur, C.P. 29290, María Auxiliadora, San Cristóbal de las Casas, Chiapas, México (rr9155364@gmail.com)

²Museo de Zoología "Alfonso L. Herrera," Facultad de Ciencias, Universidad Nacional Autónoma de México, A.P. 70399, C.P. 04510, Ciudad de México, México (rpalacios@ciencias.unam.mx [corresponding author])

³Totlok A.C., Sinanche 174, C.P. 14240, Delegación Tlalpan, Ciudad de México, México

⁴Calle 11 de Julio #19B, Col. Nuevo Cananea, Cananea, Sonora, Mexico (lebj26@gmail.com)

Diet, particularly in snakes, affects the evolution of size, venom systems, and body shape (Greene 1983, 1989; Sherratt et al. 2018; de Oliveira et al. 2023). However, observing predator-prey interactions of snakes in the field can be difficult and most available information is from opportunistic observations and/or the examination of stomach contents of specimens housed in scientific collections (e.g., Wiseman et al. 2019). We herein report two cases of predator-prey interactions involving two widely distributed species of snakes in the Balsas Basin of Mexico.

At sunset on 16 June 2022, we observed an adult Neotropical Whipsnake (*Masticophis mentovarius*) (total length ~140 cm) swallowing a juvenile Mexican Patch-nosed Snake (*Salvadora mexicana*) (~60 cm) on a riverbank at Ejido Acalpican de Morelos, Municipality of Lázaro Cárdenas, Michoacán de Ocampo, México (18.01696, -102.34784; elev. 13 m asl). When we disturbed the snakes, the *M. mentovarius* regurgitated the still-living *S. mexicana*, although approximately a third of its body had already been swallowed.

During a field survey at 1453 h on 28 November 2022, we encountered an adult *M. mentovarius* preying on an adult *S. mexicana* (Fig. 1) about one meter from an unpaved road near Mancilla, Municipality of Eduardo Neri, Guerrero, México (17.94279, -99.72272; elev. 1,155 m asl). Both snakes were observed for about three minutes, during which the *M. mentovarius* was holding the head of the *S. mexicana* and started to swallow it while it was still alive. The former then retreated and we were unable to observe the conclusion of the event.

Both *M. mentovarius* and *S. mexicana* are common, diurnally active, ground-dwelling, and widely distributed snakes that actively forage for prey (Heimes 2016). The diet of *M. mentovarius* includes multiple vertebrate groups (Savage 2002; Solórzano 2004), including snakes (*Boa constrictor*, *Crisantophis nevermanni*, and *Conophis lineatus*; Guyer and Laska 1996; Solórzano 2004; Martínez-Fonseca and Sunyer 2015). Predators of snakes in the genus *Salvadora* have been rarely documented. Recorded events include predation on a juvenile *S. mexicana* by a *Leptodeira maculata* (Palacios-Aguilar et al. 2020), *S. grahamiae* by *Diadophis punctatus* (Cazares et al. 2020), *Drymarchon melanurus* (Montoya-Ferrer et al. 2020), *Geranoacetus albicaudatus*, and *Spilogale gracilis* (Jacobson and Frey 2022). Given the extensive overlap in the distribution and diel activities of these species (Heimes 2016), such interactions might be more common than has been reported in the scientific literature.



Figure 1. An adult Neotropical Whipsnake (*Masticophis mentovarius*) preying on an adult Mexican Patch-nosed Snake (*Salvadora mexicana*) in the Municipality of Eduardo Neri, Guerrero, Mexico. Photograph by Rodolfo Rodríguez-Ruiz.

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