



Predation of a Yucatan Silky Anole (*Anolis ustus*) by a Yucatan Blunt-headed Treesnake (*Imantodes tenuissimus*)

Daniel Ricardo Durán-Arceo^{1,2}, Pedro Enrique Nahuat-Cervera^{1,2}, and Ana Laura Rivas-Villegas²

¹Ekunil Península de Yucatán, Calle 52 x 89 y 93 Centro, C.P. 97000, Mérida, Yucatán, México (danielricardo.drn@gmail.com)

²Campus de Ciencias Biológicas y Agropecuarias, Universidad Autónoma de Yucatán, Km 15.5. Carr., Mérida-Xmatkuil, C.P.97315, Mérida, Yucatán, México

Knowledge regarding the ecology and natural history of herpetofaunal species on the Yucatán Peninsula is scarce and sometimes nonexistent (Lee 1996; Ochoa-Ochoa and Flores-Villela 2006). The Yucatan Silky Anole, *Anolis ustus*, (referred as *Norops ustus* by some authors), which is assigned to the *A. sericeus* complex, is a small lizard (SVL 37.3–48.9 mm) with a narrow head, snout pointed in dorsal view, and a long, thin tail about twice the SVL; it usually is gray or grayish brown with slightly darker dorsal reticulations, and females sometimes have a pale middorsal stripe; the small, yellow-orange dewlap with an irregular central blue spot (unique in the *A. sericeus* complex) is present in both sexes (Lee 1996; Lara-Tufiño et al. 2016). *Anolis ustus* is not included in any risk category in Mexican legislation, has not been evaluated for the IUCN Red List of Threatened Species, and is considered a species with a low environmental vulnerability score (González-Sánchez et al. 2017, 2023).

Although predation on *A. ustus* has not been recorded, like other anoles, it likely is common prey of many Yucatecan preda-

tors. Congeners on the Yucatán Peninsula are known prey of invertebrates, including spiders (*Latrodectus geometricus* and species in the family Sparassidae) and scorpions (*Centruroides gracilis*), and vertebrates like colubrid (*Leptophis mexicanus* and *Oxybelis potosiensis*) and dipsadid (*Coniophanes imperialis*, *Imantodes tenuissimus*, and *Leptodeira frenata*) snakes (García-Balderas et al. 2016; Carbajal-Márquez et al. 2019; Cid-Mora and Vásquez-Cruz 2020; Cubas-Rodríguez and Teruel 2022; Cedeño-Vázquez et al. 2023).

The Yucatan Blunt-headed Treesnake (*I. tenuissimus*) is a medium-sized dipsadid (SVL 475–600 mm; TL to 850 mm) characterized by a rounded head, large and protruding eyes, a slender body, and a long, thin tail, representing approximately 25% of body length; light tan dorsally with irregular dark brown or reddish blotches; and a cream venter with small dark spots (Lee 1996; Heimes 2016). This species is under special protection in Mexican legislation, is listed as Least Concern in the IUCN Red List of Threatened Species, and has a moderate environmental vulnerability score (Wilson et al. 2013; González-Sánchez et al. 2017).



Figure 1. Predation on a Yucatan Silky Anole (*Anolis ustus*) by a Yucatan Blunt-headed Treesnake (*Imantodes tenuissimus*). Photographs by Daniel R. Durán-Arceo.

Little is known about the diet of *I. tenuissimus*, but it likely feeds on lizards and frogs (Lee 1996). Few publications provide information about the diet; Köhler et al. (2017) recorded partially digested body parts of *Anolis* lizards in the stomach contents of three *I. tenuissimus*, and Carbajal-Márquez et al. (2019) found an adult *Anolis rodriguezii* in the digestive tract of an adult female (TL 615 mm) and a juvenile *Anolis lemurius* in an adult male (TL 920 cm). We herein present the first documented record of *I. tenuissimus* preying on *A. ustus*.

At about 2310 h on 22 March 2023, during a herpetological survey in the Private Natural Reserve “Komchén de los Pájaros,” Municipality of Dzemul, Yucatán, Mexico (21.215597, -89.328308; elev. 10 m asl), we found an adult *I. tenuissimus* (SVL ~50 cm, TL ~70 cm) (Fig. 1) in a deciduous forest hanging from a branch of a Black Acacia (*Senegalia gaumeri*) about 1.6 m above the ground ingesting an adult *A. ustus* (~10 cm TL). At the time of the encounter, the lizard was being swallowed headfirst. After complete ingestion, we continued to observe the snake for about one hour, during which it remained in the same position.

Anoles are important components in the trophic structure of Neotropical and subtropical ecosystems both as predators (primarily of arthropods) and as prey of predators that include snakes and birds (Rodríguez Schettino and Martínez-Reyes, 1996; Pinilla-Rentería et al. 2015). However, due to the recent resurrection of *A. ustus* and its restricted distribution, little is known about its ecology and natural history (Lara-Tufiño et al. 2016). Our observation is the first record of predation on *A. ustus* by *I. tenuissimus*.

Acknowledgements

We thank the staff of the Komchén de los Pájaros Private Nature Reserve for allowing us to carry out the fieldwork during which this observation was recorded, and J. Tun-Garrido for identifying the tree on which the snake was found.

Literature Cited

Carbajal-Márquez, R.A., C.M. García-Balderas, T. Ramírez-Valverde, J.R. Cedeño-Vázquez, and N.G. Blanco-Campos. 2019. New prey items in the diet of the

- snakes from the Yucatán Peninsula, Mexico. *Cuadernos de Herpetología* 33: 71–74. [https://doi.org/10.31017/CdH.2019.\(2019-008\)](https://doi.org/10.31017/CdH.2019.(2019-008)).
- Cedeño-Vázquez, J.R., C.R. Lucio Palacio, and E. Cedeño-Zacarias. 2023. *Anolis sagrei* (Brown Anole). Predation. *Herpetological Review* 54: 290–291.
- Cid-Mora, O. and V. Vásquez-Cruz. 2020. Nuevo registro en la dieta de la Bejuquillo parda *Oxybelis aeneus* (Serpentes: Colubridae). *Revista Latinoamericana de Herpetología* 3: 98–100. <https://doi.org/10.22201/fc.25942158e.2020.1.129>.
- Cubas-Rodríguez, A.M. and R. Teruel. 2022. Predation by arachnids (Araneae, Scorpiones) on reptiles and amphibians (Anura, Squamata) in Costa Rica and Mexico. *Revista Ibérica de Aracnología* 41: 153–157.
- García-Balderas, C., J. Cedeño-Vázquez, and R. Mineros Ramírez. 2016. *Norops rodriguezii*. Predation. *Mesoamerican Herpetology* 3: 147–148.
- González-Sánchez, V.H., J.D. Johnson, E. García-Padilla, V. Mata-Silva, D.L. DeSantis, and L.D. Wilson. 2017. The herpetofauna of the Mexican Yucatan Peninsula: composition, distribution, and conservation status. *Mesoamerican Herpetology* 4: 263–380.
- González-Sánchez, V.H., J.D. Johnson, O. Frausto-Martínez, L.M. Mejía-Ortiz, A. Pereira-Corona, M.P. Blanco-Parra, P. Charruau, and C.A. Niño-Torres. 2023. The herpetofauna of the insular systems of México. *Diversity* 15: 921. <https://doi.org/10.3390/d15080921>.
- Heimes, P. 2016. *Herpetofauna Mexicana Vol. I. Snakes of Mexico*. Edition Chimaira, Frankfurt am Main, Germany.
- Henderson, R.W. and M.A. Nickerson. 1976. Observations of the behavioral ecology of three species of *Imantodes* (Reptilia, Serpentes, Colubridae). *Journal of Herpetology* 10: 205–210. <http://dx.doi.org/10.2307/1562981>.
- Köhler, G., J.R. Cedeño-Vázquez, E.D. Kraus, P. Beutelspacher-García, and J.A. Domínguez-Lepe. 2017. The Chetumal snake census: generating biological data from road-killed snakes. Part 5. *Imantodes tenuissimus*, *Lampropeltis triangulum*, and *Stenorrhina freminvillii*. *Mesoamerican Herpetology* 4: 773–789.
- Lara-Tufiño, J.D., A. Nieto-Montes de Oca, A. Ramírez-Bautista, and L.N. Gray. 2016. Resurrection of *Anolis ustus* Cope, 1864 from synonymy with *Anolis sericeus* Hallowell, 1856 (Squamata: Dactyloidae). *ZooKeys* 619: 147–162. <https://doi.org/10.3897/zookeys.619.9650>.
- Lee, J.C. 1996. *The Amphibians and Reptiles of the Yucatán Peninsula*. Cornell University Press, Ithaca, New York, USA.
- Ochoa-Ochoa, L.M. and O.A. Flores-Villela. 2006. *Áreas de Diversidad Endemismo de la Herpetofauna Mexicana*. UNAM-CONABIO, México D.F., México.
- Pinilla-Rentería, E., J.T. Rengifo-Mosquera, and J. Salas Londoño. 2015. Dimorfismo, uso de hábitat y dieta de *Anolis maculiventris* (Lacertilia: Dactyloidae), en bosque pluvial tropical del Chocó, Colombia. Dimorphism, habitat use and diet for *Anolis maculiventris* (Lacertilia: Dactyloidae), in tropical rainforest in Chocó, Colombia. *Acta Biológica Colombiana* 20: 89–100. <https://doi.org/10.15446/abc.v20n1.39109>.
- Rodríguez Schettino, L. and M. Martínez-Reyes. 1996. Algunos aspectos de la ecología trófica de *Anolis argenteolus* (Sauria: Polychridae) en una localidad de la costa suroriental de Cuba. *Biotropica* 28: 252–257. <https://doi.org/10.2307/2389079>.
- Wilson, L.D., V. Mata-Silva, and J.D. Johnson. 2013. A conservation reassessment of the reptiles of México based on EVS measure. *Amphibian & Reptile Conservation* 7: 1–47.