



Predation by a Brown Vinesnake, *Oxybelis aeneus* (Colubridae), on a Black-bellied Racerunner, *Aspidoscelis deppii* (Teiidae)

Victor A. Ramirez-Ramirez, Matias Martinez-Coronel, and Jorge Ramirez-Ramirez

Departamento de Biología, Universidad Autonoma Metropolitana Unidad Iztapalapa, Ciudad de México, México (victor.1596@hotmail.com)

The Brown Vinesnake (*Oxybelis aeneus*) ranges from southern Arizona south into Brazil (Keiser 1982; Köhler 2008; Grant and Lewis 2010). This snake is both diurnal and arboreal (Franzen 1996; Mesquita et al. 2012) and is a common inhabitant of humid and dry tropical forests, tropical arid environments, and modified ecosystems derived from those environments (Henderson 1974; Franzen 1996; Keiser 1982; Köhler 2008). Its elevational range extends from sea level to ~2,500 m (Keiser 1982; Quintero-Díaz and Carbajal-Márquez 2017). Its diet is based mainly on small vertebrates, such as rodents, amphibians, birds, fishes (Hetherington 2006), and especially lizards (Campbell 1998; Köhler 2008; Mesquita et al. 2012; Da Silva et al. 2015; López-de la Cruz et al. 2016; Sosa-Bartuano and Di Trani 2016; Franzini et al. 2018). *Oxybelis aeneus* is a “sit and wait” predator that detects its

prey based on movement (Henderson and Nickerson 1976; Franzini et al. 2018) and, in the case of terrestrial prey, it will search and strike from arboreal perches (Mesquita et al. 2012).

The Black-bellied Racerunner (*Aspidoscelis deppii*) is an actively foraging terrestrial lizard that ranges from much of Mexico through most of Central America (Köhler 2008). It is most active from morning into the early afternoon (Köhler 2008; Vitt et al. 1993), which corresponds to the activity pattern of *O. aeneus* (Mesquita et al. 2012), suggesting that the activity of a predator is largely determined by that of its prey.

At 1330 h on 10 January 2019 (temperature 35 °C, relative humidity 41%), during a survey for reptiles on “Cerro Amasquitillo” in Jiménez, Municipality of San Marcos, Guerrero, Mexico (16.8390°N, -99.4366°E; WSG 84; elev. 165 m asl), we observed an adult *O. aeneus* (SVL = 120 mm)



Fig. 1. A Brown Vinesnake (*Oxybelis aeneus*) holding a juvenile Black-bellied Racerunner (*Aspidoscelis deppii*) by the head. Photograph by Jorge Ramirez-Ramirez.



Fig. 2. A Brown Vinesnake (*Oxybelis aeneus*) ingesting a juvenile Black-bellied Racerunner (*Aspidoscelis deppii*) while on the ground and being held by its tail. Photograph by Jorge Ramirez-Ramirez.

moving on the ground in a pasture. In response to our presence, the snake moved quickly into adjacent deciduous low forest, where it climbed about 1.5 m above the ground in an Acacia. When we subsequently grabbed it by the tail, we noticed that it was holding a juvenile Black-bellied Racerunner (estimated SVL = 20 mm) by its head (Fig. 1). When we placed the snake on the ground, it took 4 min to ingest the lizard to the base of the tail (Fig. 2) and three more minutes to complete ingestion. We released the snake into the tree where it was captured.

Our observation coincide with those of Mesquita et al. (2012), who noted that these snakes use thorny trees for protection. Also, the likelihood that this snake descended to the ground to capture a terrestrial lizard is similar to the hunting behavior of the Green Vinesnake (*O. fulgidus*), which

is known to descend to the ground to capture terrestrial Rainbow Ameivas (*Holcosus undulatus*; Smith et al. 2018).

Acknowledgements

We thank SEMARNAT for granting the collection permit SGPA/DGVS/011185/18 with which the San Marcos Herpetofauna Project is implemented.

Literature Cited

- Campbell, J.A. 1998. *The Amphibians and Reptiles of Northern Guatemala, the Yucatan, and Belize*. University of Oklahoma Press, Norman, Oklahoma.
- Da Silva, F.C., E.P. De Alcantara, O. Herivelto, A.M. Soares de Oliveira, and Á. Robson. 2015. *Oxybelis aeneus* (Brown Vinesnake). Diet. *Herpetological Review* 46: 648.
- Franzen, M. 1996. Ökologische und morphologische Aspekte einer costaricanischen Population von *Oxybelis aeneus* (Wagler, 1824) (Serpentes: Colubridae). Notes on ecological and morphological features of a Costa Rican population of *Oxybelis aeneus* (Wagler, 1824) (Serpentes: Colubridae). *Herpetozoa* 9: 121–131.
- Franzini, L.D., C.K. Pedro, L.B.Q. Cavalcanti, and D.O. Mesquita. 2018. Predation of *Hemidactylus mabouia* (Sauria: Gekkonidae) by a vine snake *Oxybelis aeneus* (Serpentes: Colubridae) in an Atlantic Forest fragment, north-eastern Brazil. *Pesquisa e Ensino em Ciências Exatas e da Natureza* 2: 67–70.
- Grant, P.B.C. and T.R. Lewis. 2010. Predation attempt by *Oxybelis aeneus* (Wagler) (Mexican Vinesnake) on *Basiliscus plumifrons* (Cope). *Acta Herpetologica* 5: 19–22.
- Henderson, R.W. 1974. Aspects of the ecology of the Neotropical vine snake, *Oxybelis aeneus* (Wagler). *Herpetologica* 30: 19–24.
- Henderson R.W. and M.A. Nickerson 1976. Observations on the behavioral ecology of three species of *Imantodes* (Serpentes: Colubridae). *Journal of Herpetology* 10: 205–210.
- Hetherington, T.E. 2006. *Oxybelis aeneus* (Brown Vinesnake). Diet. *Herpetological Review* 37: 94–95.
- Keiser, E.D., Jr. 1982. *Oxybelis aeneus*. *Catalogue of American Amphibians and Reptiles* 305: 1–4.
- Köhler, G. 2008. *Reptiles of Central America*. 2nd ed. Herpeton Verlag, Offenbach, Germany.
- López-de la Cruz, J.J., C.S. Burnett-Pérez, and A.H. Escobedo-Galván. 2016. *Oxybelis aeneus* (Brown Vinesnake). Diet. *Herpetological Review* 47: 314.
- Mesquita, P.C.M.D., D.M. Borjes-Nojosa, D.C. Passos, and C.H. Bezerra. 2012. Activity patterns of the Brown Vine snake *Oxybelis aeneus* (Wagler, 1824) (Serpentes, Colubridae) in the Brazilian semiarid. *Animal Biology* 62: 286–299.
- Quintero-Díaz, G.E. and R.A. Carbajal-Márquez. 2017. *Oxybelis aeneus* (Wagler, 1824). Maximum elevation. *Mesoamerican Herpetology* 4: 181–182.
- Smith, R.H., C. Lopez, and J.A.L. Barão-Nóbrega. 2018. *Oxybelis fulgidus* (Green Vinesnake). Diet. *Herpetological Review* 49: 759–760.
- Sosa-Bartuano, A. and J. Di Trani. 2016. *Gonatodes albogularis*. Predation by a Brown Vinesnake (*Oxybelis aeneus*). *Mesoamerican Herpetology* 3: 721–723.
- Vitt, L.J., P. Zani, P.J. Caldwell, and R.D. Durtsche. 1993. Ecology of the whiptail lizard *Cnemidophorus deppii* on a tropical beach. *Canadian Journal of Zoology* 71: 2391–2400.