

# First record of ophiophagy in the widely distributed snake *Leptodeira septentrionalis* (Kennicott, 1859) (Ophidia, Colubridae)

Alexander D. McKelvy<sup>1\*</sup>, Alex Figureoa<sup>2</sup> and Todd R. Lewis<sup>3</sup>

The Northern cat-eyed snake *Leptodeira septentrionalis* (Kennicott, 1859) is a widely distributed oviparous dipsadine snake with a range from extreme southern Texas to northwestern Peru. This nocturnal arboreal genus is known to eat primarily lizards, frogs and frog eggs (Savage, 2002). Diet studies of *Leptodeira annulata* (Linnaeus, 1758) have reported previous ophiophagy in this genus in what was most likely a captive environment (Cantor and Pizzatto, 2008). To the best of our knowledge, ophiophagy had previously not been reported for *L. septentrionalis* or observed in situ for the genus *Leptodeira*. On 17 March 2012 at 21:17 h on the grounds of Caño Palma Biological Station near Tortugero, Limón, Costa Rica, (10.59474, -83.52889) we observed a male *L. septentrionalis* measuring 61.3 cm SVL, 17.4 cm tail length and weighing 47.5 g, (Figure 1) perched 85.8 cm off the ground in a small (118.4 cm total height) dead shrub with base diameter of 1.4 cm, in the final stages of consuming a food item. Upon capture, the snake regurgitated an agitated but alive 25.9 cm SVL, 8.2 cm tail length and 11.5 g female Red Coffee Snake, *Ninia sebae* (Duméril, Bibron & Duméril, 1854). The *N. sebae* was expelled head first, indicating that the snake had been consumed tail first. Abnormal disposition of the *N. sebae* upon regurgitation, as well as subsequent death within two hours of being ejected, suggests that it had been envenomated by the *L. septentrionalis* during consumption. Initial capture of the prey item was not observed, thus it is impossible to determine if the *L. septentrionalis* encountered the prey item in the leaf litter or on the shrub itself. The

strict fossorial nature of *N. sebae* would suggest the former, with final stages of consumption happening after subsequent relocation to the shrub on which we discovered it. On 18 February 2012, AF observed a juvenile *L. septentrionalis* measuring 40.4 cm SVL, 12.7 cm tail length and weighing 13.5 g that regurgitated a 4.5 g *Leptodactylus melanonotus*, a nocturnal frog with fossorial tendencies. Our observations of consumption of a fossorial snake and frog suggest *L. septentrionalis* may be an opportunistic species, foraging in trees as well as on the ground and consuming any suitably sized prey encountered. Feeding observations are important as they improve our knowledge of the natural history of these secretive species. Work was carried out under permit number ACTo-GASP-PIN-08-2011 issued to Caño Palma Biological Research Station. A tissue sample from both animals was taken, with all animal interaction carried out in accordance to IACUC protocol # CSI-11-027 approved by CUNY College of Staten Island.

**Acknowledgements.** The authors thank The Canadian Organization for Tropical Education and Rainforest Conservation for use of their facilities. We thank Ana Maria Monge Ortiz (MINAET) and Erick Herrera Quesada (RNVS Barra del Colorado) for their help with permitting. ADM is supported by a CUNY Science Scholarship and would like to thank COAST of Portland for furnishing LED lights used in the survey. AF was supported by a University of New Orleans College of Sciences Graduate Student Research Grant.

## References

- Cantor, M., Pizzatto, L. (2008): *Leptodeira annulata* (Banded Cat-Eyed Snake). Diet. *Herpetological Review* 39: 470-471.  
Savage, J.M. (2002): *The Amphibians and Reptiles of Costa Rica: A Herpetofauna between Two Continents, between Two Seas*. Chicago, The University of Chicago Press.

1 College of Staten Island and The Graduate Center, The City University of New York, New York, NY.

Email: amckelvy@gc.cuny.edu

2 University of New Orleans, New Orleans, LA. Email: afigureoa21@gmail.com

3 Westfield, 4 Worgret Road, Wareham, Dorset, BH20 4PJ, UK. Email: ecolewis@gmail.com

\*Corresponding author



**Figure 1** - Adult male *Leptodeira septentrionalis* that had regurgitated a *Ninia sebae*. Caño Palma Biological Station, Limón, Costa Rica. Photo by Alexander D. McKelvy