

***Lampropeltis abnormalis* (Colubridae; Squamata): documenting a regurgitated prey item from Cusuco National Park, Honduras**

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Introduction:

The *Lampropeltis* genus is well known and documented in captivity, with its bright colouration, convincing mimicry and harmless yet hardy temperament making it a popular and diverse group among snake keepers. The popularity of this species among enthusiasts has led to the accumulation of substantial knowledge about its care and diet in captivity; for this reason it is likely the “best known snake of the neo-tropics” (Kohler 2008). Unfortunately, this captive reputation often means in-situ species observations from nature are over-looked or unpublished. Numerous reports of in-situ *Lampropeltis* diet have been documented, describing feeding behaviour on small mammals (Aguilar-López and Pineda, 2013; Kohler *et al.* 2017), eggs (Groves, 2014; Hollingsworth and Walsh 2016), and other snake species (Marquez *et al.* 2013). In captivity, *Lampropeltis* species are known to have a very diverse diet, ranging from rodents, lizards, frogs, snakes and birds (Kohler 2008).

Natural History:

In Honduras, the sub-species previously regarded as *Lampropeltis triangulum hondurensis* (Williams, 1978) was revised recently by Ruane *et al.* (2014) to *Lampropeltis abnormalis* (Bocourt, 1886), and was first reported from Cusuco National Park (CNP) in 2005 (Townsend *et al.* 2006). This large (Total

length – ca. 2000mm), strong and broad-bodied colubrid is “pre-dominantly a nocturnal forest dweller” (Kohler, 2008), yet is also active during the day on the ground amongst leaf-litter. In CNP, *L.abnormalis* has been observed utilising a variety of habitats, ranging from disturbed agricultural areas to lowland-broad-leaf rainforest and montane cloud forest. Individuals have been found basking in sun-lit areas of leaf-litter, but also utilising a variety of microhabitats such as rotten/hollow logs, holes at the base of trees and buttress roots when actively foraging or resting (pers.observ.). Throughout the Honduran part of its range, this species occurs naturally in two primary colour morphs, the typical tri banded (Red, Black, Yellow, Black, Red) phase and red-tangerine phase. In CNP, two adult individuals were observed in 2016; both had typical tri-coloured patterning, and high levels of dark pigmentation. This darkening of the aposematic colouration is commonly observed within individuals of the species at higher elevations, having more pigmentation than those inhabiting lowland areas. It is suggested that perhaps a dark colouration could help aid basking potential within these dense mountainous forest habitats, as found in other reptiles (Levesque, 2015).

Diet :

The observation commenced on 24 March 2016, around 14:25hrs, when the author



Figure 1. *Lampropeltis abnormalis* pictured alongside feet of regurgitated Mexican deer mouse (*Peromyscus mexicanus*) in Cusuco National Park, Honduras. © Tom W. Brown

(TWB) opportunistically observed and captured a wild adult female (ca. 1200mm total length/450g ‘post-regurgitation’ weight). The individual was basking in sun-lit leaf-litter alongside a trail in broad-leaf rain forest nearby to a locality known as Guanales (15 29 21.6 N, 88 14 01.9 W, 1271m above sea level). The snake was contained safely in a purpose-made cotton bag until morphometric data could be collected back at camp (approx. 20min). Within this short amount of time, an entire albeit partially digested rodent was regurgitated (Fig. 1).

The rodent, which measured 122mm from head to tail base, was later identified to species level by consulting the book and author of ‘Mammals of Central America (Reid, 2009), and was found to be a Mexican deer mouse (*Peromyscus mexicanus*) based on paw structure and pad patterning. Further confirmation was provided by ruling out co-occurring alternatives such as the Spiny-Pocket Mouse (*Heteromys desmarestianus*), as multiple *P. mexicanus* and *H. desmarestianus* were captured in Sherman traps during small mammal surveys through Operation Wallacea in July 2016; allowing for in-hand comparison and validation against the regurgitated specimen, which was preserved at the time using 90% ethanol and stored in the CNP Visitors Centre.

The Mexican deer mouse (*Peromyscus mexicanus*) is an abundant species throughout the forests of Central America, ranging from Mexico to Panama (Reid, 2009; Trujano-alvarez and Alvarez-castaneda, 2010). In CNP, it has consistently been (alongside *H. desmarestianus*), the most commonly captured rodent species during small mammal surveying performed by Operation Wallacea (H. Hoskins pers.comm; Gilroy *et al.* 2017). The genus of deer mice *Peromyscus* is a common prey source for numerous snakes, including *Lampropeltis* (L. W. Porras. pers.comm; Greene and Rodriguez-robles, 2003). Specifically, *P. mexicanus* was also reported from CNP as a prey item for Honduran palm pit viper (*Bothriechis marchi*) (Solis and Brown, 2016). While a diet of rodents may not be unexpected in the genus *Lampropeltis*, this observation offers yet further confirmation that *P. mexicanus* is an important component in the diet of co-occurring snakes, presenting a valid in-situ record for the natural diet of *L. abnormalis*.

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