Tropical Natural History 20(3): 265–267, December 2020

Short Note

Xenopeltis unicolor (Serpentes: Xenopeltidae) Predation on *Gekko gecko* (Lacertilia: Gekkonidae) in Nakhon Ratchasima, Thailand

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Received: 2 April 2020; Accepted: 17 June 2020

The sunbeam snake, *Xenopeltis unicolor* (Reinwardt, 1827), is a nocturnal and fossorial snake typically encountered on land near water bodies throughout much of Southeast Asia[1,2]. It is known to feed on a variety of prey, including frogs, snakes, lizards, and small mammals[3,4,5,6,7], even though in possession of specialized dental morphology to grasp and swallow hard-bodied prey, such as scincid lizards[3]. Constricting prey is the dominant method *X. unicolor* use to subdue large prey, while they swallow smaller prey alive[8]. The primitive skull structure of *X. unicolor* may limit their capacity to swallow large prey items[8,9].

Despite the known co-occurrence of *X. unicolor* and *Gekko* species in both forested and human-modified habitats, throughout much of Southeast Asia, there are no recoded observations of *X. unicolor* preying on a *Gekko* species. I report the first such observation in Nakhon Ratchasima, Thailand.

On 19 October 2018 at 23:40 h, I encountered an adult *X. unicolor* as it was constricting an adult tokay gecko, *G. gecko* (Linnaeus, 1758), on the ground approximately 3 m from the trunk of a large tamarind tree (*Tamarindus indica*) and about 2.5 m from a concrete drainage ditch which runs between several nearby buildings on the campus of Suranaree University of Technology in Nakhon Ratchasima, Thailand (14.8759°N, 102.0172°E; 262 m asl). The *G. gecko* was struggling while the *X. unicolor* coiled tightly and constricted the prey (Fig. 1A). After watching the pair for about 12 minutes, I moved backward slowly and left the site to limit my disturbance of behavior. When I returned 28 minutes later (00:20 h), the *G. gecko* was still alive and had struggled sufficiently so that only its right hind-limb and left fore-limb still remained within the snake's coils. However, the gecko appeared to be physically exhausted, as it was motionless, and the *X. unicolor* had released its bite on the prey (Fig. 1B). As I approached the two reptiles, the *X. unicolor* turned its head towards me. In response, I attempted to distance myself further from the snake; however, it appeared that the *X. unicolor* was still aware of my presence. At that point, I left the site in hopes that the snake would complete the predatory interaction. I returned to the site once again at 01:15 h, by which time both the *X. unicolor* and *G. gecko* were gone.

The ultimate fate of the *G. gecko* remains unknown. Knowing that the *X. unicolor* had been struggling to constrict the *G. gecko*, even after a minimum of 45 minutes, suggests the idea that at least large adult *G. gecko*

FIGURE 1. (A) *Xenopeltis unicolor* constricting an adult *Gekko gecko* on the ground on a university campus in Nakhon Ratchasima, Thailand (B) 40 minutes later the *G. gecko* was still alive and had nearly wriggled itself free from the coils of the *X. unicolor*, which had now released its bite.

individuals are not the most suitable prey for *X. unicolor*. Although the energetic payoff from successfully consuming a large prey item would be high, there is also a significantly higher energetic investment required in order to subdue and ingest such a large prey item. *Gekko gecko* are formidable prey, as they are moderately sized lizards (with large, difficult-to-swallow heads), have considerable strength, and particularly powerful jaws. Although *G. gecko* is highly arboreal[10,11], and thus largely unavailable to fossorial and terrestrial species, such as *X. unicolor*, *G. gecko* occasionally move on the ground from one tree or building to another or hunt terrestrially (Hodges, pers. obs.). Overall, young *G. gecko* individuals would be easier and more manageable prey for *X. unicolor*, thus it is likely that *X. unicolor* more commonly feeds on smaller *G. gecko* individuals and other abundant gekkonid species, such as *Hemidactylus* spp., which has previously been documented as prey of wild *X. unicolor*[4].

This observation provides insight into *X. unicolor* diet in the wild, and demonstrates that gekkonid lizards, such as *G. gecko*, are possibly one dietary component. Further studies on the species available to *X. unicolor* and what prey actually exist within their diet would reveal if this species truly is a generalist predator. Understanding their prey composition and foraging strategies may yield insight into the underlying mechanisms this species wields to locate and subdue prey.

ACKNOWLEDGEMENTS

I would like to thank Suranaree University of Technology Grounds and Buildings for allowing me to conduct research on SUT campus. Additionally, I would like to thank the National Research Council of Thailand for allowing me to conduct research in Thailand. This was a serendipitous event that occurred while investigating another species, and therefore I did not need independent permits for this observation. I would also like to thank the SUT School of Biology for their logistic support to the project, and Dr. Colin Strine for his contribution during the preparation of this manuscript.

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