



Diurnal Predation on an Asian Common Toad (*Duttaphrynus melanostictus*) and a Cricket Frog (*Fejervarya* sp.) by Buff-striped Keelback (*Amphiesma stolatum*) in Cumilla, Bangladesh

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The Buff-striped Keelback, *Amphiesma stolatum* (Linnaeus 1758), is distributed throughout Bangladesh, Bhutan, Cambodia, India, Lao People’s Democratic Republic, Malaysia, Myanmar, Nepal, Pakistan, Sri Lanka, Thailand, Vietnam, and China (Whitaker and Captain 2004; Wogan et al. 2021). It is abundant in Bangladesh where it inhabits paddy fields, home gardens, grasslands, bushes, and lowland forests, usually near bodies of water such as lakes and ponds (Das 2002; Hasan et al. 2014), with habitat reflecting the availability of food (Daniel 2002). The diet includes amphibians (63.3%), reptiles (20.0%), insects (10.0%), fish (3.3%), and scorpions (3.3%) (Grundler 2020) (Fig. 1), although Baruah et al. (2001) indicated that 87.75% of the diet consisted of frogs and toads. Scavenging behavior has been reported by Das (2002) and Ghosh and Chaudhuri (2015). Few studies address foraging behavior of Buff-striped Keelbacks, although one individual consumed an Indian Burrowing



Figure 2. A Buff-striped Keelback (*Amphiesma stolatum*) preying on an Asian Common Toad (*Duttaphrynus melanostictus*) in a paddy field in Cumilla, Bangladesh. Photograph by Shahadat Hossen.

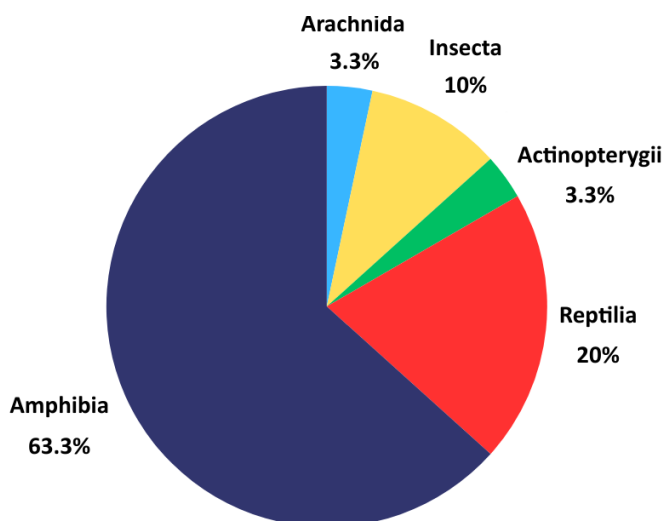


Figure 1. Composition of the diet of the Buff-striped Keelback (*Amphiesma stolatum*) (adapted from data in Grundler 2020).

Frog (*Sphaerotheca breviceps*) in Sri Lanka (Dissanayake and Wellappuliarachchi 2016) and another ate a cricket frog (*Fejervarya* sp.) in Nepal (Dutta et al. 2017), both at night. Herein we report two Buff-striped Keelbacks that consumed a toad and a frog during the day at Kendua Village, Alkara, Cumilla, Bangladesh (23.0738333, 91.3202778).

During a herpetofaunal survey at 1158 h on 16 February 2023, we encountered an *Amphiesma stolatum* (total length ~1 m) preying on an adult Asian Common Toad (*Duttaphrynus melanostictus*) on the muddy edge of a rice paddy (Fig. 2). The snake had seized the left hindlimb of the toad, which was emitting alarm calls and attempting to resist by grabbing a nearby rice plant with its left forelimb and driving its right fore- and hindlimbs into the wet soil. After ~3 min, the snake had swallowed the entire left hindlimb of the toad. After another 5 min, the snake lifted the toad and moved to a more secluded site. After ~16 min, we observed the snake moving slowly in a dense grassy area with a prominent food bolus.

At the same location at 1028 h on 8 October 2022, we observed another *A. stolatum* (total length ~0.7 m) that had captured a cricket frog (*Fejervarya* sp.). The snake had swallowed both hindlimbs and the posterior body of the frog, so not being able to see diagnostic features such as body markings, webs of the feet, and toe discs made it impossible to determine the species. When the snake recognized our presence (after ~2 min), it moved to a bushy area with its prey, which emitted release calls, inflated its body, and exuded defensive secretions in an effort to escape. Complete ingestion took ~13 min.

North American ratsnakes (*Pantherophis* spp.) are known to shift activity from days to nights over periods of weeks or months in response to temperature and light (Sperry et al. 2013; DeGregorio et al. 2014). Although generally considered to be diurnally active (Whitaker and Captain 2004), Buff-striped Keelbacks might similarly shift activity in response to humidity, temperature, and prey abundance (Dutta et al. 2017). While both of our observations took place during the day, different local conditions might explain why the Buff-striped Keelbacks in Sri Lanka and Nepal were feeding at night (Dissanayake and Wellappularachchi 2016; Dutta et al. 2017).

Acknowledgements

We thank Mr. Shahadat Hossen and Md. Manjurul Islam for help during field surveys.

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