



# Ophidian Predation on the Endemic Short-crested Island Forest Lizard, *Coryphophylax subcristatus* (Blyth 1860), in the Andaman and Nicobar Archipelago

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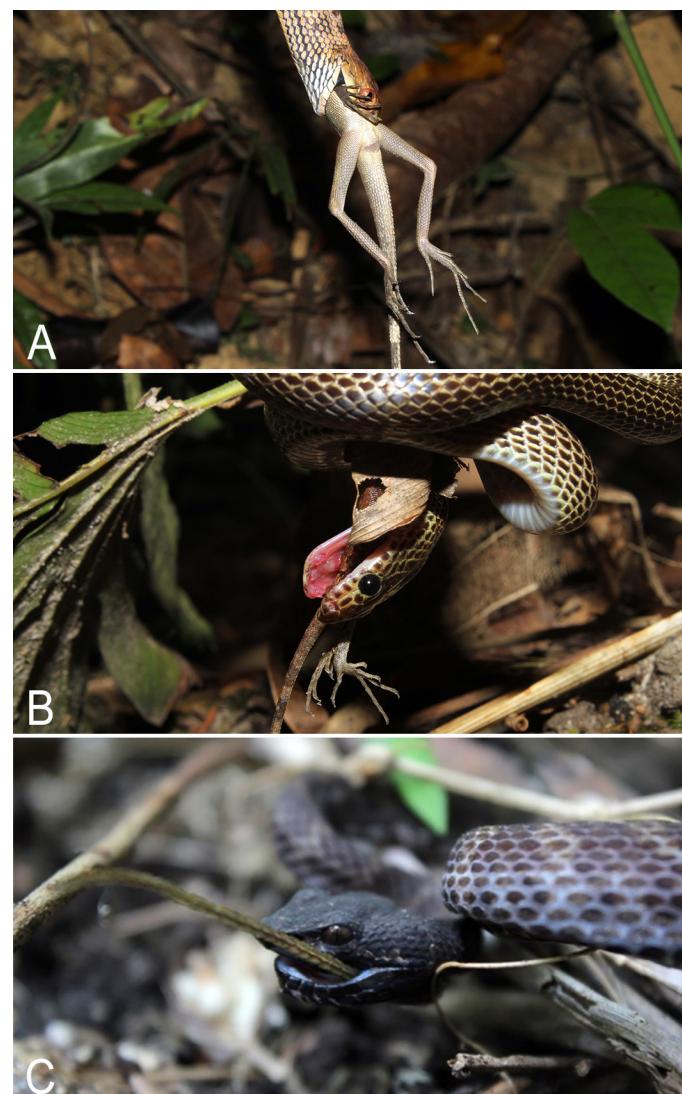
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Discerning predator-prey dynamics is crucial for understanding any ecosystem, especially relatively simple insular systems, where even small changes can have devastating effects (Schalk and Cove 2018; Chi et al. 2020). Short-crested Bay Island Forest Lizards (*Coryphophylax subcristatus*) (Agamidae) are endemic to the islands of the Andaman and Nicobar Archipelago (Mohanty et al. 2016; Harikrishnan et al. 2012a). This is one of two species in this insular endemic genus, the other being the Short-tailed Bay Island Forest Lizard (*Coryphophylax brevicaudus*), which is readily distinguished from *C. subcristatus* by its relatively smaller body size and noticeably shorter tail. *Coryphophylax brevicaudus* is known only from the Andaman Archipelago and, although the type locality of *C. subcristatus* is Port Blair in the Andaman Islands, it is believed to be widely distributed and could be a species complex, with taxa in the group potentially restricted to island groups within the Andaman and Nicobar Archipelago, a general pattern among other species of lizards in this region (Krishnan 2005; Harikrishnan et al. 2012b; Chandramouli et al. 2023). We herein report four ophidian predators of this poorly known species.

At 2015 h on 1 April 2022, we observed an adult male Andaman Catsnake (*Boiga andamanensis*) (SVL ~950 mm) preying on an adult *Coryphophylax subcristatus* (SVL ~110 mm) in Mount Harriet National Park (Fig. 1A). The snake, on a branch about 1.5 m above the ground, was about midway through swallowing the lizard head-first. Complete ingestion took about 7 min from the time of the initial observation.

At 0845 h on 23 February 2024, we observed a subadult Andaman Wolfsnake (*Lycodon tiwari*) (SVL ~170



**Figure 1.** Predation on Short-crested Island Forest Lizards (*Coryphophylax subcristatus*) in the Andaman and Nicobar Archipelago: An Andaman Catsnake (*Boiga andamanensis*) consuming a *C. subcristatus* in Mount Harriet National Park (A) and an Andaman Wolfsnake (*Lycodon tiwari*) (B) and a Nicobar Bamboo Pitviper (*Trimeresurus labialis*) (C) preying on *C. cf. subcristatus* on Car Nicobar Island. Photographs by R.S. Naveen (A) and V. Kodeeswaran (B–C).

mm) consuming a juvenile *Coryphophylax* cf. *subcristatus* (SVL ~50 mm) in Teatop Village, Car Nicobar Island (Fig. 1B). The snake was in vegetation less than 30 cm above the ground coiled around the lizard in an attempt to subdue it. Complete ingestion took about 20 min from the time of the initial observation.

At 1145 h on 10 March 2024, we observed an adult Nicobar Bamboo Pitviper (*Trimeresurus labialis*) (SVL ~300 mm) preying on an adult *Coryphophylax* cf. *subcristatus* (SVL ~80 mm) in Big Lapathy, Car Nicobar Island (Fig. 1C). The snake was on a pile of coconut husks and had swallowed most of the lizard when first observed. Complete ingestion took about 2 min from the time of the initial observation.

At 0830 h on 25 March 2024, we observed an adult David's Pitviper (*Trimeresurus davidi*) (SVL ~500 mm) preying on a juvenile *Coryphophylax* cf. *subcristatus* (SVL ~100 mm) in Chukchuka Village, Car Nicobar Island. The snake was on a pile of dry coconut husks and was about to finish swallowing the lizard when we encountered it.

In addition to these observations, Mohanty et al. (2016) reported predation of *Coryphophylax* spp. by an Andaman Pitviper (*Trimeresurus andersonii*) and an Andaman Bronzeback (*Dendrelaphis andamanensis*). Combined with our observations, we suggest that species of *Coryphophylax* are a major dietary component of several species of endemic and threatened snakes and play a vital role in the ecosystems of the Andaman and Nicobar Islands.

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## Literature Cited

Chandramouli, S.R., O.D. Adhikari, A.T. Amarasinghe, and A. Abinawanto. 2023. A review of the genus *Bronchocela* Kaup, 1827 (Reptilia: Agamidae) in the Nicobar Archipelago with the description of two new species. *Zootaxa* 5254: 493–516. <https://doi.org/10.11646/zootaxa.5254.4.3>.

Chi, Y., Z. Zhang, Z. Xie, and J. Wang. 2020. How human activities influence the island ecosystem through damaging the natural ecosystem and supporting the social ecosystem? *Journal of Cleaner Production* 248: 119203. <https://doi.org/10.1016/j.jclepro.2019.119203>.

Harikrishnan, S., K. Vasudevan, S.R. Chandramouli, B.C. Choudhury, S.K. Dutta, and I. Das. 2012a. A new species of *Coryphophylax* Fitzinger in: Steindachner, 1867 (Sauria: Iguania: Agamidae) from the Andaman Islands, India. *Zootaxa* 3451: 31–45. <https://doi.org/10.11646/zootaxa.3451.1.3>.

Harikrishnan, S., K. Vasudevan, A. de Silva, V. Deepak, N.B. Kar, R. Naniwadekar, A. Lalremruata, K.R. Prasoona, and R.K. Aggarwal. 2012b. Phylogeography of *Dasia* Gray, 1830 (Reptilia: Scincidae), with the description of a new species from southern India. *Zootaxa* 3233: 37–51. <https://doi.org/10.11646/ZOOTAXA.3233.1.3>.

Krishnan, S. 2005. Phylogenetic Status and Systematics of the Agamid *Coryphophylax* Blyth, 1861 (Reptilia: Squamata). Unpublished M.S. Thesis, University of Texas at Arlington, Arlington, Texas, USA.

Mohanty, N.P., S. Harikrishnan, and K. Vasudevan. 2016. Watch out where you sleep: nocturnal sleeping behaviour of Bay Island lizards. *PeerJ* 4: e1856. <https://doi.org/10.7717/peerj.1856>.

Schalk, C.M. and M.V. Cove. 2018. Squamates as prey: Predator diversity patterns and predator-prey size relationships. *Food Webs* 17: e00103. <https://doi.org/10.1016/j.fooweb.2018.e00103>.