

***PHYLLOBATES LUGUBRIS* (Lovely Poison Frog). PREDATOR-PREY INTERACTIONS.**

A wide variety of invertebrates and vertebrates prey upon anurans (Toledo 2005. *Herpetol. Rev.* 36:395–400), yet relatively little is known about predators of chemically defended frogs. Poison frogs contain skin alkaloids, which are thought to be effective at deterring potential predators due to their unpalatable nature (for review, see Saporito et al. 2012. *Chemoecology* 22:159–168). Anecdotal reports of successful predation upon dendrobatid poison frogs (Dendrobatidae) include an ant, fish, amphibian, and bird, as well as several spiders and snakes (Santos and Cannatella 2011. *Proc. Natl. Acad. Sci.* 108:6175–6180; Alvarado et al. 2012. *Herpetol. Rev.* 44:298; Lenger et al. 2014. *Herpetol. Notes* 7:83–84). Herein, we report a successful predation event on the dendrobatid poison frog *Phyllobates lugubris* by the snake *Coniophanes fissidens* (Yellowbelly Snake) from Guayacan, Limon, in northeastern Costa Rica.

*Phyllobates lugubris* is a conspicuously striped, alkaloid-containing, diurnal frog that inhabits the Caribbean lowland rainforest, and marginally, premontane wet forest from extreme southeastern Nicaragua, through Costa Rica, and into northwestern Panama (Savage 2002. *The Amphibians and Reptiles of Costa Rica*. University of Chicago Press, Chicago, Illinois. 389–390 pp.). Adult *Coniophanes fissidens* are leaf-litter dwelling snakes that are most active during the day and early evening, and are found within the geographic range of *P. lugubris* (Savage 2002. *The Amphibians and Reptiles of Costa Rica*. University of Chicago Press, Chicago, Illinois. 593–595 pp.). The diet of *C. fissidens* is reported to contain a diversity of small vertebrates, including frogs, lizards, snakes, salamanders, and lizard and frog eggs (Savage 2002. *The Amphibians and Reptiles of Costa Rica*. University of Chicago Press, Chicago, Illinois. 593–595 pp.). At 1015 h on 07 October 2015, we observed an adult *P. lugubris* being chased, captured, and subdued by a *C. fissidens* on the soil of the forest floor (Fig. 1). The snake consumed the frog entirely, and appeared unimpaired and unharmed after the predation event. *Coniophanes fissidens* is also a reported predator upon another dendrobatid, the strawberry poison frog *Oophaga pumilio*, at the La Selva Biological Station in northeastern Costa Rica (Saporito et al. 2007. *Copeia* 4:1006-1011), suggesting that this snake may be resistant or tolerant to the effects of alkaloid-based chemical defenses of dendrobatid frogs.

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FIG. 1. An adult *Phyllobates lugubris* (Lovely Poison Frog) being preyed upon by a *Coniophanes fissidens* (Yellowbelly Snake) in Guayacan, Costa Rica.