



FIG. 1. *Nerodia sipedon* vertebrae caudal to the tail detachment site. Vertebra 1 has been isolated to show it is complete.

sphenodonts, amphisbaenids, and snakes. Among these taxa, an array of tail autotomy strategies exists (Arnold 1984. *J. Nat. Hist.* 18:127–169). True autotomy occurs when the tail is lost spontaneously and is later regenerated, as is the case with many lizards and *Sphenodon*. Often the tail breaks intravertebrally, along a pre-existing fissure. Pseudoautotomy occurs when a mechanical force is required to separate the tail from the body and the tail does not grow back; this is common in natricine snakes in North America (Cooper 1993. *Amphibia-Reptilia* 14:86–89; Fitch 1965. *Univ. Kansas Publ. Mus. Nat. Hist.* 15:493–564; Todd 2010. *Amphibia-Reptilia* 31:213–215). Pseudoautotomy is further divided into specialized pseudoautotomy where the tail anatomy facilitates breakage, and non-specialized pseudoautotomy where the tail is lost because it is long and fragile with no clear mechanisms to facilitate detachment (Slowinski and Savage 1995. *Herpetologica* 51:338–341).

At approximately 1130 h on 27 August 2009, we captured an adult *Nerodia sipedon* in Killarney Provincial Park, Ontario, Canada (46.08333°N, 81.33333°W, datum NAD 83). The snake was basking on a granite ledge, roughly 10 m from water's edge. The snake was caught by the tail and it immediately performed a lateral roll, causing its tail to detach. We dropped the tail and caught the snake before it could escape. Very little blood was lost through the wound, where the tail detached. The isolated tail continued to move in response to touch for almost 30 min. The tail was frozen and shipped to Dalhousie University, Nova Scotia, Canada for clearing and staining after fixation in neutral buffered formalin.

The wriggling of the tail immediately after detachment and prolonged response of the tail to touch suggests that these snakes may have anatomical features that facilitate tail detachment for predator evasion. This would fall into the category of specialized tail pseudoautotomy. To determine whether the tail had broken intra- or intervertebrally, the tail tissue was cleared using trypsin powder in sodium tetraborate and potassium hydroxide. The bone was stained with alizarin red. Fig. 1 shows the first four vertebrae after the break site. The first vertebra caudal to the break site is separated to show that it is complete, confirming that the tail broke intervertebrally and that *N. sipedon* displays tail pseudoautotomy in response to a sheer force sufficient to detach the tail. There are no distinctive osteological features before or after the break site, suggesting that anatomically, pseudoautotomy in *N. sipedon* is of a non-specialized nature.

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**OPHIOPHAGUS HANNAH (King Cobra). DIET.** *Ophiophagus hannah* is a front-fanged elapid snake found throughout much of Southeast Asia. *Ophiophagus hannah* is known to primarily consume other snakes, but has also been documented to consume lizards, including varanids (Evans 1902. *J. Bombay Nat. Hist. Soc.* 14:409–418; Hesed 2006. *Herpetol. Rev.* 37:480; Smith 1943. *Fauna of British India: Reptilia and Amphibia*, Vol. III, Serpentes. Taylor & Francis, London). However, a review of published dietary observations in this species showed all records to be restricted to India, Malaysia, and Thailand (Hesed, *op. cit.*). To our knowledge, this is the first record of a varanid in the diet of *O. hannah* in the Philippines.

During fieldwork in the Philippines, we observed a male *Ophiophagus hannah* (total length = 327.5 cm; 3.75 kg) consuming, head-first, a 1.5 kg *Varanus cumingi* (Fig. 1). The event occurred on 12 April 2009, in mixed primary and secondary growth forest, on a trail near a water intake system, in Pasonanca Natural Park, Barangay Pasonanca, Zamboanga City Province, Mindanao Island, Philippines (6.9922333°N, 122.0604333°E, datum: WGS-84; elev. 90 m). Both specimens were collected, preserved, and deposited at the Biodiversity Institute, University of Kansas (KU 321813: *Ophiophagus hannah*, KU 321814: *Varanus cumingi*).

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FIG. 1. An adult *Ophiophagus hannah* preying upon a subadult *Varanus cumingi* in Pasonanca Natural Park, Mindanao Island, Philippines.

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