

CROTAPHYTUS COLLARIS (Eastern Collared Lizard). **CAUDOPHAGY.**

Crotaphytus collaris is a known predator on a variety of lizard taxa (Best and Pfaffenberger 1987. Southwest. Nat. 32: 415-426; Lappin 1999. Unpublished PhD Dissertation. Univ. Calif., Berkeley; McAllister 1985. Southwest. Nat. 27:358-359). This species also is known to attempt predation on animals larger than itself (Strasser. 1931. Bull. Antivenin Institute of America 5:41). Here, I report an unusual instance of predation by a *C. collaris* from Arizona, which, together with information from laboratory feeding experiments, suggests that prey lizard morphology may influence the incidence of caudophagy. Specifically, the evidence supports the hypothesis that caudophagy is more likely to occur when the prey lizard possesses anti-predator integumentary modifications, such as the cycloid scales and osteoderms of skinks.

At 515 h on 3 May 1996, I encountered an adult (102 mm SVL) male *C. collaris* on a large granite boulder along Boriania Mine Rd. ~1 mi N of Wabayuma Peak turnoff going to Prescott, Yavapai Co. The lizard was bleeding from the right corner of mouth and four spots on top of the head, giving the appearance of pinpricks. Subsequent stomach-flushing revealed that the *C. collaris* had recently eaten the tail from a large skink. The tail section consumed was the original (i.e., unregenerated) and measured 92.5 mm. The locality and comparison of the tail with those of museum specimens revealed it to belong to a *Eumeces gilberti*. Further, its size and lack of ventral juvenile coloration suggest that the *Eumeces* to which it belonged was an adult, possibly comparable in size to the *C. collaris*. The injuries to the *C. collaris* appear to have been incurred during the interaction with the *Eumeces*.

Skinks are more likely than other potential lizard prey taxa to be subjected to caudophagy rather than complete consumption by *C. collaris*. During five captive feeding trials I conducted among three individual adult *C. collaris*, caudophagy alone occurred every time a *Eumeces* sp. was the prey item, whereas caudophagy alone occurred in < 4% of trials with other prey lizard taxa (e.g., *Uta*, *Cnemidophorus*) [caudophagy in 2 of 57 trials among 25 *C. collaris* individuals]. During feeding trials with *Eumeces* sp. as the prey item, the *C. collaris* would chase the skink, repeatedly attempt to close its mouth on its body, and inevitably have the skink slip out of its jaws. Usually after multiple attempts to grab the skink by the body, the *C. collaris* would inevitably bite the tail, which was then autotomized and eaten.

Squamates that are skink-eating specialists possess modifications of the trophic apparatus that are proposed to aid in gripping the hard and slippery integument of skinks, such as hinged teeth in *Lialis* (Patchell and Shine 1986c. *J. Zool. Lond.* 208:269-275) and snakes (Savitzky 1981. *Science* 212:346-349) and a unique intramaxillary joint in *Casarea* (Frazzetta 1970b. *Am. Nat.* 104:55-72; Cundall and Irish 1989. *J. Zool. Lond.* 217:189-207). Observations herein support the view that integumentary specializations of skinks are effective anti-predator modifications, at least when the predator does not possess a specialized trophic apparatus morphology to cope with the modifications.

Specimens were handled and collected under Arizona Game and Fish Scientific Collecting Permit # SP657703 issued 8 April 1996 to A. K. Lappin.

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