

AMPHISBAENIA

AMPHISBAENA MERTENSI (NCN). **DEFENSIVE BEHAVIOR.** Caudal autotomy—the ability to lose the tail in defensive encounters—is exhibited by some lepidosaurs, salamanders, and a few rodents (Arnold 1988. *In* C. Gans and R. B. Huey [eds.], *Biology of the Reptilia*, vol. 16, *Defense and Life History*, pp. 235–273. Alan R. Liss, New York). This behavior is thought to be an important strategy, attracting a predator's attention

to the broken piece of the tail, allowing the prey to escape. Here we report on a provoked predatory encounter between an amphisbaenian, *Amphisbaena mertensi*, and the South American coral snake, *Micrurus lemniscatus*, a natural predator of amphisbaenians (Amaral 1927. Coletânea dos Trabalhos do Instituto Butantan, vol. 2, Oficina do Diário Oficial, São Paulo, 406 pp.). These two species are broadly sympatric over their geographic distribution.

The observations were made with an adult male *A. mertensi* (SVL 284 mm; tail length 47 mm) collected at an animal rescue during the construction of the hydroelectric power plant near Miranda, Patrocínio municipality, Minas Gerais state, Brazil, and an adult female *M. lemniscatus* (SVL 547 mm) collected at Rio Claro municipality region, São Paulo state, Brazil. Both specimens were deposited in the Museum of the Zoology Department, Universidade Estadual Paulista, Rio Claro, SP (*A. mertensi* under # 974 and *M. lemniscatus* under # 975).

On the evening of 24 May 1999, the animals were placed in a plastic box (73 x 39.3 x 55 cm) with 3.5 cm of soil as substrate and illuminated by a dim infrared light. Thereafter, the animals were left undisturbed and their behavior was recorded by a closed-circuit television system. After 1.5 h, the coral snake directed its head toward the amphisbaenian, moved rapidly toward it, and bit the terminal section of its tail. The tail autotomized at a natural break site immediately following the bite (Vanzolini 1948. Rev. Brasil. Biol. 8:377–400). The movements of the broken piece of the tail attracted the coral snake which spent 3 min inspecting it. After the attack and tail autotomy, the amphisbaenian moved continuously, an activity that, under natural conditions, would probably allow the animal to escape and survive this predation event. Under the experimental conditions, however, the coral snake was able to re-attack 3 h later. At this time, the coral snake again bit the terminal section of the amphisbaenian tail and the amphisbaenian thrashed vigorously, forcing the coral snake to release it. From 19–40 min after this second attack, the *A. mertensi* died, probably due to envenomation from the second attack.

In a sample of 30 *A. mertensi* from the same animal rescue at Miranda, 33% of the individuals had autotomized tails. Assuming that tail loss scars are evidence of survivorship from a predatory encounter, and based on our experimental observations, we conclude that caudal autotomy could serve as an effective defense strategy for *A. mertensi*, resulting in survival from predation in a considerable proportion of individuals.

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