

Predation by Two Species of Coral Snakes in Limón Province, Costa Rica

R. Michael Burger
2009 Avenue Road
Toronto, Ontario M5M 4A5
Canada

Three species of coral snakes occur in Limón Province, Costa Rica: *Micrurus alleni*, *M. multifasciatus hertwigi*, and *M. nigrocinctus mosquitensis* (Campbell and Lamar, 1989; Roze, 1996). Although these snakes are frequently encountered in the wild, feeding is rarely observed, and in the case of *M. multifasciatus hertwigi*, prey is unknown. Two instances of predation by coral snakes were observed in 1994 and 1997 at Caño Palma Biological Station near the coastal village of Tortuguero. The following account briefly describes feeding as well as activity in *M. alleni* and *M. multifasciatus hertwigi*.

Located within the biological corridor connecting two national wildlife preserves, Caño Palma is a ca. 100-acre station operated by the Canadian Organization for Tropical Education and Rainforest Conservation (COTERC). The property consists of primary forest as well as an area of regrowth from a former tenant clearing. Caño Palma experiences periodic flooding, occasionally reaching depths of 2–3 feet.

Observations suggest that while both *M. alleni* and *M. multifasciatus hertwigi* occur on the property, their activity and habitat preferences are different. Swampy terrain predominates over much of the northeastern portion of the property. Late evening excursions through this terrain yielded multiple *M. alleni* in both November 1995 and March 1997. All snakes encountered were generally in contact with water and even submerged. When disturbed, the coral snakes would quickly attempt to escape by either crawling overland or diving directly into the soft muddy bottom of the swamp. Although I never personally observed *M. multifasciatus hertwigi*, two separate station managers positively identified this species at Caño Palma as having been found on slightly higher ground, closer to the living quarters. Additionally, this species has only been noted during the day, which is in accord with observations made by Villa (1984) on Nicaraguan specimens.

During an evening hike in March 1997, a small *M. alleni* was observed partially exposed in the wet leaf litter of a drying pocket of water. Upon closer examination, it was discovered that the snake was in the process of consuming a swamp eel (*Synbranchus marmoratus*) close to its own length and girth. A few leaves were carefully pushed aside from the completely distended anterior portion of the coral snake's body in order to

make identification, after which the snake was left undisturbed. At least six other species and subspecies of coral snakes are known to feed on this wide-ranging eel (Roze, 1996); *Synbranchus marmoratus* was first recorded as a prey item for *M. alleni* from a specimen collected in 1935 by Morrow Allen, for whom *M. alleni* was named (Gauge et al., 1937).

On an earlier trip to Tortuguero in 1995, Daryl Loth (Caño Palma station manager) described an incident that occurred in the summer of 1994 in which a caecilian was found during the daylight hours as it was crawling across a recently flooded grassy area near a drainage pipe. Surprisingly, upon returning to the scene after retrieving a camera, a bicolor coral snake (*M. multifasciatus hertwigi*) was found in the process of consuming the caecilian (see Figure 1). The coral snake (perhaps disturbed by the several people who were observing) ended up regurgitating the partially eaten caecilian, which was later preserved and identified as *Gymnopsis multiplicata*. This may be the first record of prey for the species; in a recent publication, Roze (1996) lists food for *M. multifasciatus* as unknown.

I gratefully acknowledge Daryl Loth for use of the photograph, Marilyn Cole/Executive Director/COTERC for assistance, and Tom Mason/Curator of Invertebrates/Metro Toronto Zoo and Vice President/COTERC for species identification and helpful comments.



Figure 1. A bicolor coral snake (*Micrurus multifasciatus hertwigi*) feeding on a caecilian (*Gymnopsis multiplicata*). Photograph by Daryl Loth.

Literature Cited

- Campbell, J. A., and W. W. Lamar. 1989. The venomous reptiles of Latin America. Ithaca, NY: Cornell University Press.
- Gauge, H. T., N. Hartweg and L. C. Stuart. 1937. Notes on a collection of amphibians and reptiles from eastern Nicaragua. Occ. Pap. Mus. Zool. Univ. Michigan (357):1-18.
- Roze, J. A. 1996. Coral snakes of the Americas: Biology, identification, and venoms. Malabar, FL: Krieger Publishing Co.
- Villa, J. 1984. The venomous snakes of Nicaragua: A Synopsis. Contr. Biol. Geo., Milwaukee Pub. Mus. (59):1-41.