Radio-instrumented Mourning Dove Preyed upon by Gray Rat Snake[1]

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Several authors (George 1951, Balda 1965, Lesser 1966) have published accounts of avian predation on fledged Mourning Doves (*Zenaida macroura*). Additionally, Blair (1967) reported an unsuccessful attempt by a bullfrog (*Rana catesbeiana*) to capture a Mourning Dove in flight. To our knowledge, however, no report of reptilian predation on a Mourning Dove capable of flight has been published.

We fitted 35 nestling Mourning Doves with radio-instrumented backpacks during a 2-yr study in east-central Alabama. Each backpack consisted of a transmitter (23 mm × 10 mm × 5 mm deep; 2.5 g; epoxy-coated), antenna (15 cm), and a harness composed of surgical tubing. Transmitters emitted a high frequency, pulsating signal (approximately 80 beats/min) and had a life expectancy of 25–30 days. Radioed doves normally were located and observed three times daily (15 min before to 2 h after sunrise, 1200–1400, 2 h before to 15 min after sunset) at 12, 15–21, 24, 27, and 30 days of age.

At 1856 on 10 June 1981, an 18-day-old, radio-instrumented fledgling and its marked nestmate flew 54 m from the vicinity of their nest tree to roost in dense vegetation along a nearby creek. A thunderstorm at 1912 ended the observation period. At 0530 the next day, personnel that attempted to locate the radioed fledgling received an abnormal, continuous, high-pitched signal from the roost location. One observer completed the watch and reported that the quality and location of the signal remained constant, although the marked nestmate had returned to the vicinity of the nest tree shortly after sunrise. At 0800, both observers attempted to locate the dove visually and were guided by the signal to a clump of water oaks (*Quercus nigra*) approximately 7 m from the creek. The signal indicated that the transmitter was located approximately 8–10 m above ground. Observers tried unsuccessfully to locate the source of the signal with binoculars and returned to the site at 0945, intending to climb the trees to retrieve the transmitter. The signal, though still present, no longer emanated from the water oaks and was finally located in a pile of debris on the bank of the creek 30 m from the original signal site. The debris was carefully removed until a large (1.7 m) male gray rat snake (*Elaphe obsoleta spiloides*) was uncovered. A conspicuous bulge was present midway along the snake's length. The snake was captured and held for observation.

The snake was monitored visually and telemetrically daily for 15–20 min. The radio signal remained high-pitched and continuous until 16 June, when it began to cease operation for intervals of several minutes. The signal ended permanently on 18 June. Snake feces were examined for dove and/or radio remnants. The first two defecations (15 and 18 June) consisted primarily of feather remnants and wheat seeds (*Triticum aestivum*). The third defecation (21 June) included some feather remnants and the intact radio package. The snake remained in captivity for 2 months after the incident with no indications of injury caused by ingestion of the radio package.

We have no reason to believe that the radioed Mourning Dove was sick, injured, or dead prior to its encounter with the snake. The nestmates had been observed for 4 days prior to the incident without evidence of aberrant behavior indicative of disease or injury. Both nestmates had been fed repeatedly by their parents before the incident, and the radioed dove's crop was apparently full at the time of capture, discounting the possibility of starvation. Additionally, other Mourning Doves 15 days of age and older in this study were not adversely affected by heavy rains such as fell on the evening of the incident. This reduces the likelihood that the fledgling died of exposure. We conclude that the radioed Mourning Dove was captured by the snake on the roost, killed, and ingested.

We are grateful to P. J. Mason for his assistance in data collection. We thank R. H. Mount for allowing the use of his facilities to house the snake during observation. M. K. Causey, G. W. Folkerts, and C. F. Mirarchi made helpful comments on the manuscript. Financial support was provided by the Accelerated Research Program for Webless Migratory Shore and Upland Game Birds of the U.S. Fish and Wildlife Service in conjunction with the Alabama Department of Conservation and Natural Resources.

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Received 18 September 1981, accepted 16 December 1981.

[1] This paper is published as Alabama Agricultural Experiment Station Journal Series No. 15-810107.