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BULL SNAKE PREYS ON ROUGH-WINGED SWALLOW NEST

LOUIS B. BEST

The Rough-winged Swallow (*Stelgidopteryx ruficollis*) typically nests in burrows excavated in steep banks; these nests are relatively inaccessible to assault by predators. Nesting failure has, however, been attributed to the longtail weasel (*Mustela frenata*; Lunk, *Nuttall Ornithol. Club Publ.* 4, 1962), black snake (*Coluber flagellum*; Bailey, *The birds of Florida*, p. 116, Williams and Wilkins, Baltimore, 1925), and possibly the common sand crab (*Ocyropsis albicans*; Bent, *U.S. Natl. Mus. Bull.* 179:424-433, 1942). To my knowledge, there is no published record of predation on Rough-winged Swallow nests by the bull snake (*Pituophis melanoleucus sayi*).

The incident reported here occurred in Story Co., Iowa. I found a Rough-winged Swallow nest at the end of a burrow (68 cm deep) in a stream bank. The nearly perpendicular bank extended 53 cm above and 125 cm below the burrow's entrance before sloping outward to the stream edge. I inspected the nest contents periodically, without altering the structure of the burrow or the natural character of the bank. By 12 June, the female had completed her clutch of four eggs and was actively incubating. At 0730 on 17 June, I discovered a bull snake coiled in the nest burrow;

when the snake was removed, the nest was found to be empty. The parent birds were not seen in the vicinity.

The 133-cm snake was dissected within 3 h of discovery and was found to be a gravid female carrying 14 eggs in the oviducts. Four broken, white eggshells and their contents (undoubtedly those of the Rough-winged Swallow) were present in the anterior portion of the digestive tract; little digestion had taken place. (Eggs are crushed as they pass through the esophagus of the bull snake; Smith, *Univ. Kansas Mus. Nat. Hist. Misc. Publ.* 9:250-253, 1950.) The digestive tract contained little else, and there was no evidence that an attending adult bird had been eaten. Black snakes will take adult Rough-winged Swallows on the nest (Bailey 1925), but in this instance the adult bird either escaped the bull snake or, more likely, was absent from the nest when it entered the burrow. During my inspections of the nest contents, the incubating adult, when present, would move passively aside and make no attempt to escape. Bull snakes are diurnal (Smith 1950); thus, the nest was entered between dawn and 0730 on the day the snake was discovered, or on the day preceding with the snake remaining in the burrow overnight.

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RECENT PUBLICATIONS

Manual of Neotropical Birds. Volume 1: Spheniscidae (Penguins) to Laridae (Gulls and Allies).—Emmet R. Blake. 1977. University of Chicago Press. 674 p. \$50.00. This is the first of four volumes that will treat all recorded birds from the mainlands of Central and South America, the continental islands, and adjacent waters. Mexico, the West Indies, the Galápagos Islands and the Falkland Islands are excluded. For each family, Blake gives a key to the

species, followed by the species and subspecies accounts (names, diagnostic features, description, measurements, distribution, and references). The book is handsomely illustrated with text figures and plates, several in color, mostly by Guy Tudor and Richard V. Keane. The ranges of most species are delineated on 237 maps. Indexed. This monumental reference work will be invaluable to researchers concerned with the identification, distribution, or systematics of neotropical birds.