

SNAKE PREDATION ON CHIMNEY SWIFT NESTLINGS

CALVIN L. CINK

Biology Department

Baker University

Baldwin City, Kansas 66006 USA

Abstract.—A black rat snake (*Elaphe obsoleta*) captured and ate four nestling Chimney Swifts (*Chaetura pelagica*) in a chimney nest. Although avian predation on flying adults has been documented, this appears to be the first record of terrestrial predation on nestlings.

DEPREDACIÓN DE PICHONES DE *CHAETURA PELAGICA* POR PARTE DE UNA CULEBRA

Sinopsis.—Una culebra (*Elaphe obsoleta*) capturó e ingirió cuatro pichones de vencejo de chimeneas (*Chaetura pelagica*) de un nido de estas aves. Aunque ha sido documentado la depredación de adultos de vencejo por parte de falconiformes, éste parece ser el primer informe de depredación de polluelos en sus nidos.

Accounts of predation on Chimney Swifts (*Chaetura pelagica*) are few and all relate to avian predation by hawks or kites on flying, adult Chimney Swifts (Bent 1940, Ports 1976, Waggener 1975). Although there have been a few detailed studies of the nesting biology of the species (Dexter 1969, Fischer 1958, and a number of shorter papers) and many anecdotal observations of breeding activities, there appear to be no published records of predation at the nest. While studying the breeding biology of Chimney Swifts in northeastern Kansas, I observed predation by a black rat snake (*Elaphe obsoleta*) on Chimney Swift nestlings.

On 6 Jul. 1983, I observed a Chimney Swift nest with five eggs in a chimney of a farm home on the south edge of Baldwin City, Kansas. On 10 Jul., four young had hatched. The young were naked, but from their size were about 4 d old. The nest was on the east wall of the chimney, which had a 40 × 40 cm opening at the top, and was placed at a depth of 179 cm. Neither parent was in the chimney during this visit. The remnants of a whole egg were visible at the bottom of the chimney.

On 14 Jul. I returned with Mark Smith and Martin Braun to find both parents calling excitedly as they dove about the chimney entrance, but they retreated as we climbed onto the roof. We saw that the nest and young were missing. On closer inspection with a flashlight, we could see a large black rat snake (about 150 cm long and 5 cm diameter) draped around the circumference of the chimney on a ridge of old brick just above the former nest location. About 30 cm in back of the snake's head were four pronounced bulges in its torso. After the initial shock of seeing a snake in the chimney, we realized that the four bulges were probably the nestling Chimney Swifts and that we should attempt to catch the snake to confirm the predation. We fashioned a noose out of fish line and attempted to snare the snake several times. We only succeeded in driving it down deeper into the chimney. It took refuge under a bend in the chimney where we could no longer see it. We did not pursue the snake

further because we did not want to alarm the occupants of the house. The following day I asked permission of the owner of the house to clean out the base of the chimney to collect the fallen nest. I found no remains of the nestlings. I am convinced that the snake devoured them. The pair did not rebuild the nest that year or in subsequent years.

It is probably not surprising that snake predation has not been reported previously. Even though this species is a good climber and preys on many species of birds (e.g., Fitch 1963), they are not often observed in urban areas. Most Chimney Swift studies have been done on urban populations and few ornithologists make frequent observations at chimneys in either rural or urban habitats. The chimney in this study is located on a farm at the edge of the city. Black rat snakes often gain access to bird nests through trees, and in this particular instance, a branch of a large oak hung over and was nearly touching the roof. I have noted a number (13) of potentially good nesting chimneys (i.e., optimum opening size, depth, and substrate characteristics) in the study area without nesting pairs. All had tree branches overhanging the roof. I had surmised that these might provide access for mammalian predators such as cats and squirrels (both seen on rooftops in the area) and thus were not selected as nest sites by Chimney Swifts. Previous to these observations, I had not considered snakes as predators. In natural nest sites such as hollow trees snakes could be important sources of nesting mortality.

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