

General Field Notes

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Behavior of American Woodcock and Other Birds in Coastal North Carolina During the Blizzard of 1980

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Wintering American Woodcock (*Philohela minor*) arrive in coastal North Carolina in November and remain until early March (Stamps and Doerr 1978). During late February and early March of 1980, two periods of snowfall adversely affected many birds wintering in this area. Some of these birds, especially woodcock, usually probe soft unfrozen ground for earthworms.

On my woodcock study area near Lake Mattamuskeet National Wildlife Refuge in Hyde County, N.C., the first snowfall occurred 26 February and left an accumulation of 5.0 to 7.5 cm, which persisted for 24 hours. The second snowfall began in the early morning of 1 March. It continued into the next day and left an average accumulation of 36 cm, which persisted for 6 days. During this time the deep snow forced woodcock to probe and feed in the few open unfrozen areas available. During the day they left their usual diurnal foraging sites in the thickly forested swampy lowlands to feed in open yards, under shrubbery around homesites, on the slopes of sheltered drainage ditches separating agricultural fields, and along roadsides cleared by snow plows.

The half-meter strips cleared by plows along each side of the roads attracted woodcock and other ground-feeding birds such as Red-winged Blackbirds (*Agelaius phoeniceus*), Dark-eyed Juncos (*Junco hyemalis*), American Robins (*Turdus migratorius*), Eastern Meadowlarks (*Sturnella magna*), Mourning Doves (*Zenaidra macroura*), Killdeer (*Charadrius vociferus*), Cardinals (*Cardinalis cardinalis*), Blue Jays (*Cyanocitta cristata*), Starlings (*Sturnus vulgaris*), and Common Snipe (*Capella gallinago*). Road kills were common. In one randomly chosen 200-m strip of highway, I counted 25 robins and three woodcock that had been killed by vehicles.

At sunset, I observed three woodcock circling over snow-covered agricultural fields. Instead of landing in this customary roosting site, they landed in the center of the highway and remained there for about 10 minutes before flying back into the swamp forest to roost on top of the snow. Woodcock and other species also roosted on clear ground under old barns and other outbuildings. I flushed 25 birds, including woodcock, Mourning Dove, Common Snipe, robins, and Killdeer, from under one small (37 m²) building.

Some woodcock mortality can be directly related to their weakened condition due to their inability to feed. When flushed, their flight was more labored than normal with slower wingbeats. Others were so weakened by the third day, presumably from lack of

food, that flight was impossible; I caught one by hand in an open field. Such emaciated birds were easy prey for avian and other predators. Four woodcock had been killed by house cats at one homesite. I found evidence that Barn Owls (*Tyto alba*), Red-shouldered Hawks (*Buteo lineatus*), and even Opossums (*Didelphis marsupialis*) had killed woodcock.

Toward the end of this 6-day freeze the effects of starvation were evident in three male woodcock I examined. They revealed very sharply keeled sternums. Their weights were 95 g, 104 g, and 106 g, averaging 102 g, which is 37% less than the average weight (161 g) of migrating male woodcock at this time in the study area.

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LITERATURE CITED

Stamps, R.T., and P.D. Doerr. 1978. Woodcock on North Carolina wintering grounds. Proc. Annual Conf. of Southeastern Assoc. Game and Fish Comm. 30:392-399.

Female Wood Duck Apparently Killed by Black Rat Snake

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At about 0830 on 23 April 1975 I went into my observation blind erected near a Wood Duck (*Aix sponsa*) nest, planning to make photographs of the brood of 11 ducklings leaving their nesting box. I had checked the nest in midafternoon of the preceding day and found that the brood of ducklings could be expected to leave their nest in the forenoon of 23 April. After watching from the observation blind until shortly after noon without seeing the ducklings leaving their nest, I looked into the nesting box and found there were no ducklings in the nest and the mother Wood Duck was dead. The plumage on her head and neck was deranged, showing evidence of drying after having been deranged when wet. I assumed that the mother Wood Duck had been killed by a Black Rat Snake (*Elaphe obsoleta*) that had attempted to eat her. Apparently the snake had swallowed the head and neck of the mother Wood Duck and disgorged these after reaching the duck's body, which was too large to be engulfed by the snake. It seems likely that the snake tried to eat the mother Wood Duck before eating the ducklings, as it is unlikely that the duck would have remained in the nesting box while the snake ate her offspring.

Although I had no doubt that I was correct in my reading that the mother Wood Duck had been killed by a Black Rat Snake, I hesitated to publish the observation because I did not actually see the snake at the nest. Furthermore, I doubted that a snake could have killed the mother Wood Duck, eaten all of the brood of ducklings, and disappeared from the spot in the short time between my two visits to the nest. However, I had earlier found other broods of newly hatched Wood Ducks nearby eaten by Black Rat Snakes that I saw in the nesting boxes. Now, Fendley (Wilson Bull. 92:526-527) reports having found Black Rat Snakes in nests in South Carolina with dead Wood Ducks, the Wood Ducks showing evidence of having been killed by the snakes. The necks of the birds were twisted, the neck of one of the birds possibly being broken. The dead Wood Duck I found showed no evidence of having struggled as was suggested by the conditions of the birds found by Fendley. Although I could not determine whether constriction had been used by the snake, I assumed that my Wood Duck had been killed at least partly by the bird's inability to breathe with her head inside the snake's body.