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Wilson Bull., 103(2), 1991, pp. 308-309

Dirt-storing behavior by White-breasted Nuthatches.—In April and May 1989 and in March 1990, a pair of White-breasted Nuthatches (*Sitta carolinensis*) nested in two artificial cavities constructed from a seasoned cherry (*Prunus serotina*) trunk in Asheville, Buncombe County, North Carolina (for descriptions of the nest-sites, see Duyck and McNair 1991). During the nest building, egg laying, incubation, and nestling periods, the male nuthatch carried, stored and smeared pellets of dirt 1 cm below the bottom of the cavity entrance, both inside and outside of the cavity, and on the bottom lip. Bill-sweeping behavior as described by Kilham (1968, 1971) and Bancroft (1987) was observed. The male stored, and later retrieved, dirt on limbs and in the fork of a dogwood tree (*Cornus florida*), 3 m from the nest cavity. As late as five days before fledging in 1989, the male continued to store and smear dirt at the cavity entrance and store other portions of it and new pellets in the dogwood tree. This behavior was photographed by Duyck. Pellets were usually loose in composition although sometimes molded, 0.3-0.6 cm in diameter, and were collected from the forest floor within 10 m of the nests. When stored, the dirt was not covered by any object. Late in the nestling period in 1989, we noticed a few pellets of dirt on the cavity floor.

At 13:55 h on 17 March 1987, a pair of White-breasted Nuthatches was observed carrying nest material into an abandoned Red-cockaded Woodpecker (*Picoides borealis*) cavity near Ocoee Lake, Polk County, Tennessee. At 14:05 h, 75 m from the nest-site, one of the pair (sex unknown) landed on a 1.2 m high mound of fairly dry, reddish clay soil. The nuthatch pecked at the soil a few times, flew off with a solid 2-cm diameter piece, landed in a Virginia pine (*Pinus virginianus*), and stored the piece of soil in a bark crevice 1.2 m above ground. Upon inspection, we determined that no food was stored in the same bark crevice, and the soil pellet was not covered by bark chips or other material. When crushed, it did not contain any apparent food items.

The diameters of the cavity entrance at both the artificial cavity in 1989 and the old woodpecker cavity were larger, in at least one dimension, than the 3-4 cm diameter favored by White-breasted Nuthatches (Tyler 1948, Evans and Conner 1979, Raphael and White 1984). Thus, these nuthatch pairs may have been susceptible to cavity usurpation by larger intruders. Many species of nuthatches modify the entrance to their nest cavities throughout the breeding cycle (Rand 1972, Collias and Collias 1984:14-15). Some use dirt to plaster the cavity entrance to keep intruders out, and others construct a nest cavity almost entirely of mud (op. cit.). The diameter of the cavity entrance of the White-breasted Nuthatch pair at Asheville was not reduced by the male's dirt-storing and smearing behavior. Thus, the behavior in this case did not function to prevent intruders from entering the cavity.

Harris (in Tyler 1948) offers one clue as to the function of dirt-storing behavior in the White-breasted Nuthatch. He stated that a pair building a nest "collect little pellets of dried earth and lumps of mud which was scattered thinly over the bark (strips)" inside the nest cavity. We speculate that dirt may be used inside the nest cavity for sanitation purposes such as reducing ectoparasite loads. Storage of objects used for bill-sweeping, even at the cavity entrance, and storage of food items have been convincingly documented for this widespread North American species (Tyler 1948; Kilham 1968, 1974).

Acknowledgments.—We thank R. Conner, L. Kilham, C. Long, and an anonymous individual for reviewing this note. We thank the Cornell Laboratory of Ornithology for archiving Duyck's photographs.

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Wilson Bull., 103(2), 1991, pp. 309–310

Unusual behavior in a Solitary Vireo.—On 16 June 1990 (10:45 MST), we found a Solitary Vireo (*Vireo solitarius*) nestling on the ground at 1646 m elevation at the Southwestern Research Station (SWRS), Chiricahua Mountains, Cochise County, Arizona. The vireo was under a large sycamore tree (*Platanus wrightii*) along the north fork of Cave Creek. It had prematurely exited from a typical basket nest, suspended by its rim in the fork of tertiary branches, at the exceptional height of 12 m, approximately 6 m south from the trunk of the sycamore tree.