to return. For some reason the newly mated pair failed in nesting. On 7 July the four nestlings, developing pin feathers, disappeared from the nest. The bird that had nested in that shaft over the previous five years remained in the shaft, but its new mate disappeared and remained away from the campus until middle September. Two other pairs (in J1, N9) lost their nests presumably from a rainstorm, but they were soon replaced and they completed nesting successfully. Two other pairs lost their eggs when the nest was soaked during a heavy rainstorm on 19 June. One pair (A1) rebuilt a nest in the same shaft, whereas the other pair (B2) replaced an egg in the damaged nest but it failed to hatch. During another heavy rainstorm of 10-11 July, one pair (C3) lost its nest, but the two nestlings were able to cling to the wall, whereas in a second case (K2) where the nest fell at that time, the nestlings fluttered to the bottom of the shaft and survived. (Dexter, *Auk*, **69**: 289-293, 1952.)

In one case a single egg was laid which was subsequently broken (infertile?) and the nest (A5) abandoned.

In addition to the returns which remained in residence for nesting, there were six returns that became temporary visitors with nesting groups. One return was found dead shortly after it returned to the campus colony. Nine swifts that returned nested for the first time and three newly banded birds were mated with returning birds. Three returns became visitors with nesting pairs.

On 18 September 1976, a flock of 163 swifts was trapped from shaft E1 where they were gathering for migration. Included were the mates that nested in shafts A1, A5, B2, C3, D1, E1, I1, and K2, as well as a single mate from the pair that nested in shafts E4, J1, and N9. Two non-nesting repeats were included, one of which was a temporary visitor in shafts A5, C3, N9, and S1. There were also two juvenile repeats that were raised in the campus colony. There were 12 returns that did not nest on the campus. Included was one that had not been recaptured since it was banded in 1966, and two others that had not been recaptured since banded in 1971. Newly banded swifts numbered 128.

The last record of a Chimney Swift on the campus was noted on 13 October. The median date is 8 October; latest record was 15 October.

RALPH W. DEXTER, *Dept. of Biological Sciences, Kent State University, Kent, Ohio 44242.* Received 12 October 1976, accepted 12 November 1976.

**Food Storage and Re-storage in the Red-headed Woodpecker.**—Although food storing by the Red-headed Woodpecker (*Melanerpes erythrocephalus*) has been studied in Louisiana (MacRoberts, 1975) and Maryland (Kilham, 1958), differences exist in the way the food is stored and re-stored. MacRoberts (1975) noted that food storage behavior in the Acorn Woodpecker (*M. formicivorus*) varies from one part of the species' range to another and stated that further information on food storing in Red-headed Woodpeckers would be of value. During June 1976 I observed Red-headed Woodpeckers storing sunflower seeds obtained from a feeder in a wooded area of Clinton Township, Macomb Co., Michigan. Several aspects of the food storage activities are presented here.

At 1840 on 15 June 1976 an adult Red-headed Woodpecker appeared at the feeder and began a bout of storage activity. Sixteen seeds were taken one at a time and cached under the bark of an oak (*Quercus* sp.) 10 m from the feeder; the average trip to the storage site and back to the feeder lasted 29.3 sec. Then 10 seeds were stored in a shallow knothole in a limb 7 m from the feeder; these trips averaged 15.0 sec, less than at the first site because most seeds were merely dropped into the cavity and required little handling time at the storage site. A Blue Jay (*Cyanocitta cristata*) that the Red-headed Woodpecker earlier chased from the feeder appeared at the knothole at 1918 and ate two seeds. The Red-headed Woodpecker repelled the Blue Jay and a Downy Woodpecker (*Picoides pubescens*) that arrived at the knothole at 1940 and also ate several seeds. Although Constantz (1974) noted that initial discovery of food stores of the Lewis' Woodpecker (*Melanerpes lewis*) by the Common Crow (*Corvus brachyrhynchos*) was accidental, both robbing species flew directly to the cache and appeared to learn of it by watching the Red-headed Woodpecker store seeds.

Between the two defenses the Red-headed Woodpecker stored 12 seeds in crevices of a dead stub 22 m from the feeder. Trips to the dead stub lasted an average of 44.7 sec and thus consumed more time and energy than trips to store food at the two closer sites. Some seeds stored at the dead stub were "sealed-in"

(Kilham, 1958) with pieces of bark and all were well hidden. After the defenses the Red-headed Woodpecker removed four seeds from the knothole and re-stored them in the dead stub. No additional seeds were stored in the knothole, although storage continued at the other two sites until 30 June. Red-headed Woodpeckers were seen utilizing the cached stores during July and August, but none was seen in the area after early September.

Most observations of food storage in the Red-headed Woodpecker (Kilham, 1958; Hay, 1887; MacRoberts, 1975) refer to storage and re-storage during fall and winter. Reller (1972) and Jackson (1976) studied this species during the nesting season and did not mention food storage. I could find no records of Red-headed Woodpeckers hoarding seeds obtained at a feeder. In fact, Beal (*in* Bent, 1939) implies that seeds are uncommon in the diet of this species although Kilham (pers. comm.) observed Red-headed Woodpeckers extracting seeds from pine cones and Jackson (1976) states that seeds and fruit may be eaten.

Natural selection would favor behavior optimizing the time woodpeckers spend storing food. Discovery of a food cache by competitors apparently stimulated the Red-headed Woodpeckers to store and re-store caches at new, more distant, or better concealed locations despite the greater energetic cost of doing so.

I wish to thank Lawrence Kilham for critically examining this note.

LITERATURE CITED

BENT, A. C. 1939. Life histories of North American Woodpeckers. *U.S. Natl. Mus., Bull.* 174.
CONSTANTZ, G. D. 1974. Robbing of breeding Lewis' Woodpecker food stores. *Auk,* **91**: 171.
HAY, O. P. 1887. The Red-headed Woodpecker a hoarder. *Auk,* **4**: 193-196.
JACKSON, J. A. 1976. A comparison of some aspects of the breeding ecology of Red-headed and Red-bellied Woodpeckers in Kansas. *Condor,* **78**: 67-76.
KILHAM, L. 1958. Sealed-in winter stores of Red-headed Woodpeckers. *Wilson Bull.,* **70**: 107-113.
MACROBERTS, M. H. 1975. Food storage and winter territory in Red-headed Woodpeckers in northwestern Louisiana. *Auk,* **92**: 382-385.
RELLER, A. W. 1972. Aspects of behavioral ecology of Red-headed and Red-bellied Woodpeckers. *Amer. Midl. Nat.,* **88**: 270-290.

—BENEDICT C. PINKOWSKI, *15738 Millar, Fraser, Mich. 48026.* Received 22 October 1976, accepted 20 December 1976.

**Do Eastern Bluebirds and House Sparrows Prefer Nest Boxes with White or Black Interiors?**—Reports by Mason (1967) and Kibler (1969) indicated the external color of nest boxes has little, if any, effect on utilization rates by Eastern Bluebirds (*Sialia sialis*). Blagosklonov (1970) demonstrated the effect of nest box interior color on some forest dwelling species by alternately white-washing and blackening the interiors; utilization rates were consistently much higher in boxes with white interiors. Jackson and Tate (1974) suggested House Sparrows (*Passer domesticus*) may prefer boxes with dark interiors.

To determine if Eastern Bluebirds and House Sparrows prefer nest boxes with white or black interiors, 15 pairs of nest boxes were erected in February 1972 on a 20 ha cattle farm in Obion County, Tennessee. Boxes had identical cavity sizes (10 x 12.5 x 15 cm) and exterior colors (gray). One box of each pair had a white interior, and the other box had a black interior. Boxes of each pair were at the same height (1-2 m), faced the same direction, and were 1-3 m apart. Boxes were inspected weekly or twice weekly throughout the nesting seasons of 1972 and 1973.

Bluebirds constructed 33 nests in boxes with white interiors and 3 nests in boxes with black interiors ($\chi^2$, $P < .005$). House Sparrows constructed 9 nests in boxes with white interiors and 2 nests in boxes with black interiors ($\chi^2$, $P < .05$). The two sparrow nests constructed in black boxes were at sites where the white boxes were not available. At one site bluebirds occupied the white box, and at the other site a previously used House Sparrow nest teemed with mites.

These results agree with the conclusions of Blagosklonov (1970), but they differ from the findings of Jackson and Tate (1974). However, the suggestion of Jackson and Tate (1974) was not based on data from situations where sparrows had a choice of black or white cavities. My data indicate House Sparrows