

Kansas Ornithological Society

BULLETIN

PUBLISHED QUARTERLY

Vol. 58

December, 2007

No. 4

OBSERVATION OF A SQUIRREL EATING AN ADULT NORTHERN FLICKER

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The known diet of the fox squirrel (*Sciurus niger*) is typical of many sciurid rodents, consisting primarily of nuts, seeds, buds, flowers, bark, forbs, other plant material and fungi. Animal matter, specifically insects, bird's eggs and nestlings, is typically consumed in trace amounts (Koprowski 1994); lactating females will, however, also consume portions of bones and antlers (Fitzgerald et al. 1994). Another arboreal rodent, the red squirrel (*Tamiasciurus hudsonicus*), has been observed eating an adult American Goldfinch (*Carduelis tristis*) caught by the squirrel at a bird feeder (Sullivan 1991). Similar observations from the fox squirrel or additional sciurid species are lacking.

At 1150 hrs (CST), 3 December 2005, on the Fort Hays State University campus, Ellis County, Kansas, we observed a fox squirrel situated in a blue spruce (*Picea pungens*) consuming an unusually-shaped object. The squirrel was sitting close to the trunk, approximately 4 m off the ground. Upon closer inspection it was observed to be holding a Northern (Red-shafted) Flicker (*Colaptes auratus*) in its mouth (Fig. 1). The object that had drawn attention was the bird's tail, with its diagnostic color and acuminate rectrices; the squirrel was holding the base of the tail with its forelimbs. The squirrel was gnawing at the vent area and clearly chewing and swallowing. We observed the mammal continue to feed, apparently on muscle, for approximately 20 minutes.

After returning 3.5 hrs later, we located an intact tail, various remiges, and several bones at the base of the tree, including an intact left femur and tibiotarsus, both of which were largely cleaned of muscle and connective tissues. We assume that the majority of the keel muscle mass, as well as the viscera and possibly skull, had already been consumed. Alternatively, some portions of the bird may have been cached in a cavity <1 m higher than where the squirrel was initially observed in the same tree. The flicker may have been killed by the squirrel, possibly while the bird was roosting in a cavity (William Stark, pers. comm.).

The squirrel may also have located an already dead flicker in a cavity, or on the ground, and climbed into the tree for feeding. The known list of predators of adult flickers includes various hawks and mammals, excluding rodent species (Burns 1900, Moore 1995).

Conditions at the time of these observations were overcast skies, lightly falling snow and approximately -3°C air temperature; the low for the previous night was -6°C at a nearby (< 2 km) weather station (Weather Underground 2005). Although the conditions were not especially severe, winter environments in general greatly increase metabolic demands on endothermic animals, and may have contributed to the vulnerability of the woodpecker, as well as the atypical dietary choice of the fox squirrel.



Figure. 1 Fox squirrel consuming Northern Flicker, 3 December 2005, Fort Hays State University campus, Ellis County, Kansas.

ACKNOWLEDGMENTS

We thank the Graduate School and the Department of Biological Sciences at Fort Hays State University for their ongoing support of student research in ornithology, and Gene Young for helpful comments on an earlier draft.

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HAILSTONE STRIKE REDUCTION BEHAVIORS IN SOUTHWEST KANSAS BIRDS

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Reports on the loss of bird life caused by hailstorms have been recorded periodically over the last century in North and South America (Henderson 1908; Hamilton 1937; Hering 1947; Krumm 1951; Jones 1952; Hill 1995; and Sarasola et al. 2005). With high mortality resulting from these weather events, avian behavioral responses should be expected. We report on some of these behaviors observed in recent years in the Garden City, Finney County region of southwest Kansas.

On 8 May 2006, at about 2000 hrs (CDT) a small thunderstorm was skirting the north side of Garden City. One of us (SJS) noticed a male American Robin (*Turdus migratorius*) land near the middle of the street with its head and bill pointing to the sky in a northerly direction from which the rain and hail were falling. A few of the hailstones were reaching dime-size, about 18 mm in diameter. Several automobiles passed the robin, only missing it by 30 cm; however, the bird remained in a static pose. We (SJS and TGS) watched the robin for 2.5 min until the rain subsided. After a third car just missed the robin, SJS went out to scare the bird off the street. She got within one meter of the bird before it took off in a labored flight, apparently water logged.

During this same hailstorm, NRS and WLS observed an Inca Dove (*Columbina inca*) attempting to find shelter in their front yard during a light rain with pea sized (8 mm diameter) hail falling from the northeast. The dove moved to, and huddled next to the southwest side of one of the nearby 25 cm rocks used to ring a 30 cm diameter deciduous tree. The rain intensity increased with up to quarter-sized hail (25 mm diameter). The dove made several attempts to get up over the little rock wall, finally making it to the base of the southwest side of the tree where it was protected from the hailstones. When the rain ceased, the other sides of the house were inspected for damage. Upon returning to the front window, the dove was gone and presumably survived the storm.

Several years earlier, SJS observed five to six Pine Siskins (*Carduelis pinus*) perched on the dowels of a tube feeder, all with bills pointed skyward during a hailstorm, even though they were completely protected under the eave of the house. By pointing the bill, head, and body skyward in the direction of the incoming hailstones, the surface area of a bird is reduced, decreasing the risk of receiving a direct hit from a hailstone.

Leopold (1919) first reported bird behavior suspected of decreasing the probability of a hailstone strike while observing a flock of Northern Pintails (*Anus acuta*). They held their bills and heads almost vertically during a hailstorm while on the Rio Grande River in central New Mexico. Leopold concluded that this behavior produced a negligible surface and one which hailstones would naturally be deflected. When the hail stopped and only rain continued, the pintails observed by Leopold returned to a normal posture. An additional behavioral response to hail was reported by Blaisdell (1930) when some large flocks of gulls on San Francisco Bay alighted on the water and tucked their heads under a wing during a hailstorm. It appears that a wide variety of bird species exhibit some type of behavioral response to minimize the chance of a hailstone strike.

We thank Janice Urie, Trent Smith, and three anonymous reviewers for their suggestions and help with improving this note.

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NOTE ON THE SPRING MIGRATION OF THE BUFF-BREASTED SAND-PIPER IN THE FLINT HILLS OF SOUTH-CENTRAL KANSAS

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The Buff-breasted Sandpiper (*Trynites subruficollis*) is an uncommon transient in Kansas, with fewer spring records, with extreme dates of 16 April-12 May, which is the same for Cowley County (Seibel 1978, Thompson and Ely 1989). Population estimates for Buff-breast's ranges from 28,000 to 84,000 (Jorgenson et al. 2006 and Morrison et al. 2006) although Robbins (2007) believes it to be closer to the latter based on turnover rates during fall studies at sod farms in northeastern Kansas. Robbins (2007) suggests that daily monitoring of sod farms is required across this species fall migration route to help ascertain population size. Spring data are fewer, and often difficult to assess due to remoteness of habitat use. Here results are presented on the migration of Buff-breasted Sandpiper's from south-central Kansas during the spring migration of 2007.

I monitored avian migration and abundance in tallgrass prairies of the Flint Hills in northeastern Cowley County, Kansas, near Cambridge once per week from January-June. On 5 May 2007, 26 different flocks of Buff-breasts were observed totaling 444 individuals. The average flock size was 17 individuals, with a range of 4 to 74. All birds were seen in native grasslands that were burned earlier in the spring. Weather conditions consisted of an overcast sky with temperatures ranging from 15.6°C to 18.3°C, and the wind was out of the south with gusts to 64.4 kph. Many of these birds were observed in tight groups on north-facing slopes, with few individuals foraging. This is the largest concentration of Buff-breasts recorded in Kansas (Robbins 2007). On 11 May 2007, two flocks, totaling 26 individuals were observed, and these individuals were actively foraging. The combined total of 470 individuals was more than the total observed by Robbins (2007) during fall surveys in northeastern Kansas.

This data suggests, along with monitoring of sod farms during fall, that there may be a need to monitor the Flint Hills during spring migration, especially with current land management practices of annual burning, to determine the extent of use by Buff-breasted Sandpipers. If the Flint Hills are used as extensively in the spring as sod farms are in the fall, monitoring sod farms during the fall and the Flint Hills during the spring may provide reliable data to provide better estimations on population size.

I thank Max Thompson and Mark Robbins for their suggestions and review of this manuscript.

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