

I collected the nest. It is now in the nest collection at the University of Oklahoma Bird Range. Its cup measures about two inches in diameter and one inch deep. Its innermost lining is composed almost entirely of fine, grayish white hair.

During the period of incubation I heard the male's song occasionally. I heard it at least once shortly after the brood had fledged, but I observed no indication otherwise that the pair might re-nest. I saw the three young about 100 feet from the nest on 29 May. Never did I see a Brown-headed Cowbird (*Molothrus ater*) near the nest, though that social parasite is common in and about Norman during the nesting season.

DEPARTMENT OF BOTANY AND MICROBIOLOGY, UNIVERSITY OF OKLAHOMA, NORMAN, OKLAHOMA 73069, 15 MAY 1968.

GENERAL NOTES

Harlan's Hawk in Roger Mills County, Oklahoma.—On 1 December 1968, near an impoundment called Skipout Lake, 11 mi. west and ½ mi. north of Cheyenne, Roger Mills County, Oklahoma, Malcolm M. Exendine, Biologist of the Oklahoma Department of Wildlife Conservation, shot a male Harlan's Hawk (*Buteo harlani*) that he has presented to the Bird Collection of the University of Oklahoma. The specimen presumably is in first winter feather, for its tail is brownish gray (without the slightest hint of red wash), heavily barred with black. The body plumage is brownish black, generally speaking, but much of it is white basally—so extensively so, in fact, as to give the chin, throat, breast, and upper belly a boldly spotted or mottled appearance that must have been clearly visible in the field. The bird was moderately fat. It weighed 980.7 grams, 123.5 grams of which were remains of a Bobwhite (*Colinus virginianus*) that the hawk may or may not have killed. These remains included the head and neck, which had been swallowed whole, as well as the wings and feet. To my surprise I found very few feathers except those that were attached to the skin of the head and neck. The wing plumage in particular, even the upper lesser coverts, had been carefully plucked.

Harlan's Hawk is fairly common in wooded parts of eastern and central Oklahoma in winter, but it is rare in the western third of the main body of the state and in the Panhandle; "three or four black hawks observed going to roost in large cottonwoods" near Guymon, Texas County, on 8 and 9 February 1957 were only "provisionally identified as Harlan's" (Sutton, 1967, *Oklahoma Birds*, p. 106). The species has not heretofore been reported in any way from Roger Mills County. The specimen (UOMZ No. 6494) is the westernmost of *B. harlani* to have been taken in Oklahoma.—George M. Sutton, *Stovall Museum of Science and History, University of Oklahoma, Norman, Oklahoma 73069, 1 February 1969.*

Recent nesting of American Coot in Cimarron County, Oklahoma.—At about 16:30 on 19 June 1966, along the south side of Lake Carl Etling, not far from the campsites in Black Mesa State Park, Cimarron County, Oklahoma, I saw several American Coots (*Fulica americana*) among the cattails and reeds

about 10-15 ft. out from shore. When I first saw them, the coots were partly hidden by the rank vegetation, but as they moved about, one occasionally came into full view. My daughter Mary, who was scanning the shoreline with me, observed "something orange" that she could not identify. Looking carefully, I saw the orange head and dark body of a young coot about the size of a woman's fist riding on the back of an adult coot. The parent bird stayed well back in the vegetation, but it moved and turned enough to give me excellent glimpses of the chick on its back. Later we saw an adult coot and a chick swimming side by side.

Not far from the several coots, we noted a sort of platform a little less than 2 ft. in diameter, a bit above water-level, and made of what appeared to be cattail leaves, reeds, and wide-bladed grass. This was probably a "brood nest"—a structure described by Gullion (1954, *Auk*, 71:370) as a "new nest" built after the eggs hatch and "used for brooding young"; in such a nest the "cup is frequently lacking, or if present in the original construction, it is obscured by the addition of fresh material."

The breeding of *Fulica americana* in Cimarron County has heretofore been reported only by R. C. Tate, who found a "nest with 8 eggs on Marselus Bros. ranch" near Kenton on 23 June, 1913 (Tate, 1923, *Proc. Oklahoma Acad. Sci.*, 3:42; Nice, 1931, *Birds of Oklahoma*, p. 86).—Emma H. Messerly, 344 S. E. Elmhurst, Bartlesville, Oklahoma 74003, 10 February 1969.

Food and survival problems of Oklahoma Roadrunners in winter.—The Roadrunner (*Geococcyx californianus*) is one of this state's most interesting and, in some ways, most remarkable birds. Oklahoma is at the northern and eastern edge of the species' range. Oklahoma winter weather is sometimes severe. Yet this almost flightless, strictly non-migratory cuckoo survives. One ornithologist has suggested that *Geococcyx californianus* "may become torpid when air temperature drops well below freezing" (Sutton, 1967, *Oklahoma Birds*, p. 244)—an idea that deserves consideration in view of two facts, namely, (1) that Roadrunners seem to "hole up" at times of heavy snowfall and blizzard; and (2) that Roadrunners taken in the dead of winter in Oklahoma are, almost without exception, very fat. Roadrunners taken in spring, summer, and early fall in Oklahoma are not fat as a rule. When, on the approach of winter, fat does accumulate, it is not evenly spread over the bird's body, hence can hardly serve as direct protection against cold, though it must certainly serve as an important energy source.

The total weight and fat-weight of four Roadrunners taken in Oklahoma in winter are recorded on labels attached to the specimens (see Table I). Note that the heaviest bird of the four was a female and that this bird was also apparently the fattest, though admittedly it was the only one for which the weight of both lump fat and subcutaneous fat was recorded.

Of the 19 Roadrunner specimens currently housed at the University of Oklahoma Bird Range, 12 were taken in winter (29 November to 4 March). For most of these, fat-weight was not recorded. The stomach contents of 11 Roadrunners taken during winter were, according to label comment and data filed at the Bird Range, principally "grasshoppers" and "beetles." Only one stomach, that of a male (UOMZ 2816) found dead near Reagan, Johnston County, south-central Oklahoma, on 29 December 1956, contained a vertebrate of any sort—a "small lizard." The fact that many insects, especially grass-

Table I
Weight and Fat-Weight of Roadrunners Taken in Oklahoma in Winter

UOMZ No.	Sex	Date Collected	Weight (Grams)	Fat-Weight (Grams)
183	F.	1 December 1952	588	109.0 subcutaneous and lump
881	M.	3 December 1953	412	60.5 lump only
217	M.	7 December 1952	464	64.4 subcutaneous only
6493	M.	29 December 1968	449	58.5 lump only

hoppers and ground beetles, "come to life" and move about on warm days in winter in Oklahoma is readily observable. That the Roadrunner occasionally captures mice and small birds in winter seems highly probable, but to date we have little (if any) real proof of this in so far as Oklahoma is concerned.

The stomach of a male Roadrunner that I found dead on 29 December 1968 (for weight and fat-weight see Table I) along a road 5 mi. east and 2 mi. north of Norman, Cleveland County, central Oklahoma, contained the following: 3 Lacewings (Chrysopidae), 2 Assassin Bugs (Reduviidae), 3 Stink Bugs (Pentatomidae), 2 Milkweed Bugs (Lygaeidae), 2 Damsel Bugs (Nabidae), 2 Red Bugs (Pyrrhocoridae), 2 True Grasshoppers (Locustidae), 2 beetle larvae (Coleoptera), 1 butterfly larva (Lepidoptera), 2 Wolf Spiders (Lycosidae), 1 Scorpion (*Centruroides* sp.), and six small seeds. I did not find the slightest trace of any vertebrate. The seeds could, I believe, have been swallowed accidentally. I wish to thank David J. Shetlar for assisting me in identifying the above-listed insects and arachnids.—Kenneth N. Geluso, *Department of Zoology, University of Oklahoma, Norman, Oklahoma 73069, 3 February 1969.*

Late fledging of Tufted Titmouse in Oklahoma.—On 20 June 1968, in open oak woods not far from the shore of Lake Texoma and about 2 mi. east of Willis, Marshall County, south-central Oklahoma, I noticed the scolding of a Tufted Titmouse (*Parus bicolor*) whose head was sticking out of an old woodpecker hole about 12 ft. up in a dead tree. When a second titmouse appeared with a spider in its bill, exchanged places with the scolding bird, and left the hole minus the spider, I knew there was a nest and that young were in it. The following day I approached the nest-stub closely and could hear the young birds hissing. Since the latest Oklahoma date on record for young titmice still in the nest was 10 June (Sutton, 1967, *Oklahoma Birds*, p. 388), I decided to witness the actual fledging if possible.

On the morning of 22 June, George M. Sutton accompanied me to the nest. At 9 o'clock the parent titmice were in a tree not far from the nest-stub, calling *peter, peter, peter* excitedly. When the well-feathered head of a young bird appeared at the nest-hole we knew that the brood were at the point of fledging. We decided to band them. After a skirmish that necessitated chasing two of them—all four flew surprisingly well—we attached the bands. The tail of each nestling was a little over an inch long. We returned the brood carefully to the nest-hole, but they would not stay. Within minutes, all had left. One by one, flying strongly, each had alighted at or slightly below nest-level 50 to 100 ft. away. They seemed to have no difficulty in perching or in flying from perch to perch.

That afternoon and on the following day I several times observed the feeding of one of the brood by a parent bird. On 27 June, however, Dr. Sutton saw the old birds and three of the banded young on the campus of the University of Oklahoma Biological Station about 200 yds. from the nest-stub; though the young ones followed their parents closely and begged frequently, they received not food but spirited rebuffs instead. On 10 July I saw the parent birds and three of the young in woods not far from the nest-stub. On 19 July the family of five were still going about together. On that date someone happened to find one of the young birds floating in the lake, about 15 ft. out from shore. On being rescued, dried out, and liberated, it flew well. No one reported seeing any of the banded birds after 19 July.

The brood whose fledging we witnessed might have been a *second* brood for the season. *Parus bicolor* is believed to be strictly one-brooded in Oklahoma, but a *banded* female that produced two broods in each of two non-consecutive years during a 7-year period in southeastern Pennsylvania has been reported (Middleton, 1949, *Bird-Banding*, 20: 152). In Oklahoma many broods fledge during the first half of May. At a nest containing "five large young" found on 26 April 1953 near Muskogee, Muskogee County, Oklahoma (Sutton, *op. cit.*), the brood might have fledged in late April. A nest with "eggs" found on 9 June 1894 in Bertie County, North Carolina (Pearson, Brimley and Brimley, 1942, *Birds of North Carolina*, p. 246) was indeed late. Young hatched in that nest on 9 June might well have fledged on 24 or 25 June, the fledging period for *Parus bicolor* being "15 or 16 days" according to S. S. Dickey (in Bent, 1946, *Bull. U. S. Natl. Mus.* 191, p. 398). Banded (or otherwise marked) Tufted Titmice should be carefully watched in Oklahoma by way of ascertaining whether they are sometimes two-brooded.—Frances I. Peacock, 1705 S. E. 93rd Ave., Tulsa, Oklahoma 74112, 6 February 1969.

Successful nesting of Bell's Vireo in Johnston County, Oklahoma.—The Bell's Vireo (*Vireo bellii*) is often unsuccessful in its nesting in Oklahoma. Of three nestings observed by Margaret Morse Nice at Norman, Cleveland County, central Oklahoma, in 1926, all were unsuccessful: two nests were destroyed by predators and one (found overturned) had been parasitized by the Brown-headed Cowbird (*Molothrus ater*), though the cowbird was not observed to overturn it (Nice, 1929, *Condor*, 31: 13-16). Of 17 Cleveland County nests (perhaps including the three just mentioned) "15 were failures, four due to cowbirds, at least three to cats" (Nice, 1931, *Birds of Oklahoma*, p. 151). Of 12 nests "followed" by C. A. Ely in Marshall County, south-central Oklahoma, in 1956, 11 were unsuccessful; two were destroyed by predators; one, under which a punctured vireo egg was found, may well have been deserted after a cowbird had thrown the egg out; and eight were cowbird-parasitized. The one *successful* nest of the 12 also was parasitized; it contained three young vireos and a cowbird egg when found; the vireos "probably all fledged" (one was captured and banded near the nest), but the cowbird egg did not hatch (Ely, 1957, *Comparative nesting success of certain south-central Oklahoma birds, University of Oklahoma Master's Thesis*, pp. 26-27). Of 61 "completed nests" found in Payne County, north-central Oklahoma, in 1960 and 1961, 18 were cowbird-parasitized; two of the 18 produced "a total of three cowbirds" (Overmire, 1962, *Condor*, 64: 75). Of 17 nests found in Marshall County in

1960 and 1961, the 12 that were cowbird-parasitized produced a grand total of three cowbirds and two vireos (Wiens, 1963, *Wilson Bull.*, 75: 130-31, 134).

In the light of what the above-cited observers have reported, the unqualified success of a Johnston County nesting seems to me to be worth recording. We found the nest on 28 June 1968 about 2 ft. up along the edge of a thicket of sand plums (*Prunus angustifolia*) close to an unpaved road through the Tishomingo National Wildlife Refuge. The nest held four eggs. The following day there were three eggs and a chick. By 1 July all the eggs had hatched. The young were completely naked and about 20 mm. long, one being obviously the largest and one the smallest, indicating that hatching had not been simultaneous.

On 3 July, feather tracts were visible. While being fed on that date, the brood made a good deal of noise and I feared that this, together with my frequent visits, would entail predation; but on 6 July the week-old chicks were fairly well feathered and the nest crowded. On 10 July three young were in the nest and I heard the fourth begging for food in the thicket. Both parent birds scolded vigorously while I banded the three young, two of which refused to stay in the nest. On 11 July one bird was still in the nest. That day I was not scolded by either parent. On 12 July the nest was empty; nor did I hear or see either the young birds or their parents anywhere in the vicinity.—Jenna Jo Hellack, 204 N. Rennie, Tishomingo, Oklahoma 73460, 31 August 1968.

Unsuccessful nesting of the Boat-tailed Grackle in Pontotoc County, Oklahoma.—On 15 June 1968, at a small impoundment in comparatively treeless pastureland 2 mi. north and 1 mi. west of Roff, Pontotoc County, Oklahoma, I discovered a small breeding colony of Boat-tailed Grackles (*Cassidix mexicanus*). The five nests were in trees growing on the dam of the impoundment, four of them in a not very large black willow (*Salix nigra*), one in a bois d'arc (*Maclura pomifera*). Of the nests in the willow, one had never been finished; one held four eggs; and two held three eggs each. The nest in the bois d'arc, though occupied (a female bird flew from it), I could not climb to, so I did not ascertain what it contained.

I saw three male and four female grackles on 15 June, but on several visits between that date and 2 July I never saw more than two adult birds in the vicinity of the nests. On 29 June one of the nests in the willow held two young birds and an egg. These young survived until about 2 July, on which date I found them dead in the nest. None of the eggs hatched in the other nests that I could climb to, probably because the females deserted. I think it highly improbable that my visits caused the females to desert, for I did little more than climb to the nests for a quick look and I did no shooting in the vicinity. No young were fledged from the colony.—Sandra L. Davidson, Route 1. Roff, Oklahoma 74865, 15 September 1968.

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