

A CORMORANT COLONY ON ROBERT S. KERR RESERVOIR

BY PHILIP W. NORTON

THE Double-crested Cormorant (*Phalacrocorax auritus*), a well known transient in Oklahoma (records, too, for late December and three for January), nested from 1945 to 1950 in a large dead tree at the north end of the main reservoir on the Salt Plains National Wildlife Refuge in Alfalfa County, north-central Oklahoma, but the little colony left when the tree fell (Sutton, 1967, Oklahoma birds, p. 18). The species has not, so far as is known, nested in Oklahoma again until recently.

In the summer of 1973, on the Kerr Reservoir in east-central Oklahoma, a



DOUBLE-CRESTED CORMORANT ON NEST

Photographed by Philip W. Norton on 8 May 1973 at the Woods Hole Rookery on the Robert S. Kerr Reservoir, east-central Oklahoma.

large colony bred successfully. The colony probably established itself in 1972. The reservoir was created in December 1970 as part of the Kerr-McClellan Navigation Project. As the big impoundment filled, hundreds of acres of timber were flooded, most of it willow, cottonwood, and elm. Continued submersion had killed most of the trees by 1972. In these dead trees, above water up to 6 feet deep, the cormorants nested.

On 16 July 1972, about a mile east of the village of Tamaha, I discovered a thriving colony of Common Egrets (*Casmerodius albus*) — a rookery that came to be known as the Woods Hole Rookery. The nests held well developed young. In the trees of the rookery about 250 Double-crested Cormorants also roosted, many of them brown young birds. About 45 unoccupied nest-platforms appeared to be much more substantial than the nests the egrets were using. These platforms almost certainly were cormorant nests, though I obtained no evidence that young had been reared in them that season.



THE SALT PLAINS REFUGE CORMORANT COLONY

Photographed by Wallace O. Hughes on 4 July 1947 along the north edge of the refuge's main reservoir. The colony left when the tree fell after the 1950 breeding season.

Throughout the rest of the summer in 1972 the cormorant population remained stable at about 250 birds. In early fall it started to increase, reaching a peak of about 8500 on 18 November. With arrival of cold weather the number dropped sharply. In December, January, and February the 100-200 remaining birds lived in small scattered groups, taking refuge in protected coves and among flooded willows when the weather turned bad. They often loafed on floating logs. Extensive areas of the reservoir remained free of ice even during the severest weather.

In mid-March 1973, cormorants became noticeably more common. On 28 March I saw about 350 at the Woods Hole Rookery, many of them standing on the platforms referred to above. I estimated that the cormorant population of the refuge numbered 1200 birds on that date.

On 12 April I observed several cormorants carrying nest material toward the nesting area. On 23 April I counted about 400 cormorants at the rookery, many of them still wearing crests. I saw no Common Egrets near the colony. That day I counted 186 cormorant nests. I could not tell for sure how many were in use. Of the several that I climbed to, most held from one to four eggs.



YOUNG CORMORANTS AT THE WOODS HOLE ROOKERY

Photographed by Philip W. Norton on 20 June 1973 on the Robert S. Kerr Reservoir in east-central Oklahoma. The 86 nests counted on this date held a total of 203 young.

while a few had only a lining of freshly pulled dead cattail leaves. In the middle of the rookery I found the nest of a pair of Great Horned Owls (*Bubo virginianus*), in it two half-grown young.

On 5 May I counted the cormorants again. Of the 186 nests, two were in a dead sycamore, the rest in dead elms. The lowest were about 10 feet above water, the highest 30 feet or more. The number of nests per tree varied from one to 18 (average 4.9). The 38 trees holding nests were close together. At most nests birds were incubating eggs. I did not see crest-plumes on a single bird.

On 15 May many eggs were hatching. That day I climbed to 11 nests. Four of them held eggs only (3,4,4,5), four of them young only (3,3,3,4), three both eggs and young (2 young, 2 eggs; 2 young, 2 eggs; 1 young, 2 eggs): average clutch-size 3.6. A clutch of four collected for the Bird Range at the University of Oklahoma were at the point of hatching.

On 6 June I checked the rookery for storm damage. Only 137 cormorant nests remained. Some of these obviously had not been used recently. Wind had uprooted some of the trees. Many branches that had supported nests had snapped off. Some young birds that had survived were now climbing about. I was not sure that any of them could fly.

On 20 June I counted 203 young in 86 nests — an average of 2.4 young per nest. Nineteen additional nests, white with excrement, probably had been in use, so it is reasonable to believe that 105 nests produced a total of about 250 young in the summer of 1973.

As the trees deteriorate, their branches may not be able to support the heavy cormorant nests. Many a tree will blow down. The Woods Hole Rookery may not continue for more than a few years. The great reservoir has, none the less, provided good habitat for the Double-crested Cormorant along the south edge of its range for at least two years.

SEQUOYAH NATIONAL WILDLIFE REFUGE, P.O. BOX 398, SALLISAW, OKLAHOMA 74955, 15 JULY 1973.

GENERAL NOTES

Sparrow Hawk preys on young Killdeer.—On 27 June 1972, while working at the Animal Behavior Laboratory on the North Campus of the University of Oklahoma in Norman, Cleveland County, central Oklahoma, I noticed a female Sparrow Hawk (*Falco sparverius*) hovering a bit then dropping swiftly to the flat roof of a nearby building. Two adult Killdeers (*Charadrius vociferus*) were flying about the building, calling loudly. Presently the hawk flew to a telephone pole not far away, carrying prey she had captured on the roof. Using an 8 x 40 binocular, I determined that the prey was a still-downy young Killdeer possibly a week old. After eating part of the Killdeer, the hawk flew off, carrying what was left of her prey.

The fact that the young Killdeer was captured on the roof clearly indicated that it had hatched there. *Charadrius vociferus* not infrequently nests on a

flat or gently sloping roof (Townsend in Bent, 1929, U. S. Natl. Mus. Bull. 146, pp. 205, 206). Dr. Charles C. Carpenter informs me that Killdeer have nested regularly on the flat roofs of buildings at the University of Oklahoma Biological Station along the north shore of Lake Texoma near Willis, Marshall County, south-central Oklahoma.

From 27 June to 11 July I often saw the female hawk near the Animal Behavior Laboratory. On 4 July I saw her take prey to a hole under the eave of the same building on the roof of which she had caught the young Killdeer. From 15 July on for a week or so I frequently saw her, her mate, and two young hawks in the area.

Although *Falco sparverius* is known to occur throughout Oklahoma all year (Sutton, 1967, Oklahoma birds, p. 126), there are not as many confirmed nest records for the state as one might suppose. So far as I know, the Killdeer has not heretofore been reported as prey of the Sparrow Hawk.—Roy S. Slack, Department of Zoology, University of Oklahoma, Norman, Oklahoma 73069, 12 August 1972.

Nesting of American Coot in Lincoln County, Oklahoma.—In late July or early August of 1972 (exact date not recorded), Dr. Christian C. Deonier, my brother, saw an American Coot (*Fulica americana*) and three young on a small pond on his farm about 12 miles west of Meeker, Lincoln County, central Oklahoma. The young were about the size of his fist, he told me. He saw the four coots on the pond repeatedly until 10 October, on which date he found one of them dead, with its back split open. It probably had been shot. Beer cans and cigarette stubs lay scattered along the pond's shore. He could not find the other three coots.

The pond is an upstream flood-control impoundment. A section-line road crosses its north end. At that end there is a good stand of marshy vegetation in which the coots' nest might have been, though my brother did not find it. Along the north side of our farm, which also is not far from Meeker, there used to be a marshy area. My husband Levi tells me that coots formerly nested there. When, as a child, I walked past the marsh on my way to school, I often saw coots there. The marsh was drained some years ago by the present owner of the property.

According to Sutton (1967, Oklahoma birds, p. 166), *Fulica americana* is known to have nested in the following counties: Love, Cleveland, Harper, Cimarron; it has been seen also in several other counties in summer. Its breeding in Lincoln County has not heretofore been reported.—Ruby E. Ray, Route 1, Box 256, Harrah, Oklahoma 73045, 14 March 1973.

Second Common Tern specimen for Oklahoma.—In early September 1971 an immature Common Tern (*Sterna hirundo*) was seen several times at Lake Hefner, Oklahoma County, central Oklahoma. On 1 September, while it was resting along the shore with four Forster's Terns (*S. forsteri*) and two Caspian Terns (*Hydroprogne caspia*), John G. Newell saw and identified it, noting that it had a band on its left leg. On 3 September, J. Brooks Parkhill photographed it. On 4 September I saw, photographed, and collected it. One of my photos shows it with two Forster's Terns and a Wilson's Phalarope (*Steganopus tricolor*); two others show it with a Forster's Tern and a Black Tern (*Chlidonias niger*). George M. Sutton, who prepared the specimen (fe-

male, UOMZ 7197), found it to be very fat (weight 150.8 grams; stomach filled with remains of small fish), and noted that a few vaguely barred juvenal feathers were still present on the upper parts. The bill was dusky save for the dull orange basal third of the lower mandible. The legs and feet were dull orange-yellow.

The band (No. 963-88726) had been attached by C. Harold Richards on 26 June 1971, when the bird was "probably about ten days old," at a Common Tern colony on Bluff Island along the north shore of Lake Ontario not far from Brighton, Ontario, Canada. According to Mr. Richards, the tern colony of "about a thousand pairs" occupied two areas and overlapped a colony of Ring-billed Gulls (*Larus delawarensis*) numbering "probably about 5000 pairs" (letter of 18 October 1971 to G. M. Sutton).

The specimen is the second of the Common Tern for Oklahoma. The first, a long-tailed mature male in mixed feather, was taken on 3 July 1929 along the Illinois River near Gore, Sequoyah County, northeastern Oklahoma, by R. D. Bird (1930, *Auk*, 47: 269; Nice, 1931, *Birds of Oklahoma*, p. 97; Sutton, 1967, *Oklahoma birds*, p. 223). J. G. Newell informs me that he saw another immature Common Tern with a band on its leg at Lake Hefner on 19 and 20 September 1961.—Jack S. Roberts, 5816 N.W. 53rd St., Oklahoma City, Oklahoma 73122, 18 June 1973.

Nest of Poor-will in Cimarron County, Oklahoma.—On 21 May 1972, as I hiked up the slope of a mesa near Kenton, Cimarron County, far western Oklahoma, a Poor-will (*Phalaenoptilus nuttallii*) flushed from close to my feet and flew off rather weakly. It lit on the ground about 6 m. away, partly obscured by a rock but able to watch me. Its actions suggested a nest, so I searched the ground near where I stood and almost at once found two small, downy chicks. They crouched motionless, touching each other, and with their eyes closed. There was no trace of nest material, nor were the chicks in a depression or rock crevice. Their pale reddish-brown plumage matched well the earth on which they lay. I remained to take photographs and at one point touched a chick's bill to get it to raise its head. It instantly "came to life," opening its eyes and attempting to scramble away. When I captured it and put it next to its nestmate, which had not moved, it resumed its former still attitude.

Having taken my pictures, I approached the adult, which immediately flew off a short distance and landed in the shade of a juniper in full view. Through my binocular I saw that it was moving its partly spread wings slowly over the ground in what appeared to be a distraction display. When I approached to within 10 m., however, it flushed and flew away strongly.

The nest was on the Laurance Regnier ranch about one mile west of the ranch-house and about 5 miles south of Kenton. Although Sutton (1967, *Oklahoma birds*, p. 272) suggests that the Poor-will is more common in this part of the state than elsewhere, the only nest thus far reported for Oklahoma was found by R. R. Graber and his wife Jean in Caddo County, in the central part of the state. That nest contained two recently hatched chicks on 24 July 1954. A copulating pair was observed by G. M. Sutton in Cimarron County on the evening of 5 June 1936. Thus, the nest that I discovered was evidence of the earliest breeding activity on record for this species in Oklahoma.—John S. Weske, *Bird and Mammal Laboratories, Bureau of Sport Fisheries and Wildlife, National Museum of Natural History, Washington, D.C. 20560, 1 June 1972.*

Vermilion Flycatcher in Washington County, Oklahoma.—On 30 September 1971, Ella Delap and I saw a female Vermilion Flycatcher (*Pyrocephalus rubinus*) perched on a wire overlooking Young's Lake, a shallow 50-acre impoundment along the western edge of Washington County, northeastern Oklahoma, about 5 miles northwest of the town of Dewey. We observed the bird for several minutes through a spotting scope at a distance of about 50 feet with the sun at our backs. Its upper parts were uniform brownish gray, without the pale feather edgings that characterize a young bird. The tail and top of the head were slightly darker than the back. The throat and breast were white, streaked with light gray, the belly, flanks, and under tail coverts pale orange. The bill appeared to be black. The tail, which struck us as being rather short, had a shallow double round. The bird darted out for insects several times while we watched. An approaching car drove it off.

The Vermilion Flycatcher has been observed repeatedly in nearby Tulsa County (1950, Audubon Field Notes, 4: 23, 209; Sutton, 1967, Oklahoma birds, p. 350), but not heretofore in Washington County.—Dotty M. Goard, 2117 S. Dewey St., Bartlesville, Oklahoma 74003, 27 July 1972.

White-eyed Vireo observed feeding fledged cowbird.—On the morning of 13 August 1972 (day clear and hot; no wind), in a wooded area close to Yahola Lake in Mohawk Park, Tulsa, Tulsa County, northeastern Oklahoma, Kenneth Hayes, Elizabeth Hayes, my husband Bruce and I observed a White-eyed Vireo (*Vireo griseus*) feeding a recently fledged Brown-headed Cowbird (*Molothrus ater*). Watching from the dike along the lake shore, we saw the vireo feed the cowbird at least three times during a 20-minute period. The two birds were about 20 feet from us, at eye-level. Nice (1931, Birds of Oklahoma, p. 151) reported a White-eyed Vireo nest containing four vireo eggs and one cowbird egg found many years ago by A. J. B. Kirn in Washington County, and Sutton (1967, Oklahoma birds, p. 475) reported a White-eyed Vireo nest containing one vireo egg and two young cowbirds found on 1 July 1960 by J. D. Ligon in Delaware County, but no one has heretofore reported observing a White-eyed Vireo feeding a fledged cowbird in Oklahoma.—Anne Reynolds, Box 45486, Tulsa, Oklahoma 74145, 23 January 1973.

Breeding of Verdin in north-central Texas.—Recent reports of the breeding of the Verdin (*Auriparus flaviceps*) in the Texas Panhandle and in southwestern Oklahoma suggest that the species is expanding its range northeastward (Seyfert, 1972, Bull. Oklahoma Orn. Soc., 5: 9). The following account is offered in confirmation of what has been published on the breeding of the Verdin in the northeasternmost part of its range.

On 7 July 1970, in a large grove of mature mesquite (*Prosopis juliflora*) 2 miles east of Anson, Jones County, Texas (about 125 miles due south of the southwestern corner of Oklahoma), I observed an adult Verdin feeding a gray juvenile several times. I saw only the two birds. The part of the grove in which I saw them was ungrazed; it contained a well-developed growth of low shrubs and scattered trees of several species. Elsewhere the grove had been grazed and defoliated, hence was much less densely vegetated. I had carefully inspected the whole grove and other wooded areas near Anson in my study of the Mississippi Kite (*Ictinia mississippiensis*) summer after summer since 1969, but had seen no Verdin anywhere.

John Weske (in Seyffert, *loc. cit.*, p. 12) offered the suggestion that recent drought in southwestern Oklahoma and north-central Texas might be largely responsible for the presence of the Verdin there, and that termination of severe drought conditions might lead to withdrawal of the species. Is it not more likely that northward expansion of desert vegetation—partly as a result of drought, but also as a result of the introduction of mesquite by cattle during early cattle drives—has encouraged the Verdin's range expansion, and that wetter conditions will not substantially affect the presence of the bird unless through long-range impact on the vegetation?

I did not, incidentally, see the Verdin in the above-discussed mesquite grove near Anson in either 1971 or 1972.—James W. Parker, *Museum of Natural History and Department of Systematics and Ecology, University of Kansas, Lawrence, Kansas 66044, 28 February 1973.*

Green-tailed Towhee in Oklahoma in summer.—Each summer from 1968 through 1972 I have briefly visited Quartz Mountain State Park in Greer County, southwestern Oklahoma, several times. The park is at the south end of Lake Altus (Lake Lugert), about 10 miles east of the city of Mangum. Near a large picnic shelter in the park on 16 July 1968 I heard soft bird-calls that proved, surprisingly, to be from an adult Green-tailed Towhee (*Chlorura chlorura*). The towhee remained near the shelter all afternoon, entering it several times and even, on one occasion, flying up to the mantel above the fireplace. I was able to observe the bird repeatedly, often at close range. I heard it again near the shelter the following afternoon. I did not try to discover whether it was paired or reproductively active. At no time did I hear it sing. I did not see the species from 1969 through 1972.

Sutton (1967, Oklahoma birds, p. 598) called the Green-tailed Towhee a "transient in western Oklahoma." According to data filed at the University of Oklahoma Bird Range, fall records for the state span the period from 17 September to 8 November, spring records the period from 20 April to 30 May. Most records have been of single birds seen or collected in the western part of the Panhandle, and the species has been seen in about equal number in spring and fall. A single bird was seen repeatedly from 18 December 1971 to 1 March 1972 in Oklahoma County (Shackford, 1972, *Bull. Oklahoma Orn. Soc.*, 5: 25-26). Six specimens have been collected in the state, all in Cimarron County.

Chlorura chlorura normally nests in areas that are vegetationally and topographically similar to Quartz Mountain State Park. Throughout the park, post oak (*Quercus stellata*) and blackjack oak (*Q. marilandica*) are common, and dense shrubbery grows at the foot of steep slopes. The Wichita Mountains, about 45 miles to the east-southeast, are ecologically similar to the park. Since the two isolated montane areas appear to provide suitable nesting habitat for the Green-tailed Towhee, the species should be looked for there further in summer.—James W. Parker, *Museum of Natural History and Department of Systematics and Ecology, University of Kansas, Lawrence, Kansas 66044, 28 February 1973.*

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