

**SYNOPSIS OF BIRDS KILLED AT THE COWETA,  
OKLAHOMA, TV TOWER 1974-1984**

BY JAMES L. NORMAN

Throughout the months of September and October, especially during inclement nights, many birds migrating southward kill themselves by flying into the 1,909-foot high KTUL television transmitting tower located 2 miles east of Coweta in Wagoner County, northeastern Oklahoma. Each fall since 1974 my wife Marion and I have collected and identified these casualties, then reported our findings (see Norman 1975, 1976, 1977). Our most recent paper (Norman 1982) considered the birds we recovered between 1974 and 1978. The present work updates and summarizes our data through 1984. Detailed information pertinent to each specimen is retained in the author's files.



**NORTHERN ORIOLES**

*During this study, 1802 birds of 87 species were picked up. Among them were 170 Northern Orioles (Icterus galbula), 155 of them on 16 September 1982, when Jeri McMahon took this photo.*

Tower kills are generally considered to be weather-related (see Crawford 1974, 1981). Cold fronts during fall are frequently accompanied by rain, fog, and/or a low cloud ceiling. When these conditions prevail at night, south-flying migrants may fly so low that they collide with tall, man-made structures. Furthermore, winds often change direction from south to north at this season, thereby creating a tail wind that greatly increases the speed with which the birds approach obstructions. This phenomenon has been documented in many states, notably Texas (Peterson and Glass 1946), Kansas (Tordoff and Mengel 1956), Florida (Stoddard and Norris 1967; Crawford 1974, 1981), Iowa (Dinsmore *et al.* 1983), and Tennessee (Laskey 1969).

Table I presents phylogenetically the total 1974-1984 collection of 1,802 individuals representing 87 species. Numbers of birds killed each week between 22 August and 17 November are given for the entire eleven-year period. The number of species found each fall were: 1974 (41), 1975 (27), 1976 (47), 1977 (29), 1978 (41), 1979 (4), 1980 (4), 1981 (15), 1982 (29), 1983 (0), and 1984 (55). It is hoped that these numbers and dates will establish a basis from which we can predict the relative abundance and approximate dates of passage for these and other species in this part of Oklahoma.

Of the 1,802 birds identified, 800 (44.4%) were warblers of 22 species. The 239 Nashville Warblers (*Vermivora ruficapilla*) represented the greatest number of any warbler, followed by the Yellow-rumped (Myrtle) Warbler (*Dendroica coronata*), 139; Orange-crowned Warbler (*Vermivora celata*), 98; and Black-and-White Warbler (*Mniotilta varia*), 61.

Other species recovered in large numbers were the Northern (Baltimore) Oriole (*Icterus galbula*), 170 (155 on the night of 16 September 1982 alone); Red-eyed Vireo (*Vireo olivaceus*), 130; Ruby-crowned Kinglet (*Regulus calendula*), 120; Savannah Sparrow (*Passerculus sandwichensis*), 58; Gray Catbird (*Dumetella carolinensis*), 44; and House Wren (*Troglodytes aedon*), 42.

Several species are noteworthy because of their rarity in the state, and their discovery during the course of this study has made a definite contribution to our knowledge of Oklahoma birdlife. Of special interest are the three Yellow Rails (*Coturnicops noveboracensis*), two picked up in 1976, one in 1982. The only other specimen known for Oklahoma was taken in 1842 at old Fort Wayne in Delaware County, about 70 miles northeast of Coweta (Tomer 1959).

Six Philadelphia Vireos (*Vireo philadelphicus*), previously recorded in fall only twice in the state (Wood 1975; Tyler 1979), were found beneath the tower on 9 October 1974, and 30 others in later years. The species apparently passes through Oklahoma in considerable numbers, and is to be looked for between about 12 September and 15 October.

There are other specimens on the list that deserve comment — the one Golden-Winged Warbler (*Vermivora chrysoptera*), because it is the second specimen for the state; the five Chestnut-sided Warblers (*Dendroica pensylvanica*) because only one other fall specimen had previously been taken in Oklahoma; the eleven Bay-breasted Warblers (*Dendroica castanea*) found in 1976 and 1978, because they were the first fall specimens ever collected in the state; and the Golden-crowned Kinglet (*Regulus satrapa*) of 9 October 1974, which predates the former earliest Oklahoma fall record.

This study could not have been carried out without the aid of certain people. I am especially grateful to Mr. James C. Leake, previous owner of TV station KTUL, who granted us access to the tower. Mr. Otto Harris, technician at the tower throughout the eleven years of the study, has been prompt in telephoning us whenever kills occurred, frequently even gathering and refrigerating the specimens before our arrival.

More than once, after a call from Mr. Harris, neither Marion nor I could leave our work to make the 25-mile drive to the tower. We are much indebted to Jeri McMahon and J. J. Harman and his wife for their invaluable help on these occasions.

And, finally, our sincere thanks to the late George M. Sutton who repeatedly stressed the importance of this project and encouraged us to continue our efforts. It was to him and his associates, Joe Grzybowski and Scott Wood at the Stovall Museum in Norman, that we sent the ice-packed specimens — ants, maggots, and all — for their scrutiny and final species determination. Several of the rarer, more valuable birds were preserved as museum specimens, some as skeletons, and many were discarded. In spite of this deplorable annual loss of our birdlife, Marion and I take a little comfort in the thought that, through our efforts, these birds, even the tiny, silent Winter Wrens (*Troglodytes troglodytes*), are not entirely wasted.

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BIRDS KILLED AT THE COWETA TV TOWER 1974-84

Species	Aug.		Sept.			Oct.			Nov.		Total	
	22/31	1/7	8/14	15/21	22/30	1/7	8/14	15/21	22/31	1/7		8/17
1 Pied-billed Grebe		1	2	2	2	2				1		10
2 Ring-necked Duck								1				1
3 Yellow Rail				1	1	1						3
4 Virginia Rail				2	2						1	5
5 Sora			1	6	4	2	1		3			17
6 American Coot						3				1		4
7 Common Snipe			1		1							2
8 Mourning Dove					4	2			3			9
9 Black-billed Cuckoo			1									1
10 Yellow-billed Cuckoo	3		1	8	1	1		1				15
11 Common Nighthawk						1						1
12 Chimney Swift			1									1
13 Red-headed Woodpecker			1	2	2				2			7
14 Yellow-bellied Sapsucker							1		1			2
15 Northern Flicker				2	1		1		1			5
16 Eastern Wood-Pewee			1									1
17 Yellow-bellied Flycatcher				1	1							2
18 Willow Flycatcher					1							1
19 Least Flycatcher			1									1
20 Eastern Kingbird	6			1								7
21 Brown Creeper							5		2	2		9
22 Carolina Wren				2								2
23 Bewick's Wren				1								1
24 House Wren			1	5	10		20		6			42
25 Winter Wren							5		6	1		12
26 Sedge Wren					4		7		4	3		18
27 Marsh Wren					3		4		2			9
28 Golden-crowned Kinglet							1		6	6	1	14
29 Ruby-crowned Kinglet			1	2	15	2	16		81	2	1	120
30 Swainson's Thrush			3	1	9	1						14
31 Wood Thrush									1			1
32 Gray Catbird			7	18	16	2	1					44

## BIRDS KILLED AT THE COWETA TV TOWER 1974-84 (Cont.)

Species	Aug.		Sept.			Oct.			Nov.		Total	
	22-31	1-7	8-14	15-21	22-30	1-7	8-14	15-21	22-31	1-7		8-17
33 Northern Mockingbird			1			1						2
34 Brown Thrasher				2	8	1		1				12
35 European Starling										1		1
36 White-eyed Vireo				1								1
37 Solitary Vireo				2	8	2	11		1			24
38 Yellow-throated Vireo					1							1
39 Warbling Vireo	1		2	5	11		3					22
40 Philadelphia Vireo			1	2	25	1	6	1				36
41 Red-eyed Vireo			10	55	55	1	5	2	1	1		130
42 Golden-winged Warbler							1					1
43 Tennessee Warbler				2	2		1					5
44 Orange-crowned Warbler					2	8	14	3	71			98
45 Nashville Warbler			1	9	82	22	66	3	55			238
46 Northern Parula					2		1					3
47 Yellow Warbler			12	16	1		5					34
48 Chestnut-sided Warbler				1	3		1					5
49 Magnolia Warbler					3		1					4
50 Yellow-rumped Warbler								1	133	5		139
51 Black-throated Green Warbler					2	2	4			1		9
52 Blackburnian Warbler				2			1					3
53 Bay-breasted Warbler					11							11
54 Black-and-White Warbler			6	27	27				1			61
55 American Redstart				2	4							6
56 Ovenbird			2	8	7		4		1			22
57 Northern Waterthrush			3	4	1							8
58 Kentucky Warbler				3	2							5
59 Mourning Warbler	2		12	18	11	1	4					48
60 Common Yellowthroat				1	31	7	7		3			49
61 Wilson's Warbler			4	9	13	2	6					34
62 Canada Warbler			4	6	2							12
63 Yellow-breasted Chat	1			4								5
64 Blue Grosbeak					1							1
65 Indigo Bunting					4	4	3		1			12
66 Dickcissel			5	5	8				1			19
67 Chipping Sparrow									2			2
68 Clay-colored Sparrow							2					2

BIRDS KILLED AT THE COWETA TV TOWER 1974-84 (Cont.)

Species	Aug.		Sept.			Oct.			Nov.		Total	
	22/31	1/7	8-14	15-21	22/30	1/7	8-14	15-21	22-31	1/7		8-17
69 Field Sparrow						1						1
70 Savannah Sparrow								1	40	16	1	58
71 Grasshopper Sparrow				2					7			9
72 Le Conte's Sparrow									12	6		18
73 Sharp-tailed Sparrow						2	1					3
74 Fox Sparrow										1		1
75 Song Sparrow									1	4		5
76 Lincoln's Sparrow					3	2	5		5	2		17
77 Swamp Sparrow						1	1		4	3	1	10
78 White-throated Sparrow									9	2		11
79 White-crowned Sparrow									1			1
80 Dark-eyed Junco									6	27		33
81 Bobolink			3	1								4
82 Eastern Meadowlark					1			1	2	4		8
83 Western Meadowlark									1			1
84 Common Grackle											1	1
85 Brown-headed Cowbird				1					3			4
86 Northern Oriole	2		8	159	1							170
87 Pine Siskin										1		1
TOTALS BY WEEK	15	1	96	401	409	75	215	15	479	89	7	1802

502 N. 14TH ST. MUSKOGEE, OKLAHOMA 74401, 10 OCTOBER 1986.

## RECENT RECORDS FOR RED KNOT IN OKLAHOMA

BY MITCHELL OLIPHANT

The Red Knot (*Calidris canutus*) was first observed in Oklahoma at the Great Salt Plains National Wildlife Refuge in Alfalfa County on 19 September 1941. From that date until 26 July 1968, it was recorded eight times at large impoundments in the vicinity of Oklahoma City and once in Bryan County. All but two of these sightings were in late summer and fall. In 1968, John G. Newell reviewed these records (Bull. Oklahoma Orn. Soc. 1:13-16), concluding that the Red Knot was "a rare and irregular migrant in central Oklahoma and probably throughout the open grasslands of the Southern Great Plains from July 26 to October 18," and that the two spring sightings (probably of the same individual) "suggest that spring occurrence is accidental." Competent observers from several locations around the state have encountered this species a number of times since July, 1968. This paper annotates known sightings through the

fall of 1986. Most of these were extracted directly from George M. Sutton's Species Summaries at the University of Oklahoma's Stovall Museum (now the Oklahoma Museum of Natural History). Without Sutton's untiring efforts to seek out, record and maintain pertinent records, this paper would not have been feasible.

*August 17, 1968.* Observer G. M. Sutton. A single adult, in "fairly bright" breeding feather, was flushed from a shallow sewage pond near Boise City, Cimarron County. The bird gradually moved away in a series of "hovers and glides" reminiscent of courtship flights which the observer had witnessed in the arctic (Sutton, 1969, Bull. Oklahoma Orn. Soc. 2:22).

*September 21, 1969.* Observers J. G. Newell, *et al.* One bird seen at Lake Hefner, Oklahoma County (Sutton, G. M. [1982], Species summaries of Oklahoma bird records, Oklahoma Mus. Nat. Hist., Univ. Oklahoma, Norman).

*October 18, 1969.* Observers J. G. Newell and V. J. Vacin. A single knot was carefully identified at Lake Hefner, Oklahoma County (Sutton [1982]).

*August 22, 1971.* Observers J. G. Newell and J. B. Parkhill. Two knots were photographed at Lake Hefner, Oklahoma County (Sutton [1982]).

*September 2, 7, 14, 1971.* Observer D. M. Goard. The species was viewed at Young's Lake, five miles northwest of Dewey, Washington County; one bird on 2 September, two on 7 September, and one on 14 September (Sutton [1982]).

*September 23-25, 1972.* Observer J. G. Newell. A single juvenile bird with scalloped back feathers was discovered at Lake Overholser, Oklahoma County.

*August 25, 1973.* Observer J. S. Shackford. A "gray" bird was at Lake Hefner, Oklahoma County (1974, Amer. Birds 28:73).

*September 3, 1973.* Observer J. S. Shackford. Three birds were present at Lake Hefner, Oklahoma County (1974, Amer. Birds 28:73).

*September 4-11, 1973.* Observers J. G. Newell, *et al.* An individual in gray plumage appeared repeatedly at Lake Hefner, Oklahoma County (1974, Amer. Birds 28:73).

*May 12, 1974.* Observer D. A. Shorter. One seen at Great Salt Plains National Wildlife Refuge, Alfalfa County (Sutton [1982]).

*August 1, 1974.* Observer J. S. Shackford. One adult "turning gray on hind neck" found at Lake Hefner, Oklahoma County (Sutton [1982]).

*September 12, 13, 1974.* Observer J. S. Shackford. One bird identified each date at Lake Hefner, Oklahoma County (Sutton [1982]).

*August 24, 1975.* Observer E. Hicks. At Hulah Reservoir, Osage County, a singleton was present (Sutton [1982]).

*August 29, 30, 1977.* Observer J. S. Shackford. A knot found each date at Lake Hefner, Oklahoma County; bird photographed 30 August (Sutton [1982]).

*September 3, 1979.* Observer J. C. Hoffman. One seen among shallow ponds near Arkansas River in southern Tulsa County (Sutton [1982]).

*May 10, 1981.* Observer J. A. Grzybowski. One collected (OMNH 16949) at pond in McClain County, near Norman (Sutton [1982]).

*May 20, 1981.* Observers J. A. Kirk and P. C. Clover. Flock of seven (all in breeding feather) fed along shore of main reservoir, Great Salt Plains National Wildlife Refuge, Alfalfa County (Sutton [1982]).

*August 22, 1982.* Observers J. C. Hoffman, J. W. Arterburn, and J. S. Tomer.

One (possibly two) observed at Lake Oologah, a bird in juvenile or first winter plumage at Winganon Flats, Rogers County; possibly the same individual about eight miles to the north in Nowata County.

*August 29, 1982.* Observers H. W. and D. M. Goard. One in winter plumage appeared at Oologah Reservoir, Rogers County (Sutton [1982]).

*September 25-28, 1982.* Observers J. G. Newell, *et al.* A single bird showed up repeatedly at Rose Lake, Canadian County.

*July 17, 1983.* Observer J. W. Arterburn. A knot in breeding plumage was present in south Tulsa County (1983, *Tulsa Scissortail*, August-September, p. 6).

*August 21, 1983.* Observer E. Delap. Five in winter plumage were found near Copan Lake dam, Washington County (incorrectly reported as one bird in *Amer. Birds* 38:219, 1984).

*September 3, 1984.* Observer J. C. Hoffman. A bird in juvenile or first winter plumage was discovered at Winganon Flats, on the east side of Lake Oologah, Rogers County.

*September 13-14, 1985.* Observers J. A. Grzybowski, J. G. Newell, *et al.* A singleton appeared both dates at Lake Hefner, Oklahoma County (1986, *Amer. Birds* 40:135).

*August 7, 1986.* Observers M. Droege and D. Verser. Single bird seen at Oologah Reservoir, Nowata County (1987, *The Scissortail* 37[1]:9).

*August 10, 1986.* Observer M. Oliphant. One knot fed alongside a smaller Stilt Sandpiper (*Calidris himantopus*) on a wave-washed mudflat along the southwest shore of Lake Hefner, Oklahoma County (1987, *The Scissortail* 37[1]:8).

*September 5, 1986.* Observers M. Oliphant and J. Webster. Two individuals were found at Lake Hefner, Oklahoma County (1987, *The Scissortail*, *ibid.*).

*September 6, 1986.* Observers J. G. Newell, *et al.* Three knots were seen at Lake Hefner, Oklahoma County (1987, *The Scissortail*, *ibid.*).

*September 7, 1986.* Observers J. C. Hoffman, J. Thayer, and J. W. Arterburn. On mudflats at the north end of Lake Oologah, Rogers County, a single bird in juvenile or first winter plumage was discovered.

These additional 29 records during the past 19 years (1968-86) tend to indicate that the Red Knot is a rare to uncommon transient in Oklahoma that is decidedly rarer in spring. On an irregular basis it has been seen between 10 and 20 May during northward migration (only five records) and between extreme dates of 17 July and 18 October during fall. However, the great majority of sightings have occurred between mid-August and late September. It is to be looked for throughout Oklahoma during periods of migration.

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