

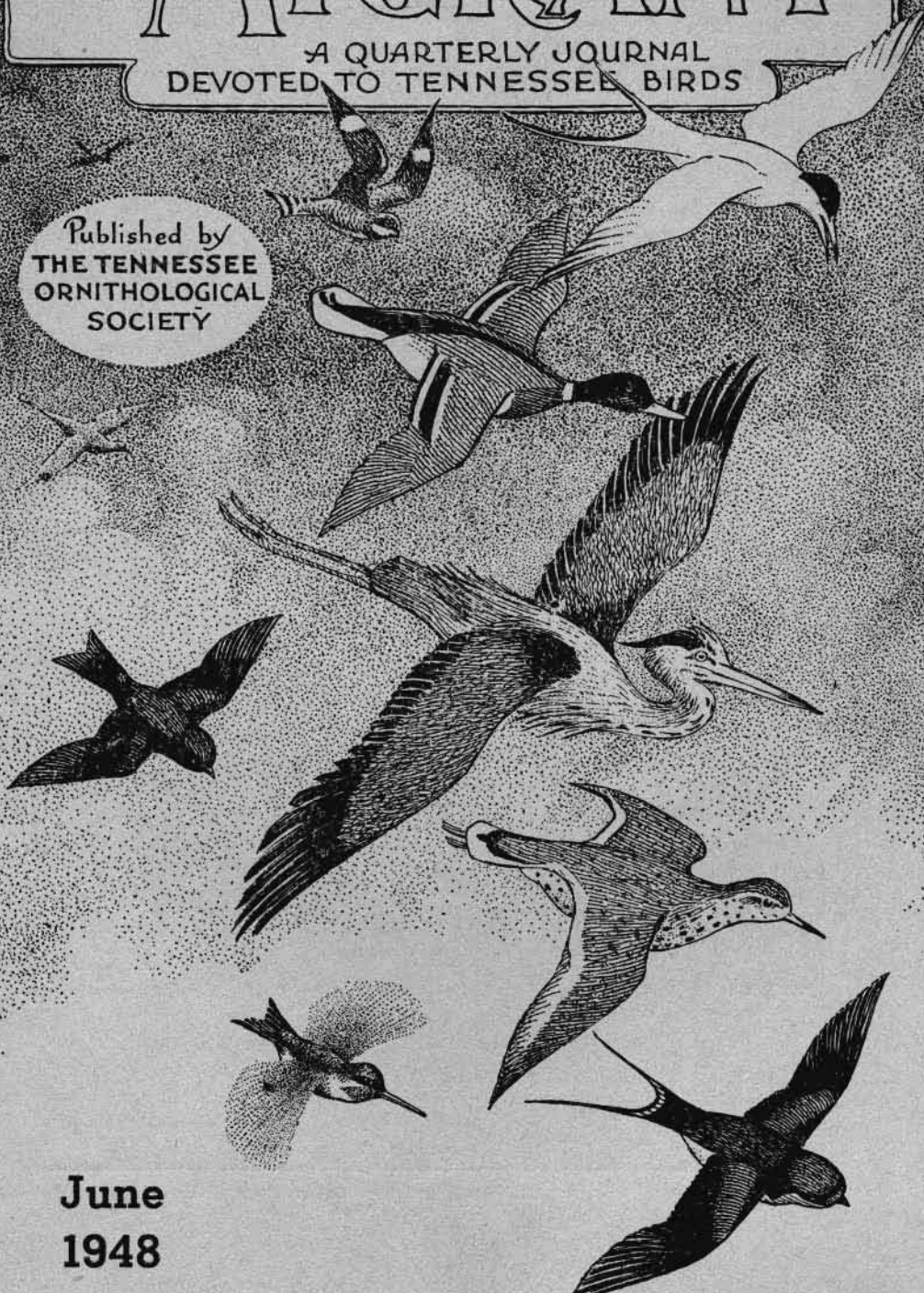
THE MIGRANT

A QUARTERLY JOURNAL
DEVOTED TO TENNESSEE BIRDS

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THE MIGRANT

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OBSERVING THE NOCTURNAL MIGRATION OF BIRDS

With a telescope of moderate power it is possible to see birds migrating at night when they are silhouetted for a brief instant against the bright face of the moon. Individual observers have used this method in making studies of migration, and calculations have been devised for measuring the direction of flight, the altitude, and abundance of the migrants. Recently Prof. George H. Lowery, of Louisiana State University, organized a program aimed at learning more about bird migration thru wide use of this method. He sought the cooperation of ornithologists and bird students over much of the county and has supplied them with detailed instructions on the proper methods of watching and recording. The result has been a lot of moon-gazing this past spring. In Memphis, Nashville, and Knoxville members of the T. O. S. cooperated in the program of watching for migrants on the nights of full moon in April and in May. The observations made at Nashville and Knoxville are described below.

OBSERVATIONS AT NASHVILLE

By ALBERT F. GANIER

In response to an invitation from Dr. George Lowery, of Louisiana State University, the writer organized a group of Nashville members of the T. O. S. to make telescopic observations at Nashville of birds passing across the disc of the April, 1948, full moon. Thru the kindness of Dr. Carl K. Seifert, of the Barnard Observatory at Vanderbilt University, their facilities were placed at our disposal and we were aided by his assistant, Mr. Ted Lewis. Their telescope is a sixty power of eight feet focal length, six inch aperture, refracting, equatorially mounted. Viewing was done thru a right-angled eyepiece.

Two full nights were planned and observers working in pairs were allocated two hour periods in order to make observations continuous thru the nights beginning April 20. Due partly to lack of practice but chiefly to haze and intermittent clouds, the first night's results were poor and a completely clouded sky terminated activities at midnight. A dozen birds had been reported up to that time, doubtless but a fraction of those which might otherwise have been recorded. The group could not be assembled for the following night.

April 23 was the night of the full moon and observations began at 9:50 P.M. and ended at 2:14 A.M. During the first period, between 9:50 and 11:29, with a net time of ninety minutes at the telescope, sixty-one birds were seen by Miss Julia Saffer and two Vanderbilt students (names not secured). These three had had experience with this telescope. Mr. James

A. Robins recorded thruout the evening. At 11:32 the writer began observing and saw ten birds during the next twenty-four minutes. An accident then halted operations until 12:53, from which time the writer both observed and recorded until 2:14 A.M. A net time of sixty-eight minutes during this period showed thirty-four birds seen. This was at the rate of one bird every two minutes.

On the night of Saturday, April 24, those who had come at 9:00 to watch until 11:00 P.M. found that the moon had not risen above adjacent tree-tops during that time. At 11:18 the writer began observing with E. D. Schreiber recording and observed eighteen birds passing in eighteen minutes. From 11:38 to 11:53, Schreiber observed five birds in fifteen minutes. From 12:01 to 12:15, the writer observed twenty birds in fourteen minutes. Visibility was at this time perfect and for the next fifteen minutes we yielded the telescope to a group of students who called but who could see only the moon. Just as we resumed operations, a cloud bank moved in, and after waiting an hour for it to move on, we reluctantly gave up for the night.

In recording our observations, we set down the direction of flight in terms of the figures on a clock. The prevailing direction showed birds entering at 2 and passing out at 8. In terms of the moon's physical features, this brought them in over Mare Humerum and passed them out over Mare Crisium. The records will be passed on to Dr. Lowery for complete interpretation and for coordination with those of other stations. Of the 148 birds mentioned above and seen during 229 minutes, pairs were observed on six occasions.

Dr. Lowery's project is a most commendable one and coordination of the results obtained from the numerous stations will throw some new light on migration. The Nashville Chapter intends to continue its cooperation and hopes for more extended periods of observation. It cannot be too strongly urged that cooperators should get in an hour's preliminary practice before taking their assigned time.—2112 WOODLAWN DRIVE, NASHVILLE, TENN.

OBSERVATIONS AT KNOXVILLE

By JAMES T. TANNER

A group of observers at Knoxville, organized by Dr. Joseph C. Howell, also cooperated in the "birds against the moon" watching project, and obtained excellent and interesting results. Observations were made on the two nights of full moon in both April and May, 1948. There were over a dozen observers helping: members of the Department of Zoology and of the Department of Physics, some graduate students of the University of Tennessee, and members of the Knoxville chapter of the T. O. S. The telescope used was a forty power refracting telescope mounted on the roof of the Physics and Geology Building, on the University of Tennessee campus.

The first night's observations, on the night of April 22-23, 1948, produced the greatest number of birds seen. Over a hundred birds were recorded before 11:00 P.M., Eastern Standard Time, and the peak seemed to occur between 10:00 and 10:15 when twenty birds were seen in the fifteen

minute interval. After 11:00 the numbers seen dropped sharply to an average of one bird per four minutes; observations were limited during this time by short periods of cloudiness. On the following night, April 23-24, fewer birds were seen and the peak came much later, between 3:30 and 4:00 A.M. when fourteen birds were seen in the half hour.

The observations on the nights in May were less fruitful, but a surprising number of birds were seen considering how late it was in the migratory season. On the night of May 20-21, a total of about 115 birds were seen, most of them after midnight when birds passed across the moon's face at a fairly steady rate of one bird per three minutes. On the last night, May 21-22, clouds interfered in the early hours, and steady flights averaging one bird per three or four minutes occurred only from 8:30 to 9:00 P.M. and from midnight to 1:30 A.M.; only ten birds were seen from 1:30 to 4:30 A.M.

The birds crossed the face of the moon so rapidly that the usual comment made for each was that it was "small and fast." Occasionally a silhouette or a flight pattern could be recognized. Bats were seen and clearly recognized several times. In the early dawn Purple Martins could be heard overhead, and occasionally one identified as it crossed the moon, at a lower altitude than most birds seen. But most of the birds could be recognized only as birds, nothing more.

In an article entitled "Astronomy and Ornithology," Prof. William A. Rense describes in detail how the flight of birds can be observed against the face of the moon and how from these observations, if they are made properly, the direction of flight, approximate altitude of flight, and approximate number of birds passing over can be calculated.

The period between 11:00 and 11:30 P.M. on May 20 presented conditions such that the calculations for determining the abundance of migrating birds were easy and relatively accurate. During this half-hour seven birds were observed, slightly less than the average for all half-hour periods. Knowing this number, the position of the moon, and the angle subtended by the face of the moon, and assuming the birds were flying at an elevation of one thousand feet above the earth, the number of birds that passed over an east-west line a mile long can be calculated. The calculations show that during this period birds were crossing the imaginary mile-long line at a rate of about five thousand birds per hour.

The path of each bird across the face of the moon was recorded as if seen against the face of a clock; from the angle of this line and the position of the moon the direction of the flight can be calculated. During most half-hour periods the majority of birds seen then were flying in approximately the same direction, but there was some variation as frequently the line of flight of one or more birds crossed that of the majority at angles as great as ninety degrees, and rarely in almost the reverse direction.

On the night of April 22-23, the average direction of flight was north. During part of the night (9:30-11:00 P.M.) there seemed to be two different flights, passing simultaneously but in different directions. One group of birds was moving between north and northwest while a smaller number

were going toward the northeast. On the following night the direction of flight varied roughly between north and northeast.

On the night of May 20-21 most of the birds were traveling toward the northeast. They were possibly following the Tennessee valley, but it is also certain that their flight was affected by the wind. Several times between 1:30 and 3:30 A.M. birds were seen that appeared to be flying sideways. One bird was headed or pointed toward the northeast, but it was moving in a direction a little north of east. A second bird seen to be pointed northeast was actually moving towards the east. The surface wind at this time was light, but the local weatherman reported verbally that about 4:00 A.M. there were fairly strong winds from the northwest at higher elevations. Winds from this direction would explain the observations just described.

The following night, May 21-22, brought further evidence that the direction of migratory flight was affected by the wind. Observations made on previous nights, except for the morning of May 20-21, showed a direction of flight varying from northwest to, more commonly, northeast. During these times the wind direction between one and two thousand feet above the earth was reported by the weather bureau to be from the southwest at speeds of ten to twenty miles per hour. On the night of May 21-22 the wind was reported to be twenty-five miles per hour from the west at 10:00 P.M. and shifting to north-northeast by 4:00 A.M. During this night the direction of bird flight was between northeast and east, becoming more easterly toward morning. It appeared as if the direction of migration had been pushed around by the wind.

REF. CITED: RENSE, WILLIAM A.

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DEPARTMENT OF ZOOLOGY, UNIVERSITY OF TENNESSEE,
KNOXVILLE, TENN.

THE 1948 SPRING FIELD DAYS

This year five chapters of the T. O. S. made day-long field trips during the height of the spring migration. The Memphis, Nashville, Knoxville, Greenville, and Elizabethton chapters each made observations in some area in or near their respective cities, and in addition, Fred W. Behrend, of the Elizabethton chapter climbed Roan Mountain near the northeast corner of the State. The largest list of species was compiled by the Memphis chapter, with 108 species, altho the combined Elizabethton and Roan Mountain count was 112. The total number of species seen for the entire State was 152. The separate field trips are described below, followed by a table summarizing the birds seen in all localities.

Memphis. May 2, 1948—morning in area of Lakeview, Miss.-Tenn., station and along tracks north to Horn Lake Creek; in afternoon at Mud Lake, on levee, and at barrow pits. Weather warm, river bottoms flooded.

Nashville. May 16, 1948—at Ray's Lake and Marrowbone Lake north-

west of Nashville (small lakes in a hilly area of deciduous woods and farmland). Raining in the morning, clearing in the afternoon, with temperatures of about 65 degrees F. This field trip was held in conjunction with the annual meeting of the T. O. S., so the participants included members of the Nashville chapter and many visitors from other parts of the State.

Knoxville. May 2, 1948—at the Ijams farm, at the southeastern corner of Knoxville, and in the vicinity (deciduous woods, farmland, airport, along river). Weather clear and warm, but too windy for good observation of birds. The Least Flycatcher was identified by Dr. J. T. Tanner, by aid of the bird's typical call, "chebec." The Blue Grosbeak, an immature male, was observed at close range by about ten people, including at least two who had seen Blue Grosbeaks before in their usual range.

Greenville. May 9, 1948—5:00 AM to 8:00 PM—around Greenville, including Tusculum College, the Reed Farm, Greenville Lake, and lower Paint Creek to the French Broad River. Clear with temperatures of 50 to 74 degrees F., wind very slight. Twelve people participated.

Elizabethon. May 2, 1948—around Elizabethon, including Milligan, Watauga River from Smalling's Bridge to Horseshoe Dam, along Doe River to Hampton. The Western Sandpiper was identified by Dr. L. R. Herndon.

Roan Mountain. May 2, 1948, 4:30 AM to 5:30 PM—Roan Mountain town to top of Roan Mountain (elevation 6313 feet) and return, Lake Phillip Nelson. Weather changeable, cloudy to clear, varying winds. One observer, Fred W. Behrend.

TABULAR RECORD OF SPRING FIELD DAYS, 1948

The abbreviation "c" means "common"; the abbreviation "f.c." means "fairly common." Figures enclosed by parentheses indicate that the birds were observed outside of the area described above but in a nearby area. For further comments on birds marked with an asterisk (*) see the remarks in the field trip for that locality.

	Memphis	Nashville	Knoxville	Greenville	Elizabethon	Roan Min.		Memphis	Nashville	Knoxville	Greenville	Elizabethon	Roan Min.
Pied-billed Grebe	(2)	—	—	—	2	2	Osprey	—	—	1	—	1	—
Double-cr. Cormorant	15	—	—	—	—	—	Duck Hawk	—	—	—	—	1	—
Great Blue Heron	—	1	—	—	—	—	Sparrow Hawk	(2)	(1)	3	2	2	—
American Egret	9	—	—	—	—	—	Ruffed Grouse	—	—	—	1	1	1
Little Blue Heron	23	—	—	—	—	—	Bob-white	(2)	1	15	7	15	—
Green Heron	8	3	1	3	3	—	Sora	5	—	—	—	—	—
American Bittern	1	—	—	—	—	—	Killdeer	3	(1)	—	10	9	—
Turkey Vulture	4	5	2	29	15	—	Wilson's Snipe	8	—	1	—	—	—
Black Vulture	4	2	—	2	2	—	Upland Plover	3	—	—	—	—	—
Mississippi Kite	1	—	—	—	—	—	Spotted Sandpiper	1	—	2	—	5	—
Cooper's Hawk	1	1	1	1	—	2	Solitary Sandpiper	2	—	1	3	9	1
Red-tailed Hawk	(1)	—	—	—	—	—	Greater Yellowlegs	—	—	—	—	—	2
Red-shouldered Hawk	1	1	—	1	—	—	Lesser Yellowlegs	3	—	—	—	1	—
Broad-winged Hawk	—	—	3	—	—	—	Pectoral Sandpiper	3	—	—	—	—	—

	Memphis	Nashville	Knoxville	Greenville	Elizabethton	Roan Mtn.		Memphis	Nashville	Knoxville	Greenville	Elizabethton	Roan Mtn.
Western Sandpiper	---	---	---	---	1*	---	Migrant Shrike	7	---	---	---	---	---
Mourning Dove	12	3	23	49	22	---	Starling	---	c	20	90	---	---
Yellow-billed Cuckoo	2	5	---	4	1	---	White-eyed Vireo	16	f.c.	15	7	37	---
Black-billed Cuckoo	---	---	---	3	1	1	Yellow-throated Vireo	2	3	6	2	2	---
Screech Owl	(1)	(2)	2	---	1	---	Blue-headed Vireo	---	(1)	---	---	1	4
Barred Owl	(1)	---	---	---	---	---	Red-eyed Vireo	17	c	c	19	39	13
Chuck-will's-widow	---	(5)	2	2	---	---	Warbling Vireo	6	(2)	---	---	6	---
Whip-poor-will	---	---	---	4	---	2	Bl. and Wh. Warbler	4	4	9	6	14	4
Nighthawk	(1)	3	2	5	2	---	Prothonotary Warbler	6	(1)	---	---	---	---
Chimney Swift	8	7	35	55	71	7	Swainson's Warbler	2	---	---	---	---	---
R.-thr. Hummingbird	15	2	6	1	4	---	Worm-eating Warbler	---	2	---	---	---	---
Belted Kingfisher	2	---	1	2	3	---	Golden-w. Warbler	---	---	---	---	---	2
Flicker	6	1	15	9	29	2	Blue-winged Warbler	---	3	---	---	1	---
Pileated Woodpecker	1	1	---	1	1	---	Tennessee Warbler	10	3	2	---	---	---
R.-bellied Woodpecker	2	1	1	---	---	---	Nashville Warbler	1	---	---	---	---	---
R.-headed Woodpecker	1	(2)	---	10	---	---	Parula Warbler	8	---	3	3	15	6
Hairy Woodpecker	1	1	---	---	---	1	Yellow Warbler	1	3	8	22	96	14
Downy Woodpecker	4	2	7	5	3	---	Magnolia Warbler	(20)	1	2	4	---	---
Kingbird	15	2	2	14	7	---	Cape May Warbler	---	---	2	5	---	---
Crested Flycatcher	6	3	8	9	4	---	Blk.-thr. Blue Warbler	---	---	---	---	---	32
Phoebe	---	6	4	18	15	4	Sycamore Warbler	3	4	1	---	---	---
Acadian Flycatcher	(1)	3	3	1	5	---	Myrtle Warbler	(1)	---	c	4	11	---
Least Flycatcher	---	---	1*	---	3	22	Blk.-thr. Grn. Warbler	3	1	6	2	11	12
Wood Pewee	9	8	6	17	11	1	Cerulean Warbler	1	f.c.	2	---	2	---
Ol.-sided Flycatcher	---	1	---	---	---	---	Blackburnian Warbler	(1)	---	2	1	---	2
Horned Lark	---	---	3	2	5	---	Ch.-sided Warbler	6	2	14	4	1	26
Tree Swallow	12	---	---	1	---	---	Bay-breasted Warbler	---	3	---	1	1	---
Bank Swallow	---	---	---	---	5	---	Black-poll Warbler	8	2	---	3	---	---
R.-winged Swallow	8	6	24	17	31	5	Pine Warbler	---	---	1	---	---	---
Barn Swallow	2	3	---	6	5	---	Prairie Warbler	---	f.c.	7	1	4	---
Cliff Swallow	---	---	---	---	7	---	Palm Warbler	---	---	---	---	1	---
Purple Martin	(10)	4	18	4	5	---	Ovenbird	1	1	1	6	15	28
Blue Jay	13	3	10	29	22	4	La. Waterthrush	(1)	f.c.	7	7	1	3
Crow	7	1	24	33	31	4	Kentucky Warbler	11	4	21	4	18	1
Carolina Chickadee	12	f.c.	16	16	28	7	Md. Yellow-throat	28	f.c.	c	22	57	15
Tufted Titmouse	6	f.c.	18	23	22	4	Yellow-br. Chat	22	f.c.	20	13	38	3
White-br. Nuthatch	3	2	---	---	---	---	Hooded Warbler	9	2	2	6	13	4
Red-br. Nuthatch	---	---	---	---	4	---	Canada Warbler	1	1	1	1	---	19
House Wren	---	---	---	5	1	---	Redstart	10	4	3	9	9	---
Winter Wren	---	---	---	---	---	19	English Sparrow	---	3	10	50	157	---
Bewick's Wren	---	(2)	3	2	6	1	Bobolink	---	---	---	3	83	---
Carolina Wren	7	c	25	17	36	5	Eastern Meadowlark	23	2	14	33	42	1
Mockingbird	5	2	25	24	28	---	Red-winged Blackbird	18	(3)	32	62	33	---
Catbird	2	5	10	40	100	10	Orchard Oriole	9	(3)	10	7	13	---
Brown Thrasher	9	2	21	33	53	1	Baltimore Oriole	3	(1)	2	---	2	---
Robin	5	1	c	39	96	22	Bronzed Grackle	12	(6)	18	48	74	---
Wood Thrush	12	f.c.	c	39	36	18	Cowbird	23	4	20	33	13	---
Olive-backed Thrush	2	2	1	1	---	---	Scarlet Tanager	2	3	9	5	7	9
Gray-cheeked Thrush	1	---	---	1	---	---	Summer Tanager	15	4	20	13	3	---
Veery	---	---	4	---	---	3	Cardinal	40	f.c.	c	54	82	2
Bluebird	4	4	6	27	25	1	Rose-br. Grosbeak	---	1	9	---	2	16
Blue-gray Gnatcatcher	6	4	16	7	9	---	Blue Grosbeak	---	1*	---	---	---	---
Ruby-crowned Kinglet	1	---	---	---	---	1	Indigo Bunting	75	c	c	53	67	---
Cedar Waxwing	(1)	18	c	98	48	---	Painted Bunting	3	---	---	---	---	---

	Memphis	Nashville	Knoxville	Greeneville	Elizabethton	Roan Min.		Memphis	Nashville	Knoxville	Greeneville	Elizabethton	Roan Min.
Dickcissel	80	—	—	—	—	—	Chipping Sparrow	—	f.c.	12	37	29	5
Purple Finch	—	—	2	—	—	—	Field Sparrow	12	f.c.	13	19	47	8
Goldfinch	3	c	15	36	80	14	White-cr. Sparrow	—	—	—	1	9	—
Towhee	—	f.c.	24	20	23	13	White-thr. Sparrow	12	—	16	5	27	—
Savannah Sparrow	20	—	—	—	3	—	Lincoln's Sparrow	1	—	—	—	—	—
Grasshopper Sparrow	8	—	5	7	22	1	Swamp Sparrow	5	—	—	—	—	—
Vesper Sparrow	—	—	—	1	—	—	Song Sparrow	—	—	28	30	109	6
Bachman's Sparrow	—	—	—	—	1	—							
Junco	—	—	—	—	—	44	Total Species	108	91	92	94	99	57

THE ROUND TABLE

NOTES ON HAWKS IN WEST TENNESSEE—The Red-tailed (*Buteo jamaicensis*), Red-shouldered (*B. lineatus*), and Broad-winged (*B. platypterus*) Hawks constitute the nesting "Buteos" in West Tennessee. The Broad-winged Hawk with its retiring habits is seldom seen except in the rather continuous wooded region between the Tennessee and Cumberland Rivers. The Red-tailed and Red-shouldered Hawks are well distributed thruout this section of the state. The Red-shouldered prefers the low marshy woods near a stream and open fields, while the Red-tailed can usually be found riding the air currents near the wooded hillsides where his bulky nests are situated. It is my observation that in the past five years the Red-shouldered Hawk has been steadily decreasing in numbers due to the clearing by local residents and the flooding by TVA of thousands of acres of ideal nesting and hunting land and by the indiscriminate shooting by waterfowl hunters frequenting the surrounding marshland areas. On the other hand, the Red-tailed Hawks nesting on the timbered hillsides appear to have profited from the situation as an increased food supply in the form of the flooded area's rodent population has virtually moved into the hawk's back yard. This condition, however, can only be temporary and local, and the next few years should bring back a more balanced state of affairs.

During the winter of 1946-47 the backwaters and streams flowing into the Kentucky Lake rose to an unusually high level due to an extremely rainy period. In many sections minor flash floods overnight covered meadows and cultivated areas and flushed the field mice from their snug winter lairs. It was reported to me that the wintering Marsh Hawks (*Circus cyaneus*), which are well represented in West Tennessee in the colder months, were flying low over the flooded lands and snatching any unfortunate mice caught struggling for their lives. The mice were in such numbers that the hawks were catching them one after another and depositing their prostrate forms on suitable perching sites and then returning to eat them at their leisure. This certainly adds to the Marsh Hawk's record as a first rate mouser.—TOM BUTLER, 708 Poplar St., Paris, Tenn.

MELANISTIC RED-TAILS AT REELFOOT LAKE.—During a half day visit to Reelfoot Lake, Tenn., on December 27, 1947, Mr. Butler and the writer noted approximately twenty-five Red-tails (*Buteo jamaicensis*) perched or flying near the lake, and doubtless we saw only a part of the number present. Inasmuch as it is well known that the dominant breeding form is the Red-shoulder, it is clear that the Red-tails were wintering birds. Although far more conspicuous than the Red-shoulder, the latter was present also, about ten birds being seen. While we were standing at the end of the board-walk near Walnut Log, we could see perched on dead stumps and trees out in Blue Basin at least three Red-tails, one Red-shoulder, and two Bald Eagles. Furthermore, while we watched a single Cooper's Hawk come past, and also an immature male Harrier (Marsh Hawk).

Three of the Red-tails were variously melanistic. It is well known that melanism is frequent in western red-tails, while very rare in eastern, suggesting that some of the Red-tails were of western origin. The three dark birds may be described as follows: (1.) A sooty black bird with lighter reflections on the underside of his wings. Seen perched at same place on Dec. 30 by Butler and James Norman of Dyersburg; they further noted that its tail was red. (2.) The second bird was perched above an open field about fifty feet from a normal adult in the next tree, while another normal Red-tail flew overhead. This bird was also sooty black except that its throat and upper breast were distinctly coppery. Underside of tail was pale, but we could not see whether it was black or red above. (3.) The third bird was not sooty, but very dark brown above and no white below, just dark brown with streakings barely visible.

The sooty forms are difficult to distinguish from *Buteo harlani* in the field, but the red tail is a clear mark of the Red-tail in the present case (1) above. It is possible that some dark *Buteos* wintering in the Mississippi valley are *harlani*, but this species is so close to melanistic western Red-tails in general appearance that sight identifications should not be attempted.—WALTER R. SPOFFORD, Vanderbilt University, Nashville, Tenn.

GOLDEN EAGLE IN THE GREAT SMOKY MOUNTAINS IN JULY.—On July 18, 1948, at about 5:30 A.M., a Golden Eagle (*Aquila chrysaetos*) passed along the main ridge just west of Newfound Gap in the Great Smoky Mountains National Park. When first seen, the bird was soaring motionless on the windward side of the ridge. The sun had not yet risen, but it was light enough for me to see the solid brown color of the underparts. At one time I had a captive Golden Eagle, so I was familiar with the proportions and silhouette, the broad wings and comparatively small head and bill, of this eagle. It was probably an adult as I could see no signs of white at the base of the tail. It was obviously molting, as several of the wing feathers were either missing or only partly grown. After almost a minute of soaring in one spot, the eagle glided off to the west on half-closed wings. As soon as possible, I drove west to Clingmans Dome but did not see the bird again. The Golden Eagle has been seen a few times before in the Great Smoky Mountains in summer.—JAMES T. TANNER, University of Tennessee, Knoxville, Tenn.

EARLY NESTING OF BALD EAGLE AT REELFOOT LAKE.—A nest of the Bald Eagle on the eastern side of Blue Basin at Reelfoot Lake, Tenn., has been described in earlier accounts of *THE MIGRANT* (1945, March and December issues), and it may be recalled that on May 1, 1944, three young nearly ready to leave the nest were seen from below, and that on April 17, 1945, two young fully grown and nearly fully feathered were banded in the same nest. On each of these trips another eagle nest, at Burnt Woods several miles south and somewhat west of the above site, was visited without finding any evidence that the nest was occupied, although Dr. Pickering reported that an adult was on the nest in January of one of these years.

On February 22, 1947, the writer visited this nest with Mr. Thomas Butler and at once saw that two young were present, fully grown and perched conspicuously on the side of the nest. Since these birds appeared to be nearly two months old, the eggs must have been laid in November, and presumably the young would have left the nest before April. It is clear that this pair nests at least two months earlier than the Blue Basin pair, and it is probable that the visits to the Burnt Woods nest in April and May revealed no birds merely because they had left the nest several weeks earlier. It may be recalled that in the remarkable work of Broley on the Bald Eagle in Florida, during which he banded more than 800 young, he found both early (November) and late (January-February) nesters in Florida.—WALTER R. SPOFFORD, Vanderbilt University, Nashville, Tenn.

NOTES ON A BLUEBIRD "MICROCOSM".—Although it is now well known that an important limiting factor in a Bluebird population is the availability of suitable nesting sites, the following observations on a small group supported mainly by mail-boxes is thought worthy of record. In the residential area just outside of Nashville known as "Lealand," around the intersection of Granny White Pike and Tyne Road, approximately forty houses were built in 1938 to 1942 on two acre lots in what was previously a mixed area of small woodlots and open pastures. Although there are no observations on the numbers of Bluebirds in the area before the houses were built, it probably was not a conspicuous bird, as a study of similar situations at the present time indicates. The presence of mail-boxes and the long cylindrical newspaper boxes furnished a "niche" suitable for Bluebird nesting, and a small but relatively dense population grew there from an unknown but presumably much smaller group.

I first noticed several pairs of Bluebirds in my vicinity shortly after moving into my house in March, 1942, and found that there were at least four pairs nesting or attempting to nest in the mail-boxes along the street (Gateway Lane). Within a short time I found one bird dead under one box, where it presumably had been trapped by the mailman, and another I found hanging inside a box with its head through the crack where the door had been closed with the bird inside. It was not hurt and flew away readily when freed. Several nests were thrown out either by residents or the mailman making room for mail. In other cases, nests in newspaper boxes were at the rear end and the paper was jammed against it each morning and night. In general such nests seemed to survive all right, but in one

case where the paper was not collected for several days the nest was completely blocked, and when I took the papers out (and left them on the ground!) the bird, which had been trapped sitting on her eggs, flew out apparently in good condition, and young later left this nest. On our own mail box, we affixed a shoe-box for the mail and left the regular box for the Bluebirds. Roger Peterson, visiting us for a week in May, 1942, took an excellent picture of the male perched on the flag of the mailbox. It may be mentioned here that there was also considerable competition for the boxes with both Carolina and Bewick's Wrens. In one or two locations a Bewick's Wren occupied the newspaper box while Bluebirds lived in the mail-box a foot away. I kept notes on only the eight or nine houses on my short street (Gateway Lane) and do not know what sort of a population was maintained by boxes on Tyne Road and Sewanee Road nearby.

In 1943 I put up four boxes on fence posts around my two acre lot, and two of these were used by Bluebirds each year until 1947, and often a Carolina Chickadee has used another. At least eight pairs have lived on my short (300 yard, eight houses) street, and apparently an occasional pair lived more deeply away from the street. Since each pair seemed to raise or attempt to raise three broods each year, the number of young leaving the nests was considerable in spite of several adverse factors. After leaving the nests, the parents and young disappeared for a time; later they all re-appeared, when the female began to incubate a new set of eggs while the male fed the previous brood.

I did not note actual predations except a very few times. On June 16, 1946, one box contained several young of the second brood. In the afternoon I became aware of the alarm notes of Bluebirds and a number of other birds. Glancing toward the box, I had an impression that I saw a slim head emerge and pull back again quickly. Opening the box I found what seemed to be the world champion Gray Rat Snake (*Elaphe obsoleta confinis*), all but six feet long. After capturing this specimen and examining it preparatory to presenting it to the "Live Museum" collection of the Nashville Children's Museum, I realized that the commotion among the birds was apparently unabated, so out of curiosity went over to the box again. To my great surprise it was again occupied by an even larger *Elaphe*, and this was in turn captured and the pair then presented to the museum. As might be expected, the young Bluebirds had been consumed by the first snake, and a check of the other occupied box down the fence some fifty yards away showed that empty also. Perhaps the two snakes were hunting as a pair, and as I removed the first snake, the other may have been coming along the fence to arrive just a moment later.

It is interesting that this same box was the occasion of another snake predation on August 10, 1947. There were two half grown young of the third brood present when I heard the alarm notes of the Bluebirds. This time there was a three-foot Kingsnake (*Lampropeltis getulis*) in the nest. One young was dead, and well covered with saliva preparatory to being swallowed. The other was alive even under the weight of the snake and lived to leave the nest as the only member of a brood of three. Unfor-

tunately the snake was later lost, and I will be curious to see if he turns up another year.

The Bluebirds are conspicuous as lawn birds each winter and several pairs are regularly to be found close by. In February, 1947, two pairs were on my place, at least one next door, and others on the street. After the severe ice and snow of late February and early March, 1947, I found one dead male Bluebird on the snow beneath a mail-box. By the middle of March the absence of most of the Bluebirds was conspicuous. One pair remained to nest on my fence, but there were no other pairs left on the street, nor did they appear at any time during the nesting season. The only pair remaining nested in one and then another of two of my boxes, raising four young, then three young, and finally the one mentioned above. I don't know how well my "microcosm" was an indicator of what happened to the Bluebirds at large, and particularly the large population being studied by Mrs. Laskey. It will be interesting to see how long it takes to build the small Gateway Lane population back to its normal (?) seven or eight pairs.

In conclusion, it may be mentioned that in spite of the fact that a pair of Kestrels (*Sparrow Hawks*, *Falco sparverius*) nest each year in a box on a dead tree on my front lawn, I have never seen them attempt to bother the Bluebirds. In fact the only bird predation by them that I have witnessed was a young Blue Jay taken directly from the nest just after the parent Blue Jay flew off. The presence of a tethered Gyrfalcon and a Peregrine Falcon on the lawn only a few yards from the Bluebirds bothered the latter not a bit.—WALTER R. SPOFFORD, Vanderbilt University, Nashville, Tennessee.

THE CONNECTICUT WARBLER IN KNOXVILLE.—Knoxville, Tenn., lies midway between the Spring and Fall migration routes of the Connecticut Warbler (*Oporonis agilis*) which, from available records, has been seen only twice in this area. And yet I have had an experience similar to that of Mr. Abernathy in Nashville, described in THE MIGRANT for June 1943.

On May 18, 1947, while walking in the woods adjoining our yard, I saw on a low branch a plain-backed warbler, which revealed as it turned its head first the conspicuous white eye-ring and then the gray bib of the Connecticut Warbler. The next morning I heard a strange song which I was sure belonged to this bird, as it fitted R. T. Peterson's description of "beecher, beecher, beecher, beecher, beech"; but I was unable to locate it and did not hear it again for a week. On May 26 it sang intermittently all day. From our house the hill slopes gradually down for a block through oak woods with a dense undergrowth of locust, redbud, honeysuckle, and blackberry to Cherokee Boulevard. Across the street is a steep rocky hill, with an even more tangled undergrowth, the home of Kentucky Warblers and Ovenbirds. I spent all day trying unsuccessfully to locate the singer, but the next morning had a fine view of it in the redbuds near the porch. Having definitely correlated bird and song, I called several members of the T. O. S., but no one was able to come, so I listened to it alone for three hours, occasionally watching it as it sang from a small branch of redbud, pointing its bill straight up with each outburst.

Attempts to describe the song illustrate the inadequacy of words to express bird notes, for "beecher" and "teacher" sound dangerously similar. Our nesting Ovenbirds use the single syllable "cher"; migrating Ovenbirds "tea-cher" or "tea' cher", but the performance is smooth and of increasing volume. The Connecticut, on the other hand, has a jerky, sputtery, or explosive voice unlike any other bird.

On May 22 of this year (1948) I again heard the song, quite unmistakable in quality, though suggesting the word "chipper" rather than "beecher." As soon as I saw the bird I called Dr. Joseph Howell, but a field trip with his class prevented his coming before ten-thirty the next morning. The bird had been singing then for four hours, first on one side of the street and then the other, but stopped the moment Dr. Howell arrived. I believe now that the car coming up the street, where there is almost no traffic, may have silenced it, for the same thing happened when Dr. James Tanner came out on May 25. However, just as Dr. Tanner was leaving the bird sang several times quite close to us, though we were unable to see it. Dr. Tanner was sure that he had never heard the song before. It sang from May 22 through May 26, from about six to ten-thirty each morning.

Once before, on May 20, 1941, I saw a Connecticut Warbler at Island Home, Knoxville, but being a beginner I did not say much about finding a bird so unusual.

Two reasons occur to me for the scarcity of records of this bird, which is sometimes to be found. The first is the fact that its song is not known, even tho Mr. Abernathy calls the song a give-away; the second is that it comes so late, after most migrants have passed thru and interest in field trips has waned.—MRS. ROBERT A. MONROE, 3545 Tugaloo Drive, Knoxville 16, Tenn.

WESTERN HENSLOW'S SPARROW IN EAST TENN.—The following record of a species rare in Tennessee is here given thru the courtesy of Messrs E. V. and Roy Komarek who were making a natural history survey of the Great Smoky Mountains National Park area at the time. Between Oct. 28 and 31, 1933, quite a number of Savannah Sparrows were found in the old-fields of Cade's Cove, within the Park area, and 13 specimens were collected for subspecific determination. On Oct. 28, in addition to the 6 Savannah Sparrows collected that day, a Western Henslow's Sparrow (*Passerherbulus henslowi henslowi*), in the rich buffy plumage of that season, was taken. This specimen has been examined by Dr. Alexander Wetmore, of the U. S. National Museum, who has identified it as the western race named above. No others of this species were secured or could be identified among the many Savannahs that were flushed. The altitude here ranges from 1700 to 1800 feet above sea level. This is the first specimen of a Henslow's that has been collected in Tennessee. It has been carefully searched for about Nashville and Clarksville for many years without success. About Memphis, Messrs Coffey and Burdick have recorded a few transients (MIGRANT, 1942:23 and 1936:69). Apparently, most of them fly over Tennessee without stopping, enroute to and from their winter home near the

Gulf and South Atlantic coasts.—ALBERT F. GANIER, 2112 Woodlawn Dr., Nashville, Tenn.

A WHITE-TAILED SONG SPARROW—In the late afternoon of March 4, 1945, while exploring the Northern bank of the Watauga River near Elizabethton, I happened to flush two Sparrows. Surprisingly, as first noted in flight, the tail feathers of one of the birds displayed white, which led me to conclude the species to be a Vesper Sparrow. However, not satisfied with this conclusion, since early March seemed to constitute too early a date for the arrival in this region of the Vesper Sparrow, I commenced stalking the birds which had alit a short distance from me in the tangle of branches. In due time the birds appeared on terra firma to feed in grass and weeds. The identity of one of them was readily established as that of a Song Sparrow. The other bird, also, bore unmistakably all the markings of a Song Sparrow; yet the feathers of its tail, to an extent of approximately three fourths of its width from base to tip, were distinctly white. I stayed with the birds some half hour, getting close enough views from time to time, and from all angles, while they were on the ground as well as in flight, to make absolutely certain of the unusual appearance of the white-tailed Sparrow.—FRED W. BEHREND, 322 Carter Boulevard, Elizabethton, Tennessee.

THE T. O. S. ANNUAL MEETING OF 1948

The program for the annual meeting of the T. O. S. at Nashville began on Saturday morning, May 15, when several visitors and members of the Nashville chapter met at Radnor Lake for a short field trip. From there the group went to the Nashville Children's Museum, where Dr. Harry S. Vaughn guided the visitors around and explained many of the excellent exhibits as well as surveying the history of the museum. The William Walker-T. O. S. Library, which is housed in the Museum, was also inspected by the group. Luncheon followed at the Peabody College Cafeteria.

In the afternoon there was an informal open house at Mr. Albert F. Ganier's "Hobby House," where Mr. Ganier's collection of birds was the center of interest. The group had by this time swollen to a small crowd as visitors from more distant areas arrived.

The meeting of the directors was held on the spacious lawn of Mr. B. H. Abernathy. All the officers of the Society and most of the directors were present. Pres. L. R. Herndon was the chairman and Secy. Fred W. Behrend recorded the minutes of the meeting. The most important item of business was the revision of the Society's constitution. There was considerable discussion over some of the points of revision, but eventually a new constitution was agreed upon to be proposed to the meeting of the members on the following day.

A group dinner was held that evening at the B & W Cafeteria. Following this, Mr. Ben B. Coffey of Memphis told about his experiences studying birds in India. His talk was illustrated with pictures of common Indian birds, and it was so well given as to arouse envy in some at the opportunity he had to become familiar with the birds of a strange land.

Several visitors were generously housed that night at the cottages belonging to some of the Nashville members on Stone River. Altho the weather the following morning was threatening, they had a chance to do a little birding before the scheduled hour.

The field trip began on Sunday morning in a downpour of rain, but still a large caravan of cars left the starting point in Nashville for Ray's Lake, fifteen miles northwest of Nashville. The rain continued to fall after the group's arrival at the lake, so to save time, Pres. Herndon called the meeting of the members in the morning instead of its scheduled hour in the afternoon. The meeting was held in the restaurant on the shore of the lake.

The business transacted at the directors' meeting on the previous day was reported to the members. The revised constitution was proposed and adopted, giving our Society a much more adaptable and useful constitution. It was moved and adopted that copies of the new constitution be printed and distributed to the members. The officers of the Society were unanimously re-elected. Several other minor items of business were discussed and transacted.

By the time that the meeting adjourned, the rain also had. A field trip began in earnest with people scattering out over the surrounding area. They later assembled again at noon for lunch, a group photograph, and compilation of the bird list, the last being called by Dr. George R. Mayfield. The observations made on this field trip are reported in the article on Spring Field Days in this issue. It was necessary for several of the visitors to leave after this on their return trips, but others continued the field day into the afternoon.

The Nashville Chapter and its president, Mr. Edward Schreiber, are to be congratulated for the enjoyable program of the annual meeting.

NOTES HERE AND THERE

GIFT TO THE UNIVERSITY OF TENNESSEE BIRD COLLECTION

Last fall the University of Tennessee received as a gift from Alfred Clebsch of Clarksville his personal collection of study skins of birds. The collection numbers 428 study skins representing 100 species of birds. It is characterized by excellent preparation and each specimen bears complete data. The specimens were nearly all collected in the immediate vicinity of Clarksville, Montgomery Co., Tennessee.

This gift marks the beginning of the University of Tennessee Museum of Zoology collection of bird skins, which it is hoped will eventually include all of the species of birds occurring within the State. The collection will be used for research studies and also for teaching. In addition to these skins, the museum has a small collection of mounted birds.—JOSEPH C. HOWELL, University of Tennessee, Knoxville, Tenn.

JAMISON MEMORIAL MEMBERSHIP

The Nashville Chapter of the T. O. S. has established a Memorial Membership in the Society to be awarded annually and for one year, in memory of Conrad H. Jamison, Jr., who was killed in Germany in February, 1945. It is intended that each year one of the younger members in the Nashville area be chosen as the Conrad Jamison Memorial Member, on the basis of his or her accomplishments and interest in the study of birds. The first to be elected is Mr. William Crouch, Richland Avenue, Nashville, who has been interested in birds and particularly in hawks for several years.—WALTER R. SPOFFORD, Vanderbilt University, Nashville, Tenn.

GEORGE K. DAVIS, 1870-1948

Professor Davis, long-time member and past-president (1944) of the Tennessee Ornithological Society, passed away at his home in Murfreesboro on March 5, 1948. He was born in Knox Co., Tenn., on Nov. 17, 1870 and received his education at the University of Chattanooga and at George Peabody College for Teachers at Nashville. Until his retirement three years ago, he had for many years been head of the Science Department at State Teacher's College at Murfreesboro. Becoming a member of the T. O. S. in 1931, he at once became quite active in bird study and whenever possible attended the Annual Meeting each spring at Nashville. He was a "good camper" and was a valued member of the field-week parties that studied the birds of Roan Mountain, Pickett Forest, Falls Creek State Park, and the Great Smokies National Park. Being a proficient botanist, he augmented the interest of such trips by his identification of the plant life encountered. For many years he was counted on to send in the Christmas Census list from Murfreesboro and he contributed numerous short items to THE MIGRANT. In spite of his advanced age—he reached 78—he maintained his always cheerful disposition and was ever a most agreeable companion to be associated with.—ALBERT F. GANIER.

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*The simple truth about birds is interesting enough;
it is not necessary to go beyond it.*

EDITORIAL

The annual meeting of the T. O. S. on this past May 16th was a successful meeting. The general spirit was that the T. O. S. was a good organization and therefore deserved to be made better.

One of the lesser items of business of the meeting may in the long run produce the most profit. President Herndon introduced an idea which had been brewing in his mind for a long time, the idea being a committee to inspire and direct coordinated research projects among the members of the T. O. S. There are many blank spaces in our knowledge of the birds of Tennessee; these gaps often can be filled in more easily by a number of people working together than they can be by a single person. President Herndon's plan was to appoint a committee which could point out the blank spaces, tell what should be done, and help to coordinate the work.

The members approved the idea, and soon after the meeting President Herndon appointed a Planning Committee of three: Dr. Joseph C. Howell, Chairman, University of Tennessee; Dr. Walter R. Spofford, Vanderbilt University; and Brother I. Vincent, Christian Brothers' College, Memphis.

The plan gives us a chance to discover many interesting and unknown things about birds. It will work and work well if each of us puts into effect the moral of the following fable, told by B. R. Chamberlain, president of the Carolina Bird Club, in "The Chat":

Once upon a time a pair of meadowlarks raised a brood in an oats field. In time the grain formed and ripened and the farmer came to look over his crop. "It's ready to harvest," he said. "In the morning I will get the neighbors to come over and help get it in." All excited, the young larks urged their parents to move to another field. "Not yet," said the parents, "not yet." Sure enough no one came to cut the oats. A few days later the farmer came again and looked over his field. "Oh," said he, "it's getting too ripe. In the morning I'll come and cut it myself." "Fly now," said the parent larks. "When a man depends upon himself for work he will do it."

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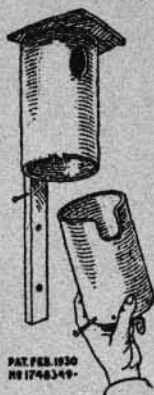
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