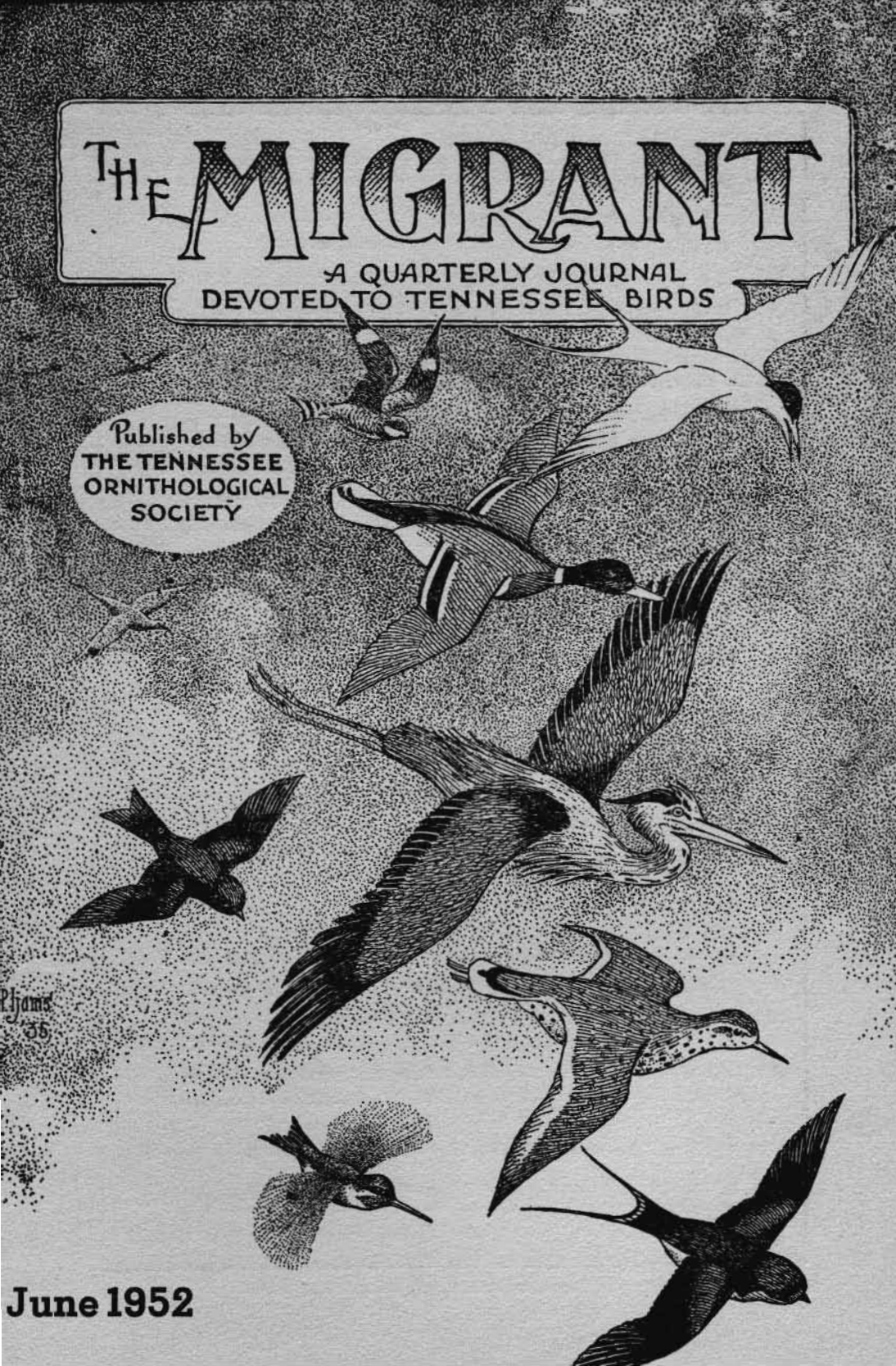
THE MIGRANT

A QUARTERLY JOURNAL
DEVOTED TO TENNESSEE BIRDS



Published by
THE TENNESSEE
ORNITHOLOGICAL
SOCIETY

June 1952

THE MIGRANT

Published by the Tennessee Ornithological Society, to Record and Encourage the Study of Birds in Tennessee. Issued in March, June, September and December

VOL. 23 JUNE, 1952 No. 2

THE ROOSTING BLACKBIRDS AT REELFOOT LAKE

By ROBERT J. DUNBAR

Ever since my first trip to Reelfoot Lake (1946) Mrs. Dunbar had expressed a desire to observe for herself the spectacular movement of the blackbirds to and from that celebrated roost. Her opportunity came when on December 15, 1951, we arrived at the lake at 3:00 p.m. on the heels of a cold front. The temperature was 20 degrees and falling and the strong west wind was cold and penetrating. That evening, with our heavy clothing still unpacked, we did most of our observing from the car where we could be close to the heater.

While waiting for the evening arrival of the blackbirds, we drove along the lake shore to Samburg. On the way we noted that ice had formed on the tree trunks and on the shore "twixt wind and water." Across the lake we could see that ice covered the shallow water under the protection of the lee shore, and that wherever the water was exposed to the wind it was free of ice.

At Samburg we stopped at the Fish and Wildlife Service Office for information about Reelfoot Refuge. While waiting for the Refuge Manager, Mr. Preston W. Lane, we talked at length with a Mr. Finkel who predicted that the blackbirds would arrive that evening about ten to fifteen minutes late due to their having to buck the strong west wind. He was right!

By the time the first small flock of blackbirds arrived, we were driving along the highway, which paralleled the east shore of the lake. In a few minutes several bird streams came into view flying directly into the wind. Four fairly well defined bird streams were observed, one in the vicinity of Samburg, one at the Morris Camp, one at Green Island and one along the south shore. Since these bird streams were approaching the roost from the east, it was apparent that the blackbirds which normally would have come in from the south or southeast had been blown off their normal course.

It is well known that wind velocities increase as the height above the earth increases. Birds seem to know this or at least they seem to take advantage of it. On this evening the blackbirds were flying low to the ground against the strong west wind. When they approached a line of trees across their route, they would continue to fly close to the ground until they were within about fifty yards when they would rise sharply up and over. Once over the obstacle they would again drop to within

a few feet of the fields or surface of the lake, where there was the least resistance from the wind.

For a few minutes we exposed ourselves to the cold wind in order to stand on the dock at the Morris Camp, and we watched a stream of blackbirds swoop over the trees down to within a few feet above the water and continue on their way to Willow Bar. The lower birds were flying less than two feet above the waves and a few were flying so low that they surely must have had diffculty in keeping from contact with the crest of the larger waves. The evening flight was over at 5:35 p.m.

At 5:00 a.m. the following morning, dressed in our warmest clothing, we inspected the lake. The sky was almost cloudless, there was little or no wind, and the temperature was 6 degrees above zero. Ice had formed on the surface of the lake for a hundred or more feet out from either shore and on a few areas in between. One look at the ice and we gave up our plan to row out to Willow Bar, as I had done before (1951). Instead we took up our morning watch on the dock at the Morris Camp. From here Willow Bar was visible to the west, Green Island to the southwest, and a point opposite Samburg to the north. As the morning light increased we could see the shore line of Willow Bar begin to blacken with a great swarm of blackbirds massing on and hovering above the cutgrass. At 6:45 a.m. the leaders took off. This was a spectacular performance, because other birds closely following the leaders formed a serpent-like stream, which came twisting toward us. The birds were flying a few feet above the lake and when they neared the shore they swerved sharply upward and over us and the tree tops. The cross-section of the bird stream shortly after the beginning seemed to be about 100 feet wide by 30 feet deep. At one instant the stream would pass over the trees about one hundred yards to the north of us, then it would swing over us to a point about one hundred yards to the south and back again. The birds were no longer flying so low over the water. Looking north we could see another bird stream crossing the lake in the vicinity of Samburg and looking south a third leaving Green Island.

If one could have but thirty minutes to spend observing the blackbirds at Reelfoot and could pick the time and place, it is doubtful if a more strategic location than the Morris boat dock could be found or a better time than the few minutes before and after sunrise.

As we watched, the bird stream from Willow Bar widened to the full width of the Bar and was soon merged with the streams to the north and to the south of the Bar. A single bird stream could no longer be identified and Green Island became almost invisible to us because the intervening air space was filled with flying blackbirds. Since there was little or no wind the blackbirds apparently had little incentive to follow any particular route in leaving the roost or in flying low over the lake surface.

Now that the sky was filled with birds we attempted to identify the different bird forms of which there appeared to be four. An occasional flash of red on the wings of the Red-wing set that species apart

from the rest. The long tail of the Grackle was in evidence also, but of the others we could not be sure. Our attention, however, was soon attracted to the unusual flight of a few individual birds which seemed to be in trouble. Scattered here and there along the under side of the flock we observed a considerable number of birds moving along at about half speed. Their wing beat was very rapid and their tails were bent down at an unnatural angle. As they came near the shore some seemed to increase their wing beat to lift themselves up to the branches of the nearest trees, but most of them continued their faltering flight through the branches of the trees in an effort to keep up with the flock. Those that found a perch made no attempt to leave the perch, or at least not

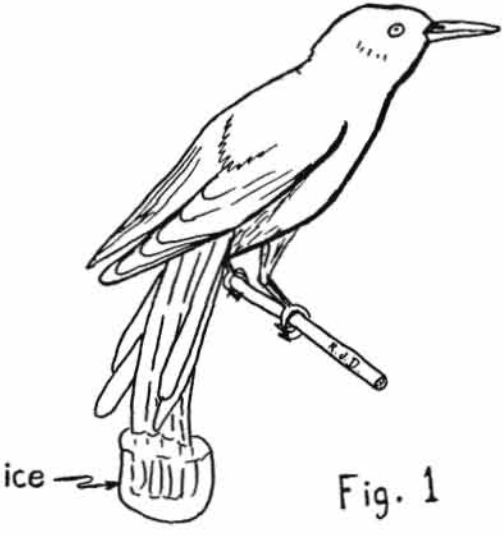


Fig. 1

until after we had quit our observation. Some perched within forty or fifty feet of where we stood and upon examination we found them all to be Grackles, with their tail tips encased in a block of ice about the size of a walnut (Fig. 1). Now we understood the reason for their unusual manner of flight. Because of the weight of their tails, it had been necessary for them to use their wings almost entirely in supplying lift with very little forward movement. Also, they had to use their wings for steering as well as for lifting, since the ice had made their tails practically useless for either steering or lifting. We observed a few birds, with more than the usual amount of ice on their tails, flying low over the lake surface. We were doubtful if they would be able to reach the shore or to lift themselves up to the low branches of the trees, but they did. We felt certain, however, that they could never have reached the shore had they been compelled to fly into a stiff head wind.

Except for a very few stragglers, the morning flight of blackbirds was over at 7:15 a.m.

Later, while at breakfast, we pondered over the questions of how the ice formed on the Grackles' tails, and why had it been confined to Grackles. We evolved two theories: First, we thought it possible that the Grackles may have come to roost the preceding evening in the cutgrass or brush on the weather shore where there was wave action, and that the waves had come in contact with the long tails of the low-perching birds adding a little ice with each contact. Second, we thought that the long tails of the Grackles may have come in contact with the crest of the waves while the Grackles were flying low over the water the evening before. The ice must have formed on the Grackles' tails some time after their arrival at the lake on the preceding evening, since we did not at that time observe any birds with faltering flight.

It was 9:00 a.m. when we started to drive along a country road toward the Lake Isam Refuge. All along the way we observed flocks of from one to several dozen blackbirds feeding and making short flights in a southerly direction. These flocks consisted of Starlings, Cowbirds, Redwings and Grackles, with the Starlings and Cowbirds predominating. We were on the lookout for Grackles with ice on their tails, but found none. Perhaps the victims did not take long to peck and preen their tails free of the ice.

That evening about 3:30 we left the spillway to drive along the highway toward Dyersburg. In the first few miles we saw many small flocks of blackbirds which were feeding and moving leisurely in the general direction of the Reelfoot roost. In these flocks the Redwing appeared to be the predominating species. As we approached Dyersburg the flocks became larger and their movement toward the roost more deliberate. By the time we left Dyersburg for the return trip at 4:15 p.m., the flocks had assembled into bird streams, which were flying obliquely across the highway toward Reelfoot. We drove under a number of bird streams until we came to a stretch of road that paralleled the flight of one. For a distance of about one-half mile we clocked the ground speed of the birds by keeping up with one individual. The speedometer read between 27 and 28 miles per hour.

On our return to the lake we noted that the bulk of the blackbirds were approaching Reelfoot between the spillway and Samburg. There was little or no wind and the birds seemed to have merged into one wide stream extending from the spillway to Samburg, the exception being another stream which followed the south shore around to the west side of the lake. The main flight was over at 5:15 p.m., or about 20 minutes ahead of the flight on the preceding evening. However, a few small flocks kept coming to Green Island until 5:25 p.m. The official sunset time was 4:51 p.m.

On the following morning, December 17, there was very little open water on the lake, the temperature was 18 degrees above zero and the wind was from the southeast. As on the preceding morning the blackbirds darkened the near shore of Willow Bar as they assembled in great num-

ber before taking off at 6:45 a.m. The birds were bucking a fairly strong wind and were flying low over the ice. The leaders passed a little to the north of the Morris dock and by that time the mass of birds on Willow Bar had built up so fast that the middle of the bird stream had the appearance of trying to overtake tthe leaders. This wavering back and forth of the well-defined bird stream continued until the flight, except for a few stragglers, was over at 7:15 a.m. We watched for birds with ice on their tails but saw none.

It would be a most unusual observer who could watch the multitude of blackbirds depart and return to Reelfoot roost without expressing an interest in their number. When we asked one of the residents of Samburg how many blackbirds he thought came to the lake to roost he said, "There's an argument about that. Some say 2,000,000 and some say 8,500,000, and one would be as hard to prove as the other would be to disprove." In reply to the same question, Mr. Preston Lane replied, "This is a debatable question. I don't know how many birds roost on the lake nor do I know how to make a census with any degree of accuracy." He did, however, venture that his estimate for November 20, 1952, was slightly over two million, which he said was a guess and guess only.

It is doubtful if the number of roosting blackbirds at Reelfoot will ever be determined to the satisfaction of all interested observers, since so many variables must be taken into consideration. Yet we believe that the total number of blackbirds could be estimated within reasonable limits if enough interested observers were available at a time when the visibility was good and the weather conditions such as to cause the blackbirds to fly in well-defined bird streams—a big order to say the least.

This year we used a slightly different method to estimate the number of blackbirds leaving Willow Bar. On the morning of December 17, 1951, the weather conditions were such that the bird stream remained unbroken from the time the leaders left Willow Bar until the last birds passed over the east shore of the lake. Instead of trying to estimate the number of birds that were passing a point in a second (1951), the average volume of air space used by an individual bird and the average area of the cross-section of the bird stream were estimated. Other factors considered were the time it took the bird stream to pass a given point and the average speed of the flight. With these data the following formula was developed:

$$\frac{A \times S \times T}{V} = N, \text{ where}$$

N = the total number of blackbrids in the stream.
T = time required for bird stream to pass in minutes, 30 mins.
A = Average cross-section of bird stream in square feet, 3000 sq. ft.
S = Average ground speed in feet per minute, 27 m.p.h. or 2376 ft. per min.
V = the average volume of air space required by one bird in cubic feet, 150 cu. ft.

Substituting, $\frac{3000 \times 2376 \times 30}{150} = 1{,}425{,}600$ birds leaving Willow Bar.

We did not attempt the determination of the number of similar bird streams there may have been leaving the roost that morning, but there were several.

While "A" and "V" of the above formula were estimates based upon eye observation, it is believed that their values could be measured with reasonable accuracy by the following procedure. The average width of the bird stream could be determined by two observers each having a number of colored stakes. At the beginning of the flight the two observers would set a pair of stakes of the same color; one to mark the right edge of the stream and one to mark the left edge. For each increment of five minutes a pair of different colored stakes would be set to mark the width of the bird stream for the interval of time. The actual distance between the stakes of the same color could be measured later and the average width obtained.

To determine the depth of the bird stream, photograph equipment could be used to make pictures vertically upward for stereoscopic study. The pictures should be taken at the same time and interval as the colored stakes are set. Pictures would provide a means of determining not ony the depth of the bird stream but the density as well. Pictures might also enable the observer to determine the number of different species and their ratio to each other.

Weather not only affects the daily arrival of the blackbirds and their departure from the roost, but their seasonal arrival and departure as well. With reference to their fall arrival, Mr. Lane said, "This depends upon the weather to a certain extent. but the first birds are observed in early September. As you know some nest here, but the migration is noticed by September 15 and continues to build up until the cutgrass is mashed down or the lake rises covering the short grass. When either of these conditions exist the birds tend to roost in lesser numbers on the lake. What time they leave in the spring depends on weather conditions and lake levels, usually from February 10 to March 10."

Just what effect the "Cutgrass Control Efforts" at Reelfoot (Rawls, 1951) will have on the roosting population of blackbirds will of course depend upon the extent of that control, but it will most certainly tend to reduce their number.

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STUDIES OF NOCTURNAL BIRD MIGRATION IN THE MID-SOUTH

By ROBERT J. NEWMAN

In the spring of 1948, observers at Rosedale, Miss., at Memphis, Nashville, and Knoxville, Tenn., and at Louisville and Murray, Ky., trained small telescopes on the moon to obtain counts of migrating birds. The results of their 138 hours of moon-watching made a tremendous contribution to a discussion of nocturnal migration on a continental scale published last year by George H. Lowery, Jr. ("A Quantative Study of the Nocturnal Migration of Birds", University of Kansas Publications, Museum of Natural History, vol. 3, no. 2, pp. 361-472). They also furnished the basis for interesting local accounts by Albert F. Ganier, reporting for Nashville, and by James T. Tanner, reporting for Knoxville (see "Observing the Nocturnal Migration of Birds", Migrant, vol. 19, no. 2, pp. 17-20).

Computers at the Louisiana State University Museum of Zoology, calculated the directional trends of the birds seen and their flight densities, that is, the hypothetical number passing per hour per mile of front. The maximum one-night station density for the Kentucky-Tennessee-Mississippi area was obtained at Louisville, Ky., in April; it amounted to 17,000 birds. The maximum one-hour station densities for each locality were: Knoxville, 5800; Louisville, 5000; Murray, 3700; Memphis, 3400; and Rosedale, 2200. The figure for Knoxville was the third highest for April among the 28 stations set up at various points on the North American continent that spring.

The data from the area helped to establish that the volume of nocturnal migration changes from hour to hour according to an astonishing pattern. Typically, migrating birds seem to rest for an hour after twilight and then mount in increasing numbers into the sky. Usually the hour before midnight sees the greatest number a-wing. Thereafter the flights are likely to decrease steadily until, by the hour before dawn, nearly all of the migrating birds have come to earth. A sharp peak density of 2700 birds between 2 and 3 a.m. at Memphis on the night of April 23-24, 1948, is unique in its lateness. It will be impossible to decide what factors were responsible for this peculiar Memphis peak until further studies are undertaken at the same station.

Lowery also found that nocturnal migrants fly singly more often than in flocks, with a remarkably uniform dispersal through the air; that the directional trends of migration veer with the wind; and that the flights seem not to follow rivers, or other narrow, topographically-determined flight lanes, to any great degree. These results are but a foretaste of the important facts that may be discovered by a broader and more intensive application of the method. Improved mathematical techniques now permit the processing of data in unlimited quantities.

Accordingly, an attempt is being made to saturate the continent with

observers for a cooperative study of fall migration in 1952. It is to be hoped that T.O.S. members, who did a splendid job in 1948, will be out in even greater force in 1952. Those who are in contact with local chapters can find out more about the projects there. Those who live away from the main centers and have access to a small telescope can find out how to establish a station of their own by writing immediately to Robert J. Newman, Museum of Zoology, Louisiana State University, Baton Rouge, La.

THE 1952 SPRING FIELD DAYS

By T. O. S. MEMBERS

The Lebanon Chapter started off this year's Field Days by holding theirs on April 26. Five chapters in the State held their Field Days on May 4, so we get an interesting cross section of the birds of Tennessee on that date. A total of 167 species were recorded from the five areas on May 4. An innovation this year is a report from Reelfoot Lake, where several species were reported that were not seen elsewhere in the State. The latest list comes from Montgomery Bell State Park, where the T. O. S. held its annual meeting on May 24-25. This was too late in the Spring for many migrants to be seen, but special attention was given to locating nests, with good results, and the report from there includes the nesting information.

The birds reported from each locality are listed in the "Table of Spring Field Days". The general information from each Field Day is in the paragraph below, and these paragraphs also contain special information on the birds marked with an asterisk (*) in the Table. The abbreviation "c" in the table means "common".

LEBANON.—April 26. Observations made in Wilson and DeKalb Counties as observers drove about 30 miles to Snow's Hill (near Smithville) for the day; a walk was taken morning and afternoon covering about a mile each time on the hill. Weather cloudy most of the day, temperature 55 degrees, not windy. Ten observers. Mrs. Henry Waters, compiler.

LAKEVIEW, MISS.-TENN.—May 4. Made by the Memphis Chapter and covering Lakeview and Riverside Park and Ensley bottoms, from 7 a.m. to 7 p.m. Weather sunny, temperature 90 degrees, wind light. This was the fourth day with the temperature over 90, each a record-breaker. Ben. B. Coffey, Jr., compiler.

There was practically no warbler migration, especially at Lakeview. The river bottoms were flooded and inaccessible. The Golden Plovers, a late record, were seen by Mr. and Mrs. Howard Barbig, George Peyton, and Richmond Gill; one was seen at fifty feet (it had much black plumage showing) and it joined three others flying in the air over the mud flat. The Wilson Snipe was seen by R. D. Smith, Jr., the Dowitcher and the Northern Waterthrush by Ben B. Coffey, Jr.

KNOXVILLE.—May 4. Including the usual area of 7½ mile radius centered on Sharp's Gap at the northwest corner of Knoxville, from 5 a.m. to 7 p.m. Weather clear, temperature 60 to 80 degrees, wind slight.

About 25 observers. James T. Tanner, compiler. The group met for lunch at the home of H. P. Ijams, in his honor, this field day being called "Harry Ijams Day".

A Prothonotary Warbler had a nest with three eggs in front of the Ijams home. The rather unusual number of Bobolinks for this area were in four flocks, seen by J. C. Howell.

GREENEVILLE.—May 4. Covering an area within a ten-mile radius of Greeneville, 4:30 a.m. to 5:30 p.m. Weather fair, temperature 80 degrees, wind slight. Nine observers. C. M. Shanks, compiler.

The Little Blue Heron was observed by Mr. and Mrs. J. B. White as it walked along the bank of a pond near the University of Tennessee Experiment Farm; the distance was about 40 feet and it was observed with a good pair of glasses for fifteen minutes. The Connecticut Warbler was observed by Mr. and Mrs. Alfred Irvine near Alexander's Beach on the Nolichuckey River. It flew from tree to tree and lit on low limbs making possible very close observation for about twenty minutes.

KINGSPORT.—May 4. Area within seven miles of Kingsport including Bay's Mountain and a private fish hatchery, 5 a.m. to 7:30 p.m. Weather clear, temperature 45 to 85 degrees, slight wind. Fourteen observers in five parties covering approximately nineteen miles on foot and fifty miles by car. Ann Harney Switzer, compiler.

The total count of 93 species is the lowest ever recorded by the Kingsport club for a spring field day. In part this can be accounted for by the early departure of some winter residents often recorded as late as the second week in May, and there were a number of spring migrants usually observed by the first week in May which arrived late this year. House Wrens are increasing in numbers year by year in this area. We feel that 23 is a very conservative figure, low because we cover little residential area in our census. The number of Hooded Warblers was unununally high.

The season in general showed about average first arrival dates, such as the following for species not recorded in the census: Chuck-will's-widow, May 1; Rose-breasted Grosbeak, May 6; Ruby-throated Hummingbird, May 17; Olive-sided Flycatcher, May 8; Least Flycatcher, May 6.

ELIZABETHTON.—May 4. Elizabethton area including Watauga Lake, 4:00 a.m. to 6:00 p.m. Weather clear, temperature 46 to 82 degrees, wind none to 10 m.p.h. Thirteen observers. Dr. L. R. Herndon, compiler.

BRISTOL.—May 4. Bristol, Abingdon, and vicinity including Iron Mountain northeast of Abingdon. Sixteen observers.

The Raven was seen by Steve M. Russell on Iron Mountain at an elevation of about 3400 feet.

REELFOOT LAKE.—May 17. Walnut Log, Spillway, and vicinity. 9:00 a.m. to 6:00 p.m. Weather partly cloudy with showers, temperature 74 to 70 degrees. Five observers. Howard Barbig, compiler.

The Yellow-bellied Flycatcher's characteristic note was heard. The Northern Waterthrush was seen at a distance of a few feet.

MONTGOMERY BELL STATE PARK.—May 24-25. Montgomery Bell

State Park and its immediate surroundings. Weather varied from rain to clear with little wind. About 50 observers altogether, altho not all were present for the full two days. The number of birds reported in the table are estimates of the actual number present in the parts of the park covered. James T. Tanner, compiler.

The Marsh Hawk was reported by Mrs. Millard C. Kent.

Because the migration season was almost over and the nesting season was in progress, considerable effort was made to locate the nests of birds. The following species were observed building a nest: Phoebe, Prairie Warbler. The following had nests with eggs; the number that follows each name is the number of eggs in each nest found: Yellow-billed Cuckoo, 3, 3, and one with 2 eggs and 1 young; Whip-poor-will, 1; Phoebe, 5, 4; Bluebird, 4; Red-eyed Vireo, 3; Kentucky Warbler, 5; Yellow-breasted Chat, 4; Eastern Meadowlark, 2; Field Sparrow, 4. The following had young in the nest, with the number indicated if known: Yellow-billed Cuckoo (see above); Red-bellied Woodpecker; Phoebe, 4; Bluebird, 3; Blue-winged Warbler, 5. Pileated Woodpeckers and Wood Pewees had nests with either eggs or young. The following had young out of the nest: Brown Thrasher, Eastern Meadowlark, and Red-winged Blackbird.

TABULAR RECORD OF SPRING FIELD DAYS

SPECIES	LEBANON April 26	LAKEVIEW May 4	KNOXVILLE May 4	GREENEVILLE May 4	KINGSPORT May 4	ELIZABETHTON May 4	BRISTOL May 4	REELFOOT LAKE May 17	MONTGOMERY BELL May 24-25
Common Loon	———	———	———	———	———	2	———	———	———
Pied-billed Grebe	———	6	———	———	———	2	———	1	———
Double-crested Cormorant	———	16	———	———	———	———	———	15	———
Great Blue Heron	———	32	1	———	———	———	———	11	———
American Egret	———	4	———	———	———	———	———	31	———
Little Blue Heron	———	———	———	*2	———	———	———	72	———
Green Heron	1	3	3	4	13	1	3	5	3
Black-crowned Night Heron	———	———	———	———	———	1	———	———	———
American Bittern	———	2	1	———	———	———	———	1	———
Least Bittern	———	———	———	———	———	———	———	11	1
Blue-winged Teal	———	14	———	———	———	2	———	2	———
Baldpate	———	———	———	———	———	2	———	———	———
Wood Duck	———	1	1	———	———	17	1	8	———
Redhead	———	1	———	———	———	———	———	———	———
Ring-necked Duck	———	———	1	———	———	———	———	———	———
Lesser Scaup Duck	———	2	———	———	———	14	———	———	———
Turkey Vulture	———	2	3	7	10	13	20	1	3

Black Vulture	5	2			8		3	1	4
Mississippi Kite		1							
Cooper's Hawk		2	2	1		1			
Red-tailed Hawk		1							2
Red-shouldered Hawk		1						2	
Broad-winged Hawk		2	5			3			2
Bald Eagle								1	
Marsh Hawk				1					*1
Osprey			3			2		1	
Duck Hawk								1	
Sparrow Hawk		1	5	11	2	4	3	1	1
Ruffed Grouse							1		
Bob-white		8	40	8	8	21	14		5
King Rail			1						
Sora		3							
Purple Gallinule								3	
Florida Gallinule								8	
Coot		3	1		1	2		4	
Semipalmated Plover		3							
Killdeer	2	6	18	5	26	21	17	4	1
Golden Plover		*4							
Wilson's Snipe		*1							
Spotted Sandpiper		1	13	1	4	7	2		2
Solitary Sandpiper		6	10	9	7	4			1
Greater Yellow-legs		2				1			
Lesser Yellow-legs		13							
Pectoral Sandpiper		5							
Least Sandpiper		24							
Dowitcher		*1							
Ring-billed Gull		30				4			
Least Tern								3	
Black Tern								9	
Mourning Dove	6	13	84	54	42	23	34	11	10
Yellow-billed Cuckoo		3	4	2	1			7	*c
Black-billed Cuckoo			1			2	1		2
Barn Owl	2								
Screech Owl			2	2	1				
Barred Owl		1						1	1
Chuck-will's-widow	1	3	12						
Whip-poor-will	1		1	1		17	6		*3
Nighthawk	1	1	15	4	7	4	10	3	2
Chimney Swift	12	7	c	75	33	52	45	4	c
Ruby-throated Hummingbird	4	7	4	4		5	7	9	5
Belted Kingfisher	1	2	3	5	1	7			
Flicker		4	35	25	52	23	25	2	4
Pileated Woodpecker		1	4	7	1		4	2	*4
Red-bellied Woodpecker	4	5	7	2	1	1	12	4	*6
Red-headed Woodpecker	1	1	15	7	3				1
Yellow-bellied Sapsucker							1		
Hairy Woodpecker		3	1	27				1	2
Downy Woodpecker	2	3	12	13	6	2	13	9	3
Eastern Kingbird		15	13	4	12	9	6	3	7
Crested Flycatcher	1	15	30	28	10	1	2	8	7
Phoebe	2		26	26	24	21	27		*6
Yellow-bellied Flycatcher								*1	
Acadian Flycatcher		4	4	2	5	1		2	c
Least Flycatcher						3			
Wood Pewee		11	7	12	12	16	22	10	*6
Horned Lark		18	3		2	7			

Tree Swallow		30	3						
Bank Swallow		2	2		5				
Rough-winged Swallow		23	17	11	4	59	23	5	2
Barn Swallow		12	19	8	4	1	7	6	
Cliff Swallow						8			
Purple Martin		1	50	42	30	12		29	1
Blue Jay	15	14	75	41	65	76	42	12	16
Raven							*1		
Eastern Crow	25	5	60	31	40	97	37	19	10
Fish Crow		25							
Carolina Chickadee		37	50	20	21	34	46	24	10
Tufted Titmouse	4	6	65	31	23	34	19	3	6
White-breasted Nuthatch		1	4	1			5	3	3
Red-breasted Nuthatch			3	1		1			
Brown Creeper	2								
House Wren			2	6	*22		37		
Bewick's Wren	2	1	5	9	7	4	3	1	2
Carolina Wren	2	6	c	29	32	76	21	5	6
Long-billed Marsh Wren		25	3						
Short-billed Marsh Wren		8							
Mockingbird	2	4	c	82	47	32	43	3	1
Catbird	1	12	35	38	31	85	59		10
Brown Thrasher		1	48	56	25	32	31	2	*10
Robin	13	4	c	97	79	114	137	3	8
Wood Thrush	5	6	49	31	45	47	60	7	c
Hermit Thrush			2						
Olive-backed Thrush		3	2					4	4
Veery			1						
Eastern Bluebird	6	7	c	47	23	45	22	6	*22
Blue-gray Gnatcatcher	5	12	30	19	12	6	3	6	15
Ruby-crowned Kinglet			6						
Cedar Waxwing		38	47	42	60	6	20	17	2
Loggerhead Shrike		2	4					4	1
Starling	20	4	c	150	52	98	175	c	1
White-eyed Vireo	2	17	36	9	7	28	4	4	12
Yellow-throated Vireo	1	2	16	1	5	7	1		6
Blue-headed Vireo			1	1		1	2		
Red-eyed Vireo	2	12	c	13	15	50	45	6	*c
Warbling Vireo		11	3		7	9		3	6
Black and White Warbler		1	21	4	7	16	10		11
Prothonotary Warbler		12	*3		5			7	2
Worm-eating Warbler				2	1		12		
Golden-winged Warbler			1				1		
Blue-winged Warbler									*10
Tennessee Warbler		2	1	1	2			2	
Parula Warbler		6			6	7	8	6	
Yellow Warbler		3	27	48	22	73	31	1	
Magnolia Warbler			2	1		1	1		
Cape May Warbler			20		1				
Black-throated Blue Warbler	2				1	4	35		
Myrtle Warbler	1	5	13	5	3	2			
Black-throated Green Warbler		1	4		5		15	1	
Cerulean Warbler		2	1			1		3	16
Blackburnian Warbler	1		8		5	1	4		
Yellow-throated Warbler		8	15	26				4	4
Chestnut-sided Warbler		1	3	3		2	25		
Bay-breasted Warbler			3		1			3	1
Black-poll Warbler		1	5					7	
Pine Warbler			3		2				

Prairie Warbler	.....	.....	37	1	.....	4	5	.....	*c
Palm Warbler	.....	.....	2	.....	2	3	.....	.....	.....
Oven-bird	.....	1	23	1	2	13	18	.....	2
Northern Water-thrush	.....	*1	.....	.....	.....	1	.....	*1	.....
Louisiana Water-thrush	.....	3	5	4	4	5	1	.....	5
Kentucky Warbler	.....	3	12	1	12	1	.....	.....	*8
Connecticut Warbler	.....	.....	.....	*2	.....	.....	.....	.....	.....
Yellow-throat	.....	43	40	4	21	35	12	8	9
Yellow-breasted Chat	.....	32	60	22	23	41	3	3	*c
Hooded Warbler	1	3	14	4	*13	11	20	1	1
Canada Warbler	.....	.....	.....	1	.....	.....	.....	.....	.....
Redstart	2	10	8	1	2	12	.....	27	.....
English Sparrow	6	10	21	56	2	74	161	c	1
Bobolink	.....	208	*125	.....	.....	3	.....	.....	.....
Eastern Meadowlark	22	104	c	61	52	58	74	14	*6
Red-winged Blackbird	1	48	80	91	43	36	78	700	*3
Orchard Oriole	3	37	26	14	10	6	1	2	7
Baltimore Oriole	2	5	.....	3	6	3	8	2	1
Purple Grackle	12	35	c	165	45	72	52	52	5
Cowbird	5	40	35	18	18	33	10	21	15
Scarlet Tanager	.....	1	9	1	10	5	8	.....	7
Summer Tanager	2	13	50	19	15	1	23	6	c
Cardinal	14	59	c	93	c	82	135	27	c
Rose-breasted Grosbeak	.....	2	7	.....	.....	.....	10	.....	.....
Indigo Bunting	.....	100	60	16	15	12	2	40	c
Painted Bunting	.....	3	.....	.....	.....	.....	.....	.....	.....
Dickcissel	.....	205	.....	1	.....	.....	.....	28	1
Purple Finch	.....	.....	.....	2	.....	.....	4	.....	.....
Gold Finch	10	20	c	75	59	72	68	3	6
Red-eyed Towhee	1	3	c	25	37	45	47	1	c
Savannah Sparrow	.....	20	5	.....	5	2	.....	.....	.....
Grasshopper Sparrow	.....	28	20	12	9	19	3	1	.....
Vesper Sparrow	.....	.....	.....	.....	2	3	.....	.....	.....
Bachman's Sparrow	.....	.....	2	.....	2	1	.....	.....	5
Slate-colored Junco	.....	.....	.....	.....	.....	1	1	.....	.....
Chipping Sparrow	8	.....	35	27	10	39	15	1	c
Field Sparrow	.....	1	c	47	39	61	35	3	*10
White-crowned Sparrow	.....	.....	3	13	4	16	.....	.....	.....
White-throated Sparrow	.....	22	c	9	19	22	33	.....	3
Lincoln's Sparrow	.....	3	.....	.....	.....	.....	.....	.....	.....
Swamp Sparrow	.....	30	1	.....	.....	1	.....	.....	.....
Song Sparrow	.....	.....	c	76	64	113	58	.....	.....
Total Species	49	122	121	93	93	106	85	93	86

THE ROUND TABLE

RING-BILLED GULL IN THE GREAT SMOKY MOUNTAINS NATIONAL PARK.—On April 27, 1952, a Ring-billed Gull was seen in the Cade's Cove section of the National Park under interesting circcumstances. A motorcade of members of the Wilson Ornithological Club had stopped in the road to view the valley when the gull rose from a ploughed field near a farm house and winged its way up and down the gathering. Sensing that the bird was seeking food, I found some biscuits in my car and sailed several of these out as the gull came by again. He showed quick interest and alighted, picked up one of the biscuits, and then flew back to the field to eat it. He then returned for another. Having identified it to our satisfaction, we moved on. Returning about four hours later I saw the gull still in the field and stopped my car at the same place so may companions could view him. The bird almost at once flew directly toward us. I again threw more biscuits, one of which he picked up and returned with it to the field as before. We then resumed our journey. The quickness with which the bird accepted food from people probably came from its having received food from groups of people wherever it had spent the winter.

Park Naturalist Arthur Stupka informs me that this is the fourth Park record for the Ring-billed Gull, the others being in November and December.—ALBERT F. GANIER, Nashville, Tenn.

CAROLINA WREN'S NEST WITH TWELVE EGGS.—On May 19, 1952, I found the nest of a Carolina Wren that contained twelve well-incubated eggs. This was at the Methodist Assembly at Beersheba Springs, Grundy County, Tenn. The nest was located in a tin pail on a workbench in a little-used workshop. So unusual was this find that I called upon several bird lovers to make their own count of the contents of the nest. Among these people were Rev. Elma Broyles of Murfreesboro, Dr. and Mrs. A. J. Davis of Nashville, and Miss Laura Hess of Nashville. Everytime we approached the nest the little wren was incubating the eggs. During the three days I was at Beersheba Springs I kept a sharp lookout to ascertain whether two or more females had participated in laying the twelve eggs, but I saw only one female and heard only the one male singing during my stay. On June 12 Mr. Dennis Brown of the Methodist Assembly wrote me that the eggs were still in the nest. Since I found the nest on May 19, it is plainly evident that the wren abandoned the nest.—HARRY R. CALDWELL, 1117 Maplehurst Avenue, Nashville 4, Tenn.

MIGRATING BOBOLINKS AT LEBANON.—On the morning of April 30, 1952, Mr. and Mrs. M. C. Kent and I started from my home, four miles east of Lebanon, about 6:30 for an early bird walk. As we started out we heard a great twittering and singing at the edge of a field of barley and crimson clover, and we found Bobolinks, hundreds of them.

As we watched, small flocks of perhaps 50 to 75 would drop out of the sky into the trees along the fence. We could see them fly down into the grain and rise up wet with the dew into the tops of the trees to preen. Occasionally a flock would leave, flying north, but others would drop down out of the heavens to take their place. They were evidently flying too high to be seen, until they heard their mates and dropped down to join them. Later we saw some of them in trees north of the house. We estimated that there were at least 600, probably more, for we could not see how many were down in the grain.

Every day since then thru May 16 I have seen Bobolinks in that field and in those trees, at about 7 a.m. and at other times during the day. Several times I have seen 15 to 20 come to the small pond near the house for water and bathing. I had never seen Bobolinks before, and to have such a wealth of them descend on me was a most thrilling experience. —TRESSA D. WATERS. Lebanon, Tennessee.

EVENING GROSBEAKS NEAR HARRIMAN. — On April 3, 1952, I received information that a flock of strange birds was near the Administration Building at the Kingston Steam Plant. They were described as plump and having white bills. I guessed that they were Evening Grosbeaks and went to the building next morning with a supply of sunflower seeds. The birds were present and found the seeds in a few minutes. Next day three traps were placed, two small and one very large. An engineer in the building agreed to watch the traps. On the morning of the 6th one female entered the large trap and on the 7th a male went in. These were banded. On the 9th the engineer called to say that the trap was full of birds. I found that the two banded individuals were inside in addition to eleven new ones. Four males flew up from the ground outside so it is known that there were at least seventeen. The last date the birds were seen was April 27. A few days after the wholesale banding I removed the traps because of the birds' reluctance to re-enter.

A Mrs. T. C. Farnham of Harriman, who came at my request to see the Grosbeaks, identified them as the same species that spent some days at her house in late February thru March 1.—ADELE H. WEST, Rt. 4, Harriman, Tenn.

DOUBLE-CRESTED CORMORANTS NESTING IN MISSISSIPPI. — On December 30, 1951, I noticed a group of nests in a large cypress in a brake about one mile west of Clayton, Miss. Demett Smith and I waded in to the tree on May 18, 1952, and estimated it to be about 120 feet high, with a diameter of about six feet at a height of four feet. No other cypress trees were nearby. There were 45 nests in the tree with well-grown young. Judging by the nestlings and adults seen, and by the more compact and deeper nests, twelve nests were those of the Double-crested Cormorant and the remainder were of the Great Blue Heron. This is the first published record for the nesting of the Cormorant in the State. Oberholser in "The Bird Life of Louisiana" (1938) reports it breeding in

southern Louisiana. North of here it nests at Reelfoot Lake and has nested on Kentucky Lake near Waverly (Cypert, 1949. Migrant 20:41).

Negro tenant Farmers at the Mississippi locality stated that there had been many more birds, but that much cypress was cut several years ago.—BEN B. COFFEY, JR., Memphis, Tenn.

SPRING NOTES FROM MEMPHIS.—A Black-bellied Plover, partly in nuptial plumage, near Lakeview on May 18 was the first spring record (RDS, BC). For the third spring we had a Golden Plover migration, but only about one-third the maximum of the other two years. Near Lake Cormorant, Miss., were seen 419 on Mar 23, 549 on Mar. 29 (Keeton and Kent), and 82 on Mar. 30. McPherson found 140 at the Penal Farm Mar. 22 and 90 on Apr. 5. A very late record is of the four plovers reported in the Memphis Spring Field Day (May 4). George Peyton saw a Caspian Tern on May 10 off Riverside Park and another was seen on May 11 at the tip of Mud Island.

A Kingbird on Mar. 31 and Apr 3 seen by Oliver Irwin was much earlier than any seen later; probable transients passing thru were 226 on May 17 (RDS), 200 on May 20, and 45 on May 18. Similar were 285 Cliff Swallows on May 18 when the swallows nesting on the Savannah bridge over the Tennessee River were beginning to feed young on May 21 (Mrs. Josephine P. DeBerry).

Phoebe nests found were: May 25, Germantown Road, one nest with four eggs, one with evidence of young having left, and one inaccessible nest atop the one 1951 nest; May 31, south of Capleville, nest atop a 1951 Barn Swallow nest.

Overton Park trips were frequent from mid-March to late May with Luther Keeton and the writer teaming up in an effort to check arrivals. Unfortunately, when the warbler movement became noticeable about April 20, a gap occurred when most of our observers attended the Wilson Ornithological Club meeting in Gatlinburg. On our return on Apr. 29, it seemed that the movement had passed, but it was followed by a better than usual movement of "late" warblers, especially between May 10 and 20 A record early Blue-winged Warbler was one on Apr. 5 and 7, and they were fairly common Apr. 12 to 22. Redstarts were common from Apr. 16 to May 17. There were seventeen Blackburnians noted between Apr. 29 and May 21. No Palm, Yellow, or Golden-winged Warblers were recorded there and only one Prairie, on Apr. 16. Cerulean Warblers appeared much below normal, a total of sixteen between Apr. 6 and May 10 "Late" Warblers more common than usual were Magnolia, Chestnut-sided, Bay-breasted, and Black-polled. Howard and Evelyn Barbig reported a Mourning Warbler on May 13.—BEN B. COFFEY, JR., Memphis, Tenn.

BOOK REVIEW

CRIP, COME HOME. By Ruth Thomas. 175 p. 1952. Harper & Bros., N. Y. $2.50.

Two stories are interwoven in this book; one is of a crippled but indomitable Brown Thrasher and the other is of the two owners of the country home where "Crip" also lived.

The Thrasher's is a remarkable story. Despite a broken wing which healed crookedly, the bird lived for six years more in the author's garden; it migrated two winters, no one knows how far, and passed the others in the garden, north of the usual winter range. Despite its handicap, the bird maintained a territory, mated each season, and had the usual success of song birds in rearing young. The author kept a watch on this bird almost daily. She banded his mates and rivals with color bands, counted the young that left each nest, and many nights watched him go to roost. Her success was partly made possible by the bountiful feeding station she maintained, which undoubtedly lengthened the Thrasher's life. There is a great deal of "humanizing" of birds in this book, to which students of bird behavior will object, but this is counterbalanced by the intimate knowledge that the author had of one bird's life and makes sense when one considers the effect that "Crip" had on her life.—J. T. T.

BIRDS OF LA PLATA. Notes by W. H. Hudson. Introduction by Richard Curle. Color plates by S. Magno. 46 p. 16 plates. 1952. Penguin Books, 3300 Clipper Mill Road, Baltimore 11, Md. 95c.

Art and literature have long held a place in ornithology, or perhaps it is the other way around. Anyway, this book combines all three. W. H. Hudson belongs to both literature and ornithology, and both his literature and ornithology have the same flavor, that of the out-of-doors and especially of the pampas of South America. This little book is a combination of three parts: First there is the introduction which presents a brief summary of Hudson's life and character by one who knew him.Second come abridged notes taken from the original "Birds of La Plata" by Hudson; these describe sixteen species of Argentine birds and exemplify both the knowledge of wild birds and the literary style that made him famous. Last are sixteen colored plates of these same birds by S. Magno; these are well-chosen for variety, are attractive and colorful, and the color reproduction is very good considering the low price of the book. But it must be said that they do not portray the living bird as well as Hudson's notes. This is not a handbook or a guide. It will appeal to the collector of books about birds (its price certainly will), to the Hudson enthusiast, and to those interested in natural history literature.—J. T. T.

BIRD RECOGNITION, II. Birds of Prey and Waterfowl. By James Fisher. 186 pp. Illustr. 1951. Penguin Books, Inc., 3300 Clipper Mill Road, Baltimore 11, Md. 85c.

The "Bird Recognition" series about Brtiish birds, of which this

is the second of four planned, combine completeness and low cost to an amazing degree. The general plan of this book is this: The material on each species covers two facing pages and consists of a wash drawing of the bird, a map of the British Isles showing its breeding and non-breeding season distribution, an ingenious diagram which summarizes the birds' activities in Britain thruout the year, and the text. This latter describes the recognition characters, food habits, breeding, world-wide distribution of the species, movements, and suggests further reading. At the beginning and end of the book are tables, keys, and additional illustrations. The material is so compact and concise that there is a tremendous amount of information assembled on each species. For Americans, this series will provide a cheap and handy reference work for British birds.

This volume covers owls, hawks, and their relatives, storks and herons, the waterfowl, grebes, and loons.—J. T. T.

BIRD WATCHING FOR BEGINNERS. By Bruce Campbell. 240 p. Illust. 1952. Penguin Books, Inc., 3300 Clipper Mill Road, Baltimore 11, Md. 65c.

There is no doubt about gettinng your money's worth in a book like this. This book contains a number of ideas for bird study. Part One is a general introduction to birds and bird watching. Part Two describes the general habits of the commoner species of British birds and makes interesting reading to an American who compares the descriptions given with the situations and birds with which he is familiar. Part Three's title is self-explanatory, "Problems of Bird Watching". There is an appendix and index.

The book is pleasantly and informally, almost personally, written. The illustrations, either of birds or of ways of doing things, are simple but good, and the printing and appearance of this little book are excellent. Almost any bird student will enjoy skimming thru this book, and in it the beginner will find many suggestions for bird watching.—J. T. T.

NESTBOXES. By Edwin Cohen and Bruce Campbell 32 p. Illustr. 1952. British Trust for Ornithology, 2 King Edward St., Oxford, England. 2s. 6d.

This manual of how to build and place nestboxes is unusual in the wide variety of boxes and artificial nest sites described. Most of those described and figured are fairly typical nest boxes, all fitted with lids or fronts that open for examination of the contents and cleaning, but there are also directions and suggestions for attracting creepers, owls, swallows, and ledge-nesting birds, which are kinds of birds usually not included in such manuals. Nineteen designs are included. The directions for making the boxes, with the accompanying figures, are clear and apparently complete. The discussion of the placing of the boxes, while intended for British species, will suggest what should be done in this country.—J. T. T.

REPORT OF THE T. O. S. ANNUAL MEETING FOR 1952

The annual meeting of the Tennessee Ornithological Society was held at Montgomery Bell State Park on May 24 and 25 in one of the group camps of the park. Many members stayed thru the two days, sleeping in the cabins, while others came for one or the other of the two days. Excellent meals were provided, mess hall style, in the large dining room. The total attendance was about 60 members. It was a successful meeting from all viewpoints, and Pres. Ganier, who shouldered the burden of making arrangements, was congratulated and deservedly thanked by all who were there.

The important "business" of the meeting was field work, and most of the time was spent in the woods and fields and around the lake of the beautiful park. The observations made are recorded in this issue in report on Spring Field Days.

The small amount of real business was transacted swiftly in the meeting held early Saturday afternoon. The Society's officers made their reports, and the Society, including its finances, is sound and healthy.

The following state officers were elected:
President—Albert F. Ganier (re-elected)
Vice-President for West Tennessee—Miss Nelle Moore.
Vice-President for Middle Tennessee—Mrs. E. W. Goodpasture.
Vice-President for East Tennessee—Fred W. Behrend.
Secretary—Edwin D. Schreiber (re-elected).
Treasurer—Lawrence C. Kent (re-elected).
Editor—James T. Tanner (re-elected).
Director-at-Large, West Tennessee—Miss Alice Smith.
Director-at-Large, Middle Tennessee—Millard C. Kent.
Director-at-Large, East Tennessee—Mrs. R. A. Monroe.

After brief discussion, it was voted that the place and time for next year's annual meeting be Nashville on May 11-12, 1953.

THE WILSON ORNITHOLOGICAL CLUB MEETING AT GATLINBURG

The Wilson Ornithological Club held its annual meeting at Gatlinburg on April 25-27 of this year. The T.O.S. was one of the host societies. Over 300 people attended the meeting, including about 60 members of our society. The T.O.S. was host at an informal gathering held on Friday evening after the program, when people had a chance to mingle and talk with each other; refreshments were supplied by the society. Altho a good percentage of the Great Smoky Mountains' annual rainfall of 80 inches fell during the week end, the visitors enjoyed the meeting and many got a taste of the Smokies for their first time.

THE MIGRANT

A Quarterly Journal Devoted to the Study of Tennessee Birds
Published by the Tennessee Ornithological Society

Free to Members. To Subscribers, $1 per Year; Single Copies 30c

Please Notify the Treasurer or Secretary of a Change in Address

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Lawrence C. Kent, Treasurer, 1896 Cowden Ave., Memphis, Tenn.

All Items for Publication should be sent to

James T. Tanner, Editor, Department of Zoology, University of Tennessee, Knoxville, Tennessee

The Tennessee Ornithological Society was Founded, October, 1915
Publication of THE MIGRANT was begun, March, 1930

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

ROUND-UP OF CHAPTERS AND MEMBERS

Here is a summary of the chapters of the T.O.S., the number of their members and the officers elected for this coming year.

MEMPHIS. 90 members. Pres., Demett Smith. V.-Pres., Brother Leo Thomas. Recording Secy., Miss Patricia Moore. Corresp. Secy., Mrs. Howard Barbig. Treas., John O'Callaghan.

NASHVILLE. 88 members. Pres., Miss Helen Howell. V.-Pres., Mrs. E. W. Goodpasture. Sec.-Treas,, Miss Jennie Riggs.

KNOXVILLE. 36 members. Pres., J. B. Owen. V.-Pres., Mrs. E E. Overton. Sec.-Treas., Mrs. Robert Dunbar.

LEBANON. 18 members. Pres., Dixon Merritt. V.-Pres., Millard C. Kent. Sec.-Treas., Mrs. Henry Waters. Asst.-Secy., Mrs. J. C. Sellars.

ELIZABETHTON. 15 members. Pres., L. R. Herndon. V.-Pres., J. C. Browning. Secy.' Mrs. Hugh Taylor. Treas., Mrs. Ruth Hughes. Historian, Mrs. Avery W. Evans. Statistician, Mrs. L. R. Herndon.

GREENEVILLE. 10 members. Pres. (also Reporter), Mrs. Willis Clemens. V.-Pres., Alfred Irvine. Secy., Mrs. J. B. White. Treas., Mrs. Richard Nevius. Statistician, C M. Shanks.

BRISTOL. 26 members. Pres., Miss Ester Hilton. V.-Pres., Mrs. Judith Abbott. Sec.-Treas., Mrs. R. T. Krepela.

The Kingsport Chapter has not sent in information for inclusion in this report, but last December it had 22 members.

The approximate number of Tennessee-at-large members is 15, of corresponding (out-of-state) members is 77, and of subscriptions to libraries, museums, and other institutions is 30.