

THE MIGRANT

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DEVOTED TO TENNESSEE BIRDS

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THE MIGRANT

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JUNCOS IN THE GREAT SMOKY MOUNTAINS

By JAMES T. TANNER

What species of bird nests commonly in the higher areas of the Great Smoky Mountains and not in the lowest, and preferably nests on or near the ground?

A few years ago I wanted to find such a bird in order to study the effects of temperature on the nesting range and activities of birds. The obvious choice was the Slate-colored Junco, and it proved to be a fruitful one. For seven years, beginning in 1951, I made many field trips to the Smokies in the spring and summer to make the necessary observations. Besides attaining the primary goal, I gained a secondary satisfaction, for the intensive study of one kind of bird rewarded me with a knowledge of its life and behavior that could be obtained in no other way. These latter results are to be described here.

Juncos are widely distributed birds, familiar to many people, and many notes and articles have been written about them. The most complete description of their nesting habits has been written by D. R. Hostetter (1938), who studied them in the mountains of Virginia. His observations and those of others have usually agreed with mine, and so I have referred to the literature in this article only when necessary to supplement what I have observed. Some of the information reported here has come from the records maintained by Arthur Stupka, Naturalist of the Great Smoky Mountains National Park.

The range of the Slate-colored Junco, as given in the "Check-list of North American Birds" (1957), extends through the boreal forest from northwestern Alaska to Labrador and then southward in a narrowing funnel through the northern Lake States and New England down the Appalachian Mountains to northern Georgia. In Tennessee, Juncos nest commonly on the higher mountains on and near the eastern boundary of the State, all the way down to Big Frog Mountain in Polk County (Wetmore, 1939). Holston Mountain, near Elizabethton, is the farthest from the state line ridge that nesting Juncos have been reported (Wetmore, 1939). They apparently do not nest in the Cumberlands, even though the highest mountains there would seem to be high enough.

In the Smokies Juncos are commonest at the higher elevations, as along the Appalachian Trail and the summit of Mt. LeConte. They remain relatively common down to elevations of about 4000 feet above sea level, becoming progressively scarcer below that. The lowest nesting Juncos I have found on the Tennessee side of the Smokies are at the Chimneys Campground, at 2700 feet, and at 3000 feet along LeConte Creek; on the North

Carolina side the lowest is at 3200 feet in the Oconaluftee valley. The differences in these three lower limits remain to be explained. Within this altitudinal range are a number of plant associations or habitats, and Juncos seem to live in all of them — hardwoods along the streams, pines covering the dry ridges, grassy balds and heath balds, and the spruce-fir forest. They avoid only areas where the ground is covered with shrubs or small trees, such as in dense rhododendron tangles.

The Junco of the Appalachian Mountains south of northeastern West Virginia is known as a subspecies, *Junco hyemalis carolinensis* or the Carolina Slate-colored Junco. It is described by Chapman (1932) as being slightly larger than its northern cousin, with less brownish or more gray plumage, and with a horn-colored instead of flesh-colored bill. Winter flocks of Juncos in the eastern part of Tennessee are likely to be composed of a mixture of birds which have come from the north and birds which have merely moved down the mountains and into the valleys. It is possible to identify the two kinds in the field by the differences outlined above. It would be interesting to determine in this way the composition of winter flocks at varying distances from the mountains.

The "migration" of Juncos from the valleys to the mountains in spring is gradual and indefinite. On March 19, 1952, for example, there were very few Juncos in their nesting areas at Mt. LeConte. By April 3 Juncos were common and many were singing there. It appears that March 25 is approximately the time at which the males, at least, move into their nesting territories. Yet some individuals may stay in the valleys around Gatlinburg, at the foot of the mountains, as late as April 20.

Each male claims and defends a territory, but the resulting combats and chases are tame and brief, and the territories are not extensive. Early in the season I have frequently seen two pairs feeding side by side, and later birds of different pairs have met with no sign of fight. This behavior suggests that the defended territories are relatively small and leave unclaimed area, an "anyman's land", outside of and around them which may be used for feeding by any Junco.

The male Junco has a display, presumably a courtship display, which is not well known because it is inconspicuous and observed only by those who make a point of watching these birds. It is usually performed on a perch near the ground when the female is nearby. He spreads and droops his tail, droops his wings, and frequently sings a quiet, Goldfinch-like warble which carries only a short distance, very different from the regular song. He displays most frequently in the early part of the nesting season, less frequently later, and has almost entirely ceased before the second brood is started.

The building of the first nest is a desultory business. The female, which does all the building, will work at it a while, cease for a period of feeding, return again, and so off and on for several days. Her mate may accompany her as she works, but cooperates not at all. The nest is built of moss, rootlets, and stems, and its deep cup is lined frequently with the slender bristles that support the fruiting capsules of mosses. The typical location of a nest is on the ground or in the mosses and ferns growing on rocks. It is usually well hidden by ferns or other low plants, and placed on a bank or rock with a clear space before it, except for the immediate covering, so that an incubating bird can fly outward and downward from the nest when disturbed. Of 84 nests that I found, 74 were located on the ground or rocks

as described. One was in an upturned tree root, four were located from one to three feet above the ground in shrubs, and five were placed on the branches of spruce trees, where spreading twigs formed a platform, from five to forty feet above the ground.

Because the building of the first nest is such an erratic process, it is not a good standard for defining the start of nesting. The laying of the first egg is a much more definite criterion. The time of this depends on both the advance of the season and the altitude of the nest in the mountains, and there is also variation between different females or pairs in the same area. The earliest first egg date which I know definitely, April 20, was in a warm spring and at a low altitude. The average date of laying the first egg is about eleven days later for each thousand feet increase in altitude. The latest date for the laying of the first egg, of what I am sure was the season's first nest of the pair, was May 31.

The remaining eggs of the clutch are laid one each day, usually in the morning, until the set is complete. Four eggs is the usual number in the early nests. The female begins incubating with the laying of the next to last egg. While incubating she sits still with little or no turning, and will flush from the nest only when closely approached; I have had my face within a foot of an incubating bird before she left. This, and the fact that the nests are usually well hidden, makes it difficult to find nests during this stage. The male does not incubate, but he stays in the vicinity, foraging for himself and occasionally singing. When the female leaves the nest for food, she frequently flies directly to the male and then moves off to search for food. She forages industriously with the male usually following her, behind and a little above. He may perform the courtship display. The female usually moves in a circle back to the nest, which she frequently approaches by hopping along the ground. During the incubation period she spends about three times as much time on the nest during the day as she does off for feeding, but the periods on and off are irregular. She passes the night on the nest.

The average incubation period is about twelve days, and since incubation begins with the next to the last egg, the eggs of a four egg set begin to hatch fourteen days after the first egg is laid. They do not hatch simultaneously, partly because the last egg is not laid until after incubation has started.

Both parents bring food to the young, working hard and steadily. Whenever one gets a billful of food, it flies directly to the nest and remains there very briefly, except when the female settles to brood for a short time, which she does more frequently when the young are small. The food brought consists of insects; moths and small caterpillars are common. The size of the insects increase with the size of the nestlings. Because of the feeding activity of the parents, and also because they are likely to scold persistently if a person comes near, nests are most easily found at this stage.

When hatched, the nestlings are naked except for a little down. Two days after hatching the sheaths of the body feathers appear as dark "pin-feathers". Five days after hatching the eyes open, and a day later the primary feathers of the wing begin to break out of the tips of their sheaths. Nine days after hatching the tail feathers begin to break out at the tip and the body is fairly well covered with feathers. The young may leave on the tenth or eleventh day if the nest is disturbed, but normally they will leave

on the twelfth or thirteenth day. By this time the wings are well developed, the tail is almost an inch long, and they can fly clumsily but surprisingly well.

Young out of the nest are fed by the parents at least until the former are full grown. The length of care seems to depend on whether or not a second nest is started, in which case the young are earlier left by themselves. The majority of Juncos in the Smokies will nest a second time; the exceptions are some pairs at the very lowest elevations which appear to nest only once. The behavior during the second nesting is the same as during the first.

Many nests are unsuccessful, with no young reared. I did not follow enough nests from their beginning to be able to measure accurately the percent of success. A rough estimate was made as follows. If between two of my visits to a nest the eggs or young disappeared before their proper time to leave, the nest was called unsuccessful. Otherwise it was called successful for the period between the two visits. The appearance of an empty nest often revealed what had happened; a nest from which the young have successfully fledged is flattened and contains fragments of feather sheaths and also is likely to contain droppings, which are normally removed by the parents except for the time when the young leave. A nest which has been preyed upon lacks these signs and frequently is pulled apart or has the lining torn out. The frequency of success was calculated for periods determined by the days elapsed between my visits, and this was extrapolated to a period of twenty-four days, the total of the incubation and nestling periods. In this way I estimated a nesting success of between 35% and 40%; in other words, from the time that incubation began, approximately 35% to 40% of the Junco nests I observed were successful, with young leaving the nest, and the remainder were destroyed or otherwise failed. This estimated nesting success agrees very closely with that made for the Song Sparrow by Nice (1937).

I never determined the specific cause of a nest failure. Likely predators on Junco nests are Blue Jays, Red Squirrels, and Chipmunks, all of which are common in the same habitat. Weasels and fox are present but rare, and snakes are even more rare. Scattered Junco feathers reveal that adults are occasionally killed. I once witnessed at close range an attack by a Sharp-shinned Hawk on a pair of Juncos. The birds were feeding on the ground when they suddenly flew into the middle of a rhododendron bush; a moment later the hawk almost crashed into the branches before catching himself and flying off, whereupon the Juncos quickly returned to searching for food.

If a nest is destroyed, a pair will usually start another nest. In one such case, I found a second nest in which the first egg was laid about eight days after the previous nest was destroyed. In another, the female was building a second nest within six days of the loss of the first. These birds were not individually marked, so I cannot prove the previous statements, but based on the locations of the nests and their histories, I believe this is what happened. Nests may fail at any time and re-nestings begin after varying intervals. Therefore, except for the beginning of the season when nesting starts fairly regularly, nests in all stages may be found at the same time. A female may be building a nest within a few score yards of another nest containing large young. Unless the history of a pair is followed closely, it becomes impossible to identify true second broods, of pairs which

have successfully reared a first brood, from re-nestings following failure. The latest nest which I have found in the Smokies had a first egg date sometime between July 19 and July 30.

In the Smokies, clutches which are started in April, May, or June generally have four eggs; 75% of the 92 nests for which I have data from these months had this number of eggs or young. The remainder had three except for one containing only two young and no unhatched eggs. Of 18 nests begun in July, only 22% had four eggs and 61% had three. Two nests had only two and one only one young with no extra eggs. It is possible, of course, that some eggs or young were lost from these few examples of one or two in the nest. Hostetter (1938) states that Junco nests with five eggs are rare. This has been reported only once from the Smokies, a nest with five eggs reported by Arthur Stupka found on June 19, 1953.

Juvenal Juncos are easily recognized from adults; their plumage is streaked and much browner, and at first there is no sign of the gray vest of adults. As the summer progresses, their plumage becomes grayer, the vest appears, and the streaking becomes less pronounced. Beginning in late July, adult Juncos, gray juvenals from early broods, and brown juvenals from later broods gather together into small flocks.

The behavior described above proved useful in finding Junco nests; near the end of the study I was able to find more nests for the same amount of effort than at the beginning. There was also much personal satisfaction resulting from observing the life history of one kind of bird.

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- Department of Zoology, University of Tennessee, Knoxville, Tennessee

A WILDLIFE SANCTUARY — NASHVILLE CHAPTER

On May 27th, 1958, the Nashville Chapter received title to a 63 acre tract of land to be used as a wildlife sanctuary. The tract lies 20 miles southwest of Nashville, in the southeast corner of Cheatham County.

The property was a gift to us from Mr. and Mrs. Lynn Farrar. It was acquired many years ago by Mrs. Farrar's father, Mr. Jim Parks, and his partner there, Mr. J. Creveling. They built the present cabin in the early '30s. The Farrars inherited the place from Mr. Parks. They enjoyed it for years, protecting wildlife, and bringing in plants that would thrive. During the last seven years, due to ill health, the Farrars haven't been able to visit and care for the place as they would like. They considered selling the land, but feared that the buyers would log the timber, and destroy the wild flowers and shrubs that they had cared for and loved in years past. Therefore, they decided to try to find a group that would use and care for

the property as they had. Fortunately, it was first offered to us, as Mrs. Farrar had, at one time, been a member of our Chapter. After due consideration by members present, lasting about two minutes, their offer was accepted. We named the place "The Two Jays Sanctuary", as requested by the Farrars. They had called it the "Two Jays", as Mr. Parks, and Mr. Creveling had called each other "Jay".

The tract is approximately 1000 x 3000 feet, and rectangular in shape. A small stream, the South Harpeth River, crosses it. The land is entirely timbered, and contains quite a variety of wild flowers, shrubs, and other plants. Eighty-three species of wild flowers alone have been identified there. Most trees native to Middle Tenn., can be found on the property. There are also several species of shrubs and wild flowers that were brought in from the Smoky Mts., and from Canada, by the donors.

When we obtained the property, we immediately set it up as a wild life sanctuary, with administration by a board of three trustees. As funds were needed for repairs, contributions were solicited from members, and the results were most gratifying.

A survey was conducted to see what was necessary for immediate maintenance and repair. Then volunteers began working weekends. The hardest job was to put a new shingle roof on the cabin. All the interior was cleaned. The floors were varnished or painted, new curtains were hung at the windows. Next, we replaced the lumber on a 120-foot suspension footbridge. A short footbridge was built to be used in time of low water. Paths were cleared, and two new nature trails were laid out, which are each about 1200 feet in length. The marking of trees and shrubs on these trails is now in progress.

One of the most interesting features of the sanctuary is the cabin. It sits on a bluff, about 40 feet above the river, and overlooking it. It is built of logs and is about 25 x 45 feet, plus a full length screened porch on the river side. It contains a large living room, with a nice stone fireplace, three bedrooms, and a kitchen, all adequately furnished. It is lighted by kerosene lamps and drinking water is carried from a spring. Members are looking forward to spending many weekends there next summer.

The sanctuary is not readily accessible. To reach it, one must drive about 17 miles west on 100 highway, two miles north on South Harpeth road, then left for 1/3 mile on a gravel road. From this point one drives, or walks (according to the weather) down 1500 feet of dirt road to the river. Next, across the river, by foot, and thence along a path at the foot of the bluff for 1/4 mile to the cabin. All supplies for repairs were either carried down this path, or floated by boat down the river, then carried up the bluff to the cabin. We think this lack of accessibility has its advantages, as it helps to keep out vandals and curiosity seekers. It also gives us a 1/4 to 1/2 mile walk where many interesting birds may be seen. The writer has found over 120 species in the area during the past two years.

On Oct. 26th, having finished our planned summer's work, we held a Field Day and Open House there. We sent invitations to many inactive members, and to friends we would like to join our Chapter. More than 85 people visited the sanctuary that day.

We of the Nashville Chapter are looking forward to the State meeting next May, so we can show our sanctuary to other T.O.S. members of the state.—HENRY E. PARMER, 3800 Richland Ave., Nashville 5, Tenn.

THE 1958 CHRISTMAS SEASON BIRD COUNT

By T.O.S. Members

The species list was the lowest it has been since 1950. A total of 109 species was listed, including the controversial Rock Dove (Pigeon). Red-throated Loon occurs on the list for the first time and the Coturnix Quail had not been listed previously although almost 15,000 were released in the state during 1956 and 1957.

The Cookeville Chapter submitted a report for the first time this year making eleven areas covered. Although the number of reports submitted is one greater than the number for the past eight years, except in 1953 (11), some of the more productive were omitted thus yielding a somewhat smaller count.

Information on the counts are presented progressively from west to east as are also the listings in the table. Species designated by an asterisk (*) in the table are described more fully with the notes from the locality concerned.

INFORMATION ON THE COUNTS

MEMPHIS. — 1953 areas generally; wooded bottomlands 23%, deciduous woods, city parks and cemeteries 22%, pastures, airfields, farms 22%, suburban roadsides 30%, river edge 3%. Dec. 21; 7 a. m. to 5 p. m. clear; temp. 23 to 50 degrees; wind NW, 0 - 5 m.p.h. 26 observers in 7 parties. Total party-hours, 82 (60 on foot, 22 by car); total party-miles 200 (50 on foot, 150 by car).

Fish Crows, flocks of 32 and 6. House Wren, BC and Mrs. BC in separate areas; Brewer's Blackbirds, pair (LC et al); LeConte's Sparrow (BC), Smith's Longspur (BC), first Memphis record in two years. White-throated Sparrows totaled 1322. Roosts: 5,000 Robins at Elmwood Cemetery added to party counts but 5,000 Starlings and 1,000 Common Grackles there added to estimates of same at Gragg School roost where the Redwings and Cowbirds were also present. Day time counts of these 4 species discarded. Mrs. F. L. Basler, Oliver Cathey, Jr., Mr. and Mrs. Ben B. Coffey, Jr., Mary Davant, Mrs. Henry Dinkelspiel, Oliver F. Irwin, Mrs. Burt P. Johnson, Luther F. Keeton, Edward M. King, Chas. P. McPherson, Jr., Mrs. J. H. McWhorter, Nelle Moore, Katheryn Paullus, George Peyton, Jr., S. Jack Rini, Mrs. Chas. Seahorn, Mrs. Henry A. Schiller, Alice Smith, Mrs. Arlo I. Smith, Lynn Smith, Gerald Smith, R. Demett Smith, Jr., Mrs. M. L. Torti, Dr. W. L. Whittemore, Mr. and Mrs. C. E. Wilmeth.

NASHVILLE. — (same area as in past 8 years). — Dec. 27, 6:30 a. m. to 4:00 p. m. Drizzling rain most of day but visibility fair. Temp. range 35-40. Wind N-W, 10 mph; ground bare and thawing; no water in sloughs. 25 observers in 9 parties. Total party-hours 65 (27 on foot, 38 in car); total party-miles 155 (25 on foot, 130 in car). Total, 77 species; about 209,180 individuals. No snow this year to date nor recent rainfall. Most of the Starlings and Robins were in a roost on Golf Club Lane at 23rd. "Blackbirds" practically absent. Ducks were on Radnor and Bush's lakes and Cumberland river. Night Herons in trees on river bank. Horned Grebe on Old Hickory Lake. B. H. and Mrs. Abernathy, Joe and Mrs. Bailey, Mrs. W. M. Bell, M. S. Carter, Mrs. W. Ovid Collins, Mrs. C. L. Cornelius, Sr., Mrs. Leon DeBrohun, Mrs. Milbrey Dugger, D. J. and Fairman Cumming, Charles Farrell, Louis Farrell, Louis Farrell, Jr., Mary W. Frazer, H. L. Fry, Albert

F. Ganier (compiler), Edward Gleaves, Mrs. C. E. Goodlet, Phil Harris, Charles Hunt, J. P. Jones, G. R. and Mrs. Mayfield, John Ogden, Henry E. Parmer, Jennie Riggs, J. A. Robins, Michael Tine and Ruth White.

LEBANON. — Essentially, this is a census on Lock 5 Wildlife Refuge on Old Hickory Lake, where we could cruise under cover. Elsewhere, over the territory that we profess to cover, we were rained out. Dec. 27; 7:00 a. m. to 4:00 p. m.; rainy, temp. 45 deg. F. All of the species of which we report large numbers, Mourning Doves and Starlings as well as water birds, were observed on the refuge. So, too, were the Ring-necked Pheasants and the Coturnix Quail. These two are, of course, descendents of birds released there. They appear to have gone feral. Mrs. George Bouton, Miss Mildred Bouton, Miss Martha Campbell, John M. Drennon, Roy Hobbs, Mrs. Roy Hobbs, Mrs. Frank Holloway, Mrs. Franc Knight, Mrs. Henry Waters and Miss Mary Wharton.

COOKEVILLE. — The area surveyed was an 8 mile square bounded by Cookeville, Quinland Lake, Cookeville Reservoir Watershed, U. S. Highway No. 70 N., Rickman and Brotherton. Elevation from 1,000 to 1,800 ft. Open fields and fence rows 70%, mixed deciduous and coniferous woods 28%, village streets 1% and streams and ponds 1%.

Dec. 29; 7:00 a. m. to 5:00 p. m., temp. 34 to 50 deg. F.; fair and rather cold following very cold weather. Mrs. Stella Breeding, Mr. and Mrs. Ralph L. Dunckel, Mrs. James Haile, Roy T. Hines, Michael Lewis, William Lewis, Mrs. Dave Maddux, Dr. Maurice Morehead, Miser R. Richmond (compiler), Mrs. Milo Williams.

CHATTANOOGA. — Same area as in previous years. Dec. 28; temp. 40 to 55 deg. F., rainy; wind 0 to 8 m.p.h. Leo Acuff, Mr. and Mrs. R. L. Comstock, Jr., Mrs. Leon F. Cross, Mrs. Hugh and Shirley Crownover, Mrs. H. L. Slinger, Mrs. D. L. Tunsberg, Mr. and Mrs. E. M. West (compiler).

KNOXVILLE. — (7½ mile radius centered on Sharp's Gap, including the usual area); open farmland and old fields 40%, deciduous and pine woodlots 10%, river and lake 10%, roadsides 40%. December 28, 7:30 a. m. to 5:00 p. m. Overcast with light rain all day; temp. 40 to 52 deg. F.; wind light, variable; 16 observers in 10 parties. Total party-hours 49; total party-miles 192 (40 on foot, 152 by car). Total, 58 species, about 6019 individuals. John Elson, Mary Enloe, Bill Gallagher, Q. Gorman, David Highbaugh, James Hill, W. M. Johnson, Van Kilpatrick, Tony Koella, William Martin, Mr. and Mrs. R. A. Monroe, Mrs. E. E. Overton, Dick Russell, Mrs. T. C. Swindell, James T. Tanner (compiler).

GREAT SMOKY MOUNTAINS NATIONAL PARK, Tenn.-N. C. — (7½ mile radius centered 2 miles south of Cades Cove and including Laurel Lake on north, Fontana Dam on south, Chilhowee Reservoir on west, and Spence Field on state line on east); open farm land 15%, old fields 25%, forests 30%, reservoirs and stream courses 30%. Dec. 21; 7:30 a. m. to 5:00 p. m. Clear to partly cloudy; temp. 12 to 47 deg. F.; wind variable, under 10 m. p. h.; 23 observers in 8 parties. Total party-hours, 58 (45 on foot, 13 by car); total party-miles, 166 (40 on foot, 126 by car). Total, 64

species (1 additional subspecies, Black-capped Chickadee); 2,121 individuals. John Elson, Mary Enloe, Mr. and Mrs. Harold C. Garlinghouse, Quincey A. Gorman, Philip A. Huff, David Highbaugh, Ralph E. Lawson, Jr., Mrs. Elsie S. Janson, Tony Koella, Dorothy J. MacLean, William T. Martin, Jr., J. T. Mengel, Mr. and Mrs. Robert A. Monroe, Mrs. E. E. Overton, Richard W. Russell, Mrs. Prince Sluder, Arthur Stupka, Mrs. Thomas C. Swindell, Dr. James T. Tanner, Dr. and Mrs. Samuel R. Tipton. (Tennessee Ornithological Society, National Park Service and guests).

GREENEVILLE. — (Same area as in previous years) Dec. 30, 7:30 a. m. to 5:00 p. m.; cloudy; temp. 38 to 50 deg. F.; wind 0 to 25 m. p. h.; 11 observers in 6 parties. Total party-hours 38; total party-miles 136 (20 on foot, 116 by car). Total species 54; individuals about 6312.

Two Vesper Sparrows were reported by Mrs. Clinard and Mrs. Darnell the third by Mr. Irvine. Reported during census period, a Brown Thrasher on Dec. 20 by Mr. and Mrs. Nevius and a Catbird, observed at close range by Karl Spees on Dec. 29. Bobby Casteel, Mrs. Turner Clinard, Mrs. Chester Darnell (compiler), Mr. and Mrs. Alfred Irvine, Mr. and Mrs. Richard Nevius, Harry Roberts, Karl Spees, Mrs. Ralph Walters and Mrs. J. B. White.

KINGSPORT. — Usual area centered on Pactolus, including Bays Mt.; Dec. 26, 7:30 a. m. to 5:45 p. m.; clear; temp. 16 to 45 deg. F.; wind variable, gentle east, 5-10 m. p. h.; small ponds frozen, large bodies of water open; hoar frost, no snow. Eleven observers in 6 parties; total party-hours 34; total party-miles 79. Total species, 58; individuals, 19,136. Although the Red-throated Loon appears on the Christmas census list for the first time we have five other records for the Kingsport area during 1958. I (AHS) made all of these observations at Boone Lake with the aid of my 20x telescope. I judge the distance between me and the birds to have been at various times three to five hundred feet. I base the identification on: (1) the plainly observable white spots or specks on the backs of the birds, (2) the light colored heads and thin bills, (3) the apparent small size of the birds. Size is, of course, a more useful criterion when I saw both Common and Red-throated Loons at the same time on Dec. 23. Seen in area during count period but not on count day: Common Loon, Red-shouldered Hawk, Eastern Phoebe and Brown Thrasher. Mrs. M. J. Adams, Mr., Mrs., James and Tommy Finucane, W. E. Gift, Mr. and Mrs. William B. Hincke, George Rodgers, Ann H. Switzer (compiler) and Howard Young.

BRISTOL. — Same area as in previous years. Dec. 27; cloudy; temp. 40 deg. F.; four observers in four parties. Total party hours, 7. Ernest Dickey, H. C. Epperson, Herbert Miller, H. W. Nunley.

ELIZABETHTON. — (The same area as in past years). Dec. 20; 7:00 a. m. to 5:30 p. m.; temp. 45 to 40 deg. F.; wind 0 to 20 m. p. h. Five observers in 5 parties. Total party-hours, 25 (18 on foot, 7 by car); total party-miles, 88 (17 on foot, 71 by car). Total species, 43; individuals 1327. J. C. Browning, Ed Davidson, Ray Garrison, Lee R. Herndon (compiler), Roby D. May, Jr.

THE 1958 CHRISTMAS BIRD COUNT

	Memphis	Nashville	Lebanon	Cookeville	Chattanooga	Knoxville	Great Smokies	Greeneville	Kingsport	Bristol	Elizabethton
Red-th. Loon									2*		
Horned Grebe		3			9				1		
Pied-billed Grebe	1	4			3	6	10		4		2
Great Blue Heron	1	5	30		2	31	2	2	3	1	
Bl-cr. Night Heron		17									
Canada Goose		55	8		1			8			
Mallard	17	111	6,000	20	50	9	50	40	8		
Black Duck		27	1,300	9	122		2	18			
Gadwall			100		4						
Pintail		6	50		4		4				
Gr-winged Teal			200				1				
Amer. Widgeon			100		16						
Shoveler		3			1						
Redhead	2	3					3				
Ring-nk. Duck	2	39	100	190	20		40				5
Canvasback	47	40	20						10		
Lesser Scaup	9	72	150		3		4				4
Com. Goldeneye		1			12	6			18		1
Bufflehead							2		12		7
Ruddy Duck		1			1		8				
Hded. Merganser					1		2				
Com. Merganser						1					
Turkey Vulture	113					1	3	11	3	3	
Black Vulture	15			1				2	4	1	
Sharp-sh. Hawk		1			1		1	1	1		
Cooper's Hawk		1	2	1	1	3			1		1
Red-tld. Hawk	21	17	2	1	2	2	4	1			
Red-sh. Hawk	3	5	2	2		1					
Marsh Hawk	3	2	8				1				
Sparrow Hawk	22	27	1	4	5	13	2	3	4	1	8
Ruffed Grouse							20		1		
Coturnix Quail			8								
Bobwhite	183	30	60	2	22	32		1	2		7
Ring-nk. Pheasant			150								
Turkey							5				
American Coot		103	150			141					
Killdeer	40	94		9	10	73	28	15	1	2	5
Common Snipe	26	2			3	3		1			
Herring Gull	33	26		4	7				23		
Ring-billed Gull		250			89	250			26		
Rock Dove			20	9	67	120		9	12		45
Mourning Dove	208	165	1,000	42	75	232	27	46	124	1	25

Barn Owl	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Screech Owl	1	1	1	1	.....	.....	6	.....	.....	1
Gt. Horned Owl	1	3	2	.....	.....	.....	.....	.....	.....	.....
Barred Owl	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Belted Kingfisher	1	16	.....	4	7	5	5	2	1	5
Yel.-sh. Flicker	114	53	10	8	12	26	7	10	5	10
Pil. Woodpecker	4	8	2	.....	2	5	35	15	5	1
Red-bl. W'pecker	68	25	5	.....	7	21	.....	9	3	.....
Red-hd. W'pecker	18	.....	.....	8	.....	.....	.....	.....	1	.....
Yel.-bel. Sapsucker	14	11	1	4	1	12	4	3	2	1
Hr. Woodpecker	18	7	.....	4	.....	.....	2	3	7	2
Dny. Woodpecker	56	50	5	5	8	34	32	23	13	2
Eastern Phoebe	.....	4	2	.....	.....	.....	14	13	.....	.....
Horned Lark	135	54	.....	7	4	17	.....	41	25	.....
Blue Jay	479	51	13	45	55	185	8	74	43	20
Common Crow	75	200	615	133	55	475	137	3,000	10,000	12
Fish Crow	38	.....	.....	.....	.....	.....	.....	.....	.....	302
Bl.-cp. Chickadee	.....	.....	.....	.....	.....	.....	.....	*	.....	.....
Caro. Chickadee	141	160	20	41	23	131	176	77	55	13
Tufted Titmouse	74	95	14	67	33	78	68	55	33	29
Wh.-br. Nuthatch	2	3	.....	4	15	.....	1	1	2	.....
Red-br. Nuthatch	.....	.....	.....	.....	.....	.....	7	.....	2	.....
Brown Creeper	2	4	.....	.....	1	7	7	2	5	.....
House Wren	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Winter Wren	18	1	.....	.....	.....	4	8	1	1	1
Bewick's Wren	1	4	6	1	.....	.....	.....	4	.....	.....
Carolina Wren	59	31	1	19	16	72	25	23	17	18
Mockingbird	190	126	21	24	34	103	1	17	24	11
Br. Thrasher	26	4	.....	2	3	4	.....	.....	.....	.....
Robin	5,141	5,000	3	3	13	210	15	500	3	9
Hermit Thrush	1	4	.....	.....	1	1	3	.....	.....	.....
E. Bluebird	3	53	.....	43	12	50	38	18	.....	4
Gld.-cr. Kinglet	35	7	.....	.....	2	10	116	1	7	2
Ruby-cr. Kinglet	26	8	.....	.....	.....	2	4	.....	.....	2
Water Pipit	3	3	.....	.....	.....	.....	.....	.....	.....	.....
Cedar Waxwing	75	104	.....	6	64	77	25	43	44	34
Loggerhead Shrike	39	9	2	4	6	10	.....	7	1	5
Starling	255,000	200,000	4,200	269	822	2,090	131	1,500	5,000	15
Myrtle Warbler	26	107	2	2	26	67	4	20	33	9
Pine Warbler	.....	.....	.....	.....	.....	.....	3	.....	.....	.....
Palm Warbler	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
House Sparrow	280	210	125	26	60	38	.....	60	107	15
E. Meadowlark	472	162	60	92	119	165	.....	29	16	2
W. Meadowlark	6	.....	.....	.....	.....	.....	.....	.....	.....	35
Redwinged	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Blackbird	200,000	16	.....	9	225	.....	4	.....	.....	.....
Rusty Blackbird	17	.....	.....	30	65	.....	.....	.....	.....	.....
Brewer's B'bird	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Com. Crackle	351,000	4	.....	.....	.....	.....	.....	.....	3,000	2
Br.-hd. C'bird	200,000	3	.....	.....	38	8	.....	.....	.....	.....
Cardinal	633	390	55	81	55	310	98	136	70	22
Purple Finch	20	5	.....	.....	2	40	1	2	9	.....

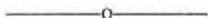
Pine Siskin	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Amer. Goldfinch	127	112	1	12	14	100	46	26	70	.....	34
Rufus-sd. Towhee	74	72	7	29	29	85	16	10	41	.....	6
Sav. Sparrow	74	.....	.....	.....	1	4	3	.....	2	.....	2
Le Conte's Sparrow	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vesper Sparrow	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	1
Slate-col. Junco	503	390	75	91	113	146	193	59	116	7	37
Chipping Sparrow	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Field Sparrow	191	124	.....	78	18	88	114	190	17	.....	49
Wh.-cr. Sparrow	40	56	.....	3	.....	12	.....	36	4	1	18
Wh.-th. Sparrow	1,322	173	2	17	63	330	167	45	64	4	28
Fox Sparrow	147	22	14	1	4	5	1	1
Swamp Sparrow	162	15	1	11	22
Song Sparrow	277	100	14	19	190	113	28	18	3	40
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MEMPHIS MOCKINGBIRDS TRAPPED IN CHIMNEYS — Mrs. Catherine E. Goodlett (THE MIGRANT, 28, 31, 1957) reports an immature Mockingbird which she had to rescue from a "blocked-off" chimney. This manner of entrapment of Mockingbirds, adult and immature, has occurred here on several occasions and probably on many more unreported ones. I intended, some years ago, to seek additional reports, thru a local newspaper, but never did. In the thirties I had a report that one of my banded Mockers had been found dead in a chimney. Another, banded as an adult, April 14, 1950, was found dead in the base of a nearby chimney, March 6, 1951, when the clean-out door accidentally came open. I approximated date of death as Feb. 15. A third was reported to have come down the chimney into a room, across from home, Feb. 4, 1956. I was called over and on capturing the bird, found it to be one that had been banded Jan. 16, 1954, and re-taken occasionally. On July 26, 1956, I was called to a home, a block distant, because a bird was in a chimney, above the metal sheet which closed off the throat above the fireplace. I managed to move the metal enough to provide a clearance for escape and advised the lady to turn on room lights, when it became dark outside. I returned later and caught an immature Mockingbird in the room. Feb. 23, 1958, Mr. A. J. Wild, ½ mile east, advised me that a Mockingbird in his living room that day, could only have entered by the chimney and fireplace.

All incidents but that first report were in a small area so that we can assume others occurred thruout the city. In the last two decades in Memphis, chances of escape, where there is a fireplace, once a bird gets down a chimney and is unable to move up and out, have been lessened, because, in many cases, a metal draft-stop has been installed above the fireplace. If a portable gas heater has been placed in the fireplace, a small vent opening may be left in the metal. In the last five years, air-conditioning has probably resulted in closing even these openings. On the other hand, hoods and forms of closure placed atop unused chimneys have reduced the chance of a bird getting into the flue.

Just how a bird reaches a point down in the chimney from which it can't regain the chimney top, or why, can only be a matter of conjecture. The Mockingbird is almost the only susceptible species, because chimney tops appear to be favorite perches, for singing, and, as a good artilleryman should believe, for observation. On those cool evenings when my walk from the carline coincided with near-roosting time, I thought perhaps the warm air coming out the chimney top might be an attraction, but, then I realized that those spots are cold, windy ones, also. In some cases it appeared that a bird surveyed the area, then when "all clear", moved directly to a concealed roosting place. A few reports on other species trapped, have been received. A banded immature Robin was reported "found dead in chimney" about June 30, 1940, but on checking the report, I was told that it actually was found in the house, but must have entered by the chimney. Mrs. Charles Seahorn of Germantown stated that a skeleton found in their chimney was evidently that of a Shrike, judging by the bill. Some time ago I was told that a dead Flicker was found in a chimney.

—BEN B. COFFEY, JR.



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