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The Altitudinal Distribution of Birds in a Part of the Great Smoky Mountains

By JAMES T. TANNER

Mt. LeConte in the Great Smoky Mountains rises higher above its base than almost any other mountain in eastern North America. On its northwestern side is a valley containing LeConte Creek. This valley is fairly broad and slopes gently from Gatlinburg up to an elevation of about 2600 feet above sea level where spreads a large orchard called Cherokee Orchard. From here the valley narrows and steepens, ascending to the top of Mt. LeConte at 6593 feet. Above Cherokee Orchard the valley is covered with unbroken forest which is in its primitive condition except for a lower fringe of second growth. Because the axis of the valley is approximately east-west, one slope faces south and is drier and warmer than the opposite north-facing slope. The south-facing slope at lower elevations bears a forest of oak and pine, the latter being mostly on the ridge, with a heavy undergrowth of laurel and blueberries. This gives way to yellow birch and spruce at an elevation of about 4800 feet. On the north-facing slope at low elevations is a deciduous forest with a greater variety of trees, such as yellow poplar or tulip tree, maple, buckeye, and silverbell. Many hemlocks are present, often in dense stands. It is usually damp and cool here and there is little undergrowth except on some of the ridges where there are impenetrable stands of rhododendron. This mixed forest changes to one of yellow birch, spruce, and hemlock a little above 4000 feet. At higher elevations the forest on both sides of the valley contains birch, spruce, and fir, the two evergreens becoming more abundant near the top.

Cherokee Orchard can be reached by a road, and from there a trail climbs the valley to the top of the mountain. Thus we have a steep mountain valley that is easily penetrated, providing a good opportunity for field work. I used this area in making a study of Black-capped and Carolina Chickadees (Auk, 69: 407-424. 1952) and another study of Juncos. For the years 1951 thru 1954 I made notes on the locations of other species of birds during late May and June, the peak of the nesting season. In addition, Philip Huff and James Liles kept a record during 1953 of the birds they saw at the top of Mt. LeConte, and their observations are included with mine.

This paper is concerned with the elevations at which different species of birds are present during the nesting season in the LeConte Creek Valley, described above, from 2600 feet to the top of Mt. LeConte. Many of these species will extend either higher or lower in other parts of the Great Smoky Mountains.

Some kinds of birds were present at all of the elevations, from 2600 feet on up. In the case of Sharp-shinned Hawk, Broad-winger Hawk, and Chimney Swift, it is probable that a single individual bird may fly between the bottom and the top of the mountain in a short time. The species whose individuals are more sedentary but may nest from 2600 feet to the mountain top are: Ruffed Grouse, Ruby-throated Hummingbird, Flicker, Hairy Woodpecker, Downy Woodpecker, Blue Jay, Catbird, Robin, Cedar Waxwing, Black and White Warbler, Black-throated Green Warbler, Goldfinch, and Towhee. This makes sixteen species that have been observed at all the elevations studied during the nesting season.

The thirty species of birds not found at all elevations, having either an upper or a lower limit in the area described, are shown on the chart. This extends from where the forest above Cherokee Orchard begins at 2600 feet to 6500 feet; the mountain is higher, but there is very little area above this elevation. The solid bar indicates the elevations at which each species was found; gaps are present in the bar only when there was an interval of at least 200 feet in elevation between records.

Most of the upper limits were on the warmer and drier south-facing slope. Some of the lower limits of birds found commonly at high elevations were in tongues of evergreens, usually hemlocks, that extend down the north-facing slope.

The Black-throated Blue Warbler provides a good illustration of how the density of a species usually changes toward the limit of its range. This warbler is common from about 4000 feet upward in LeConte Creek Valley; two or more birds may be heard singing simultaneously in many places, and squeaking in almost any area will attract a pair. Below 3500 feet the species is scarce and the pairs are scattered. The extreme lowest may be well separated from other Black-throated Blue Warblers, but the male sings regularly and the pair nests; they are like pioneers that have pushed ahead into the wilderness. The other species are similar in that the individuals or pairs become scarcer toward either the upper or lower limit. This could have been illustrated on the chart by having the bars end, not abruptly in a square end, but in a tapering point.

The bar on the chart shows the extreme high or low elevation at which a species was observed during the four nesting seasons. Few species were recorded at the same limit each of the four years. The lower limit of the Black-throated Blue Warbler and the upper limits of the Tufted Titmouse and Wood Pewee were practically the same from year to year, but most species showed considerable variation. These variations appeared to be random, making it illogical to attempt to find causes for them. Because the four-year record does show variations, it is to be expected that more observations in this area would extend the limits of many of the birds shown on the chart and also fill in the gaps.

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ALTITUDIVAL DISTRIBUTION OF BIRDS IN LECONTE CREEK VALLEY

tain going well beyond their nesting range. Small flocks of crows, which are usually found only as far up as Cherokee Orchard, have occasionally flown up the valley as high as 5000 feet, and as another illustration, Golden-crowned Kinglets have moved down in late July at least to 4100 feet.

A study of this kind usually exposes more problems that it solves. Why are there several species with approximately the same altitudinal limits, such as the concentration of lower limits at 3200 feet (see chart) and of upper limits between 3600 and 3800 feet? Why are there no species with lower limits of above 5000 feet? It is generally true that closely related species of birds do not occupy the same habitat or range; this is illustrated by the altitudinal separation of the Black-capped and Carolina Chickadees (see chart). But other pairs of related species show altitudinal overlap: Veery and Wood Thrush, the two Nuthatches, Canada and Hooded Warblers, Blue-headed and Red-eyed Vireos. Are there habitat or other ecological differences separating the members of these paired species?

DEPARTMENT OF ZOOLOGY UNIVERSITY OF TENNESSEE, KNOXVILLE

NEWS AND NOTES

On October 1 and 2, 1955, members of the T.O.S. met with members of the Carolina Bird Club at Fontana, N. C. About 16 attended from Tennessee; Lawrence C. Kent, president of T.O.S., Albert F. Ganier, and Arthur Stupka participated in the program of field trips and talks.

Thomas W. Finucane, Route 1, Blountville, volunteered to coordinate and report observations of hawk migrations this fall. Any data on migrating hawks should be sent to him.

Notes of the Blue Grosbeak in the Mid-South

By BEN B. COFFEY, JR.

During my second spring at Memphis I added the Blue Grosbeak to my life-list, but it was twenty-four years later before I myself saw a second one here. While on an extensive hike with Lester Goldsmith, May 12, 1929, my attention was attracted to a singing male which allowed adequate observation. We were on Mitchell Road, between the two lines of the Y&MV RR; the spot, visited frequently and hopefully since, is now near the east edge of T. O. Fuller State Park, southwest of town. Apparently this is the first known record of the species for Tennessee. Not heretofore published, it was mentioned (Migrant 16:30, 1945) in an editorial footnote, the date being given as May 11, a day earlier than shown on my field card. On June 21, 1953, my first chance to visit the Shelby County Penal Farm that summer I heard a Blue Grosbeak singing. Dusk was falling, so I postponed more investigation. On June 25 I watched him and searched the area without finding a female or immature birds. On subsequent dates I failed to find him.

For the interim there have been only two definite records in Shelby County. Meanwhile the species has been a favorite of mine, its soft warbled song having a quality, to me, like the notes of the Summer Tanager. In delivery I compare it with the Orchard Oriole as an arbitrary "fix". The song can be picked up at some distance. One of the delights of a visit to Memphis camps in the Ozark foot-hills was finding this grosbeak in several spots there. On Mississippi trips some distance from Memphis, during a stay at Ft. Sill, Oklahoma, and at various localities (open, highland country) along Mexican highways, we have always enjoyed seeing Blue Grosbeaks.

The first reference I find in THE MIGRANT (1931:14, or page 6 of the June issue) is where the editor quotes some results of two Memphis field trips, probably from letters or field cards sent to him. The record was of a singer seen May 3, 1931, by Mrs. Coffey; the locality about three miles south-southwest of the 1929 bird. Franklin McCamey evidently had this in mind when he records a female, Aug. 5, 1935, as the first of the species in four years (Migrant 6:53, 1935). Ensley Bottoms, where he and George Foster saw this bird, is just west of the other two records, and in an area worked frequently then. I was somewhat surprised to find one other record, that of one on the Memphis Spring Field Day, May 15, 1949, (Migrant 20:36, 1949). Altho I was the compiler, I do not know who made this report, and like some other field day records of unusual species, here and elsewhere, I consider it questionable. It may have been in Mississippi or in Tennessee since Lakeview is on the state line. The latest county record was on July 16, 1955, when George Peyton, Jr., and I found a singing male on Hall Road and a second on Macon Road, south and east of the intersection of these roads. Previous records were of casuals-these were probably summer residents.

Benj. R. Warriner (Migrant 16:24-26, 1945) reports quite a number

of Blue Grosbeaks near Corinth, Miss., and north into Tennessee during the summer of 1945; his only previous Corinth records were in 1937 (Migrant 8:36-37, 1937). Possibly pockets of this species have persisted east of us, but we have worked certain areas intermittently for a number of years without finding them. On July 6, 1947, we found a pair with three young, at the Tenn. 18 bridge over the Southern R. R., Grand Junction, Tenn. Two pair were reported there July 15, 1951 (Alice Smith and Floy Burford), and the species has been noted there regularly since. The only other records from West Tennessee trips have been: July 5, 1953 (BCs, RDS), one south of Falcon; July 11, 1953 (BCs), one west of La Grange and one west of above bridge; July 10, 1955 (BC, A. Ziegler), two males and an immature, east of Moscow, and one male south of above bridge.

Until 1953 I considered the Blue Grosbeak fairly common in Mississippi, north to Oxford, Pontotoc, and Aberdeen, but absent from the northern tier of counties, which we have visited at intervals. Mrs. Coffey, and to some extent, her sister, Mrs. Floy Burford, have visited their home at Hickory Flats frequently during the last 25 years. On July 4, 1953, I awoke to our first Blue Grosbeak song there; a short swing south and east located three others, and enroute to Blue Mountain there were two other singers. R. Demett Smith, Jr., independently found one near Ashland, before joining Mrs. Coffey and me at Blue Mountain. From there to Tishomingo State Park via Booneville we found one occasionally and, just east of the park, a nest with three young about eight days old. On July 4 we found the species toward and near Iuka, but north of Iuka found only one. On July 26 (BCs) one more was found north of Hickory Flat and four near Holly Springs, but none from there towards Memphis. The only rechecks were in 1954 at Tishomingo and Iuka, without results, and in 1955 at Hickory Flat with the species still present at several places. To the north, in the Ashland area, one was seen June 19 (BC) and two others June 29, 1955 (RDS). North of Holly Springs, two were seen July 10 (BC, AZ) and north of Byhalia, near the Tennessee line, two males on June 19, 1955 (the S. J. Rinis).

To date the species has been reported rarely from the Delta. On June 2, 1935, our heron banding party saw three males and a female at Good Hope. At Rosedale, M. G. Vaiden has reported in these pages three collections (early 1952 and 1953) and a previous sight record.

In East Arkansas the species is found northwest of the Black River; in some areas one may be heard at almost every stop. Elsewhere my records are: Jonesboro, July 5, 1954, two localities west; Lonoke, 1954: July 11, a pair at Anderson's, and July 26 (Brooke Meanley), another nearer town.

The species should become more common in West Tennesee, from the Grand Junction pocket and those just south of the state line. In Middle Tennessee Mrs. A. R. Laskey reported the first near Nashville, May 19, 1945 (Migrant 16:30, 1945) and many points in East Tennessee have reported the species in recent years, the first being apparently for May 4, 1943 (Migrant 17:68, 1946).

672 NORTH BELVEDERE BLVD., MEMPHIS 7, TENN.

The Round Table

WOOD IBIS NEAR TULLAHOMA.—On August 10 and 11, 1955, two of these birds were seen at the upper end of Woods Reservoir near Tullahoma. The reservoir is a lake produced by a high dam across Elk River. They were seen by Carlos Fetterolf, District Biologist of the State, while engaged in fisheries investigations. The Ibis were in company with herons and shorebirds feeding along mudflats exposed by the low water of late summer. These post-nesting-season wanderers from the Gulf Coast region are frequently reported along the Mississippi River near Memphis, but this is the first Middle Tennessee record that I know of.—ALBERT F. GANIER, Nashville 12, Tenn.

LATE SPRING RECORD FOR LESSER SCAUP DUCK—During the last three days of May 1955, my wife and I observed a female Lesser Scaup Duck accompanying a Pied-billed Grebe on Mt. Lake, Tracy City, Tenn. I suspected that the duck might be wounded, but it dived and swam under water very well and when frightened pattered along the water surface and flew in a normal manner. I was able to approach within ten feet of both grebe and duck by swimming slowly with flipper feet and with my head protuding only slightly above the water surface. By June 1, both birds had disappeared.—HARRY C. YEATMAN, Dept. of Biol., Univ. of the South, Sewanee, Tenn.

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FIRST RECORD OF SANDERLING AT WATAUGA LAKE-On Saturday afternoon, Sept. 3, 1955, Howard P. Langridge and Russell Parris discovered a Sanderling (Crocethia alba) on the mud flats near the Roan Creek Boat Dock, where Roan Creek empties into Watauga Lake in Johnson County, Tenn. Watauga Lake had been drawn down several feet during the past month, leaving extensive mud flats for about a mile in this area as well as less extensive areas at several other places along the lake shore. This bird was in excellent fall plumage and stood out in contrast to the Killdeers and Semipalmated Plovers with which it associated. It was studied at length thru 7x50 binoculars, in good sunlight and at a distance as close as twenty-five feet. The following morning Mr. Langridge and the writer returned to the same location to find two Sanderlings amongst a variety of other shore birds. The second bird was in less distinctive plumage than the first. The large black bill and legs set them apart from all the other birds. At least one of the two birds was observed at the same location by several of our members on the two succeeding week-ends. On our annual fall field day, September 24, they were not to be found in the original area, but John Luker found two Sanderlings on the mud flats between the Butler and Cove Ridge Boat Docks, near the town of Butler. Since this was their first recorded occurrence in this area, they might have been driven off their normal course by the hurricane on the Carolina coast two weeks previous.-LEE R. HERNDON, Elizabethton, Tenn.

This appears to be the first record of the Sanderling in Tennessee.—ED. JEWELS IN THE JEWELWEEDS—Members of the T.O.S., Nashville, enjoyed an unusual treat in visiting a remarkable concentration of Ruby-throated Hummingbirds.

On our September field day of 1954, H. E. Parmer and I went up Jocelyn Hollow to the springs, expecting to find warblers concentrated in the dense woods about the springs and the small stream that trickles down the valley. We were successful in reporting a good list of warblers; but when we reported 15 hummingbirds, some members of the club were skeptical.

This spot is one of natural beauty, a long, narrow valley surrounded by hills and covered, both valley and hills, with the finest growth of virgin timber I have seen in years—poplar, beech, oak, and many other varieties. From the head of the hollow two springs feed the stream which trickles along over rocks or widens out over rich silt flats twenty to sixty feet wide. This continues for some four hundred yards, and then the stream disappears. Along this entire distance yellow and orange jewelweed grows abundantly, standing from four to six feet high. Last September, like this one, was very dry, and hence there were few flowers for hummingbirds to visit; therefore they had concentrated in this spot.

On Saturday September 17 of this year, H. E. Parmer and I made the trip again to this valley, and at the count at the end of the field day we reported 35 hummingbirds. Since that time various members of the local chapter have visited the springs with amazement. On September 20, Mr. and Mrs. A. F. Ganier, Mrs. W. F. Bell, Miss Jennie Riggs, and I went back to make a more careful count. An accurate count was, of course, impossible, but by using the best system we could devise, we placed the number between 60 and 100. At one place there were 12 around me within a space of twenty yards. About one in every six was a mature male, and when he spun through a straggling ray of sunlight, his throat gleamed like the jewel from which he derives his name.

If you have a damp spot with deep, fat soil and plenty of shade, plant jewelweed and enjoy a hummingbird circus in summer and early fall.—B. H. ABERNATHY, Nashville, Tenn.

EARLY TREE SWALLOW MIGRANTS—At the end of July 1955, May Franc Knight and I observed eight Tree Swallows sitting on a telephone wire. We feel sure there were more around, but, as those on the wire flew and milled about, we were never quite able to verify a higher count. Their behavior indicated that they were in migration. Tho we know that, within their nesting range, they are about the first birds to flock after the nesting season, this seems to us decidedly early for Tree Swallows to have reached this point in migration from their usual nesting grounds. We were next able to observe Tree Swallows, and these undoubtedly in migration, on Sept. 10.—DIXON MERRITT, Route 6, Lebanon, Tenn.

HORNED LARKS NESTING AT SEWANEE—On April 19, 1955, my wife and I observed an adult Horned Lark on a fencepost near University Farm Pond, Sewanee, Tenn., and suspected that it might be one of a breeding pair. On April 20 two adults were seen carrying food from the road into a nearby field. On April 21 we made a special effort to locate the nest or fledglings by watching the adults. Within a few minutes my wife had located a particular spot in an old cornfield where an adult had alighted, and she promptly found a bob-tailed young Horned Lark just out of the nest. We photographed the bird, but were unable to locate the nest or other young because of an approaching rainstorm. We continued to see and hear Horned Larks during May, June, and July.

For the past six years I have been compiling an annotated list of birds for this area and this is the first breeding record for this species at Sewanee. Looking through back issues of THE MIGRANT and THE AUK, I found it quite interesting to follow the southward invasion of the Horned Lark as a breeding species. In this part of the state it had been observed in June 1945 as far south as McMinnville, which is almost due north of Sewanee, but no nests were located. Southeastward, it has been found nesting at Rome, Ga. (1950), and slightly southwestward at Leighton, Ala. (1942). At Sewanee's band of latitude, its southward invasion has been more gradual, possibly due to the scarcity of cleared land in this plateau region.

The Horned Lark is only one of many species extending their breeding ranges in Tennessee. The Lark Sparrow and Dickcissel are moving eastward, the House Wren and Blue-headed Vireo southward, the Song Sparrow southward and westward, and the Blue Grosbeak northward. HARRY C. YEATMAN, Dept. of Biol., Univ. of the South., Sewanee, Tenn.

BLUEBIRDS IN A MARTIN HOUSE—Purple Martins did not come to our box at the usual time last spring. Both English Sparrows and Starlings undertook to occupy it, but we prevented them. Then a pair of Bluebirds built a nest in one of the four apartments and hatched a clutch of eggs. On a Sunday morning in early May the Martins arrived, four pairs of them, eager for homemaking. Battle raged thruout that Sunday. Never, I believe, have I seen anything else fight as those parent Bluebirds. By sundown they were complete victors. All the Martins had given up the fight and gone, and none of them ever returned.—MRS. FRANK HOLLOWAY, Route 6, Lebanan, Tenn.

LARK SPARROWS NEAR NASHVILLE—On a hot July 9, 1955, a small group of T.O.S. members, under the leadership of Albert F. Ganier, set out in an easterly direction from Nashville to cover fields where Mr. Ganier had found Lark Sparrows some years before. Parts of the area had become unsuitable for sparrows, so we had little success at first. As we were about to give up, our car flushed a flock of Lark Sparrows that had been dusting in the road. After following and carefully studying them, 8 immature and 4 adults were identified. The birds stayed in the same area as we ate lunch. The exact location of the birds was four miles east of Gladeville in Wilson County, Tennessee, along a dry creek bed.—JOHN OGDEN, 515 Fairfax Ave., Nashville 12, Tenn.

The Season

MEMPHIS—Following the winter's low of 11° F. on Feb. 11, early March was much warmer than usual, but the last half, colder. March 26 was the third coldest day of the winter; widespread new growth was killed then, and at Coffey Grounds no fruits appeared later on the several wild black cherries there. The number of birds there seemed lower than in some time; results elsewhere generally agreed with this. Temperatures in April and May were above normal, July and August less so, while June was 4° above average. Precipitation, after three dry years, turned the corner in February; April's 12 inches were 7 above normal, and the next three months varied at scattered locations between normal and 50% above. With a last good rain on August 22 and some on August 29, it became dry and hot until drizzly Sept. 24. The river rose from 2 feet, Feb. 5, to 35.3 (flood stage, 34) feet on April 2, highest in three years, filling dry sloughs. It then dropped rapidly; in August it reached zero and was -3.4 on Sept. 24.

Early transients were earlier than average, with 3 Purple Martin on March 2 and 22 Golden Plover on March 4 (earliest) at the Penal Farm. But the first indication of a general movement of small land birds in Overton Park was April 6 and 7, according to George Peyton, Jr., Harry Landis, Jr., and David Brown, who faithfully visited the park. A scattered few followed, arrivals being then behind schedule. The next influx noted was on April 16 and early species became fairly common in the next week. The Tennessee and Nashville Warblers and Redstarts, altho first noted on April 16, were unusually scarce, only the Redstart becoming common later. The best influx was noted on April 23, but the Spring Field Day at Lakeview, Tenn.-Miss., on May 1 reported few transients. David Brown found moderately heavy warbler migration in Overton on May 9 and 10.

Unusually early were: 1 Barn Swallow on March 26 at Penal Farm (GP, HL, DB); 1 Olive-backed Thrush on March 27 at Spring Lake State Park, Miss. (S. J. Rini and LC); a male Ruby-throated Hummingbird on March 30 (Mrs. Frank Loughlin); 1 Palm Warbler on April 4 at Overton (HL); 1 Lincoln's Sparrow on April 12 at Penal Farm (BC). Of interest earlier was a male Dickcissel which evidently wintered in this country, seen by Harry Landis in or near his yard on March 13 and 20 (also LC, A. Smith) and April 4 and 5. Early plowing as last year possibly caused the Golden Plover to skip areas of former abundance just south and west of Tennessee borders, but they built up on the Penal Farm pastures with flocks totaling 303 on March 19 and 540 on March 26; 42 were seen just inside Fayette Co. (near Fisherville) on March 19 (GP, BC). At the Penal Farm on May 15 I totaled 322 Kingbirds, 900 Bobolinks, and 13 Semipalmated Plovers.

An adult Yellow-crowned Night Heron was at the Penal Farm July 9 and 16, and Mud Lake on July 23 (BC, GP) had over 200 American Egrets, a few other Herons, and 3 immature Wood Ibises. No Snowy Egrets were seen subsequently and on August 27 only 2 American Egrets, but the Little Blue Herons were up to 40 immatures and 30 adults. There were two to three inches of water on Sept. 10; the immature Little Blues were there, 80 American Egrets, shorebirds, and, with no one to share the sight with me, 400 Wood Ibises! This was the largest flock I have ever seen and our first in some seasons. On Sept. 18 only two room-sized pools of water were left, but the Little Blues remained plus 32 Blue-winged Teal. About 100 Pectoral Sandpipers and 40 Killdeers were present on both dates, plus, on the respective dates, 15 and 5 Lesser Yellowlegs and 2 and 1 Greater Yellowlegs. The Penal Farm yielded only 2 Upland Plover and only on July 16 and August 21; a few others may have been in the high grass. Our earliest ever Golden Plovers were 3 there on July 27 (HL). The northeast corner of President's Island was frequented after July 28 by small numbers of the five common sandpipers plus the Semipalmated Plover. Then on August 6 (GP, Richmond Gill, Jr.) a Knot in mixed plumage was the second Tennessee record (first at same spot, Sept. 11, 1954). Oliver Irwin began almost daily visits, getting a Black-bellied Plover on Sept. 11, 5 to 6 Golden Ployers on Sept. 12 (both thru Sept. 17, BCs), with 2 Goldens on Sept. 22. Caspian Terns (Irwin) seen were 3 on Sept. 11, from none to 6 later, then 15 on Sept. 22 and 16 on Sept. 24, the largest number of this species ever reported here and the longest period of records.

Several nights' work listed more summer Whip-poor-wills in our three states, including northwest of Lexington and north and south of Rogers Springs in West Tennessee. Five new bridges on Tenn. 14, northeast of Raleigh, had a Phoebe nest each on June 25. A Cerulean Warbler was listed at Natchez Trace State Park on May 8, Chickasaw State Park on June 26, and several in Shelby Forest (Nature Trail) on June 25. Swainson's Warblers were also noted in the last two instances. Scarlet Tanagers were seen June 26 at Chickasaw State Park, a former site near the group camp, and four miles east of Jack's Creek on the road to Lula. A Lark Sparrow on July 23 (GP, BC) was the second record ever for the Lakeview, Miss., levee.—BEN B. COFFEY, JR.

NASHVILLE — The Nashville area was fortunate in having the coolest early summer in years. The cool weather extended well into July, and was accompanied by good rains. Since the middle of July, however, there has been a considerable drop in rainfall and increase in temperature, tho neither the heat nor the drought has equaled that of the last three summers. Mr. Ganier says, "It has been the greenest summer in a number of years." Our bird population seems to have been about the same as usual, judging from reports which have come in.

There are few late spring records of note, but worth mentioning is an Alder Flycatcher found lingering in the Ashland City Marsh May 31 by by Weise and Ogden. Four Coots were seen at the same location that day, and on July 1 Weise saw 1 Coot in this marsh.

Nesting records of interest are as follows: May 31, a nest with eggs of Least Bittern in the marsh near Ashland City (Ganier, Weise, Ogden); May 2, two active nests of Green Herons in pines at Basin Springs (KAG); April 9, 50 Black-crowned Night Herons with eggs in the nest in the heronry on White's Creek Pike again (Weise); May 31, a pair of Wood Ducks with young in the Ashland City marsh (AFG); a nest of the Carolina Wren with fresh eggs on August 20, but the birds did not incubate them (AFG).

Mr. Monk reports five active nests of Mourning Doves in or near Centennial Park during the first half of September, the last activity being a parent brooding large young in the nest Sept. 17; the birds were gone next day. Dr. Mayfield and the Tennessee Game and Fish Commission report that there has been an increase in Mourning Doves this year. The consensus among observers in our area is that the breeding season for birds has been better than usual this summer.

We have not had reports of wandering or migrating warblers in July as we did in 1954. Our earliest dates this year are: August 20, 1 Black-throated Green (SMB); August 25, 1 Canada (JO); August 27, 1 Magnolia; August 29, 2 Blackburnian; August 30, 1 Wilson's (all by Weise); Sept. 2, 1 Chestnut-sided; Sept. 4, 1 Golden-winged (JO); Sept. 9, Ovenbird (ARL). Early migrants among water birds were: August 14, Solitary, Least, and Spotted Sandpipers (JO); August 27, 2 Snowy Egrets, 5 Green-winged Teal, 10 Blue-winged Teal, 1 White-rumped Sandpiper (CMW); August 30, 1 Pied-billed Grebe, 2 Marsh Hawks, 1 Osprey, 1 Wilson's Snipe, 12 Common Terns, 230 Black Terns (CMW). Mr. Monk heard the call of the Upland Plover the nights of August 4 and 8.

In comparing the record of our Sept. 17, 1955, Field Day with that of Sept. 18, 1954, I find that we had 100 species last year and 101 this year. Fourteen species of warblers were reported last year, 21 this year; nine species of water birds were reported last year, ten this year. Offsetting these gains, however, were the absences of several species this year which were reported last year: Grey-cheeked Thrush, Red-breasted Nuthatch, Black-billed Cuckoo, Lark Sparrow, and others.—SUE M. BELL.

LEBANON—Last fall, the third in a series of drought years, we reported Bluebirds abundant thruout our area, while every other chapter reported a dearth. This year, a normal one as to precipitation and temperatures, our abundant Bluebird population has been maintained tho apparently not increased from last year.

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What, if anything, is exceptional as affecting Bluebirds in our situation? We have made some observations, and consequent speculation if not deduction, which we wish to report for consideration. We have found Bluebirds nesting much higher above ground than they have done before within this century, since they were forced by an alien enemy to adopt a nesting system which put them near enough the ground that English Sparrows would not interfere. In my own yard, for thirty years, Bluebirds nested in a hole in a garden fence post exactly five feet from the ground. Last year they abandoned that site for one in a nearby shade tree nearly twenty feet from the ground. This year they continued at the tree site. Tho they did much flitting about he fence post, they did nothing about building a nest there. In a case which Mrs. Holloway reports in a "Round Table" note, a pair of Bluebirds nested in a Martin box fifteen feet from the ground. There was a great deal of trouble with both English Sparrows and Starlings, and later, with at least four pairs of Martins. The Bluebirds successfully defended their home and family and reared at least two broods in the Martin box this year. These are the striking cases among several.

Are our Bluebirds, in addition to returning to their former high nesting sites, developing a pugnacity which enables them to defend themselves against all comers? Are these things peculiar to the Bluebirds of our area or are Bluebirds generally developing these traits? You tell us; we are puzzled.

As to my own yard, it should be stated that there was little chance of English Sparrow molestation. My place has been practically free of English Sparrows for several years. This is not true of other places at which Bluebirds were observed nesting high.

Barn Swallows are nesting thruout our area in much greater numbers than ever before within our time. My own barn, which I have observed for seventy years, contained Barn Swallow nests this year for the first time. There has been no observable change in environment. DIXON MERRITT.

CHATTANOOGA—Because of the writer's absence from the state between May 9 and June 19, spring and early summer observations are relatively incomplete. The presence of Great Blue Herons and American Egrets on April 3 indicates that there may be a rookery not far away. The Black-crowned Night Herons that roost daily for about three weeks in March and April in a magnolia tree at the residence of Mrs. Jack Thompson were back this year. A Canada Goose spent several weeks until at least May 1 at Chickamauga Dam, allowing a close approach by the many visitors at the damsite. About 15 Bonaparte's Gulls were seen at Chickamauga Dam on March 26 and April 3 (first record).

About 390 active Cliff Swallows nests within hand's reach (from a boat) were observed at Hales Bar Dam lock wall on May 2. Mr. C. L. Boyd, Hamilton County Conservation Officer, reports a wild Turkey hen on August 30. He also observed, on July 19, 7 female Wood Ducks near Hales Bar Dam with only one half-grown young. Several of the females were seen to leave nest holes, which seems late for nesting. Two families of Red-headed Woodpeckers were feeding young in the nest in mid-August, also late.

In spite of generally late spring arrival dates, a Prothonotary Warbler was recorded April 10. Several warblers normally recorded in the spring were not seen at all this year. There was also a scarcity of single records of uncommon or rare migrants, several of which are usually added to the records each year.

Blue Grosbeaks apparently had a successful season in Chickamauga Park, Ga., with two sets of young on August 11. The younger set appeared to have been out of the nest about ten days. An increasing number of singing males have been observed this year in portions of Chattanooga. In spite of several Bachman's Sparrows and one definite nesting in Chickamauga Park in 1954, not a single individual was seen or heard this year.

An early Blackburnian Warbler was seen on August 4. A Myrtle Warbler was seen by Mrs. Jack Thompson on August 11 and by the writer on August 20; both dates are weeks ahead of normal. A Wilson's Warbler, the first seen here in the last three years, was seen on Sept. 23. ADELE H. WEST.

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KNOXVILLE—After a warm beginning, spring was stopped by a cold snap on March 26 which tumbled the temperature to below 20° for several consecutive nights. Possibly as a result of this a number of birds that usually arrive in early April were a few days late; these include Rough-winged Swallow, Barn Swallow, Wood Thrush, Blue-gray Gnatcatcher (on April 9), Black-and-white Warbler (on April 11), Yellow Warbler (on April 15), Black-throated Green Warbler, Yellow-throated Warbler, and Louisiana Waterthrush. Those in the above list for which no dates are given were only a few days behind their average arrival date. On the other hand, making it difficult to try to analyze these things, the following species arrived on the earliest dates we have recorded: Tree Swallow, March 20; Catbird, April 3; Tennessee Warbler, April 20; Cerulean Warbler, April 12; Bay-breasted Warbler, April 24; Orchard Oriole, April 15; Summer Tanager, April 12.

A Coot, remaining later than usual, was reported on May 15.

The summer season was nearly normal in climate for the first time in several years. Perhaps as a result of this there were two records of what seemed to be unusually late nestings: a Towhee was incubating during the week ending August 20 (Neal Sanders), and a Cardinal was observed feeding a begging juvenal on October 2 (JTT).

On August 28 an Avocet was observed near Powell Station, Knox Co., by J. C. Howell and Mrs. R. A. Monroe; this is the second record for this area. Unusual birds seen on the Fall Field Day on Sept. 25 were 2 Bald Eagles, 2 Duck Hawks, 1 Virginia Rail, 2 Pectoral Sandpipers, 2 Northern Waterthrushes, and 1 Blue Grosbeak (latest ever). On Sept. 14, J. B. Owen found a Mourning Warbler, the second fall record for this area.

The following records are earlier-than-usual fall dates: Wilson's Snipe, August 28; Black-billed Cuckoo, Sept. 11; Red-breasted Nuthatch, Ruby-crowned Kinglet, and Swamp Sparrow, all on Sept. 25.—JAMES T. TANNER.

GREENEVILLE — Adequate rainfall of spring and early summer preceded present drought conditions. Observations were mainly of the usual.

A pair of Blue Grosbeaks present thru May and June may have nested. Shrikes nested at Tusculum (Irvine) and Lick Creek (Nevius). A pair of Yellow-crowned Night Herons returned April 15 to the site of last year's nest but did not nest there. Others may have nested in the area, for on April 22 six individuals were seen together, a pair frequented a woodland bordering Grassy Creek, and at a pond four miles away one was shot by a farmer intending to protect his fish.

Downy Bobwhites reported seen the second week of September seem an instance of late nesting. Alfred Irvine found two Wilson's Snipe Sept. 9 and 10.

White-eyed Vireos were still here Sept. 15 (Helen White) and Sept. 22. Blue-gray Gnatcatchers were scarce by September, single individuals being seen Sept. 3, 11, and 22. Two Blue Grosbeaks were seen on Camp Creek Bald August 7 (Clemens).

Late afternoon flocks of around 500 Nighthawks fed and moved southwestward down the valley paralleling the Unakas Sept. 5 and 6 (Clemens, Darnell). Other migrants include a Yellow-throated Vireo Sept. 14 (Darnell), two Redstarts Sept. 16, a Cape May Warbler Sept. 18 (White), Palm Warblers Sept. 18 (Darnell), Black-throated Green Warbler Sept. 21, Rose-breasted Grosbeak Sept. 21 and 22, Magnolia Warbler Sept. 22. On a Sept. 18 field trip to Rich Mtn., T.O.S. members found Olive-backed Thrushes abundant.—RUTH REED NEVIUS.

ELIZABETHTON—The season in the vicinity of Elizabethton has been about normal with respect to temperature and rainfall except the month of June was rather dry with only 1.78 inches of rain and for the first twenty-one days of September there has been only 0.15 inches. May, July, and August had 2.93, 3.28, and 3.82 inches of rainfall respectively.

Some noteworthy seasonal records have been: an adult Yellowbellied Sapsucker, June 25 and August 31; immature Little Blue Heron, July 18; Spotted Sandpiper, Aug. 5; American Egret, Aug. 7; Cerulean Warbler, August 11; Woodcock, August 14; Great Blue Heron, August 21; Osprey, August 21 and Sept. 17; Chestnut-sided Warbler, August 18; Worm-eating Warbler, August 20; Pied-billed Grebe (14), Magnolia Warbler, Blackburnian Warbler, Bay-breasted Warbler, and Canada Warbler, all on August 31; Semipalmated Plover, Wilson's Snipe and Sanderling (see "Round Table"), all on Sept. 3; Tennessee and Nashville Warblers, Sept. 1; Pectoral, Semipalmated, and Western Sandpipers, Sept. 4; Olive-sided Flycatcher, Sept. 9 (third record for the area); adult Bald Eagle, Sept. 11. The shore birds observed on Sept. 3 and 4 were all on the mud flats near where Roan Creek empties into Watauga Lake in Johnson County.

In a Fall Field Day on Sept. 24, 93 species were recorded.—LEE R. HERNDON.

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Book Review

LOUISIANA BIRDS. By George H. Lowery, Jr. Louisiana State University Press, Baton Rouge. 580 p. \$5.00.

"This is not a state bird book in the traditional sense." This sentence from the author's preface is very true.

"Louisiana Birds" is an introduction, first to bird study in general and second to the birds of the State; it is aimed at developing and encouraging the observation of bird life in this region. The first part of the book, 96 pages, describes Louisiana as a place for bird study, the history of ornithology in the State, the biology of birds, and ways of studying birds.

The bulk of the book consists of brief descriptions of the 377 species that have been recorded in Louisiana. Subspecies are very wisely omitted. The descriptions are simple and well-written statements of status, habitat and habits, and frequently of identifying field marks. Each species is figured by Robert E. Tucker, many in a style made familiar by Roger T. Peterson. Following this section is a twelve page chart showing the seasonal occurrence of birds in Louisiana, so that a reader can quickly determine the status of each species for any time of the year.

The annotated bibliography cites notes and books about Louisiana birds that have appeared since H. C. Oberholser completed his "Bird Life of Louisiana", which is a more technical work than the book being reviewed. There is a good index.

The illustrations are of several kinds. Besides the plates and figures done by Tucker, largely for identification purposes, there is a frontispiece in fine color, as are all the plates, and many unusually good photographs; most of these are by Allan Cruickshank and Samuel Grimes. All these combine with good printing to make an exceptionally handsome book.

With the help of his illustrators, George Lowery has succeeded in presenting a fine picture of Louisiana birds. Members of T.O.S. will be interested in this book because of the proximity of the two States and because Robert Tucker, the artist, came from Tennessee.—JAMES T. TANNER.

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