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A NESTING STUDY OF THE EASTERN PHOEBE

By JOHN WALLACE COFFEY

On the morning of 26 May, 1962, I was observing birds along Steels Creek near Bristol, Tennessee with several members of our TOS chapter, when we discovered an active nest of the Eastern Phoebe (*Sayornis phoebe*). From this nest, located under a large concrete bridge, I banded my first young Phoebe.

I don't suppose anyone forgets an occasion when you struggle most of the day trying to kill or remove the countless crawling mites that swarm over your hands, arms, and clothing. Certainly, it is not the most enjoyable experience to have come in contact with such an infested nest. Nevertheless, I managed to salvage one young bird for banding. The remaining four flew in all directions before bands could be placed on them.

That is the story of my first nest. The rest of the story might well be found in Dorthy Bordner's article for **EBBA NEWS**, November-December 1961. From that article entitled, "Phoebe Banding in Pennsylvania", I borrow her summary in a nutshell: she writes, "This article might be called a progress report on the project which grew as one bridge led to another."

Within the limits of this article, I intend to shed more light on the subject of Phoebes and their nests. From my study many interesting questions have arisen. Perhaps many of my findings should merit further investigation. In several phases of the study, conclusions differ with much contrast to the observations made in the Pennsylvania area (Bordner 1961).

The Phoebe, along with many other species, deserves much attention. The present problem of controlling our environment by spraying deadly chemicals, not only offers an increasing concern for all wildlife in general, but also presents further obstacles for the Phoebe's feeding habits. The placing of the Phoebe on the disaster list gives the ornithologist additional reason to be concerned with the future success of this small flycatcher.

Two important areas were selected for the focus point of my study. The first is thirteen miles of Tennessee Route 91 from the cross-roads in Shady Valley, Tennessee to Damascus, Virginia. The upper portion of this area is near Shady Valley. In the Spring of 1962, some of the area was sprayed for Japanese Beetles. Thus a good opportunity was presented to study the effects that might be evident in the 1963 nesting population. Flowing along this road, and throughout the area, is Beaver Dam stream. The stream falls approximately 800 feet in elevation from Johnson County at Shady Valley into Washington County, Virginia at Damascus. At this small town in the lower valley Beaver Dam joins Straight Branch, a similar winding mountain trout stream, flowing from the higher mountains of Washington County and forms the head waters of the South Holston River.

Straight Branch is the second important area. Like Beaver Dam, the average nesting elevation for fifteen locations is approximately 2,400 feet. Unlike the fourteen locations along Beaver Dam, it has not been sprayed and therefore establishes an excellent control area. U. S. highway 58 fol-

lows the 900 foot descent of this stream through the Jefferson National Forest and crosses the stream in many places to form fifteen bridges over a distance of three miles.

To establish a relationship between nesting at these higher elevations and the lower elevations, 37 nests were checked between 1500 and 2000 feet and four nests at 1200 feet. Some of these nest sites were located up to 25 miles away. Most of the nests from lower elevations were located around Bristol, and in Sullivan County, Tennessee and Washington County, Virginia.

Locating the Phoebe's nest is not as difficult a task as one might think. The first step is to determine from maps or memory, those areas which provide well constructed bridges and culverts. These areas are frequently associated with rather large streams, because the smaller creeks often flow through pipes or under poorly constructed wooden bridges. Neither pipes nor small wooden bridges have proven to be choice locations for nesting.

Particular attention is given to the culvert-bridge locations because they are readily located and easily accessible. In addition, they are most plentiful throughout this area. This is particularly true of the Beaver Dam and Straight Branch nesting areas. Considerable effort was given to finding nests on cabins, cliffs, dirt banks, and large rocks. However, these locations yielded only about 11.5% of the total nests discovered. Streams flowing along highways and roads through forests or heavily wooded areas invariably produce many suitable nesting places.

Open country and farming areas are not to be neglected. Such areas frequently maintain a rather dense population. We should note that farming country supplies the Phoebe with nesting materials, parasites, and nesting competition which are not frequently encountered at higher elevations in mountains or wooded areas. These subjects shall be discussed in greater detail in other portions of this report.

Records were kept in a small loose-leaf notebook, while in the field, and banding information recorded on forms carried on a clip-board. The notebook served to record information concerning a description of the location, nest construction, sampling of air and water temperatures, parasitic conditions, observations and description of nestlings, eggs, egg-laying, incubation, and several other important aspects of the study.

Later, all significant information that might have been useful on return visits to the nest was placed on a 4x6 inch blue file card and the location was given a number. The number, such as 162-03, indicated from the first three digits the location, and from the last two the number of nestings or broods studied at that location. If three nests had been located at a particular culvert, each nest would be recorded on a separate card. Each card would bear the same location number (162-) and a separate brood index such as 01, 02, or 03. Upon returning to the field, a quick glance at the card gave the history of the nest and its location as well as some indication of what to expect in terms of young, eggs, and nest construction. Elevation for each nest was determined from U. S. Geological Survey contour maps and was recorded in red at the top of each card.

Since most of the nesting locations were either under culverts or bridges, a system was devised to describe the exact location. This allowed for the possibility of describing several nests in the same location and to make reference to a new nest, an old nest of the same season, or a nest still intact from the season of the previous year.

When standing upstream at the opening of a culvert or the upper end of a small bridge, it is possible to describe the nest in terms of the left or right wall of the culvert. A nest can further be described as having been found on the upper or lower end of the culvert and its location from the nearest end is expressed in a measurement of feet. In many places the culvert has two or more channels through which the water flows in which case reference was made by numbering the channels from left to right.

The final tabulation of these factors showed only a slight deviation from what could be expected based on probability. The Phoebe has two alternatives: a nest can be placed on the left or right wall and either upstream or downstream. Very few nests were actually placed in the center. Probability would expect 50% on either wall and the same for the upstream-downstream location. The left wall was chosen for 62% of the nests and the upstream tendency was 58.5%. Four other combinations can be determined from either an upstream left or right wall, and a downstream left or right wall. Considering this combination, 25% would be the expected probability, in each of the four possibilities. The upper left wall was high with a 34.5%, followed by 23.6, 21.9, and 20.0 respectively. The lower right wall supported the fewest number of nests having eleven.

The actual significance of the percentages is very limited. They are recorded mostly as a matter of record because at many nesting locations, it is possible to relate many other determining factors.

It was found, for example, that in winding mountain streams erosion had caused the main flow of the water under bridges and culverts to run constantly toward the lower wall. Many times this was in direct relationship to the direction from which the water was flowing just before entering the culvert. In nearly all situations of this nature, the Phoebe chose the side where the deepest, or main, channel of the water was flowing. As the stream snaked back and forth under the roadway, the water alternated from the left wall to the right wall with every other culvert. This gave the nest an increased protection from being reached by predators.

While the location of the nest in relation to the upper end and lower end of the culvert most likely depended more on a simple choice of either one end or the other, it was discovered that in most situations, I encountered Phoebes facing the nearest end during incubation or brooding. The nest requires the bird to face in one or the other directions because the presence of the wall on which the nest is constructed limits any other position. Nests were often located within a foot of the opening to the culvert. The average for 37 nests was approximately seven feet from the end. However, in one instance, a nest was found 25 feet from the nearest end of a long culvert under a super-highway.

The method of support used in construction of a nest varies somewhat. Most of the nests were simply plastered to the wall at the nesting site. Only 29 of the 75 nests for which the method of support or attachment was recorded had partial support from a ledge, rock, pieces of metal used in concrete reinforcement, or a shelf upon which the nest was completely supported. Complete shelf support was found at 20 nests; most of these nests were under bridges which had I-beams that were convenient for the support of a nest.

The materials used in construction of the nest were constant in all respects except for the lining. Generally, the nest is constructed of mud and covered with green moss. The moss is probably replaced during the season because nests that were used over a period of two months and raised more

than one brood still maintained a green outer cover. The lining differs with location and availability of materials. For instance, it was always noted that in wooded and mountainous areas the nests were lined with dried grass. On the other hand, nests located in farming country were lined with horse hair.



Nest and young Eastern Phoebes under bridge.

Photo by George Craig.

Invariably, nests were placed under some type of overhead shelter. Usually, the roof of the culvert served as the shelter and the nest was placed within two inches of the ceiling, if possible. The nest is approximately five to six inches in diameter and four to seven inches in depth. The interior of the nest is a shallow cup. Because the weight of the brood is so great, the outer rim falls until the nest is nearly flat. This proves to be a very efficient way to determine if a brood has been raised at a nest during the present season.

Nests will remain intact for at least two seasons if they are well constructed and not destroyed by man or high waters. In some cases, nests have been built so well that they are used again during the following years. In other places they would tear loose from the surface if lightly touched, or dampened by moisture from a leaky shelter.

In many of the locations it was observed that a great deal of mud or muddy water had been splattered over the roof and surrounding walls. This may have been caused by hovering in flight while constructing the nest. The traces of mud served as clues to spots where construction was either being attempted or where a nest had been built and destroyed.

Temperatures surrounding the nesting locality play an important role in the incubation of a clutch and the raising of nestlings. The young bird is always "cold-blooded" (poikilothermic) which means that its body tem-

perature corresponds to the surrounding air temperature (Pettingil 1956). We shall see the importance of this factor within a few paragraphs.

Air and water temperatures were taken periodically during field work. Temperatures were determined at various elevations and locations. A standard thermometer used for taking air temperatures and a floating dairy thermometer were used to record the temperatures. All readings were expressed in degrees based on the Fahrenheit scale. Additional information and double-checks of recorded data have been furnished by the U. S. Weather Bureau Local Climatological Data Reports for Bristol, Tennessee.

At higher elevations, the water temperature influences air temperature. The water falls several hundred to a thousand feet within three miles and is colder than the air temperature due to the swift current and relative slow rate of temperature pick up from the atmosphere due to the much greater density of the water. Frequently, the air temperature is well above 70 degrees and the water 20 to 30 degrees cooler. At lower elevations the water generally runs much slower and is practically the same temperature as the air. During cold nights, especially early in the spring, the air about the nest gets heat from the concrete of the culvert and the warm water.

There have been only two parasites found in relationship to the Phoebes in my study. The first is that of the Brown-headed Cowbird, (*Molothrus ater*) and the second being mites.

Parasitism by the Cowbird was recorded in only one of the 78 nests that were studied during the two years of the project. In Pennsylvania, 4.3% of the 132 nests located during a three year period from 1959 to 1961, were parasitized (Bordner 1961). The one nest that I discovered was under a small bridge at 1600 feet elevation on 10 May, 1963. It contained only one bird and the remains of broken Phoebe eggs were found on the floor beneath the nest. The Phoebes were observed while feeding the bird. It was banded and replaced in the nest. In another study the author claims to have removed all eggs and young of the Cowbird. This practice was not carried out in my study due to the fact that it tends to interfere with the natural occurrence of necessary functions in nature.

I have heard people say that it is not wise to encourage Phoebes to nest near the home. Mites which infest the nests are the reason for this belief. This cannot be supported by evidence supplied by 78 nests for only three nests were found to contain mites. All were in farming country and my belief is that mites are rarely found in heavily wooded areas due to the lack of domestic animals.

On two occasions, a young bird, which had been removed from the nest for banding, was nearly dead after just a few moments of gentle handling. Both appeared to be either dying or exhausted and were breathing very rapidly. Their nests were heavily infested with mites.

As early as 23 March, 1963, several Phoebes had returned to the Shady Valley area. They were first noted at elevations between 2140 and 2600 feet. One bird sang continuously and flew under a bridge that contained a nest used in 1962. This was the first active nest discovered in the Beaver Dam nesting area. The first eggs of the season appeared at this nest around 1 June.

Along Straight Branch, the first active nest was found on 5 May, and contained young birds. By 28 May, this area had 12 active nests. The height of the nesting season in the Straight Branch vicinity was determined by 15 June. This area was not checked during the early months of 1962 and; therefore, no comparison with that year could be made.

The Beaver Dam area is probably close to its 1962 schedule because in that year three nests were active by 9 June and the peak of the nesting season came between 23 June and 5 July when all nests were active. At that time, Straight Branch yielded only two active nests, probably late second broods. There was strong evidence to indicate that more than 17 nests had been used during the 1962 season along Straight Branch.

There is no reason to believe that Straight Branch had more nests in 1963 than in 1962. All locations which were used in 1962 were used again in the 1963 season. No new ones were established to the best of my knowledge. Considering the fact that there were just as many nests during this season, the nesting was most fruitful because Straight Branch produced 19 nests at 15 locations. Straight Branch has had only one more active location than Beaver Dam, that is 15 and 14 respectively. However, the 1963 production at Straight Branch saw the totals for that area rise 58% over Beaver Dam in active nests, 63.5% in eggs laid, and 57.5% more young hatched. Meanwhile, the production along Beaver Dam fell from the 1962 rate to only 66% of the number of active nests which it had the previous season. Egg production was down 37%, unhatched eggs were up 60%, and the number of young birds hatched was down 43.5%.

Spraying for Japanese Beetles in the Spring of 1962 forced the Tennessee Game and Fish Commission to close the stream to public fishing. It must be stressed that no eggs were taken from this area to be checked for traces of chemicals used in spraying. No Phobes were found dead or dying. It would be foolish to think, however, that the nesting population was not influenced by the spraying. Spraying with insecticides would probably decrease the amount of available food.

Generally, the nesting at lower elevations, below 2000 feet, are several weeks ahead of the Straight Branch and Beaver Dam areas. Between 1500 and 1800 feet the first active nest was discovered on 11 April, 1963. Ten active nests were located between 1 May and 10 May, and additional 16 nests were included in the growing population. On 10 May several nests were checked at 1200 feet near Kingsport, Tennessee. A few had been active and one or two others contained young large enough to fly. Two nests contained young birds and one nest had eggs.

Earlier in the study, I had intended to establish some pattern as to the raising of a second brood. It was believed that a Phoebe would defend a given territory throughout the season and thus raise a second brood at the same nest, or at least the same location. Many new discoveries led me to become cautious in describing any pattern that might hold true in most cases. Multiple nestings at the same locations left many unanswered questions that could only be solved by color banding or banding and trapping a nesting pair several times. Are Phobes monogamous? Do the same pair remain mated for both broods, if two broods are raised? How does overlapping of nesting activities enter the picture?

It was observed that in a few locations a second clutch was being incubated within 15 to 20 days after the first brood left the nest. In one case, the nest used for the second brood was constructed at the same location as the first nest and was built while the first brood was still in the nest. At another location, the second nest was constructed and eggs laid within a period of 25 days. Did one or two birds build this nest? How were the young cared for during this period? Had they been killed or become lost? Could a second pair have captured the territory during this time? Could this be a second mate by the first male, or vice-versa?

In some cases more than a month passes before any nests are constructed or eggs laid for the second brood. This occurs at the lower elevations where the first brood is raised early in the season. The second broods are in the nest during the first weeks of July. At higher elevations it is necessary for a second brood to occur soon after the first or not at all. Here the season is much shorter than at lower elevations. Likewise, nesting is completed by the third week in July.

The quick second broods are probably accounted for by overlapping of the nesting activity. The male cares for the young while the female is beginning a new nest. In this case, there is little or no loss of time in breeding activity. I lend support to this by observing a Phoebe building a nest at one location and feeding young at a second location about 100 feet apart. Further investigation might prove this to be a dummy nest or roosting nest until a second brood is started. In one case two nests were constructed within a week or two of one another and the second nest was later used to raise the second brood. It was found that both members of a pair were constantly found near the nest during incubation of the first clutch. However, rarely could a second bird be found when a second clutch was being incubated.

Egg laying is begun soon after the nest is completed. In three instances nest construction was accomplished in less than 15 days. The clutch was begun with one egg being laid each day and incubation began with the first egg. Incubation was carried out during the night and morning hours. On cold or damp days it was noted that incubation continued into the afternoon.

Most clutches in the first laying were five eggs and sometimes were four. Of the 70 nests in which eggs were observed, only one nest contained six eggs and one of these did not hatch. It was fertile. Embryonic development had ceased after several days of incubation.

Incubation usually takes 16 to 20 days. Bordner (1961) shows that the incubation period for the Phoebes in her studies was approximately 15 to 17 days. The eggs hatch over a span of several days causing the young to be very different in size for the first few days. If an egg does not hatch, it is sometimes pushed from the nest, but in most cases it is left in the nest. One nest containing the second clutch of the season, had a new lining built into the nest floor in order to partially cover an unhatched egg remaining from the first clutch.

A nest containing eggs was completely destroyed at one location. By the fourteenth day after the destroyed nest was discovered, a new clutch was begun. The second nest was rebuilt in the same spot as the first.

Bordner (1961) pointed out that Phoebe eggs have a pinkish tinge when newly laid and become chalk white with incubation. This served as a valuable aid in determining the age of a clutch.

A record was kept to establish the extent to which eggs were blotched or spotted with brown. Results of the study show that only 30% of the nests contain marked eggs. From a sampling of 148 eggs, 12% were either speckled with fine brown spots or were heavily marked about the large end with large spots.

It was found that a person could approach an incubating bird very closely. The Phoebe's tendency to sit tight became increased with several days of incubation and reached its peak with young birds being brooded. Frequently, one could almost touch the bird before it would drop from the nest and fly low above the floor or water before reaching a perch.

Phoebes were very passive when a clutch of eggs were being investigated by an intruder. With young birds in the nest it became a different question. Excited birds would flit from one perch to another while snapping their bills and sounding a loud chirp accompanied by the downward thrust of the tail. If I went to a nest alone, they would fly at me. On two visits, I was driven from the nest. If I was accompanied by another person they would not fly at us. Usually the Phoebe was quieter if a mate was not present. If two birds were at the nest the fluttering and chirping became so intense that they would fly at one another.

A brood of young Phoebes can be banded anytime after they are three or four days of age. The smallest bird from the 154 banded during 1962 and 1963 measured; tarsus—12mm., wing—12mm., tail—90mm., and bill—8mm. The largest measured; tarsus—21mm., wing—65mm., tail—37mm., and bill—10mm.

Investigation in the State College area of Pennsylvania (Bordner, 1961) revealed that between 6 July, and 17 July, 1961, 41 nestlings from ten nests were lost and 35 from eight nests were known to be dead. It was thought that unseasonable temperatures may have directly or indirectly (through the insect supply) contributed to the deaths. From 5 July to 11 July, night temperatures fell into the 40's.

In the Bristol area at an elevation of 1543 feet a nest with young survived three days when the temperature dropped to 37 degrees, and one day each with temperatures as low as 35 to 30 degrees. Between 1 May and 9 May, 1963, I saw seven nests that contained young birds and endured 37 hours of 40 to 49 degree temperatures and 14 hours of 30 to 39 degrees. All young were accounted for and none was found dead.

Young birds remain in the nest for a period of 15 days, at which time they leave the nest at different intervals unless suddenly frightened by an intruder. During their stay in the nest they are fed by both parents—at least during the first brood. At each feeding the droppings from the young birds are removed from the nest and dropped to the floor beneath along with the egg shells from the clutch. Accumulations of waste material beneath the nest is a good clue to a previously active nest. Within a matter of weeks the droppings undergo decay and are no longer easy to detect.

Phoebes are well developed when they leave the nest and can fly immediately upon leaving the nest. I have watched several birds fly from the nest for the first time and they usually fly from 25 to 50 feet before landing. Within a matter of minutes, they are fully capable of gaining altitude and landing on a perch such as a power line or branch.

Further investigation of young birds, after they have left the nest, has never been followed up due to the fact that I have never located any. All of my experiences involve birds that escaped as I approached the nest.

The competition among Phoebes for a nesting territory is rather limited in most areas. Almost any habitat has several available locations that meet the requirements of this species. In areas where the population density reaches saturation, competition should be more intense.

At the lower elevations the nesting areas are not as well defined as in the narrow valleys of the mountainous regions. Competition in this area is probably very slight. At the lower elevations and especially in open farming areas at most elevations, the Phoebe must contend with two other species that frequent culverts and bridges.

The Barn Swallow (*Hirundo rustica*) is a common culvert nesting bird. It is not at all unusual to observe several active nests of this species in the same location. However, only once have I found an active nest of both

the Phoebe and Barn Swallow in the same location. Both nests contained eggs with the Barn Swallow's being the more recently constructed. The Phoebe's nest was deserted. Several nests of the Phoebe's have been re-lined with feathers and occupied by Barn Swallows.

The second intruder in Phoebe territory is the House Sparrow (*Passer domesticus*). This species has been found using both the nests of the Phoebe and Barn Swallow but is not expected to be a serious competitor with the Phoebe in any locality.

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THE SEASON

MEMPHIS.—Golden Plovers, 580 (400, one flock) usual Crittenden County, Ark. circuit, 17 Mar.; 717 (350, one flock), Lakeview-Lake Cormorant, Miss., same date. 23 Mar., the Delta: Clayton, 10; Lula, 10; Friar's Point area, 100; Glen Allan, 53; W. of Rolling Fork, 85. At the Tupelo Fish Hatchery, 12 May, 4 Semipalmated Plover, 1 White-rumped, 14 Least, and 9 Semipalmated Sandpiper; 85 of the latter species, 25 May, Lakeside (E. of Midway Corner), Crittenden County, Ark., plus 13 Semipalmated Plover and other species; 20 Semipalmated Sandpiper at Lonoke (with 2 Least) 29 May. Among late summer returnees in Arkansas, the uncommon Stilt Sandpiper, — one, 21 July, NE of Marion, and 14 Sept., Clarkdale; 5 W. of Waldenburg, 28 July.

Landbird migration sampled infrequently and apparently unnoteworthy. However, unsettled weather near the end of May had transients lingering at Coffey Grounds. I had a Chestnut-sided and 3 Magnolia Warblers the eve. of 26 May and one Magnolia early, 29 May; others later than average at Overton Park, 24-26 May, including a Gray-cheeked Thrush, 26 May. We left town 29 May, missing a chance to check further. Mrs. Coffey had a Mourning Warbler there, 21 May. The Memphis Chapter field day at Shelby Forest S. P., 28 April, listed 85 species plus 2 others enroute. Mrs. Coffey and I were rained out, to some extent, at Paris Landing, the same date, listing 2 Forester's Terns, a Bank Swallow, and a Northern Waterthrush, among others. On 22 May, Mrs. Coffey and Helen Dinkelspiel found 88 male and 245 female Bobolinks, Lakeview, Miss.-Tenn. At dusk, 21 April a flock of 95 Dickcissels on the ground plus 10 singers, noted at county line N. of Turrell, Ark.

Observations at Norfolk Dam, Ark., by Lefty Harvey (4-9-61, 4-5-62) and by Dwight Partee this spring sets an arrival date for Cliff Swallows of about 2 April (5 on 4-2-63), in line with the Counce, Tenn.-Miss. area (1954-60). Latest were 45 at Lakeview, Miss.-Tenn. 22 May (LC-HD), along with 75 and 220 Banks. At our Penal Farm 4 Cliffs were seen 14 July (BC). On 21 July, NE of Marion, Ark. (BC, LC, Alice Smith) swallows were Bank 20, Tree 13, and Purple Martin 550 (about one-fourth adult males).

Oliver Irwin reported a total of 200 Black Terns off Mud Island, 13 Aug. and 20 on 14 Aug. off Hopefield Point, (Ark.), in front of Memphis. At Mud Island he noted 100 Common Nighthawks 29 Aug. and 38 on 4 Sept. On 15 Sept. he watched an immature Franklin Gull at the island tip.

SW of Covington, Tenn. Alice Smith heard a House Wren singing, on one occasion only, 19 June. We failed to find the species on the Reelfoot spring trip, even at sites of the past two summers. On 21, July 2 Lark Sparrows and a male Blue Grosbeak were opposite north center of Penal Farm (LC, BC).

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NASHVILLE.—Our coldest winter in many years ended with no reports of either Evening Grosbeaks or Red-breasted Nuthatches, and only one for Tree Sparrows, a single bird on our Christmas Count. We expected to have both a late spring and a late migration, but were pleasantly surprised when winter ended suddenly and by 1 April spring was developing normally. Our earliest spring records were: a Hummingbird 4 April (CWF), one Tree and two Barn Swallows at Bush Lake 18 March (HEP), two Purple Martins were there 14 March (HEP) which ties our earliest record, and a Kentucky Warbler 9 April (SB). Either second earliest or ties, are the following: a Purple Gallinule (4th Nashville record) was at Buena Vista bottoms 18 April (JP). A Whip-poor-will was calling at Pegram Station 29 March (Dr. John Flexner), one Worm-eating Warbler 14 April (KAG), single Nashville Warblers by KAG and HCM on 18 April (ties older records), a Blackburnian on 18 April (ARL), one Yellow-throated Warbler on 24 March (HEP), Chestnut-sided Warbler 22 April (KAG), and a Chat 14 April (KAG). Earlier than our usual arrival dates were: a Green Heron 30 March (SB), a Common Egret on 13 April (LOT), one Nighthawk 18 April (HCM), an Acadian Flycatcher 19 April (KAG), Swainson's Thrush 18 April (SB), a Warbling Vireo 10 April (HCM), one Blue-winged Warbler 10 April (LOT), a Prairie Warbler 9 April (SB), Palm Warbler on 30 March (SB), a Northern Waterthrush 10 April (LOT), Yellowthroat 14 April (KAG), two flocks of 8 Bobolink on 27 April (AFG & GRM, Jr.), Rose-breasted Grosbeak 18 April (HEP), two Chipping Sparrows 5 March (BHA), and a Lark Sparrow 15 April (HCM).

Spring migration did not bring any unusual waves, but did extend long enough to produce many late records. New latest ever spring records are: Canada Geese 11 May (1), 16 May (2), and 23 May (1), all at Coleman's Lake (LOT). One Gadwall was there 28 May and 1 June (LOT). One Spotted Sandpiper was still at Bush Lake 31 May (HEP). Our first June records for Least Sandpipers were one 3 June at Old Hickory Lake and three 10 June at Coleman's Lake (LOT).

Two Herring Gulls on Old Hickory Lake 14 May tie our latest record (LOT). For late warblers see THE MIGRANT 34: 37&38. A Magnolia 3 June was the first records for that month (HCM). Second latest spring departures, or ties, were: eleven American Widgeon on Coleman's Lake 11 May (LOT), a solitary there 23 May (LOT), seven Bonaparte's Gulls 26 April on Old Hickory Lake (LOT), one Swainson's Thrush 28 May (SB), two Gray-cheeked Thrushes 26 May (HCM), a Connecticut Warbler 25 May (KAG), and a Wilson Warbler 26 May (HCM). Later than usual were: a Common Loon and a Lesser Scaup, (see THE MIGRANT 34: 36&37), three Semipalmated Sandpiper at Coleman's Lake 28 May (LOT), a Ruby-crowned Kinglet 7 May (HCM), a Solitary Vireo 18 May (HCM), a Mourn-

ing Warbler 28 May (ARL), three Rose-breasted Grosbeaks 19 May (HEP). Not late, but unusual was our largest flock ever of Ruddy Ducks, 32 on Bush's Lake 17 April (HEP).

Summer weather was pleasant and far greener than usual. Our only really hot days were a week in early August. Unusual summer records were: five Yellow-crowned Night Herons at Buena Vista bottoms from 18 April (JP) to late July. No young were seen. One American Bittern at Buena Vista 24 July (JP) was our second July record. One to three Coot were at the same place on Old Hickory Lake during June, July and to 8 August (LOT). Four Black-bellied Plover were at Bush farm on the morning of 29 August after a 5.35 inch rain (HEP) and one was found near the dam on Old Hickory Lake on 14 September (LOT). Our first summer Gulls were Ring-billed, with 2 to 4 during June, then 2 July (2), 11 July (1) and 23 July (1) all at one point on Old Hickory Lake (LOT). A Forster's Tern on Old Hickory Lake 15 June (LOT) was a second June record and one at Bush 5 August was the first record for that month. There were 3 Caspian Terns 16 June, (see THE MIGRANT 34: 37), and 3 on 30 August at Bush's Lake (LOT & HEP). Black Terns were back after missing a year with one 31 May, two 24 June, and two 30 July at Bush's Lake (HEP). Each summer for several years we have had one nesting record for the House Wren. This year's record was a nest at the Hite home (fide ARL). A Black-throated Green Warbler was at the home of HCM 18 June for our second record of that month. Our first active Blue Grosbeak nest, was recorded 30 June, (KAG). One Lark Sparrow was at Bush's Lake 26 August (HEP). Perhaps our most unusual summer record was one of Hummingbirds feeding young in a nest at Fernvale 1 Sept. (JOE et al). There seem to be no earliest ever records for fall arrivals. Second earliest, or ties, are as follows: a Yellow-bellied Flycatcher banded 30 August (KAG), a Northern Waterthrush the same day (KAG), a Canada Warbler collected 17 August (JCO). Earlier than usual were the following: two Spotted Sandpipers at Bush's Lake 16 July (HEP), five Least Sandpipers 23 July at Coleman's Lake (LOT), a Traill's Flycatcher banded 8 Sept. (KAG). A Swainson's Thrush 1 Sept. and a Gray-checked Thrush 8 Sept. were banded at Two Jays (KAG). A Golden-winged Warbler was seen 1 Sept. (CWF). One Chestnut-sided Warbler was banded 1 Sept. (KAG). A Wilson's Warbler was bathing at the home of Mrs. Kirby Stringer 1 Sept.

A fairly late date for the Purple Martin was one on 29 August (HCM).

Contributors: B. H. Abernathy, Sue Bell, John O. Ellis, Clara W. Fentress, Katherine A. Goodpasture, Amerlia R. Laskey, George R. Mayfield, Jr., Albert F. Ganier, Harry C. Monk, John C. Ogden, H. E. Parmer, Jimmy Parrish, Laurence O. Trabue.

HENRY E. PARMER, 3800 Richland Ave., Nashville 5, Tennessee.

COLUMBIA.—Notable finds on our spring field day, 1 and 2 May, included 2 Ruddy Ducks, 1 Sora Rail, 1 American Bittern, and 2 Upland Plover. One migrating Lark Sparrow was identified by GRM on a subdivision lawn while driving to work 29 April. So far as I know there is no other record of this bird in the Columbia area in recent years. For that matter no Red-headed Woodpecker has been sighted in this area in the last 3 years and the only 2 such birds I have seen below the Cumberland Plateau were found in early morning on the Nashville Spring Field Day at Mr. Ganier's camp on Stones River in April 1961.

Barn Owls reared young in Dr. Gray's large, wooded front yard and were present from April until August. Great Horned Owls fed young and probably nested in large Beech trees in Dr. Fuqua's yard, but were only observed in late April and early May. Banded Owls and Gt. Horned Owls called sporadically all spring and summer behind our house, sometimes just outside our window along with occasional Screech Owls, so each of our active birding families lives in good habitat for the larger owls.

Cattle Egrets again visited Columbia on just one day about 10 May (somehow I failed to record exact day). They were seen on the Wick Halliday farm, 3 miles South of Columbia by the Hallidays and by Dr. Tom Young (their neighbor) both of whom described 7 similar small white herons with blush of pink which spent the day in an open pasture frequently walking meticulously beneath the cattle well away from ponds or water. Unfortunately toward evening these birds rose and flew away without returning before any of our regular birders knew about them. This is within the same week as our previous single sighting in May 1962 by Mary Lucy Fuqua and the two sightings are within $\frac{1}{2}$ miles of each other.

Horned Larks were again seen off and on all summer at Lawrenceburg and Mt. Pleasant airports. Yellow-crowned Night Herons apparently again reared young at Arrow Lake as several adult and immature birds are present now and mature birds were present late in the spring. Among the more common shorebirds a Sanderling was identified by GRM and Cleo M. on 1 and 7 September. Two Ospreys were present at the lake 15 September. An estimated 25-30 Hummingbirds have gathered again this fall in the marsh at Arrow Lake to feed on a large bed of Touch-me-not flowers.

GEORGE R. MAYFIELD, JR., Maury County Hospital, Columbia, Tenn.

KNOXVILLE.—Red-headed Woodpeckers, which sometimes do and sometimes do not spend the winter in this area, did so this past winter, and a pair nested on the University campus. Red-breasted Nuthatches were very scarce or absent all winter, and the only report of one during the winter and spring migration was by James Campbell who saw one on Sharp's Ridge on 20 April.

Several migrant warblers were observed unusually late. On 25 May Joseph Howell saw Black-throated Blue, Chestnut-sided, Connecticut (two), and Canada Warblers. James Campbell reported the following warblers: Black-throated Green on 26 May, Cape May and Magnolia on 30 May. Joseph Howell found a singing Blackburnian on 1 June.

A Pied-billed Grebe with at least one very small young was seen by Nancy and James Campbell on Cardwell's Lake on 20 April. Another unusual nesting record is that of a Scarlet Tanager; a female was observed sitting on a nest on the University Farm on 5 June. On 11 July in the same general area a female Scarlet Tanager was caught in a mist net and banded.

Martha Moore, John Cheek, and Samuel Tipton banded a number of birds this summer on the University Farm, trapping them in mist nets. Two birds caught on 2 July were probably very early migrants or more likely were wanderers from the mountains; they were an immature Chestnut-sided Warbler and a female Rose-breasted Grosbeak. A few days after this I saw a male Rose-breasted Grosbeak at my home.

From early August to the middle of the month several Common Egrets and immature Little Blue Herons were observed around the new Melton Hill Reservoir, near Oak Ridge. This is a new location for these birds. An immature Yellow-crowned Night Heron was seen by James Campbell and others in north Knoxville on 3 Sept.

In early September flocks of Grackles and Starlings were commonly seen in the countryside and their regular flight lines indicate that roosting areas were already established.

JAMES T. TANNER, Department of Zoology, University of Tennessee, Knoxville.

ELIZABETHTON.—An unusual occurrence of a Double-crested Cormorant was observed on Boone Lake 31 Mar., while the last Horned Grebes (2) of the season were noted 24 Mar. and single scattered Pied-billed Grebes were recorded to 12 May. The last Great Blue Herons were noted with two present on 31 Mar. and were again identified in the area on 21 July when one was found in the Roan Creek area. Common Egrets were scarce with none being recorded at the Roan Creek area this summer. The records we have are 28 July (3) and 4 Aug. (1) at the Watauga River Prong of Boone Lake; 27 June (1) near the Bemberg Filter Plant on the Watauga River; and 3 July (4) on the Doe River in the center of Elizabethton. A Yellow-crowned Night Heron was noted in the same location as last year at the "Morrell Hole" in the Watauga River from 26 July to 17 Aug. (ED). The first Green Herons were noted on 16 April.

The Blue Goose that spent the winter in Johnson City was last recorded on 31 March. A few scattered Mallards were observed to 28 Apr. and again 8 June (see *THE MIGRANT* 34: 37, 1963), while the last Black Ducks (4) were noted on 24 March. American Widgeon (2) were noted to 14 Apr. and with one unusual record 8 June (see *THE MIGRANT* 34: 37, 1963). Pintails are uncommon here anytime with two present on 17 March. The same also applies to Blue-winged Teal with the first noted on 21 March (2) and a total of six found on the Spring Count on 28 April. Two Redheads were present 24 March while the last Ring-necked Ducks (7) were here to 31 March. The largest number of Lesser Scaup (175) were found on 24 Mar. and then dropped to only a few individuals with the last birds (2) recorded on 28 April. The last Common Goldeneyes (3) were found on 24 Mar. with an unusual record of one female present on Wilbur Lake 12 June (see *THE MIGRANT* 34: 37, 1963). Bufflehead (41) were present in good numbers on Wilbur Lake on 24 Mar. and with 14 still present on 23 April. The last Hooded Mergansers (4) of the season were found on 16 April and also an unusual record of two on 4 June at Roan Creek (see *THE MIGRANT* 34: 37, 1963).

The Red-shouldered Hawk that had been found in Shady Valley last year was observed in the same area again this year on 28 April. On 12 May two individuals and a nest in a pine tree were located. A ladder found leaning on the tree was mute evidence as to the fate of this pair and their nest, because the birds were not found again. The Broad-winged Hawk appears to be our most common summer hawk and then seems to be restricted mostly in the area of Shady Valley. Two records of the Marsh Hawk were noted on migration with single birds on 14 and 19 March. The Osprey was noted with single birds on 14 and 19 April and two on the Spring Count 28 April. An unusual record was of one on 28 July (KHD) and then the next one on 15 September.

The Ring-necked Pheasant is usually recorded each trip to Shady Valley but no definite evidence of reproduction, that we know of, has ever been recorded.

The first local record of the Ruddy Turnstone was established by K. H. Dubke for our area when a single bird was identified at close range feeding on the mud flats of the Roan Creek area at Watauga Lake 7 September. On 8 Sept., Dubke accompanied by Fred Behrend, again located the Turnstone at the same place.

An unusual record of the secretive Woodcock was noted on 2 June in Shady Valley and the last Common Snipe were seven found on 28 April. Spotted Sandpipers (2) were first reported 21 Apr. and with a few records the remainder of the summer (see THE MIGRANT 34: 37, 1963). Solitary Sandpipers (1) were first noted on 7 Apr. and a few regularly with the last date in the spring on 19 May. The first fall record was of two on 4 August. Willets (27) were noted on Watauga Lake 28 Apr. (see THE MIGRANT 34: 39, 1963). There were two records in the spring of Greater Yellowlegs 26 Mar. (1) and 21 Apr. (1) with also one bird present 4 June (see THE MIGRANT 34: 37, 1963) and then 14 July (2) and 21 July (1) during the summer. Only one single Lesser Yellowlegs was noted in the spring on 19 May and two were recorded 14 July followed by these additional records: 31 Aug. (1), 1 Sept. (1), 7 Sept. (2), 8 Sept. (2), and 15 Sept. (2). No Pectoral Sandpipers were noted in the spring while the first fall records are of two on 21 July then none till the following dates: 18 Aug. (1), 25 Aug. (1), 31 Aug. (1), 1 Sept. (1), 7 Sept. (2) and 8 Sept. (2). Two Least Sandpipers were found on the Spring Count 28 Apr. and in addition these records: 12 May (1), 20 May (4), and 26 May (2). The fall records begin on 21 July (2), with the following additional observations: 28 July (1), 11 Aug. (3), 18 Aug. (8), 25 Aug. (4), 31 Aug. (5), 1 Sept. (1), 7 Sept. (1), and 15 Sept. (2).

The Dowitcher was recorded here for the second year in a row when three were found feeding 25 Aug. at the Roak Creek area of Watauga Lake. The Semipalmated Sandpiper was recorded twice in the spring 20 May (23) and 26 May (1). The fall records begin on 25 Aug. (6) and continued with these other sightings: 31 Aug. (2), 1 Sept. (2), 7 Sept. (5), 8 Sept. (5) and 15 Sept. (5). The Western Sandpiper was identified by K. H. Dubke at close range, in good light, and in comparison with Semipalmated Sandpipers feeding nearby, on the following dates: 7 Sept. (3) and 8 Sept. (4). The first East Tennessee record of the Buff-breasted Sandpiper was recorded this past season. For details see page 57 in this issue.

The last Herring Gull was recorded on 31 Mar. and the first for the fall was a single immature bird on 15 Sept. Ring-billed Gulls seemed to have reached peak numbers when 275 were recorded on 24 Mar. then dwindled rapidly with the last bird noted on 15 Apr.

Unusual records of three Common Terns and one Caspian Tern were observed at Roan Creek on 15 Sept. (KHD).

During the past summer Charlie Smith had the Chuck-wills-widow calling regularly at his home near Milligan College at 1600 feet elevation.

Mrs. Basil King recorded the Red-bellied Woodpecker regularly in her yard this past summer. There were also a few observations of the Red-headed Woodpecker during the summer. Both of these woodpeckers are rare in our area.

The Bobolink was again present in Shady Valley, but no nest was found. (See THE MIGRANT 34: 17-19, 1963). Ed Davidson again recorded the Baltimore Oriole singing regularly in his yard at Hunter this summer, but did not find the nest as he did last year.

(Continued on page 63)

NOTES ON COLOR PHASES OF SCREECH OWL

By AMELIA R. LASKEY

Dichromatism in the Screech Owl (*Otus asio*) is an interesting provocative subject for investigation. Early ornithologists realized that rufous and gray birds are of the same species and that the forms are not related to age, sex or season.

For 32 years (1931-1962), I have kept records of those that came to my attention, 98 individuals from middle Tennessee, mainly Nashville. There were 50 in rufous, 47 in gray (one of these was very dark with a few brownish feathers interspersed), and one in mixed rufous and gray plumage.

These records were collected in every month of the year. They included 54 birds that were banded and released, 39 casualties, most of them killed by automobiles, and 5 sight records, made in good light.

In the breeding season, March through September, there were 24 rufous birds; for the winter season, October through February, there were 26. Gray birds totaled 27 for the breeding season and 20 for the October-February season. The bird in mixed plumage was recorded in December.

More nestlings were found in gray than rufous plumage. Two broods of 3 each were all gray. One of these broods was hand-raised; all acquired gray plumage in the molt to first winter plumage. One brood of 2 had gray plumage. Another brood of 2, banded in the nest cavity with a gray adult, had one young of each color. There were two broods of 2 each in rufous plumage. One of these broods was hand-raised; the rufous color was much brighter on one than on its nestmate (4 Aug.). A bird with the gray fuzzy head of a chick had acquired new rufous body plumage on 1 Aug.

A gray individual occupied a bird house at my home for daytime roosting from mid-December, 1954 to 28 February 1955.

A. Stupka has records of plumage color for 104 of the 343 individuals that have come to his attention in 31 years (1931-1961) in Great Smoky Mountains National Park. Of these, 84 were rufous and 20 gray — a ratio of more than 4 red to one gray.

D. F. Owen has studied geographical trends in the color form of the Screech Owl. He based his conclusions on 1,778 specimens in collections of 15 museums and the published data by Schorger of highway casualties in Wisconsin and Illinois and that of Stupka (1953).

Owen summarizes his findings thus: "Throughout most of North America east of about 104° there are two forms of the Screech Owl: one with the plumage mainly bright rufous and the other with the plumage mainly gray. Birds of intermediate coloration also exist, but in most areas they are rare.

The relative frequency of rufous birds varies geographically in the form of a cline from north to south; about a quarter or less of the northern population is rufous, while in the south (Gulf coast and Florida excepted) up to three-quarters of the population may be rufous.

Screech Owls intermediate in coloration between gray and rufous comprise not more than ten percent of the population except in Florida and the adjacent Gulf coast where they comprise up to 40 percent. In Florida, Screech Owls are more variable in color and the population lacks the bimodality of other populations in eastern North America. This is probably the result of relaxed selective pressure.

The geography of polymorphism in the Screech Owl appears to be an unusual pattern of variation within an animal species."

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BIRD MORTALITY NEAR GATLINBURG, SEPTEMBER 21-2, 1963

On the morning of 22 September, 1963, I was notified that a large number of dead birds had been found at the Ski-Lift terminal atop Mt. Harrison, 3¼ airline miles SW of Gatlinburg. Upon arrival, I found the birds to be generally distributed throughout the clearing in the vicinity of a shed containing the lift machinery. This clearing faces ENE, E, and ESE. The cables of the lift arrive from the east at the shed which is situated at the edge of the clearing. A bank of white lights had been on throughout the night. This bank is located near the edge of the clearing, about 15 feet off the ground and aligned more or less obliquely in the direction of the oncoming birds. The tree tops behind the lights (and the clearing) are at least 30 feet above the lights, which are about level with the roof of the shed. This configuration no doubt caused the confusion.

With the aid of several by-standers I gathered 144 birds, the majority of which were found on the level part of the clearing and on the south-facing slope. Others were found in the woods behind the shed. This wooded area slopes gently away from the clearing.

This collection of birds consisted of 30 species: Green Heron, 1; Black-billed Cuckoo, 1; Yellow-bellied Flycatcher, 1; Catbird, 3; Wood Thrush, 1; Swainson's Thrush, 24; Gray-cheeked Thrush, 10; Veery, 3; White-eyed Vireo, 1; Red-eyed Vireo, 4; Black and White Warbler, 2; Worm-eating Warbler, 6; Tennessee Warbler, 4; Magnolia Warbler, 4; Cape May Warbler, 1; Blackburnian Warbler, 6; Yellow-throated Warbler, 1; Chestnut-sided Warbler, 1; Prairie Warbler, 2; Ovenbird, 23; N. Waterthrush, 6; Kentucky Warbler, 8; Yellowthroat, 13; Yellow-breasted Chat, 1; Hooded Warbler, 3; Redstart, 4; Bobolink, 1; Scarlet Tanager, 6; Summer Tanager, 1; Indigo Bunting, 2. Warblers made up 59% (16 spp.) and Thrushes made up 27% (4 Spp.) of this series.

Noteworthy records for the park were: 1) Yellow-bellied Flycatcher . . . first park record; 2) Gray-cheeked Thrush . . . earliest autumn record; 3) Veery . . . equals previous latest record; 4) Worm-eating Warbler . . . latest autumn record; 5) Bobolink . . . first autumn record (Stupka, 1963, **Notes on the Birds of the Smokies**).

These birds made up a part of a migration which undoubtedly was moving in advance of a cold front. According to park records, a cold front moved into the Gatlinburg area during the 22nd, causing a change of 19 degrees in the minimum reading (58-39). LeConte recorded (7 a.m.) 50 to 38 (9:30 p.m.). The specimens have been deposited in the permanent collection of the Great Smoky Mountains National Park.

THOMAS SAVAGE, GSMNP, Gatlinburg.

BUFF-BREASTED SANDPIPER NOTES AND A RECORD FOR EAST TENNESSEE

By RALPH T. BULLARD, JR.

BUFF-BREASTED SANDPIPER (*Tryngites subruficollis*) records on the eastern edge of its migration route are extremely rare in Tennessee and almost non-existent in the states to the east. In comparing the spring and fall migrations of this bird, one finds that the spring migration is very sketchy (only a few records available) and is assumed to be up the Mississippi Valley. In contrast to this idea, Bent, (1934) page 75, states that "The fall migration is much more widely extended than the spring; the main flight is directly southward through the center of North America, but it is so spread out that some birds appear on both the Atlantic and Pacific coasts." North Carolina has only one record at Whitlock, Currituck County, 12 September, 1911 as described by Koble (*Auk*, Jan. 1921 page 108). It appears that three specimens were captured on the 12th and six others seen on a return trip to the same area 14 Sept. 1911. South Carolina's single record of the Buff-breasted Sandpiper was taken near Chaplin Village on St. Helena Island, Beaufort County by Walter Hoxie on 5 May, 1884. (Note: 1 spring, 1 fall record).

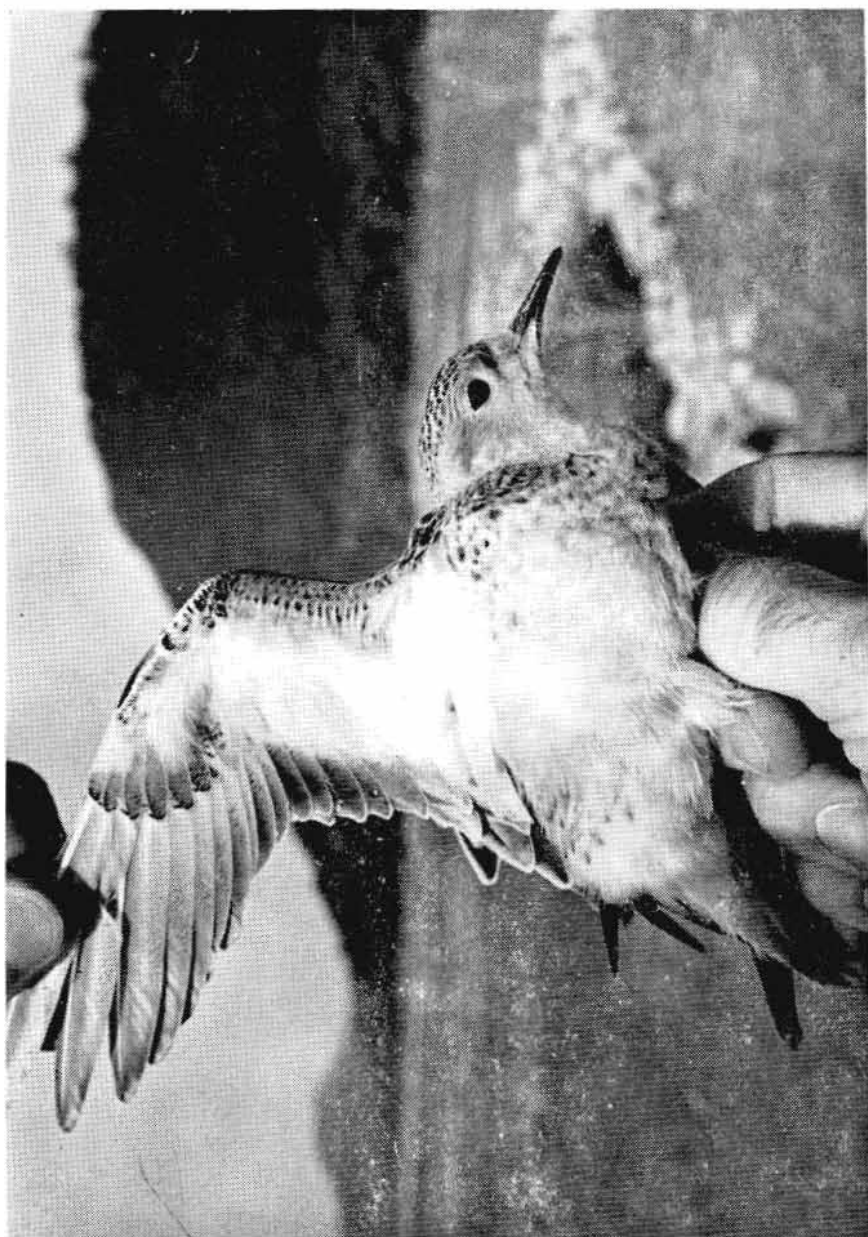
Tennessee's six previous records lists four observations in west and two in middle Tennessee. (See Sight Record Chart). These records have accounted for the T. O. S. published records prior to 31 August, 1963. On this date, Kenneth H. Dubke found and observed the Buff-breasted Sandpiper at the Roan Creek section of Watauga Lake. The area setting can best be described as a mountainous region where Roan Creek flows onto a long flaring mud flat created by the lowered Watauga Lake. The mountains surrounding the flats rise abruptly from the valley floor to a maximum elevation of 3000 feet. Elevation of the mud flat is 2000 feet.

The Buff-breasted Sandpiper did not exhibit any unusual alarm to close observations or swift movements as it was viewed feeding among Lesser Yellowlegs (1), Semipalmated Sandpiper (2), Pectoral Sandpiper (1), Spotted Sandpiper (1), Least Sandpipers (5), and Killdeers (5). Observations were made at ranges of less than 20 feet with both binoculars and scope.

The uniform, solid buff underparts created a spectacular contrast to the dark mud of the "flats". The legs were a yellowish-green. These factors excluded the Baird's Sandpiper which would come closer in description by having a white belly, buff breast, and black legs.

The Buff-breasted Sandpiper was a constant companion of the Lesser Yellowlegs and was observed to feed within a few feet of that bird at all times. When the birds were flushed, the Lesser Yellowlegs and Buff-breasted Sandpiper would again pair off and resume feeding near each other.

An effort to check the presence of the Buff-breasted was made early 1 September, to see if it still remained in the same area. Again, the bird was spotted and observed, this time with Charlie Smith, Carol and Ralph



Buff-breasted Sandpiper banded at Roan Creek area of Watauga Lake,

Johnson County, Tennessee. Photo by the author.

T.O.S. SIGHT RECORDS OF THE BUFF-BREASTED SANDPIPER

Location	Date	Observer	Number Seen
1. West Tenn. Air Base at Halls	19 Sept, 1943	Burt L. Monroe	2
		" . . . Fed around the edge of the pond and in the clods and hillocks some distance away."	
2. Near Memphis Mud Lake - Miss. & Tenn.	16 Aug. 1952	Lula Coffey	1
		"The slim upland sandpiper resemblance was in contrast to the "peeps" feeding nearby."	
3. Tenn. Nat. Wildlife Refuge, Middle Part of Kentucky Lake Duck River Bottom	9 Sept. 1953	Eugene Cypert	2
		" . . . Feeding on mudflats in company with Killdeers and Pectoral Sandpipers."	
4. Memphis — President's Island	21 Aug. 1954	Harry Landis & George Peyton	1
Memphis — President's Island	28 Aug. 1954	Harry Landis, George Peyton and Ben Coffey	2
		" . . . Feeding on mudflats in company with Killdeers and Pectoral Sandpipers."	
5. Nashville Bush Lake	16 Sept. 1959	Henry Parmer	2
		"In the early morning sun the heads, necks and breasts seemed to be the color of an old khaki shirt."	
6. Nashville Bush Lake	11 Sept. 1960	John Ogden	2
		" . . . Found feeding in a field of newly sprouted turnip greens."	
7. Northeastern Tenn. Roan Creek & Watauga Lake	31 Aug. 1963 7 Sept. 1963	Kenneth H. Dubke Ralph & Carol Bullard Charlie Smith	1
		Feeding on mudflat devoid of grass	

Bullard. Plans were made to return that evening with banding equipment and attempt capture. On returning to the location, the Buff-breasted was located for the third time. Even though the light was fast fading, two mist nets were hurriedly placed along a narrow portion of the mud flat. A slow, 15 minute, two man "drive" through the mud was well rewarded by the catch of both the Buff-breasted Sandpiper and its companion the Lesser Yellowlegs. Measurement was made on the Buff-breasted Sandpiper as follows: Wing 127 mm. (133), Tail 51 mm, Bill 17 mm (20), Fat Class 1. Measurements in parentheses are converted from Chapman (1926) page 260 as a comparison. This bird then became the first of its kind to be banded in the state when band number 61-150698 was assigned. It is interesting to note that ". . . the peculiar speckling on the inner webs of all the primaries . . ." as described in Chapman (1926 Page 260) was present and quite evident in this Buff-breasted Sandpiper.

The two birds were bagged and kept for photographs on the following morning. The final photographs were made by placing the Buff-breasted on a rock then slowly removing the hand. Here the bird remained motionless long enough to be photographed five times. It then rose to its feet and walked about 100 feet into the grassy field where it began feeding. After approximately one minute, the Sandpiper flew down into the mud flat and was last seen feeding there. Bent (1934) page 74 records, "Much of the behavior . . . , reminds one of the upland plover; it seems to prefer the grassy places rather than the open flats or shores. . . ."

NOTE: Sight Records Table — Comments pertaining to observations on feeding where given.

Observations made by Kenneth Dubke on 7 September continued to reveal the presence of the banded Buff-breasted. A routine check on 8 September, failed to find it. It is assumed that the urge to migrate was stronger than the hospitality of East Tennessee (sic).

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3302 Navajo Drive, Chattanooga 11, Tennessee.

ROUND TABLE NOTES

OSPREY NEST ON WATTS BAR LAKE.—This is a year late but our acting editor of THE MIGRANT, upon finding very few records of Osprey nests in Tennessee, has suggested that I write something about the one I observed on Watts Bar Lake.

On Friday, 11 May, 1962, my family and I were guests of Mr. and Mrs. Richard Wilson, Red Cloud Cottages, Ten Mile, Tenn., who arranged for us to visit a large nest on top of a navigation marker. The lake is wide near the nest and about six miles above Watts Bar Dam. After getting settled, a boat was secured and we were soon on our way to view it. As the fast boat narrowed the distance we could see the silhouettes of two large birds perched above the flashing light, and soon there was no doubt that they were Ospreys. They took to the air when we approached fairly close but soon returned after the roar of the boat motor stopped. A spirited series of high-pitched notes followed as if the Ospreys were discussing their almost finished nest.

One of the birds again took to the air and made a wide circle of the lake. On its second time around it swooped to the water, caught something in its feet and rose laboriously. The catch was a long, crooked piece of driftwood which was brought back and arranged in the nest to the accompaniment of more conversation.

In later correspondence with Wilson I learned that the birds apparently started incubating, but still later the nest was abandoned without any sign of young or eggs left behind. However, the pair continued to be seen in the general area.

The flashing navigation light was supported by several pilings that extended well above the highest level reached by the water. The nest was on a platform or roof above the light and did not interfere with it in any way.

A nest at the same location a year earlier is mentioned by Rock Comstock, Chattanooga, in the September, 1961, issue of THE MIGRANT. The Coast Guard had removed the nest in repairing the navigation marker and had presented it to Elise Chapin Audubon Sanctuary in Chattanooga.

Kurt Krause, curator of the Sanctuary and a TOS member, wrote an interesting story for The Chattanooga Free Press on 21 July, 1961, that contained the following:

"The nest . . . is five feet wide and two feet deep . . . The structure first gives the impression of a large pile of twigs loosely heaped together. Closer observation, however, shows that the material is closely woven and intertwined, and the nest is so firm and compact as to have withstood much rough handling and transportation without coming apart.

"Branches more than an inch in diameter, pine limbs with the cones still attached, and corn stalks and cobs make up the basic structure. The lining consists primarily of uprooted clumps of grass with the roots still embedded in soil. Some of these are beginning to sprout. . . The nest also contained a portion of the shell of a 2½-inch-long egg which had been hatched. The particular egg, about half of the shell of which is available, is a light brown with darker blotches.

"Warrant Officer Donald Luedke, who secured the nest, states that on several prior occasions when the tower was being serviced, nests of seemingly the same pair of birds have unceremoniously been dumped into the water.

"On the present occasion, the tower was being repaired, and as a derrick was thus available, the nest was placed on a board platform, fastened by a couple of loops of cable, and brought to Chattanooga on the Coast Guard cutter. Luedke reports that the one Osprey present hovered in the vicinity of the boat, giving voice to its protest and grief in screams. . .

"Three nights later the cutter was in the vicinity again and flashed its light on the tower. There, peering over the side of a partially built nest, was the Osprey, clearly defying its human tormentors to do their worst."

Krause also told of many fish scales, both large and small, being found in the nest and one numbered fish tag that had originally been placed on a white bass by TVA. To show how facts can be distorted by rumors, the attendant at the boat dock told me soon afterward that the newspaper had said the nest had been "full of game fish tags."

There is support for the Coast Guard officer's remark concerning nests having been present in former years. Hugh Johnson, of the Tennessee Game and Fish Commission, visited the nest in 1960 and found two large-size nestlings but was not sure of their identity. The same year after the

young had flown, Bill Yambert, also with the Game and Fish Commission and a TOS member, inspected the nest and expressed the belief that it had been built by an Osprey.

However, it may be that the Ospreys have now abandoned their claim to the marker. I have been away most of the summer just passed and have not visited the lake, but I recently phoned the Wilson home. Miss Marjorie Wilson said the Ospreys came back this year but she did not think they made any attempt to nest on the marker. She added that there have been reports of what is believed to be an Osprey nest on a wooded island in the same general area. Possibly the increasing number of boats on the lake and extra attention the nest was receiving following publicity in newspapers could have influenced their move.

I have found only three other references in THE MIGRANT to Osprey nests in Tennessee. John O. Ellis recently wrote of one active and one inactive nest at Reelfoot Lake (THE MIGRANT, 34, 22-23, 1963). John B. White recorded that a conservation officer observed a pair building a nest on Davy Crocket Lake, Greene County, in 1940 (THE MIGRANT, 27, 4 1956). William M. Walker described two nesting attempts at Andrew Jackson Lake in Knox County. Both nests were torn down before completion because "the birds caught too many fish." (THE MIGRANT, 8, 53, 1937).

J. B. OWEN, 2722 Fairview St., Knoxville, Tenn.

FIRST LEAST BITTERN RECORDED FOR THE SMOKIES.—On the morning of 23 Aug., 1963, an adult female Least Bittern (*Ixobrychus exilis*) was found by Mrs. Thomas J. O'Brien on Roaring Fork Road (1400') in the city of Gatlinburg. The cause of death could not be ascribed to either a collision with an automobile or to weather conditions. This discovery constitutes the first record of this species in the vicinity of the Smokies. This specimen was prepared as a study skin and deposited in the permanent collection of the Great Smoky Mountains National Park.

THOMAS SAVAGE, GSMNP, Gatlinburg, Tenn.

A SET OF SEVEN MOCKINGBIRD EGGS.—As 7 egg clutches of Mockingbird (*Mimus polyglottos*) eggs are very, very rare, a set found in the Nashville area is herewith placed on record. A search of the literature has revealed only one other clutch of 7 eggs for the species, cited for Oklahoma (1927) by M. M. Nice in *Birds of Oklahoma* (1931, p. 138). No sets exceeding 5 eggs have been found in Tennessee. Only 3 clutches of 6 eggs are on record (1962, A. R. Laskey. Auk. 79:599).

This nest was noted in mid-April 1963 by Mr. and Mrs. H. C. Hodgson at their home on Hermitage Rd., Old Hickory, Davidson Co. which is about 9 miles (air line) northeast of the center of the business section of Nashville. After an earlier attempt to build in a barberry shrub, the nest was placed at the top of an upright yew (*taxus*), close to the house, 5.5 ft. from the ground and well concealed.

As it would have been necessary to use a ladder to see into the deep nest, the owners felt that this would disturb the birds, therefore the exact laying dates were undetermined and the number of eggs was unknown until the nest was removed.

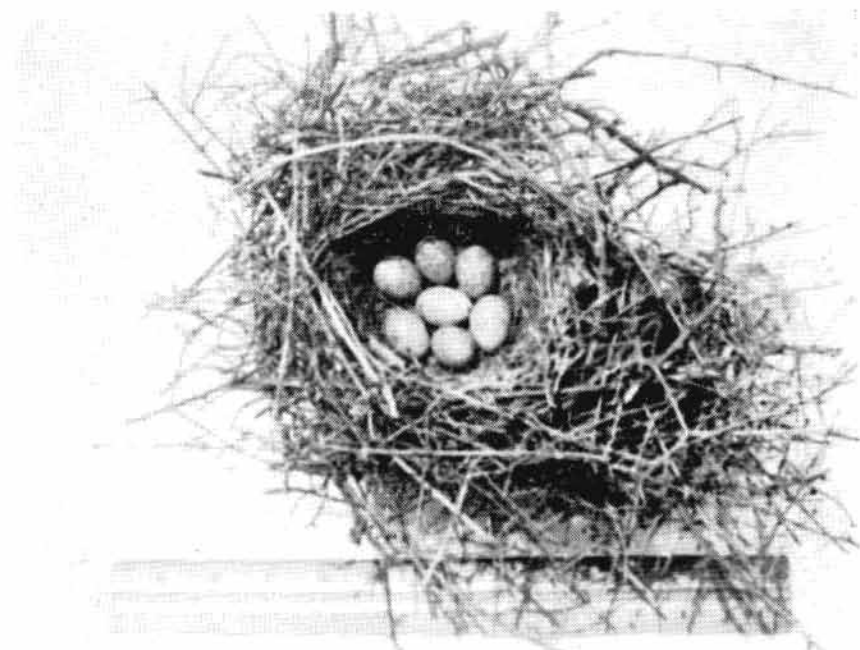
However in late April or early May, one of the pair, presumably the female, was found dead on the ground near the nest site. Some weeks later, after the Hodgsons were sure there was no activity at the nest, it was removed and brought to me 1 June.

The 7 eggs were added and indicated only brief incubation. All were uniform in color and markings of typical Mockingbird eggs and were similar to each other.

The nest was remarkable in size, the largest that I have ever seen. Across the top, it measured 10 x 13 inches; height 6 inches. The cup was 3 to 3.5 inches wide and 3 to 3.5 inches deep. It was composed of the usual materials and the typical form used by the species — many twigs, an inner compact layer of pliable materials, with lining of brown rootlets.

Cause of the death of the female was undetermined. There were no visible indications of injury or predation. The only clew available that might account for the death was the April fruit tree spraying with malathion in the neighborhood.

AMELIA R. LASKEY, 1521 Graybar Lane, Nashville, Tennessee.



Clutch of seven egg nest of the Mockingbird found in the Nashville area.
Photo by H. E. Parmer.

(Continued from page 54)

Blue Grosbeaks appear to becoming more regular in our area with a single bird found singing 21 and 28 July and 4 Aug. at the Roan Creek area. Fred Behrend and Wallace Coffey had a bird singing in Lynn Valley 27 July. Ed Davidson also recorded the bird in the same area the first part of June. Ken Dubke and Charlie Smith, in addition, had a singing male in the area of the Watauga River Prong of Boone Lake on 4 August. Fred Behrend again found the Purple Finch and Pine Siskin on Roan Mountain (see THE MIGRANT 34: 38-39, 1963) with an unusual record of a Pine Siskin at 4500 feet elevation on 1 Sept. near the Rhododendron Village Resort.

KENNETH H. DUBKE, 918 State Line Road, Elizabethton, Tennessee.

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I am grateful for this opportunity to congratulate Ken Dubke on the fine job he has done with THE MIGRANT in the absence of our editor, and to add my personal thanks to the many others I am sure he has received.

Many of you I have not had the pleasure of knowing, so brief is our annual contact with members not in our own chapters. I hear by the grapevine that our 1964 meeting will most likely be at Reelfoot, but wherever it is, West Tennessee will have planned a good one, and I hope to see you all then. It is not too early to tell yourself you just must go to this one, and to plan accordingly. If you haven't been to Reelfoot in Spring Migration you don't know what you have missed. Let's see how big we can make the 1964 Annual Meeting of TOS.

SUE M. BELL.

NOTES FROM THE EDITOR

Singular honor has recently been conferred upon one of the founders of the Tennessee Ornithological Society. Mr. Albert F. Ganier has been commissioned a Colonel on the staff of Governor Bert Combs of Kentucky. Colonel Ganier suggested and was instrumental in the organization of the Kentucky Ornithological Society in 1923. He has attended most of their annual meetings and recently participated in their fortieth anniversary celebration at Mammoth Cave, Kentucky, 11-13 October. The subject of his address was: "The Contributions of the Kentucky Ornithological Society to Ornithology."

A similar honor was conferred upon Colonel Ganier's and our good friend, the only living founder of the Kentucky Ornithological Society, Dr. Gordon Wilson of Bowling Green, Kentucky.

We extend our most sincere congratulations to both of these outstanding ornithologists and may both of you continue your valuable contributions to the ornithology of our sister states for many years to come.

Most sincere appreciation is hereby expressed to Mr. Kenneth Dubke for assuming the responsibility and so ably editing the March and June issues of THE MIGRANT and assembling the material for the September issue during the absence of your editor.

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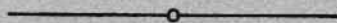
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