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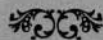
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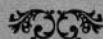
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WINTER BIRDS OF NORTHEASTERN TENNESSEE

By BRUCE P. TYLER and ROBERT B. LYLE.

FOREWORD. Without much doubt less attention has been devoted to birds during the winter than in any other season. One need not seek far for the reasons, since not only are climatic conditions in many localities less attractive to the bird student, but the activities of birds are more restricted, and many of the birds themselves are in garb that makes them more difficult to identify than in the spring. All this results in a greatly decreased return for the field work undertaken.

It is now recognized that the winter residence of a bird is second in importance only to its summer home, since the ability of a species to subsist in good physical condition during the winter is a necessary prerequisite to a successful breeding season.

We know all too little concerning the winter distribution of our birds, and much further investigation is, therefore, needed. Any real contribution to this end possesses scientific value. Particularly is this the case regarding the winter distribution of birds in important areas such as the State of Tennessee.

HARRY C. OBERHOLSER.

In this article the authors have tried to present a fairly good idea of the winter birds of northeastern Tennessee, embracing those known to be resident or visitors during the months of December, January and February. It is not claimed that the list is complete, but that it is accurate as far as it goes and represents the more common to comparatively rare winter birds.

Our observations have been made within a radius of thirty miles of Johnson City, which has an elevation of 1,700 feet, S. L. datum. This city lies in the valley of the Watauga River, nestling against Buffalo Mountain on the southeast, and about five hundred feet above and, say, five miles southeast of the river. To the north and west stretches the valley, mountains rising again at Clinch Mountain to the mean elevation of three thousand feet at a distance of approximately twenty-five miles from Johnson City as the crow flies. The principal mountains to the southeast are Holston, Iron, Roan and Big Bald. The latter two are on the Tennessee-North Carolina State line, approximately twenty miles distant from Johnson City, and having a maximum elevation of 6,313 on Roan Mountain. More adjacent to Johnson City are Buffalo, Cherokee and Unaka Mountains. The valley is watered by the Watauga and Holston Rivers, and approached on the south by the Nolichucky River. The Watauga and Holston Rivers are separated by a ridge of minor importance. In this setting the data for this paper have been secured.

The greatest weakness of the list is probably in the water birds, as the terrain traversed on our bird walks has, most commonly, been uplands, borders of small streams and forests, with a minimum of time spent along the larger streams. The ducks, for instance, are almost missing from the list.

At best, the ducks are rare in the mountain waters, yet we feel sure that a larger list can be gleaned after more observations have been made along the rivers.

For the benefit of the less experienced bird enthusiasts, it may be stated that the winter plumage of some birds may prove confusing. The Phoebe in winter garb is darker, with more olive on sides and back. The very early migrants of this species which may arrive during February are prone to sojourn in the woods, but the birds that winter here prefer to dwell near their nesting places along the streams where bridges and overhanging cliffs offer protection. The Swamp Sparrow may have so much black in the crown as almost to obliterate the chestnut coloring. The Myrtle Warbler dons a less conspicuous coat. The beautiful Goldfinch's brown winter overcoat bears scant similarity to its lemon yellow plumage of the summer season. The winter birds present problems all their own.

While many of the species are listed as "permanent residents," it may be that our breeding birds of these species really go south in winter and are replaced by others of the same species from the North. However, we are not here concerned with migration, but with the occurrence of species. The list follows below:

Common Loon (*Gavia immer immer*)

Rare winter visitor; may be observed on larger ponds and river eddies.

Pied-billed Grebe (*Podilymbus podiceps podiceps*)

Occasional winter and early spring visitor.

Mallard Duck (*Anas platyrhynchos platyrhynchos*)

May be observed on the rivers occasionally. Even when the rivers are frozen they appear on open patches where inflowing spring water prevents freezing.

Bufflehead Duck (*Charitonetta albeola*)

Winter and early spring visitor. Rare.

Turkey Vulture (*Cathartes aura septentrionalis*)

Common; found most often along the high river bluffs. Permanent resident.

Black Vulture (*Coragyps atratus atratus*)

Common. Associates with the Turkey Vulture. Permanent resident.

Sharp-shinned Hawk (*Accipiter velox velox*)

Rare. Seen mostly over open fields and cut-over lands. Permanent resident.

Cooper's Hawk (*Accipiter cooperi*)

Common, though not often seen. Permanent resident..

Eastern Red-tailed Hawk (*Buteo borealis borealis*)

Fairly common. The most interesting of the larger hawks. Permanent resident.

Golden Eagle (*Aquila chrysaetos canadensis*)

Permanent resident in the remote fastnesses of the mountains. Stockmen along the northwest margin of the Clinch Valley and also in the North Carolina mountains, report that these eagles often kill very young lambs and that on occasions it has become necessary to have armed watchers to keep them away at lambing time. It is not common, but can usually be observed in the higher mountains.

Duck Hawk (*Falco peregrinus anatum*)

We have noted these about their eyrie early in February. It is probably a permanent resident. Three pairs are known to nest near Johnson City.

Eastern Sparrow Hawk (*Falco sparverius sparverius*)

Most common of the hawks. Partial to open fields. Permanent resident.

- Eastern Ruffed Grouse (*Bonasa umbellus umbellus*)
Fairly common in the mountain forests. Permanent resident.
- Eastern Bob-White (*Colinus virginianus virginianus*)
Common in cultivated fields and adjoining thickets. Permanent resident.
- Eastern Turkey (*Meleagris gallopavo silvestris*)
Still found in remote mountain sections. Permanent resident.
- Killdeer (*Oxyechus vociferus vociferus*)
Common in open fields, lowlands and around ponds. Permanent resident.
- Eastern Mourning Dove (*Zenaidura macroura carolinensis*)
Common in open cultivated fields. Permanent resident.
- Barn Owl (*Tyto alba pratincola*)
Rare. Some, at least, remain in winter.
- Eastern Screech Owl (*Otus asio naevius*)
Common. Partial to big trees of the city. Our only urban owl. Permanent resident.
- Great Horned Owl (*Bubo virginianus virginianus*)
Common in dense woods and mountains. Permanent resident.
- Eastern Belted Kingfisher (*Megaceryle alcyon alcyon*)
Resident until severe weather freezes the rivers when it leaves, not to return until the following spring.
- Northern Flicker (*Colaptes auratus luteus*)
Common. While principally a bird of the woods, the flicker often graces our city lawns and dooryards. Permanent resident.
- Southern Pileated Woodpecker (*Ceophloeus pileatus pileatus*)
Fairly common in remote forests, increasing in numbers. Permanent resident.
- Red-bellied Woodpecker (*Centurus carolinus*)
Fairly common. Permanent resident.
- Yellow-bellied Sapsucker (*Sphyrapicus varius varius*)
Rare winter visitor. Probably permanent resident on higher mountains.
- Eastern Hairy Woodpecker (*Dryobates villosus villosus*)
Rare. Favors higher altitudes. Permanent resident.
- Northern Downy Woodpecker (*Dryobates pubescens medianus*)
Most common of its family. Permanent resident.
- Eastern Phoebe (*Sayornis phoebe*)
Winters here occasionally, but is more common during the spring and summer months. Northern Tennessee is very near its northern wintering limit.
- Prairie Horned Lark (*Otocoris alpestris praticola*)
Common. Occurring in open pastures in large flocks of twenty or more. Winter resident.
- Northern Blue Jay (*Cyanocitta cristata cristata*)
Common in woodlands, occasionally visiting the shade trees and shrubbery in cities or about farm houses. "Policeman" of the woods. Permanent resident.
- Northern Raven (*Corvus corax principalis*)
Rare, frequenting the cliffs at high altitudes. Observed on Roan Mountain and White Top, Tenn., and on Clinch Mountain, Va.; also on Grandfather and Beech Mountains in North Carolina, all of similar terrain and within or adjacent to northeastern Tennessee.
- Eastern Crow (*Corvus brachyrhynchos brachyrhynchos*)
Common. Increased in numbers in winter, due to migration from the North. Permanent resident.

Black-capped Chickadee (*Penthestes atricapillus atricapillus*)

Common, but less so than the Carolina Chickadee. We have had opportunity to observe both forms simultaneously within a small area. It is likely that the Black-capped is a permanent resident only at the higher altitudes, occurring in the valleys as a winter vertical migrant.

Carolina Chickadee (*Penthestes carolinensis carolinensis*)

Common. Among the friendliest of our winter birds. Permanent residents.

Tufted Titmouse (*Baeolophus bicolor*)

Common. "Sauce-box" of the woodland. Permanent resident.

White-Breasted Nuthatch (*Sitta carolinensis carolinensis*)

Fairly common in wooded districts. Permanent resident.

Brown Creeper (*Certhia familiaris americana*)

Rare winter visitor. Usually found singly, with a mixed group of birds.

Eastern Winter Wren (*Nannus hiemalis hiemalis*)

Rather rare winter resident in lowlands. Permanent resident in the mountains at high elevations.

Bewick's Wren (*Thryomanes bewicki bewicki*)

While this bird is a summer resident, it is so hardy that it frequently arrives during February.

Carolina Wren (*Thryothorus ludovicianus ludovicianus*)

Common in fields, woods and about the haunts of man. Permanent resident.

Eastern Mockingbird (*Mimus polyglottos polyglottos*)

Common. The State Bird of Tennessee. Loves the homes of man and can rout a cat. Permanent resident.

Eastern Robin (*Turdus migratorius migratorius*)

Occasional winter resident. More common than usual this (1932-1933) winter.

Eastern Hermit Thrush (*Hylocichla guttata faxoni*)

Rather rare winter resident. A lonely dweller in bushy thickets and woodland underbrush.

Eastern Bluebird (*Sialia sialis sialis*)

Common. Increasing in numbers. One of our choicest birds—the emblem of friendship. Permanent resident.

Eastern Golden-crowned Kinglet (*Regulus satrapa satrapa*)

Regular winter resident. Usually found in bushy woodlands and cedars.

Eastern Ruby-crowned Kinglet (*Corthylio calendula calendula*)

Rare winter resident, or may arrive in migration during February.

American Pipit (*Anthus spinoletta rebescens*)

Rare winter visitor.

Migrant Shrike (*Lanius ludovicianus migrans*)

Fairly common fall and winter resident.

Starling (*Sturnus vulgaris vulgaris*)

Probably our most common bird. Permanent resident.

Myrtle Warbler (*Dendroica cornata*)

Common winter resident. More abundant the past winter (1932-1933) than for many seasons.

English Sparrow (*Passer domesticus domesticus*)

Common. Pre-eminently domestic. Permanent resident.

Eastern Meadowlark (*Sturnella magna magna*)

Common, in open fields. Permanent resident.

Eastern Cardinal (*Richmondia cardinalis cardinalis*)

Common both in town and country. Highly popular. Perm. resident.

- Eastern Purple Finch (*Carpodacus purpureus purpureus*)
Fairly common winter resident. You will find him in the tree tops.
- Eastern Goldfinch (*Spinus tristis tristis*)
Common resident. Modestly clothed in brown and olive for the winter.
- Red-eyed Towhee (*Pipilo erythrophthalmus erythrophthalmus*)
Fairly common. Lives among the woodland thickets. Permanent resident.
- Eastern Savannah Sparrow (*Passerculus sandwichensis savanna*)
Rather rare winter resident. Found in open country.
- Slate-colored Junco (*Junco hyemalis hyemalis*)
Common winter resident.
- Carolina Junco (*Junco hyemalis carolinensis*)
Common winter resident—a vertical migrant. It spends its winters in the lowland valleys and breeds on the higher mountains at about 4,000 feet elevation and higher in the same latitude.
- Eastern Tree Sparrow (*Spizella arborea arborea*)
Observed only during one winter, when a flock remained near Johnson City for several weeks.
- Eastern Field Sparrow (*Spizella pusilla pusilla*)
A sparrow of the open fields. Permanent resident.
- White-crowned Sparrow (*Zonotrichia leucophrys leucophrys*)
Rare winter visitor. A flock of about twenty-five observed late in December, 1932. Aristocrat of the sparrow family.
- White-throated Sparrow (*Zonotrichia albicollis*)
Common winter resident. A lover of the woodland underbrush.
- Fox Sparrow (*Passerella iliaca iliaca*)
Winter resident. Rare.
- Swamp Sparrow (*Melospiza georgiana*)
Rather rare winter resident, choosing to live mostly in swampy lowlands
- Eastern Song Sparrow (*Melospiza melodia melodia*)
Common in town and country. Most beloved of the sparrows. Permanent resident.
- Johnson City, Tenn., August, 1933.



A TERRITORY AND MATING STUDY OF MOCKINGBIRDS*

By MRS. F. C. LASKEY

One day in late autumn of 1932, three Mockingbirds were noted in the garden, which is also a banding station, their actions indicating some argument was in process of settlement in primitive fashion. Some days later, at dusk, three Mockers were heard giving characteristic *chucks* as they settled to roost in separate sections of the garden. Could it be possible there were three wintering close about the house? Was there a mated pair in the group, or were they all males? These and many other questions came to mind, but there was only one way to definitely answer them—daily observation of this group, so marked that each individual could be recognized by means of colored bands. Therefore, special food inducements of fruits and bread were placed in strategic positions to capture these wary birds. First to enter a trap was an unbanded Mockingbird which was accordingly marked on the right tarsus with Biological Survey band No. B-216088, and above it, a bright red celluloid band. Soon after, a banded Mockingbird was captured bearing the number A-292703, which the records show had been placed on (*Mimus polyglottus polyglottos*. Linn.)

him October 12, 1931. A bright yellow band was added, and now, in mid-winter, it was known without doubt there were three Mockingbirds occupying the garden, for each morning as the fruit rations were distributed, one wearing a red band was seen in his usual place, the yellow-banded one could be found in another section, and in a third place could be located one wearing only an aluminum band. Lines could have been drawn marking the garden boundaries of the territories of these birds and by 8 o'clock of a morning it was seldom each bird could not be readily located in one or another of his favorite perching trees. This third Mocker, while unafraid of people, was elusive and trapwise, but at last he was caught in a drop trap, and how interesting was his record to the bander! He was A-280727, had been banded August 27, 1931; the very first Mockingbird trapped at Blossomdell station, had been recaptured at the same spot August 1 and August 29, 1932, and the nest had been in a rose vine a few feet away. A bright blue band was given him. Thus the three principal garden occupants became "R" for red, "Y" for yellow, and "B" for blue.

As each of these birds was handled, notes were made on plumage, giving particular attention to the white markings of wings and tail. The first ten primaries, including the very short first one, were marked with areas of white. These white areas, in the case of "R" were more restricted than those of "B" and "Y."

Daily observations were made with 8-x binoculars. It was noted all continued to occupy their respective territories, "B's" being the east section of lot, 80x300 feet, contained much shrubbery, many trees and a thick growth of rose vines on fence posts; "R" and "Y" occupied the west section, 120x300 feet, which included the garage and driveway. The house appeared to be the hub. "Y's" territory was larger than "R's," but the latter's, which was located in the portion toward the road, contained dense shrubbery plantings and hedge, while "Y's," in the rear, had numerous trees, but sparse low cover. Interesting to note is the fact that each of the three territories contained a feeding station where food was always kept and banding traps operated. Most exasperating to the bander was their persistence in attempting to drive off almost all other birds, though each paid due respect to the rights of the others. They met occasionally at their boundary lines and there seemed to exist a certain "camaraderie" on this narrow area of "no man's land." Several times little "dance" or "sparring" maneuvers were noted between R and Y, also between Y and B. If one gave a cry of distress while being handled, another came scolding to the boundary. If other birds, particularly Robins, came to feed, one would reinforce the other by helping him dash at the intruders until they were routed, immediately retiring to his own territory. Once, when a strange Mocker, trapped elsewhere, was released for experimental purposes on the outer boundary of R's and Y's territory, Y immediately flew at the new bird, was quickly joined by R, both scolding and flying at the intruder (also banded), which caused the latter to leave at once. They seldom showed belligerence toward the small birds, with the exception of R, but he, when bits of bread were placed with the seeds, continued to dash at the various Sparrows and Juncos until the bread was removed and would do this even when large portions had been placed for him a few feet away with his fruit. R became rather tame, flying to meet the person bringing his morning apple.

On February 23, 1933, the first song of the season, low and sweet, was heard from Y as he perched on the lower branch of a hackberry near the house. Three days later, on his side of the garden, B sang the same type of song, but at times his was uttered in the softest little whisper. The two continued singing thus until March 12th, when Y's song increased in volume, in length, and quickened in tempo, and by the 17th Blue had fol-

lowed suit. But R, still occupying his shrubby corner, continued to make eating his principal occupation, and seemed to be overstepping his rights, for during March he was caught more than once by Y feeding in his province, and was noted on the evening of March 13th being driven back to his own section.

Not once was R heard singing, but on the morning of March 14th, when apples were distributed, R did not come, as usual, to claim his share, but a Mockingbird was singing very animatedly from R's favorite perch. Had R found his voice overnight? The singer came soon after to R's apple and the band was yellow! Y now occupied the entire west section and R disappeared and has not been seen again since that date.

Both B and Y were heard daily as they sang from the lower branches of young trees or shrubs, but on the morning of March 24th, clear, but frosty, another change was noted. Now they were singing faster and louder, their perches were higher; they sang as they flew; they stopped at a six-foot fence extending across the rear, flew into the air a foot or two, dropped back to fence. They flew in parallel lines, each on his own side of the house, pausing at front, rear or center almost in unison. They continued thus for several days, singing from the tips of higher trees as if their throats must burst. Once, on the 27th of March, they stopped on the rear fence and indulged in what appeared to be a little dance on B's side for a moment or two. The following day this ecstatic madness had increased, for now they were tossing themselves into the air from top of telephone pole, now swooping to the ground, back to a high perch, always singing with energy comparable to that of a jazz orchestra. The songs were thickly interspersed with call notes and songs of other birds or fowl, with their own sharp notes and those of juvenile Mockingbirds. It was amusing to note how they paralleled one another in those mad flights and how they appeared to imitate each other in song. Y, however, always had a larger repertoire of imitations of other song birds.

On the morning of March 28th, a peculiar rasping sound was heard, different from the harsh *chuck* heard throughout the winter. Then a Mocker appeared with Y in pursuit, both uttering these rasping notes. They circled toward B's territory, where the three continued their circling flight and rasping noises. The third bird disappeared. B and Y again resumed the dashing from shrub to post, to vine, etc., singing with great gusto. A new maneuver was now noted. Y alighted on a branch, ran with head down, tail and wings spread, to a fork, stopped there a moment, uttered a low *cluck-cluck*, then flew to another tree or branch and repeated the performance. B, meanwhile, on his territory, was performing the same type of antics. Though he confined his maneuvers to evergreen trees, clumps of rambler rose vines, honeysuckle-covered shrubs, the calls, the songs, the actions were essentially the same. Why these tactics and what had become of the new bird?

About fifteen minute later, a glance to the ground revealed B stepping before a vertical wire trap where the new bird had entrapped itself. It was banded for sight identification with two bands and plumage carefully noted. The general color was lighter than B and Y, the body feathers showing a distinct buffy wash; the tail was more plumbeous; the white area of the wing was decidedly smaller than the other two birds. This, it was concluded, must be a female, which B and Y were attempting to interest in possible nesting sites by their peculiar actions of running into forks, shrubs and vines. A short while after this bird was released, she or another (their movements were too fast to see bands) appeared on Y's territory, the latter repeating the actions just described, dashing into young cedars in the front section of his domain. She then flew to B's side, where she and B went into

a cedar for a moment, from which the rasping notes issued, but she soon disappeared. On the afternoon of that same day (March 28) both B and Y extended their singing territories, making flights to trees on adjoining vacant property at least 200 feet from their previous outer boundaries.

On the following day both began singing very early, but about 7:45 a. m. Y was noted singing on the recently added territory, flying to limbs, running to forks, giving the *cluck-cluck* sounds, repeating the performance over and over. All was quiet on B's side. Why the excitement? Was a female near him? None could be seen, but after five minutes. rasping notes were heard on B's side. A pursuit was in progress, from tree to shrub, to ground, across the road, back to the rear. It was B following an unbanded Mockingbird. She flew across the road now, pursued by both B and Y, then back to B's side of the garden. Y, returning, did not follow, but came to his own ground. This stranger disappeared without being captured, and both males resumed their usual program of song and defense of territory. About 9 a. m. the peculiar action of males and rasping notes indicated another visiting female. As she was pursued, she was heard giving a short call of two or three notes. She did not remain.

Occasionally, the Mocker occupying the garden across the road (not directly opposite) would trespass and twice joined in the pursuit of a visiting female. B left the lighter-colored visitor perching in the garden while he drove off the trespasser. While this happened, Y remained on his own side, singing most animatedly within sight of the female, and when she flew to his side, he began to pursue her. If she alighted, he would stop nearby with wings and tail spread, she responding with rasping notes. Again this day (March 29), toward evening, an unbanded female appeared and the same program continued until she left.

On the following day (March 30), another bird came which Y's behavior identified as a female. She immediately entrapped herself on his territory, was banded, plumage noted, and released. His invitation to nest in the various trees was ignored, for after preening her feathers she, too, passed on, Y following a short distance. On the 31st it rained, but both birds sang almost continuously.

On April 1st, another unbanded female appeared in the garden, stayed a while, flew to the road amid the lovelorn importunities of B, Y and the Mocker across the way, then disappeared. April 2nd, a Mockingbird was being courted in the usual way, but this one seemed to favor Y's territory. As she perched near Y, both could be plainly seen and through the binoculars she was noted to be lighter and smaller than Y, with a buffy wash on her body feathers. She spent the day feeding or perching, sometimes out of sight, but the actions of both males indicated she was present. As she was busy hunting food, both birds repeated the actions previously described. Now, when flying into trees or shrubs, it was noted the male picked up a twig, carried it into the shrub or vines, sometimes from one place to another. Y was noted carrying two twigs at once. Aerial pursuits were indulged in, followed by a gentle little ground pursuit, stepping in and out of openings in the hedge row. Occasionally the flight led into B's territory, when he would join the chase. Y tried often to lure her to the ground at the extreme end of his enlarged territory, but she seemed to be a coquette, spending most of her time on Y's side, but often "stepping over the line." Twice Y and B appeared on the verge of a fight, and ~~now~~ there was a "free-for-all" when Y, B and the Mocker across the way ~~by~~ the a whirling, swirling mass of birds from which feathers flew. By April 3rd, Y was noted singing more sedately from low perches, as the female preened her feathers some distance from him. Sometimes there would be a pursuit of her, sometimes a few soft notes would bring her flying toward him. It seemed surely Y had

won a mate, but she still did like to slip over to B's side to eat his hackberries. Then, as B approached her, Y would quickly appear, seemed to chase her back, stopping sometimes to fly at B. Once B was noted on Y's territory playing the gentle little game of tag with her around a peony plant, but when Y appeared he flew to the housetop to sing (still on Y's side). While this unbanded female seemed much at home in the garden, she never ate any food about the traps, so marking her had been impossible.

At 6 p. m. on the evening of April 6th, Y was heard singing short songs on the lower branch of an ash tree, near the house, as the little mate (presumably) came to the privet shrubs at the window to roost. Seeing some one inside, she flew to the tree beside Y. In a few moments she returned to the privet, followed by him. He settled on the same twig a few inches from her, where their silhouettes were noted in the moonlight at 11 p. m. The following day Y appeared to be trying to interest the pretty lady in nest building, flying frequently into shrubs, particularly a young cedar, often carrying a twig. He seldom was very far from her, and always within guarding distance, giving soft warning notes at the approach of some one. When he ventured too close to her she evaded him or pecked at him. On the evening of the 7th she came to the same privet alone to roost while Y sang from shrubs near his favorite cedar tree until 6:40 p. m. as darkness came. However, at 9 p. m. the nervous little lady bird became frightened and with a few sharp *chucks* flew away in the moonlight while a short answering song was heard from Y.

The following morning B was singing loud and fast as usual, and so was Y after nearly a week of softer toned music. Y was located at the very tip of his singing tree, and it sounded as if his throat must burst, and what loud, shrill *peep-peep* calls he uttered in the same frenzied tones he had used previous to the days of the little lady. Both Y and B had resumed the clowning antics in the air, and the dashing from front to rear. Is he again joining B in telling the passing Mocker ladies about himself and his possessions? His erstwhile companion could not be found.

About 10 a. m., while B was flying, singing, into the shrubs on his side. Y was noted leading a sleek-looking little bird into the cedar, then into a shrubby hackberry. As their actions were watched for an hour, she appeared to be really interested in home sites, though when he came too close to her, she repulsed his familiarity by pecking him. As he perched above the young cedar, singing very softly, she went into it, remaining at least five minutes. Y then flew some distance, picked up a twig, flew in a semicircle to a perch, paused a moment, then he, too, went into the cedar. A close check was made the remainder of the day, but no further nesting activities were noted. The pair fed as during the past week, rasping notes were heard occasionally, but the male was seen more often, apparently on guard while the female hunted insects. Again, on this day, B came close to her as she fed near the boundary line. Y immediately came, flew at B, but no actual encounter ensued. A very ludicrous incident followed, for in a moment the two males were standing on some low, uneven rocks that wall the creek, facing one another, stepping backward and forward in the dance or sparing maneuvers characteristic of Mockers. Watching each other as they stepped backward, forward, sideways on the uneven rocks, both almost completely lost their balance several times. It ended suddenly as each turned his back and began hunting insects.

The next morning, April 8th, Y was again in the tip of the hackberry, singing almost as loud as B. Why? What had become of the female? Both birds spent some time dashing into the air, singing frantically. Then a rasping noise was heard on B's side; a female had appeared. She went into the rose vines a moment while Y was running into tree forks. She was

pursued a bit by B, but went to the creek and bathed. B flew above her, broke off a twig, carried it into a rose vine, singing continuously. As she allowed the close approach of an observer, she was noted to be light colored and unbanded. While she hunted food, B modified his singing, often pursuing her, rasping notes being heard during the pursuits. Y continued his singing, endeavoring to entice her to his side, ventured once on B's territory, but was quickly routed by him. This new female entered the drop trap for food. This fact and her fearlessness seemed to indicate she was not the one that had spent the previous week on Y's territory, disappearing Friday night, the 7th of April, apparently returning mid-morning Saturday, only to leave again that night.

On the morning of April 10th the rasping notes in the shrub border indicated the female was there, and Y was heard singing madly from the tip of his tree, dashing into the air, etc., but at 6:45 a. m. a change in his behavior was noted and then a light-colored, unbanded bird was located in his territory. Y began the usual tactics of leading this new caller into the bushes, once carrying a piece of nesting material at least a foot long. This new bird, like the one on B's territory, fed on apple the first day of her arrival. However, no attempt was made to trap either for a few days, for both pairs appeared to have settled in their respective territories. The males ceased the wild singing and the clowning. The songs now were shorter, moderated in tone and tempo.

April 14th B's mate and on the 16th Y's mate were trapped for banding. Both birds were found to be lighter colored than the two wintering males. Comparison also showed the wings of both females to be lighter in color with smaller areas of white, but all Mockingbirds examined had ten primary feathers marked more or less with white.

The occupied nests of the two mated pairs were found shortly after in each of the two territories, so the males had finally achieved success in their matings, the B's rearing two young and the Y's four, all of which have been banded with both numbered and colored bands. One of the interesting observations of these newly fledged young was the difference in color of the iris of the eye. The young had dark grey eyes and the adults have yellow or yellowish orange.

Both B and Y indulged in another period of song before the second nesting. B's extended from June 4 to July 23, beginning in his original winter territory, but eventually his singing territory covered very nearly the entire lot. From July 3rd to the 10th, his ecstatic songs were almost as animated and continuous as those of spring, but in addition he sang lovely melodies during the night. The nest was found in a silver maple about a hundred feet from the first one, and on August 17th the three nestlings (about 10 days old) were banded from it while his mate of the springtime (banded blue, left tarsus) fussed and scolded.

Y's period of singing started later, June 8th, for though his first brood was older than B's, he was a more devoted parent. His singing territory extended across the entire rear of the lot (a partial change from the original). One contact between the two males was noted July 4th, when Y routed B from the rear fence, chasing him to the front, where they engaged in a tussle. But by June 18th Y had reached the climax of his less spectacular singing and almost deserted the banding station. Though his springtime mate was caught in a water trap on July 7th, they frequented a section about 300 feet to the rear of the station, where, doubtless, the nest was located. On August 22nd, Y again appeared at the station, accompanied by his second brood, which were well developed by that date, hunting food for themselves. He was still guarding them, however, for when each of

the three was captured for banding, he scolded and flew above the bander in response to their squeals.

During August and continuing into September, territory lines appeared to be ignored for many groups, in addition to the Ys, came unmolested to the station, immatures predominating. Water drip traps proved irresistible to these Mockers, and over forty were banded, though none of the early spring visitants nor any of the first two broods reappeared, the latter having all left by the end of June.

While the records of B and Y indicate some Mockingbirds occupy the same territory over a considerable period of time, other observations made simultaneously indicate considerable movement, both winter and summer. In proof of this the disappearance of R may be cited and in late May the advent of an unbanded and unmated singing male which occupied approximately the same territory as R, for by that time both Y and B occupied smaller territories, while feeding their fledglings. Additional records of winter and spring movements were made at a banding substation which added data to this phase of study. A Mockingbird banded green that had been defending his winter territory belligerently from other species disappeared and his place was taken by a singing bird late in March, the latter mating and nesting there. Again, winter wanderings were proven when at the request of a bird lover, a Mocker which appeared late in January and monopolized the feeding shelf in her town garden was deported some miles into the country after banding with numbered and colored bands. Within a few days another appeared at the same feeding shelf. This one also was banded and released in the suburban section. Within a week, a third Mockingbird arrived, unbanded, which showed it to be still a different bird, and neither of the two that had been deported.

A close study was made of these color-banded Mockers to ascertain if the area of white showing in the wing might be relied upon as a true sight identification of the sexes. It was learned beyond a doubt that the amount of white displayed is no indication of the actual area, for comparative purposes. The same Mockingbird may appear to have a very large white spot, or none at all, depending entirely upon the position in which the bird holds the wing.

As to the difference in color of the two sexes, the females examined, with one exception, were a considerably lighter gray, washed with buff, and with a smaller area of white on the wing. They also appeared smaller in size and were lighter in weight. Whether a comparison of the same birds after the autumn molt will reveal the same differences is still an open question. It is probable that the darker coloring of these wintering males is due to some extent, at least, to the soot produced by soft coal which forms Nashville's fuel supply, while the females arrive fresh and clean from country unpolluted by such coal smoke. Mockingbirds which winter in the city factory district are almost black from soot.

Comparison of wing feathers seems to indicate that the larger areas of white in wing and tail are indicative of age, rather than sex in this species. Further data is being gathered regarding this.

A close check was made on voices and songs. The female in the spring was noted to use only the rasping notes, except in two instances, when short calls of two or three notes were made while in flight, as she was being pursued. Later, when the young were fledged, she frequently used the sharp *chuck* like the male when expressing alarm or protest. Her rasping notes sound very shrewish in contrast to the marvelously gifted singing males which delight the listener with music famed in song and story of the Southland.

Nashville, Tenn., Sept., 1933.

THE ROUND TABLE

THE SEASON AT MEMPHIS: A pair of Prairie Horned Larks were seen north of town near Woodstock on May 21, which date would indicate nesting. None have been seen at the Municipal Airport since March 12, but trips out there have been uncommon and access to the field denied us. At dusk on May 25th we saw 35 Ruby-throated Hummingbirds in the red clover carpeting the levee southwest of Mud Lake. The Darwin-Ensley bottoms were visited June 17, about three days after spring flood waters receded, but Mississippi Kites, which we reported there last year, were not seen. On a second trip Aug. 6, one Kite was seen, and on Aug. 13 three were seen.

A few shorebirds visited the Lakeview barrow pits during August. On Sept. 17, 5 Lesser Yellowlegs were observed there. An Aug. 13, two Stilt Sandpipers were seen. About 50 Least Terns, adults and immature, were feeding at one pond on this date and Franklin McCamey and Bert Powell saw about 80 on North Lake, on Aug. 20. Two Black Terns were also seen on the 13th.

Wood Ibis seem more common this season, as indicated by the following records: Mud Lake, Miss., Aug. 6, —10; Aug. 13, —55; Sept. 10, —130 (one flock), 11, 9; Sept. 17, none. Harahan viaduct barrow pits (in Arkansas, just west of Memphis): Aug. 20, —55; Aug. 21 (McCamey), —125; Sept. 10, —120; Sept. 16, —8. American Egrets are less common than in previous years and Little Blue Herons might be said to be almost uncommon.

A Black-throated Green Warbler and 250 Tree Swallows were reported at Hernando, Miss. (12 miles south of Tennessee), on July 30 by McCamey and Powell. Warblers noted so far seem to be mostly Magnolias, Black-throated Greens, and Black and White, and these are uncommon. Local records of Painted Buntings, rare heretofore, will be given in a later issue. This was a Painted Bunting year, at least five males and three females were seen and two broods reared successfully. The first one seen was visited by most local bird students from May thru July.—Ben B. Coffey, Memphis.

KINGBIRDS IN THE ROLE OF ROBBERS.—On August 20, while we were looking for water birds along the shores of North Horn Lake, in the extreme southwestern corner of Tennessee, we witnessed a most interesting occurrence. We came upon a flock of about thirty Kingbirds, resting in the willow thickets along the shore and occasionally darting out after food, but they were not catching insects; they were feeding on minnows. Two and sometimes three would dart out to a distance of never more than forty feet from shore and worry one of the numerous Least Terns that had just caught a small minnow, until the Tern would drop its prey in fright and then, screaming madly, fly away. If a Tern were stubborn, an unusually eager Kingbird would actually snatch the minnow from the very bill of the Tern. The first Kingbird to get the fish in its bill swallowed it, not even giving his allies a chance. Sometimes the falling minnow was caught before it could hit the water, but more often the lifeless tidbit was picked up off the surface. This performance was repeated many times while we watched, but never twice in succession by the same birds. A single Kingbird never risked an attack on a Tern alone.—Bert Powell and Franklin McCamey, Memphis. (The ability of Kingbirds to rout a hawk or crow is well known and in the present case it seems they used this trick to supplement their bill of fare.—Eds.)

LATE SUMMER NESTINGS: A drouth in early summer, followed by a long sustained period of ample rains, has produced more than the usual number of late summer nestings. As we go to press (Sept. 18), the woods and

fields are nearly as green as in spring and insectivorous food and water is abundantly available. Herewith are given some late summer nestings from the Nashville area:

By H. C. Monk: Mourning Dove; (a) Aug. 4, bird sitting on a high nest; on Aug. 17, it was empty. This pair were feeding young of an earlier brood on July 25. (b) Aug. 7, bird sitting on a nest that was first occupied on April 5; on Sept. 3, this nest held 2 large squabs; on Sept. 6 they left. This pair had a mid-season nest nearby from which 2 young left on Aug. 1. (c) Aug. 11, building a nest, never completed, however. (d) Aug. 19, Dove sitting on nest, over sidewalk; on Sept. 9 it was empty. Yellow-billed Cuckoo; (a) Aug. 8, sitting on 2 eggs, Peabody campus, destroyed a few days later.—Crook. (b) Aug. 14, sitting on a very high nest; on 19th was empty. (c) Aug. 17, bird sitting on nest; 22nd was empty; 29th a young bird with tail half grown out, seen sitting 50 feet away. Cardinal; (a) Aug. 12, brood of 2 left their nest and during the same hour the male parent was killed. On the 19th, young still nearby, being tended by female. (b) Aug. 11, brood of 3 left a nest. Towhee, Aug. 12, sitting on 3 eggs. This set replaced a brood of 3 (from a set of 3), which was destroyed Aug. 3. This last brood was reared to large size and believed to have left the nest safely. Mockingbird (a) Aug. 6, a brood left a nest; number not certainly known; third brood for season by this pair. (b) Aug. 7, a brood of 4 hopped out of their nest on my appearance; an hour later, at 4 p. m., two were back in it. Next morning all were out. Robin. (a) Aug. 5, a brood left high nest, in park. (b) Aug. 10, a young bird on ground, just out of nest. (c) Aug. 10, another youngster, just out. (d) Aug. 11, young left another nest. (e) Aug. 12, 2 young in a nest in park. Left on this date. (Note: Young birds just out of nest are very weak and also unsuspecting. On the following day they are much more difficult to approach.—H. C. M.)

Mrs. F. C. Laskey: Carolina wren, July 28, completed set of 4 eggs; her 5 young had fledged on July 17. Her mate was killed July 29. Her eggs began hatching Aug. 12, but she disappeared. Catbird, July 29, Catbird brooding set of 3 eggs; on Aug. 14 there were 2 young which I banded and they remained several days longer. Field Sparrow, Aug. 3, 2 young just hatched. They left nest Aug. 9, when banded; one accidentally killed Aug. 24, other in traps daily since then, sometimes with male parent. Bob-white. Aug. 8, parent with small young. Mockingbird. Aug. 17, 3 young, about 10 days old. Yellow-billed Cuckoo. Sept. 2, nest with young; parent has been calling 3 or 4 days, fledged about Sept. 3.

G. R. Mayfield: Bluebird. July 13, 1 young and 3 eggs. Prothonotary Warbler; July 19, hatched eggs. Cardinal; July 19, eggs hatching. July 31, Indigo Bunting, feeding young, just fledged. Summer Tanager; Aug. 19, young just hatched. Sycamore Warbler; Aug. 19, young, a few days out of nest. Dove; Aug. 12, female on nest, male cooing.

Jack Calhoun: Phoebe; Aug. 3, 3 eggs, fresh. Dove; Aug. 6, 2 eggs. Cardinal; Aug. 6, 3 eggs, young in nest on 22nd, gone on 25th. Field Sparrow; Aug. 7, 2 large young.

H. S. Vaughn: Ruby-throated Hummingbird, July 1, 2 eggs, over Stones River, in water maple. Nest 15 feet up. Indigo Bunting, Aug. 20, 3 young, 3 days old.

SUMMER NOTES, 1933.—June 12 to 24 was spent in further field work on the summer birds of the Great Smoky Mountains. Part of the first week was spent with E. V. Komarek, on Mt. Guyot and at the beginning of the second week I was joined by G. R. Mayfield; together we worked the tops between LeConte and Clingman's Dome as well as Cades Cove. The results were very successful and are being combined with previous notes for later publication. On July 16, Messrs. Mayfield, Monk, Woodring and the writer made a trip to Mingo Swamp, in Franklin County, near Winchester. We

were joined there by Mr. Frank Patty. The swamp covers nearly a square mile and is for the most part grown over with timber. At the time of our visit it was dry except for an open slough on the east side, where we recorded Little Blue Heron, 4 (in white plumage), Great Blue Heron 2, Green Heron, 4, and Pied-billed Grebe 2. Two Red-shld Hawks were conspicuously in evidence and a Red-tailed was seen. No unusual land birds were noted. At a shallow, open pond of 10 acres, near Belvidere we secured a close view of an American Egret. There was also a Pied-billed Grebe here as well as a Spotted and 4 Solitary Sandpipers. A Shrike was noted nearby. On July 15, a nest of the Grasshopper Sparrow was found near Nashville. One of the eggs was infertile while the other three were incubated 4 days. Young were perched on a nearby fence. On Aug. 12. Mayfield and the writer visited a small slough surrounded by rank grass, where we had found two Short-billed Marsh Wrens on Aug. 20, 1931. On the present visit we were able to locate at least three, by their song, but found them difficult to flush. A male, in breeding condition, was collected, leading us to believe that these birds will eventually be found nesting within the state.—A. F. Ganier, Nashville.

NOTES FROM THE HERBERT DOMAIN: The Herbert Domain is a 11,000-acre timbered tract belonging to the State and situated in Bledsoe County, atop the Cumberland Plateau. At its northwest corner Bee and Glade Creeks unite and cut a cliff bordered canyon thru which their swift flowing waters make their way into "The Gulf" of Caney Fork, five miles further on. Surmising that the combination of wild country and rugged topography might be such that Duck Hawks and Eagles could still exist here, A. F. Ganier and the writer, on August 27, took a long anticipated trip to this point. Having arrived the day before we were able to be afield early and made our way along the canyon nearly to Caney Fork. The scenery was excellent and a number of promising escarpments, including Copper Cliff, were examined with care. A Red-tailed Hawk seemed to make this cliff his headquarters, but no other raptore were seen in the canyon during the day nor was there any evidence of a Duck Hawk eyrie on the cliffs. Considerable scrub pine grew here and a sharp lookout was kept for Red-cockaded Woodpeckers. In the hemlocks along the streams the Black-throated Green Warbler was often heard. An excellent list of birds was made, the major portion of which were found about an area where the land had been in cultivation for a number of years.

Late in the afternoon an unusually large migration of Nighthawks was observed. Over almost every clearing was seen a flock of these caprimulgidae, numbering twenty to more than a hundred. There must have been many thousands of them passing over this section of the plateau, for as we drove southward, we continued to see flocks of them during the half hour before sundown. Mr. Frank E. Morse, of Boston, Mass., passing thru Crossville, about 20 miles northeast and at the same hour, reported them in large numbers at that point.—George R. Mayfield, Nashville.

DUCK HAWK, ETC., ON THE PLATEAU: The habit of these falcons to use a nesting site for many years is quite well known, so during the past spring a visit was made to Grundy County to ascertain if the pair located there some years ago (see Wilson Bulletin, 1931, pp. 3-8, Ganier) were still present. On April 16, our party spent a day along the high escarpments and on approaching to within a few hundred yards of the nest, saw one of the falcons, presumably the female, hanging in the air overhead. She circled continually at quite a distance above us without any perceptible movement of wing; quite different from their manner of flight noted on previous visits, which was produced by continuous flapping of wings. Later, as we reached a point where we could look into the nest, she appeared more con-

cerned and indulged in flying up and down the valley but at a distance of several hundred feet. The eggs, which had not hatched as yet, were laid in the same old Red-tailed Hawk's nest that the falcons have used for nine years. This old nest is in a niche of a vertical cliff more than 100 feet high.

Returning thru the "flatwoods" on top, we noted a natural cavity in a small living oak by the side of a spring branch. Approaching, a Screech Owl flushed from a lower limb and upon climbing, it was found that its mate was at home in the cavity. Beneath her were two piped eggs and two young, just hatched. When lifted from the nest she resented the intrusion by snapping her bill and sinking her talons deep into the flesh, making wounds which bled freely. Not far away we passed thru the pine woods in which Dr. Mayfield had seen Red-cockaded Woodpeckers in August, 1931. We could not locate any of these birds, however, after an hour's search. Pine Warblers were common here. Pileated Woodpeckers to the number of six were seen during the day, one pair feeding about the base of trees on a Beersheba Springs lawn permitted us to inspect them at leisure from a distance of 100 feet. G. M. Yarbrough, Nashville, Tenn.

NOTES FROM QUEBECK and ROCK ISLAND, TENN.: From a point several miles up the Caney Fork River comes a report of a Pied-billed Grebe, probably a very early migrant, but possibly a summer resident. The bird was recorded on August 3, at which time as well as early in July a Great Blue Heron (subsp?) was seen. Little Blue Herons have been common late summer visitors. A trip to a fairly large swamp and marsh, between Rock Island and McMinnville, on August 15 proved valuable because of the discovery of a Least Bittern, presumably a summer resident. This bird is a very rare summer resident in Middle Tennessee, but the date seems a bit early for migrants of this species. At the same place a King Rail was heard, and a large flock of Bluewinged Teal was seen, probably the first arrivals of this bird in the fall migration. The first Spotted Sandpiper observed at Camp Hy-Lake (two miles south of Quebeck) was seen on July 25, but the Solitary Sandpiper was not noted until August 7. On July 28, a few Black Terns were seen.

Among the land birds seen at Camp Hy-Lake, the Black-throated Green Warbler proved one of the most interesting. The bird is not normally found as a summer resident in this Highland Rim area, but the species first put in its appearance on July 13, a date much too early for this bird as a true migrant. It is Mr. Ganier's opinion that these birds had bred a few miles eastward on the edge of the Plateau, where their favorite trees—hemlocks—are found and that they were merely roaming about. The next individuals were seen on July 20, and they were uncommon until August 10, after which they became common. The first migrants among the land birds appeared on August 12, when the Parula Warbler and the Barn Swallow were recorded. It might be of interest to note here that in spite of the proximity of the location to the plateau section of the State, the Chuck-Will's-Widow was almost abundant, and the Whip-Poor-Will was neither seen nor heard a single time. The next transient to appear was the Chestnut-sided Warbler, on August 18, and on the same day I got the best find of the season—a female Mourning Warbler. I got a very good look at the bird and observed plainly its gray head. It had a small fragment of eye-ring above and below its eye, indicating that it was not a male; furthermore, its head was not as dark a shade of gray as is the male's. The bird's habits, haunts, and coloration all indicated that my identification was correct. On August 21, at Lebanon, Tenn., I saw a Woodcock, a Northern Waterthrush (subsp.?) and a Canada Warbler.—Henry Stevenson, Birmingham, Ala.

A PURPLE FINCH was found dead, about April 25, 1933, under a tree at Sterling Court Apt., Nashville, by Mr. E. O. Harbin, who noted that it

was banded; the number being A-292374. Inquiry made of the U. S. Biological Survey brought the information that this finch had been banded on May 7, 1932, by Mrs. K. B. Waterbee, at Pomfret, Conn.

MOCKINGBIRD STUDIES: Members of the T. O. S. are fortunate in having abundantly available for study this spirited and unusually intelligent songster of world-wide fame. In the past, we have had several articles on the Mockingbird and in the present number we present further studies, prepared by Mrs. Laskey. There is much to be learned about birds in general from the careful study of one species and we hope to present more along this line in future numbers.

MEETINGS: The Fall Field Day of the T. O. S. will be held near Nashville on Sunday, Oct. 22, at a point near the city to be selected by a committee. As usual, it will consist of an all-day listing of birds with an al fresco luncheon at mid-day. All members are urged to be present. Nashville bi-weekly meetings are scheduled for Oct. 2, 16, 30, Nov. 13, 27, Dec. 11 and on Sunday, Dec. 24, the annual Xmas bird census. Our Knoxville and Memphis chapters will meet regularly but have not sent in their schedule of meetings.

AUTUMN: Each season brings its problems and activities for the student of bird life. Thus, the fall of the year is enriched with the mighty phenomena of bird migration—millions of feathered folk, overcome with restlessness, change entirely their place of residence or move about over the land with no thought of the home ties that have bound them. Sex instinct becomes dormant and the urge for food is uppermost, for they must fatten their bodies against the winter's cold or strengthen it for long sustained flight. Northern birds arrive, to settle down for the winter in mixed groups, where their forebears have found food and shelter sufficient for their winter needs. As the leaves fall, new habits of roosting must be learned and they seek shelter on or near the ground or in the cavities of trees. Gregarious birds gather in the evenings to roost among the high trees while by the tenth of October the Chimney Swifts are at the height of their abundance and, at their roosts, furnish the most spectacular sight of the autumn season. In the woodlands, Nuthatches, Titmice and Red-bellied Woodpeckers are busily gathering and storing away nuts with noisy chatter. Be afield at this season and you will learn much that is new to you about birds and their ways.

We have to a large extent dropped the use of the scientific names in these columns. The common names of birds have become so standardized that there is no longer need for misunderstanding. Scientific names corresponding to the common names are those adopted by the American Ornithological Union and can be found in the Check List or any up-to-date handbook. In feature articles or when new and rare birds are recorded for the first time in these columns, the scientific name will be printed along with the common name.



The Migrant is sent to all members not in arrears for dues. Active membership is one dollar per year; associate membership is fifty cents. Subscription to non-members, sixty cents. All articles, correspondence and dues should be sent to the Editor-Treasurer, G. B. Woodring, 1414 Stratton Ave., Nashville.

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