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THE ROLE OF THE AMATEUR IN ORNITHOLOGY¹

By GORDON WILSON

For years I have wanted to write something about the role of the amateur in ornithology. Quite recently I have felt more strongly this urge, because professional ornithologists sometimes have forgotten how much the science owes to hobbyists, how little thus far to professionals. Professionals have always been scarce in this field. Our country has been slow to provide enough income to justify any considerable number of people in choosing ornithology and being reasonably sure of having enough to eat and wear. In a few widely scattered places there are men and women who earn their living by teaching or practicing this profession, but many a state does not have a single person who earns his entire living as a professional. It is necessary to combine ornithology and other related subjects: biology, zoology, conservation, Boy Scout activity, museum work, agricultural supervision. In spite of this part-time status of the science, there are some excellent amateurs or near-professionals in nearly every state. The demand for full-time ornithologists is slowly growing, though it will be many years before a young person can look forward to this work as a career, except in some highly favored places. In the thirty-five years that I have studied birds there has never been one person who made ornithology his career in Kentucky, and I do not recall one in either Tennessee or Indiana, the two other states that I know best. Very obviously, then, for our own time ornithology must be the work of the amateurs, with whatever outside help we can get from the few genuine professionals.

Fortunately, ornithology is not closed to the amateur. It began in America as an amateur hobby, with such eminent names as William Bartram, Thomas Jefferson, and Alexander Wilson. Bartram was basically a botanist. As a young man he made a great botanical trip in sub-tropical America with his illustrious father, John Bartram, the founder of Bartram's Botanical Garden, at Kingsessing, a small village near Philadelphia. In the early years of the Revolutionary War William Bartram explored alone in the southern colonies and collected seeds and plants for great English botanists. On the death of his father he succeeded to the family estate, including the famous garden. There he lived to a ripe old age, sought after by all visiting scientists, full of knowledge of all sorts of science. Among his many interests he listed all the birds of the area, a rather excellent list for the time. But ornithology was just one of his

¹ An address delivered at the Annual Dinner of the T. O. S. in Nashville, Tenn., on May 7, 1949, at the occasion of honoring the three living founders of the Tennessee Ornithological Society.

hobbies and could never have occupied any considerable part of his time. His greatest contribution to ornithology is that he was a close friend to Alexander Wilson when the latter came to teach at Gray's Ferry not far from the garden. Bartram's remarkable scientific library was thrown open to the Scotch weaver-schoolmaster, who soon discovered that his own knowledge of American birds far surpassed that of Catesby, Edwards, and Buffon. In 1806 Wilson gave up school teaching to accept a position with a publishing company which had agreed to bring out his AMERICAN ORNITHOLOGY. His duties were by no means wholly scientific, however, for he had to solicit subscribers for his projected work and for an American issue of a well-known cyclopedia of that time. In the seven years that he had yet to live probably not half of his time could be devoted to birds, but in that time he made the science distinctive and added more tested observations than had been accumulated in the preceding century. Fortunately for Wilson, Thomas Jefferson was an early admirer of the Scotch immigrant and subscribed for the new work very early, probably the earliest of the nearly 500 people who ultimately set their names to Wilson's list. Jefferson's interest in ornithology was genuine, but in a life so crammed with interests as his, there could not have been too much time for accurate and painstaking observation. But through the efforts of the two great encouragers and the great ornithologist himself, the science got off to a good start and has never lost the momentum given it by Bartram, Jefferson, and Wilson.

Though he had long been working alone on his drawings of birds, John James Audubon might never have attempted to bring out his expensive and valuable works if it had not been for the appreciative public that Wilson had built up. It must not be forgotten that Audubon was basically a painter, not a scientist. He attained to such greatness as an ornithologist that people still overlook his years of painting portraits and even of teaching music and dancing. These, it is true, were means to an end, but I am merely trying to show that it would still be a stretch of the imagination to call Audubon a professional ornithologist. It would be just as easy to pronounce Columbus as a professional discoverer or Alexander Graham Bell a professional inventor, though Audubon was our first American ornithologist to approach professional status.

The nineteenth century in America saw the rise of many distinguished bird students, most of them people who combined with other scientific studies a sort of sympathetic pursuit of ornithology. That idea has continued to the present day. An overwhelming number of the people who can recognize more than two dozen species of birds are not professional students or teachers in this field but are business and professional people who find spare time occasionally to keep up a continuous study of birds. There is no exact way of knowing how many people make annual lists of migrants or nesters. Many of these belong to the numerous local, state, or national organizations, but I have been greatly surprised at the number who have never joined anything but keep up their persistent studies. Nearly every state has one or more live clubs, some of them out-

standing for their continuing efforts to enlist new members and promote new studies. The Audubon Societies, through their school service and summer camps, are reaching and educating uncounted millions of the younger generation. Through nationally planned lectures and screen tours, bird students are being kept up to date in what is being done to keep the birds of our land intact for future times. Such features as the annual Christmas Bird Count enlist the energies of thousands of people who may have only a brief connection with ornithology itself but take pride in finding every species and individual in a given area on a winter day. Dozens of small magazines have come and gone, but their published data are now a part of the learned collections that professionals are gradually publishing.

Some people have thought that a taxonomic study of birds is sufficient and have been willing to stop with finding all the species and subspecies. But this task, however much labor it entails, is not the last word, any more than anatomy is the last word in any study of mankind and its purpose on earth. Suppose we tried to judge former peoples of our country only by their skeletons and their kitchen middens, that is, by what could be collected and arranged in a museum. These exhibits would be vastly interesting, of course, but the elusive *live* Indian, for instance, would somehow escape. Now that taxonomy is virtually complete, we need more and more studies of the bird as a live organism; we need to add flesh and blood and feathers and song and personality to dry bones and museum specimens. It was and is a great sport to search for new species, but few of the bird students now alive can ever hope to have the satisfaction of adding a new name to ornithology. This phase of bird study must be left in our time in the hands of genuine professionals, who have all the exacting machinery for determining what is or is not new. Meanwhile the bird is here, a species and also countless numbers of individuals. The racial characteristics persist and can be learned by each succeeding generation of observers. But even a bird, no matter how much it seems to be like all others of its kind, is an individual and requires personal study. Endless observation, carried out over whole lifetimes, are needed to round out our knowledge of even the most common species. We might learn from John Burroughs and his statement about the Woodchuck: that he had studied the species all his life and was still finding new facts about it. Even the commonest and best-known bird is still a remarkable personality to study.

One of my best companions on the trails has called my attention to how few published accounts there are of the nesting of many species of birds. For some species there are no detailed accounts in a whole state. Who has watched a given species and thereby become a sort of Boswell to Doctor Johnson? Who is skilled enough in sounds to have recorded all the variations in the songs of any given species? Who has lived long enough and carefully enough to speak finally as to the canon of summer residents in any state, however small? What one person whom you know can identify the call notes and songs of all the nesting species and their

young? I realize that some of these questions can be answered fairly readily by a small number of people scattered all over the country, but the field is so large that it is slightly too much to expect any one person to know so much. Nature may have given me good ears and you good eyes. Our patience as students may be equally great, but there are borders that become rock-walled barriers to each of us. As long as any significant phase of bird life remains unknown or known only to a select few, that phase should become the goal of many of us. Like Bluebeard's inquisitive wife, we should want to know what is behind every door, even though a forbidden one.

A generation ago people thought that the great bird artists had finished the work of painting all the birds. We were almost as much mistaken as John Ruskin, who declared that all the great poetry had been written before our time. With the coming of modern cameras in black and white, with moving pictures, and with Kodachromes, new fields have been opened up to a type of artistry that Wilson and Audubon could never have dreamed of. Great artists in our time, such as George Miksch Sutton, are adding new fields to art by portraying the bird as a personality rather than as a type. Even a pencil sketch by Dr. Sutton gives an ornithologist something of the same thrill as the diary of a great man might give a professional biographer. Roger Tory Peterson, in his appeal to the field observer, has caught the attitude of birds that earlier artists could not have arrived at except accidentally, since split-second photography was not then known. The hobbyist has an opportunity to extend the range of bird artistry quite as much as the range of studies of birds as personalities.

Bird gardening is now for many people a fine art. Feeding stations, a measure of protection, a persistent friendliness with the birds have brought some of the rare and unusual birds to our very doors and made them a part of even big-city life. With the birds so close at hand we are gradually learning many of the behaviour patterns that have been unknown before. We can observe the home life of the birds and the distribution of labor between male and female. Coupled with bird-banding, bird gardening is yielding thousands of pertinent facts about the age of birds, their wanderings, their persistence in any given area. Amateurs are doing some of the best work in ornithology in this very field. To read a list of licensed bird banders is to read the names of a cross section of the whole science; for the professionals are relatively few in number, the part-time professionals and amateurs are very much in the majority. It was a satisfaction to know that the finding of the winter home of the Chimney Swift also brought to light the long and patient banding activities of several amateurs in our very part of the country, only one of whom could be called a professional on part-time status.

Through the many years that I have studied birds nothing has intrigued me more than migration. To the outsider the hundreds of records of the comings and goings of birds, must seem very inconsequential. But to the observer these records bring back all the strange joy of seeing again each year the friends we have "loved long since and lost the while."

When a Brown Thrasher appears year after year in the same bush or tree on approximately the same day, regardless of the weather, we feel that we have something permanent to tie to in "all the weary weight of this unintelligible world." The years have been many since I heard my first Wood Thrush, but the flute-like song of this bird sounds to me exactly like the one that set me a-thrill as a country lad when I fished in our little creek or searched for Sweet Wililams or Bluebells along its shore. The immortality of the bird song, as expressed in Keat's "Ode to the Nightingale", impresses us all over again:

"Thou wast not born for death, immortal bird!
No hungry generations tread thee down;
The voice I hear this passing night was heard
In ancient days by emperor and clown;
Perhaps the selfsame song that found a path
Through the sad heart of Ruth, when, sick for home,
She stood in tears amid the alien corn;
The same that ofttimes hath
Charmed magic casements, opening on the foam
Of perilous seas, in faery lands forlorn."

The amateur has an opportunity to link his name with a place, to give some small spot of earth a "local habitation and a name." None of us, maybe, will be so associated with one place as Henry David Thoreau was with Walden Pond, so that a great state will dedicate the spot as a park, and wanderers from all the civilized world will come and add a stone to a cairn in our memory. It is also probable that our little territory may never become as famous as Gilbert White's Selborne. But it is a satisfaction to know that for many a state or place as long as men read or keep records there are names that will be known and respected. More than sixty years ago C. W. Beckham studied birds at Bardstown, Kentucky; today a study of birds in my native state must take into account the work of this pioneer ornithologist. Hovey Lake, an ox-bow loop of the Ohio River in southern Indiana, was so long and so lovingly studied by Samuel E. Perkins that the name of one suggests the name of the other. Dr. A. A. Allen and Ithaca, New York; Mr. E. L. McIlhenny and Avery Island, Louisiana; Alexander Sprunt and the Everglades of Florida; August Derleth and Sac Prairie, Wisconsin—these are only a few of the places and men that are inseparable.

It is peculiarly fitting that we have met here tonight to do honor to three great amateurs, who, with their two late comrades, started in 1905 on the trail of all the birds of Tennessee from the marshes of Reelfoot Lake to the cool tops of the Great Smokies. Of these three amateurs each has had a distinctive contribution to give to his time and to posterity. Dr. George R. Mayfield, professionally a linguist and serving faithfully most of his grownup life at Vanderbilt, has had a keen eye to see and a keener ear to hear. Mr. Albert F. Ganier, a civil engineer for more than forty years, though hampered in some fields where so many of us have been peculiarly blessed, has cultivated his eyes until he can come as near as it is humanly possible to hearing with them. Mr. Dixon Mer-

ritt, a professional journalist whose voice has been lifted for the better part of a half century in behalf of conservation, has been blessed with words and images. Emerson, in his essay "The Poet", says that mankind is divided into three classes: the Doer, the Knower, the Sayer. Borrowing his divisions of humanity, I want to declare that this Society has had its Hearer, Dr. Mayfield; its Seer, Mr. Ganier; its Sayer, Mr. Merritt. Through long years of a close friendship that reads like a modern Damon and Pythias story, they have dedicated their combined talents to make of Tennessee ornithology one of the distinctive contributions to the whole science. All have written well, all have spoken well, all have spent endless hours in observing birds in every season. They have reflected in every activity of their lives the sane, poised philosophy that comes only to those who live with nature. As long as men study birds, the work of these men will have to be reckoned with. The unkind years have taken away some of their youth, but it will take some of Horace's "imber edax", his "innum-erabilis annorum series", his "fuga temporum" to destroy their perennial interest in the live personalities of the woods, the fields, the streams, and the marshes of their own Tennessee.

BOWLING GREEN, KENTUCKY.

A SURVEY OF UPPER EAST TENNESSEE BIRDS AND THEIR HABITATS

By FRED W. BEHREND

Information on bird life of Upper East Tennessee has been rather fragmentary and obscure. In weighing the reasons for this deficiency, consider in the first place that until recent years no Upper East Tennessee community except Johnson City, oldest city in the area, has had the benefit of organized bird study and that the number of individuals in some of the other communities who are known to have been engaged in the study of bird life in other than a casual way has been small. The formation of chapters of the Tennessee Ornithological Society in Elizabethton, Greeneville, and Kingsport during the past five years has brought about greater activity in the exploration of the area under consideration. Their co-operation in supplementing the data secured by each of them in their respective territories will doubtless result in an ultimately well balanced source of information on bird life in Upper East Tennessee.

This article will confine itself to the territory comprised of the counties of Johnson, Sullivan, Carter, Washington, Unicoi, and the eastern half of Greene and Hawkins Counties, geographically referred to as Upper East Tennessee. It borders in the East and South on North Carolina and in the North on the extreme southwestern corner of Virginia. Its length, diagonally from Northeast to Southwest, is approximately 65 miles, its maximum width about 45 miles. The elevation of the low country of this area which constitutes the easternmost part of the Tennessee Valley ranges from roughly 1200 to 1800 ft. Here farmland, pastures, and woodland pre-

vail. From the North, out of Virginia and in the extreme northwestern part of the area under review, extend the Clinch Mountains at an altitude of from 4200 ft. to 2000 ft. Along the southeastern boundary of the Valley extends the Southern Appalachian Mountain chain in a southwestern direction, part of its crest forming the Tennessee-North Carolina border. Transverse ridges connect with the Blue Ridge Mountain chain in North Carolina which runs parallel to the Appalachian Mountain chain. The structure of the mountains on either side of the Tennessee-North Carolina border and the fauna and flora being alike, the same species of birds in like environment are common to either side of the State Line. To procure as comprehensive a picture of bird life in the surrounding mountainous territory as possible, the Elizabethton Chapter of T. O. S., from its inception, extended observations into Mitchell and Avery Counties of North Carolina, both of which are adjacent to Carter County. This has led to excursions to Grandfather Mountain (5964 ft.) in the Blue Ridge Mountains, Beech Mountain (5522 ft.), and Hump Mountain (5587 ft.). A majority of the ridges below the crest of the Appalachian chain as well as some of the transverse ridges on the Tennessee side reach altitudes of from 3500 to 4500 ft. and a sizeable number surpass this mark with various points extending upward to the 5500 ft. limit. The approaches of most of the mountain ranges of the Southern Appalachian chain are densely forested. A variety of deciduous trees is interspersed with conifers, principally pines and hemlock. Substantial stands of spruce and fir are characteristic of the upper reaches of Roan Mountain. This same condition obtains for not too distant Grandfather Mountain in the Blue Ridge Mountains. Some of the higher mountain tops, as for instance Hump Mountain, Yellow Mountain, Grassy Bald Mountain, Little Roan Mountain, Beauty Spot, Big Bald Mountain, Cold Spring Mountain, and Jones Meadow near Camp Creek Bald, have substantially no other growth than grass or weeds above the timberline. They are generally referred to as "balds".

Principal streams in Upper East Tennessee are the South Fork of Holston River, Watauga River, Elk River, Doe River and Nolichucky River. There are a number of smaller streams in Upper East Tennessee which feed one or the other of the rivers mentioned. These smaller streams in turn are fed, especially in the mountain territory, by numerous branches.

Prior to the middle of 1947, Upper East Tennessee had but two lakes, each of small size. They were Wilbur Lake above Horseshoe Dam approximately eight miles east of Elizabethton, and David Crockett Lake above Greeneville Dam approximately eight miles south of Greeneville. Since, the number of lakes in Upper East Tennessee has increased by three, all of them situated in Carter County. In September 1947, privately built Lake Phillip Nelson of about one mile length and 750 ft. width, at 3500 ft. altitude in the mountain valley between Ripshin Ridge and Little Rock Knob near the southwestern corner of Carter County, had filled. On December 1, 1948, impoundment of TVA-created Watauga Lake began. Its lower end is approximately 12 miles driving distance east of Elizabethton; the upper end, reaching into Johnson County, approximately 28 miles. Its

shoreline is 107 miles long and extremely rugged. Its maximum elevation is 1975 ft. Iron Mountain above its northern shoreline and Pond Mountain above the southern shoreline are both in excess of 3500 feet in altitude. Another mountain lake, of small size, on private property, has been completed in the spring of 1949. It shall be referred to as Ripshin Lake. At 3700 ft. altitude, it is some two miles distant from the western end of Lake Phillip Nelson and below 4400 ft. high Ripshin Ridge.

Aside from the main Upper East Tennessee Valley, there are few valleys in the area under review. The most interesting from the point of view of bird study is Shady Valley in Johnson County which lies between the 4000 ft. high Holston Mountain and Iron Mountain ranges. Cross Mountain, a transverse ridge, connects these two ranges at the southwestern end of Shady Valley.

Upper East Tennessee is distinguished from most of Tennessee in that it lies in the Transition Zone of the Austral Region and that, embedded therein on the higher mountains, is a narrow strip of the Canadian Zone. This latter factor is of considerable interest inasmuch as it causes certain species of birds to occur in the territory involved that are not found elsewhere in the breeding season, to-wit, Carolina Junco, Golden-crowned Kinglet, Winter Wren, Red-breasted Nuthatch, Black-capped Chickadee, Veery, Canada and Cairn's Warblers, to name a few. The writer, on the basis of his observations of the past five years, would consider Roan Mountain and Grandfather Mountain with their stands of spruce and balsam most typical of Canadian Zone bird life as it applies to this region. Most of the birds named above stay at altitudes in excess of 5000 ft. On trips from Carver's Gap below Roan Mountain along the ridge of Grassy Bald Mountain and over Yellow Mountain to Hump Mountain, a good deal of which is open "bald", on the weekend of July 20 to 21, 1946, and June 26 to 27, 1948, in the reverse direction, altitudes from 4681 ft. to 5900 ft., the following additional species of birds, of which some doubtless breed at these altitudes, were observed by the writer: White-breasted Nuthatch, Rose-breasted Grosbeak, Mountain Vireo, Towhee, Catbird, Brown Thrasher, Yellow-breasted Chat, Blue Jay, Flicker, Downy Woodpecker, Carolina Wren (at about 5000 ft.), Red-eyed Vireo, Goldfinch, Indigo Bunting (4 at approximately 5150 ft.), Field Sparrow, Song Sparrow, Vesper Sparrow, Meadowlark (at 5500 ft.), Ovenbird, Chestnut-sided Warbler, Black-throated Green Warbler, Maryland Yellow Throat, Ruffed Grouse, and Crow. On another trip to Hump Mountain on July 20, 1947, there were observed by Dr. Aubrey McKinney of the Elizabethton Chapter of T.O.S. and the writer at altitudes of from 5000 to 5500 ft. Vesper Sparrow, Prairie Horned Lark, Meadow Lark, Indigo Bunting, Junco, Black and White Warbler, Canada Warbler, Cairn's Warbler, and Sparrow Hawk (3). Late summer and early fall are very opportune times for trips to Hump Mountain, which preferably may be approached from Elk Park in North Carolina at 3100 ft altitude, approximately 28 miles southeast of Elizabethton, combining observation of warbler migration on the ascent through woodlands with Hawk migration while on the top of Hump Mountain. This has been a favorite

activity with members of the Elizabethton Chapter of T.O.S. Occasionally, these trips have been for naught owing to dense fog or high winds of gale force on the mountain, but on a good many beautiful early fall days hawk observation was favorable and then such species as Red-tailed, Cooper's, Sharp-shinned, Sparrow, and Marsh Hawks as well as Turkey Vultures were in evidence. It may seem strange to find the Marsh Hawk in company of the other species mentioned. However, this is explained by the character of the territory; the openness of the slopes with practically no tree growth seems ideally suited for the Marsh Hawk to hunt its quarry, which it does in skimming low over the ground. On Hump Mountain, too, both the Bald Eagle and Golden Eagle have been observed by Dr. Herndon, and the Bald Eagle only by the writer. In late summer and fall, the presence of the American Pipit near the top of Hump Mountain is almost a certainty. This latter bird has also been seen on other "balds" of the Appalachian Mountain crest, namely Big Bald Mountain in Unicoi County and Jones Meadow below Camp Creek Bald in Greene County.

Although proof needs to be furnished to be absolutely sure, it can reasonably be assumed that at altitudes cited the birds enumerated before can be found all along the crest of the Appalachian Mountains in Upper East Tennessee; and to these may be added Brown Creeper, Scarlet Tanager, Least Flycatcher, and Hummingbird as resident on Grandfather Mountain in summer, and likewise as regards the Hummingbird during the rhododendron bloom on Roan Mountain.

Of equal interest is the bird life on the approaches of most of these mountains; perhaps more so than on the mountain tops, as on the approaches one encounters a greater variety of birds, at least at the time of Spring and Fall migration. A. F. Ganier points out in his article "Summer Birds Of Roan Mountain" (MIGRANT Vol. VII, No. 4, December, 1936) that no definite separation of the species found "on top" from those found on the slopes at much lower altitudes was made by ornithologists who visited this mountain in summer many years ago. Likely the following species will be listed as one walks a mountain road or stream in the woods or through a pasture: Bluebird, Cardinal, Phoebe, Pewee, Chipping Sparrow, Bewick's Wren, House Wren, Cedar Waxwing, Yellow Warbler, Hooded Warbler, Kentucky Warbler, Worm-eating Warbler, Louisiana Water-Thrush, Acadian Flycatcher, Wood Thrush, Carolina Chickadee, and Titmouse. In Spring migration, Blackburnian, Golden-winged, and Parula Warblers have regularly been observed on the approaches of Roan Mountain; in Fall migration Redstart and Tennessee Warblers. Cape May and Magnolia Warblers were found in Fall migration on top of Roan Mountain, the former at 5500 ft., the latter at 6100 ft.

An unusual sight, but one quite possible, in the Upper East Tennessee area is that of the Raven. This bird is of rare occurrence, and its nesting places are not well known. There have been records of it on Grandfather Mountain a number of years ago. In recent years the writer, and others on occasion, have observed it on Roan Mountain (May 1945: 1, May 1946: 1, September 1948: 1), on White Top in the Blue Ridge Mountains

in Eastern Virginia (May 1945: 1), on Hump Mountain (October 1946: 1), September 1947: a pair), on Table Rock in the Blue Ridge Mountains in North Carolina (June 1947: 1, August 1947: a pair).

Little has been done in making observations of birds in the mountains of Upper East Tennessee during the winter. Snow and ice on secondary and primitive mountain roads and their softness after thaws render them temporarily impassable, make travel hazardous, and even prevent reaching certain preferred localities that are never easily accessible. Furthermore, strong wind and low clouds that result in poor visibility frequently interfere with observation at those altitudes. Three trips to the Unaka Mountain and Big Bald Mountain sections from late November to early March undertaken by the writer revealed the presence of the following species: Chickadee, Titmouse, Carolina Wren, Golden-crowned Kinglet, Red-breasted Nuthatch, White-breasted Nuthatch, Downy, Hairy and Pileated Woodpeckers, Robin, Carolina Junco, Towhee, Goldfinch, Bluebird, Blue Jay, Ruffed Grouse, Crow. A Hermit Thrush seen in late November probably was a bird on migration. At lower altitudes, though, this species is a winter resident in Upper East Tennessee.

Year-around birding in Upper East Tennessee's transition zone is anything but static. Except for a period of two months in winter, one kind or another of birds are on the move into, out of, or through the area. The following species are permanent residents: Black and Turkey Vultures, Red-tailed, Red-shouldered, Cooper's, Sharp-shinned and Sparrow Hawks, Ruffed Grouse, Bobwhite, Killdeer, Mourning Dove, Screech Owl, Kingfisher, Flicker, Pileated, Red-bellied, Red-headed, Hairy and Downy Woodpeckers, Phoebe, Prairie Horned Lark, Blue Jay, Crow, White-breasted and Red-breasted Nuthatches, Carolina and Bewick's Wrens, Mockingbird, Robin, Bluebird, Cedar Waxwing, Starling, Meadowlark, Cardinal, Goldfinch, Towhee, Field and Song Sparrows. Summer residents of the Transition Zone in Upper East Tennessee are Great Blue Heron, Green Heron, Broad-winged Hawk, Yellow-billed and Black-billed Cuckoos, Woodcock, Whip-poor-will, Nighthawk, Chimney Swift, Hummingbird, Kingbird, Acadian Flycatcher, Wood Pewee, Rough-winged Swallow, Barn Swallow, Cliff Swallow, Purple Martin, House Wren, Catbird, Brown Thrasher, Wood Thrush, Blue-Gray Gnatcatcher, White-eyed Vireo, Red-eyed Vireo, Warbling Vireo, Black and White, Black-throated Green, Worm-eating, Golden-winged, Parula, Yellow, Prairie, Kentucky, and Hooded Warblers, Louisiana Water Thrush, Ovenbird, Redstart, Maryland Yellow Throat, Yellow-breasted Chat, Red-winged Blackbird, Orchard and Baltimore Orioles, Scarlet and Summer Tanagers, Grackle, Indigo Bunting, Chipping and Grasshopper Sparrows. In midsummer appear, not always regularly, American Egret and Little Blue Heron, summer visitants of the area. The list of winter residents includes Yellow-bellied Sapsucker, Brown Creeper, Hermit Thrush, Ruby-crowned Kinglet, Migrant Shrike, Myrtle Warbler, Pine Warbler, Purple Finch, Juncos, White-crowned, White-throated, Fox and Swamp Sparrows, Wilson Snipe. Most of them stay into March, some of them

later, as for instance the White-crowned Sparrow which has been seen as late as May 22.

Spring and Fall migration bring into the Upper East Tennessee territory a variety of birds whose stay varies from a few days for warblers, particularly in the Spring, to several weeks for the Osprey. The newly formed lakes have attracted water and shore birds that previously apparently by-passed the area. A comparison of observations of the Elizabethton Chapter for the past years for instance shows a substantial increase in the number of species of waterfowl and shorebirds as well as total number of birds during the last two years. This Chapter's list includes 19 species of ducks, namely, Mallard, Black Duck, Baldpate, Pintail, Blue-winged Teal, Shoveller, Wood Duck, Redhead, Ring-necked Duck, Canvasback, Lesser Scaup, American Golden-eye, Bufflehead, Ruddy Duck, Hooded Merganser, American Merganser, Red-breasted Merganser, Gadwall, Green-winged Teal. In addition, Coot and Pied-billed Grebe have become fairly common, and it is believed that the latter breeds on Lake Phillip Nelson. Other Spring and Fall migrants among the water and shore birds that occur in the area regularly or have been observed occasionally are, in addition to those mentioned earlier in this article, Canada Goose, Horned Grebe, Common Loon, Double-crested Cormorant, Herring Gull, Ring-billed Gull, Bonaparte's Gull, Common Tern, Black Tern, Lesser and Greater Yellow Legs, Spotted, Solitary, Western, Least, and Semipalmated Sandpipers, Semipalmated Plover, Upland Plover. Interestingly, as regards water birds observed on Watauga Lake this Spring, there is a striking parallel between findings as compared with those of James Trent, Jr., and George Foster, Jr., on Norris Lake in the Spring of 1936 after the formation of that lake (MIGRANT Vol. VII, No. 2, June 1936).

Warbler migration through Upper East Tennessee in Spring and Fall includes most species found in migration throughout the State. Rarities among the Warblers listed on single occasions have been Lawrence's and Swainson's and, it is believed, Connecticut, Mourning, Prothonotary and Sycamore.

Of unusual interest in bird life in Upper East Tennessee has been the observation of Dickcissel and Chuck-Wills-Widow in the Greeneville Chapter's territory; of Bachman Sparrows, large numbers of House Wrens, and Pigeon Hawk in the Kingsport Chapter's territory; and of Duck Hawk, Philadelphia Vireo, Eastern Evening Grosbeak and Snow Bunting in the Elizabethton Chapter's territory. It is reasonable to believe that a wedge of the Upper Austral Zone reaching into the northwestern part of the area in review causes some differences between the bird life in the territories within which the respective chapters operate.

Each of the chapters of the area has its pet territories, favorite bird study trips by the Kingsport Chapter are to the nearby Bays Mountains, Tri-City Airport, where Prairie Horned Lark, Pipit, and Upland Plover have been listed, and Buzzard Roost on Holston River, known for the aggregation of Turkey and Black Vultures in substantial numbers at roosting time. Greeneville Chapter's operations cover mainly the southeastern

end of Bays Mountains, the farming country in the vicinity of Lick Creek, and the Appalachian Mountains, particularly the Camp Creek Bald section. Johnson City does not have chapter activity at present, but individual trips by Messrs. Bruce P. Tyler and Robert B. Lyle in recent years cover primarily the northern and northwestern part of Johnson City, the Unaka Mountain territory in Unicoi County, and Shady Valley in Johnson County. In Shady Valley and on Roan Mountain as well as in other places in the mountains these two pioneers of bird study in Upper East Tennessee have done invaluable research, the findings of which to preserve would be extremely desirable. The Elizabethton Chapter has concentrated on its stream courses from one end to the other and their bottomlands (Watauga and Doe Rivers), as have the Greeneville and Kingsport Chapters on theirs (Nolichucky and Holston Rivers, respectively), worked over the lower mountains in the immediate vicinity of town (especially Lynn Mountain), the hills and valleys on all sides of town, Shady Valley in Johnson County, surroundings of Lake Phillip Nelson and Watauga Lake, and the nearer high mountains of the Appalachian Chain and the Blue Ridge dealt with earlier in this article. Such trips have been taken as Chapter activities as well as individually by members. Moreover, there has been mutual participation in census trips among the chapters of T.O.S. in the Upper East Tennessee area.

In conclusion, it may be said that although steady work has been and is being done to obtain a more comprehensive picture of bird life in the Upper East Tennessee area, intensive further systematic study on the part of the members of the chapters of T.O.S. will be required to accomplish this task. And those bird students in other parts of the State and in other states who are inclined to spend vacation time in this recreationally fast developing Upper East Tennessee mountain section there will find unlimited opportunities to enrich their ornithological experiences and at the same time to contribute to information on bird life in this area.

322 CARTER BOULEVARD, ELIZABETHTON, TENN.

THE 1949 SPRING FIELD DAYS

The Spring Field Days conducted by the various chapters of the T. O. S. in 1949 differed in two respects from those of previous years. There were more of them, because of the recently formed Kingsport Chapter, and they were scattered over a longer time, from April 24 to May 15. The total number of species seen for the entire State was 170. Interesting comparisons can be made between the birds seen at the different localities, from Memphis to Roan Mountain at each extreme end of the State, and on the different dates. Painted Buntings and Dickcissels appeared only in the western or central parts of the State, Whip-poor-wills and Song Sparrows only in the eastern. House Wrens were seen only in the northeastern corner. Only twenty-two species were observed at all localities; thirty-two were observed at all but Roan Mountain; twenty-nine were reported

from only one of the localities. The effect of the different dates on which the observations were made can be seen in such species as the Ruby-crowned Kinglet and the Pine Siskin, seen only on the earlier dates. The separate Field Days are described below and the birds seen are summarized in the Table. The localities are listed in the order of the dates on which their Field Day was held.

Greeneville. April 24, 1949—around Greeneville, including Tusculum College, Pilot Knob, Nevius and Reed Farms, Mercer Farm, Roaring Fork Creek, and David Crockett Lake. 5:00 A.M. to 8:00 P.M. Temperature 60 to 78, windy and partly overcast from 11:00 A.M. to 3:00 P.M. Twelve people participated.

Knoxville. May 1, 1949—within an area of 7½ miles radius centered on Sharp's Gap, which is on the northwest side of Knoxville. Weather warm and clear. About a dozen parties, totalling about forty people, worked separately, starting at dawn, until they all met at the Ijams Farm at noon. This Field Day was named "Harry Ijams Day" in honor of that veteran bird student of Knoxville, and the artist who drew THE MIGRANT's cover. A King Rail's nest containing twelve eggs was found.

Elizabethton. May 1, 1949—Elizabethton and vicinity. About eighteen people participated.

Roan Mountain. May 1, 1949—from an elevation of 3500 feet up the road to the top (elevation 6313 feet) and return. Fred W. Behrend.

Nashville. May 8, 1949—most of the observations were made at Edwin Warner Park, with a few birds reported from neighboring areas. This Field Day was held in connection with the annual meeting of the T. O. S. Weather was clear to showers and warm. About fifty people were present. Two young Black Vultures in the cavity of a hollow tree were viewed by many. The Connecticut Warbler was identified by Mrs. R. A. Monroe of Knoxville.

Memphis. May 15, 1949—Lakeview, Miss.-Tenn., north to Horn Lake Creek; Mud Lake, including levee and barrow pits. Eighty-two members of the Memphis Chapter participated. Nests were found of the following species: Least Bittern, King Rail (nest but no birds observed), and Phoebe (2 nests). The Bald Eagle observed was an adult. This Field Day was held two weeks later than usual and after the bulk of the spring migration had passed; still the list totalled 109 species as compared with 108 in 1948 and 115 in 1947.

Kingsport. May 15, 1949—the city of Kingsport and its immediate surroundings, the junction of the Watauga and the South Fork of the Holston River, the north side of Holston Mountain, and Bays Mountain. 4:00 A.M. to 8:30 P.M. Clear to slightly cloudy; temperature from 60 to 85; little wind. Eighteen observers. The thirty-nine Whip-poor-wills were all reported from Holston Mountain by Mr. Fred W. Behrend, who wrote that he "counted, by call, and sight, 39. In one place 4 squatted in the road and one hugged the bank. Got as close as 6 feet to them." On the day following this Field Day Mrs. Robert W. Pugh saw one Wilson's Warbler and one Black Duck.

Least Sandpiper	2	2			6	12	Bank Swallow	11								
Semipalmated Sandpiper						2	Rough-winged Swallow	6	35	40		2	2	9		
Western Sandpiper					8		Barn Swallow	10	12			9		11		
Ring-billed Gull			11				Cliff Swallow			1						
Least Tern					9		Purple Martin	33	12	3		5	3	31		
Mourning Dove	64	80	82		9	19	48	Blue Jay	70	56	83	5	fc	12	61	
Yellow-billed Cuckoo		8	1		fc	14	20	Crow	60	40	81	4	fc	3	40	
Black-billed Cuckoo			2		3		1	Fish Crow						4		
Screech Owl	1	2			1			Carolina Chickadee	27	36	55	2	fc	10	30	
Barred Owl					1	1		Tufted Titmouse	18	36	65	6	fc	10	26	
Chuck-will's-widow	1	7			5	2	1	White-breasted Nuthatch		4					9	
Whip-poor-will	1	2	12				*39	Red-breasted Nuthatch	2			1				
Nighthawk		5	3		1	2	2	Brown Creeper	1							
Chimney Swift	43	80	81	3	fc	7	46	House Wren	6		2				5	
Ruby-throated Hummingbird		4	4		5	14	5	Winter Wren				7				
Belted Kingfisher	2	6	5		1	1	2	Bewick's Wren	12	8	3		6	1	10	
Flicker	25	23	52		5	7	35	Carolina Wren	24	55	54	2	7	15	44	
Pileated Woodpecker	1	5	1		4	1	4	Mockingbird	62	64	92		fc	3	41	
Red-bellied Woodpecker	7	8			fc	8	3	Catbird	5	21	62	2	4	2	42	
Red-headed Woodpecker	5	16			3	2	4	Brown Thrasher	45	58	71	2	fc	3	54	
Hairy Woodpecker	1	1			4	2		Robin	82	a	159	13	6	3	94	
Downy Woodpecker	3	10	6	2	7	4	9	Wood Thrush	27	80	91	1	fc	15	52	
Eastern Kingbird	5	3	7		3	3	17	Olive-backed Thrush		10			fc	4	4	
Crested Flycatcher	2	13			c	6	30	Gray-cheeked Thrush					1	1	1	
Phoebe	16	19	40	3	3	*4	11	Veery		4		2			5	
Acadian Flycatcher		3			6	5	14	Bluebird	33	46	46		fc	5	34	
Least Flycatcher			6	13	1	1		Blue-gray Gnatcatcher	25	51	17		fc	18	16	
Wood Pewee	2	13	11		fc	13	43	Golden-crowned Kinglet				5				
Horned Lark		1	6			2	3	Ruby-crowned Kinglet	4	1	4					
Tree Swallow						1		American Pipit		1						

Savannah Sparrow	16	10	2	Field Sparrow	62	80	106	2	c	21	112			
Grasshopper Sparrow	3	36	6	3	23	White-crowned Sparrow	8	9						
Vesper Sparrow		7		2	White-throated Sparrow	18	60	15	12	2	3			
Bachman's Sparrow	3		1	3	Lincoln's Sparrow				5					
Slate-colored Junco	2	1	1	23	Song Sparrow	53	70	145	5		52			
Chipping Sparrow	83	44	68	2	fc	25	Total Species	91	123	105	40	114	109	101

THE ROUND TABLE

PIGEON HAWK IN SULLIVAN COUNTY, TENN.—On Jan. 11, 1949, I found a dead female Pigeon Hawk (or Merlin) on Enterprise Road in Sullivan County, Tenn. The road at this point borders the South Fork of the Holston River and is six miles from Bluff City. The identification was confirmed by Dr. L. R. Herndon, Elizabethton. He had seen a Pigeon Hawk on December 5, 1948, at the newly-formed Watauga Lake, but did not consider his identification positive at that time.—ADELE H. WEST, Route 1, Piney Flats, Tenn.

A BLUE JAY "ANTING"—Although "anting" has been observed in some forty species of ten families of Passerine birds in various parts of North America and Europe, I had never seen this type of behavior until the summer of 1948 when I watched a Bronzed Grackle (*Quiscalus quiscula versicolor*) in June and a Blue Jay (*Cyanocitta cristata*) in August. Not finding any reference to anting by birds in Tennessee, these two records are presented. The first one, occurring June 22, 1948, is described in detail in *The Wilson Bulletin* (1948, Vol. 60 (4); 244-245). This female Bronzed Grackle used substitute material—the oily outer layer of orange-skin. After taking some of the orange-skin in her bill, she passed primary feathers, one at a time, between her mandibles as she assumed a crouching position on the lawn.

My second observation occurred about noon on August 30, 1948, when three aluminum-banded Blue Jays (sex unknown) came to the brick walk near windows of our house. All had sparse neck plumage, being in molt. They hunted food but the supply of bread and sunflower seeds had been exhausted there. Two stood idly on the walk, then flew, but the third became very active in hopping on and off the walk. He picked up some tiny object that was invisible to me and assumed the awkward anting position. He extended the wings, curved the tail forward to stand on it, and crouched forward, grasping a primary feather and drawing it between the mandibles. He appeared to grasp the inner vane of the primary. The maneuver was accomplished very quickly, for within a few seconds, the bird was again in normal position and hopping to another spot to repeat the performance. After

about four repetitions, he picked up a dry leaf, rubbed it on a primary before flying. The entire observation occurred within a brief period—perhaps only three minutes. All motions were very fast and energetic. Examining the spot, I found a number of small black ants of two sizes crawling on and near the walk.

H. R. Ivor, in *Nature Magazine* (1946, 39 (1):22-24), gives a detailed description of the anting procedure with an excellent photograph of a Blue Jay in anting posture. His observations were made in his aviary in Ontario under ideal conditions where birds are held in semi-captivity and are tame enough to allow close approach for study and photographing.

In the literature, several materials, other than ants, are mentioned which various birds have used for anointing the plumage, apparently as substitutes for ants. In most cases these materials have been rubbed on the primaries. Grackles and Blue Jays have provided the largest list of substitute materials, including orange juice, orange-skin, hair tonic, vinegar, juice of unripe English walnuts, and juice of unripe fruits of the cucumber tree.

Many theories have been advanced as explanations for anting, but most of them have been discarded after closer observations were made in the field. At the present time, no one has solved the problem of why birds ant and why anting appears to be a pleasant activity to them. My captive Mockingbird (*Mimus polyglottos*), now past nine years of age, has never been seen to ant. When he is free in the screened porch ants crawl on the floor about him. He picks them up but they are immediately swallowed.—AMELIA R. LASKEY, 1521 Graybar Lane, Nashville 4, Tennessee.

REPORT OF THE T. O. S. ANNUAL MEETING

The 34th Annual Meeting of the Tennessee Ornithological Society was held in Nashville, Tennessee, on May 7 and 8, 1949. It began properly, putting birds before business. On Saturday morning, May 7, there was a field trip along Radnor Lake, followed by open house at the following places of interest: Mrs. F. C. Laskey's bird-banding station, Mr. A. F. Ganier's "Hobby House", the War Memorial Museum, and the Nashville Children's Museum.

The business meeting of the Directors of the T.O.S. was held at the Nashville Children's Museum early Saturday afternoon; the important business transacted is described at the end of this report. Immediately following this meeting, in the same auditorium, was a program of papers presented by members of the T. O. S. These were: "Distribution of the Black-capped and Carolina Chickadees in the Great Smoky Mountains National Park", by James T. Tanner of Knoxville; "The New 'Crane-town' at the Mouth of Duck River", by Eugene Cypert of Paris; "The Bird Life of Two Mountain Lakes in Northeast Tennessee", by Fred W. Behrend of Elizabethton; "Some Things Yet To Be Learned About Our Tennessee Birds", by Albert F. Ganier of Nashville; and a report on the T. O. S. pro-

ject to determine bird distribution in Tennessee, by Joseph C. Howell of Knoxville.

Dinner was held that evening at the B and W Cafeteria. This was followed by a program, presided over by President L. R. Herndon, that was a surprise to nearly all of the members, but especially to the three most concerned. The three living founders of the T. O. S., Albert F. Ganier, George R. Mayfield, and Dixon Merritt, were made Honorary Members of the Society. For each of these, a talk was given describing in glowing but accurate terms his life, ornithological accomplishments, and the contributions and efforts he has made for the T. O. S. Prof. Gordon Wilson, of Bowling Green, Kentucky, fittingly concluded the program with an address on "The Role of the Amateur in Ornithology", which is printed elsewhere in this issue.

On Sunday morning a field trip was held at Edwin Warner Park; the details of this trip will be found in the report of the several Spring Field days in this issue. After the lunch at the Park, group photographs were made and the annual business meeting was held, presided over by Pres. Herndon with the minutes being recorded by Secretary Fred W. Behrend.

The important business transacted at the directors' meeting on Saturday and the annual meeting on Sunday was as follows: The date of the annual meeting for next year was set, to be May 13-14, 1950. Mr. Ganier reported on the William Walker Memorial Library and described the conditions under which volumes in this Library may be loaned to members; more on this subject will be found in the pages of a later issue. The first volume of THE MIGRANT, long out of print, will be reprinted so that libraries may complete their sets as soon as Mr. Ganier can complete the necessary preparations. The following new officers of the Society were nominated and elected: President, Mrs. Ben B. Coffey, Jr., Memphis; Vice-President for West Tennessee, Brother I. Vincent, Memphis; Vice-President for Middle Tennessee, Mr. B. H. Abernathy, Nashville; Vice-President for East Tennessee, Mr. Robert J. Dunbar, Oak Ridge. The following old officers were nominated and re-elected: Secretary, Mr. Fred W. Behrend, Elizabethton; Treasurer, Mr. Lawrence C. Kent, Memphis; Editor, Dr. James T. Tanner, Knoxville; Curator, Mr. Albert F. Ganier, Nashville. The following Directors-at-Large were nominated and elected: for West Tennessee, Mr. Eugene Cypert, Paris; for Middle Tennessee, Mr. H. O. Todd, Jr., Murfreesboro; for East Tennessee, Mr. Arthur Stupka, Gatlinburg.

A ROUND-UP OF CHAPTERS AND MEMBERS

The Secretary, Mr. Fred W. Behrend, recently revised and brought up to date the membership list of the T.O.S., so that it is now possible to see how our Society stands. The figures given below are the best

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*The simple truth about birds is interesting enough;
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now available, altho they may not be accurate because new members are continually joining.

The Nashville Chapter has about 82 members. President is Edwin D. Schreiber; Vice-President, Lang Wroten; Secretary-Treasurer, Miss Helen M. Howell; Corresponding Secretary, Miss Penelope Mountford; Chairman of Program Committee, Albert F. Ganier.

The Memphis Chapter has about 86 members. The President is Kirby Stringer; Vice-President, Brother I. Vincent; Secretary, Mrs. T. P. Hughes; Treasurer, Miss Mary Davant.

The Knoxville Chapter has 30 members. President is Mrs. Robert A. Monroe; Vice-President, Dale W. Yambert; Secretary-Treasurer, Mrs. E. E. Overton.

The Elizabethton Chapter leads in East Tennessee with 33 members. President is Mrs. Lee Roy Herndon; Vice-President, George K. Leonard; Secretary, Mrs. Avery Evans; Treasurer, Mrs. Fred W. Behrend; Statistician, Mrs. Lee Roy Herndon; Publicity Chairman, Fred W. Behrend; Historian, Mrs. E. M. West.

The Greeneville Chapter has 10 members. Its President is J. B. White; Vice-President, C. M. Shanks; Secretary, Mrs. J. B. White; Treasurer, Mrs. Willis Clemens; Statistician, Mrs. Richard Nevius; Publicity Chairman, Richard Nevius; Historian, Mrs. Willis Clemens.

The Kingsport Chapter was organized last Fall, and has a good start with 20 members. Its President is Thomas W. Finucane; Vice-President, Albert Wilkes, Jr.; Secretary, Miss Ruth B. Dunn; Treasurer, Mrs. Robert W. Pugh; Statistician and Censor, Howard S. Young.

In addition to the members that belong to active chapters there are 33 members in the State of Tennessee and 96 corresponding or out-of-state members. THE MIGRANT is sent also to 30 libraries or similar institutions, and is exchanged with 25 other publications.

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