

NOTES ON THE SUMMER BIRDS OF NORTHERN
GEORGIA.

BY ARTHUR H. HOWELL.

THE literature of Georgia ornithology is not extensive. The only complete list of the birds of the State is a nominal list of 269 species, published in a German magazine in 1855 by Alexander Gerhardt on the authority of one White.¹ In this paper, the author gives interesting and valuable notes on the life histories of 43 species, drawn from his personal observations during a residence of several years in northern Georgia. These notes furnish, in the case of several birds, the only published records of the breeding of the species in the State.² Only two local lists from Georgia, both of which are very incomplete, have thus far appeared.³ Scattering notes relating to Georgia birds are likewise few in number and most of them refer to the southern part or to the region close to Atlanta. With the exception of Gerhardt's paper, practically nothing concerning the northern part of the State has been published, and while many northern-breeding birds have been supposed to inhabit the mountains, which are continuous with the ranges in North Carolina, definite knowledge as to the species summering there and the southern limits of their distribution has been lacking.

The field work of the Biological Survey during the summer of 1908 included an examination of the fauna and flora of the Southern States to determine the boundaries of the life zones. In connection with this investigation I visited northern Georgia in July and spent about three weeks collecting and studying the birds, mammals, and plants of the higher mountains. Three localities were visited, as follows: Tate, Pickens County, and Grassy Mountain (3290 feet), about six miles northeast of Tate, July 4-6; Ellijay, Gilmer

¹ Naumannia, V, 1855, pp. 382-384.

² This paper appeared in three installments, as follows: Naumannia, V, 1855, pp. 380-397, 458-469; VI, 1856, pp. 1-18.

³ 'Birds of Kirkwood, De Kalb County, Georgia,' by Robert Windsor Smith, in *Wilson Bulletin*, X, pp. 49-59, 1903, listing 126 species; 'Memoranda of a Collection of Eggs from Georgia,' by H. B. Bailey, in *Bull. Nutt. Orn. Club*, VIII, pp. 37-43, 1883, listing 104 species, which list would be extremely valuable if exact localities had been given.

County, and Rich Mountain (4081 feet), about ten miles northeast of Ellijay, July 7-8; Young Harris, Towns County, and Brasstown Bald (4768 feet), about five miles southeast of Young Harris, July 10-20.

Brasstown Bald ¹ is the highest mountain in Georgia ² and is part of a high ridge marking the boundary line between Union and Towns counties. Continuing southward, this ridge turns west and forms the boundary between Union and Lumpkin counties.

Practically all of extreme northeastern Georgia (including Gilmer, Fannin, Union, Towns, and Rabun counties) is occupied by a series of high ridges which form the southern end of the Blue Ridge system. In this region are found numbers of peaks over 4000 feet in altitude and several over 4500 feet. Rich Mountain in eastern Gilmer County, and Grassy Mountain in northern Pickens County are parts of the same system, directly continuous with the higher ridges in Fannin and Union counties. Grassy Mountain is the most southern peak reaching an altitude of 3000 feet. South of there the peaks are much lower and mainly isolated. The valleys are mostly narrow, and range in altitude from 1100 feet at Tate to 1900 feet at Young Harris.

The greater part of northern Georgia is included in the Upper Austral Zone (Carolinian area) which covers all mountains less than 3500 feet in altitude, and reaches approximately to that altitude on the higher peaks. Transition Zone (Alleghenian area) is found on the peaks and ridges above 3500 feet and descends somewhat lower than that on cold slopes and in shaded ravines. No pure Canadian Zone exists in this region, although a few Canadian species of mammals and plants occur in a very restricted area at the summit of Brasstown Bald. No spruces or firs are found on these mountains.

On the lower slopes oaks (numerous species) are the prevailing

¹ Designated as 'Mt. Etna' on the Rand-McNally Map of Georgia ('Mt. Enota' on old sheets of the Geological Survey), and is doubtless the mountain called 'Fodder Bald' by Guyot. It is known simply as 'The Bald' to the residents of the region.

² Sitting Bull Mountain (5046 feet), listed under Georgia in Gannett's 'Dictionary of Altitudes,' is higher than Brasstown Bald, but as mapped by the U. S. Geological Survey is in North Carolina. This mountain, I am informed by the U. S. Coast and Geodetic Survey, is one of the southern peaks of the Nantahala Mountains (Lat. 35°, Long. 83° 31'). It is the mountain called 'Little Bald' (5030 feet) on the Dahlonga Quadrangle of the U. S. Geological Survey.

trees, with which are associated hickories, chestnuts, gums (*Nyssa sylvatica*) tulip trees (*Liriodendron*) and other characteristic Carolinian forms. Pines of two species (*Pinus rigida* and *P. virginiana*) are found in scattering clumps, and hemlocks (*Tsuga canadensis*) grow along the streams. Among the characteristic birds found in this area may be mentioned *Bæolophus bicolor*, *Thryothorus ludovicianus*, *Icteria virens*, *Seiurus motacilla*, *Piranga rubra*, *Empidonax virescens*, and *Cardinalis cardinalis*.

At about 3500 feet altitude most of the Carolinian species disappear and a number of characteristic Alleghenian forms are first seen. On the upper slopes the prevailing trees are white oak and chestnut, with which are found hickories, locust (*Robinia*), red maple, striped maple*¹ (*Acer pennsylvanicum*), cherry-birch* (*Betula lenta*), chestnut oak (*Quercus prinus*), laurel (*Kalmia*), rhododendron (*R. maximum*), flame azalea* (*A. lutea*), purple-flowering raspberry* (*Rubacer odoratum*), small-flowered hellebore* (*Veratrum parviflorum*), etc. The characteristic birds of this area are *Junco h. carolinensis*, *Lanivireo s. alticola*, *Dendroica cærulescens*, *Dendroica virens* and *Dendroica blackburniae*.

Near the summit of Brasstown Bald the soil is thin and rocky and the tree growth much stunted. On the shaded northeast slope dense thickets of rhododendron and laurel cover the cliffs and rough rock piles and furnish suitable conditions for the presence of Canadian forms. Here were found the southern yellow birch (*Betula alleghanensis*), mountain maple †² (*Acer spicatum*), Carolina rhododendron (*R. catawbiense*), the Wilson Thrush (*Hylocichla fuscescens*), a mountain salamander † (*Plethodon shermani*), the Smoky Shrew † (*Sorex fumeus*), and the Cloudland White-footed Mouse † (*Peromyscus nubiterræ*). The following list of 76 species, based almost entirely on the birds observed or collected on this trip, though obviously incomplete, is offered as a contribution to our knowledge of the avifauna of this little known area. Thirteen species are here first recorded as occurring in the State during the breeding season: *Corvus corax principalis*,³ *Coturniculus*

¹ Species starred are characteristically Alleghenian.

² Species marked with a dagger are characteristic of Canadian Zone.

³ An indefinite record for Georgia is found in John Abbott's letter to George Ord (1814), in which he says, "The Raven only frequents the back inland Countries of Georgia & can inform you nothing more of it." (Auk, XXIII, 1906, p. 367.)

savannarum australis, *Junco hyemalis carolinensis*, *Zamelodia ludoviciana*, *Spiza americana*, *Lanivireo solitarius alticola*, *Mniotilta varia*, *Dendroica aestiva*, *D. caerulescens cairnsi*, *D. blackburniæ*, *D. virens*, *Seiurus aurocapillus*, and *Hylocichla fuscescens*.

In the list which follows, records unaccompanied by specific localities apply to all the localities visited.

Butorides virescens. GREEN HERON.—An immature specimen was taken at Young Harris, July 11.

Philohela minor. WOODCOCK.—One was flushed, July 12, from an open oak knoll in the valley at Young Harris.

Colinus virginianus. BOB-WHITE.—Common at Young Harris and on lower slopes of Brasstown Bald; rather uncommon at Tate and Ellijay.

Bonasa umbellus. RUFFED GROUSE.—Breeds sparingly on Brasstown Bald. My assistant got within 150 yards of one that was drumming near the summit July 17, and another hunter saw a female on top of an open ridge at about 4000 feet, acting as if she had young. In the region about Ellijay, grouse were reported by several people to occur in small numbers, and a few are said to be found in the rough country north of Grassy Mountain. This is close to their present southern limit. In former years they were much more common in this region. There is a specimen of this bird from Georgia (without specific locality) in the U. S. National Museum, taken by Prof. Leconte in 1847.

Meleagris gallopavo silvestris. WILD TURKEY.—Occurs on Brasstown Bald in small numbers. Three were shot in one day last winter on the mountain by a hunter. In the Rich Mountain region they are reported to be very scarce.

Zenaidura macroura carolinensis. MOURNING DOVE.—A few noted at Tate and at Young Harris.

Cathartes aura septentrionalis. TURKEY VULTURE.—Fairly common throughout north Georgia; seen at all altitudes on Brasstown Bald.

Buteo borealis. RED-TAILED HAWK.—Not common; one seen on Grassy Mountain.

Otus asio. SCREECH OWL.—Scarce; one flushed from a thicket of pines and oaks at Tate.

Bubo virginianus. GREAT HORNED OWL.—Occurs sparingly on Brasstown Bald.

Coccyzus americanus.

Coccyzus erythrophthalmus.—Cuckoos were fairly common in this region, but I was unable to determine the species. Both are recorded as breeding in north Georgia by Gerhardt.¹

Ceryle alcyon. BELTED KINGFISHER.—One noted at Young Harris.

¹ Naumannia, VI, 1856, pp. 12-13.

Dryobates villosus auduboni. SOUTHERN HAIRY WOODPECKER.—Occurs in small numbers throughout the mountains; seen at Ellijay and Grassy Mountain.

Dryobates pubescens. DOWNY WOODPECKER.—Not common; seen at Tate and near the summit of Rich Mountain.

Phlœotomus pileatus.—PILEATED WOODPECKER.—Found sparingly throughout the mountains; noted at Brasstown Bald and Grassy Mountain.

Melanerpes erythrocephalus. RED-HEADED WOODPECKER.—Scarce; one seen at 3500 feet on Rich Mountain.

Centurus carolinus. RED-BELLIED WOODPECKER.—One seen in heavy timber on lower slope of Rich Mountain.

Colaptes auratus. FLICKER.—Not common; seen at Ellijay, Tate, and Young Harris.

Antrostomus vociferus. WHIPPOORWILL.—One heard singing, July 11, at Young Harris. Recorded as breeding by Gerhardt.¹

Chordeiles virginianus. NIGHTHAWK.—Not common; a few noted at Ellijay and at Young Harris.

Chætura pelagica. CHIMNEY SWIFT.—Generally common throughout the region. On Brasstown Bald they were constantly coursing over the tops of the highest peaks.

Trochilus colubris. RUBY-THROATED HUMMINGBIRD.—A few noted in the valleys.

Tyrannus tyrannus. KINGBIRD.—One seen at Ellijay and several at Young Harris.

Myiarchus crinitus. CRESTED FLYCATCHER.—Rather uncommon; seen at Tate and on Brasstown Bald up to 4000 feet.

Sayornis phœbe. PHŒBE.—Several seen on Brasstown Bald up to 3000 feet. A nesting record is given by Gerhardt (under the name *Muscicapula olivacea*!).²

Myiochanes virens. WOOD PEWEE.—Common in the valleys, and on the mountains to 4000 feet.

Empidonax virescens. GREEN-CRESTED FLYCATCHER.—Common in the valleys and on the lower slopes of the mountains.

Cyanocitta cristata. BLUE JAY.—Fairly common on Brasstown Bald, where several were seen in the rhododendron thickets at the summit. A few noted at Tate.

Corvus corax principalis. NORTHERN RAVEN.—Ravens are reported to occur in small numbers on Brasstown Bald. My guide told me he knew of a nest where young were raised in the spring of 1908.

Corvus brachyrhynchos. AMERICAN CROW.—Occurs in small numbers at Young Harris. One noted at Tate.

Icterus galbula. BALTIMORE ORIOLE.—I saw no orioles in this region,

¹ Naumannia, VI, 1856, p. 3.

² Naumannia, V, 1855, p. 387.

but was shown a nest in a tree at Young Harris which closely resembled nests of this species. It is recorded as a breeder by Gerhardt.¹

Astragalinus tristis. AMERICAN GOLDFINCH.—Common in small flocks; seen up to 4500 feet on Brasstown Bald.

Coturniculus savannarum australis. GRASSHOPPER SPARROW.—Several noted and one taken at Young Harris.

Spizella passerina. CHIPPING SPARROW.—Common in the valleys and on the mountains to 4500 feet.

Spizella pusilla. FIELD SPARROW.—Common in the valleys and on the lower slopes of the mountains.

Junco hyemalis carolinensis. CAROLINA JUNCO.—Common on Brasstown Bald and Rich Mountain above 3500 feet altitude. The latter locality probably marks their southern limit quite closely, since they were not found on Grassy Mountain, slightly farther south. Both adults and young were collected.

Peucaea aestivalis bachmani. BACHMAN SPARROW.—One was seen at Tate in dry oak woods; evidently rare in this region. Has been recorded as breeding at East Point, near Atlanta.² A specimen was shot at Rising Fawn, Georgia, Aug. 21, 1885, by J. T. Park and identified by Dr. C. Hart Merriam.

Pipilo erythrophthalmus. TOWHEE.—Common at Young Harris and on Brasstown Bald, where it ranges to the very summit. At Ellijay it was scarce, and only two or three pairs were noted in the valleys. The only one seen farther south was on Grassy Mountain at about 3000 feet. Specimens were taken at Ellijay and Young Harris.

Smith, in his list of birds of Kirkwood, states that this species is not known to breed there, but in a report sent to the Biological Survey he mentions seeing a single bird there on June 25, 1903. The Towhee breeds on Lookout Mountain in northwest Georgia, as indicated by a report received by the Biological Survey from J. T. Park, who found the species in July, 1884, on the mountain near Rising Fawn. Gerhardt³ records this species as nesting in bushes at a height of 4 to 5 feet.

Cardinalis cardinalis. CARDINAL.—Observed rather sparingly in the valleys.

Zamelodia ludoviciana. ROSE-BREASTED GROSBEEK.—One adult male was seen on July 13 in a grove of oaks at Young Harris. They probably breed in small numbers in that region.

Passerina cyanea. INDIGO BUNTING.—Common in the valleys and on the mountains to 4000 feet.

Spiza americana. BLACK-THROATED BUNTING.—This bird probably does not breed in Georgia at the present time; it seems desirable, however, to record an instance of its nesting in the State in 1883, furnished by J. T.

¹ Naumannia, VI, 1856, p. 1.

² W. J. Mills, Wilson Bull., XII, 1905, p. 116.

³ Naumannia, V, 1855, p. 465.

Park an intelligent observer, then stationed at Rising Fawn. In a letter to Prof. W. W. Cooke, dated July 21, 1885, he states that a pair of Black-throated Buntings nested in a clover patch near his house in that year, and adds that the species was never observed there except during that season.

Piranga erythromelas. SCARLET TANAGER.—Not common; one was heard singing on Grassy Mountain, a male was seen on Rich Mountain, and several were noted on Brasstown Bald—in each case at an altitude of about 2500 feet. Gerhardt records this species as a breeder in north Georgia.¹

Piranga rubra. SUMMER TANAGER.—Fairly common in the valleys; one was taken at 2600 feet altitude on Brasstown Bald.

Progne subis. PURPLE MARTIN.—Common at Young Harris, but not seen elsewhere.

Vireosylva olivacea. RED-EYED VIREO.—Rather uncommon; seen at Tate and Ellijay, and on Brasstown Bald up to 4400 feet altitude.

Lanivireo flavifrons. YELLOW-THROATED VIREO.—Observed in small numbers in the valleys and up to 3000 feet on the mountains.

Lanivireo solitarius alticola. MOUNTAIN SOLITARY VIREO.—Common on Brasstown Bald between 3500 and 4500 feet and on Rich Mountain above 3700 feet. Both young and adult birds were taken. The young individuals were singing in subdued tones.

Vireo noveboracensis. WHITE-EYED VIREO.—Two heard singing at Ellijay; not noted elsewhere.

Mniotilta varia. BLACK-AND-WHITE WARBLER.—Common in the valleys and on the mountains to 4500 feet. This species is omitted from Smith's list of birds of Kirkwood, but reports in the Biological Survey from several observers indicate that it breeds at Kirkwood and Atlanta.

Helminthophila chrysoptera. GOLDEN-WINGED WARBLER.—A male of this species was seen, but not secured, July 11, at 2500 feet on Brasstown Bald. J. T. Park, in a letter to Prof. W. W. Cooke, reports seeing a pair of these birds feeding young at Rising Fawn, Georgia, June 24, 1885. The male parent and one young bird were shot.

Dendroica aestiva. YELLOW WARBLER.—Fairly common at Tate and at Young Harris.²

Dendroica caerulescens cairnsi. CAIRNS WARBLER.—Fairly common on Brasstown Bald and Rich Mountain above 3500 feet altitude. One female was seen near the base of Rich Mountain (1600 feet). Both adults and young were taken, the latter in full fall plumage.

Dendroica blackburniæ. BLACKBURNIAN WARBLER.—Two specimens were taken at 4300 feet on Brasstown Bald and an immature individual at 3500 feet on Rich Mountain.

Dendroica virens. BLACK-THROATED GREEN WARBLER.—Two immature specimens were taken at the summit of Rich Mountain (4000 feet) and

¹ Naumannia, V, 1855, pp. 462-463.

² Smith, in his list of birds of Kirkwood says of it: "rare; not known to breed."

one at 4300 feet on Brasstown Bald. Evidently breeds throughout these mountains. J. T. Park in a letter to Prof. W. W. Cooke reports them common on Lookout Mountain, near Rising Fawn, Georgia, in June, 1885. A female in breeding condition was shot by him there, and identified by Dr. C. Hart Merriam.

Dendroica vigorsii. PINE WARBLER.—A few noted at Tate and a little company of four or five (a family of young and their parents) at 3000 feet on Brasstown Bald.

Seiurus aurocapillus. OVENBIRD.—A few seen on Rich Mountain between 3000 and 4000 feet; occurs sparingly on Brasstown Bald from 2500 to 4000 feet. Smith, in his list of birds of Kirkwood gives this species as a rare migrant. J. T. Park found the Ovenbird breeding on Lookout Mountain, near Rising Fawn, Georgia, in June, 1885.

Seiurus motacilla. LOUISIANA WATER-THRUSH.—Fairly common along streams on the lower slopes of the mountains (up to 2200 feet) and in the valleys.

Oporornis formosa. KENTUCKY WARBLER.—Fairly common in the valleys; seen up to 2200 feet on Brasstown Bald.

Geothlypis trichas trichas. MARYLAND YELLOWTHROAT.—Common in the valleys; singing. Several specimens taken, both adults and young.

Icteria virens. YELLOW-BREASTED CHAT.—Common in the valleys, seen up to 2500 feet.

Wilsonia citrina. HOODED WARBLER.—A pair observed in a laurel thicket at Tate.

Mimus polyglottos. MOCKINGBIRD.—One seen at Ellijay; not noted elsewhere.

Dumetella carolinensis. CATBIRD.—Common in the valleys, and on Brasstown Bald to 4300 feet.

Toxostoma rufum. BROWN THRASHER.—Seen in small numbers in the valleys.

Thryothorus ludovicianus. CAROLINA WREN.—Common in the valleys, and on the mountains to 4000 feet.

Thryomanes bewickii. BEWICK WREN.—A few seen at Young Harris, and one on Rich Mountain at 3500 feet. A breeding record is given by Gerhardt (under the name *Troglodytes americanus*).¹

Sitta carolinensis. WHITE-BREASTED NUTHATCH.—Scarce; one taken at 4000 feet on Brasstown Bald and several seen at the same altitude on Rich Mountain.

Bæolophus bicolor. TUFTED TITMOUSE.—Fairly common up to 4000 feet.

Penthestes carolinensis. CAROLINA CHICKADEE.—Observed in small numbers in the valleys and up to 4400 feet on the mountains.

Poliophtila cærulea. BLUE-GRAY GNATCATCHER.—A few seen at Tate.

Hyllocichla mustelina. WOOD THRUSH.—Common in the valleys and up to 4000 feet on the mountains.

¹ Naumannia, V, 1855, pp. 461-462.

Hylocichla fuscescens. WILSON THRUSH.—A few pairs breed on the summit of Brasstown Bald, where they are confined to the dense rhododendron thickets on the cool slopes. One was secured July 16, and on the following day several were heard calling and singing faintly.

Planesticus migratorius achrusterus. CAROLINIAN ROBIN.—Occurs sparingly on Brasstown Bald and in the surrounding valleys. An adult and a young bird were taken at 4500 feet. The robin is mentioned as a breeder by Gerhardt.¹

Sialia sialis. BLUEBIRD.—Fairly common; seen up to 4000 feet on Rich Mountain.

THE TAGGING OF WILD BIRDS AS A MEANS OF STUDY- ING THEIR MOVEMENTS.²

BY LEON J. COLE.

It is needless in introducing this subject to dwell upon the so-called mysteries of migration. To call the facts of migration mysterious is merely to say that we do not understand them, for when we do come to understand them, though they may still remain marvellous, they can no longer be mysterious. That migration will nevertheless still probably remain a phenomenon to be wondered at is because it is, in all likelihood, of a nature widely different from anything in the ordinary experience of mankind. If man possesses any such homing sense, it is only in the most rudimentary and undeveloped condition. And it is probably for this very reason, this element of mystery, that man has from earliest time taken a lively interest in the question of the migration of birds.

But how much nearer are we to a real solution of the problem of migration than we were a hundred or two hundred years ago? Much data has been accumulated, many details have been learned as to where birds go and to a certain extent by what routes, and many poorly grounded theories have been overturned and left behind. But still the goal is ahead. For although the coming

¹ Naumannia, V, 1855, pp. 390-391.

² Read before the American Ornithologist's Union, Cambridge, Mass., November 18, 1908.