FURTHER NOTES ON THE BREEDING BIRDS OF NORTH-EASTERN GEORGIA.

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These notes supplement an article which recently appeared in 'The Auk' (Vol. XLII, No. 1, January, 1925) dealing with records taken during the summer of 1922 in the mountains in the northeastern part of Georgia. Since it was written I have had the opportunity, during the following three years, of continuing at irregular intervals my field work about Young Harris, Towns Co., Georgia, and the results I consider of sufficient interest to publish at this time. To a large extent my time was spent on the slopes of Brasstown Bald, and my first impression, that this rugged mountainside was worthy of all the possible time I could give it, has been more than justified. I feel now that I have acquired as yet but a very meager knowledge of the breeding bird life here, and that there is unlimited opportunity for future work along definite systematic lines.

In 1923 I was at Young Harris, May 22-24, accompanied by W. J. Erichsen of Savannah, Georgia, and later spent a little over a month, from June 20-July 26, in camp at the foot of the Bald, where unfortunately the larger part of my time was devoted to work other than ornithology.

In 1924 I found it possible to spend but three days May 2-4, in this locality, while in 1925 I was again limited to but three days here, May 26-28, W. J. Erichsen being again my companion on this latter trip.

Only those species are here listed whose occurrence in the state during the summer months has until recently been more or less conjecture. One, the Chestnut-sided Warbler, (Dendroica pensylvanica) is recorded as breeding for the first time in Georgia.

Loxia curvirostra minor. Red Crossbill.—I had known that these birds were credited with nesting as far south as northern Georgia but it was nevertheless a pleasant surprise to come across a flock of possibly thirty on June 25, 1923, feeding in the larger trees well toward the top of the Bald. The trees at this spot were entirely hardwoods, the chestnut and chestnut oak predominating, and as I had always associated this

species with conifers the birds appeared a little out of place as they searched the outer ends of the larger limbs for insects. They were well scattered and were noisy and restless, seldom remaining in one tree for more than a few minutes. Several were males in full plumage, and these sang more or less spasmodically during the half hour that they were watched.

Junco hyemalis carolinensis. CAROLINA JUNCO.-So little is known concerning the nesting habits of this species in the state, that I was glad of the further opportunity to add to the little knowledge I had already acquired. Seemingly a second broad is almost invariably raised during the latter part of June, and in 1923 two nests were found that helped verify this assumption. On June 27 as I was following a narrow ledge that crossed a wide sheet of rock on a very steep slope near the top of the mountain a bird flushed almost from beneath my feet and revealed a nest that held three very slightly incubated eggs. The rock was carpeted with a thick layer of green moss, and the nest was sunken in this and very well concealed. Apparently the moss here had merely been hollowed out and the cavity well lined with grasses, fine weed stems and a little 'possum The second nest was found three days later, on the 30th, and likewise held three slightly incubated eggs. It was up four feet from the ground on a narrow ledge of a low cliff in open woods almost at the top of the mountain and was sunken in the green moss covering the rocks, and well concealed by a clump of weeds growing at the front and to one side of it. In construction it differed but little, the cavity in the moss being well cupped and lined with fine rootlets, grasses and cow hair. In 1925, but one nest was found, the bird flushing from four practically fresh eggs as I passed within two feet of her while following the trail to the top of the mountain. The nest was sunken in the ground at the base of and well in under a chestnut sapling on a steep slope at an elevation of approximately 4200 feet, and because of the scant undergrowth was afforded little concealment. This was on May 26, and, as indicated by the number of eggs, was unquestionably a first brood. The nest was compact and fairly substantial, and was built of weed stems, rootlets, bits of dead leaves, shreds of bark and a little green moss, lined with fine moss stems.

Melospiza melodia melodia. Song Sparrow.—I was interested to note a very decided increase in the number of these birds about Young Harris my second summer there. I had found them fairly plentiful in 1922, but they are now one of the commonest of the breeding birds in this open mountain valley and occur wherever there are sufficient thickets or underbrush to offer them shelter. During July, 1923, I succeeded, with little effort on my part, in locating five nests within a short distance of the town, in each either eggs or young. The first, found July 4, held two eggs and two newly hatched younz, and was two feet from the ground in a blackberry bush in a thicket at the side of a road. Another, that on July 23 held four fresh eggs, was four feet from the ground in the top of a small wild rose bush at the edge of an alder thicket covering a marshy

spot at the lower end of a large open field. A third, found July 25 with four small young, was a foot from the ground in a cluster of blackberry stalks at the edge of a hedge row dividing two open fields. All were alike in construction, being built of weed stems, rootlets and grasses, lined with fine grasses and a little horse hair.

Zamelodia ludoviciana. ROSE-BREASTED GROSBEAK.—The only spot in the state where this species breeds is on the slopes of Brasstown Bald but here the birds are fairly plentiful above an elevation of 4000 feet. A few scattered pairs may at rare intervals be seen farther down the mountainside, but I have never found them in the valleys nor in fact below 3600 feet. They apparently are limited in their distribution to the proximity of the scattered rhododendron thickets that are so characteristic of the higher slopes, and it is here that almost invariably the nests can be found. As might be expected the birds breed late, and it is the latter part of May before many are building. In May, 1923, a female was seen carrying nesting material to a nest but half built, and other birds noted that day were seemingly unconcerned as yet over domestic duties. It was the latter part of June before I had the opportunity to spend more time with them, and by then the young had in each case left the nest. A close search of the rhododendron thickets resulted in finding six nests from which the young had flown, all of them from five to ten feet from the ground at the outer end of a limb of one of the larger rhododendrons. From this limited experience I felt that it would be useless to look for a nest except in these rhododendron thickets, but the few days spent on the Bald in May, 1925, showed me that this preference was not always shown. The first nest, found on the 26th, was fully built but as yet empty, and was in the usual situation, fifteen feet from the ground at the outer end of a limb of a large rhododendron. A second nest found the same day, however, was twenty-five feet from the ground at the extreme outer end of a leaning yellow birch sapling, while a third nest found the following day, on the 27th, was fully fifty feet from the ground at the extreme outer end of an upper limb of a tall slender chestnut. In both these latter nests there were three fresh eggs, the first being compactly built of weed stems, rootlets, twigs and vine stalks, well lined with fine rootlets, the second rather frail and loosely built of twigs, sparingly lined with black rootlets. In each case the female was incubating and flushed reluctantly, showing great concern over my intrusion. These are to the best of my knowledge the first actual breeding records for the state.

Piranga erythromelas. Scarlet Tanager.—This is a common breeding bird through the mountains in the northern tier of counties, but there are few actual records of the nest being found. With the little time at my disposal I succeeded in locating but one nest which, on June 22, 1923, held three eggs possibly half incubated. It was forty-five feet from the ground at the outer end of a limb of a tall slender black gum in open woods half way up the mountainside, and was compactly built of weed stems and rootlets, lined with fine weed stems.

Bombycilla cedrorum. CEDAR WAXWING.—It may possibly have been that, due to my experience with these birds the previous summer, and my familiarity with the country about Young Harris, I was merely in a better position to judge the actual status of the Cedar Waxwing here in 1923. Be that as it may, there was no question in my mind but that it was a common breeding bird in the open valleys, and I rather feel that there was at least a slight increase over the preceding year. Two nests were found July 1, in the open grove of scrub pines where in 1922 one pair had attempted to nest, in each half grown young. They were within fifty yards of each other, one forty feet from the ground and the other fully sixty, in the upper branches of the larger trees. Another nest found July 5 with five half incubated eggs was fifty five feet from the ground at the extreme outer end of a limb of a large black walnut tree in a farmyard. It was compactly built of hemlock twigs, weed stems, grasses, fine rootlets and wool, lined with the hemlock twigs, grasses, a little cow hair and light green lichens. A fourth nest, that on July 19 held three slightly incubated eggs, was in a situation very similar to this, being fully sixty feet from the ground at the extreme outer end of an upper limb of a large black walnut tree close to a house in a farmyard. It was likewise compact and well built of hemlock twigs, rootlets, weed stems, and grasses, lined more or less with dry pine needles and green lichens.

Lanivireo solitarius alticola. Mountain Vireo.—During the three days spent at Young Harris, May 22-24, 1923, seven nests of the Mountain Vireo were found, and the irregularity with which the birds apparently nested was rather unexpected. The first held half grown young and I decided then that these birds must be early breeders until I found a second nest fully built but as yet empty, and then a third with three fresh eggs. I was then about convinced that this first pair had nested unusually early, only to have this theory shattered by finding a fourth nest with young more than half grown. The next nest found was not quite built, another was apparently finished but still empty, and the last held four fresh eggs, causing me to reach the final conclusion that these birds nest at no fixed time but whenever the mood strikes them. Whenever and wherever is possibly the best phrase to use, for the birds are equally common in the valleys and well up the mountainsides, and the situation of the nest varies considerably. No preference is shown for any one tree for while two of the nests were in laurels they were also found in red maples, white oaks, yellow birch and mountain magnolia (Magnolia fraseri), and they varied in height from six feet to, in one case, as high as forty, although the average was between fifteen and twenty feet from the ground.

Dendroica caerulescens cairnsi. CAIRNS' WARBLER.—Actual breeding records for this species in the state being limited to the two nests which I found in 1922 the following data may be of interest at this time:

May 22, 1923, nest with four fresh eggs, two feet from the ground in a fork in a small laurel bush in underbrush partway up the mountain side, compactly built of shreds and strips of bark, well lined with black vine tendrils and light red moss stems.

June 23, 1923, nest with three slightly incubated eggs, two feet from the ground in a fork of a small viburnum in the middle of a small open thicket of these bushes in open woods partway up the mountainside, compactly built of strips and shreds of bark and bits of rotten wood, deeply cupped and well lined with fine black moss stems.

May 26, 1925, nest with three slightly incubated eggs, five feet from the ground, saddled near the end of a drooping limb of a rhododendron at the base of a large yellow birch well up the mountainside, well built of bits of rotten wood, shreds of bark and rootlets, well lined with fine black rootlets and a few light red moss stems.

May 26, 1925, nest with four fresh eggs, two and a half feet from the ground, in a fork of a small laurel bush at the edge of a laurel thicket in thick woods a short distance up the mountainside, compact but not very substantial, of pieces of rotten wood, shreds of bark and fine rootlets, lined with light red moss stems and a little horse hair.

Dendroica pensylvanica. CHESTNUT-SIDED WARBLER.—This species has never been recorded before as breeding in the state but in my experience it is fairly plentiful during the summer months on the open south slopes of the higher ridges leading from the Bald. I have noted a few singing males as low as 3500 feet, but it is only above an elevation of 4000 feet that these birds occur in any numbers. Within a few hundred yards of the top of Brasstown Bald the south slope is covered with small stunted oaks that are few enough in number to encourage a thick undergrowth of laurel and huckleberry bushes. In this limited area the Chestnutsided Warblers are actually plentiful, and are among the few birds that can be found breeding there. On May 28, 1925, we spent the entire morning searching this spot for nests, and by noon had succeeded in finding three. All were within two feet of the ground, two being in laurels and one in a huckleberry bush, and while they were not so very well concealed the brush was so thick that it was necessary to be almost over them to see them. One held two half grown young and two infertile eggs, another two fresh eggs, and the third four fresh eggs, so seemingly individual pairs breed at widely separated intervals. The nests were alike in construction, and distinct enough not to be confused with those of any other species found here, being loosely and somewhat shabbily built of grasses, and a few rootlets and shreds of bark, lined with fine grass stems, and, in one case, a little horse hair, and held in place on the twigs by felted insect down and wool.

Seiurus motacilla. Louisiana Water-Thrush.—This is an abundant breeding bird through these mountains, there being few streams of any size where one pair at least cannot be found during the summer months. A nest was found May 4, 1924, that held four slightly incubated eggs, and was a foot and a half from the ground in a shallow depression in the upturned roots of a tree at the side of a small stream in a ravine.

It was a large loose mass of dead leaves and a few grasses, deeply cupped and well lined with dry white pine needles and a little black horse hair. The bird did not flush until almost touched and then fluttered away at the edge of the water feigning a broken wing.

Nannus hiemalis hiemalis. Winter Wren.—As far as I knew, but one pair of these birds nested on the north slope of Brasstown Bald in 1922, so I was interested to note a decided increase in the number breeding here the following year. They were seen, and heard singing, in three of the rugged coves above an elevation of 4000 feet, and as it is hardly possible to cover this mountainside thoroughly in a few days I may easily have overlooked others. A nest was found May 22 that held five slightly incubated eggs, and that was two and a half feet from the ground well concealed in the top of the upturned roots of a large yellow birch that had but recently fallen. It was a loose ball of green moss, lacking the twigs that usually are used, the cavity inside being well lined with feathers of a Ruffed Grouse. The female was incubating and flushed when the nest was touched, returning however almost at once and showing real concern over our presence at this spot. This was at an elevation of approximately 4000 feet, and on a steep slope covered with tangled rhododendron thickets, moss covered boulders and fairly large timber that. however, was rather scattered and frequently found uprooted.

Hylocichla fuscescens fuscescens. VEERY.—As far as is known now this species breeds nowhere in the state but on the cool moist north slope of Brasstown Bald, and here it is rarely seen below an approximate elevation of 3200 feet. Nesting as it does only in the rather dense rhododendron thickets that are found but a short distance down from the top of the mountain, and that end rather abruptly around 3600 feet, its distribution during the summer months is of necessity rather limited, but within this small area it is fairly plentiful. The birds breed late, seldom before the latter part of May or the first of June, so my data are rather meager. Two nests that are probably normal in so far as the dates are concerned are one found May 22, 1923, practically built, and one May 27, 1925 but half built. A late nest was found June 24, 1923 that held but two slightly incubated eggs, and another a week later, on July 2, with three half grown young. All were a foot and a half to two feet from the ground in small bushy rhododendrons, and were alike in construction, being bulky and loosely built of large dead leaves intermixed with a few twigs and weed stems, well cupped and lined with fine black rootlets.

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