

BIRDS OCCURRING AT HIGHER ELEVATIONS IN THE NORTHERN PORTIONS OF THEIR RANGES

EDITOR OF 'THE AUK':--

Mr. J. Charles Tracy's interesting notes (Auk, 60: 591-593, 1943) on the occurrence of wood thrushes at relatively high situations in the extreme northeastern portion of the species's range is accompanied by the statement that he has "been unable to find reference anywhere to any species whatever which moves into higher altitudes as it moves northward." Such occurrences are frequent among birds of southern association which occupy certain areas of the southern and central Appalachian highlands.

Swainson's Warbler (*Limnothlypis swainsoni*) offers a notable case in point. Brooks and Legg (Auk, 59: 76-86, 1942) have recorded the regular summer occurrence of this species in West Virginia at latitudes north to 38 and 39 degrees, and at elevations from 1500 to 3000 feet. They have also reviewed the recorded occurrences of these birds at other points in the Appalachian Mountains, in North Carolina, Tennessee, and Virginia. In every case where the birds have been found north of, or away from, the south Atlantic coastal belt which has long been regarded as their normal habitat, they have been in mountainous regions. One West Virginia breeding locality is nearly two degrees of latitude north of the most northern point (Tangier Island, Virginia) at which the birds have been found on the Atlantic coast. At this West Virginia station the birds inhabit dense tangles of rhododendron and hemlock on the Allegheny Plateau.

Bachman's Sparrow (*Aimophila aestivalis bachmani*) is another species whose distribution exhibits the same tendency. In West Virginia and western Maryland, where the bird is nearing its northern limits in the central portion of its range, it regularly occurs up to elevations of 3000 feet, and is, seemingly, more common in elevated situations than in river valleys. In the Great Smoky Mountains it has been recorded at elevations up to 5000 feet. Bewick's Wren (*Thryomanes bewicki bewicki*) follows the same pattern, since in West Virginia (where it is near its northern limits in the Appalachian region) it is common to abundant at elevations from 1500 to 3500 feet, and even occurs regularly up to the red-spruce forest at 4000 feet. It is rare in, or entirely absent from, the less elevated river valleys, where its place is taken by the House Wren.

Hypotheses suggested by Mr. Tracy to account for the behavior of Wood Thrushes northward will not apply in the three cases cited above. In each instance the elevated habitat north of the general centers of distribution is very different in physiography, and in its biota, from the more heavily occupied areas to the south. Nor can this behavior trait be explained on the basis of racial differentiation in the examples given above. Careful investigation in each case has failed to show morphological grounds for setting up new northern races of the birds under discussion. It is difficult also to think of interspecific competition as furnishing the whole answer, particularly in the case of Swainson's Warbler. Here in the mountains we have a disjunct population separated by some hundreds of miles from any other known occupied territory.

The geologic age of the Appalachian system of course precludes the suggestion that the birds are still occupying favorable niches in a territory through which they were more generally distributed before the Appalachian revolution. I have been unable to find any answer to this problem which satisfies me, and have regarded it as another evidence of the need for further study in an area which,

despite the work already done, still holds more than its share of biological loose threads.

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EDITOR OF 'THE AUK':—

I was glad to see in last October's 'Auk' a note by J. Charles Tracy on the extension of the breeding range of the Wood Thrush. This interesting ornithological event has not received the attention it deserves, but it is only fair to the field workers to point out that it has not been entirely overlooked, and also that it began much earlier than Mr. Tracy supposes. Without attempting an exhaustive review of the literature I may call attention to Glover M. Allen's 'List of the Birds of New Hampshire' (Proc. Manchester Inst. of Arts and Sciences, iv, 1902, Manchester, N. H., 1903), where records of ten individuals occurring in the White Mountains are given, dating from 1894 on—records which could now be added to very extensively. For Vermont, I myself recorded in 'The Auk' (1908, p. 63) the finding of four or five singing at Willoughby Lake in 1896 and of nine at West Bridgewater at elevations ranging from 1100 to 2000 or 2500 feet in 1907, and there cited Howell's record for Mt. Mansfield in 1899 and Torrey's for the Canadian side of Lake Memphremagog in or before 1885. I could cite more recent records for both New Hampshire and Vermont, but my purpose is only to call attention to these earlier ones.

I cannot be so sure as Mr. Tracy seems to be that the northern-nesting Wood Thrushes tend to seek higher altitudes than those that breed farther south. At any rate my singing birds of 1896 at Willoughby Lake were all near the head of the lake and hence at an altitude of only about 1200 feet, or as low as they could get and nest in the neighborhood at all. Dr. Walter Faxon had found a single singing Wood Thrush there in 1885 and again in 1889, but I did not learn this till after my visit and I was as much surprised to find the species there as was Mr. Tracy on his later visit. In an article that appeared in the St. Johnsbury (Vt.) Caledonian, September 11, 1896, I mentioned Faxon's experience and added as a possible explanation of the increase in numbers: "The fact that four or five, probably representing so many pairs, were heard this year is perhaps due to the scarcity of Hermit Thrushes, which were seriously decimated in the South in the winter of 1895, and which have not yet recovered their normal abundance. Dr. Faxon and Mr. Ralph Hoffmann found last year (1895) that the Wood Thrushes were taking the places left vacant by Hermits on the side of Mt. Greylock in Massachusetts and far above their usual limit of altitude. Mr. William Brewster also writes me that he found a Wood Thrush at Lake Umbagog this spring for the first time, and he thinks these birds are extending their range northward." Lake Umbagog, by the way, lies northeast of the White Mountains, partly in Maine and partly in New Hampshire, and at an elevation of about 1600 feet. This remained Brewster's only record for the species at Lake Umbagog in an experience beginning in 1871 and ending in June, 1909. (See his 'Birds of the Lake Umbagog Region of Maine,' Bulletin Mus. Comp. Zoöl., vol. 66, part 3, 1937.)

There is no doubt that the Wood Thrushes do ascend the mountainsides farther than might be expected, but in northern New England they are by no means con-