American Pipit (*Anthus spinoletta rubescens*).—Twenty-one of the 78 stomachs examined contained 36 Orthoptera, all field crickets.

Nevada Shrike (*Lanius ludovicianus nevadensis*).—Twenty-six stomachs were examined, 21 of which contained 55 adult and two nymphal grasshoppers, four field crickets and one sand cricket.

Western Meadowlark (*Sturnella neglecta*).—Forty-four of the 83 stomachs contained Orthoptera, 39 containing 73 adult and 6 nymphal grasshoppers; five field crickets and one sand cricket also were present in the additional five stomachs.

Yellow-headed Blackbird (*Xanthocephalus xanthocephalus*).—Two of the twelve stomachs collected contained three grasshoppers.

Thick-billed Redwing (*Agelaius phoeniceus fortis*).—Fifty-seven stomachs contained six grasshoppers in five stomachs and two field crickets in another.

Brewer's Blackbird (*Euphagus cyanocephalus cyanocephalus*).—One-hundred-five stomachs were examined; 40 contained Orthoptera, including 51 adult and 9 nymphal grasshoppers in 30 stomachs; the other ten stomachs held 16 field crickets.

Bullock's Oriole (*Icterus bullocki bullocki*).—One of the three stomachs examined held an adult grasshopper, another a nymph.

House Finch (*Carpodacus mexicanus frontalis*).—Of the 32 stomachs examined only one contained an Orthopteron, a grasshopper.

Western Vesper Sparrow (*Pooecetes gramineus confinis*).—Twenty of the 68 stomachs contained 32 adult and three nymphal grasshoppers. Several birds were collected while they still held a grasshopper in their beaks.

Western Lark Sparrow (*Chondestes grammacus strigatus*).—Fourteen of 17 stomachs examined held 28 adult and 6 nymphal grasshoppers.

Sage Sparrow (*Amphispiza nevadensis nevadensis*).—Of sixteen birds collected, one contained four grasshoppers.

Western Chipping Sparrow (*Spizella passerina arizonae*).—Of 207 stomachs examined, 15 contained Orthoptera, consisting of 15 adult and 5 nymphal grasshoppers and one field cricket.

White-crowned Sparrow (*Zonotrichia leucophrys leucophrys*).—One grasshopper nymph was the only Orthopteron in the 68 stomachs examined.

Gambel's Sparrow (*Zonotrichia leucophrys gambeli*).—Twenty-eight of the 92 stomachs examined contained a total of 37 Orthoptera, all adult grasshoppers.—G. F. KNOWLTON AND F. C. HARMSTON, *Department of Entomology, Utah State Agricultural College, Logan, Utah.*

Altitudinal nesting and breeding-range extension of the Wood Thrush.—During the past two decades, the Wood Thrush (*Hylocichla mustelina*) has gradually extended its former breeding range northward into the upper reaches of the Green Mountains in Vermont and, perhaps, the White Mountains. Apparently escaping the notice of American ornithologists, these birds have definitely established themselves as regular summer residents in certain localities of northern Vermont where, twenty-two years ago, they were relatively unknown. And, strangely enough, the Wood Thrush has, in many cases, 'reversed the poles' and taken to altitudinal nesting in the more northern portions of its range, whereas it is decidedly of lowland distribution throughout the remainder of its domain.

During the latter weeks of June, 1942, I had the opportunity of studying the bird life in the region about Willoughby Lake, just south of Newport, Vermont, at the southern tip of Lake Memphremagog. I had prepared a list of 'probabilities' to be looked for in the region, in which the Wood Thrush was not included.

While canoeing on the lake one evening, I was indeed surprised to hear the Wood Thrush's song, intermingled with the vespers of Veeries and Olive-backs. The next day I investigated the matter without success; not a Wood Thrush could be found near the lake. Several days later, at an altitude of about 2000 feet on Mt. Pisgah, the song again was heard, and this time the search proved successful. Further investigation on this same mountain and other neighboring ones revealed four nests and some thirty individuals, all at an altitude of 1500 to 2500 feet!

The most unusual thing about the discovery of the birds was their apparent desire to remain aloof from civilization—their habit of preferring situations many hundreds of feet from the lake level, as contrasted with the definitely opposed preference of the Wood Thrushes found along most of the Atlantic seaboard. It would appear normal for a *northern* bird ranging *southward* to choose higher elevations to make up for the difference in latitude; why should the reverse be true? Possibly the prevalent juncos, White-throated Sparrows, waxwings, cuckoos, and other birds not commonly associated with more southern dooryards would not allow the intrusion of a species foreign to their established feeding ranges. Wendell P. Smith of Wells River, Vermont (MS.), suggests that the extension of range itself may have been caused by ". . . the replacement of the coniferous forest that covered so much of Vermont by hardwoods . . .", and perhaps this explanation in itself may answer the question of altitudinal nesting. Other observers have noted this peculiarity with respect to the species in Vermont. F. C. Lincoln tells of a record indicating altitudinal nesting on Kings Mountain near Ottawa, and another stating that the birds "nest mostly above 1200 feet elevation" [Endicott, N. Y.]. Mr. Smith (MS.) records seeing them " . . . on the slopes of Camel's Hump [Vermont] at an altitude of 1500 feet."

Wendell Smith's hypothesis regarding the replacement of conifers by deciduous trees as a contributing cause for the range extension seems the most likely answer to that question. The four nests which were discovered in June at Willoughby were all in groves of deciduous trees which supported relatively heavy growths of underbrush. No Wood Thrushes were found in the strictly coniferous areas, nor, as mentioned above, in the settled districts about the lake itself. Roger T. Peterson has suggested the possibility that the extension may have taken place by way of the St. Lawrence Valley, which would very likely result in a more or less restricted breeding locality somewhat to the north of the normal periphery of the former breeding range of the species, leaving a 'gap' in between where few, if any, Wood Thrushes would be found. Such is apparently not the case, as Vermont observers over the last twenty years have reported the birds becoming increasingly common in many localities between Willoughby and the latitude of central New Hampshire.

Mr. Smith tells me that while the birds are reported as "common summer residents" at Rutland by G. H. Ross, they are considered but "tolerably common" by Anna S. Reynolds at Burlington. Early Vermont writers all agree that north of its prescribed range the species was not very abundant prior to about 1910. Speaking of Wells River, Mr. Smith (MS.) writes: "It has been a regular summer resident in Wells River since 1925. Was first seen here in 1909 but absent during some of the seasons intervening between that year and 1925. It has become more numerous during the past five years."

The account given by Mr. Forbush, placing the northern limit as Mt. Mansfield, apparently is the only one which considers the birds' presence above central Ver-

mont as normal; Pearson (Birds of America, 1936) says "northern Ontario," yet follows with *"accidentally* to northeastern New York." Howell (Florida Bird Life, 1932) gives "southern Ontario, Vermont and New Hampshire," and Peterson (A Field Guide to the Birds, 1939) lists ". . . southeastern Ontario, and central New Hampshire south."

It appears natural for a given species to extend its range in one way or another over a period of years; the fact in connection with the present species's northward movement which should command the attention of ornithologists more than that is the habit of altitudinal nesting. Perhaps further research in connection with the Wood Thrush in northern New England would reveal additional interesting information relative to nesting localities which this species has chosen. It is altogether possible that this bird, being nowhere 'abundant' in the northern part of New England, has been overlooked in a great many places because of a lack of observers in the more inaccessible mountain regions. Too, its presence at Willoughby, but a few miles south of the Canadian border, gives rise to the possibility that the bird may be well established farther to the north, also in the higher altitudes, and well within the Dominion itself.

Assuming that competition from other species long-established in older stands of deciduous woodlands in the valleys and lowlands has proven too much for infiltrating Wood Thrushes to cope with, the metamorphosis from conifers to hardwoods would then become a factor in the altitudinal tendency of the species in the north, as well as the range extension itself. It could very well be that the thrushes moved in to the new growths of deciduous trees before too many other competitors had a chance to become established there themselves. One other possible explanation for the presence of the birds on the higher peaks might be that a subspecific difference exists between these birds and our well-established lowland Wood Thrushes which are known along the eastern seaboard. This statement, of course, must be made with the utmost care and only a suggestion; however, I have been unable to find reference anywhere to any species whatever which moves into higher altitudes as it moves *northward.* Bicknell's Thrush is an altitudinal breeder, but its range is well to the *south* of that of the Gray-cheeked Thrush, its somewhat larger counterpart. Similarly, the Sierra Hermit Thrush takes to the mountains to make its home, but at the same time it is considerably south of other Pacific hermit thrushes.

Whatever the motives behind this strange behavior of the Wood Thrush, the writer believes that its very presence in the higher Green Mountains well merits the attention of, and much additional research by, the ornithologists of the United States and Canada.—J. CHARLES TRACY, *1031 Wyoming Ave., Forty Fort, Pennsylvania.*

Wrens use duck down as nest lining.—A great variety of materials, both native and man-made, is used in lining the nests of many birds. The resourcefulness of the Long-billed Marsh Wren (*Telmatodytes palustris*) in utilizing the down feathers of ducks as nest lining was brought to my attention during waterfowl investigations in Iowa in 1938–1941. While making observations on the nesting habits of the Redhead (*Nyroca americana*) which nests among the sedges (*Carex* spp.) and bulrushes (*Scirpus* spp.) in good wren-nesting habitat, I saw a Long-billed Marsh Wren fly to its nest with a duck-down feather. Upon closer investigation I found the wren had lined its nest with Redhead-down feathers. Further search revealed the Redhead nest about fifteen yards away from the wren's nest. Thereafter, while passing through the marshes looking for Redhead nests, I took