

means of the variation in the mottling on the breast. Often while one parent fed from the edge of the nest, the other, which I believed to be the male, arrived with additional food. Instead of waiting for the bird on the edge of the nest to leave, he merely "billed" over the food to his mate who fed the young. On other occasions I had what I considered a good opportunity to see the difference between male and female as to their judgment in regard to the quality and quantity of food. For instance, I saw one bird arrive and delicately place a mayfly or a small spider in the throat of a youngster. Immediately on the departure of this bird the other arrived with a green caterpillar an inch and a half in length and vigorously started to thrust it down the gaping nestling's mouth. The first attempt being a failure, he tried it a second time, and so on, making each push stronger and stronger until the bedraggled worm fell to the bowl of the nest, the nestling appearing tired out. The parent bird then swallowed the larva and flew off again to search for food. Once this same bird brought a salamander two thirds as long as the nest was wide, but it was not fed to a young bird.

So, through the long periods of observation, with plenty of entertainment and interest, I have made the acquaintance of this famous songster. The song of the Hermit Thrush rivals all other bird-songs in beauty and I believe surpasses the powers of human imitation. That flute-like song of a late afternoon and early evening in summer is no less beautiful to me for having been at home with its maker.

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## A POSSIBLE MIGRATING FAMILY GROUP

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ONE of the problems awaiting solution and one which affords an unusual opportunity for bird-banders is that of the group habit. Perhaps it would be better to say a series of problems connected with the group habit, for a number of interesting lines of investigation are involved.

An explanation of the term and a summary of present knowledge concerning it may be helpful to an understanding of the contents of this paper. The phrase "group habit" was used by S. Prentiss Baldwin to describe the behavior of a group of White-throated Sparrows (*Zonotrichia albicollis*)

wintering at his banding station in Thomasville, Georgia.<sup>1</sup> This group was found only within a narrowly circumscribed area, and this area was occupied during several winters. A high percentage of returns were taken from this group, suggesting that some continuity of association existed among its members after departure from their wintering-grounds, as it would be difficult to explain the presence of an individual in subsequent seasons at a definite place in company with approximately the same number of individuals of the same species, many of these also returns, unless some degree of association existed through the remainder of the year.

Other observers have noted similar behavior both in this species and in others, especially among Tree Sparrows (*Spizella m. monticola*), and the Slate-colored Junco (*Junco h. hyemalis*). Charles L. Whittle,<sup>2</sup> both independently and in collaboration with Laurence B. Fletcher,<sup>3</sup> has made extensive investigations of this habit and outlined its possible biological significance.<sup>2</sup> Much, however, remains to be learned, and opportunities exist for banders at winter banding stations, for those who can operate stations within the breeding areas of these species, and for those who can trap migrants.

Any details of the origin of the group habit—how the group is formed, whether a family or combination of families, or whether some other factors enter into its formation—are of value, and when a sufficient number of these have been accumulated, the problem will be solved. Facts relating to the life-histories of birds come only through careful observation, and this necessitates the keeping of detailed daily records. These should include everything taking place about the station, regardless of any apparent significance at the time, for seldom does the discovery of an interesting fact come suddenly, but more often as the result of intensive work carried out through a longer or shorter period of time.

The following observations are offered, not in support of any theory of the origin of the group, for it would be impossible to do so upon the basis of an isolated fact, but as a suggestion of the origin of this habit in the given species, as a stimulus to further investigation, and as an illustration of the way in which facts are frequently ascertained.

During the fall of 1928, a number of White-crowned Sparrows (*Zonotrichia l. leucophrys*) visited my station at Wells River,

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<sup>1</sup>*Auk*, Vol. XXVIII, No. 2, pp. 236-237.

<sup>2</sup>*Auk*, Vol. XL, No. 2, pp. 224-240.

<sup>3</sup>*Auk*, Vol. XLI, No. 2, pp. 327-333.

Vermont, and were banded. In the four-day period of October 10th-13th bands were attached to seven individuals of this species in the following order: No. 635385 to an immature bird on October 10th; Nos. 635386 and 635388 to birds of the year on October 11th; Nos. 635389 and 635390 to young birds on October 12th; and Nos. 635393 and 635395 to adults on October 13th. In addition to these an immature bird escaped from the trap unbanded.

The mere record of these birds is without significance, but field notes for this period showed that a flock of about eight White-crowned Sparrows were frequenting the trap-area and its vicinity and that these birds were behaving as a unit. It was noted that whenever an individual was alarmed a call-note communicated alarm to the other members of the group and that they together took wing and, after flying a short distance, alighted in close proximity to each other. Whenever an individual entered a trap it was accompanied by the immediate vicinity by the remainder of the group, and at times several individuals would be in the trap at the same time. Field observations of the age relationship within this group tallied closely with the banding-records. We would emphasize a detail always recorded in the banding-records and that is the time when the bird was taken. This is always done, regardless of how many times a bird may repeat, and in this way the association of these individuals received additional proof. Members of the group ceased to repeat on October 14th and apparently disappeared on the 16th.

We would not claim too much for the incident but we feel that the presence of six young and two adults of this species in a group probably several hundred miles south of their breeding-grounds is more than a coincidence and is suggestive of the continuance of the family bond through the southward migration. Further observations are needed to prove or disprove the accuracy of this, and we await with keen interest their accumulation, for it is from studies of this character that the bird-student derives his greatest pleasure. The lure of the unknown has no equal in power to awaken and sustain interest. Every bird-bander is confronted by the unknown if he will but realize it. He has within his reach the possibility of a never failing source of pleasure and satisfaction if these latent opportunities are improved.