

NATURE STUDY OF ANIMALS.

H. C. FERRY

BIRD NOTES

No department of nature work has greater attraction for young people of school age than the study of bird life. From the time of their return in the spring with their gayest colors and most attractive songs, all through the nesting season and while the young are growing into bird-form and learning to fly, and all through the summer till at last we miss them all of a sudden and they are gone for the winter, there is interest at every turn.

Like the attraction in other fields of nature study this interest is contagious, and soon spread through the school, and is often accompanied with a friendly rivalry among the pupils, "Who will find the first bird?" "Who will find the most nests?" "Who will find the first young birds?" But this interest does not start of itself, in the ordinary child it is dormant, the teacher must call it into action. And even after she starts it going, there is need of constant supervision.

We must recognize the interest as the starting bar which sets the whole machinery of study and investigation in motion, but that it does not possess automatic power in itself. The interest must be renewed from time to time and energy constantly applied to keep the machinery running. A good start is important but it is equally essential that the guiding and controlling mind of the teacher keeps pace with her pupils in all their nature studies.

In these notes we will first call attention to bird migration, and using it as a starting point, outline other bird-studies in general.

Bird migration owes its origin to a ready and easy means of locomotion—to the power of flight. It is the response of the organism to find a more suitable environment, and depends upon the following chief factors: fluctuating food supply, love of home, breeding impulses, and varying temperature.

Technically speaking bird migration is applied to the periodical and regular passage or movement of birds between localities inhabited at different periods of the year, and is as a rule between the breeding area or home and the winter quarters.

This movement of birds from their true home to escape winter conditions is much like the hiberna-

tion habit we find among many animals, and which we discussed in outline in the last issue of the REVIEW. In fact early naturalists long thought that birds hibernated too. Such a theory grew out of local observation, for there was little or no foreign travelling and less interchange of data along nature lines with other countries. The local observer, night after night in late summer, saw the swallows dropping to roost among the



FIG. 1. MIGRATION OF THE BOBOLINK.
Dotted area, Breeding range; Black area, Winter range;
Arrows, Migration route.

reeds, till all at once none was to be found anywhere. Was it not quite natural to think "they had vanished to hibernate in the water?"

Long years passed, mostly occupied with discussions and conflicts, with a little investigation now and then thrown in by way of variety, before the true nature of their disappearance was determined. One rather serious alternative theory sent the birds to the moon for the winter. John Legg was one of the first real students of bird migration, and his pamphlet, "A Discussion of the Emigration of British Birds," (1780) did much to direct investigation along proper lines.