

## CONTROL OF INSECTS BY BIRDS

BY W. L. MCATEE

While the article by C. N. Ainslie on "The Economic Importance of Birds as Insect Predators" in the September, 1930, issue of the WILSON BULLETIN is written in the best of spirit, I believe that its effect on the general reader will be an unwarranted one. The impression probably will be that birds are of little, parasites of great, value in controlling insect pests, while the fact is that if we consider the degree of control necessary to commercial success of a crop it is rarely attained as a result of the work of natural enemies of whatever kind. The latter owe their existence to the fact that there is a proportion of the individuals of their prey that can be consumed without any permanent decrease in the numbers of these species as a whole. It is this surplus that is the perennial support of natural enemies and it is seldom that they consume more. In other words, they live upon the interest and leave the capital intact.

Natural enemies, however, are only a part of the entire complex of natural control, and leading entomological authorities seem to agree that they are not a very large part. B. P. Uvarov<sup>1</sup> has pointed out pp. 17-18.

that recent researches "throw some doubt on the commonly accepted idea that the chief controlling factor is the parasites, since a number of cases have become known in which the factors normally keeping an insect species down are almost entirely of meteorological order. This has been admitted for the cotton boll weevil in America (Hunter and Pierce, 1912), for the corn-borer in Europe (Thompson and Parker, 1928), for the almond sawfly in Palestine (Bodenheimer, 1928), for the cotton seed bug in Egypt (Kirkpatrick, 1923), for plague fleas in India (Hirst, Rogers), for vine-moths in Europe (Stellwaag, 1925), and for some other notorious pests."

Again F. S. Bodenheimer<sup>2</sup> in answering the question "Welche Faktoren regulieren die Individuenzahl einer Insektenart in der Natur?" states that parasites, predators, and scarcity of food, are rarely or only secondarily of regulatory significance, but that climatic factors are the real controlling influences."

The late F. H. Chittenden<sup>3</sup> in discussing insects and the weather further states, "It also appears to me what has been observed by Mr. Marlatt in the case of scale insects . . . is true in general, viz., that

<sup>1</sup>Conference of [British] Empire Meteorologists, 1929, Agricultural Section,

<sup>2</sup>Biol. Zentralbl., 48, 1928, pp. 714-739.

<sup>3</sup>Bul. 22, N. S., Div. Ent., U. S. Dept. Agr., 1900, p. 63.

favorable or unfavorable climatic conditions are of greater importance in determining the abundance or scarcity of insects as a whole than are other natural checks such as parasitic and other enemies, or even fungous or bacterial diseases.”

There is hardly anything more characteristic of publications on economic entomology than the remark, after detailing the activities of predators, parasites, and diseases, that none of these can be depended upon for controlling the pests. Mr. Ainslie's remark therefore “that useful as birds are in their way, they can seldom be depended upon unaided to rid us of our insect enemies” is just as true in general of parasitic insects and other natural enemies as it is of birds. What needs to be kept in mind at all times is that in assigning economic values to natural enemies, it is best to speak in terms of tendencies rather than of achievements. Good economic tendencies are as satisfactory as any grounds for advocating the protection of natural enemies.

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#### MIGRATION OF CANADA GEESE FROM THE JACK MINER SANCTUARY AND BANDING OPERATIONS

BY MANLY F. MINER

Much ink has been used by various writers and authors describing the origin and history of the Jack Miner Bird Sanctuary, but to me the big achievement there has been scarcely mentioned, namely, the catching and tagging of the Canada Goose to study its route of migration in both spring and fall, and to find where it nests and raises its young during the summer months.

It was in 1902 and 1903 that Jack Miner conceived the idea of establishing a bird sanctuary, the first of its kind in Canada, if not on the continent. But not until 1904 was work on the sanctuary actually started, that is, excavations made for ponds, several wing-tipped live decoy geese placed on same, and corn spread plentifully around the banks. Ducks and geese, in a short time, found this to be a place of safety. Both the conservationists and shooters were back of the Jack Miner scheme, because the Sanctuary, taking nothing from the shooters, constantly builds up the hunters' chances a mile away, the bird haven attracting many birds to the community. At the same time the birds became wise enough, when shot at from the property where they were unprotected, to fly back to their safety zone and haven of rest.