

The Farmer's Friends and Enemies.

By A. D. JONAH, Sackville, N. B.

Through reading the REVIEW the writer became interested in the study of bird life and incidentally has been able to interest others in the subject. I knew nothing of birds to begin with. The robin and a few grey birds were my stock in trade. Of the warblers and others of our pretty songsters which add such a charm to summer I knew nothing. Teachers should not plead in excuse that they cannot teach about the birds because they do not know them. Ignorance is no disgrace, but to remain ignorant after we see our ignorance is the real disgrace. Begin with the pupils and let them help you. You will be surprised to find out how much they can help.

In my study of birds I have paid some attention to their economic value to the farmer, gardener and fruit raiser, and in this short article I wish to make one or two points.

How often we hear farmers say that it is harder to grow anything now than it used to be, because the grubs and bugs and weeds are so much more plentiful than they were in times past. Yes, these pests have increased and added to the labour and cost of farming. How many farmers realize that the increase of grubs and bugs are due to the senseless destruction of our birds. An incessant warfare has always been waged by the birds against insects. The latter have increased and will continue to increase in proportion as the former decreases.

Birds are becoming scarcer from three main causes: (1) To gratify the requirements of fashion. (2) Through sport. (3) On account of ignorance.

Let us take up each of these causes as briefly as possible:

(1). How many of us realize the fact that 300,000,000 birds of various kinds are slaughtered annually to gratify the whims of fashion. Think of it! 300,000,000 of "our little brothers of the air" killed to adorn a modern holiday or church-going hat!

(2). Hawks, owls and woodpeckers are shot down "just for fun," and to show "how well I can shoot." These birds with perhaps two exceptions among the hawks, and one among the woodpeckers are useful to the farmer. Hawks and owls destroy field mice which are as destructive as ordinary mice when they become numerous. Woodpeckers destroy the larvae which bore into trees. Besides they destroy many other insects for food.

(3). Through ignorance, farmers and fruit raisers, shoot the birds that they see in their grain fields and orchards. If after shooting one bird the farmer would open its crop he would find a very much larger proportion of grubs and bugs than he would of vegetable food. He would no doubt find some grain, but he would also find a large amount of weed seeds. Would he continue shooting if he did this? The bird was doing good in two ways, eating the grubs that destroy the grain, and eating the weed seeds which will cause more work for the farmer, loss of food and water supply to the growing plants and help smother the young seedlings next year.

Among birds killed through ignorance I will mention only two. The beautiful cedar wax-wing is shot in the spring because it frequents orchards and thus gets blamed for destroying blossoms. It is true that this bird does frequent orchards. It is also true that he sometimes picks the petals, but petals do not produce fruit. These birds are searching for the codling moths, the larvae of which causes the annual loss of many million dollars to the fruit raisers of North America. The codling moth lays its eggs upon the little apple as it stands upright. The larva feed in the newly formed fruit thus arresting its growth and causing it to die before the time of ripening. The larva when its work is done crawls out, forms a cocoon and in about two weeks comes out a moth and begins to lay eggs. (If some wormy apples are placed in a box, the larva will crawl out and you can see it form its cocoon and a little later see the moth without waiting until spring.)

One summer I watched a pair of cedar wax-wings which had a nest in an apple tree. After the young birds were hatched I used to climb the tree several times a day to watch the parent birds feed the young. They soon became accustomed to me and did not show any fear. I was surprised to see the large number of tent caterpillars that the young birds would eat. This caterpillar is one of the most destructive pests of fruit orchards. Most of the readers of this paper have seen their white silky web, or tent, on fruit trees. The tent caterpillar attacks the foliage of the trees.

One fall a friend and I were out near a piece of woods, adjoining a field of ripe grain. The wax-wings were present in large flocks. Several were shot and their crops examined. Nothing but