

these, with few exceptions, are harmless. The question, then, to what extent these purely insectivorous birds are beneficial to the farmer or fruit-grower, reasonably admits of much difference of opinion, for while they do devour a few of our tormentors, they probably destroy a much larger number of beneficial insects, the main bulk of their food, however, consisting of harmless species. Doubtless they serve a purpose in maintaining a proper balance among the insect hosts, and between animal and vegetable life, but that their service in these departments is so all-important as some would urge admits of grave doubt.

The birds of the second division, namely, those which take their food partly on the wing and partly from trees and shrubs, or on the ground, are not entirely insectivorous. The remarks just made in reference to the first class will apply also to this, as far as their food is taken on the wing, but on trees or shrubs, or on the ground, they consume insects of entirely different classes, chiefly beetles and the caterpillars of moths and butterflies. The beetles admit of a similar division to that of the flies already noticed; the larger number are harmless, a large proportion of the remainder are beneficial, and a few are injurious. Most of the caterpillars of moths and butterflies are harmless, feeding in limited numbers on a great diversity of shrubs and trees of little or no economic importance. A few may be said to be beneficial, in consequence of their feeding on troublesome weeds, such as thistles, etc., while a few others are decidedly injurious. Among the common birds in this second class I would mention the yellow warbler or spider bird, *Dendroeca aestiva*; the red start, *Setophaga ruticilla*; the red-eyed, and yellow-throated vireos, *Vireo olivaceus* and *V. flavifrons*; the various species of woodpecker, *Picidae* and the blue bird, *Siala sialis*.

The birds comprised in the third class are only partially insectivorous. Among the common species are the cat-bird, *Galeoscoptes Carolinensis*; robin, *Turdus migratorius*, and brown thrush, *Harporhynchus rufus*; the sparrows, *Fringillidae*; the cuckoos, *Coccyidae*; the nuthatch, *Sitta Carolinensis*; chickadee, *Parus atricapillus*; kinglets, *Sylviidae*; meadow-lark, *Sturnella magna*; Baltimore oriole, *Icterus Baltimore*, and the wren, *Troglodytes aedon*. Besides these there are the blackbirds, *Icteridae*, which in the spring devour more or less insect food, but feed chiefly on grain and seeds during the remainder of the year. Nearly all birds, excepting the rapacious species, feed their young on such soft food as worms, caterpillars, soft-bodied insects and fruit, and, from the time that young birds are hatched until they acquire the power of flight, a very large quantity of insect food is undoubtedly consumed; but the question of the greatest practical importance to the agriculturist is how far are the birds a help in keeping in check injurious insects. With the object of obtaining light on this point, I have, with the help of my son, W. E. Saunders—who has for some years paid special attention to this matter—examined the contents of the stomachs of a large number of birds, and I must frankly confess that the larger the experience gained in this direction the more I have been convinced that but comparatively little help is got from birds in keeping in subjection injurious insects.

When the cut worms were so common with us this spring that any bird with a very little effort might have had its fill of them, the contents of a number of stomachs were examined, especially those of the robin, but not a single specimen of this larva was found in any of them. It has been urged that some birds devour the larvæ of the plum curculio by picking them out of the fallen fruit, but I have failed to find any confirmation of this statement, indeed never found a curculio larva in the stomach of any bird excepting once in that of a robin, who had evidently swallowed it by accident when bolting a whole cherry. As for the robin having any claims upon the sympathies of man for the good he does, I fear that but a very slight case can be made out in his favour. Of fruit he is a thief of the worst kind, stealing early and late, from the time of strawberries until the last grapes are gathered; not content to eat entirely the fruit he attacks, but biting a piece out here and there from the finest specimens, and thus destroying a far greater quantity than would suffice to fill him to his utmost capacity. At the time of writing, flocks of the most pertinacious specimens are destroying the best of my grapes, while alongside is a patch of cabbages almost eaten up with the larvæ of the cabbage butterfly—nice, fat, smooth grubs, easily swallowed, but no such thing will Mr. Robin look at as long as good fruit can be had. His tastes are so expensive that to gratify them is to deprive the fruit-grower of a large portion of his profits, hence the sooner the robin ceases to be protected by legislation the better it will be for all lovers of fruit.

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