

much with its little bubbling song, and exacts such a heavy toll on insect life, will gladly accept a nesting box out of which the sparrows may be kept by hanging it rather low down, and having the entrance hole as small as possible.

'The Purple Martin (*Progne subis*) formerly nested in hollow trees, but the advent of man encouraged it to nest about his domicile. In some parts of the country, I have noticed the fact, particularly in certain sections of New Brunswick, one may see martin houses erected on poles, and this form of encouragement is very successful, although the English sparrows are a constant source of trouble to the rightful owners. The value of the martins and swallows around the house and buildings as insect destroyers is appreciated by all who have encouraged them. The Tree Swallow (*Iridoprocne bicolor*), which nests in hollow trees, is not so abundant in certain sections of Ontario as formerly. Reporting the success of nesting boxes during 1913, Mr. W. E. Saunders, of London, Ont., writes: "Another lot of boxes which were put in place on an island in the Rideau Lakes were a source of actual competition among the tree swallows, there being more pairs than there were nests."

'Two of the woodpeckers may be attracted by the use of nesting boxes. The Flicker (*Colaptes auratus*), which occurs in and around Ottawa, feeds largely on ants; a single stomach has been found to contain over 5,000 ants. In another instance 28 white grubs, one of our worst pests of grass land and certain crops, were found in the stomach of a flicker, which feeds largely on the ground. It also feeds upon wild fruits, such as the wild black cherry. The Downy Woodpecker (*Dryobates pubescens*) is a most valuable ally, as it feeds largely on beetles that destroy trees by boring into the bark and timber. An examination of 723 stomachs showed that 76 per cent. of the diet was animal food, consisting chiefly of insects.

'Reference has already been made to the weed-destroying habits of our native sparrows. One of the first birds to arrive in the spring, breaking the long winter silence with its welcome little song, is the Song Sparrow (*Melospiza melodia*), which is very domestic in its habits. About three-fourths of its food consist of weed seeds and one-fourth of insects. Beetles, especially weevils, form the greater portion of the insect food. A thick hedge, dense shrubs, or piles of logs provide suitable nesting places for this most welcome of our sparrows. The Chipping Sparrow (*Spizella passerina*), whose confiding ways give it a warm place in our affection, has somewhat similar nesting habits to the former. It is, moreover, the most insectivorous of our sparrows. About 42 per cent. of its food consists of insects and spiders, and caterpillars make

up the major portion of the insect food, especially when the young are being reared, when as many as 17 feedings per hour, on an average, for a brood of four nestlings have been recorded. The retiring and sombre Junco or Snowbird (*Junco hyemalis*), destroys insects and feeds on weed seeds. An examination of 500 stomachs gave 23 per cent. animal food (caterpillars, bugs and beetles), and 77 per cent. vegetable food, of which over 61 per cent. consisted of weed seeds. In September the proportion of weed seeds may rise as high as 95 per cent. of the food.

'The greatest exponent of the practice of bird protection is undoubtedly Baron von Berlepsch, and to him we are indebted for the splendid example he has given at Seebach, in Germany. His ideas have been adopted by various states in Germany and in the countries where the protection of birds and the provision of nesting boxes constitute an important and necessary adjunct of forestry methods. An instance, given by Baron von Berlepsch, of the practical value of bird encouragement may be quoted. The Hainich wood, south of Eisenach, which covers several square miles, was stripped entirely bare in the spring of 1905 by the caterpillars of the Oak Leaf-roller Moth (*Tortrix viridiana*). The wood of Baron von Berlepsch, in which there had long been nesting boxes, of which there are now more than 2,000, was untouched. It actually stood out among the remaining woods like a green oasis. At a distance of a little more than a quarter of a mile further, the first traces of the plague were apparent, and at the same distance farther on still it was in full force. It was plain proof of the distance the tits and their companions had gone during the winter and after their breeding time. Similar observations were made during a plague of the same insect in the Grand Duchy of Hesse, where the protection of birds has been carried on in a sensible and energetic fashion for over ten years. Of 9,300 boxes hung up by the government in the State and Communal woods of the Grand Duchy of Hesse, 70 to 80 per cent. were occupied in the first year, and in 1907 all were inhabited. On and near Baron von Berlepsch's Seebach estate, 90 per cent. of 2,000 nest boxes in one wood were occupied, and nearly all of 500 and 2,100 in other localities. In Hungary similar measures are taken, largely owing to the admirable work of Otto Hermann, one of the foremost European advocates of bird protection.

'Some years ago, when investigating the depredations of the Larch Sawfly (*Nematus erichsonii*), in the English Lake district, I was impressed with the value of birds as natural means of control, and as birds in the worst infested district, namely, Thirlmere, were not so abundant as they should have been, it was recommended that they