INSECTIVOROUS BIRDS.

Are they beneficial to the farmer and fruit grower?

SIR. - In the Eleventh Annual Report of the Entomological Society of Ontario, the President, Wm. Saunders, in is annual address, states his conviction that but comparatively little help is got from birds in keeping in subjection injurious insects, and having examined the contents of the stomachs of a large number of birds, he has only found occasionally an injurious insect therein. He mentions the swallows, HIRUN DINIDÆ; kingbird, Tyrannus Caroliniensis, pewce, Sayornis fuscus ; nighthawk, Chordedes ; yellow warbler, Dendroica asliva ; red start, Septophaga ruticilla ; red eyed and yellowthroated virios, Virio olivaceus; and V. flavifions; wood-peckers, PICIDÆ; blue bird, Sialia scales; cat-bird, Salcoscoptes Caroliniensis; brown thrush. Harpor hynchus rufus; sparrows, FRINGILIDÆ, cuckoos, Coccubæ, nuthatch, Suta Caroliniensis; chickadee, Parus atricapillus; kinglets, SYLVIDE , meadow-lark. Sturnella magna , Baltimore oriole, leterus Baltimore; wren, Troglodytes ædon; black-birds, ICTERIDÆ; and especially the Robin. Turaus migratorius, as a great fruit thief, de-troying a far greater quantity than it would eat, therefore, should not be protected by legislation. I trust the above extract will induce readers of the Canadian Sportsman and Naturalist to give their experience respecting the usefulness of Insectivorous birds to farmers, fruit-growers. and gardeners. E D W.

The above named birds are all insectivorous, but the question regarding their being beneficial to agriculture is a matter which we have always contended, was overstretched. Mr S. A. Forbes, an American naturalis, has examined the stomaches of 15? birds of the Thrush family, with quite unexpected results. "Forty one of these were Robins; thirtyseven Cat birds; twenty eight Brown Thrushes, eight Alices Thrushes; six Swainson's Thrushes, and one Wilson's Thrush. They were shot in various months from March to September and during four successive years. The number of specimens is. of course, too small to allow conclusive generalization ; but as no equal number of specimens has been previously studied with equal care, it will probably be fair to state some of the result as hypotheses, more or less prob ble, but requiring verification by further study. The most fruitful peculiarity of the method used was the careful estimate, for each specimen (after a critical microscopical examination of the contents of the stomach), of the relative amounts of all the elements of the food, and the subsequent averaging of these ratios for the species. By this means I determined the hitherto unsuspected fact that the family is mordinately destructive to predacious beetles (HARPALINI), seven per cent of the food of the 1.0 specimens consisting of these highly beneficial insects. When we remember that one predacious insect must desiroy many times its own bulk of other insects during its life, we see the importance of this fact in respect to the economical value of these birds. Between the TURDIDÆ, and other families, I can make only the following crude comparison. Of the 150 Thrushes examined, forty-six per cent. had taken CARABID.E., while of 194 birds of other families in whose stomachs insects were found, less than five per cent. had eaten these Colcoptera. The worst sinner in this respect was the Hermit thrush ; while the Alice thrush and the Wood thrush had caten comparati vely few. Curiously, the ratio of CARABIDÆ continued undiminished during the fruit season when the total of insect food fell away very rupidly. For example, the Cat birds ate in May, June and July, eighty seven per cent., sixty four per cent., and eighteen per cent., respectively, of insect food, while the CARABIDE for those months averaged seven per cent., six per cent., and ten per cent., the corresponding fruit record standing nothing, thirty per cent, and seventy one per cent. rendering the animal lame. The principal use of the shoe is

The following genera were distinguished among the CARABIDÆ Scarites, Dyschirius, Platynus, Evarthrus, Pterostichus, Amara, Brachylobus, Geopinus, Agonoderus, Anisodactylus, Bradycellus, Harpatus, and Stenolophus. The absence of all, or nearly all, the specially protected genera is noticeable (unless the obscure colour of many is reckoned a special protection.) A single Cicindela (C. lecontei) was found in the stomach of a Cat bird. It is further interesting to notice the apparent specific difference in the food of allied species, occupying the same ground at the same time, and drawing their food from the same sources of supply. The Robin and the Cat bird differed materially in the number of ants and myriopods destroyed, the former eating very few of either (one per cent. and two per cent. respectively) The Brown thrush departs from all the other members of his family in his fondness (perhaps it is stern necessity which forces him to this miserable shift) for insects and fragments of grain picked from the droppings of stock. Twenty-eight per cent. of the food of those shot in April was derived from this source, and another eight per cent. consisted of carrion beetles (SILPHIDÆ). This bird was further distinguished from the Robin (as is the Cat bird also), by the absence of the larva of Bibo albipennis, Say, which made over half the food of the Robin in March. It is important to recall, as throwing light on the question of fixity of food habits over large areas, that Professor Jenks, now of Brown University, found nine tenths of the food of a large number of Robins. whose stomachs were examined by him in Massachusetts, in March and April, 1858, to consist of this same larva."

The above particulars and conclusions will serve to give some idea of the interest and promise of this subject, if it is studied with as near an approach to the strict scientific method as the circumstances will permit.

Canadian Sportsman and Naturalist.

Montreal Fish and Game Protection Club.

Sir,-You will confer a favor on the members of this Club if you will be kind enough to expose the enclosed notices in a conspicuous place in your school; the Club would also be under a further obligation if you would point out to your pupils the cruelty of destroying the birds which frequent our fields and orchards during the summer season, or of disturbing their nests, as well as the injurious results to Agriculture and Horticulture which arise therefrom.

The immunity from the rayages of caterpillars and destructive insects which this district has enjoyed during the past two years, is in a great measure due to the increase of insectivorous birds which has taken place since the law for their protection was passed. It is to be hoped that soon such a healthy and enlightened public sentiment will exist on this subject, as will effectually protect at our small birds from molestation, this can most successfully be brought about, by instilling into the minds of the young a sense of the cruelty and impolicy of injuring creatures which are at once so I am, Sir, beautiful and so useful.

Your most obedient Servant,

W. H. RINTOUL, Sec.-Treasurer.

VETERINARY DEPARTMENT.

Under the direction of D. McEachran, F. R. C. V. S., Principal of the M-intreal Veterinary College, and Inspector of Stock for the Canadian Government.

The management of the Horse's Foot, and Horse-shoeing.

The object of applying an iron covering to the foot, is to protect the hoof from the effects of friction. The horn of the hoof, though admirably adapted for resisting wear and tear, on his native prairies or hillsides, when exposed to the hard rough surface of a macadamized road wears and breaks, so as to expose the sensitive structure which it covers to injury -