their eggs is an injury to the owner of the land, more particularly in the spring of the year, when birds principally feed upon the eggs of insects. The agriculturists of France are demanding protection for birds at all seasons of the year: we propose contenting ourselves with a demand for protection during the breeding season only."

The destruction of all birds, excepting game to eat, has been prohibited in many of the small German States, on the Rhine, and in parts of Germany. The motives urged are these—wherever the farmers have killed the rooks, jays, and even sparrows, the crops have been less than where they had been unmolested. Very able naturalists have examined this, and have reported that the vast quantity of noxious vermin which the birds destroy, greatly exceeds the small quantity of grain they destroy in searching for the insects on which they feed. Investigation in this country has developed the same fact. The destruction of the birds gives hosts of insect tribes a chance for life, and those feed upon the crops and cause a far more general destruction of fruits, vegetables and cereals than is occasioned by the birds themselves. Now that the Spring has come, and with it the time of the singing of birds, measures should be taken to protect these warblers from murderous attacks of boys. They greatly enhance the beauty of our scenery by their lively, graceful motions and beautiful plumage; and it is delightful to listen to their singing. They are also exceedingly useful in picking up noxious insects and caterpillars. We should, therefore, as a community, consider it a very great privilege to have them; and if we do not protect and cherish them, at all events nothing should be done to drive them away or destroy them.

The people of Australia have gone to a very great expense to import singing-birds, which they have set free in various localities to multiply and render their woods and gardens vocal; and doubtless we would go to a similar expense if we did not enjoy this advantage gratis. In Australia one would no more think of shooting a singing-bird than a lamb or a colt; but in Canada much time and powder are bestowed on hunting down our warblers.

Were the birds of any use when shot, there might be some little excuse; but they are none whatever; and the act of shooting them is mere wanton destruction.

In the New England States, singing-birds are protected by law, which is particularly enforced at the breeding season; and thus it should be everywhere, for thoughtless or mischievous persons have no right wantonly to destroy what ministers so much to the pleasure and profit of society.

In a lecture on Natural History, delivered a year or two since in Barrie, Rev. Professor Hincks thus refers to this subject: "The wanton destruction of birds, which devote their lives to our interests, such as swallows, and others which only threaten us with injury for short periods, and by taking advantage of their natural timidity may be kept from doing us much damage; the best of their time is employed in destroying the farmers' worst enemy. By understanding the history and habits of those animals which destroy our crops and injure the domesticated animals, as well as the nature of the means to be employed in exterminating them, and by knowing the nature of the diseases which attack our vegetables, we are much better prepared to defend our property, less likely to be robbed of the fruit of our labours than if we continue to be the victims of our own ignorance, and are plundered without knowing how to help ourselves. Surrounded by so many beings, both animal and vegetable, which may be made, by ignorance of their properties, to become injurious to us, we should aim at acquiring a knowledge of these, so as to render them on the contrary beneficial.

Mr. Wm. Couper, an amateur entomologist, lately of Toronto, but now we believe in Quebec, thus writes to the editor of the *Quebec Chronicle*, 10th September, on the subject:—

"Since July last, the caterpillars of a destructive moth have appeared in various parts of North America (more confined to the northern than eastern sections), devouring several useful branches of agriculture. This is easily accounted for—the insect has been always in these parts, but happens to be more productive this year. A caterpillar is the product of an egg, the caterpillar being the cradle in which the future moth is being carried about. This reptile form feeds with powerful jaws until such time as the internal animal says—stop, when a change takes place, and this becomes a new form called chrysalis, from which, after a lapse of time, bursts a Lepidopterous moth, which is the product of what is vulgarly called the army-worm. It may be single or double brooded during the year. In Canada, for instance, the butterfly called the Camberwell Beauty (*Vanessa Antiopa*) produces two broods of the caterpillar during the warm months, while it is very rare in Europe, yet it serves to illustrate climatical influence on animals, no matter what natural rank they hold. To produce such multitudes of caterpillars, it is probable that each parent moth will deposit 800 eggs per annum if single brooded, and twice that number if double brooded. Insects of the Lepidopterous order are liable to be diminished in the *imago* or perfect state; in the *ova* or egg state; in the *larva* or caterpillar state, and in the *pupa* or *chrysalis* forms by influence of climate, such as heavy rains, severe frosts, unusual strong winds; by the failure of their natural food plants; by being taken up as food of young Insectivorous birds,—but the great natural check is caused by insect parasites and severe low temperature. It is therefore probable that the caterpillar, which is so prolific this year, may be, through these causes, greatly decreased in 1862.

"All our small wood-frequenting birds feed their young on insect larvæ, but adult granivorous birds do not. Crows, Grakles, and the Cedar Bird of America destroy the large larvæ of moths and beetles, while at the same time they will overbalance this good by evil, in destroying useful fruits. Such minute insects as *cecidomyia tritici* or *c. destructor* are not molested by birds, but are kept in check by insects of benefit called by entomologists ichneumon flies, &c.

"Through the kindness of a brother entomologist, I have before me the plea of M. Marshal, ex-Deputy of La Meurthe, the Agricultural Society of Toulon, the Acclimatization Society of Nancy, and of M. P. Schœffer, requesting the French Corps Legislatif to take steps for the preservation of those birds that destroy insects detrimental to agriculture. In these petitions, it is stated that 300 species of birds lay their eggs in France, and these are divided into three classes—1st. Noxious, or birds of prey; 2nd. Granivorous, or grain-eating birds, including the omnivora, or species which subsist on animal and vegetable food; 3rd. Insectivora, or insect-eaters. About 200 of these consist of rapacious, gallinaceous, and sub-aquatic or pelagic birds, leaving but 100 species, consisting of omnivora and insectivora, to protect ravages of insects.

"Many of the land-frequenting birds of France change their places of abode annually, and we see the same occurrence taking place in America. As none of the insectivorous birds of France visit this country, I will now dwell on those that do, and I think that, on the whole, the species has been increasing instead of decreasing in America. Wilson studied the birds of North America in 1814, and gave us 283 species; Bonaparte, in 1838, discovered 471; Audubon, in 1844, studied deeply and worked out 506; the Smithsonian Institution published, in 1858, the result of their labours in ornithology, giving us 716, with extra-limital species. Thus it will be seen that instead of the species decreasing in America, the course of nature has been otherwise. The great majority of our little birds (warblers) arrive here in spring, remain a few days, and pass on to the Hudson's Bay Territory, where they bring up their young, returning to southern latitudes as cold approaches. This group, consisting of about 30 species, are all insect-eaters, but confine themselves to dense forests. The actual fly-catchers that remain with us are few in species, and invariably wood-frequenters. The thrushes are also meagrely represented in this latitude, and I often wonder why this is so, as there is no lack of terrestial shells and aquatic insect larvæ on which they feed. The woodpeckers are all insect eaters, always on trees, picking out the grubs of beetles on which they subsist; hence they may be considered useful in protecting standing timber. The golden-winged woodpecker is a good example of this class—he can either climb trees, or search on the ground for food, and it is interesting to notice one of these birds attack an ant-hill early in spring; he chatters a peculiar song, while with a quick motion of the head it picks up the unfortunate ants, and I have known as many as 600 taken from his stomach. We have also the Nuthatches, Creepers, and Titmice or Chick-a-dee-dee, which are dependent on insects for food, but they are all confined to the forests—all are isolated from civilization. Now, the birds that follow civilization are the omnivoras, such as Crows, Blue Jay, Canada Jay, Cedar Bird, and a few others; the granivora consist of Sparrows and Buntings, which are always in fields and in them rear their young. This is not a reverse of nature, for we cannot compel wood-frequenting birds to follow cultivation, nor can we force granivorous species to the woods.*

eminent writers as deserving of all the imputations which had been cast upon it. It is accused of flying upon goats and sucking them, the result being that the teat would soon after become dry, and the animal blind. It is also accused of inflicting a fatal distemper on weaning calves, should it happen to strike them when in quest of the insects with which these animals are infested. The study of the night hawk's real habits, however, has removed these erroneous opinions.

"In Virginia this bird is called a 'bat,' probably from his nocturnal habits. It is a bird of strong and vigorous flight, and is often seen in our woods and fields darting about in search of the insects on which it feeds.

"We have another species of this genus, the Whip-poor-will, which is frequently confounded with it, although different in its appearance as well as habits. The Whip-poor-will is a solitary bird, being usually found alone in high, dry situations. The night hawks fly in large flocks, and are usually found near marshy places."

* Although Mr. Couper's views as an Entomologist may be valuable, his statements as an Ornithologist are apt to mislead. He says that "the thrushes are meagrely represented in this latitude," &c. We have six different species in addition to the robin (*Turdus migratorius*), which belongs to the same genus. He also states that "the nuthatches, creepers, and titmice are confined to the forests," and that they are all "isolated from civilization." I am surprised at this assertion, for each of these beautiful and active little birds are well known frequenters of our gardens, and the groves in the environs of our cities and towns, and I may venture to say are oftener seen in the aggregate than those referred to as followers of civilization.

In the fall and winter the chickadee not only frequents our gardens, but the wood