No. 3.

History, Progress, Habits, Description, &c., of the Beetle.

The following account of this destructive insect has been compiled chiefly from the enclosures to the foregoing letters, with the view of impressing the importance of arresting its introduction into the colony. In order to facilitate the recognition of this pest the accompanying plate has been prepared, showing the insect in all stages of its development, the adult form being drawn from specimens collected by Dr. Hector, in America, during the summer of 1876.

History and Progress of the Beetle in America.

All authorities seem to agree in fixing the original home of the potato beetle (*Doryphora decemlineata*) in the District of Colorado, United States, but it is probable the insect had a wider distribution before it was first noticed on its march eastward. In proof of this, specimens of this beetle have been in the Colonial Museum, Wellington, for several years, and ticketed as a native of Mexico, under the name of *Polygramma lineata*.

Quoting from Dr. R. Brown: "It is more than fifty years since Say found this beetle feeding on *Solanum rostratum*, a poor relation of the edible potato, (*Solanum tuberosum*), growing on the eastern slopes of the Rocky Mountains. It was not, however, until about sixteen or seventeen years ago that it first became notorious. Just then Colorado and some other states and territories on the Rocky Mountains began to be settled up and potatoes cultivated; then it was *Doryphora* appeared in all the native viciousness of its character. It deserted the wild *Solanum* for the cultivated one, and began to commit immense havoc in the potato patches." Moving eastward on the line of potato cultivation, and in an opposite direction to the settlement of the country westward, the devouring host had reached, in the year 1859, within one hundred miles of Omaha City, in Nebraska; in 1861 it appeared in Iowa; in 1865 it began to devastate Missouri, and crossed the Mississippi, in Illinois; in 1868 it had reached Indiana; in 1870 Ohio and the confines of Canada were reached, as also portions of Pennsylvania and New York. During 1871 a great many of these bettles covered the River Detroit, in Michigan, crossed Lake Erie on floating leaves and similar rafts, and shortly took possession of the country between St. Clair and Niagara River. Week after week its progress was reported with as much care, and, indeed, more general interest than that of an invading army, until it had been found in every potato-growing state or province from Canada to the southern limits of the United States. In its travels it was the most accommodating of insects. It would go afoot or fly, take a lift in an emigrants' wagon, or dead-head itself in a Pullman car; it would nestle in a soldier's knapsack, or travel with other insect allies in an Indian's blanket. It travelled in ten years at the rate of eighty miles or so per annum, and endured all the vicissitudes of climate which 40° below zero in winter and 100° in the shade in summer may express. Worst of all, when it travelled, its tastes in plant life extended, and although, unhappily, still retaining the potato in its bill of fare, it added to it a number of other plants, chiefly of the solanaceous order, such as the egg plant and tomato; but that it will restrict its depredations to plants of this order need not be expected with such a voracious insect; in fact, an Illinois writer says on this subject, "Incredible as it may appear, it has established itself in the cabbage garden as readily as the potato field."

Having reached the Atlantic seaboard of the United States and the Dominion of Canada, *Doryphora* appears impelled by some strong instinct to pass further east, in defiance of the Atlantic Ocean, swarming in the streets of the seaports, covering the wharves and jetties—most unlikely places for food—and crawling into vessels as if determined to force a passage to other fields and further conquest. *Doryphora* was seen on board ships thirty miles at sea, in such abundance that the hatches had to be shut down to keep it out. The New England sea-shore is also in places frequently marked by a long bank of the bodies of the beetle, washed up by the waves and tainting the air, thus proving attempts at crossing the Atlantic by flight.

The memorandum of the Canadian Minister of Agriculture, upon reference to a despatch of the Secretary of State for the Colonies on the subject of the Colorado beetle, gives a lively description of the situation in towns, as follows:—

"It may be considered an almost insoluble problem, in regard to transatlantic ships' traffic, to prevent by more extensive supervisional measures the introduction of those beetles in Europe. Not only does it move by flying and by navigating, so to speak, smooth water, but also travels on common vehicles, railway carriages, and platforms, or decks of vessels, &c., especially during the months of August and September."

In localities fully invaded, the beetle may be seen creeping on side-walks, bridges, and wharves, crawling up buildings, occupying fences, lodging themselves in every crevice, penetrating houses and dwellings, ascending and occupying vehicles of all sorts, finding their way into boats and vessels, placing themselves on any and every article, and being found alive after a long sojourn in situations where there would seem to exist no chance for them to find any subsistence.

Description of its Habits.

Quoting from an Illinois writer: "The devastations of the Colorado beetle are all the greater from the fact of its propagating itself with extraordinary rapidity, several broods following each other in the course of the year. The first batch of infant larvæ appears towards the end of May, or if the weather be mild of April. In fact, scarcely has the potato plant shown itself above the ground, before the insect which has been hybernating during the winter, also wakes to life. The female loses no time in depositing from seven to twelve hundred eggs, in clusters of twelve or thirteen, on the underside of the leaf. Within five or six days, according to the state of the weather, the larvæ escape from the egg and begin