

that an unskilled observer would scarcely imagine that the four varieties in Fig. 33 were one and the same species. It has fifteen black spots on its brownish wing-covers.

*Chilocorus bivulnerus* is commonly called the twice stabbed lady-bird; it is a highly polished black beetle, with two yellow spots. It is very obese.

Perhaps the most simple plan by which to enumerate the benefits arising from the existence of the lady-birds, will be to take *seriatim* the insects upon which they are known to feed: we will begin first with the

*Aphidæ* or *plant-lice*.—As is well known, many of our fruit trees and flowering plants are sometimes seriously injured by the work of the minute and innumerable plant-lice. The hop is subject to the attacks of the hop aphid (*Aphis humuli*, Curtis) and so great is the ruin caused, that Kirby and Spence state, in speaking of its ravages in England, "The hop grower is wholly at the mercy of these insects; they are the barometer that indicates the rise and fall of his wealth, as well as of a very important branch of the revenue—the difference in the amount of duty on hops being often as much as £200,000 per annum, more or less, in proportion as the fly prevails or the contrary." In this country, fortunately, the ravages of this *Aphis* do not appear to have been as serious, although many an acre of fine healthy hop plants have been scoured by these creatures, causing entire loss.

Wheat, oats and other grain are frequently attacked by the grain aphid (*Aphis avenæ* Fabr.) an insect pest introduced into this country from Europe. The cherry-tree suffers from the *Aphis cerasi*; the apple-tree from the *Aphis mali* on its tender leaves, and the *Eriosoma pyri* at its roots; the currant bushes from *Aphis ribis*; the cabbage from *Aphis brassica*. Besides these, and many other plants living out of doors, conservatory and hot-house plants do not escape the ravages of plant-lice.

It is the enormous rate of increase of these tiny creatures that surprises all who have had the care of plants; and which renders all artificial remedies of little value except in narrow limits. We may have an idea of the enormous fecundity of these creatures from a calculation by Curtis, a celebrated English entomologist, who computed that from one egg only, there would be produced in seven generations, taking thirty as the average of each brood, the enormous number of seven hundred and twenty-nine millions, so that were all permitted to live, everything on the face of the earth would in a short time be covered with them.

Before this inconceivable increase artificial remedies would avail little, but fortunately the natural enemies of the aphidæ are legion, and among the most valuable of these are our pretty little Lady Birds. As we have seen before, the female Lady Bird places its eggs among the plant-lice, and the larvæ as they grow live upon them, devouring great numbers.

Dr. Fitch relates an amusing story of a mistake which was made by one of his neighbours, whose rose-bushes were grievously invested by plant-lice. He complained, we are informed, to the doctor, that although he took the greatest pains to go over the infested bushes every morning and destroy all the "old ones," yet that his bushes were ten times as badly injured by plant-lice as those of his neighbours, who took no pains at all to war upon the enemy. On examination it turned out, that the worthy gentleman had occupied every morning in killing off all the Lady Bird larvæ that he could find, supposing that these were the mothers of the plant-lice, and that he should thus nip the evil in the bud. In other words, he had fired into the ranks of his best friends, and allowed his enemies to march where they would, and increase and multiply at discretion.

We hope none of our readers may make the same mistake, but will cherish the presence of these little beetles among their favourite plants.

The next insect pest preyed upon by our friends is that terrible scourge of grain growers, *The Chinch Bug*.—This voracious creature, known to entomologists as *Micropus leucoplerus*, Say, is perhaps more dreaded by grain-growers throughout America than any other of the insect enemies he has to fight against, because its work of destruction is complete. From Riley's Second Annual Report for Missouri we learn that four species of Lady Birds are known to feed on Chinch Bugs, these four are *Coccinella munda*, *Hippodamia maculata*, and two species of the genus *Scymnus*. In this report Dr. Shimer records that in a particular field of corn, which had been sown thick for fodder, and which was swarming with Chinch Bugs, he found that the spotted Lady Bird (*C. munda*) could be counted by hundreds upon every square yard of ground after shaking the corn, but the Chinch Bugs were so numerous that these hosts of enemies made very little perceptible impression among them. Notwithstanding the apparently small amount of good done in some cases, it is the duty of the intelligent