

## NATURE STUDY OF ANIMALS.

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## Beetles.

In Fig. 1, is pictured one of our ladybird beetles. Several different species of ladybirds are often seen on warm days, even as late in the year as this, around gardens and fields, and even

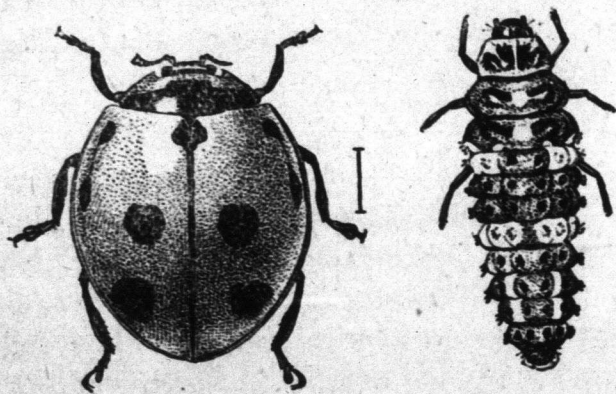


Fig. 1. The nine-spotted ladybird-beetle,—adult and larva.

about our houses. They are all much alike in general shape, vary but little in size, and in color are generally red or yellow with black "polka dot" spots, or black with white, red, or yellow spots. The number of spots varies according to the species, one of the most common having two black spots and red wing-covers, but some having as many as fifteen spots are frequently found.

Collect ladybirds. How many species do you find in your locality? Do not hold them prisoners very long, for they are on a very important mission at this time of year—that of selecting a home for the winter. These beetles hibernate during the winter in cracks and crevices around trees, stumps, fences and buildings. Account for their presence in our houses during the fall and winter. The writer has frequently found specimens flying about his study on winter evenings.

All the grades should receive instruction in the identification, the life habits, and the beneficial work of ladybirds. To make pupils familiar with these little creatures is to make sure of their interest, sympathy and protection. Some housekeepers also should receive instruction, for it is a common error to classify ladybirds, when found in the house, as "buffalo bugs" and to treat them accordingly.

In the October REVIEW, reference was made to the work of ladybirds in preying upon aphids,

plant lice. It may be of interest to know that an Australian species, imported some years ago, has saved the orange groves of California, through its power to keep in check the cottony cushion-scale; and at the present time experiments are being made to combat the San Jose scale with an imported Asiatic ladybird. The larva of the ladybird is seldom found at this time of year, but was common all through the summer and autumn on plants infested with aphids or other insects upon which it preys. A twig of any plant covered with aphids in June or July, will be likely to show ladybirds in all stages; the familiar form of the adult beetle, and the clustered yellow eggs; the alligator shaped larva, with its red or yellow spots and warty spines, and the angular pupae suspended from leaves and twigs by their tails. Take this as a suggestion for summer nature-study.

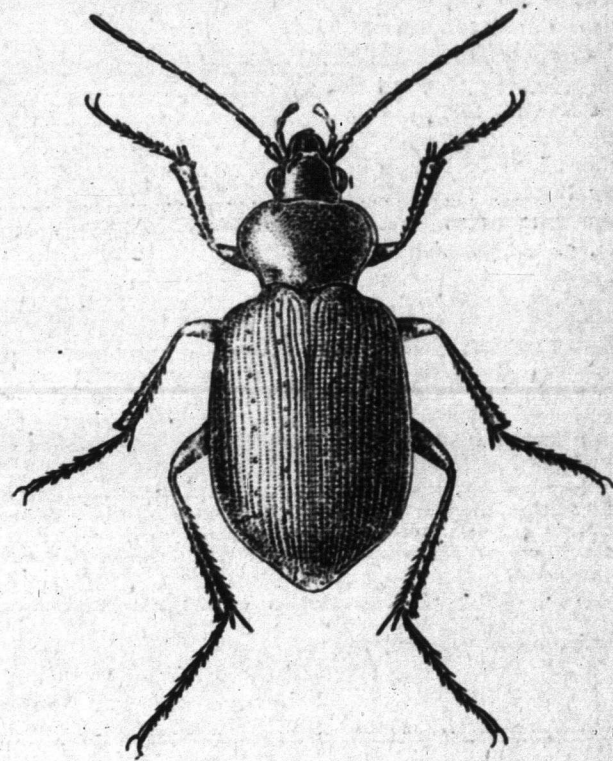


Fig. 2. European ground-beetle (*Calosoma sycophanta*) imported to prey on the gipsy and brown-tail moths.

Ground-beetles also are to be numbered among beneficial insects, and are of special value in protecting our gardens. They are shy insects and are often found in hiding under stones, bits of boards, rubbish and leaves. When exposed, note how rapidly the larger long-legged beetles get away. They are well fitted for chasing and capturing smaller insects upon which they prey. The larvae are also predaceous, and are said to feed on cutworms.

The Searcher (*Calosoma scrutator*) is our