

FIG. 84.

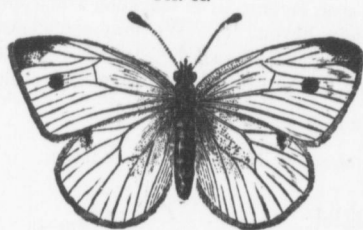
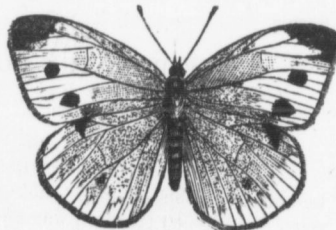


FIG. 85.



at the tip of the fore-wings; both sexes have a black spot on the front margin of the hind wings. Occasionally specimens of the male are taken, of a pale yellow colour instead of white.

The butterfly, which emerges from the pupa state in early spring, lays its eggs shortly after its appearance, singly on the under-side of the leaves of the food-plant. From these are soon hatched out the larvæ,—tiny green caterpillars, which eat voraciously, and grow rapidly till they attain to a length of about an inch and a half. When full grown they are of a pale green colour, finely dotted with black, and have a yellowish stripe down the back, and another along each side (Fig. 86, *a*). Unlike the larvæ of several other species, this caterpillar attacks not only the comparatively worthless outer leaves, but bores down into the very heart of the plant, and thus renders the cabbages quite unfit for food. When ready to assume the pupa state, the creature leaves the plant upon which it has been feeding, and crawls away in search of some sheltered spot, such as the underside of a stone or plank, or projection of a fence or building. Here it suspends itself, with a silken girth around the middle, and a knot of silk at the tail, and turns into a yellowish or pale green chrysalis, speckled with black (Fig. 86, *b*). In this condition it remains for about a week, and then emerges as a perfect winged butterfly. A fresh batch of eggs is then laid, more caterpillars appear, and so the round of existence goes on. There are at least two broods in the year, and probably more; the last brood of the season spends the winter in the chrysalis state.

FIG. 86.



The remedies that may be employed for the purpose of keeping this pest in check, are very few in number, and by no means effectual. Paris green, that is employed with so much success against the Colorado Potato Beetle, and white hellebore, the specific for the Currant-worms, will destroy the Rape Caterpillars also, but with the decided disadvantage that the poison is sure to get inside the leaves of the cabbage-head, and to render the vegetable unfit for food. No one, certainly, would like to get rid of the caterpillars by providing "death in the pot" for himself and his family. There are other substances, however, such as the various compounds of cresylic acid, which are free from poisonous qualities, that may be used with advantage. The numbers of the foe may be further checked by catching and killing the butterflies as soon as they issue from the chrysalis, and before they lay their eggs for another brood. The chrysalis, also, should be searched for and destroyed. This is probably all that can be done in the way of artificial remedies.

When we can do so little ourselves to get rid of a pest, we turn anxiously to nature for a remedy. In Europe several parasites have long been known to attack this insect, and to keep it somewhat within bounds, but on this side of the Atlantic they were looked for by entomologist and gardener in vain. Very lately, however, the hoped-for friend made his appearance, in the shape of a tiny ichneumon—the *Pteromalus puparum*, of Linnaeus—which has been observed in Vermont, at Boston, Mass., and Albany, N. Y. The credit of its first discovery in America is to be ascribed, we believe, to a young lad, son of a well known entomologist, Mr. P. S. Sprague, of Boston, Mass. He gathered, his father wrote us, about fifty chrysalids, every one of which was infested, as many as forty specimens of the parasite coming from a single one. This friendly insect is a tiny four-winged fly, about one-eighth of an inch long, with a golden-coloured body, and, in some cases, a brilliant green head. The female walks over the chrysalis, feeling with her antennæ for a suitable place for the insertion of her ovipositor, and when found, she drills a hole through which to lay her eggs; the process oc-

AGE.

Mamestra picta,
brassicæ, (Riley).
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