

of these blotches on each segment. The Western Tent Caterpillar (*C. Californica*) is found in British Columbia and closely resembles *C. Americana*. The two eastern species differ in their habits. They are both found in orchards, but *C. Americana* forms in the fork of one of the small branches a tent-like web into which the caterpillars retire when they are not feeding, while *C. disstria* (Figs. 9 and 10) weaves a silken mat on the side of the tree to which the whole colony returns to rest. From these nests silken paths lead up all the main branches to the foliage. As the caterpillars approach maturity they take to wandering extensively, and as I noticed during the last summer they can traverse long distances. I have frequently observed in the same nests specimens of the two species of all sizes, a somewhat remarkable fact, considering the difference in their habits.

The western species was sent to me by Dr. Trew, of New Westminster, who states: "I send you some specimens of one of the pests of apple trees in this province, nor are its ravages confined to the apple, as the parent moth will lay its eggs on the twigs of plums, pears, roses and even raspberries at times; but the apple is its favourite, and so far as my observation goes, Russets and Red Junes are preferred, perhaps because of earlier foliage; although Pearmain is early they seem to escape visitation."

Remedies.—From the regular habits of these caterpillars, retiring to their nests when not feeding, they are, with a little care, comparatively easily dealt with, when they do not occur in overwhelming numbers.

During the winter all egg masses, which can then be easily seen, should be removed.

If this be not done the conspicuous nests of the American Tent Caterpillar should be cut off as soon as observed and destroyed.

The Forest Tent Caterpillars, which generally rest in masses on the trunks of trees, can be either crushed with any hard instrument or they may be swabbed with a mop dipped in coal oil.

During last summer an experiment was tried of puffing Pyrethrum powder into a nest of the American Tent Caterpillar, which was in the fork of a small apple tree in my garden, and a few of the caterpillars were killed. The larger number, however, remained perfectly still in a lethargic state inside the web for over a week. After that time they gradually began to recover and all left the nest, and two days later I found several of them, still thickly covered with the powder, on some raspberries about 60 feet distant, apparently none the worse either for their fast or for the powder.

This remedy then is not practically useful for these caterpillars.

Paris Green, sprinkled over the foliage where they were feeding, gave much more satisfactory results.

The Oyster-shell Bark-louse (*Mytilaspis pomorum*, Bouché.)

Attack.—Minute insects furnished with a beak and protected by a waxy scale, which is about $\frac{1}{10}$ of an inch in length and shaped like an elongated oyster-shell. Fig. 11. The young lice are hatched in spring, and are active for a few days. They then migrate to the young shoots of the apple, and inserting their beaks into the bark, remain there for the rest of their lives. They are gradually covered with the scale from which they take their name, and which is exuded from their bodies in a soft state as they grow. Under it the eggs are laid, after which the mother insect dies.

This pernicious insect is now found injuriously abundant in every Province of the Dominion. From its insignificant appearance and small size it is frequently overlooked; but there is no doubt that it does an immense amount of injury in our apple orchards.

Remedies.—There is only one annual brood of this insect in Canada, and the young lice emerge from the protecting scale about the 1st of June. This is the time they are least protected, and the greatest efforts should be put forth to reduce their numbers. By reason of their protecting scale, they are very difficult to treat with insecticides during the greater part of the year, few substances being sufficiently penetrating to reach them be-



Fig. 11. neath their scales. The most effectual remedies have been found to be