

trees and shrubs: Apple, plum, pear, wild red cherry, grape, currant, rose, maple, poplar, ash, birch, and various others.

In order to combat this scale, it is first absolutely necessary that one should be well acquainted with its life-history.

*Life-history.*—This minute insect, found upon the bark of the small twigs and also upon the branches and trunks of the above-mentioned trees, is readily identified by its oyster-shell-shaped scale, about one-sixth of an inch in length. It is of a brown colour, and, thus disguised by the bark, is not seen unless by close observation. Usually a good many are clustered together, and their shape is so marked that orchardmen should soon recognize them. These scales sometimes cover twigs and large branches completely; even the leaves are often infested, and sometimes the fruit itself becomes more or less covered. Last year the fruit on several Maiden's Blush apple trees grown in the orchard of the O. A. C. was noticed to be affected by the scale. This, however, is the exception rather than the rule.

This insect is one-brooded, and winters over in the egg stage. The eggs can be easily seen if at any time in the fall or winter the old scales be lifted up and examined beneath. Numbers of very small whitish-yellow eggs will be seen. Here beneath this oyster-shaped scale they remain until early in the summer. The young yellow lice escape from the eggs during the last week in May and the first week in June; that is, in the vicinity of Guelph. They wander for a few hours, or a few days, on the limb, then settle down and secrete a scale. They fix themselves upon the tender bark, which they pierce with the beak-like structures connected with their mouths, and by means of which they are able to suck the sap from the tree. The larvæ moult, or shed their skins, twice in the course of their growth during the summer. These moults can be readily seen on the narrow end of the large scale. The adult female dies soon after the laying of the eggs, about 50 in number, in the fall. They may be spread from tree to tree to some extent by birds, and also by other insects.

Such is the life-history of the Oyster-shell Bark-louse, and before entering into a discussion as to the best means to adopt for its eradication, it will be as well to briefly mention and describe one or two other species of the commonly-occurring scales which most closely resemble it, and to point out the differences for this purpose cuts are given with the various scales.