

"Soft soap reduced to the consistence of a thick paint by the addition of a strong solution of washing soda in water is perhaps as good a formula as can be suggested; this, if applied to the bark of the tree during the morning of a warm day will dry in a few hours and form a tenacious coating not easily dissolved by rain."

Some of the fruit growers in the Annapolis valley, who have considered this matter, state that the beetle attacks perfectly sound and healthy trees.

Mr. W. H. Hartwick, of Canard Station, Nova Scotia, "found them in young and perfectly sound trees." Mr. F. C. Johnson, of Port Williams Station, gives the same testimony: "I detected them first in a sound healthy tree by seeing the sap flowing from the wound. I plugged the hole up and stopped the attack." It is probable that the beetle was here killed by the plug. Mr. J. L. Gertridge who has studied this pest closely is positive that he has found them in both old and young trees. Now I have received specimens of this borer in its burrows from several of these localities and there is one character noticeable about most of the specimens, viz., that the bark is hardly visible on account of being covered with the Oyster-shell Bark-louse. It has therefore occurred to me that the trees which are suffering so severely from this little beetle, had already been reduced to a low state of vigour by this last named pernicious and frequently overlooked enemy.

I am advising all the Nova Scotia fruit growers to use special efforts to rid themselves of the Bark-louse, when I believe some of the other pests will be cleared out at the same time.

Prof. Saunders tells me that during a journey made through Nova Scotia last summer he had the opportunity in company with Mr. C. R. H. Starr, Secretary of the Fruit Growers Association of Nova Scotia, of examining several apple orchards in which the trees were suffering from this pest, and in no instance did they find any traces of the ravages of these beetles in healthy trees; those affected had invariably been injured by bark-lice or borers, or had become stunted and diseased from some other cause.

The tenacity of life of this beetle is remarkable. I have found them alive in their burrows out of doors, during the winter, which is not very surprising; but of the samples sent me in the beginning of June by Mr. Smith some were put on one side as museum specimens, and as the beetles were showing in the central perpendicular tunnel described above, alcohol was poured over them and they were put away as dead. To-day (Feb. 25th)* in examining them I find to my surprise some of the specimens alive. These specimens were sent upon their first appearance in June, and have been kept in a heated study every since. Amongst the sections of apple wood sent me was part of a branch $2\frac{1}{2}$ inches in diameter, from which emerged not only the beetle under consideration, but several of the small and injurious Apple Bark Beetle (*Monarthrum mali*, Fitch). The habits of this last named are very similar to those of the above and the same remedies would be applicable to both. This is a very small, slender beetle about $\frac{1}{8}$ of an inch in length. It is shown much enlarged at Fig. 14.



Fig. 14.

The Red humped Apple-tree Caterpillar (*Eidemasia concinna*, Sm. and Abb.)

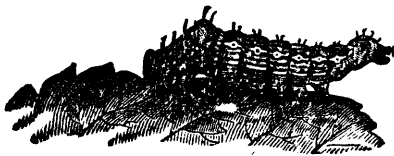


Fig. 15.

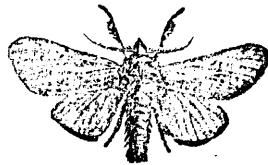


Fig. 16.

Attack.—Yellow and black caterpillars, with red heads and a hump behind the

* They are still alive and active April 5th.