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EC1510 Revised 1946 The Flat-Headed Apple Tree Borer

O. S. Benton

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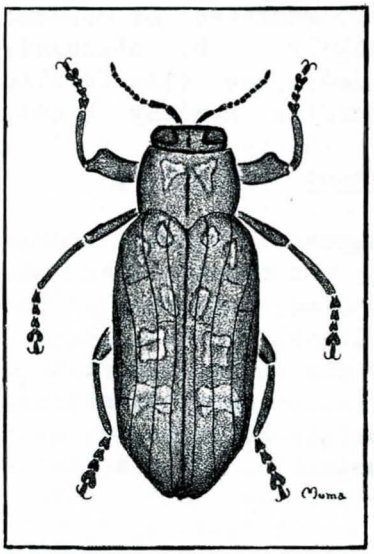

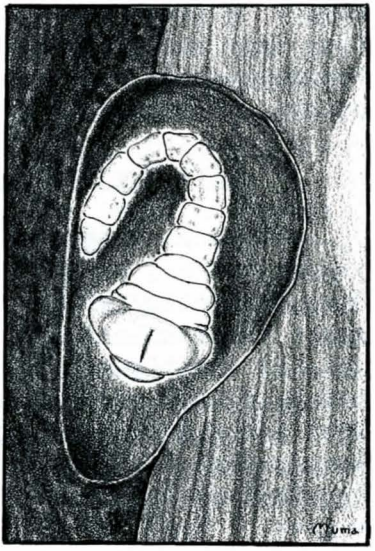

Cooperative Extension Work in Agriculture and Home Economics
University of Nebraska College of Agriculture, and the United States
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THE FLAT-HEADED APPLE TREE BORER

O. S. Bare, Extension Entomologist

Trees Likely to be Attacked

The flat-headed apple tree borer attacks nearly all kinds of fruit and shade trees, but greatest damage is done to apple, soft maple and American elms. A tree that has been weakened or damaged from any cause is most likely to be attacked. Pruning wounds and sun-scalded areas often furnish points of entrance on otherwise healthy trees.

Life History, Appearance, and Habits

Adult beetles usually appear in Nebraska early in May and may be found up to the middle of August. They are rather wide, flat-bodied, hard-shelled insects about a half-inch or slightly more in length, and may sometimes be seen on the sunny side of tree trunks, logs, posts, and similar sunny locations. They are a brownish-gray metallic color above, with some greenish spots, and a metallic blue underneath. Egg-laying begins in May, and may continue into August. Eggs are laid in sunny locations, usually on the south and west sides of trees that have been weakened by drouth, old age, transplanting, sunscald, pruning, or other causes. The eggs hatch into tiny grubs that burrow into the bark and develop between the outer bark and the sapwood. Damage usually starts on the southwest exposure, but the borers may work around the tree and girdle it. When fully grown they are about an inch or slightly more in length, yellowish in color and slender-bodied, but have a broad flat enlargement just back of the head that gives them their common name. Their presence often can be detected by the slightly sunken, darkened areas of bark and the fine sawdust that usually protrudes through any

cracks and crevices. The borers burrow into the sapwood to spend the winter, and emerge as adult beetles during the next spring or summer. The life cycle usually requires only one year, but on vigorous trees two may be required.

Control Measures

Prevention of infestation is better than cure. After a tree becomes infested, the only effective remedy is to dig out the borers with a sharp-pointed knife and paint the wounds with a protective paint, such as white lead, or a commercial tree paint. This should be done in late summer or early fall. Dead and dying or badly weakened trees should be cut out and burned before May 1 to prevent the emergence of the new brood of beetles. Broken or dying limbs in otherwise sound trees should be pruned out and burned. To prevent trees from becoming infested, they should be kept in as vigorous a condition as possible. Watering and application of suitable fertilizers are of much value. If young trees are to be transplanted, the transplanting should be done very early in the spring, and the young trees should be well watered in order to start a vigorous growth before the egg-laying beetles appear.

Young trees can be protected by shading the south and west sides of the trunk and base of lower branches for several years after transplanting. This may be done by means of a board or stake driven into the ground or tied so as to provide the necessary shade. This is of much help, but will not entirely prevent infestation. The surest protection is afforded by wrapping the young tree, from its base up to the limbs three-fourths of an inch in diameter or less, with some material through which the beetles will not be able to deposit eggs. These wrappings should be kept on the trees from May 1 to September 1. Effective

wrappings may be made of burlap, old sacking, used muslin, or similar material in two or three thicknesses, or of wrapping paper, three ply of newspaper, building paper or a paper made of two thin plies cemented together with asphalt. Papers treated with chemicals likely to injure the tender bark of young trees should be avoided. Screen wire is fairly effective if it does not hug the trunk tightly.

Repellent washes for trunk and large branches have sometimes been suggested, but results are so variable that they can not be recommended. However, tests have indicated that spraying the trunk and bases of large branches with DDT may prevent infestation. A 5 per cent DDT suspension applied monthly to trunk and bases of large branches from May 1 to August 1 is suggested for trial. To make this spray, stir 1 pound of 50 per cent wettable DDT powder into 5 quarts of water.

If the adult beetles are very numerous they may gnaw off leaf petioles and partially defoliate the trees. In such cases, a strong arsenical spray of 1 pound paris green, 1-1/2 pounds lead arsenate, and 2 pounds hydrated lime in 50 gallons of water gives good results. For small amounts use 1 level tablespoon paris green, 2 level tablespoons lead arsenate and 2 heaping tablespoons hydrated lime to a gallon of water.