

## THE FRUIT BARK-BEETLE

By R. H. PETTIT

The fruit bark-beetle has infested fruit trees in Michigan for many years. It breeds and feeds in the cambium layer, and also feeds in the twigs, where it excavates small tunnels near the buds, causing death of the twigs of peach and cherry trees. This pest is also found in apple, plum, quince, wild cherry, mountain ash, and Juneberry. The beetle itself is about one-twentieth of an inch long and dark, brownish-black in color. It is believed to be of European origin.

The twigs of perfectly vigorous, healthy trees are injured by tunneling, but the trunks and larger limbs of trees of low vitality are almost always selected for breeding purposes.

It should be remembered that two types of injury occur. In one type, trees of low vitality and, therefore, usually of reduced value are killed outright; or the larger limbs which are suffering from some injury, or fruit trees or wild cherry trees, which have been cut and saved for fire-wood, supply ideal places for *breeding* purposes. In the other type of injury, the small twigs of young or old, often vigorous, cherry and peach trees are utilized for feeding purposes, often so freely that the damage is very severe. The writer has seen cases where at least one-third of the twigs of young cherry trees have been killed in this manner.

It follows that, if the breeding places are done away with, the loss due to the killing of the twigs will not occur at all. The breeding places of the fruit bark-beetle are easily recognized. Any fruit tree which appears unthrifty should be carefully examined for small, round holes in the bark of the trunk and limbs. Such holes may be the exit holes of these beetles and are so characteristic that the name "shot-hole" is sometimes erroneously applied to the pest. If the bark has really been punctured by the fruit bark-beetle in emerging from its workings in the cambium, the galleries excavated by the beetle and their larvae will be revealed when the bark is carefully pared down with a sharp knife, see Fig. 1.

Sometimes, holes filled with gum will extend through the bark and terminate at the level of the wood. In such cases, the beetles have endeavored to excavate brood chambers in the tree but have failed to do so owing to the copious flow of gum exuded by the tree. It shows

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Of Agriculture and Applied Science  
EXTENSION DIVISION  
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Printed and distributed in furtherance of the purposes of the cooperative agricultural extension work provided for in the Act of Congress May 8, 1914, Michigan State College of Agriculture and Applied Science and U. S. Department of Agriculture, cooperating.

that the particular tree selected proved to be too vigorous to allow the beetles to establish themselves. In case galleries, such as are shown in Figure 1, are exposed by paring off the bark, then the tree should be immediately burned, since it is serving as a reservoir from which more beetles will continue to breed and to fly to the *twigs* of healthy trees, there to work havoc.

Examination of hundreds of individual trees which were serving as breeding places for the beetles sometimes has revealed their lack of vigor to be due to other borers of various kinds; sometimes to mechanical injury or some ill such as crown gall or root-lice; sometimes to poor drainage, or hard-pan—and sometimes to neglect.



Fig. 1.—Peach limb, showing breeding galleries of fruit bark-beetle, where bark is removed.

It often happens that orchards, or certain trees in them, cease to be profitable and are allowed to stand until such time as it is convenient to take the trees out. Such trees are very likely to become infested and to supply millions of the beetles, and their work in surrounding orchards and trees results in severe losses which are mysterious to the owner of the trees.

The writer has repeatedly found severe cases of attack on twigs to be due to beetles which came from brush-piles of apple limbs and from piles of peach and cherry wood, cut green into fire-wood and allowed to dry in the vicinity of orchards. The beetles utilize such drying wood and multiply freely under such conditions. Wild cherry, cut green and allowed to dry, is almost sure to become the home of the beetles. Brush piles left in orchards for use in late spring, in making smudges, should always, for obvious reasons, be made up of brush other than that of fruit trees.