

THE PEACH TWIG BORER

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By

Clarke R. Willey

*andolph*

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## THE PEACH TWIG BORER \*

By

C. R. Willey

This insect is of European origin and was first described (1) by an Austrian more than ninety years ago. It is thought that this pest was brought to the United States in shipments of nursery stock. It has been known to occur in this country since about 1860, and is now found wherever peaches are grown.

According to Quaintance (2), the twig borer is particularly destructive in California, Oregon and Washington to peaches, attacking also the prune, nectarine, apricot, almond and pear. In California it is perhaps the most serious pest with which the peach growers have to contend. In Oregon it has attracted much attention by reason of its attacks on prune trees where it is commonly known as the prune twig miner. It has been very injurious at times in peach growing sections of Arkansas, Utah, Colorado, Ohio, Delaware, New Jersey, New York, Maryland, West Virginia and Virginia. Adams (3) reports the pest as also attacking strawberries in Arkansas. In this case the injury is done by the larvae boring into the crown of the strawberry plant.

In the eastern states the injury has practically been limited to the destruction of the tender shoots of the peach in the early spring by the overwintering larvae. This is the case in Virginia, although the summer broods have at times done considerable damage to the twigs and the fruit, especially that of later varieties. Essig (4) in

\*Anarsia lineatella Zell.

'Numbers in parenthesis refer to literature cited.



characterizing the injury to the fruit says that the larvae enter the stem end of the fruit and bore into and may go completely around the pit. As the outbreaks of this pest in Virginia are only occasional it is not generally considered as a serious enemy of the peach grower; however, since the Oriental fruit moth (Laspeyresia molesta Busck) has been introduced into this state much attention has been called to the work of the twig borer, it being frequently mistaken for the Oriental moth. According to Garman (5) this is also the case in Maryland.

In the summer of 1920 a number of orchardists in the vicinity of Leesburg, Va., which is near the area infested with the Oriental moth, were alarmed by finding many twigs in their orchards being killed by a worm boring into the tender tips and down the pith. It was thought to be the Oriental moth, but, upon examination it was found that the injury was that of the peach twig borer.

The injury of the twig borer resembles that of the Oriental moth and the work of either of the two could be very easily mistaken for that of the other. The larvae of both enter the tender tips of the new shoots and burrow down through the pith an inch or two causing it to die. One larva may attack several shoots before it becomes full grown. Thus, several larvae may be able to ruin a good sized tree. Slingerland and Crosby (6) claim that "three or four larvae have been known to kill a three year old peach tree by destroying all the new growth". The striking similarity of the injury of the two pests was brought out very forcibly in one of the orchards which was heavily infested with

the twig borer. Most of the new wood had been attacked and numerous side shoots had put out by the infested twigs. This caused the trees to have the thick brushy appearance so common in the orchards infested with the Oriental moth, and at first sight it was thought that a new infestation of that pest had been found.

It was learned during the following winter that there had been more or less twig borer injury in many orchards over the state, but not enough to be considered serious. A survey was made during the spring of 1921 of many of the orchards over the state, to determine, if possible, what could be expected from the pest the following summer and also to collect larvae for laboratory work. The orchards at Blacksburg were examined very thoroughly but no larvae were found. Orchards at Roanoke, Salem, Cloverdale, Harrisonburg and Leesburg were also examined with the same results.

#### Description of the Insect.

The adult is a dark silver gray moth marked with many blue black lines, and is about three-eighths of an inch long. These are seldom seen by the average orchardist. The larvae are small, not more than one-half inch long when full grown. The color varies from a pinkish or dusky white to a dark brown or almost black, and as it moves its body in crawling or wriggling a lighter division or line may be noticed between the segments. The pupa



varies from light to dark yellow or brown.

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brood of larvae, which begin Life History. September.

The insect passes the winter as a small larva in burrows in the spongy tissue of the bark at the crotches of the limbs. In the spring as the foliage is putting out the larvae leave their burrows and attack the tender shoots, boring into and down the pith. These injured shoots soon wilt and die, turning brown, and are very easily detected. As previously stated, many shoots may be attacked by a single larvae before it becomes full grown.

These overwintering larvae reach maturity during May and pupate in cracks or crevices of the bark. Their hiding places may be located by a loose white web spun over the entrance by the larva before pupation takes place. Within a week or ten days the adults (which are the first brood of adults) emerge and deposit their eggs at the base of the young shoots. These give rise to the first brood of larvae which begin to work upon the young shoots as soon as hatched, some also may attack the fruit. These larvae, according to Britton (7) "reach maturity in July or August and make their cocoons in the cavity at the stem end of the peach". From these arise the second brood of moths, which in turn deposit eggs which produce second brood larvae. Britton (7) says that, "the second brood moths lay their eggs on the fruit and the larvae hatching from them feed in the fruit". These

mature and pupate in the early fall and emerge as adults in time to deposit eggs from which hatches the third or hibernating brood of larvae, which begin to appear in September.

#### Control.

It has been found by experiment that this insect is best controlled by the use of contact sprays such as lime sulphur, strong kerosene emulsion, or resin washes. Poison sprays in some cases have been effective. In Washington, Oregon, and California where most of the experimentation on the control of this pest, has been made, it has been found that the contact sprays should be applied early in the spring, very thorough applications being made so as to destroy the overwintering larvae in their burrows. It was found that in the fall just a day or two after the egg laying period, or in the spring just at the time the buds open is the best time to apply the poison sprays. In nursery stock a good method would be to go over the trees and cut out all infested twigs and burn them.



## Literature Cited.

- (1) Cordly. Better Fruit, August 1912, 10.
- (2) Quaintance, U.S.V.B. 1905, 344.
- (3) Adams, Ark. Bull. 92, 14, 1907.
- (4) Essig, Cal. Hort. Bull. II, 1-3, 1913.
- (5) Garman, Md. Bull. 223, 104, 1918.
- (6) Manual of Fruit Insects, page 285, 1914.
- (7) Britton, Conn. Bull. 211, 306-309, 1918.

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