

peachtree borer

Synanthedon exitiosa (Say)

INTRODUCTION

The peachtree borer (PTB), a native insect, is a major pest of stone fruits in the United States and Canada. Prior to the introduction of the peach, it lived on native wild cherries and plums. The majority of PTB have a one-year life cycle, but some larvae may require two years to complete development.

THE ADULTS

The adults are clear-winged, day-flying moths which, to the casual observer, are often mistaken for wasps. The sexes are strikingly distinct. The female (Fig. 1) is steel blue with an orange band on the fourth and sometimes also fifth

abdominal segment. The forewings are opaque, covered with blue scales; the hind wings are transparent. The wing spread is 35-38 mm. The male (Fig. 2) is smaller (wing spread 27-30 mm) with both pairs of wings clear except for the margins and a line across the forewing. The blue abdomen is marked with 3 or 4 narrow yellow stripes.

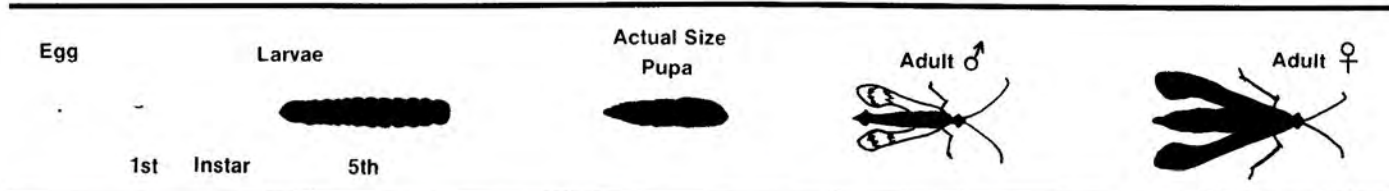
Adult emergence commences early in July, peaks in August, and may extend into October. Mating occurs soon after emergence. Several hours later, egg laying begins. A female may produce up to 800 eggs, the average being about 400. Ovipositing females seem to be attracted to trees previously infested by PTB or to trees on which mechanical injury has occurred. The moths die a few days after the short period of egg deposition ends.

THE EGGS

The oval (0.5 by 0.7 mm) reddish-brown eggs are deposited singly or in small groups on the trunk, lower scaffold limbs, or on debris or soil near the base of the tree, and are difficult to find. The incubation period varies with the temperature and averages about 10 days. First egg hatch occurs in mid-July.

THE LARVAE

Upon hatching, the larvae immediately start burrowing



into the bark, usually entering at a crack or wound near the soil surface. The larvae feed on the cambium or growing tissues and tunnel between the inner bark and the sapwood. PTB larvae are white or cream colored with a yellowish-brown to dark brown head. When half to full grown, the prothoracic and anal shields become yellow to dark brown in color (Fig. 3). Like other lepidopterous larvae, they have 3 pairs of jointed thoracic legs plus prolegs on the 3rd, 4th, 5th, 6th, and last abdominal segment. There are 7 larval instars, varying in size from 1.6 mm to 38 mm.

The larvae normally attack the tree trunk between 76 mm (3 in) below ground to 254 mm (10 in) above ground. Some of the earlier hatching borers are nearly mature by fall, but most are only half-grown. The larger larvae hibernate in their burrows beneath the bark, while the smaller larvae usually pass the winter on the bark under a thin silken covering or hibernaculum. With the advent of warm weather in April and May, feeding is again resumed.

Prior to pupation, the mature larvae normally enter the soil. There they construct silken cocoons containing particles of chewed-up bark, frass and soil particles (Fig. 4). The cocoons are elongate, brownish to sand colored capsules averaging about 22 mm long. They are usually situated in an upright position just beneath the soil surface.

THE PUPAE

Within the cocoons, the larvae pupate into dark brown to black pupae measuring about 14 mm long. The pupae

possess stiff spines on their backs which assist them in working themselves out of the cocoons (Fig. 4). The combined period of cocooning and pupation averages about 28 days.

PLANT INJURY

Injury is caused by the larvae feeding on the cambium and inner bark of the trunk close to the soil level. Occasionally larger roots are also attacked. Areas attacked often have masses of gum, mixed with frass, exuding from the bark. All ages of trees are injured (Figs. 5, 6, 7). Young trees are at times completely girdled and subsequently die. Older trees are often so severely injured that their vitality is lowered and they are rendered especially susceptible to attack by other insects or by diseases.

CONTROL

The PTB can be controlled by thorough, well-timed insecticide applications. An orchard spray directed against the adults will also control other pests present at the time. PTB pheromone trap catches can be used to time these sprays. Another treatment directed at the larvae calls for the application of a trunk spray anytime between July 20 to August 1. Young peach trees can be protected for a year or more by dipping the roots and crowns in a systemic insecticide solution prior to planting. Current recommendations and proper handling procedures are available from your local extension office.

GUIDE TO STAGES

STAGE	TIMING	WHERE TO LOOK
Adults	Early July through October	On trunk and lower scaffolds. Flights may be monitored with pheromone traps.
Eggs	Early July through October	On trunk, lower scaffold, or at base of the tree.
Larvae	Any time of the year	Beneath bark in wound identified by exuding mixture of frass and gum.
Pupae	Early June through October	Within cocoons in soil.