

Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants and Extension Personnel



Department of Entomology
123 West Waters Hall
K-State Research and Extension
Manhattan, Kansas 66506
785-532-5891
<http://www.entomology.ksu.edu/extension>

September 18, 2009 No. 26

Parsleyworm or Black Swallowtail

We have received inquiries associated with one of the most distinctly-patterned caterpillars: parsleyworm or black swallowtail (*Papilio polyxenes*). These caterpillars primarily feed on the leaves of fennel, dill, and parsley although they will sometimes feed on plants such as Queen Anne's lace, celery, and similar plants in the carrot family (Apiaceae).

Young caterpillars are mottled black and white, which results in them resembling bird droppings. More mature caterpillars possess bands of green, yellow, white, and black. In addition, there are six yellow spots within each black band. Full grown caterpillars are about 5.0 cm in length. Parsleyworm overwinters as a pupa or chrysalis that is attached to the bark of trees, sides of buildings, or other protected habitats. Adults typically emerge in May and June, and females deposit eggs on plants in the Apiaceae family—only laying several eggs per location. After eggs hatch, caterpillars feed for 3 to 4 weeks in which they undergo a series of color changes as they mature. Full-grown caterpillars eventually migrate off plants to find a place to pupate. They form a gray pupa, which blends in with the surrounding background. After approximately two weeks, adults emerge from the pupa or chrysalis. Adults are large black swallowtail butterflies with a wingspan of 2.0 to 3.5 inches. They are shiny black in color, occasionally with iridescent blue; and yellow bands or spots along the edge of the forewings and hindwings. Adults feed on the nectar of many different flowers. Females and males mate, then females lay eggs that will result in the occurrence of the second generation sometime in August. There are usually two generations per year.



Raymond Cloyd

Nature's little "buzz saws" Twig Girdlers

As sure as the sun rises in the east and sets in the west, twig girdlers make their yearly appearance in late summer. These are more of a nuisance pest in the sense that they cause dismay for home owners who find their lawns strewn with branches (Figure 1).



Figure 1

Upon examining the end of branches, there appears a "neat cut" with a ragged central core (Figure 2).

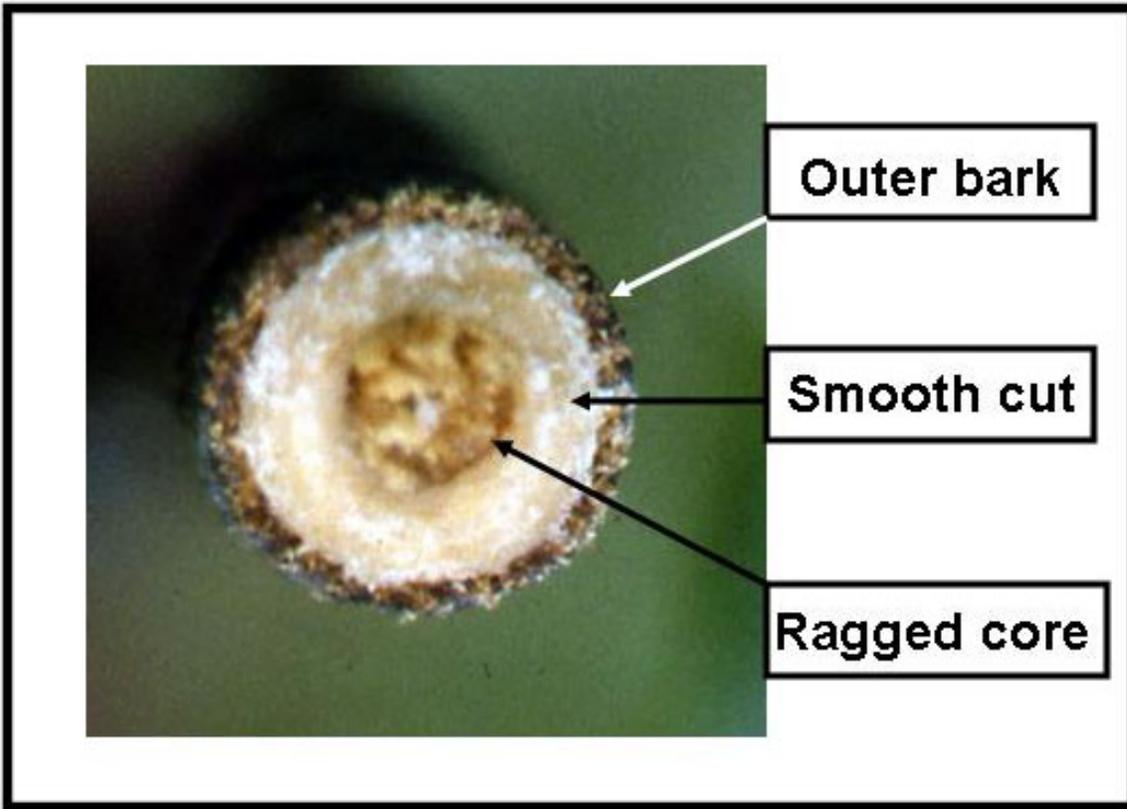


Figure 2

Twig girdlers are responsible for “the cuts”. They are uniquely equipped to perform this task. Upon examining a fresh “girdle” (Figure 3).....



Figure 3

...one has but to look at the head of a twig girdler to realize that it is well-equipped for the girdling task. The head is compressed from front to back, and somewhat elongate from top to bottom (Figure 4) ---- just right for allowing it to fit into the V-shaped girdle it creates. And their mandibles resemble the “jaws-of-life” rescue equipment --- stout and strong, ready to cut/girdle branches ranging in size from 6 to 13 mm in diameter.

Kansas Insect Newsletter

September 18, 2009 No. 26

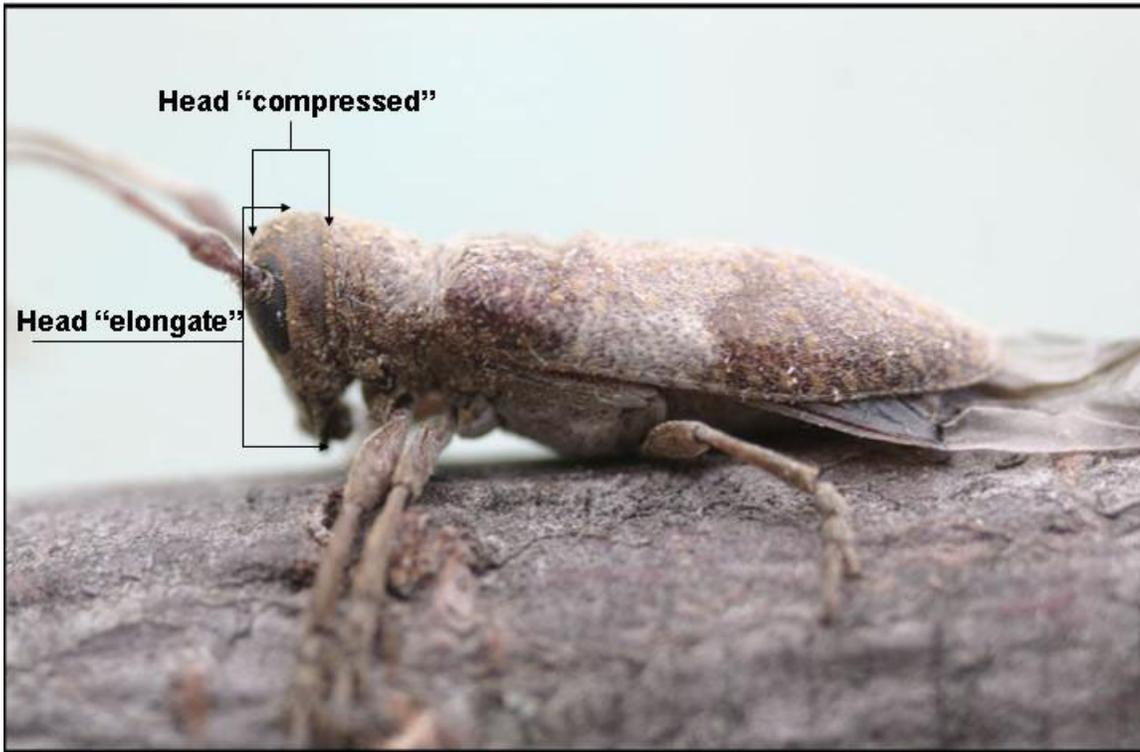


Figure 4

The girdling process is not a complete shearing of branches. Rather, the smooth cut stops, but an intact central core remains and prevents the branch from falling. However, because girdling severs vascular elements, the portion of the branch beyond the cut dies and dries out. This results in the central core becoming brittle. It is at this point, then, that the sheer weight of the branch (with or without the aid of the wind) overcomes the ability of the core to support the branch. The core snaps and the branch falls to the ground. (Figure 5).

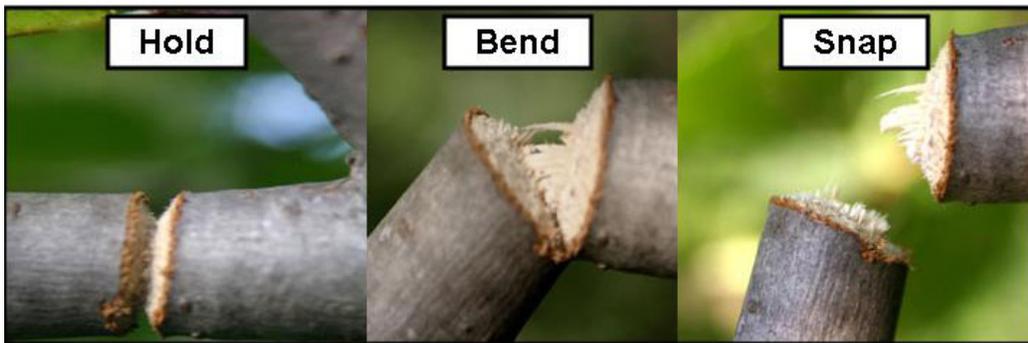


Figure 5

Twig girdlers have a wide host range including hickory, pecan, dogwood, honeylocust, oak, maple and hackberry. While hackberry is listed as “high” on the list of hosts, in Kansas, most reports of littered lawns occur beneath elms. This preference for elm over hackberry was exemplified in an observation of side-by-side girdled elm and untouched hackberry trees.

Kansas Insect Newsletter

September 18, 2009 No. 26

Several questions arise regarding twig girdlers:

Why do they girdle branches? The larvae of twig girdlers require a “drier wood” for their growth and development. Beetles deposit their eggs beyond the “cut” thus ensuring the survival of the larvae in the fallen branches. Beetles gnaw through the bark to and deposit an egg just beneath the bark. Egg sites can easily be detected by closely examining areas near bud scars or side shoots (Figure 6).

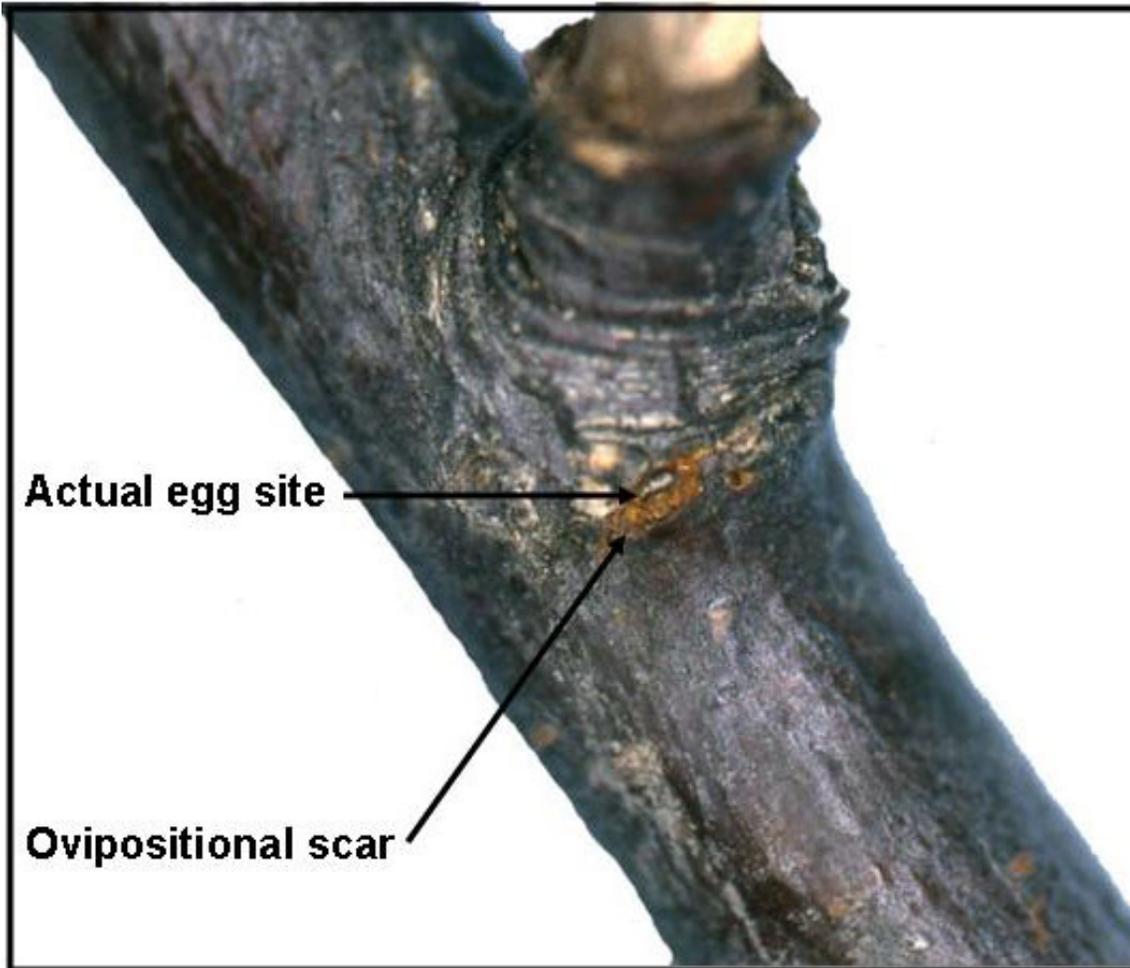


Figure 6

Of what harm are girdlers? This depends on where and what they are girdling. In nut production orchards, twig girdlers can be detrimental when damaging newly transplanted trees or stymieing/setting back young trees not yet in production. And in harvestable orchards, there have been reported incidences of reduced nut production and reduced yields following extensive twig girdler activities the previous season.

Can people monitor for the presence of twig girdlers and apply an insecticide treatment to eliminate them before girdling activities? This is impractical. There is no single succinct appearance of beetles. Rather, their

Kansas Insect Newsletter

September 18, 2009 No. 26

emergence pattern is lengthy, spanning from late August into October. This being said, the impracticality continues ---- how does one propose to inspect large trees --- both due to their size and sheer density? (Figure 7).

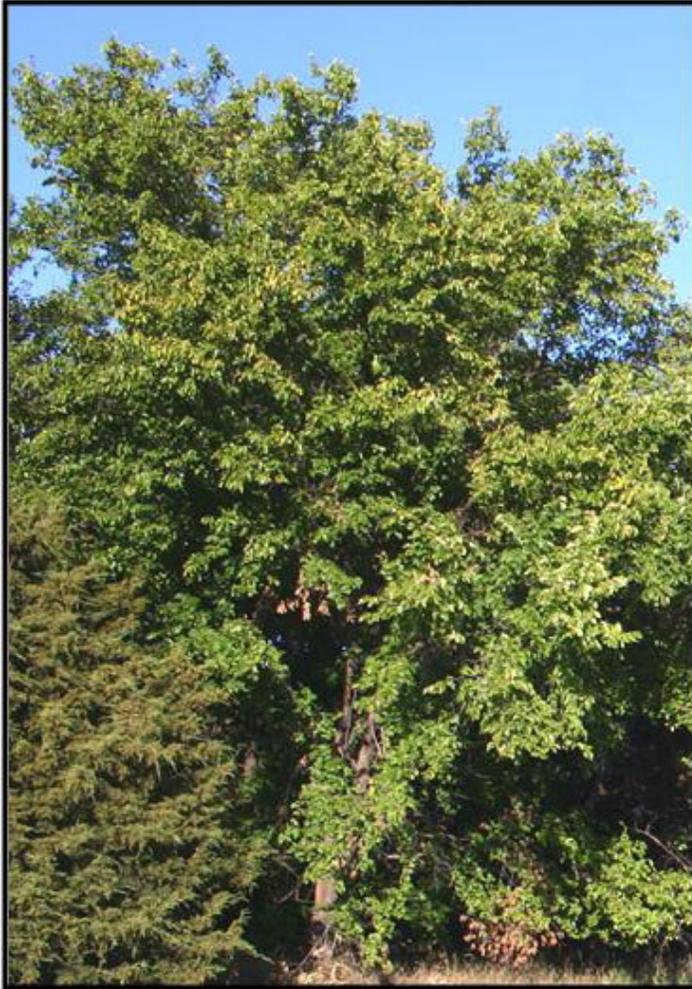


Figure 7

Kansas Insect Newsletter

September 18, 2009 No. 26

AND twig borers, although very distinctive in appearance (Figure 8).....



Figure 8

Kansas Insect Newsletter

September 18, 2009 No. 26

... can be easily overlooked as they blend into the background (Figure 9)



Figure 9

For the home owner, twig girdlers are more of a nuisance in causing the aforementioned branch fall/lawn litter. The recommendation is to gather up and dispose of branches. This will eliminate those beetles which would emerge the following year. However, this does not mean that twig girdlers won't appear the following year: look up, and you may see that many dead branches are still caught up in tree canopies (Figure 10).

Kansas Insect Newsletter

September 18, 2009 No. 26



Figure 10

Kansas Insect Newsletter

September 18, 2009 No. 26

For certain, there is one site where girdling activities have ceased. Figure 11 speaks for itself.



Figure 11

Bob Bauernfeind

Kansas Insect Newsletter

September 18, 2009 No. 26

Report from the Kansas State University Insect Diagnostic Laboratory:

The following samples were submitted to the Insect Diagnostician Laboratory from September 4th to September 17th.

September 04 2009 Washington County – Tortricidae leaf rollers in sunflower
September 04 2009 Douglas County – Bed bugs in dwelling
September 08 2009 Labette County – Caterpillar in Ash tree
September 09 2009 Anderson County – Brown dog ticks (nymphs and adults) on cat and dog
September 11 2009 Leavenworth County – Webworms in trees
September 14 2009 McPherson County – Soldier beetles and crab spider in garden
September 14 2009 Montgomery County – Ailanthus Webworm around dying Elm
September 14 2009 Leavenworth County – Imperial moth caterpillar
September 14 2009 Mitchell County – Sphinx moth (*Manduca* sp.) in garden
September 15 2009 Leavenworth County – Whiteflies on hibiscus
September 15 2009 Phillips County – Northern mole cricket

If there are any questions regarding these samples or about the identification of any arthropod please contact the Insect Diagnostician at (785) 532-4739 or GotBugs@ksu.edu.

Holly Davis

Sincerely,

Robert J. Bauernfeind
Extension Specialist
Horticultural Entomology
phone: 785/532-4752
e-mail: rbauernf@ksu.edu

Raymond A. Cloyd
Extension Specialist
Ornamental Entomology/Integrated Pest Management
Phone: 785-532-4750
Fax: 785-532-6232
e-mail: rcloyd@ksu.edu

Holly Davis
Insect Diagnostician
Phone: (785) 532-4739
e-mail: holly3@ksu.edu



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