Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants and Extension Personnel

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Chinch Bugs

Chinch bug populations continue to cause concern in north central and south central Kansas. Occasionally, in past years when rainfall was plentiful and humidity high, chinch bugs were controlled by an entomophagous fungus. However, this always occurred during the 'walking migration', when the nymphs were aggregating in wheat and started moving out as the wheat senesced, to feed on nearby seedling sorghum and/or corn if adjacent to wheat. The chinch bugs are now more dispersed around sorghum fields and therefore the fungus may infect a few bugs but will probably not help control these populations which are increasing and therefore need to be monitored. For more information on chinch bug biology in Kansas, please visit: http://www.bookstore.ksre.ksu.edu/pubs/MF3107.pdf

HOME

White Sugarcane Aphids

White sugarcane aphids are also still causing much concern throughout KS. Dr. Bob Bowling, Extension Entomologist TAMU, has conducted research on these aphids for a couple of years in Texas and answered a couple of the most common questions about this aphid. According to Dr. Bowling, these aphids will not infest corn or wheat, only plants in the sorghum family, i.e., sorghum, Johnsongrass, shattercane, etc. They are a tropical or sub-tropical insect so probably will not overwinter in KS, or even continue to thrive and increase in numbers as the weather becomes cooler with lower humidity. Also, and maybe most importantly, the honeydew breaks down within a few days after the colony is gone (or at least is no longer producing honeydew). The products registered in Kansas for treating these aphids (Transform and Sivanto) both seemed to provide good control in the TAMU efficacy trials when used with at least 15 gal./acre of water (carrier).

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Soybean Pest Update

Soybean pests, in general, remain relatively sparse. There are a few green cloverworms and stink bugs, but apparently not in overwhelming numbers. Many double cropped soybeans are in the most susceptible reproductive stages, so any pests that quickly increase in numbers may cause some yield reductions and therefore these fields need to continue to be monitored.

HOME

Jeff Whitworth Holly Schwarting

BE ON THE LOOK-OUT FOR GOLDENROD SOLDIER BEETLES

If you haven't noticed yet, hordes of goldenrod soldier beetle (*Chauliognathus pennsylvanicus*) adults are feeding on goldenrod (*Solidago* spp.) and other flowering plants such milkweed (*Asclepias* spp.). Adults are

extremely abundant feeding on the flowers of chive (*Allium Schoenoprasum*), and can also be seen feeding on linden trees (*Tilia* spp.) when in bloom. In fact, adults may be observed both feeding and mating (occasionally at the same time). The goldenrod soldier beetle is common to both the western and eastern portions of Kansas.

gure 1: Adult Goldenrod Soldier Beetle. Adults Feeding on Goldenrod ower.

Adults are about 1/2 inch (12 mm) in length, elongated, and orange in color with two dark bands on the base of the forewings (elytra) and thorax (middle section). They are typically present from August through September. Adult soldier beetles feed on the pollen and nectar of flowers, but they are also predators and may consume small insects such as aphids and caterpillars. Flowers are a great place for the male and female soldier beetles adults to meet, get acquainted, and mate (there is no wasting time here). Soldier beetle adults do not cause any plant damage. Sometimes adults may enter homes; however, they are rarely concern. The best way to deal with adults in the home is to sweep, hand-pick, or vacuum.

Figure 2: Adult Goldenrod Soldier Beetles Mating.

Adult females lay clusters of eggs in the soil. Larvae are dark-colored, slender, and covered with small dense hairs or bristles, which gives the larvae a velvety appearance. Larvae reside in the soil where the feed on grasshopper

Figure 3: Adult Goldenrod Soldier Beetles Feeding.

eggs; however, they may emerge from the soil to feed on soft-bodied insects and small caterpillars.

Raymond Cloyd

HOME

In My Yard ---- Twig Girdler (at last)

There are times when I struggle coming up with a "timely topic" for the Kansas Insect Newsletter. But then I encounter something that "ignites the fire".

The spark? – Yesterday morning (Labor Day), I went out to water my tomatoes. I noticed a portion of a branch lying on the ground. Picking it up, the end/break point had the characteristic smooth buzz saw cut pattern of a twig girdler.

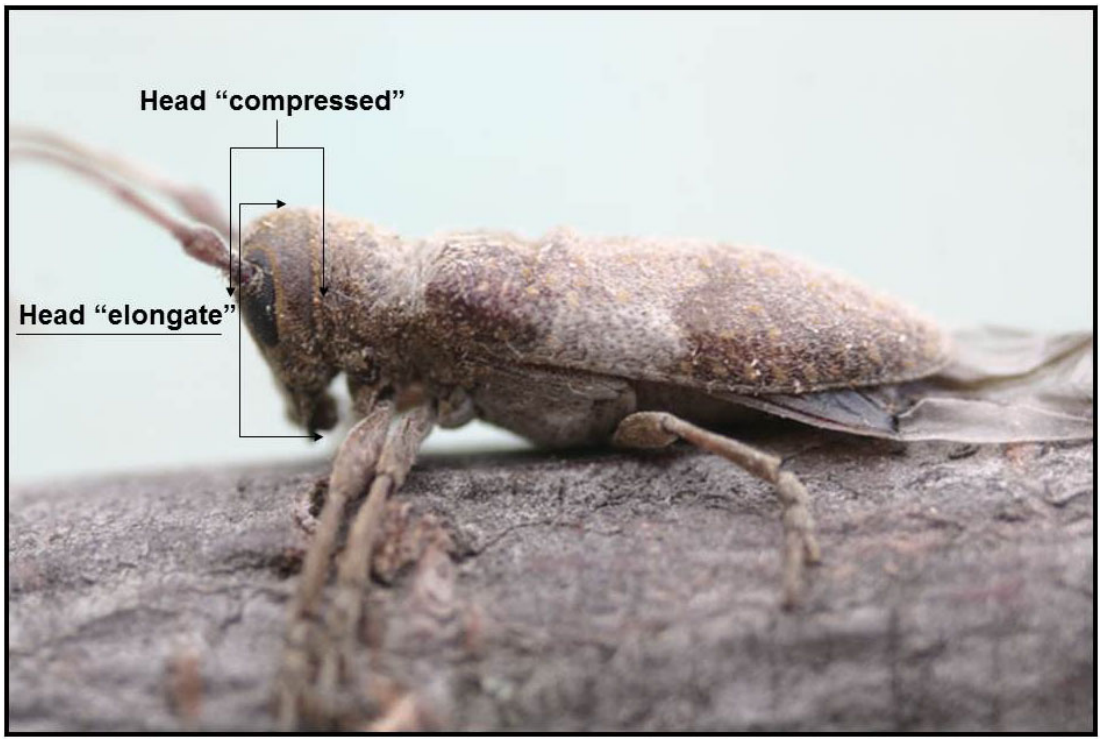
Why, "at last"? Over the years, I have collected fallen branches from various sites in the Manhattan area. Why (in the 22 years that I have lived here) had I never experienced twig girdler activities around MY HOME? As I

often relate to people when trying to explain insect activities, “There is no valid explanation. Sometimes that’s just the way things happen”. But as an entomologist (and paraphrasing Bruce Willis’ Diehard character), Yippee-ki-yay!

The following is a cut-and-paste from a previous Kansas Insect Newsletter. So possibly (for some) this will be “old news”, but a useful review. For first time readers, this hopefully will be interesting and informative “new news” regarding the seasonal activities of *Oncideres cingulata*, the longhorned beetle commonly called the twig girdler.

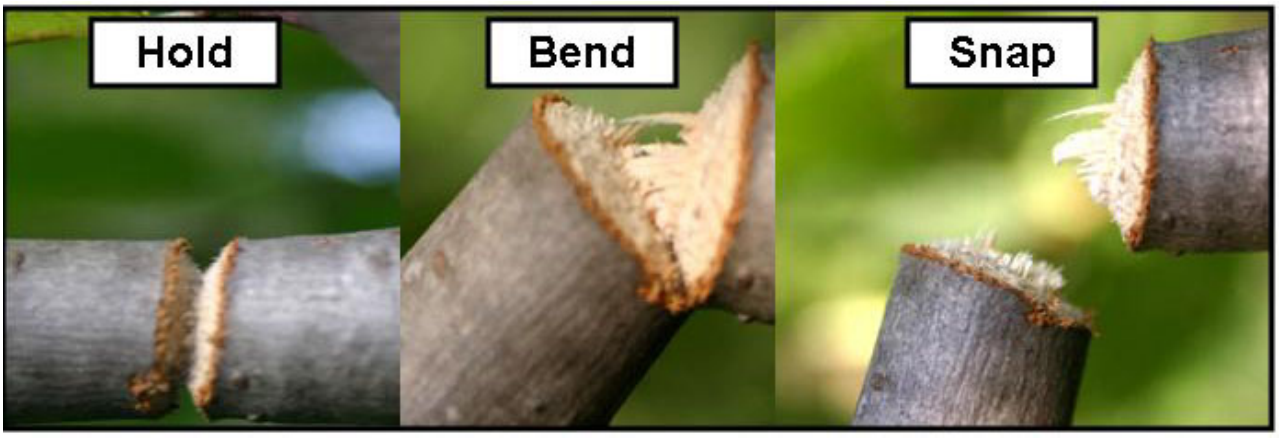
Given its name, the image below shows a “fresh girdle”.

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 ---- just right for allowing it to fit into the V-shaped girdle it creates. Under magnification, her 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 ---- apparently dependent on the size of the individual female beetle whose legs are uniquely positioned ---- her 4 front legs to encircle/grasp, and her hind legs positioned rearward and utilized to anchor against.



The girdling process is not a complete shearing of branches. Rather, the

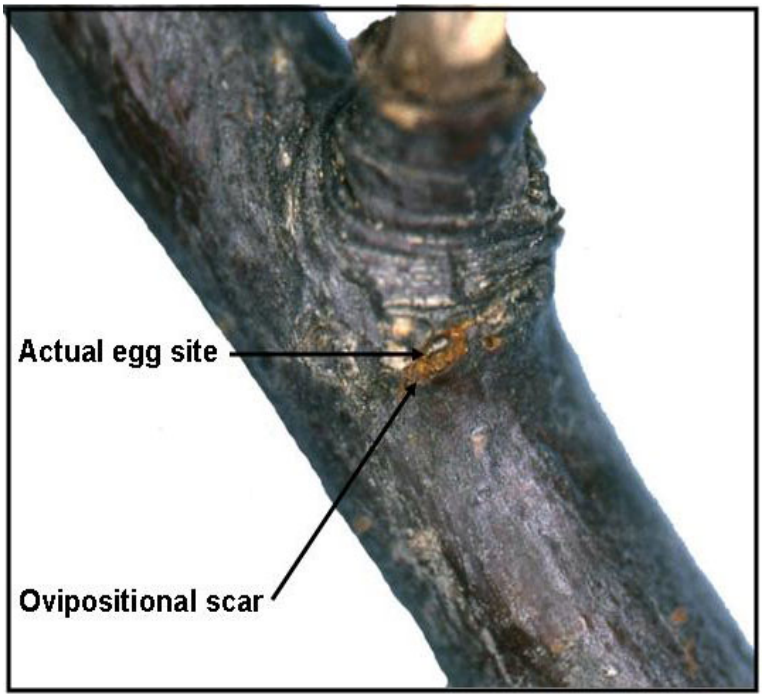
smooth cut stops, but an intact central core remains, thus preventing the branch from dropping. However, because girdling severs vascular elements, the portion of the branch beyond the girdle dies and dries out. This results in the central core becoming brittle. It is at this point, then, the weight 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.



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 elms and untouched hackberry trees.

Several questions arise regarding 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 (creating an ovipositional scar) and deposit an egg just beneath the bark. Egg sites can easily be detected by closely examining areas near twig side shoots.



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 mode. 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 their girdling activities? This is impractical. There is not a single succinct time of beetle appearance. Rather, their emergence pattern is lengthy, spanning from late August into October. This being said, the impracticality continues. It is not possible to inspect large trees for the presence of beetles. And while twig girdlers have a very distinctive appearance,

they can be easily overlooked because they blend in to the background.

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

For certain, there is one site where girdling activities have ceased.

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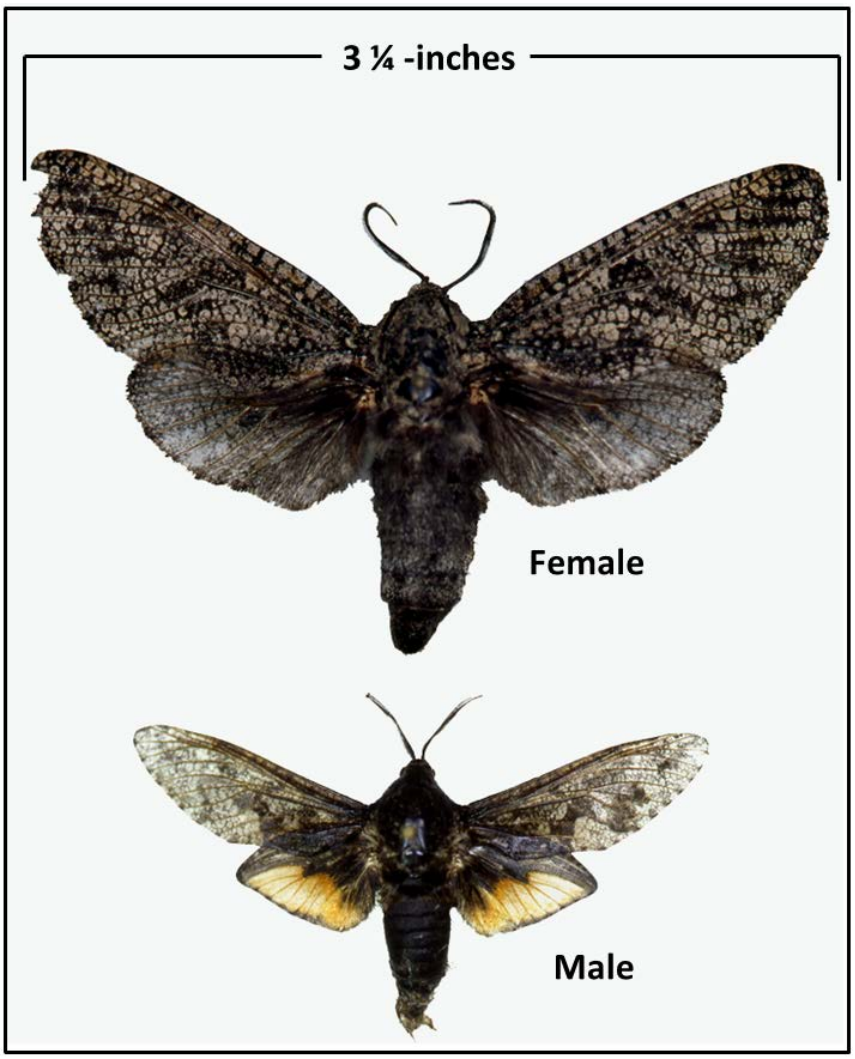
Carpenters Build with Wood ----- Carpenterworms Destroy Wood

A second spark was in the form of an e-mail received from Dr. Sarah Zukoff at the Southwest Research and Extension Center in Garden City: carpenterworms.

Over many years of operating blacklight traps throughout Kansas, I have collected hundreds of carpenterworm moths. Female moths are large (wingspread up to 3 ¼ inches) and rather drab in appearance. Male moths are smaller (wingspread ½ that of the female) and also appear drab when wings are folded. But upon spreading the forewings and exposing the hindwings, the coloration and pattern of the male's hindwings is strikingly different from that of the female.



As common as the moths are, I have only been "on-site" once. On 10/04/2010, I arrived in McPherson in response to a resident's request. It was apparent that carpenterworms were at work. They were creating tunnels and expelling large amounts of sawdust (a combination of wood chewings and frass) which was accumulating at the base of a large green ash situated next to a house. Given that carpenterworm life cycles are lengthy (2-3 years depending on environmental factors), the currently-present carpenterworms originated from eggs deposited in 2007 or 2008.

This tree has been under attack over a period of years as seen by extensive scarring of the bark. While the scarred bark surface presented a “healed appearance”,

it concealed the extreme underlying damage accrued by previous carpenterworm activities.

While carpenterworms seldom kill tree hosts, their extensive feeding damage reportedly can structurally weaken trees resulting in the breakage/falling of limbs and entire trees. This was the concern of the homeowner given the proximity of the tree to her house. Granted that while I am not a bona fide "tree person", my unqualified assessment was that the tree was structurally sound. The local arborist disagreed and recommended removal. I was not present at the time of removal (December), but I did travel back shortly thereafter. The size of the borer tunnels were impressive in a cross section from the trunk. Yet, it was interesting to note that despite the ominous presence of carpenterworm activities, their tunneling activities were dismissive in comparison to the amount of solid wood. The tree was structurally sound.

A little background regarding carpenterworms. Although most people probably are not familiar with carpenterworms, they are not a "new pest species". We are approaching the **second century anniversary** of the year in which they were first reported to damage trees **(1818)**. Carpenterworms attack a wide variety of tree species including ash, birch, black locust, cottonwood elm, maple, oak and willow. Fruit trees such as apricot and pear are also listed, and possibly (by extension) would also include most any fruit tree species.

The carpenter worm developmental life cycle varies depending on their geographical latitude: 1-2 years in the Deep South to 4 years in the Northern States and southeast Canada. In Kansas (being somewhat in the middle), the carpenterworm life cycle probably lies between 2-3 years. However in any given year, overlapping generations are likely to occur.

Given a 3-year scenario: Female carpenterworm moths reportedly produce between 200 and 1,000 eggs which are preferably deposited in protected/hidden sites (bark crevices, under lichens, and near wounds and scars) on tree trunks and main/larger limbs. Newly hatched larvae penetrate the bark, or enter through existing openings. They create shallow tunnels in the inner bark in which they overwinter. Feeding resumes in the spring at which time larvae extend and widen tunnels. Moving inward, they form upward-slanting tunnels into and through the sapwood and then into the heartwood where they form vertical tunnels in which they overwinter. In the third summer, the vertical tunnels are extended (up to 9 inches long) and expanded (over ½-inch diameters). In the fall, larvae return to the area of the exit hole in the bark and produce a silken layer which lines the gallery walls and forms a curtain over the exit hole. Larvae then overwinter a final time. In spring, larvae move close to the

exit hole and are transformed into pupae. Just prior to moth emergence, pupae will wiggle and force their way through the silken curtain. With the anterior of pupae thusly exposed, moths emerge outside of the tree where they will harden and be "free" to take flight.

Carpenterworms have a negative impact on lumber production. Individual or cumulative damage associated with extensive tunneling, staining and wood decay may seriously degrade the quality and quantity of lumber from individual trees. Fortunately, however, carpenterworm distribution (and consequently damage) within fully forested lumber production areas appears to be less than that seen on open-grown shade trees, roadside trees or trees in shelterbelts and edge-of-the-woods trees.

Due to the unpredictable appearance/occurrence of carpenter worms, little can be done in a preventative sense. The presence of carpenterworms usually is detected late (the third year) in their developmental cycle when excessive sawdust accumulations catch one's attention. While the damage has already occurred, some people will attempt to kill larvae by inserting a wire probe into the carpenterworm's tunnel. Depending on the larva's position in the tunnel system, this may or may not work. If a person attempts to force a stream of insecticide into the tunnel, care should be taken to avoid a backsplash of the insecticide stream. Because carpenterworms seem to prefer repeatedly attack the same tree and ignore nearby trees, the "magnet tree" can be removed, thus eliminating the major local source of carpenterworm moths.

Bob Bauernfeind

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Insect Diagnostic Laboratory Report

http://entomology.k-state.edu/extension/diagnostician/recent-samples.html

Eva Zurek

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