

Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants and Extension Personnel



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July 12, 2013 No. 14

Another Mite Pest? Yes, The Boxwood Spider Mite

When we discuss spider mite pests in landscapes and gardens the two that are often mentioned are the twospotted spider mite (*Tetranychus urticae*) and the spruce spider mite (*Oligonychus ununguis*). However, there is another spider mite pest in Kansas called the boxwood spider mite (*Eurytetranychus buxi*) that feeds exclusively on boxwoods including the common, English, and European.

Adults are small and tan to dark yellow-brown in color with long protruding front legs that make them look like a spider. The young life stages (larvae and nymphs) are smaller than the adults. Eggs typically hatch in May, and the young spider mites feed on both the upper and lower leaf surface. Heavily infested leaves may turn yellow to brown, and premature leaf drop may occur. There are several generations per year. Boxwood spider mite overwinters as an egg on leaf undersides.



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A forceful water spray directed toward the leaf underside will quickly remove all the life stages (eggs, larvae, nymphs, and adults) and will preserve any natural enemies. Similar to other pest spider mites, the boxwood spider mite is susceptible to natural enemies including predatory mites and bugs, lacewings, and ladybird beetles. It is also possible to prune or shear-off the damaged growth, and then allow the new growth to emerge, which may cover or mask any remaining leaves that exhibit feeding damage.

Applications of dormant or horticultural oils to the undersides of leaves in winter will kill the eggs. In addition, an insecticidal soap (active ingredient=potassium salts of fatty acids) or horticultural oil (petroleum or paraffinic-based) will kill the larva, nymph, and adult life stages. Thorough coverage of all plant parts and multiple (repeat) applications are important in order to obtain sufficient regulation of boxwood spider mite populations. Pesticides with miticidal properties including abamectin (Avid), bifenazate (Floramite), clofentezine (Ovation), hexythiazox (Hexygon), fenbutatin oxide (hexakis), and pyrethroid-based pesticides including those with the active ingredients bifenthrin and lambda-cyhalothrin may be used to regulate populations of the boxwood spider mite. However, a number of these materials are harmful to natural enemies. Therefore, it is important to only apply pesticides when absolutely necessary.

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Raymond Cloyd

Article 1: 1 + 1 + 1 = Article 2

This year beginning in late May, first reports on periodical cicada emergences created quite a buzz (groan) over the news networks. Several inquiries filtered in from Kansas residents asking whether we were due for periodical cicadas in Kansas this year, to which the answer is, “No!” The 2013 emergences were primarily in the eastern coastal states within the range of the Brood II periodical cicadas. Kansas is included in the Brood IV territory with their emergence slated for 2015.

But back to NOW! There currently are 3 “noisy” species of cicadas making a buzz. Although they are commonly referred to as annual cicadas, they have a 4 year developmental cycle. It is just that every year, some individuals of each species emerge. Males of each species have very distinctive “calls”.

I heard my first 2013 *Tibicen pruinosus* the evening of June 25. This species tends to sing as the sun begins to lower with the onset of evening. They were right on schedule (if there is such) based on 7 previous years’ observations (July 3, July 12, June 22, June 19, June 22, June 28 and July 5). *T. pruinosus* has a 3 ½ -inch wing span. With a tendency to be high up in trees, they have a long seasonal presence, singing through September into October.



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The appearance of *Tybicen lycerin* typically lags that of *T. pruinosus*. I heard my first 2013 *T. lycerin* June 29, again on schedule of previous years' observations (July 3, July 7, June 22, June 22, July 1, July 1, July 7 and June 16). *T. lycerin*'s wing span approaches 4-inches. Like *T. pruinosus*, *T. lycerin* also prefer tree canopies. Unlike *T. pruinosus*, *T. lycerin* do not have as wide a distribution, and their numbers far lesser.

Although as pictured here it would appear that *Diceroprocta vitripennis* is similar in size to both of the *Tybicen* species, its wing span barely approaches 2-inches. Also a tree-loving species, its appearance typically is before that of the other two. Its June 22, 2013, appearance is very much in accord with that of previous years: July 5, June 30, June 16, June 19, June 19, July 1, June 17 and June 21.

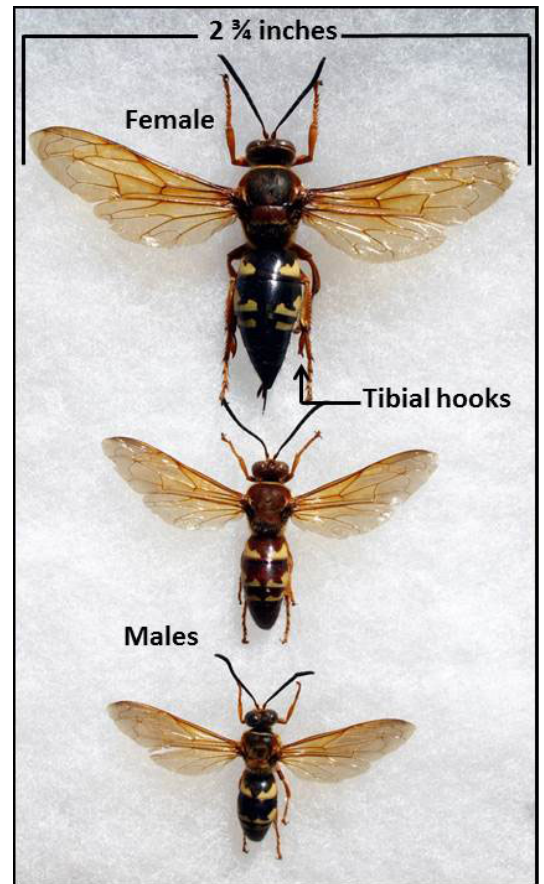


Article 2: Cicada Killer Wasps

It is well-known that the appearance of cicada killer wasps is synchronized with the appearance of annual cicadas. With the above-mentioned appearance of cicadas, could that of cicada killer wasps be far behind? To which the answer is, "Bingo! Right on target!" My first cicada killer wasp observation was June 29.

Cicada killer wasps strike fear in individuals who automatically associate the word "wasp" with "sting". There are many types of wasps. Of the more commonly known species, certain vespid wasps (those who produce "colonies ---- such as paper wasps, yellow jackets, baldfaced hornets) can be defensive if their nests or nesting areas are disturbed.

However, cicada killer wasps are solitary wasps ---- their nests tended to by a single female. Despite their large size, females (with a wing span of 2 ¾ inches) are docile, and unlikely to sting unless provoked by being carelessly handled or accidentally stepped on.



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Male cicada killer wasps **DO NOT** have a stinger. Swarms of male cicada killer wasps (maybe 20-30 ----- but may seem like hundreds) usually are those which wildly course about as they seek out female mates. Once establishing its own small territory, a patrolling male may be very protective and buzz around to investigate any interloper (possibly you). While this may be intimidating, again, it cannot sting!

Cicada killer wasps have a 1-year life cycle. Females construct nests 8 to 20-inches underground. There is a central tunnel off of which are separate side cells/chambers. Each chamber is provisioned with a single to several paralyzed cicadas. A single egg is deposited and then the cell sealed off with dirt. After an emerged larva feeds and matures, it forms a cocoon in which it spends the remainder of the summer, the fall and winter. In the late spring, the larva pupates. "New" cicada killer wasps emerge in early summer, mate, and repeat the cycle.

Whereas males do little more than mate, you have to admire female cicada killer wasps ----- **they do all the work**. She preferably selects a bare sandy area in which to construct her burrow. Such drier areas are easier to excavate. Using her mandibles and legs, she "kicks out" soil particles which results in the creation of a dirt mound at the tunnel entrance. After the completion of the nest, she begins the provisioning process.

It is not coincidental that nesting areas tend to be close to wooded areas. Given that many cicada species are arboreal, trees are ideal sites for locating cicada hosts. Her sting is not designed to kill the cicada host, but rather to paralyze it. If preserved alive, it remains a "juicy" (as opposed to dried out) food source for the intended wasp larva.

Another advantage of trees? They provide a high point. That is, because a cicada far outweighs the female cicada killer wasp, she is already high enough that she can spread her wings and be airborne. Should she fall short of reaching her nest, and because she cannot take off from the ground with her heavy "cargo", she will drag her cicada up another tree (or some other convenient high point) to again become airborne. The last part of her journey may be on foot when she is close enough to the nest entrance. She then drags her captured cicada to the entrance of, and into the burrow. This process is repeated time after time after time until all of the chambers are provisioned, eggs deposited, chambers sealed and the burrow entrance closed.

A point of interest: females use their middle pair of legs to wrap around/hold the paralyzed cicada. Furthermore, the tibia of the female's hind legs possess a pair of hook-like appendages used to hold/maintain the cicada parallel to its body when in flight. In an experiment where those appendages were removed, the middle legs still secured the cicada although it dangled beneath the wasp as she flew.

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Comes the question, “How do I get rid of the cicada killer wasps around my house? I’m worried about being stung!” If you have read through to this point in this article, you already know that you need not be overly concerned about, “..... being stung!” But still, if there is the desire/need to do something, the best procedure would be to observe and identify where the nest openings are. Wait until the female departs. Between that time and when she returns, apply an insecticide into the entryway. (There currently are 792 different products registered for use in Kansas against wasps. Shop-the-shelves at local retail outlets for product availability in your area.) When the female wasp returns, contact with the insecticide will probably lead to her eventual demise. Whether the insecticide will kill the developing larvae is questionable as they are protected by the dirt wall closing off its underground incubation chamber.

The practicality of the above? One or two mounds/nests? Doable. Many mounds/nests? Probably impractical. It is up to an individual’s best judgment as to what to do. But maybe consider altering “the attractiveness” for next-year’s bout. Renovate lawn areas ---- restore a thick vigorous turf which would have females searching elsewhere for a thin/bare area in which to raise her brood. Also, maintain a moist soil as that would tend to deter her from wanting to expend maximum excavation efforts. In flower bed areas, a layer of gravel or mulch may dissuade her from setting-up-house.

From the viewpoint of an entomologist: take the opportunity to watch and be fascinated by these harmless creatures. If adventurous, put your hand next to her burrow entrance. When “Madam” exits, she may crawl onto your hand. You’ll find yourself talking to her. She may move her head this way or that as if to say, “Nice chatting with you. But I must be off. I have more work to do.”

Bob Bauernfeind

Insect Diagnostic Lab Report for June 28 – July 11, 2013

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Black carpet beetle (*Attagenus unicolor*) \ pesticide company \ Wyandotte County



Pyralid moth (possibly a webworm) in soybean field \ Crawford County

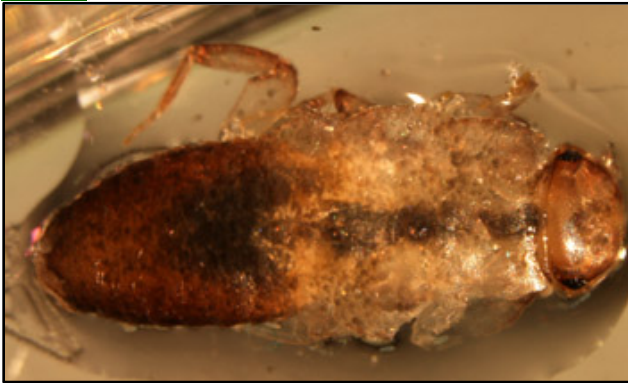


Strawberry root weevil (*Otiorhynchus ovatus*) in a house \ Pottawatomie County



Drugstore beetle (*Stegobium paniceum*) \ pesticide company \ Wyandotte County

Cockroach nymph \ pesticide company \ Wyandotte County



Pine needle scale (*Chionaspis pinifoliae*) on Austrian pine \ Gray County



Water scavenger beetle (*Lacobius minutoides*) - mud near pasture pond \ Wabaunsee County



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Winged termites (*Reticulitermes* sp.) swarming from a tree stump \ Graham County



Flea beetle (*Phyllotreta* sp.) around a beehive \ Washington County



Silverfish exoskeletons \ Wyandotte



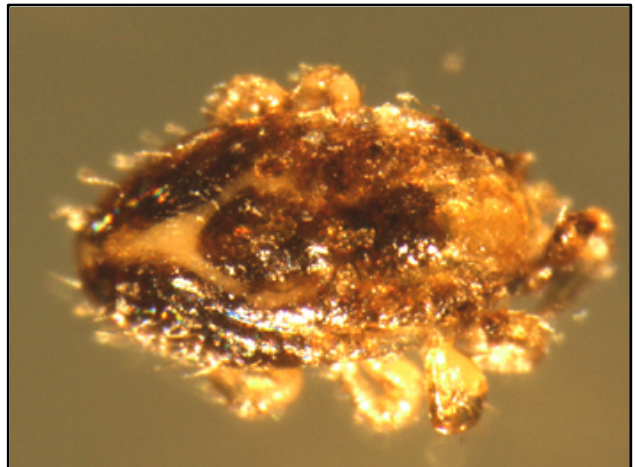
Warehouse beetle (*Trogoderma variabilis*) in a kitchen \ Cheyenne County



Drugstore beetle (*Stegobium paniceum*) on a bathroom window sill \ Sumner County



Parasitic mite (*Ornithonyssus* sp.) on a chair \ Geary County



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Phylloxera on grape leaves \ Miami
Phylloxera and thrips on grape leaves \ Meadowlark -
Nemaha
Bigheaded ant alate (*Pheidole* sp.) in home \ Riley
Silken fungus beetle (*Cryptophagus* sp.) on Austrian
pine \ Gray

From the gotbugs@ksu.edu:

Undewing moth larva (*Catocala* sp.) \ Riley County



Prionus longhorned beetle (*Prionus fissicornis*) in
pasture \ Chase County



Abbott's Sphinx caterpillar (*Sphecodina
abbottii*) \ Leavenworth County



Hooverfly (Syrphidea) attending lilies



Third instar nymph of the green stink bug
(*Chinavia halaris*) \ Johnson County



Ash-gray blister beetle (*Epicauta fabricii*)



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Darkling beetles (Tenebrionidae) \ Cheyenne County



Unidentified. Possibly Picture winged fly?



Stilt bugs (Jalysus sp.) on Evening primrose \ Riley County



Regal jumping spider – orange female – caught on grapes from Mexico \ Wyandotte County



Chironomid nonbiting midges on a boat \ Concordia, KS



Eva Zurek

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Sincerely,

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