

Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants and Extension Personnel



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July 13, 2012 No. 18

Blister Beetles Are “Irritating” Insects

We have received numerous inquiries (both phone calls and images) associated with blister beetles feeding on plants. In fact, in some cases, plants are “literally covered” with blister beetle adults (which is absolutely awesome ☺). Blister beetles are large, slender beetles that vary in color from orange, gray, to black. The thorax (middle portion of insect between the head and abdomen) is typically narrower than the head and wing covers. Adults are 3/8 to 11/16 inches (9 to 18 mm) in length and are very good fliers. There are a number of blister beetle species in Kansas including the ashgray blister beetles (*Epicauta fabricii* and *E. solani*), black blister beetle (*E. pennsylvanica*), and threestriped blister beetle (*E. leminscata*). Blister beetles feed primarily on alfalfa, but may also feed on the leaves and flowers of a wide-variety of plant types and weeds including certain annuals, perennials, soybean, pigweed, goathead, and several species may be found in abundant numbers feeding on goldenrod (*Solidago* spp.) flowers in the fall. Only adults’ damage plants as a result of their chewing leaves and/or flowers. The larvae are actually predators of grasshopper egg pods. Adult females deposit eggs during the summer in crevices or depressions in the soil. These eggs hatch in the fall into larvae that search for grasshopper eggs. After consuming a sufficient number of grasshopper eggs, the full-grown larvae overwinter in the soil and then transform into pupae. Adults emerge from the pupae stages in late spring through early summer. There is generally one generation per year.

Blister beetles contain cantharidin in their hemolymph or blood, which is a highly toxic compound when ingested by horses or other livestock as a result of feeding on alfalfa. The degree of harmful effects depends on the number of beetles consumed by animals. Cantharidin can be irritating and cause blisters at high concentrations. However, blister beetles present in landscapes and gardens generally contain relatively minimal concentrations of cantharidin; thus these blister beetles may not pose a threat when handled. Regardless, it is recommended to wear gloves when handling any blister beetles. Only blister beetle males produce cantharidin, which is stored in the body until mating has occurred. Females may obtain the compound after mating.

Management of blister beetles involves either hand-picking (again, be sure to wear gloves) or applying insecticides. There are only a few insecticides that may be used or are registered for use against blister beetles including carbaryl (Sevin) and malathion. Be sure to read the label of any insecticide to determine if blister beetles are listed. Furthermore, multiple applications may be required because blister beetle adults can continue to immigrate into an area from nearby field or weedy locations.

If you have any questions regarding the management of blister beetles you can contact your county horticultural agent, or university-based or state extension entomologist.

BUGS ROCK ☺

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Raymond Cloyd

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Lace Bugs: Ok...So What?

Lace bugs are insects present throughout Kansas feeding on a variety of plant types although lace bugs are not generally considered a major insect pest of ornamental plants because they typically don't inflict significant direct harm to plants. However, abundant populations may reduce the aesthetic appearance of certain plant types. Lace bugs feed on a wide-range of trees and shrubs including azalea, basswood, cotoneaster, hawthorn, linden, oak, rhododendron, and sycamore. Herbaceous plants susceptible to lace bugs include aster, chrysanthemum, and scabiosa. The major plant-feeding lace bug species include *Stephanitis* spp., and *Corythucha* spp. *Stephanitis* spp. are primarily pests of broad-leaved evergreens, whereas *Corythucha* spp., including the sycamore lace bug (*Corythucha ciliata*) are pests of deciduous trees and shrubs.

Lace bugs feed on the undersides of leaves; using their piercing-sucking mouthparts to withdraw plant sap from individual leaf cells, causing leaves to appear stippled and/or bleached. Lace bugs feed similar to the twospotted spider mite, *Tetranychus urticae*, in which they both withdraw chlorophyll (green pigment) from plant cells. The damage is similar to that caused by spider mites and leafhoppers; however, lace bugs leave black, tar-spot-like droplets of excrement ("Lace Bug Poop") on leaf undersides. The presence of this black excrement distinguishes lace bugs from spider mites and/or leafhoppers. Excessive lace bug populations and extensive feeding may reduce plant vigor, depending on age and size (especially young or newly-transplanted trees and shrubs), creating undue stress that increases susceptibility to other insects and/or diseases.

Adult lace bugs are very distinguishable and quite attractive (entomologically speaking ☺). They possess lacy, clear, shiny wings that are held flat over the body. Adults are 1/8 to 1/4 inch (3 to 8 mm) long, and tend not to fly but move sideways when disturbed. Female lace bugs may lay between 20 to 50 eggs, during their lifespan, underneath leaves; placing them usually alongside leaf veins. Eggs are black and shaped like a wine flask (although I don't personally drink any alcohol ☺). The eggs hatch into shiny, black nymphs with spines around the periphery of the body. Nymphs undergo five instar stages before reaching adulthood. Shed skins on leaf undersides are evidence of nymphs that have transformed into adults. It generally takes about 30 days to complete a generation (egg to adult). There may be up to three generations per year, depending on temperature. *Stephanitis* spp. overwinter as eggs that are cemented onto leaves and *Corythucha* spp. overwinter as adults in bark crevices and branch crotches. Adult activity begins in the spring when leaves unfold.

Lace bugs tend to be more abundant on plants such as rhododendron and azalea that are exposed to full sun rather than on plants in shady locations. Management of lace bugs is generally not a concern because lace bugs are susceptible to many natural enemies including predators such as green lacewings, plant bugs, assassin bugs, minute pirate bugs, and spiders. If feasible, using a forceful water spray may be effective in washing off lace bugs from plants. However, if necessary, there are a number of contact insecticides registered for use against lace bugs. Be sure to read the label to make sure lace bugs are listed. It is important to thoroughly cover leaf undersides, which is where lace bugs are primarily located, to enhance the effectiveness of the application.

If you have any questions regarding the management of lace bugs be sure to contact your county horticultural agent, or university-based or state extension entomologist.



Raymond Cloyd

Cowpea Aphids in Alfalfa

Found cowpea aphids in one alfalfa field in north central KS (see photos). These aphids are often called the black aphid for obvious reasons. These aphids are not usually real common in the state and the last time we saw an infestation of this magnitude was in 2007. These aphids produce copious quantities of honeydew which is sometimes how they are first detected, because the plants can look wet and shimmering with honeydew. Or, all the other insect activity associated with the aphid infestation can attract one's attention as there will be small wasps, lady beetles, flies and sometimes even ants, all taking advantage of the aphids and/or honeydew.

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There is no treatment threshold for cowpea aphids but they are sucking the juice from alfalfa plants that are probably already stressed by the hot, dry weather. Swathing will remove most of the aphids but regrowth needs to be monitored as these aphids can quickly repopulate and thus retard growth. For more information, please refer to the cowpea aphid insecticide efficacy trial:

<http://www.entomology.ksu.edu/p.aspx?tabid=475>

And/or the Cowpea Aphid publication:

<http://www.ksre.ksu.edu/library/entml2/mf2865.pdf>

Jeff Whitworth

Holly Davis

Pool Time ----- Uninvited guests

To escape the heat of summer, many people will seek relief by relaxing in backyard swimming pools. Often times, people encounter “uninvited guests”. Simply an annoyance by their presence, or possibly giving a slight bite, various aquatic insects make their presence known.

Unseen by people, the evening skies are filled with multitudes of insects on-the-wing as they disperse from “home areas” seeking “new quarters” to propagate their species. Insects from various natural water habitats often times are attracted to lights. Many backyard pools are lit up at night ---- and lights left on after people retire for the evening are “magnets” for evening fliers who then land in and around swimming pools.

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Some of the more common aquatic insects are: water boatmen, backswimmers, water striders and giant water bugs (Figure 1, A –D, respectively).

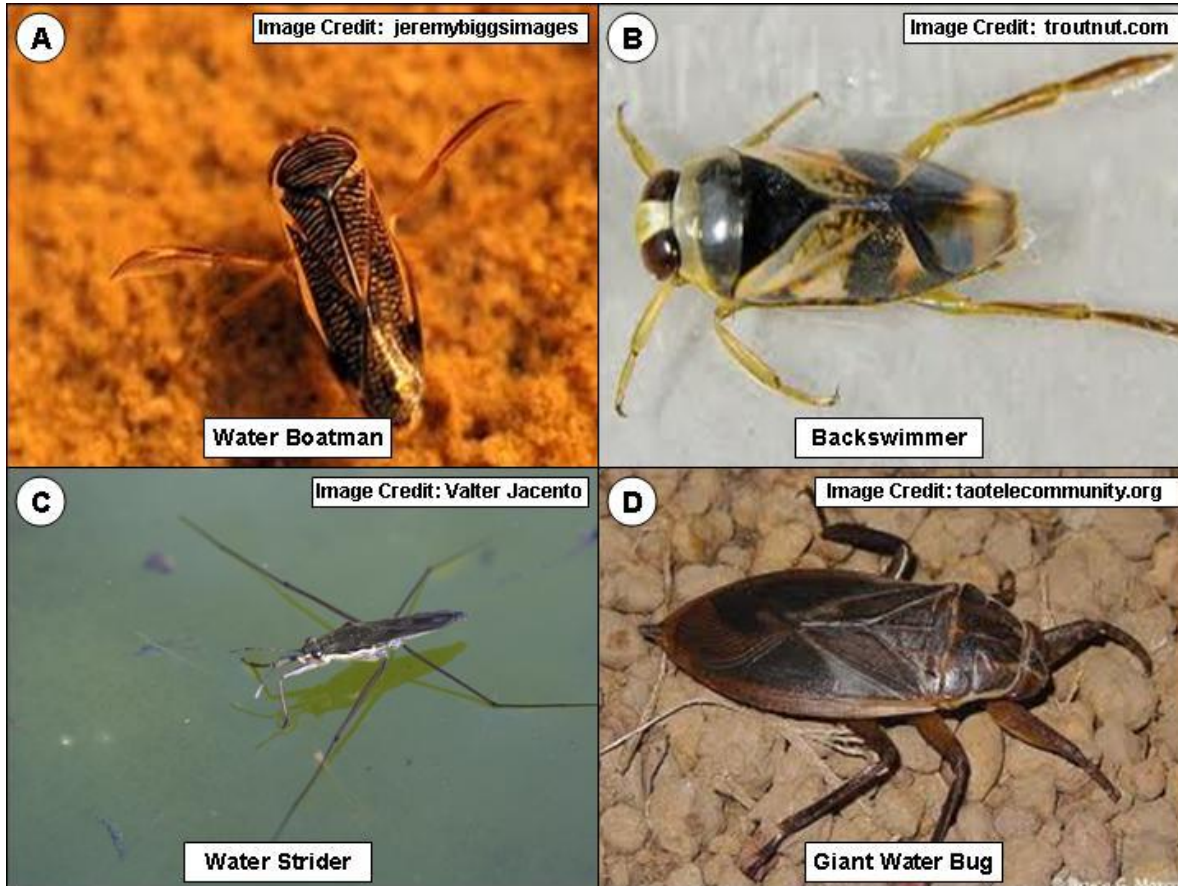


Figure 1

Water boatmen are relatively small, seldom exceeding $\frac{1}{4}$ inch in length. They have a flattened appearance, a broad head and large transverse eyes. Hind legs are fringed with long hairs which aid them in swimming.

Back swimmers are unique in swimming and resting on their backs (belly-up). Most species are small, but some may approach $\frac{1}{2}$ inch in length. Again, hind legs are fringed with hairs which aid them in swimming.

Water striders (sometimes called “water spiders” because of their long legs) actually skim along the water surface --- their bodies elevated/lifted. Their front legs are shortened and used for grasping their prey. Middle and hind legs are elongated ---- the tips possessing hairs which distribute their weight so that the surface tension of the water is not broken ---- thus their ability to “skate” above the water surface.

Giant water bugs are the Goliaths of aquatic insects ---- reaching $2 \frac{1}{2}$ inches in length.

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Being Hemipteran insects, all of these insects possess mouthparts which are modified into a beak-like structure which they use to pierce their prey as and then feed on the liquid “innards” of their victims. Is it safe to swim with these Hemipteran insects? Yes! Can they bite? Yes! But if left alone, they are not prone to bite. However, as is the nature of insects, they may give an occasional jab just to see/taste/check out whether they have hit upon a food source. Of course, if any of these insects are carelessly handled, they may give a “defensive jab” ----- not serious. That of the giant water beetle may be sufficient to cause a person to give a yelp-of-pain.

Other pool visitors include various species of aquatic beetles. Three groups come to mind: predaceous diving beetles, water scavenger beetles and whirligig beetles (Figure 2).

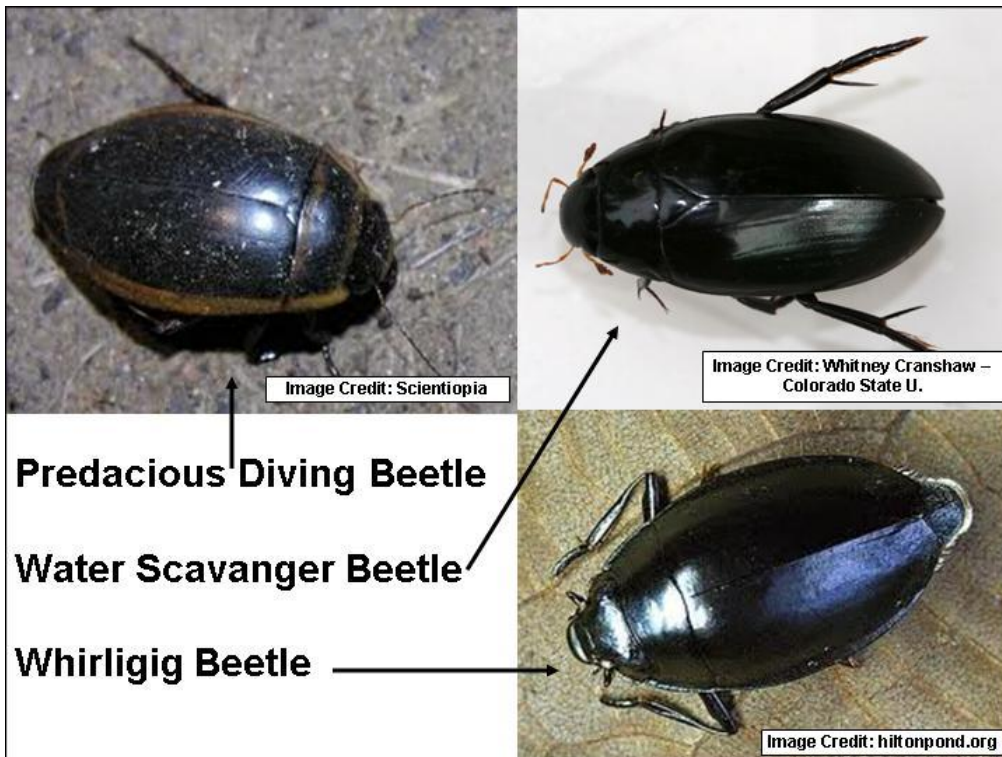


Figure 2

Depending upon individual species, both predaceous diving beetles and water scavenger beetles vary in size, the largest predaceous beetles reaching 1 ¼ inches in length and water scavenger beetles reaching 1 ½ inches. The “clowns” of the beetle group would be the whirligig beetles. They are gregarious ----- swimming in packs ----- rapidly gyrating about, but seemingly never colliding with one another. These beetles are predators possessing chewing mouthparts. I have never heard/read about accounts of them biting.

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How does one minimize chance encounters of these visitors? Certainly turning off lights around pool areas or nearby yard lights will decrease a source-of-attraction. Pool covers can be deployed to exclude insects. And loooooooooooooooooong handled nets are basic pool equipment to capture/remove interlopers.

Bob Bauernfeind

Wasps

There are many many different species of wasps with different life histories and habits. Different species likely have their individual moisture requirements. And in normal years may be out-of-sight, out-of-mind because they visit normal natural sources of water. During droughty periods when those sources have dried up, wasps will seek out alternative sources. Thus continuing the previous discussion, there have been recent reports of wasps around pool areas. And I personally have noted (although I have no way of documenting whether the frequency is greater) seemingly more wasp activity around my home.

What is important to note is that **colony-type wasps** (namely vespids such as “paper wasps”, yellow jackets, baldfaced hornets – Figure 3) while likely to sting in defense of their homes/colonies, are not aggressive when alone and out foraging or seeking water. It is when people begin swatting at these wasps that they justifiably react in a defensive manner.

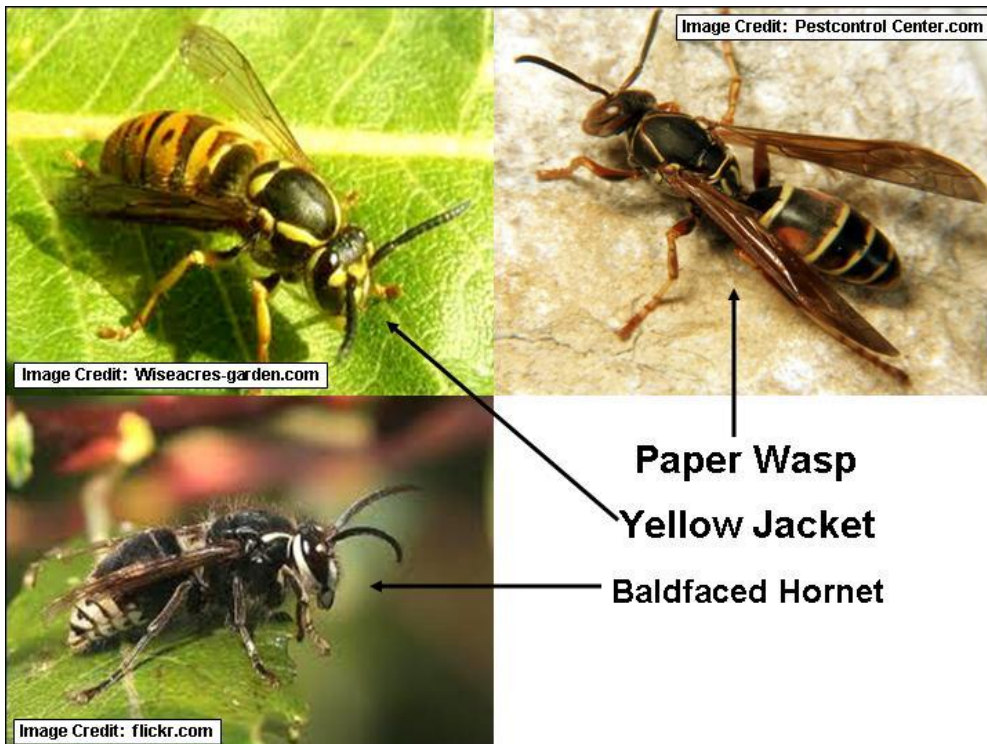


Figure 3

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If there are “mellow fellows” (well in the world of wasps because only female wasps are capable of stinging --- so “mellow ladies”), **solitary wasps** are notably non-aggressive. The most “familiar” solitary wasps are sphecids of which there are many species (Figure 4).

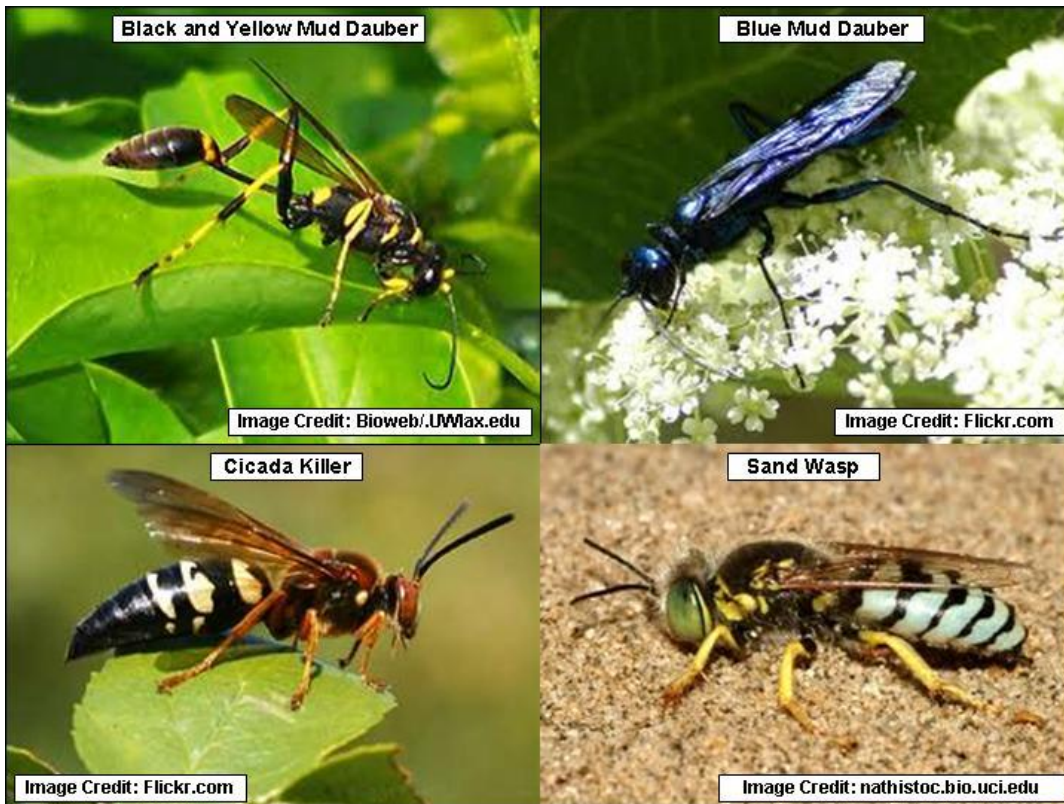


Figure 4

Mud daubers are noted for their mud “nests” ----- a series of cells ----- which they construct in any conceivable location. After a cell is completed, the female wasp seeks out their specific prey species. Using her stinger, he paralyzes her and which she then carries back to the mud cell. After sufficient numbers of prey are stored (a mystery as to how she determines what constitutes an adequate supply), the wasp deposits a single egg in the cell and seals the cell with a mud cap. The wasp then constructs another cell, and so on. All of the cells then form “the mud nest”. The larva in each cell feeds and develops on the provisioned food.

Cicada killer wasps and sand wasps prefer loose sandy soils or areas of sand which they can easily excavate. They create a main tunnel off of which they construct individual galleries. The wasps then provision each gallery in a manner similar to mud daubers.

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As stated earlier, solitary wasps are not the least bit aggressive. People sometimes become alarmed at the frenzied flights of wasps which may congregate in an area. The frenzied fliers are male wasps courting about in territorial rituals ---- THEY DO NOT POSSESS A STINGER. Females, on the other hand (although capable of stinging) ignore people, rather, tending to their business.

A good form of fascinating entertainment is to sit and watch sphecid wasps. Mud dauber wasps will frequent areas where soil has been moistened (a flower bed for instance). Watch them as they alight, use their mandibles to gather up and form a small ball of mud which they then carry to where they are constructing their mud cells. They will repeatedly return to gather more mud. You will then gain an appreciation for their dedicated hard work ---- trip after trip after trip after..... And finally, they will have completed a cell. This then followed by repeated trips to capture prey to provide for their eventual offspring. Over and over and over. How can one not be fascinated by and have an admiration for such industrious creatures.

Cicada killer and sand wasps are similarly fascinating. And if you put your nose right next to a hole where the female is digging, you will feel the spray of sand particles as she uses her legs to “kick out” the excavated sand particles.

Almost guaranteed: you will begin talking to the little ladies ---- maybe even giving them a name. Do not fear them. Enjoy them.

Bob Bauernfeind

Report from the Kansas State University Insect Diagnostic Laboratory:

The following samples were submitted to the Insect Diagnostic Laboratory from June 29th to July 12, 2012.

July 2 – Crawford County – Asilid robber fly around home

July 2 – Miami County – Dung beetle, hister beetles, and small hive beetle and larvae in bee hive

July 2 – Phillips County – Corn earworm larva in corn

July 2 – Saline County – *Myrmica* ants in home

July 2 – Jackson County – Stalk borer, *Papaipema nebris* in beebalm and other plants

July 3 – Osborne County – Seed bugs, family Lygaeidae, in broccoli

July 5 – Brown County – Claycolored leaf beetles in trees

July 5 – Smith County – False chinch bugs in lawn

July 5 – Harvey County – Springtails on a cat

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- July 5 – Leavenworth County – Brown dog tick on person
July 6 – Riley County – Ground sac spider, *Castianeira* sp. in home
July 6 – Woodson County – Twospotted spider mites on tomato
July 6 – Ness County – Whitemargined burrowing bugs around trees
July 7 – Riley County – Euonymous scale on Euonymous
July 7 – Johnson County – Ichneumonid wasp around foliage
July 7 – Sedgwick County – Springtails in home
July 9 – Rice County - Pennsylvania ground beetle in hay
July 9 – Ford County – Sawtoothed grain beetle in home
July 10 – Stafford County – Brown recluse spiders in home
July 11 – Riley County – Pandora sphinx moth, large rove beetle, and differential ground beetle around home
July 11 – Phillips County - Ground sac spider, *Castianeira* sp. in home
July 11 – Norton County – False chinch bug nymphs in home
July 11 – Saline County – Bat bugs in home
July 11 – Haskell County – False wireworm around home and garden
July 11 – Douglas County – Blister beetles in lawn and garden
July 11 – Kingman County – Brown lacewing
July 12 – Pottawatomie County – Brown dog ticks on person
July 12 – Osage County – Green June beetles around home
July 12 – Ford County – Solifugid or windscorpion on zucchini plant

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

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Sincerely,

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