

Kansas Insect Newsletter

For Agribusinesses, Applicators, Consultants and Extension Personnel



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September 16, 2011 No. 23

It's That Time Of Year ----- Dragonfly Swarms

While dragonflies are readily evident during the summer months and on warm fall days usually around ponds/lakes/streams, they especially draw attention with the approach of cooler nights and days when they are seen swarming, especially when away from bodies of water. Invariably those swarms are comprised of green darner dragonflies.

Rather than reinvent the wheel, I am re-circulating an article prepared for a previous newsletter entitled, Dragons Fly So Do Dragonflies

Drake. Draco. Vermithrax. Smrgol. Gorbash. Yowler. Mushu. Falcor. Q. ----- all dragons that flew (and some even breathed FIRE!). I've seen some of these dragons fly across the silver screen. But alas, not in real life. However, in real life, I have seen plenty of DRAGONFLIES.

There are numerous species of dragonflies. Most often they are observed around bodies of water. This is logical in that dragonflies are associated with water environments. Dragonflies deposit eggs in water. Dragonfly naiads (aquatic nymphs) live in the water where they feed upon aquatic organisms. When a naiad has completed its development, it crawls out of the water and up onto vegetation at water's edge. This is followed by a final molt and the emergence of the adult form.

Frustrations and catching dragonflies go hand in hand. Anybody who has attempted to capture/net a dragonfly knows of their speed and agility. Adults are constantly on the wing skimming over waters (ponds, lakes, streams, marshes) and grassy areas in search prey. They are nondiscriminatory, seizing/eating whatever "flying morsels" pass their way. Dragonflies seem to see what we cannot see. This is not too surprising given their massive compound eyes (occupying most of the head) which provide them a 360° view (in essence, a dragonfly is still watching you after it has flown by). These same eyes are able to detect fast motions (other flying insects). Using their unique legs to form a basket, dragonflies swoop up their prey and eat-on-the-fly, only possibly resting if they have captured a larger prey which demands their full attention.

Green darners are the largest dragonfly species found in Kansas with a wingspan of 4 ½ inches. Males have a distinctively colored blue/turquoise abdomen, whereas that of the female tends to be purplish-grey (Figure 1).

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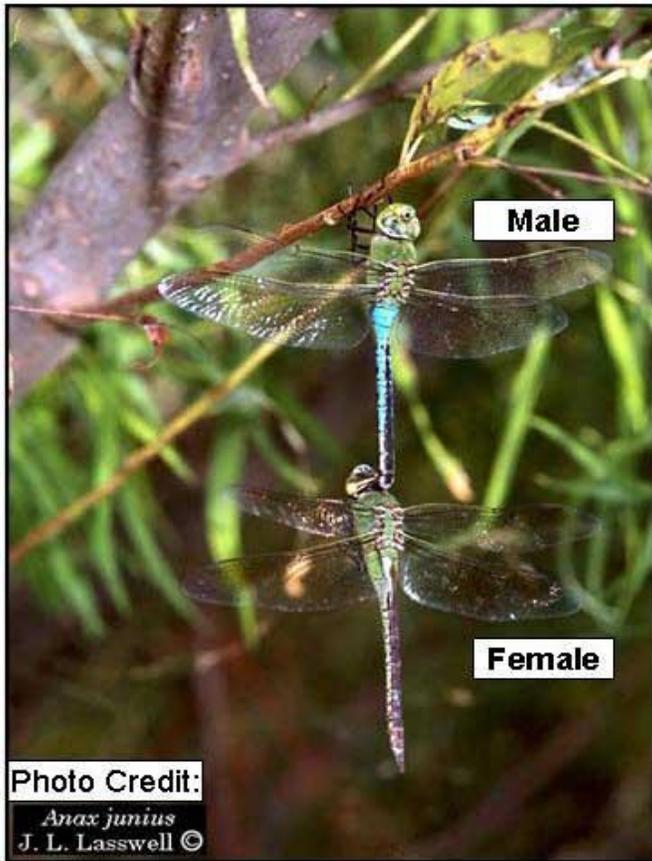


Figure 1

Green darners also are unique in that they are known to migrate! And this is a bit more complicated. That is, not all green darners migrate. There are **resident populations** which strictly breed and live within a geographical area. The dragonfly swarms which we see most often in Kansas are not migrating swarms. First of all, the swarms which are reported (although seemingly large) do not compare number-wise to the hundreds of thousands comprising migrating swarms. And, our dragonflies are flying in erratic circular patterns. So what might explain swarms which frequently occur after a long period of hot, dry weather, and with the approach of or following a rain event? It is likely that small flying insects are being targeted by dragonflies that have located and gathered over the grassy stretches from whence “their meals” are being produced. It has been observed that these swarms are composed mostly of male dragonflies which tend to range afar from water (whereas females choose to forage closer to their water habitats). Green darner dragonflies are the predominant species forming these feeding swarms.

People automatically assume that these dragonflies are wrecking havoc on mosquito populations. This is not the likely situation. **WHEN ARE MOSQUITOES ACTIVE?** During evening hours. By day, mosquitoes tend to remain inactive, resting on low shrubbery and bushes. And when they are active during evening hours, they have little reason to fly at great heights because the sources for their “blood meals” are on the ground. **WHEN ARE DRAGON FLIES ACTIVE?** During the daylight hours. **AND WHERE ARE DRAGONFLIES COURSING?** High above the ground where a myriad of “daytime insects” are actively flying.

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To give dragonflies their due regarding mosquito control: as previously mentioned, dragonfly naiads are hunters. And mosquito “wigglers” (larvae) and “tumblers” (pupae) are fair game for the naiads. So, YES, dragonflies may lower mosquito populations. But this would be a small scale reduction. Given the plentitude of alternative aquatic life forms in natural aquatic situations for naiads to feast on, the tremendous egg production capabilities of mosquitoes, and the fact that certain “treehole” mosquito species deposit eggs in naiad-free mosquito breeding sites, mosquitoes simply are a fact of life that we must contend with ----- dragonflies or no dragonflies.

Regarding **Migrating** green darners: In springtime, they leave from their winter ranges in the southern US, the Caribbean and Mexico and ride northward on warm springtime air fronts. When they reach their northern limits, they produce the next generation of green darners which are the migrants that (in the fall) move southward as they flee ahead of cold fronts. Especially during this fall migration, swarms of green darners may suddenly gather in staging areas. Presumably the staging areas (very transitory in duration) eventually coalesce to form migratory swarms consisting of hundreds of thousands of dragonflies flying in a single direction. Once at their winter quarters, the migrants produce the next generation of green darners which will form the north-bound spring migrants.

How Do I Know If I Have Chinch Bugs In My Lawn?

Lawns have had a tough road to hold due to this summer’s extremely hot and dry conditions. Even warm-season grasses (Bermuda, zoysia and buffalograss) which usually thrive under adverse summer conditions have not had a cakewalk summer. This begs the question as to the cause for stand failures in these lawn/turf situations. The usual culprits responsible for thinned/dead stands are chinch bugs --- in particular the western chinch bug (formerly and unofficially called the buffalograss chinch bug) (See Extension Publication MF-2901, April 2011 --- Turfgrass Insect Pests). Chinch bug damage usually is noted only after it has become severe enough to draw attention. At that time, a hands-and-knees visual inspection (Figure 2A) is required to check for the presence of chinch bugs. If chinch bugs are present, you should (at this time of year) be able to see all different life stages ----- most notably (standing out) would be “red nymphs” (Figure 2B).

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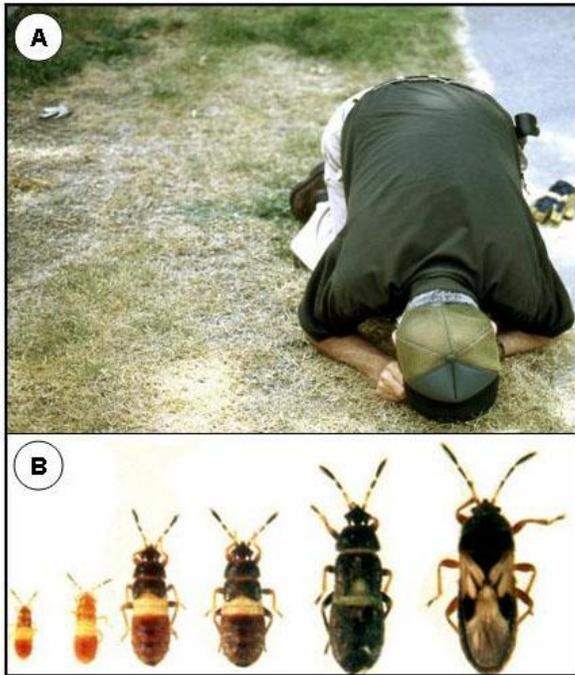
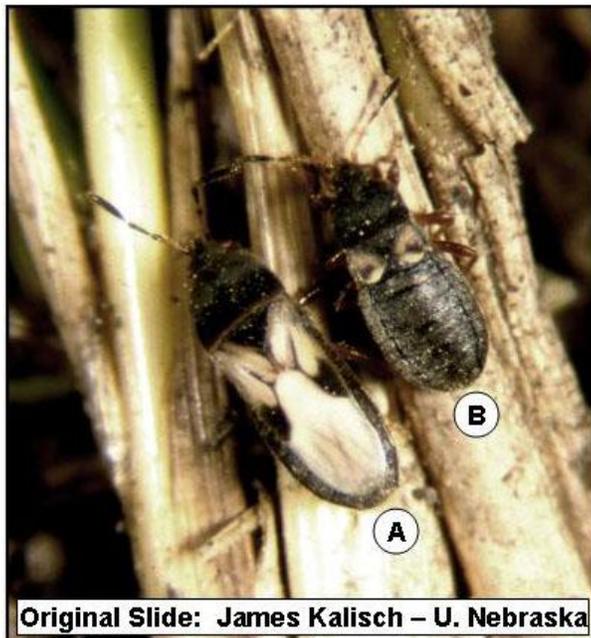


Figure 2

Nymphal stages of both chinch bug species are similar in appearance. However, adult chinch bugs vary: 100% of “field chinch bugs have fully developed wings (Figure 3A) whereas an estimated 95% of late-season (second generation) buffalograss chinch bugs have “stubby” nonfunctional wings (Figure 3B).



Original Slide: James Kalisch – U. Nebraska

Figure 3

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Other than the aforementioned casual/cursory inspection of turf for the presence of chinch bugs, several alternative methods might be considered. All both should be conducted in the transitional zone between dead and healthy turf where chinch bugs would be most likely concentrated. The first (quickest and easiest) approach is to simply remove a plug/small square of turf, flip it over and forcefully strike it against a hard surface (concrete sidewalk/driveway). If present, chinch bugs should be dislodged and seen scurrying about. The plug/square can be replaced and watered in.

A second relatively simple method is to mix a “disclosing solution” [fancy phrase for a tablespoon of liquid detergent to a gallon of water ----- oft-cited is a lemon-scented detergent, although, any detergent probably would serve as an irritant] and sprinkle it over a portion of turf. While this method is probably more intended for larger more easily observed soil-inhabitants, chinch bugs should be seen (if present) upon close examination.

Thirdly, the flotation method requires more preparation and effort. Using a larger metal cylinder (a large coffee can with the bottom cut out), push it into the soil to a depth of 2-inches. Pour water and fill to the brim of the cylinder. Chinch bugs (if present) will float to the top of the water. This method may not be as easy as it sounds. The ground may be hard thus making a “mere push” difficult. You may have to “trace” a circle around the cylinder, and then use a long knife to penetrate the hard soil to a depth of several inches. Still, the cylinder may not easily be pushed down. A block of wood over the top of the cylinder and a hammer may facilitate that process. If water recedes or escapes, more water must be added to bring (and retain) the water level to the brim. It may require 10-15 minutes for chinch bugs (if present) to float to the water surface. And lastly, there will be a lot of other surface trash to contend with/sort through to observe/find any chinch bugs.

These methods are detection methods. There are no established thresholds to guide one to make a spray/no-spray decision. If lawns/turf areas are showing damage, numbers would be a moot point. If found, an insecticide application would be logical to prevent further damage by reducing chinch bug populations.

Bob Bauernfeind

Report from the Kansas State University Insect Diagnostic Laboratory:

The following samples were submitted to the Insect Diagnostic Laboratory from September 2nd to September 15th.

September 2 2011 – Phillips County – Brown stink bug nymph
September 2 2011 – Riley County – Walnut caterpillar
September 2 2011 – Edwards County – Spruce spider mite eggs
September 2 2011 – Mitchell County – Earwigs in peach pit
September 6 2011 – Riley County – Wolf spider in commercial building
September 6 2011 – Geary County – Bat bugs in building

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September 7 2011 – Kingman County – Cave crickets in basement
September 8 2011 – Barton County – Cecropia moth cocoon
September 12 2011 – Grant County – Ichneumonid wasps around porch light
September 12 2011 – Graham County – Silver spotted skipper caterpillars in soybeans
September 12 2011 – Cheyenne County – White grubs in lawn
September 12 2011 – Riley County – Pennsylvania ground beetle around home
September 12 2011 – Mitchell County – Melon aphids on cucumber
September 12 2011 – Douglas County – Scorpion, *Centruroides vittatus*
September 12 2011 – Sedgwick County – Brown widow spider found in plant nursery
September 12 2011 – Riley County – Swamp milkweed leaf beetle in garden
September 12 2011 – Johnson County – Silver spotted skipper caterpillars in soybeans
September 14 2011 – Wyandotte County – Small hive beetles in beehive
September 14 2011 – Jefferson County – Lone Star tick larvae on human
September 14 2011 – Riley County – Chinese praying mantis, tomato hornworms, and longtailed mealy bugs around home
September 14 2011 – Cloud County – Bat tick, *Carios kelleyi* found in home
September 15 2011 – Dickinson County – brown dog tick in home

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.

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Sincerely,

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