

Kimberly Schofield
Program Specialist-Urban IPM
k-schofield@tamu.edu

Female Mosquitoes Are Out for a Meal

The female mosquito consumes blood in order to develop her eggs, which causes her to be one of the biggest medical threats to humans, since she is capable of transmitting many viruses including West Nile virus, Eastern Equine Encephalitis, and Yellow Fever. Applying repellents onto our skin is very important as we begin to enjoy outdoor activities. There are many excuses for not using repellents such as it doesn't smell good, it's too expensive, but the bottom line is that repellents are needed to prevent illnesses from a feeding female mosquito.

Some Options to Prevent Mosquito Bites:

- 1) Repellents can be applied to the skin and clothes to prevent bites. There are many mosquito repellents on the market such as those containing DEET, picaridin, oil of eucalyptus, and soybean oil-based repellents.
- 2) Avoid wearing dark colors, since mosquitoes rely on visual cues to locate hosts.
- 3) Avoid exercising or yard work in the heat of the day, since mosquitoes are attracted to carbon dioxide and perspiration.
- 4) Avoid wearing fruity or floral fragrances in perfumes, hair products, or sunscreens, since these scents are more attractive to mosquitoes.
- 5) Wear long, loose-fitting clothing avoid mosquito bites.

Some Options For Controlling Mosquito Populations Outdoors:

- 1) The number one way to reduce mosquito populations is **source reduction!!!** Mosquitoes need as little as a bottle cap full of water, in order to complete their lifecycle. **If standing water is eliminated, then the overall mosquito population in your area will be reduced.**
 - A) Areas containing water should be changed once a week or emptied, such as wading pools, buckets, bird baths, pet dishes, ponds, boat covers, and irrigation systems.
 - B) Holes or depressions in trees should be filled with sand or mortar.
 - C) Leaky pipes should be repaired.
 - D) If standing water can not be drained, then mosquito dunks containing *Bacillus thuringiensis israelensis* (*Bti*) can be used to kill the mosquito larvae.
- 2) Mow tall grass and reduce the amount of foliage. This will reduce the number of resting sites for adult mosquitoes.
- 3) Insecticides can be applied to trees and shrubs, such as those containing pyrethrins, to kill adult mosquitoes when they rest.



Photo of an Asian Tiger Mosquito. Photo by Texas A&M University.

Warmer Weather Means More Stinging Insects

As the temperature warms and summer approaches, we will begin to see larger populations of wasps, including paper wasps, mud daubers and yellow jackets. There are two species of paper wasps, *Polistes exclamans* which is brown with yellow markings on the head, thorax and bands on the abdomen and *Polistes carolina* which is reddish-brown in color. Both have smoky colored wings and are $\frac{3}{4}$ to 1 inch in length. Paper wasp nests are composed of wood fibers that are chewed and formed into open hexagonal cells arranged in a comb-like shape. Their nests are oriented downward and are suspended by a single filament. Their nests can be found in such areas as underneath eaves, in structures, or around plants. Adult paper wasps prey on insects such as caterpillars, flies and beetle larvae, which they feed to developing larvae. This makes them a beneficial insect.

Some Control Options:

Since paper wasps feed on caterpillars and other insects, they are considered beneficial insects so no control is needed. However, some people may be highly allergic to their venom, so removal of the wasp nest is necessary. Nests can be knocked down from eaves using a high pressure water spray, pressurized sprays of insecticidal soaps and oils, or residual insecticides such as those containing the active ingredients deltamethrin or cyfluthrin can be used.

Be sure to take precautions when treating, so the wasps will not sting nearby people or pets.



Photo of paper wasps, *Polistes carolina*.

Adult mud daubers are $\frac{3}{4}$ to 1 inch in length and vary in color from dull black to black with bright yellow markings to an iridescent bluish-black. However they all have a long, narrow petiole (the section between the thorax and abdomen) or “waist.” These wasps are solitary, and build small nests of mud under eaves of buildings, along exterior walls or inside garages. Mud daubers are rarely aggressive, but they are capable of stinging.

Some Control Options:

Since mud daubers provision their nests with mainly spiders (some even kill black widows), they are considered beneficial insects so no control is needed. However if control is desired, their nests can be removed with a putty knife and adult wasps can be killed with a fly swatter or with an aerosol insecticide such as those containing pyrethrins or permethrin.



Blue mud dauber, *Chalybion californicum* Saussure (Hymenoptera: Sphecidae).
Photo by G. McIlveen, Jr.

Yellowjacket populations can also increase in the warm weather. Yellowjacket workers are ½ inches in length, with black and yellow markings on the head, thorax and abdomen. Their carton nests are usually found underground, but occasionally they can be found in wall voids and indoors. Their nests are usually spherical in shape and consist of a number of round combs that are attached to each other and then surrounded by a layered outer covering.

Yellowjackets are considered beneficial since they feed developing larvae arthropod prey. However when their nests are disturbed, defending worker wasps can sting multiple times.

Some Control Options:

Insecticidal sprays can be used to kill yellowjackets. Also insecticidal dusts can be used and are sometimes preferred since the workers attempting to use the nest opening will contact the dust and contaminate brood and other colony members.

Wasps will attack when sensing an insecticide applied to their nests so wearing protective clothing that covers the whole body, including gloves and a veil over the face is recommended.



Southern yellowjacket, *Vespula squamosa* (Drury) (Hymenoptera: Vespidae). Photo by Bart Drees, Professor and Extension Entomologist, Texas A&M University.

New Insect Found on Bermudagrass in Georgia

According to Hay and Forage Grower® (<http://hayandforage.com>), bermudagrass stem maggots were found damaging bermudagrass pastures and hayfields in Georgia. Small gray-and-brown adult flies were collected and identified as *Atherigona reversura*, which is a species native to Asia. William Hudson, a University of Georgia Extension entomologist, said this was the first record of this pest to be identified in North America. The adult fly lays eggs and then the maggot bores down the stalk of the grass. This maggot causes death to the top leaves and growing points of infested stems as they bore, giving the appearance of frost or cold damage. When it completes its development, it pupates and emerges as a fly. So far, this maggot has been found in southern Georgia, northern Florida, Alabama and South Carolina. Ongoing laboratory and field research studies will examine the biology and methods for controlling the bermudagrass stem maggot.

Research on Bee Health

According to Washington State University (<http://wsutoday.wsu.edu>), research has been conducted on the effects of pesticide residue on honey bees. They found that low levels of pesticides build up in honey bee brood comb wax, which causes delayed larval development and a shortened adult lifespan. The pesticides involved in the study include those used by beekeepers, growers and homeowners, such as miticides, insecticides, fungicides and herbicides. The pesticide residue contamination in the brood comb may play a role in losses associated with colony collapse disorder (CCD).



Honey bee, *Apis mellifera* Linnaeus (Hymenoptera: Apidae), colony with queen. Photo by Bart Drees, Professor and Extension Entomologist, Texas A&M University.

Mention of commercial products is for educational purposes only and does not represent endorsement by Texas AgriLife Extension or The Texas A&M University System. Insecticide label registrations are subject to change, and changes may have occurred since this publication was printed. The pesticide user is always responsible for applying products in accordance with label directions. Always read and carefully follow the instructions on the container label.