# The Right Trap for the Right Wasp

A common question I hear this time of year is, "My yard is overrun with wasps, and they are eating my raspberries and grapes. I put out a trap, but why hasn't it helped?" The most likely reason is that the trap you are using is not attractive to the target wasp species. Since the invasion of the European paper wasp to Utah less than 10 years ago, this species has become a prominent nuisance and fruit-eating pest for growers and home gardeners. The primary type of wasp trap sold in garden and home centers contains heptyl butyrate, a chemical that is attractive to the yellow jacket wasp, but not to the European paper wasp.

Dr. Peter Landolt, USDA ARS Entomologist in Wapato, WA, studies the chemical ecology of insects, and has developed do-it-yourself traps to attract food-eating social wasps. The key is first determining the problem wasp species, and then selecting an appropriate trap.

Do-it-yourself wasp traps must be designed for the right type of wasp. Yellow jackets are attracted to meat, and European paper wasps are attracted to fermenting fruit.

The yellow jacket, shown at right, has a broad "waist" and more yellow than black color on its lower body (abdomen). It commonly builds its paper nests in the ground or under dense vegetation. Yellow jackets are primarily attracted to meat baits. A simple trap can be made by cutting the top from a plastic soda bottle and inverting it (without the lid) into the bottom "cup." Punch a hole on each side of the cup and hang the trap using wire or twine. Hang a piece of meat, such as hamburger or fish, just below the funnel-shaped top and fill the cup with water plus 1 tsp. detergent. Position the meat so that the wasp will fall into the soapy water when it attempts to fly away after cutting off a piece.

Gary Alpert, Harvard University

The European paper wasp has a narrow waist and more black than yellow on its abdomen (see image on next page). This wasp builds upside-down umbrella-shaped paper nests and attaches them to overhangs, decks, and other structures. The European paper wasp is highly attracted to decaying fruit. Landolt recommends loading the soda bottle trap previously described with a mixture of 1 part fruit juice to 10 parts water + 1 tsp. liquid detergent. The juice must begin to ferment in order to be attractive, and so it may take a day or two for rapid fermentation to begin. You can accelerate the fermentation by adding a piece of overripe fruit.

The wasps will try to fly up towards the light after getting a bite of food, but will hit the bottom of the funnel and fall into the soapy water which will make it difficult for them to fly. They should eventually get caught in the liquid in the bottom of the trap. Landolt cautioned against adding insecticides because the sweet traps could attract and harm honeybees. Since ripe and overripe fruits will compete with traps for the wasps' attention, he advised to trap wasps preemptively to reduce populations before they become a problem during fruit harvest. He advised positioning traps every 30 ft around the perimeter of a vineyard or orchard as well as within the field. The higher the wasp population, the more traps will be required to reduce wasp numbers. The traps should be checked regularly to remove dead wasps and refill the bait.

If you need assistance with identifying a wasp, collect and submit a sample to the Utah Plant Pest Diagnostic Lab.

-Diane Alston, Extension Entomologist

*Reference*:

Mitham, P. 2008. Do-it-yourself wasp control: savvy traps have the right chemistry. Good Fruit Grower, December, Vol. 59, No. 17.

## Natural Control of Invasive Wasp

A viral or protozoan pathogen that causes wing deformation and sick larvae may help to bring the burgeoning European paper wasp population under control.

The European paper wasp, *Polistes dominulus*, was introduced into eastern North America almost 30 years ago and has been making its way westward, arriving in northern Utah less than 10 years ago. Since its arrival, it has overwhelmed and displaced a number of native species of paper wasps. This is a common phenomenon with newly invasive insects. They arrive with few or no natural enemies (predators, parasites, and pathogens) to keep their populations in balance, and quickly elevate to pest status.

There is some good news on *P. dominulus* populations in northern Utah – wasp individuals infected with an entomopathogen, most likely a virus or protozoan, have been spotted. In 2006, I first observed European paper wasp adults with deformed wings on the ground below several nests hanging from a porch ceiling. Adults typically fly to and from their nests to find food. But these adults were spending significant time on the ground below their nests which indicated they may not be orientating or navigating properly. Then I noticed flaccid wasp larvae on the ground underneath their nests. Adults will clean their nests of sick or dead larvae, but the number of sick larvae was unusually high. These symptoms fit with those of an insect infected by a pathogen. These first observations were made in eastern Logan. Since then I have observed similarly "diseased" wasps in Richmond and other locations in Cache Valley.

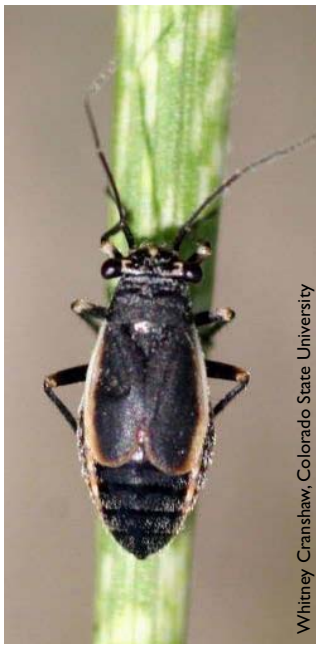
If you have observed "diseased" European paper wasps in any areas outside of Cache County, please send me an e-mail message informing me of the location and approximate date of observation (diane.alston@usu.edu). It will be interesting to follow the spread of this pathogen that may help reduce *P. dominulus* to being just another paper wasp, rather than the dominant nuisance and stinging wasp in northern Utah.

-Diane Alston, Extension Entomologist

# Black Grass Bug Explosion in Utah Rangelands

The UPPDL has received numerous reports of black grass bug outbreaks this spring. Thousands of acres have been affected in Sevier, Juab, San Juan, Cache, and Box Elder counties. Farmers and ranchers in areas of higher elevation with cooler temperatures should be on the lookout for grass bugs.

Black grass bugs, which are actually a complex of related insects, are not new to Utah. Favorable conditions in recent years have helped increase their populations to damaging levels in rangeland, forage, and field crops. In particular, blue bunch wheatgrass, crested wheatgrass, and intermediate wheatgrass are grass bug favorites, but wheat, barley, oats, and rye may also be affected. Once black grass bug nymphs are detected in the spring, control is limited to insecticidal sprays containing acephate, carbaryl, lambda-cyhalothrin, malathion, and methyl parathion.



Whitney Cranshaw, Colorado State University

Black grass bugs overwinter as eggs, and have one generation per year. Egg hatch begins in the spring and adults will remain active for 5 to 6 weeks, sucking the chlorophyll out of host plants. They then lay eggs within grass stems.

The large populations of grass bugs this year will likely yield a large population for next year, so farmers and ranchers should think about next year's control now. The key to suppression is to burn or graze the field in summer to diminish overwintering eggs, and reduce the need for insecticides next year.

-Ryan Davis, Arthropod Diagnostician

Click here for USU black grass bug fact sheet.