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Midges or Mosquitoes?

Large numbers of non-biting midge flies (Family Chironomidae) are being reported this time of year. These midges can be easily confused with mosquitoes, since these midges are small, between $\frac{1}{8}$ - $\frac{1}{2}$ inches in length. However midges lack scales on their wings and do not have a piercing mouthpart, like mosquitoes. Adult midges are humpbacked, are brown, black, or gray in color, and male midges have very feathery antennae. Sometimes in urban environments, where structures are built next to lakes, rivers, stagnant ditches and ponds, adult midges can emerge in extremely large numbers. These swarms tend to occur just after sunset, as the adults become active and fly towards outdoor lights. Adults are attracted to lights and may accumulate in large numbers on window screen, around porch and street lights. Swarms of adults may be so dense that they interfere with outdoor activities and can stain walls and other surfaces when they rest. They can also enter into structures through small cracks or deep piles of dead midges can accumulate underneath outdoor lights.

Chironomid midge eggs are laid on the surface of the water, and then the eggs sink to the bottom and hatch. The larvae burrow into the mud and construct small tubes to live in. The organic matter in the water and in the mud serves as food for the developing larvae. Some larvae are known as "bloodworms" due to the presence of hemoglobin in the blood that allows the larvae to breathe in low oxygen conditions in the mud. Larvae transform into pupae while still in their tubes and then the pupae swim to the surface where the adult emerges. Adults mate in swarms soon after emerging. The males swarm at dusk and mating occurs after females enter the swarm. The adults only live for a few days since they do not feed.

Some Control Options

Some Non-Chemical Control Options:

- 1) Fertilizer run-off from residential lawns and garden, golf courses and agricultural fields are sometimes responsible for the development of larger populations of midges; so the proper use of fertilizers can avoid excess run-off into lakes, ponds and streams.
- 2) Locating the source of breeding is advised so all areas of standing water should be eliminated. Midges may fly as far as a quarter of a mile from the breeding site such as a drainage ditch, standing water, lake or pond.

3) High intensity white light has been found to be highly attractive to adult midges so by keeping blinds closed and porch lights off will help to reduce the number of adults attracted to these outdoor lights.

Some Chemical Control Options

Bacillus thuringiensis var. *israelensis* (*Bti*), is registered for use against chironomid midge larvae. Also insect growth regulators such as methoprene can be used to control midge larvae. In addition, applications of residual insecticides such as those containing permethrin can be applied to porches, carports, under the eaves of structures to control adult midges.



Photo of a midge, Family Chironomidae. Photo by Marilyn Sallee, Master Gardener Entomology Specialist, Tarrant County.

Why Female Moths Are Bigger Than the Males

In most animal species, males and females differ in body size. Male mammals tend to be larger since a bigger and stronger male will win a fight over a female. Since there is no difference between the male and female genes, no one has figured out exactly why there are differently sized males and females. By studying the giant hawk moth (*Manduca sexta*), researchers from the University of Arizona have discovered that the key to unraveling this mystery lies in the early development, where the sexes begin to

grow apart and where females can respond to size nearly twice as fast as males. The sexual dimorphism observed more likely has to do with differences in the time the two sexes spent as growing larvae. The researchers followed more than 1,200 caterpillars from the time they hatched, all the way through four molts and until they pupated. They weighed and measured the caterpillars at different times during development. For most of the caterpillars' lives, the females and males do not appear different. However, they found that the females tend to pupate later than the males. So by the time the female caterpillars pupate, they are larger so they are larger moths when they emerge.

Their findings are published online in Proceedings of the Royal Society of London, Series B.

Time to Treat for Fire Ants

Red imported fire ants, *Solenopsis invicta* Buren, are an invasive species that has infested over 360 million acres in the southern United States, and they are continuing to spread. The use of chemicals is needed to manage their populations, in order to allow the native ant species back into the landscape. Fire ant baits, drenches, dusts and contact granular insecticides may be applied to control fire ants. It is advised to treat the individual fire ant mounds directly if less than 5 mounds are found within a 1/4 acre or less than 20 mounds within 1 acre, since this is not considered an infestation. However, if more than 5 mounds are present within a 1/4 acre or 20 mounds within an acre, then a fire ant bait or contact insecticide should be broadcasted over the entire infested area. Fire ant baits are made up of defatted corn grit covered with insecticide and soybean oil. Before broadcasting the fire ant bait, foraging activity should be assessed, by placing a potato chip or hot dog next to the mound. If fire ants find the chip or hot dog within twenty minutes, then it is a suitable time to broadcast the bait. Fire ants will typically actively forage when the soil surface temperature is between 70 and 90° F, which is between May and September. Fire ant baits should never be watered into the soil and they should not be applied if they smell rancid. On the other hand, contact granular insecticides can also be broadcasted over the entire infested area and need to be watered into the soil. Control using contact granular insecticide generally lasts for 6 to 12 months, depending on the active ingredient within the insecticide.

Both fire ant baits and contact insecticides can be broadcasted using a hand-held spreader for small areas or a Herd Seeder can be mounted onto a truck or ATV for larger areas.

For more information, please visit the fire ant webpage at <http://fireant.tamu.edu>.



Photo of fire ant workers tending to a queen. Photos by S.B. Vinson, Professor of Entomology, Texas A&M University.

New Learning Module for Chilli Thrips

Chilli thrips, *Scirtothrips dorsalis*, is an invasive insect that has an extremely wide host range, attacking more than 40 plant families. The National Plant Diagnostic Network has released an e-learning module to provide an introduction to the distribution, life history, and pest status of chilli thrips. In order to view the chilli thrips e-learning module, please go to <http://cbc.at.ufl.edu/> and click on 'take the online modules'. If you do not have an account set up with the National Plant Diagnostic Network, you will need to do so to view the module. As of March 2010, a certificate of completion for the chilli thrips module is available, after the module post test has been completed at 70% or higher. The chilli thrips training module was developed by Amanda Hodges, Lance Osborne, Howard Beck (University of Florida/IFAS), and Scott Ludwig (Texas AgriLife Extension Service).

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.