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Avian Advice

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Black Flies (Buffalo or Turkey Gnats)

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Black flies are very tiny, blood-sucking flies in the insect family Simuliidae. Contrary to their name, black flies may be gray, tan, or even greenish. These small flies also have a distinctive hump behind their head; hence their common name of Buffalo gnats. They breed in fast-moving water of streams and rivers. They are tremendous pests of humans, domestic animals, and wildlife every spring and are found in many areas of the United States including areas of Arkansas. The potential for an outbreak in areas of Arkansas is possible as large numbers of Buffalo gnat larvae have been observed in the last few weeks in the Sulfur River of Arkansas. Last year, an outbreak of southern buffalo gnats in late March and early April caused the deaths of nearly 100 domesticated animals and at least 280 deer in Arkansas. Residents of Arkansas County reported the deaths of three bulls, 30 cows, 30 calves, 27 horses, several mules and a dog last year from buffalo gnats.

Buffalo gnats need moving water for their lifecycle. The female flies attach several hundred eggs (150-800) to submerged objects such as plants, rocks, and leaves. The time frame for the eggs to hatch is dependent on the water temperature with the eggs hatching in 4-5 days at 70 degrees Fahrenheit. The larvae then attach themselves to submerged objects such as plants or rocks and filter feed on bacteria and algae in the water. The development time of the larvae also depends on several factors such as water temperature and available food. These larvae mature and spin a cocoon to pupate in; from which, the adults emerge in the late spring. Adult males and female blackflies feed on nectar. However, females of most species also need blood to produce eggs. The females immediately search for a meal of blood and can travel more than ten miles to obtain one. The entire life cycle takes about 4-6 weeks depending on the species of black fly, temperature, available food, and water temperature. It is possible for several generations to be produced each year. Fortunately, the adults only live 2-3 weeks.

The bites of the buffalo gnat can be very painful and itchy and some people and animals may have an allergic reaction to the anticoagulant injected by the fly at the bite. The adult females feed on the blood of many animals including: horses, cattle, sheep, goats, poultry, and humans. The bites are usually concentrated around the head on the ears, nose, and face. However, they will bite any exposed area. In addition to the blood loss, the flies can cause severe irritation to the

animals causing them to continually seek areas to avoid being bitten. Buffalo gnats do have a preference of one host over another hence one of the common names of turkey gnat.

Large concentrations of the gnats can cause death in animals and poultry due to blood loss, irritation, shock, and suffocation. Poultry that have been bitten by buffalo gnats usually have small scabbed cuts on the face and combs or there may be blood stained feathers on the head, neck, and wings.

Some birds may be found dead with no apparent lesions; however, a closer examination usually reveals the very small gnats in the feathers covering the ear or on the head.

The face and comb of the bird may also be swollen due to large numbers of bites.

Animals such as horses and cattle usually have swollen ears and small scabbed over cuts on the ears. Often these cuts will ooze blood for some time.

Buffalo gnats feed in the daytime so the best method of protection is avoidance. Livestock and poultry should be sheltered during the daytime in darker areas to lessen the chance of being bitten. The gnats also prefer to feed when there is little if any wind. So the use of fans to circulate the air where the animals are kept may also be helpful.

Insecticides containing permethrin compounds can be used for temporary reduction of buffalo gnat numbers; however, these products only kill the flies they contact and as such animal areas, yards, and barns need to be sprayed periodically.

Some small flock poultry owners use Citronella oil containing compounds on their birds with some success. Other methods of prevention used by poultry owners include hanging fly strips or shiny aluminum pie plates that have been coated with a light coating of oil in the sunlight. The black flies rest on the yellow fly strips or coated pie plates and become stuck. It is important to check your poultry periodically, especially those that may be caged in areas where they get lots of sunlight. If suspicious lesions are observed on the birds, they appear restless, egg production has dropped, you notice small amounts of blood on the birds or other animals, or there are unexplained deaths, you may have a buffalo gnat problem.

Black flies are usually not as problematic in most commercial poultry since most poultry are raised in the safety of enclosed barns. However, producers of free range and pastured poultry can have problems since

these types of poultry are raised with exposure to the outdoors. Since people can also be bitten by buffalo gnats it is important to protect yourself. If you have to be outside when the gnats are active wear long sleeved bright colored clothing (do not wear light blue). Head and shoulder nets can also be worn. Insect repellants that contain DEET may also be helpful. Clothing can also be treated with fly repellents.

Individuals that get bitten and have an allergic reaction should seek prompt medical attention.

Fortunately, in Arkansas, the time for adult black fly activity is short and declines when temperatures get above 80 degrees Fahrenheit.

For additional information on Buffalo gnats or for more information on poultry diseases, care, and husbandry contact your local county Extension agent, the Arkansas Cooperative Extension service (www.uaex.edu), or the Extension Poultry Health Veterinarian (F. Dustan Clark, DVM,

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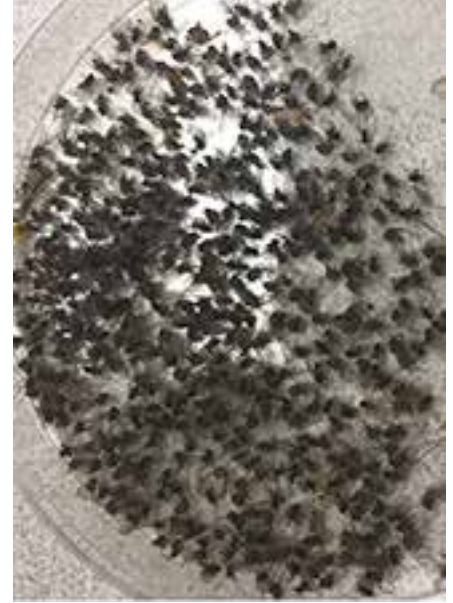
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Buffalo gnat larva visible on a wooden branch from a stream. (Photo courtesy of Jennifer Caraway)



Buffalo gnat larvae. (Photo courtesy of Jennifer Caraway)



Buffalo gnat adults (Black fly). Photo courtesy of Kelly Loftin.



Buffalo gnat adult (Black fly). Photo courtesy of Kelly Loftin