

Horse flies are out in full force

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Within the last three weeks I've received multiple calls from my horse friends trying to combat horse flies. And personally, I've been battling them for a couple of weeks. In late summer the dominant horse fly is the autumn horse fly, *Tabanus sulcifrons* (Figure 1). This species is a large fly that is a very persistent and painful biter making horse handling difficult when the flies are present.



Figure 1. Autumn horse fly feeding on a buckskin mare and resting on a dark colored car.

Horse and deer flies are the largest flies attacking horses, mules and cattle. They are plentiful during certain periods of summer and early fall, especially in marshy or swampy locales. Abundant populations feeding on equines can result in fatigue, blood loss, reduced weight gain, and their painful bites make horses unmanageable to handlers or riders. Horse flies have also been shown to transmit Equine Infectious Anemia (EIA), an infectious viral disease of equines. Additional information on EIA is available in the fact sheet “Equine Infectious Anemia in Arkansas” (FSA3032 <https://www.uaex.uada.edu/publications/PDF/FSA-3032.pdf>). Horse flies are also potential mechanical vectors of *Anaplasma marginale* (causal bacterial pathogen in anaplasmosis cases) in cattle.

Female horse and deer flies have knife-like mouthparts that slice through the skin resulting in blood pooling. The fly then feeds on the blood pool. Wounds caused by horse fly bites continue to bleed after the fly leaves its host. Horse flies are stout bodied and range from ½ to 1 ¼ inches

in size. Several species occur in Arkansas. However, the black (*Tabanus atratus* Fabricius), black striped (*Hybomitra lasiophthalma* Macquart), lined (*Tabanus lineola* Fabricius) and autumn (*Tabanus sulcifrons* Macquart) horse flies are among the most important (Figures 2a-d). Many horse and deer fly species lay eggs on vegetation (Figure 3a) in swampy or marshy areas with larvae developing in aquatic areas or wet or moist soil near water. Development from egg to adult varies with species and ranges from 2.5 months to 2 years. Horse flies overwinter as larvae (Figure 3b).



Figure 2a. Black horse fly (*Tabanus atratus*). (Sturgis McKeever, Georgia Southern University, Bugwood.org)



Figure 2b. Black striped horse fly (*Hybomitra lasiophthalma*). (Sturgis McKeever, Georgia Southern University, Bugwood.org)



Figure 2c. Lined horse fly (*Tabanus lineola*). (Sturgis McKeever, Georgia Southern University, Bugwood.org)



Figure 2d. Autumn horse fly (*Tabanus sulcifrons*). (Sturgis McKeever, Georgia Southern University, Bugwood.org)



Figure 3a. Horse fly eggs on vegetation.
(Sturgis McKeever, Georgia Southern University, Bugwood.org)



Figure 3b. Black horse fly (*Tabanus atratus*) larva. (Sturgis McKeever, Georgia Southern University, Bugwood.org)

Horse flies are difficult to control for a number of reasons: their large size and rapid feeding on hosts make it difficult to deliver a lethal insecticide dose; they are capable of feeding on a variety of host species; and, in certain areas, their breeding habitat can be extensive. With the abundance of alternate hosts, insecticide treatments of domestic livestock do little to control the horse fly and deer fly population. Providing animals with shelter during daytime relieve the animal from horse fly biting because horse flies seldom enter barns, stables or heavily shaded areas. However, insecticide/repellent applications will provide short term relief from biting horse and deer flies. Many of the products used on equines against horse flies are synthetic pyrethroid formulations (such as permethrin). Some ready-to-use formulations containing oil, permethrin and piperonyl butoxide may provide longer-term control. Repellents containing essential oils or fatty acids are also available to repel horse flies. Consult the animal section of MP 144 “Insecticide Recommendations for Arkansas” (<https://www.uaex.uada.edu/publications/mp-144.aspx>) for a listing of products.

Elimination of horse and deer fly breeding habitats is impractical. If a breeding site is located, it may be too large to eliminate or elimination would result in destruction of environmentally sensitive wetlands. Mowing (vegetation management) around swampy areas or ponds may provide limited population reduction because horse flies lay eggs on vegetation overhanging moist soil. However, keep in mind that horse flies will travel long distances, meaning other breeding areas beyond your control could be the source of your horse or deer fly problem.

Horse fly traps are available commercially or can be constructed. Some of these traps will catch large a number of horse flies; however, their impact on the abundance of horse flies feeding on livestock is variable. Shelters will provide relief because horse flies prefer sunny areas and seldom enter barns or heavily shaded areas.