



## Horse Bot Fly, Horse Throat Bot Fly

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### ***Gasterophilus intestinalis***

Horse bot fly

### ***Gasterophilus nasalis***

Horse throat bot fly

### **Origin**

First records of these pests in Hawaii were 1906 for the horse bot fly and 1908 for the horse throat bot fly. The horse bot fly is more common than the throat bot, but both species are found on all of the Hawaiian islands in association with equines.

### **Hosts**

Horses, donkeys, and mules.

### **Livestock concern**

Cause ulcerated stomach, chronic gastritis, loss of condition, and, in rare cases, death by peritonitis.

### **Description**

Adult bot flies are  $\frac{2}{3}$  inches long, and resemble bees, with black and yellow hairs covering their bodies. Eggs of both flies are yellowish and attached singly to the animal's hairs. Horse bot fly eggs are laid on the animal's forelegs, belly, flanks, and shoulders, while horse throat bot fly eggs are laid under the chin. Larvae are off-white,  $\frac{1}{2}$  inch long, blunt, and ringed with spines.

### **Life cycle**

While hovering, female bot flies lay 150–1000 eggs on the host's body; the eggs hatch in 4–5 days. Horse bot fly larvae hatch after being licked or bitten by the animal. Horse throat bot fly larvae hatch without having to be bitten or licked. Young larvae crawl up into the animal's mouth, burrow into the tongue, and feed there for about 28 days.



From the mouth, larvae travel to the stomach, where they attach themselves to the wall and remain for 9–12 months until they pass out with the feces and pupate in the dung.

Adult flies emerge from the dung 2–8 weeks later.

### **Control**

Clean up horse manure and dispose of it to remove adult fly emergence sites.

Clip bot eggs off of the horse's hair, or sponge them with warm water to induce hatching.

Stomach bots can be controlled by oral administration of ivermectin or organophosphate insecticides.

### **References**

- Hardy, D. Elmo. 1981. Insects of Hawaii, v. 14, Diptera: Cyclophaga IV. Univ. Hawaii Press, Honolulu. pp. 457–461
- Williams, R.E., et al. (eds.). 1985. Livestock entomology. John Wiley and Sons. pp. 90–93.
- Kettle, D.S. (ed.) 1995. Medical and veterinary entomology, 2nd ed. CAB International. pp. 303–309
- Pereira, Marcelo de Campos. The Veterinary Parasitology Images Gallery. University of Sao Paulo, Sao Paulo, Brazil. Photo on this page ©MCP; used with permission.
- Texas Cooperative Extension, Entomology. <<http://insects.tamu.edu/image/insects/fieldguide/cimg241.html>>.
- Koehler, P.G., and J.F. Butler. Horse bots. Univ. Florida Cooperative Extension Service. <<http://edis.ifas.ufl.edu/Eny-284>>.