Gasterophilus spp

Common horse bot Throat botfly Nose botfly

Description: Adults are brown, hairy, bee like, and about 18 millimeters long. They have one pair of wings. Mature larvae are reddish and about 2 cm long.

Predilection sites:
Adult Flies *G. intestinalis* – forelegs and shoulder
G. nasalis – chin and throat
G. haemorrhoidalis – lips
Larvae – stomach

Geographic distribution: *G. intestinalis*, and *G. nasalis* are common in most parts of the US where horses are raised; *G. haemorrhoidalis* is less common.

Life cycle: Gasterophilus flies undergo a life cycle characterized by complete metamorphosis. Female flies lay their eggs beginning in early summer, depositing them on the host at particular sites according to the individual species. The female flies dart onto the horse and cement single eggs onto individual hairs.

- *G. intestinalis* lays pale-yellow eggs on the forelegs and shoulders, up to 1,000 eggs per female fly. Moisture and friction from the horse licking itself cause the eggs to hatch in about 7 days.

- *G. nasalis* lays about 500 yellow eggs around the chin and throat, which hatch in 1 week without stimulation.

- *G. haemorrhoidalis* lays 150 black eggs around the lips of the horse, which hatch in 2 to 3 days without stimulation.

After hatching, *G. intestinalis* larvae are licked into the host's mouth, but *G. nasalis* and *G. haemorrhoidalis* burrow under the skin and migrate through the tissues to the mouth. After about a month of wandering in the mucosa of the mouth, the larvae of all three species migrate to the stomach, where they remain throughout winter.

G. intestinalis bots attach to the cardiac portion of the stomach. *G. nasalis* settle in the duodenum, the first part of the small intestine and *G. haemorrhoidalis* larvae are found around the pylorus. In late winter or early spring the bots are passed in the feces. They then burrow into the ground and pupate. Adults emerge in 3 to 10 weeks, depending on the environmental conditions.

Significance: The annoyance from adult flies may be more significant than the presence of bots in the stomach, unless – as in rare cases – the larvae are present in such large numbers that they cause intestinal blockage.

Clinical effects on host: Bot larvae attached to the mucosa of the stomach present a condition called gastric myiasis. Attachment to the gut can cause ulceration and hemorrhage. Migration by larvae under the skin and mucous membranes causes lesions in the mouth that may make eating painful. These lesions are also subject to secondary bacterial infection. Deposition of eggs by adult flies causes nervousness (parasite worry). There are virtually no clinically apparent effects with low levels of infection.

Diagnosis: Eggs may be identified by color and site of deposit. The diagnosis of bot infestation of the horse's stomach can be made by identifying the larvae in feces. In some cases, the diagnosis is made upon examination of the stomach at necropsy.

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