

Trichomoniasis (also called canker, frounce)

Dr. Bruce Hunter,¹ Ashley Whiteman,¹ Dr. Babak Sanei,² and Al Dam²

Species

All species are susceptible to this protozoal disease but it is particularly important in columbiformes (pigeons and doves) and raptors. It occasionally occurs in psittacines (e.g. Budgerigar, Cockatiel, Amazon parrots) and passeriformes (e.g. Zebra finches, Canaries).

Status in Canada

Trichomoniasis is a very common disease in commercial and hobby pigeon operations and over 1/2 of all feral pigeons are infected. Wild raptors likely become infected by killing and eating feral pigeons.

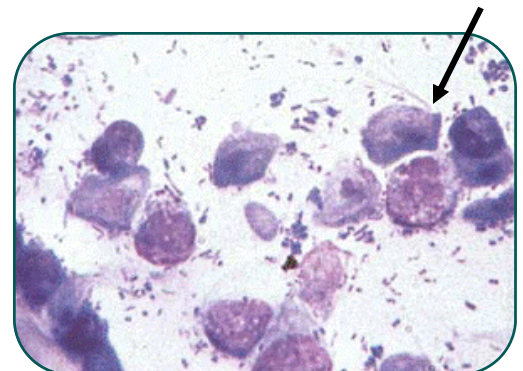
Etiology

Trichomoniasis is caused by *Trichomonas gallinae* - a flagellated protozoan parasite. These parasites are single-celled, very small and cannot be seen by the naked eye. When viewed under a microscope they have a distinct appearance and typical undulating pattern of movement. The extracellular trophozoite measures 8-14 μ m, has 4 free anterior flagella and an undulating membrane (see figure 2). There is no resistant cyst form.



Pigeon with mild oral plaques.

Stained smear of an oral lesion. The flagellated structure (see arrow) is a trichomonad. Note how difficult it is to differentiate the parasite from cell debris on a dry smear.



The Disease

This parasite lives and replicates in the oral cavity and upper digestive tract of the bird. It feeds on oral secretions and will penetrate the mucosa (lining of the oral cavity) causing a severe inflammatory reaction. Occasionally the parasite penetrates deeply enough to enter the blood stream and is carried to other organs of the body (systemic).

The typical lesions are multiple small, raised white plaques in the mouth, back of the throat and down the esophagus. Sometimes particularly in young birds these are extensive and extend all the way down the esophagus and into the crop as shown in the photo below.

Affected birds stop eating and have trouble swallowing. They begin to lose body condition. They may have a foul smell from the mouth (halitosis) and an oral discharge. The oral lesions may be extensive enough to partially occlude the opening to the trachea (wind pipe) resulting in open mouth breathing. The disease is most severe in squabs still being fed by their parents.

Many adult birds carry the parasite even though they do not become ill. Young birds, particularly pigeons and doves, are usually infected through the crop feeding from their parents. Raptors are usually exposed through eating infected prey (for example pigeons).



Pigeon with severe necrotizing pharyngitis and esophagitis.

Cause:

Parasite—
flagellated
protozoan called
Trichomonas
gallinae

Transmission:

- Crop feeding
(parents to young
birds)
- Eating infected
prey
species

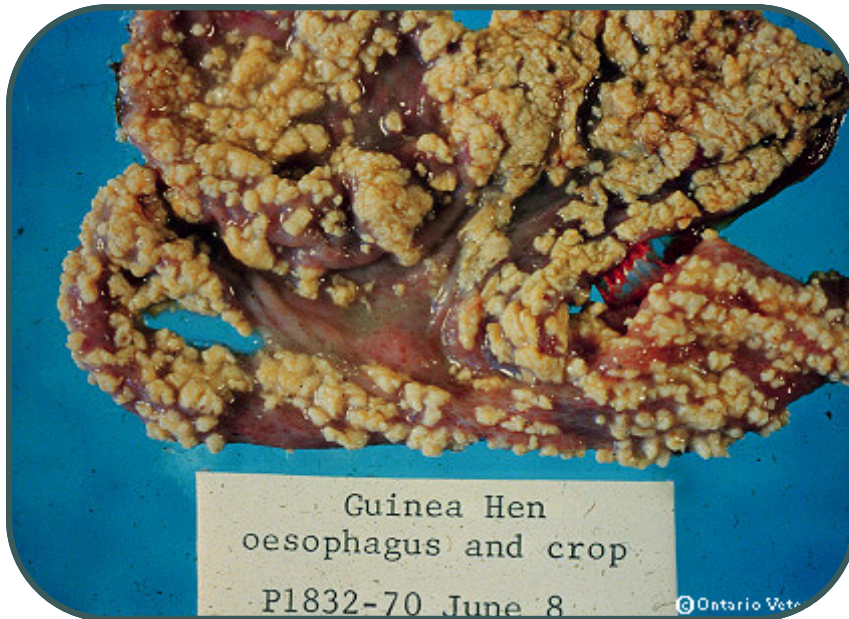
Symptoms:

- Mouth lesions
(raised white
plaques)
- Stop eating
- Trouble
swallowing
- Lose body
condition

Diagnosis

Several different diseases including fungal/yeast infections (*Candidia sp.*) and worms like *Capillaria* can cause similar lesions. A diagnosis of canker is made by taking a fresh scraping of the lesion, mixing this with a small amount of warm sterile water and examining it under a microscope. Observing parasites with the typical shape and motility pattern will confirm trichomoniasis. Dried smears of the lesion on microscope slides are helpful but the parasite can be difficult to identify if you cannot see the typical motility pattern. Both dry and wet mounts should be prepared as conditions like yeast infections are better diagnosed on a stained dry smear. Wet mounts should be warmed and examined immediately

as the typical weaving/spinning motility of the trichomonad only lasts about 15-20 minutes after the scraping has been taken.



Crop and esophagus from a Guinea hen with severe trichomonas lesions that are extending down the esophagus and damaging the crop. This bird would have difficulty eating, would regurgitate food and rapidly lose weight.

Treatment

This disease is actually quite difficult to treat as many of the antiprotozoal drugs once available for use in poultry such as dimetridazole (Emtryl®), have been taken off the market. In Canada the drug metranidazole (Flagyl®) sold for human use is the drug of choice. Contact your veterinarian for diagnosis and treatment. In squab and racing pigeon operations regular treatment may be necessary as the adult pigeons may be long term carriers.

Birds in good condition and kept in a clean environment are more resistant to the disease. Following proper quarantine procedures and treating all new additions prior to introducing them to the loft will help prevent this disease from becoming established.



UNIVERSITY
OF GUELPH¹

Ontario²

CONTACT

OMAFRA's
Agricultural
Information
Contact Centre:
1-877-424-1300