

SHORT COMMUNICATION

INTESTINAL CESTODE *CHOANOTAENIA INFUNDIBULUM* IN CHICKEN**PREMAALATHA B.*, CHANDRAWATHANI P., JAMNAH O., ERWANAS A.I., LILY ROZITA M.H. AND RAMLAN M.**

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ABSTRACT. A case of a cestode parasite (*Choanotaenia infundibulum*) egg was found in the intestine of chicken which was sent to the Veterinary Research Institute, Ipoh in February 2014 for post-mortem. Other parasites found in the intestine were adult tapeworm and oocyst of coccidia. The examination of the chicken intestine for helminth ova was undertaken using direct examination of a simple wet smear of the intestinal content which was observed under compound microscope. The cestode parasite was identified based on helminthological keys by Soulsby, 1982.

INTRODUCTION

Helminthiasis is considered as one of the most common diseases that affect free - range backyard chickens (Soulsby, 1982 ; Permin et al.,1997). *Choanotaenia infundibulum*, is a cestode parasite found in the intestine of chickens, turkeys and several species of game birds. The intermediate hosts of this tapeworm is house fly, *Musca domestica* and two species of beetles, *Geotrupes sylvaticus* and *Cratacanthus dubius* (Margery W et

al.,1937). Cestode infected chickens also show villous atrophy, catarrhal enteritis, granuloma formation in duodenum, desquamation of villi and submucosal glands congestion, inflammatory reaction and vacuolation of epithelial cells (Kurkure et al., 1998)

In considering the anatomy of *Choanotaenia infundibulum*, adult tapeworms are up to 25 cm long and 3 mm wide. The **head** (scolex) is small and has suckers and hooks for attaching to the host's gut wall. Usually it has not more than 30 **segments** (proglottids), which are wider than long. Each segment has its own **reproductive organs of both sexes** (i.e. they are hermaphroditic). Each segment has also **excretory cells** known as **flame cells** (*protonephridia*). The reproductive organs in each segment have a common opening called the **genital pore**. In young segment,s all these organs are still rudimentary. They develop progressively, which increases the size of the segment as it is pushed towards the tail. Otherwise, as other tapeworms, they have **neither a digestive tube**, nor **circulatory respiratory systems**. They do not need them because each segment

absorbs what it needs directly through its tegument. The eggs have an ovoid shape, measure about 35×45 micrometers, and contain an embryo (oncosphere) (pj@parasitipedia.net).

Choanotaenia infundibulum has an **indirect life cycle** with domestic and wild **birds** as **final hosts**, and several **fly species** (e.g. *Musca domestica*), **locusts**, **ants** and **termites** as **intermediate hosts**. **After the eggs have been deposited with the faeces, they hatch in the gut of the intermediate hosts following ingestion. The intermediate hosts are among others beetles of the genere *Tribolium*, *Geotrupes*, *Aphodius* or *Calathus* and the house fly, *Musca domestica*. After development in the intermediate host the cysticercoids are infective host gravid segments are released with the faeces of the host within 2 weeks (Bloch, 1779).**

Clinical signs and pathogenicity *Choanotaenia infundibulum* infections are moderately pathogenic. In most cases

affected birds do not show serious clinical signs. Massive infections can cause weight loss, especially in young birds. Affected birds can become apathetic and isolated.

The examination of the intestines using direct examination of the smear of intestinal contents will show the presence of eggs or adult worms. A deep scraping is made, of the suspected intestinal layer with a scalpel. Place the scraped materials on a microscope slide. Cover the material with a coverslip. Press a coverslip down if necessary and examine under a microscope (×10 magnification) (Agriculture, Fisheries and Food, Ministry of (1977) .

Prevention and control of *Choanotaenia infundibulum* infections is by cleaning the birds' bedding and **keeping it dry**. This can help to avoid infections because it shortens the survival of the gravid segments and the eggs. Measures to avoid contamination of feed with ants or beetles are advisable. Chemical control of flies, ants and termites

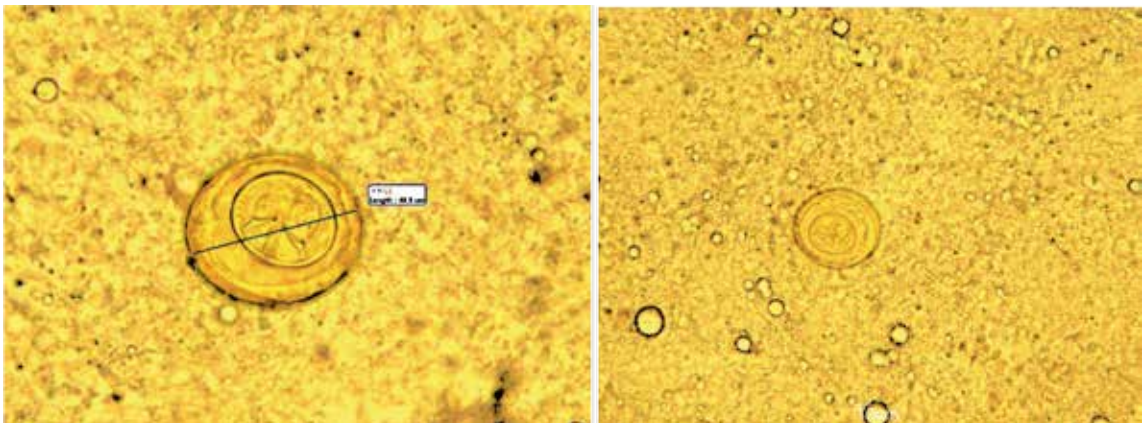


Figure 1: Eggs of *Choanotaenia infundibulum* from chicken intestine – ovoid in shape and contains an oncosphere.

in poultry houses is advisable. However, for both economic and ecologic reasons, outdoor use of insecticides against ants, beetles or termites is not justified.

Flocks at risk can be treated with anthelmintics effective against tapeworms. They contain either broad-spectrum benzimidazoles (e.g. albendazole, febantel, fenbendazole, mebendazole, oxfendazole, etc.) or specific taenicides (e.g., niclosamide, praziquantel, etc.). Most of these active ingredients are available as additives for feed or drinking water, or as tablets for oral delivery. Other classic livestock anthelmintics such as macrocyclic lactones (e.g. ivermectin, doramectin, moxidectin, etc.), levamisole, tetrahydropyrimidines (e.g. pyrantel, morantel) and piperazine derivatives are not effective at all against *Choanotaenia infundibulum* or whatever tapeworm.

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