

# Endoparasitic Infection in Indian House Crow (*Corvus splendens*)

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## Abstract

The main objectives of the present study was to identify and determine the prevalence of endoparasites of common crow (*Corvus splendens*) in Chennai City, Tamil Nadu State, India. Hundred droppings of common crow (*Covrus splendens*) in and around were collected in 10% formalin in sterile containers and examined for endoparasites. Oocysts of *Ispospora* sp. and *Sarcocystis* sp. were found in 24 percent and 20 percent of samples, respectively. Eggs of Cestode *Hymenolepis* sp. were found in 12% of the samples, *Capillaria* sp. eggs were found in 19% of the samples and mixed infection of these were found in 17% of the samples. *Sarcocystis* and *Hymenolepis diminuta* are of zoonotic importance and their presence in the droppings of the crow, indicates the possible role of crow in transmitting / spreading of human endoparasites.

## Introduction

The common crow belonging to the family Corvidae and the Genus *Corvus* is found almost throughout the world, having a widespread distribution in Southern Asia. Crow the most intelligent and opportunistic bird, are omnivorous in nature, feeding largely on refuse around human habitations, small reptiles, insects and other small invertebrates, eggs, nestlings, grain and fruits. They can survive on nearly anything that is edible. They are observed to eat sand after feeding on carcass. Crows may become a nuisance when they gather in huge communal roosts. However, they are beneficial to control insects and small rodents.

Keeping this in view, a study was undertaken to detect the presence of endoparasites in crow population.

## Materials and methods

Hundred samples of droppings freshly voided by free-ranging crows, in and around Chennai were collected in sterile containers containing 10% formalin. They were processed by centrifugal sedimentation and floatation technique for endoparasitic examination (Soulsby, 1982)

## Results

Examination of droppings revealed presence of oocysts of *Ispospora* sp. (Plate 1) in 24 samples (24%), *Sarcocystis* sp. (Plate 2) in 20 samples (20%), eggs of *Hymenolepis diminuta* (Plate 3) in 12 samples (12%), eggs of *Capillaria* (Plate 4) in 19 samples (19%) and mixed infections of these were found in 17 samples (17%). The percentage of

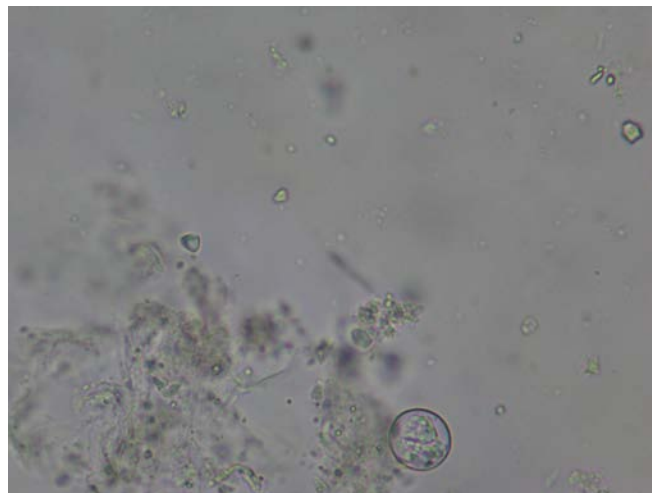


Plate 1. Oocysts of *Ispospora* sp.



Plate 2. Sporocyst of *Sarcocystis* sp.

endoparasitic infection in Indian house crows is given in Figure 1.

## Discussion

Encountering of Capillariosis in crows was in agreement with Hoefer (1997) who stated that eggs of *Capillaria* sp. could be identified by the presence of the characteristic bipolar plugs and thick shell. Urquhart *et al.* (1996) stated that heavy infections of *Capillaria* would cause diphtheritic inflammation leading to inappetence, emaciation and diarrhea.

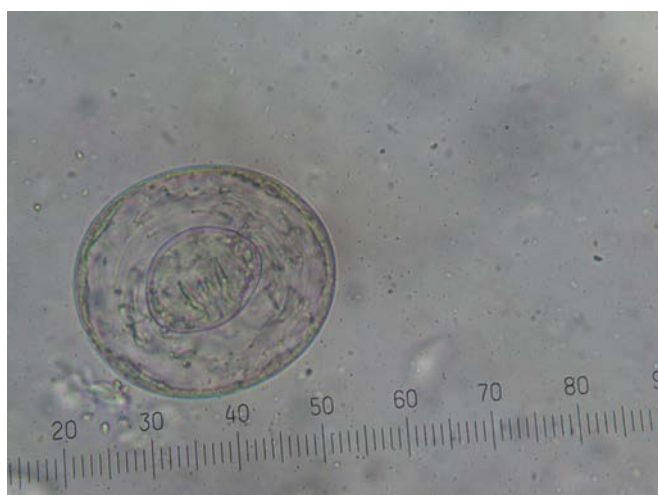
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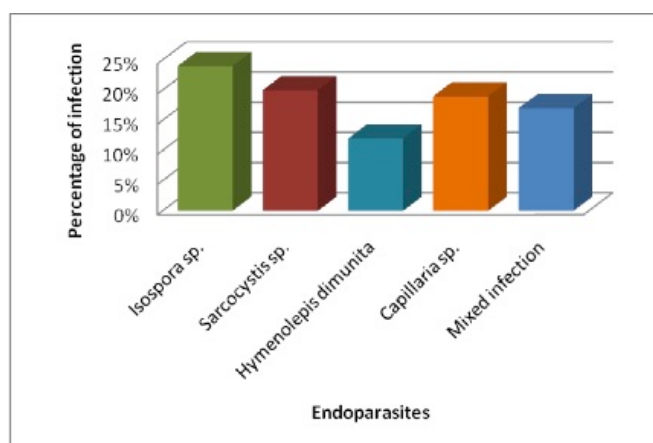
**Plate 3. *Hymenolepis diminuta* egg**



**Plate 4. *Capillaria* sp. egg**

Detection of coccidial infection in this study is in agreement with Cooper (1996) who also reported on the occurrence of coccidiosis in three Indian house crows. Most coccidians live within the host without producing any pathological condition and weight loss is often associated with chronic diarrhea and emaciation [Burr (1987) & Roskopf and Woerpel (1996)]. observed emaciation and diarrhoea in coccidiosis affected bird.

Presence of sporocyst of *Sarcocystis* sp. and eggs of *Hymenolepis diminuta* in the droppings of crow is an important indicator as to how crows could play a major role in spread of zoonotic disease. Fayer (2004) stated that *Sarcocystis* sp are intracellular protozoan parasites with a requisite to host life-cycle based on prey-predator host relationship. *Hymenolepis* is primarily a rodent parasite for which arthropods act as intermediate host. The coprophagic arthropods ingest the egg where it gets developed into cysticeroids. Rodents which are the definitive host, ingest the arthropods and get infected. Humans can get accidentally infected through the same mechanism. Crows prey upon rats and could have picked up the infection from the rats. Marangi *et.al.*, (2003) reported a case of



**Fig 1. Percentage of endoparasitic infection in Indian house crows**

*Hymenolepis diminuta* infection in an Italian child affected by tuberous sclerosis. Findings of *Hymenolepis diminuta* egg in the droppings of crows implies that crow could also play a role in transmission of this endoparasite.

Being an ubiquitous scavenger, the Indian crow play a major role in dissemination of pathogens over comparatively short distances by carrying portions of carcasses from place to place and also through their droppings. Though endoparasitic infection of crows was identified, treatment was not possible due to difficulties encountered in the free – ranging systems.

The study reported in this paper involved only to specific areas of Chennai and however this will prompt further research in this scavenging creature. More work has to be done on as to how they act as host for various parasites and the actual role they play in spread of zoonotic diseases.

### Acknowledgement

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