GASTRO-INTESTINAL PARASITES OF HERONRY BIRDS IN KANNUR DISTRICT, KERALA

R. Roshnath[1]*, Reghu Ravindran[2] and George Chandy[1]
[1]Centre for Wildlife Studies, [2]Department of Veterinary Parasitology,
College of Veterinary and Animal Sciences, Pookode, Wayanad, Kerala.

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ABSTRACT

A preliminary study on gastro intestinal parasites of heronry birds in Kannur District of Kerala was conducted. Trematode eggs (n=19) Strongyloid eggs (n=8) and Ascarid eggs (n=2) were recorded during faecal sample analysis. Further studies are needed to understand the mode of transmission, pathogenesis and zoonotic aspects of these parasites.

***Key words**:* Heronry birds, Gastro Intestinal Parasites

INTRODUCTION

Birds host different types of ecto- and endo-parasites. Parasites have co-evolved with their hosts and many parasites have symbiotically associated with their hosts even though some are fatal to them.

In Kannur District, Little Cormorant and Indian Pond Heron are the main nesting heronry birds. Cormorants are carriers of certain fish parasites, such as the trematodes *Diplostomum* spp. and *Posthodiplostomum cuticula*, the cestodes *Ligula intestinalis* and the tapeworm *Diphyllobothrium* spp. (McCarthy *et al*., 1993). The last two are known to cause gross pathological and physiological changes in their fish hosts (Hoole, 1994). The present study was undertaken to identify the gastro-intestinal parasites of heronry birds in Kannur District, Kerala.

MATERIALS AND METHODS

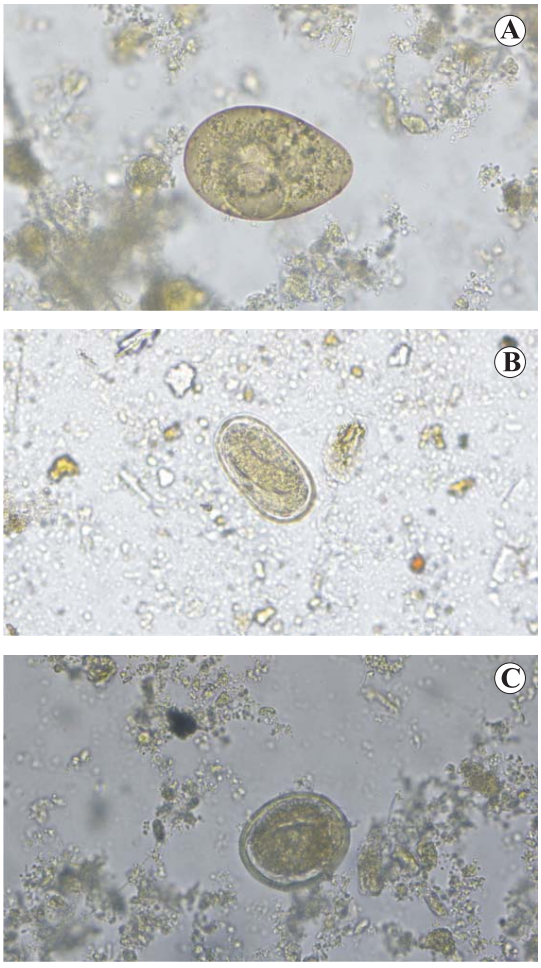
Fecal examination for parasitic ova was conducted to study gastro-intestinal parasitic diversity among the birds of selected heronries (Stadium heronry and Valapattanam heronry) in Kannur district of Kerala state in India. Fecal samples were collected by spreading plastic sheets below the nests. The samples were taken using a scalpel and stored in collection bottles and were transported to the laboratory. Faecal samples were processed for concentration of ova through sedimentation by centrifugation. Faeces (5-10g) was mixed with 12 ml of water in a mortar and triturated with the help of a pestle. The mixture was passed through a sieve to remove coarse debris. The filtrate was collected in a test tube and then centrifuged at 2000 rpm for 2 minutes. The sediment was collected after discarding the supernatant. A drop of the sediment mixed with water was examined using 10X objective of a compound microscope. Parasitic ova were identified based on gross morphology and morphometry (Soulsby, 1982).

RESULTS AND DISCUSSION

Different heronries in Kannur District were visited and 30 fecal samples were analyzed for parasitic ova. 23 samples were found positive for Trematode (n=19) Strongyloid eggs (n=8) and Ascarid eggs (n=2 Table.1: Fig.1).

In the present study trematode eggs

Figure-1: Parasitic ova from fecal sample analysis from heronry birds in Kannur District of Kerala (A-Trematode egg, B-Strongyloid egg, C- Ascarid egg)



strongyloid eggs and ascarid eggs were identified in the fecal sample of Cormorants and Pond Heron. Previously trematode like *Diplostomum* sp. and *Posthodiplostomum cuticula* were reported by (McCarthy *et al*., 1933) and *Sphaeridiotrema globules* from water fowls by Huffman and Roscoe (1989). Patnaik and Acharjyo (1970) reported *Lypersoma* sp. parasites from captive wild birds in Baranga Zoo (Orissa). Varadharajan and Pythal (1999) reported *Stongyloid* sp. ova from captive water birds of zoological garden in Thiruvananthapuram, Kerala. Nematode, *Contracaecum rudolphii*, potentially pathogenic for animals and people were recorded from great cormorants (Svazas. *et al*. 2011).

Cormorants are been considered as a threat in aquaculture farms as they can transmit disease from one farm to another. Svazas. *et al.* (2011) recorded cestodes- *Paradilepis scolecina,* in Great cormorant which has caused fish disease. The parasite fauna of great cormorant includes about 110 taxa of metazoan parasites (Ossmann, 2008). *Contracaecum bubakii* (Nematoda: Anisakidae) Akram, M. (1996) and ascarid nematode *Contracaecm* sp Das, S.N. and R. R. Ghazi, (2009) were recorded in Pakistan. Abundant waterbird species with appropriate environmental conditions and presence of intermediate hosts

Type of Egg	**Character**	**Average size**
Trematode	• oval in shape • yellowish colour • operculum at one end	71.623 x 48.116 µm
Strongyloid	• oval in shape • thin shelled with both poles blunt • fully developed larvae inside	69.119x37.02µm
Ascarid	• round in shape • thick outer shell	62.132x50.185 µm

Table.1: Characteristics of parasiti ova collected from fecal sample of heronry birds in Kannur District of Kerala.

can significantly contribute to parasite dispersal. (Svazas. *et al*., 2011)

Present study provides preliminary information on parasitic infections in heronry birds. Further studies are needed to understand the mode of transmission, pathogenesis and zoonotic aspects of these parasites.

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