



RECORD OF *COTYLOPHORON COTYLOPHORUM* FROM NECROPSY OF CAPTIVE SPOTTED DEER (*AXIS AXIS*)

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ABSTRACT

Parasitic diseases represent a major concern in captive wild animals due to maintenance of animals in confined areas. Spotted deer (*Axis axis*) is a wild herbivore widely found in various parks and zoos of the country. The study was conducted to identify the gastro-intestinal parasites in spotted deer through necropsy examination in zoo and parks near Bhubaneswar. Out of the six deer examined, four spotted deer showed the presence of amphistomes, which were morphologically identified as *Cotylophoron cotylophorum*.

KEY WORDS: necropsy, spotted deer, amphistomes.

INTRODUCTION:

In zoos and zoological parks, amongst all herbivores, the *Axis axis* or spotted deer is the most beautiful and abundant cervid species in India (Arora, 1982). Captivity of wildlife creates an unnatural system and disrupts the balance between parasites and host creating a stressful environment due to which animal becomes diseased and can even die from parasitic loads, which they would have survived under natural conditions (Vanwyk and Boomkar, 2011). A wide range of parasitic species have been recorded in zoo animals. These parasites not only affect the animal health adversely but sometimes cause mortality, morbidity or even both (Borghare, 2009). The study was designed to record the endoparasitic infection of captive spotted deer by post mortem examination directly as the faecal egg larva counts always do not give a reliable indication of worm burden of the animal.

MATERIALS & METHODS

Necropsy examination of six no of spotted deer reared at Nandankanan Zoological Park, Rajbhawan Deer Park in Bhubaneswar and Tulsipur deer park, Cuttack that died during the period from October 2016 to May 2017 was conducted to assess the parasitic burden. During post mortem examination, efforts were made to collect the adult parasite alive for identification. The worms recovered were killed immediately putting in 70% alcohol and preserved in suitable preservative (10% formalin). The recovered adult

parasites from ruminal wall (Figure 1) were subjected to preservation, washing, staining, dehydration, clearing and fixation for studying the morphological characteristics of the parasites (Soulsby, 1982).

RESULTS & DISCUSSION

Out of the six spotted deer examined by necropsy, four revealed presence of amphistomes from the ruminal wall (Figure 2). On studying the morphological features, the parasite was identified as species of amphistome, *Cotylophoron cotylophorum* (Figure 3). No cestode or nematode or coccidian parasite were recovered from post-mortem of spotted deer during the study period. The findings in the study was in conformity with the findings of Mukhopadhyay, 2003 who had also reported the presence of *Cotylophoron cotylophorum* species of amphistomes in spotted deer from post mortem examination in West Bengal. The prevalence of *Cotylophoron* sp in *axis axis* deer in those who apparently looked healthy and active without any visible clinical signs of infection suggested that infections routinely are subclinical. Other species of amphistome *Paramphistomum cervi* has been recorded in National Park, Tadoba, Chandrapur, Maharashtra (Arora *et al.*, 1985). Hafeez (1983) have reported occurrence of amphistomosis from the reticulum of spotted deer while Padhi *et al.* (1987) noted on the occurrence of amphistomosis in the rumen of spotted deer at the Nandankanan Biological Park, Odisha.



FIGURE 1, 2: Recovery of fluke from postmortem examination



FIGURE 3: Stained specimen of *Cotylophoron cotylophorum*

CONCLUSION

This study also suggested a long term epidemiological survey of helminthic parasitic infection is highly essential for a better understanding of parasitism in detail to ensure better management and to find out the best possible ways to prevent the possible reoccurrence of existing infection in spotted deer in zoos and park.

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