MORPHOMETRIC STUDIES ON PARASITIC FAUNA OF FREE-RANGING INDIAN PEAFOWL (*PAVO CRISTATUS*)

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Although the Peafowls (*Pavo cristatus*) enjoy the pride of being the national bird of India, documentation on their health aspects is very scanty. The present study has been formulated to understand the morphometric details of the endoparasitic fauna of free-ranging peafowl in southern Tamil Nadu.

The study was carried out at two places in southern Tamil Nadu *viz*., Deer park, Tirunelveli (77^{0}45'E & 08^{0}44'N) and Vivekananda Kendra, Kanyakumari (77^{0}30'E & 08^{0}05'N) from April 1999 to March 2000. Fresh faecal samples of the free-ranging peafowl collected at weekly intervals were screened by sedimentation technique (Soulsby, 1982) for the presence of endoparasitic ova. Morphometry of the parasitic ova were measured using a calibrated microscope as described by (Sloss *et al*., 1994). The coccidian oocysts present in the droppings were allowed to sporulate in 2% potassium dichromate solution at room temperature and the time taken for 50% of the oocysts to complete the sporulation process was recorded as sporulation time (Norton & Chard, 1973).

The examination of faecal samples collected from the free-ranging peafowl revealed six species of nematodes, one cestode and one *Acanthocaphalan* species of eggs. In addition, two species of coccidian oocytes, *viz*., *Eimeria* sp. and *Isospora* sp. were also observed. The various morphometric features of the eggs are presented in Table 1.

Among the various *Ascarid* eggs recorded, the *Ascaridia* eggs were largest (90 x 54) with barrel shaped sides, while *Heterakid* eggs were moderately large (88 x 50) with smooth shell and parallel sides. An intermediary spherical, thick-shelled *Ascarid* eggs (59.5 x 52.5) were also observed.

Soulsby (1982) reported that the *Heterakid* ova from peafowl measured 65-80 x 35-46 which coincided with the observations of the present study. Sloss *et al*. (1994) opined that it would be very difficult to differentiate *Ascaridia* and *Heterakid* ova in avian species since both were oval shaped, but could be identified by the barrel-like sides *of Ascaridia* and parallel sides *of Heterakid* which concurred with the observations of the present study. In addition to this, spherical-shaped, thick-shelled *Ascarid ova* measuring 59.5 x 52.5 were also noticed in the droppings of peafowl from both the study areas which might be due to the ingestion of small rodents or invertebrates like earthworms, cockroaches etc. that act as paratenic hosts in the life cycle of *Ascarid* infection.

The other ova recorded were *Syngamus* sp., *Capillaria* sp. and *Strongyloides* sp. Soulsby (1982) reported that the *Syngamus* ova from domestic fowl, turkey and guinealfowl measured 70-

Table 1. Morphology of Parasitic Ova of Peafowl (Mean value of 100 ova measured)

Parasitic ova	Morphometry (in microns)		Shape and characteristics
	Length	Breadth	
Heterakid	88	50	Oval, smooth shelled with parallel sides
Ascarid	59.5	52.5	Spherical to sub-globular shaped and thick shelled
Ascaridia	90	54	Oval, smooth shelled, barrel shaped sides
Syngamus sp.	49	28	Segmented egg, ellipsoidal with thick operculum at both ends
Capillaria sp.	64	34	Oval, unsegmented egg with bipolar plug
Strongyloides sp.	54	28	Oval, thin shelled egg with larva
Acanthocephalan	68.5	42	Oval, four layered egg with brownish pitted shell
Cestode	62.5*		Striated thick shelled embryophore with hooklets in onchosphere
Coccidian oocysts			
Eimeria sp.	23.8	16.2	Four Sporocysts each containing two sporozoites
Isospora sp.	23.9	19.2	Two Sporocysts each containing four sporozoites

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100 x 43-46 whereas the *Syngamus* ova of peafowl observed in the present study were 49 x 23 in size which might be host specific.

The unidentified cestode eggs isolated from the droppings of peafowl from both the study areas measuring 62.5 in diameter resembled the findings reported by Sloss *et al.* (1994). The four-layered *Acanthocephalan* eggs with brownish, pitted shell (68.5 x 42) were also observed in the present study. The incidence of *Acanthocephalan* eggs in the droppings of peafowl might be attributed to the insectivorous feeding habits of peafowl since the larval stages of beetle being the usual invertebrate host, the birds would have contracted *Acanthocephalan* eggs by ingestion of such infected larval beetles.

The mean length and width *of Eimeria* oocysts in the present study was measured to be 23.8 x 16.2, which resembled the findings of Bhatia and Pande (1961), while the *Isospora* oocysts measuring 23.9 x 19.3 coincided with the observations of Williams (1978). Patnaik (1965) reported that the oocysts *of lsospora* sp. were sporulated in 72 hours whereas in the present study the *Eimeria* and *Isospora* sp. of oocysts were found to sporulate in 60-72 hours and 72-80 hours respectively.

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SQUAMOUS CELL CARCINOMA OF LUNGS IN AN INDIAN LEOPARD *PANTHERA PARDUS*

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A male Leopard (*Panthera pardus*) about eight years old was found partially off feed for about two to three days. On clinical examination the animal was found suffering from some sort of respiratory disorder. Suitable antibiotic and supportive therapy were initiated but the animal did not respond well to the treatment and succumbed to the illness after three days. On post mortem examination one lung was normal whereas the other lung had become hard with multiple small nodules covering the entire lung parenchyma (Fig. 1). On histopathological examinations, the growth was diagnosed as squamous cell carcinoma of lungs.

Jejunum rectums, uterine and mammary adenocarcinoma in wild animals have been reported at the time of post mortem in wild felids (Lombard & Witte, 1959). Since very little information is available on the squamous cell carcinoma of lung in Indian leopards, it is documented here.

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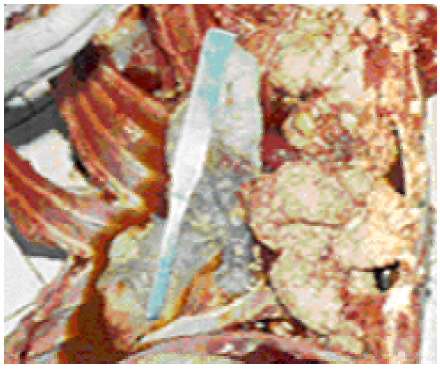

***Figure 1. Lung carcinoma in a Leopard* (Panthera pardus)**

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