A SURVEY OF GASTRO-INTESTINAL PARASITES OF WILD ANIMALS IN CAPTIVITY IN THE V.O.C. PARK AND MINI ZOO, COIMBATORE

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Abstract

Indian zoo animals are exposed to and susceptible to many parasitic diseases, a fact of much concern albeit few data from cursory examination and postmortem studies. A typical mini zoo in Coimbatore was surveyed for gastro-intestinal parasites of wild animals by examining 60 fecal samples. The examination revealed a high percentage (58%) of captive animals were positive specifically for helminth parasitic infections and some (6%) were positive for protozoan infections. *Strongyle*, *Trichuris*, *Strongyloides* as well as *Coccidia* were present in case of herbivores and *Toxocara*, *Ancylostoma* as well as *Artyfechinostomum* in case of carnivores.

Introduction

Zoo animals living under captivity are susceptible to almost all types of diseases, much so that parasitic diseases, particularly helminthic infections, can frequently be a major problem in zoo animals. Information on parasites of wild animals is meagre due to paucity of systematic investigation. The available data appear rather scanty and are based almost entirely on cursory examination and findings from autopsies. However, there is no dearth of reports of the existence of a number of helminthic and protozoan infections in zoo and wild animals in the Indian sub-continent. Adkoli *et al.* (1986), Gaur *et al.* (1979), Maske *et al.* (1990), Khan (1979) and Muraleedharan *et al.* (1990) conducted surveys of parasitic infestations based either on faecal or on post-mortem examinations of mammals, reptiles and birds of various Zoological Gardens, National Parks and Wildlife Sanctuaries in India.

The present paper deals with the prevalence of parasitic infections in the wild animals present in the V.O.C. Park and Mini Zoo, Coimbatore, maintained by the Corporation of Coimbatore.

Materials and Methods

Sixty fresh faecal samples were collected from the animals kept in separate enclosures, as well as from those kept in mixed species enclosures. The collected samples were immediately preserved with solution containing 5% formalin and 2% potassium dichromate. Then the samples were brought to the laboratory, processed using the concentration method of centrifugation-cum-sedimentation technique and examined for parasitic infections. The results are presented in Table 1.

Results and Discussion

The results of host-wise examination of the faecal samples are incorporated in Table 1. Out of the 60 animals examined 35 (58%) were found to be positive for parasitic infections, of which all 35 animals had helminth infection and three (6%) animals also had intestinal protozoan infection. Among helminthic infections, the prevalence of nematode infections was higher when compared to those of cestode and trematode infections.

Among the infected animals, herbivores showed multiple infections with more than one helminth parasite. *Strongyle* and *Trichuris* were the most commonly found parasite ova in the herbivores. Other infections observed in herbivores were ascarid, *Moniezia*, spirurid, *Strongyloides*, *Coccidia* and *Balantidium*. Among carnivores, *Toxocara* and *Ancylostoma* were the significant infections specifically present. Other infections such as spirurid, *Strongyloides* and *Artyfechinostomum* were also observed in carnivores.

The existing infections can be controlled by adopting suitable antihelmintic therapy and managemental procedures, but the possibility of recurrence is always there due to stress and also due to the closer proximity animals in a very small area. The possibility of transmission of zoonotic infections among the animals and the keepers also exist and requires investigation.

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Table 1. Prevalence of parasites in the wild animals at the Coimbatore mini zoo

Host	No. of animals at the Zoo	No. of animals examined	No. of animals infected	Identification **
1. Spotted Deer	13*	7	4	*Strongyle* and *Trichuris* (1), *Strongyle* (1), Ascarid (1), *Coccidia* (1)
2. Sambar	7*	5	1	*Moniezia* (1)
3. Assamese Goat	12*	7	5	*Trichuris* (2), *Strongyle* (3)
4. Camel	2	2	2	*Trichuris*, Spirurid and *Coccidia* (1), *Strongyle*, Spirurid and Balantidial cysts (1)
5. Guinea Pig	32*	12	6	*Strongyle* (3), *Strongyloides* (2), Spirurid (1)
6. Tiger	1	1	-	-
7. Lion	3	2	2	*Toxocara* (2)
8. Sloth Bear	2	2	-	-
9. Hyaena	1	1	-	-
10. Porcupine	2	2	2	Spirurid (1) *Strongyloides* and *Coccidia* (1)
11. Bengal Fox	1	1	1	*Ancylostoma* (1)
12. Jackal	10*	5	5	*Ancylostoma* (5)
13. Jungle Cat	1	1	1	*Ancylostoma* and Spirurid (1)
14. Civet Cat	3	3	3	Spirurid and *Artyfechinostomum* (3)
15. Pig-tailed Monkey	1	1	-	-
16. Bonnet Monkey	10*	4	1	*Strongyle* and *Strongyloides* (1)
17. Rhesus Monkey	5*	3	2	*Strongyloides* (2)
18. Nilgiri Langur	1	1	-	-
Total (%)	107	60 (100)	35 (58)	

* Animals maintained in groups

** Figure in parentheses indicates the number of animals infected.

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