

PREVALENCE OF GASTRO-INTESTINAL PARASITES IN CAPTIVE BIRDS OF GUJARAT ZOOS

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Abstract

A total of 106 group faecal samples of different wild birds from Kamal Nehru Zoo, Ahmedabad and Sayyajibaug Zoo, Vadodara, were examined. Out of this 51 (48.11%) were found positive for parasitic infection. Eggs of *Ascaris* and *Capillaria* species were observed in 22 (20.75%) and 14 (13.2%) group faecal samples respectively, while the oocyst of *Coccidia* (*Eimeria* species) were observed in 19 (17.92%) group faecal samples. *Ascaridia galli* and *Cotugnia digonopora* were recovered during postmortem of three hariyal pigeon, while only *Ascaridia galli* was observed in a postmortem of parrot, peacock and cockatiel.

Introduction

Parasitic infections cause considerable losses to wildlife in this country. In zoological parks, the birds are under constant stress and are prone to parasitic infections. A study was therefore conducted to note and place on record the incidence of gastro-intestinal parasitic infections in wild birds of Sayyajibaug Zoo, Baroda and Kamala Nehru National Park Zoo, Ahmedabad of Gujarat State.

Material and Methods

Fresh group faecal samples of birds kept in different cages/enclosures were collected in plastic bags and were processed by sedimentation technique in the laboratory. A part of each sample was also mixed with 2.5 per cent potassium dichromate solution in petridishes and kept at room temperature for sporulation of coccidian oocysts. Gross helminths passed in faeces and those collected at postmortem were identified after staining them with borax carmine in case of trematodes and cestodes. Nematodes were studied after clearing them in lactophenol.

Results and Discussion

The results of the faecal sample examination are presented in Table 1. A total of 106 group faecal samples of different wild captive birds were examined, out of which 51 (48.11%) were found positive for parasitic infection.

Eggs of *Ascaris* and *Capillaria* species were observed in 22 (20.75%) and 14 (13.2%) group faecal samples respectively, while the oocysts of coccidia were observed in 19 (17.92%) group faecal samples. The egg size of *Ascaris* sp. ranged from 64-78 x 32-45 µm, while that of *Capillaria* sp. were 44-60 x 22-24 µm and oocysts of *Eimeria* sp. were 15-20 x 10-16 µm. Such findings were also recorded by Pande *et al.* (1970) in wild birds and by Soulsby (1982). *Ascaridia galli* were observed in a postmortem of parrot, peacock and cockatiel.

The percentage of coccidial (*Eimeria* spp.) infection was low when compared to helminthic infection and the commonest infection was of *Ascaris* spp. followed by coccidia (*Eimeria* spp.) and *Capillaria* spp. Oocysts of *Eimeria* spp. were found in most birds either as pure infection (peacock, parrot, pheasant, love bird, ducks, kaka kowa, koel) or as a mixed infection (pigeon and lory bird) with other helminths. Such findings were also recorded by Patnaik and Acharjyo (1970), Tripathy *et al.* (1971), Chauhan *et al.* (1973), Khan (1979), Muraleedharan *et al.* (1990) and Reddy *et al.* (1992).

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Table 1. Prevalence of parasitic infection in captive wild birds of Gujarat zoos

Species of birds	Number of group sample examined	No. positive	Percent positive	Identification of eggs/oocyst
1. Fowl (<i>Gallus</i> spp., Peafowl, <i>Pava</i> Spp., Polishfowl, Cochinfowl)	14	9	64.28	<i>Eimeria</i> sp. (4), <i>Ascaris</i> sp. (2) <i>Capillaria</i> sp. (3)
2. Parrot (<i>Psittacus</i> spp. - Gray parrot)	6	2	33.33	<i>Eimeria</i> sp. (1), <i>Capillaria</i> sp. (1)
3. Pigeon (<i>Columba</i> spp. - Homer Pigeon, Hariyal Pigeon, Crown Pigeon, Red Jacoban Pigeon, White Silky Pigeon, Green Pigeon, Blue Pigeon, Puter Pigeon)	28	15	53.57	<i>Eimeria</i> sp. (4) <i>Eimeria</i> sp. (1), <i>Ascaris</i> sp. (1), <i>Ascaris</i> sp. (5), <i>Capillaria</i> sp. (5)
4. Pheasant (<i>Chrysolophus</i> spp. - Lady Amherst Pheasant, Golden Pheasant, <i>Lophura</i> spp.- Silver Pheasant)	8	3	37.50	<i>Eimeria</i> sp. (2), <i>Ascaris</i> sp. (1)
5. Lory (<i>Psittaciformes</i> spp.) (Red Molical Lory, Rainbow Lory, Black-caped Lory)	6	2	33.33	<i>Eimeria</i> sp. (1), <i>Ascaris</i> sp. (1), <i>Ascaris</i> sp. (1)
6. Love bird (<i>Agapornis</i> spp.)	3	2	66.66	<i>Eimeria</i> sp. (1), <i>Ascaris</i> sp. (1)
7. Duck (<i>Tadona</i> spp.)	3	2	66.66	<i>Eimeria</i> sp. (1), <i>Ascaris</i> sp. (1)
8. White Cockatoo (<i>Cacatue</i> spp.)	2	1	50.00	<i>Capillaria</i> sp. (1)
9. Rossela (<i>Platycerus</i> spp.)	2	-	—	-
10. Cassowary (<i>Casuarius</i> spp.)	2	1	50.00	<i>Ascaris</i> sp. (1)
11. Mekad (<i>Ara movacana</i>), (Red and Green Mekab, Eligresh Mekab)	6	3	50.00	<i>Eimeria</i> sp. (1), <i>Capillaria</i> sp. (1)
12. Kaka kowa (<i>Cacatua</i> spp.)	3	2	66.66	<i>Eimeria</i> sp. (2)
13. Emu (<i>Dromiceins</i> spp.)	4	-	—	-
14. Amazon Parrot (<i>Amazona</i> spp.)	2	1	50.00	<i>Ascaris</i> sp. (1)
15. White Stork (<i>Cinconia</i> spp.)	2	1	50.00	<i>Ascaris</i> sp. (1)
16. Spoon bill (<i>Platalea</i> spp.)	2	1	50.00	<i>Ascaris</i> sp. (1)
17. Gidia Conur (<i>Arotinga</i> spp.)	3	1	33.33	<i>Ascaris</i> sp. (1)
18. Parakeet (<i>Psittacula</i> spp. - Rose-ringed, Blossom-headed)	4	2	50.00	<i>Capillaria</i> sp. (2)
19. White Java Sparrow (<i>Padda</i> spp.)	4	2	50.00	<i>Ascaris</i> sp. (1), <i>Capillaria</i> sp. (1)
20. Koel (<i>Endynoms</i> spp.)	2	1	50.00	<i>Eimeria</i> sp. (1)
Total	106	51	48.11	

Numbers in parentheses indicate the number of positive groups of sample.

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