

INCIDENCE OF GASTRO-INTESTINAL HELMINTHS IN CAPTIVE WILD ANIMALS AT DIFFERENT LOCATIONS

K.P. Kashid, G.B. Shrikhande and G.R. Bhojne

Department of Medicine, Nagpur Veterinary College, Nagpur,
Maharashtra 440006, India.

The spectrum of parasitic diseases in wild animals is of great importance both in human and veterinary medicine. Under captivity, the health status of zoo animals varies with different factors such as management, feeding, environment, sanitation and seasonal variation. Various workers have recorded incidence of different parasites in captive wild animals (Chauhan *et al.*, 1972; Chakraborty *et al.*, 1994).

The present studies were carried out on 10 species of captive wild animals at six different locations and different conditions of management, viz., Kanha National Park in Kanha Kesari, Gemini Circus, Deer Park and Maharajbagh Zoo in Nagpur, Siddharth Zoo in Aurangabad and Peshwe Park in Pune. The faecal samples of 501 captive wild animals at different locations were collected to study parasitism.

All wild animals were screened to ascertain the incidence of infection and the results are presented in table 1. It was observed that the percentage of infection in tigers were 31.25%, leopards 22.73%, elephants 38.09%, monkeys 17.65%, spotted deer 96.13%, lions 35.71%, peacocks 88.33%, geese and ducks 11.36%, kaka-kuas 33.33% and other wild animals 2.42% which includes Jackals, Bears, Sambars, Nilgais, Black Bucks, Chinkaras, Porcupines, Hyenas, Guineapigs, White Chinchillas, Indian Foxes, Jungle Cats, Lion-tailed Macaques, and Wolves. Out of various locations studied, only at Gemini Circus, Siddharth Zoo and Peshwe Park where tigers are maintained in captivity, the incidence of helminthic infection was 0%, 33.33% and 50% respectively. In the case of Leopards, the incidence of helminthic infection was 0 % in Gemini Circus and Maharajbagh Zoo, where as it was 44.44% in Siddharth Zoo and 20% in Peshwe Park.

Elephants were maintained at Kanha National Park, Gemini Circus and Siddharth Zoo. The incidence of helminthic infection was observed to be 25% at Kanha National Park and 41.43% at Gemini Circus whereas Siddharth Zoo recorded nil percentage of helminthic infection. The helminthic infection in monkeys

were 33.33% and 20% in Peshwe Park and Siddharth Zoo respectively. At Deer Park, Nagpur 100% helminthic infection was observed in Spotted Deer. Similarly, at Siddharth Zoo, incidence of helminthic infection in Lion was 66.66%, and in goose and duck 15.15%. Incidence of helminthic infection in peafowl was 83.33%, Kaka-kua (37.50%) and in other species of wild animals (16.66%) at Maharajbagh Zoo.

Chauhan *et al.* (1972) and Gaur *et al.* (1979) reported variations of helminthic infections in different locations. Similar observation was recorded by Maske *et al.* (1990). The incidence of helminths in captive wild animals and birds recorded in the present study is presented in Table 2. Chakraborty (1992), Arunachalam *et al.* (1996), Shrivastav *et al.* (1997) and Chakraborty (2001) reported the highest incidence of above species of helminths in captive wild animals and birds. This highest incidence is due to pasture contamination and close association of animals in captivity.

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| Species | KNP | | GC | | DP | | MBZ | | SZ | | PP | | Total | | | | |
|--------------|-----|-------|----|-----|-------|-----|-----|-----|-----|-------|-------|-----|-------|-------|-----|-----|-------|
| | NE | (%) | NE | (%) | NE | (%) | NE | (%) | NE | (%) | NE | (%) | NE | (%) | | | |
| Tiger | - | - | 3 | - | - | - | - | - | 9 | 3 | 33.33 | 4 | 2 | 50.00 | 16 | 5 | 31.25 |
| Leopard | - | - | 4 | - | - | - | - | - | 9 | 4 | 44.44 | 5 | 1 | 20.00 | 22 | 5 | 22.73 |
| Elephant | 3 | 25.00 | 7 | 5 | 71.43 | - | - | - | - | - | - | - | - | - | 21 | 8 | 38.09 |
| Monkey | - | - | 4 | - | - | - | - | - | - | 2 | 20.00 | 3 | 1 | 33.33 | 17 | 3 | 17.65 |
| Spotted deer | - | - | - | - | - | 100 | 100 | 49 | 100 | 4 | - | 2 | - | - | 155 | 149 | 96.13 |
| Lion | - | - | 20 | 4 | 20.00 | - | - | 2 | 2 | 100 | 6 | 4 | 66.66 | - | 28 | 10 | 35.71 |
| Peacock | - | - | - | - | - | - | - | 12 | 10 | 83.33 | 10 | 10 | 2 | - | 24 | 20 | 83.33 |
| Goose & Duck | - | - | - | - | - | - | - | 11 | - | - | 33 | 5 | 15.15 | - | 44 | 5 | 11.36 |
| Kaka-Kuo | - | - | 8 | 3 | 37.50 | - | - | 1 | - | - | - | - | - | - | 9 | 3 | 33.33 |
| Others | - | - | 1 | - | 14.28 | 13 | - | 6 | 1 | 16.66 | 115 | 1 | 0.87 | 24 | 165 | 4 | 2.42 |

UNE - Number of animals examined; + - Postive; KNP - Kanha National Park, Kanha; GC - Gemini Circus, Nagpur; DP - Deer Park, Seminary Hills, Nagpur; MBZ - Maharajbaug Zoo, Nagpur; SZ - Siddharth Zoo, Aurangabad; PP - Pesthwe Park, Pune

| Type of helminthes | Animals infected | |
|---|------------------|-------|
| | Number | % |
| <i>Amphistome</i> | 54 | 10.78 |
| <i>Strongyles</i> | 43 | 8.58 |
| <i>Trichuris</i> | 38 | 7.58 |
| <i>Moniezia</i> | 25 | 4.99 |
| <i>Ascaridia galli</i> | 20 | 3.99 |
| <i>Toxascaris leonine</i> | 14 | 2.79 |
| <i>Raillentina tetragona</i> | 06 | 1.20 |
| <i>Paragonimus westermanii</i> | 04 | 0.80 |
| <i>Filaroides osleri</i> | 02 | 0.40 |
| <i>Ascaridia galli</i> + <i>Raillentina tetragona</i> | 02 | 0.40 |
| <i>Filaroides hirthi</i> | 01 | 0.20 |
| <i>Taenia taeniaeformis</i> | 01 | 0.20 |
| <i>Trichuris</i> + <i>Paragonimus westermanii</i> | 01 | 0.20 |
| <i>Ascaridia gali</i> + <i>Subularia</i> spp. | 01 | 0.20 |
| | 212 | |