

HEALTH ASSESSMENT IN CAPTIVE PSITTACINES

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Thesis submitted in partial fulfillment of the requirements

for the degree of

MASTER OF VETERINARY SCIENCE

in

WILDLIFE SCIENCE

to the

Tamil Nadu Veterinary and Animal Sciences University

Chennai

DEPARTMENT OF WILDLIFE SCIENCE

MADRAS VETERINARY COLLEGE

TAMIL NADU VETERINARY AND ANIMAL SCIENCES UNIVERSITY

CHENNAI-600 007

2012

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CERTIFICATE

This is to certify that the thesis entitled "HEALTH ASSESSMENT IN CAPTIVE PSITTACINES" submitted in partial fulfillment of the requirements for the degree of MASTER OF VETERINARY SCIENCE in WILDLIFE SCIENCE to TAMIL NADU VETERINARY AND ANIMAL SCIENCES UNIVERSITY, CHENNAI is a record of bonafide research work carried out by Dr. A.PRATHIPA under my supervision and guidance and that no part of this thesis has been submitted for the award of other degree, diploma, fellowship or other similar titles or prizes and that the work has not been published in part or full in any scientific or popular journal or magazine.

Place : Chennai

Date : 29-06-2012


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ABSTRACT

Title : **HEALTH ASSESSMENT IN CAPTIVE PSITTACINES**

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This study was carried out to assess the health related parameters in captive Psittacine birds of Major Zoos like National Zoological Park, New Delhi, Sri Chamarajendra Zoological Garden, Mysore and Arignar Anna Zoological Park, Vandalur and also in Pet shops and Private places in and around Chennai. Seventy three fecal samples were collected from three Major Zoos and two hundred and fifty fecal samples were obtained from Pet shops and Private places for endoparasitic examination and similarly, 62 fallen feather samples collected from Major Zoos and Pet shops and Private places were subjected to ectoparasitic examination. Two water samples and twenty five fecal samples from Major Zoos and fifteen water samples and sixteen fecal samples from Pet shops and Private places were subjected to Polymerase Chain Reaction for diagnosis of *Escherichia coli* and Genus *Salmonella*. In addition, environmental enrichment study was

carried out using gadgets like ladder, continuous rings, skewers with fruits, rope with knots and mirror.

From the fecal samples obtained from National Zoological Park, New Delhi, eggs of endoparasites could not be found and 1 feather sample revealed evidence of mixed infestation of mites (*Dermoglyphus* sp. and *Syringophilus* sp.). From the samples obtained from Sri Chamarajendra Zoological Garden, Mysore, 1 sample was positive for presence of *Strongyloides* sp., 37.5% were positive for *E.coli* and in the feather samples, presence of *Dermoglyphus* sp (21.05%), and *Syringophilus* sp. (15.79%) was observed. From the fecal samples obtained from Arignar Anna Zoological Park, Vandalur, eggs of internal parasites like *Ascaridia* sp. (13.04%), *Capillaria* sp. (26.09%), and also mixed infections of *Ascaridia* sp., *Capillaria* Sp. and Strongyles (60.87%) were observed and also, 47.06% and 5.88% were positive for *E.coli* and mixed infection of both *E.coli* and Genus *Salmonella*, respectively. From the fallen feathers collected, mites such as *Dermoglyphus* sp. (11.77%) and *Syringophilus* sp. (11.77%) were observed. The water samples obtained from both the zoos were positive for *E.coli*.

The fecal samples collected from Pet Shops and Private places, revealed eggs of *Ascaridia* sp. (11.20%), *Capillaria* sp. (20%), *Strongyloides* sp. (2%), Strongyles (1.6%), *Eimeria* sp. (10.4%) and mixed infections of these (11.60%), along with *E.coli* (18.75%), Genus *Salmonella* (37.5%) and mixed infections of both of these bacteria (6.25%). Evidences of *Dermoglyphus* sp. (17.74%), *Syringophilus* sp. (14.52%) and mixed infestation (11.29%) were observed in the feather samples,. The water samples were found positive for *E.coli* (20%) and Genus *Salmonella* (33.33%).

Comparison between the pets from Major Zoos and others (Pet shops and Private places) with regard to prevalence of endoparasites, revealed highly significant difference ($P \leq 0.01$) between the two and no significant difference ($P \geq 0.05$) was found with regard to prevalence of ectoparasites.

It was found that ladder used as environmental enrichment gadget was the highly preferred gadget by almost all the species of captive Psittacine birds and rope with knots was the least preferred gadget. There was highly significant difference ($P \leq 0.01$) between usage of ladder and other gadgets like continuous rings, skewers with fruits, rope with knots and mirror used in this study

Key words: Captive Psittacine birds – Parasitic infection – *E.coli* infection – *Salmonellosis* – PCR – Environmental enrichment.