Prevalence of parasitic infections among Pigeons (*Columba livia*) in Pollachi, Tamil Nadu

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The pigeon (*Columba livia*) is kept as pet and reared for food and experimental purposes in several countries including India. Endo and ecto parasites are regarded as the basic causes of retardation in growth, lowered vitality and poor conditions of the birds (Ruff, 1999). They can affect bird's health directly by causing gastrointestinal disturbance, irritation, discomfort, tissue damage, blood loss, toxicosis, allergies and dermatitis which in turn reduces the quality and quantity of meat and egg production. The present study reports on the prevalence of endo and ecto parasites in pigeons in Pollachi, Coimbatore district.

Materials and methods

An investigation was made on a Pigeon flock in Pollachi, Coimbatore district during the month of May' 2013 to determine the parasitic problems. A total of 1000 pigeons were maintained in the pigeon flock. Faecal samples were collected randomly from the pigeons in air tight polythene bags for routine helminth check up. Different body parts of the birds were examined and feather samples (25 numbers) were also collected randomly for routine ecto parasite checkup. Both samples were brought to Department of Veterinary Parasitology, VCRI, Namakkal for further examination. Standard parasitological procedures viz., centrifugal sedimentation, copro culture and sporulation techniques were employed to detect helminth eggs, larvae and coccidia oocysts. The feather samples were soaked in 10% alcohol and ecto parasites were separated and used for identification. The helminth eggs, larvae, coccidia oocysts and ecto parasites were identified based on the morphological characters and morphometry (Soulsby, 1982).

Results and discussion

Of the 25 faecal samples examined, 16 (64.0%) were found positive for helminthic eggs. Among which, single infection was recorded in 7 (28.0%) birds, while mixed helminthic infection was encountered in 9 (36.0%) birds. The cestode parasite encountered was delineated to genus *Cotugnia.* The nematode parasites recorded were *Ascaridia columbae* and *Capillaria obsignata*. The faecal samples were also positive for oocyst of *Eimeria* sp.

The prevalence of *Cotugnia* sp. observed in this study might be due to the wide accessibility of these birds to the infected intermediate hosts in the environment. The occurrence of *Cotugnia* sp. among pigeons was earlier reported by Malviya (1971) and Senthilvel and Pillai (2005). *Capillaria obsignata* was the predominant nematode species in the study, as earlier reported by Fowler (1986), Reddy *et al.,* (1992) and Senthilvel and Pillai (2005). In the backyard system of poultry keeping, the pigeons are commonly found sharing their food with chicken and feeding in and around the poultry yards. Sharing of feeders and waterers by fowls and pigeons often results in contamination of the yards with their droppings and by ingestion of infected intermediate hosts, and hence cross transmission of parasitic infection is possible.

Of 25 feather samples examined, all the feathers were found infested with ecto parasites. Four genera of ecto parasites were identified based on their external morphological characters, which comprised of four species of lice, viz. *Menopon gallinae*, *Menacanthus stramineus*, *Columbicola columbae* and *Lipeurus caponis.* The pigeons were negative for other ecto parasites viz., fleas, flies, ticks and mites.

The ecto parasites were recovered from feathers of different sites on the body of the birds. *M. gallinae* and *M. stramineus* were recovered from down and contour feathers of skin, trunk, rump and nape, whereas *C. columbae* and *L. caponis* from quill of wing and tail feathers. Till now, no study has been done on the ecto parasites of pigeon in Pollachi, Tamil Nadu. Almost all the birds were found to be infested with different species of lice and each bird was found to harbour more than one species of lice. This study thus provides a baseline or preliminary information on the subject in this area. Salam *et al.,* (2009) observed *L. caponis* to be the most prevalent ecto parasites in free range chicken of Kashmir valley. The increased prevalence of ecto parasites during summer months can be attributed to the requirement of optimum temperatures for the development of parasites and decreased resistance of birds to the parasites due to stress and immunosupression in high temperatures resulting in heavy infections.

Summary

In this study, the pigeons were found infected with helminth eggs and coccidian oocyst viz., *Cotugnia* sp, *Ascaridia* sp, *Capillaria* sp and oocyst of *Eimeria* sp respectively. Besides, the pigeons were also found infested with various genera of lice viz. *Menopon* sp, *Menacanthus* sp, *Columbicola* sp and *Lipeurus* sp. However, the pigeons were almost negative for other ecto parasites.

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Announcement

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1. Designing and conducting research in Ornithology covering all aspects of biodiversity and natural history'
2. Disseminating knowledge relating to Ornithology & Natural History for benefit of community;
3. Conducting regular courses in Ornithology and Natural History for Post-Graduate and Doctorate Level

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