

## ANALYSIS OF GASTROINTESTINAL PARASITES OF POULTRY BIRDS AROUND CHIKHLI, BULDANA (M.S.) INDIA

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### ABSTRACT

In the present study 50 local and 50 farm birds were screened for the presence of gastrointestinal parasites. 36 were found positive of gastrointestinal parasites by gross examination of gastrointestinal tract. Out of 36 positive local birds, 19 (52.77%) were found positive for cestodes, 11 (30.56%) harbour nematodes and remaining 6 (16.67%) had mixed infection. However there were no adult helminthes and helminthes ova was observed in farm birds. These results indicated that farm birds are available in Chikhli tahsils are good in general health with null parasitic load and their hygienic conditions was also too good. While the presence of high parasitic loads are shown unhygienic condition of local birds as compared to farm birds.

**Keywords:** Gastrointestinal parasites, cestode, nematode, mixed infection.

### INTRODUCTION

Biological invasions are one of the major threats to biological diversity in ecosystems, and parasites might play a role in determining invasion outcomes (Combes, 1996; Prenter *et al.*, 2004). Poultry farming has tremendously developed in recent years and has become one of the most intensive forms of animal husbandry activities. The common internal parasitic infections occur in poultry include cestodes, nematodes and coccidian. These worm infections may cause considerable damage and great economic loss to the poultry industry due to malnutrition, decreased feed conversion ratio, weight loss, lowered egg production and death in young birds. The food material or for feeding like in beetles, ants, and houseflies which abundant on local as well as farm poultry birds are responsible for transmission of various helminthes. Helminthes infestations are associated with poor growth due to poor feed conversion rate, reduced egg production and fertility and in acute worm infestations lead to death (Soulsby, 1982). In free-range chickens parasitic infestations are often neglected (Pandey and Jiang, 1992) despite their significant losses in terms of reduced growth rate and mortality. Studies in chickens have demonstrated that worms can be of great economic importance.

This study was therefore designed to investigate the prevalence of gastrointestinal

cestode parasite in the free ranging poultry birds, ultimately suggesting control measures relevant for free range management. Thus, improved poultry management practices are responsible for the reduction in incidence of parasitic infections. This study is important due to the consumption of human being.

### MATERIALS AND METHODS

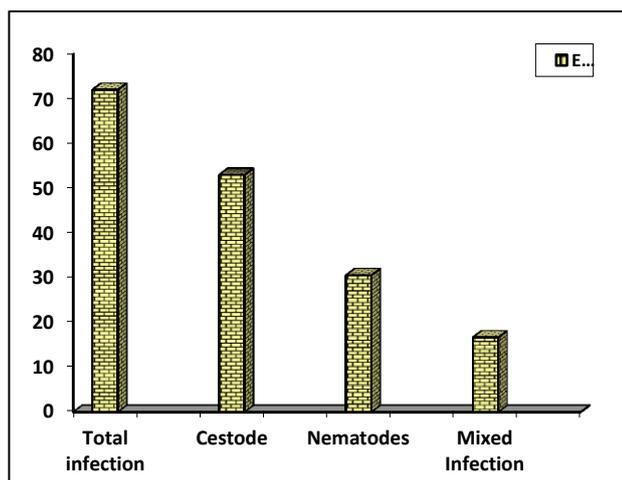
A total of 100 intact whole intestines of both local and farm birds were collected from local poultry stalls located in and around Chikhli Tahsils. The intestines were dissected and screened for the presence of helminthes parasites. Post-mortem examination was performed according to (Fowler, 1996). After dissection, alimentary canal was opened, followed by systematic autopsy examination which included the esophagus to the gizzard, the small intestine (duodenum, jejunum and ileum), the caeca, and the ileocaeca-colic junction to the cloaca. Each section was opened longitudinally and the contents carefully washed through a 100 $\mu$  test sieve. The mucosa was scraped to collect the helminthes embedded in the mucosal layer. Finally, the contents were examined under microscope and all helminthes were counted before being fixed in 70% alcohol for further identification (Soulsby 1982). Helminthes were cleared in lactic acid and examined for morphology under the light microscope at 10x magnification.

Identification of helminthes was performed according to helminthological keys (Soulsby 1982). In addition pieces of caecum were collected in 10% Neutral Buffered Formalin for host pathological studies (Luna, 1968).

## RESULTS AND DISCUSSION

In the present study 50 local and 50 farm birds were screened for the presence of gastrointestinal parasites. Among 50 local birds screened, 36 were found positive of gastrointestinal parasites by gross examination of gastrointestinal tract. Out of 36 positive local birds, 19 (52.77%) were found positive for cestodes, 11 (30.56%) harbour nematodes and remaining 6 (16.67%) had mixed infection which were shown in fig. 1. While the investigation was given complete absence of parasite within the farm poultry birds. The similar observations were made by Nadakal *et al.*, 1972 who reported highest prevalence rate of cestodes followed nematodes and nematodes in local birds. But in the present study none of the birds harbour nematode parasites within farm birds.

**Fig. 1: Parasitic infection in local bird**



Out of 36 samples, the 19 (52.77%) intestines positive were positive for genus *Cotugnia*, *Raillietina*, *Taenia solium*, *T. saginata*. Similarly Hegde, *et al.*, 1973 reported prevalence of *Raillietina tetragona* and *R.echonobothrida* as 77.1 and 57.8% in local birds. Nine local birds showed mixed helminthic infections of *Ascaridia galli*,

*Raillietina* and *Taenia*. Among mixed infection *Ascaridia galli* and *Raillietina tetragona* were recorded in 9 local birds and all the three helminthes viz., *Ascaridia galli*, *Raillietina tetragona* and *Taenia* were observed in local birds. However Raote *et al.*, (1991) reported 50.97% of mixed infection in local birds in Akola regions in Maharashtra. The lowest prevalence rate of mixed infection in the present study might be due to regional variation.

The ova of parasites present in food material or for feeding like in beetles, ants, and houseflies which abundant on local as well as farm poultry birds are responsible for transmission of various helminthes. The intestinal contents of 50 local birds were also examined by sedimentation and flotation methods showed the ova of *Ascaidia galli* and *stroglyoides avium* in only one bird by flotation method and no oocysts were observed in birds. However there were no adult helminthes and helminthes ova was observed in local birds by microscopic examination. In the present study two types of oocysts were recorded and identified based on the morphology and micrometry.

## CONCLUSION

The present study showed that mixed worm infestations are less frequently seen than single worm infections among the local and farm poultry birds. Furthermore mixed infections were limited to three species of helminthes parasites within local birds.

Thus, results indicated that farm birds are available in Chikhli tahsils are good in general health with null parasitic load and their hygienic conditions was also too good. These findings indicate that farm birds could be less susceptible to mixed infections in comparison with local birds. While the presence of high parasitic loads are shown unhygienic condition of local birds as compared to farm birds.

## Acknowledgement:

Author is much thankful to principal, Shri Shivaji Science & Arts College, Chikhli, Dist. Buldana for providing necessary laboratory facilities.

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