

Effect of Helminth Parasites of Some Birds in Darbhanga Bihar

Dr. Alka Anand

D/o- Dr. Onkar Mishra, Hanumanganj, Mishratola, Darbhanga, Bihar, Pin Code:- 846004, India

Abstract: *In the present study focuses on the effect of some helminth parasites in Columbia livia and Gallus Gallus domesticus. Out of 245 host birds examined, 145 were found infected with either singly or mixed infection. For study of effect on blood parameters only 31 (18 male and 13 female) birds were taken. The significant increase was observed in the size of RBC and number of WBC.*

Keywords: Helminth parasites, Columbia livia, Gallus domesticus

1. Introduction

The need for an understanding of the helminth fauna of birds as hosts is essential, now a days, in view of man's increasing interest and efforts for the perpetuation and management of edible varieties, for example- pigeon and poultry birds. Rather poultry husbandry on a commercial scale for economic profit has attracted the attention of entrepreneurs at minor to major level. As such this has now started to occupy an important place on a commercial scale for economic profit has attracted the attention of entrepreneurs at minor to major level as such this has now started to occupy an important place in the agricultural economy of our country. Extensive research in many countries of the world viz Africa (Zambia and Nigeria), major Asia including India, Pakistan, Nepal, Bangladesh and even Soudi Arabia, USA too, has shown begenl doubt that helminthic infection cause heavy loss to poultry farmers by way of retardation of growth decreased production, lower, returns and susceptibility to other types of parasitic infections or diseases due to lowered resistance/ immunity as well as heavy mortality.

Particularly the free ranging fowls, living in insanitary conditions along the streets of villages and even towns are often exposed to the agents that cause diseases/parasitic infections in the host birds and eventually leading to mortality of the birds, thus direct loss to the house holders or even the poultry farmers at minor level.

As such the domestic fowls have been found to carry infections with varied types of parasites usually ranging from microbial protozoal, arthropods (ectoparasites) to helminthes. These parasites have serious impact on the poultry health productivity, quality and quantity of chick (meat). As such, in recent years, increasing efforts for intensive raising poultry-both eggs and meat in commercial scale face challenging poultry management related problems. Rather unscientific or say improper management health care often leave the flock exposed to various infection/diseases.

Therefore, in order to developing proper management and health care of the poultry birds whether at house hold level or poultry farm level. It warrants serious attention of the poultry farmers/managers to have a knowledge of helminth parasites which are a cause of concern in poultry care-that is damages caused by them and eventually leading to stunted/Poor growth deterioration in quality/quantity of meat and even mortality of the host birds.

In the present investigation two species of poultry birds Gallus gallus domestics (domestic fowl) and Columba livia domesticus (Pigeon) have been selected. Of them the domestic fowls, Gallus are relatively more commonly available in plenty all round the year in both the rural and urban areas whereas the other pigeons are less commonly available and have no option but to be purchased from the market and that too not available all time.

Anyway as a result of examination of both the host birds the helminthes parasites recovered can be commonly divided into 3 main groups – Cestoda, Nematoda and Trematoda and remarkably enough no acanthocephalan found and have been listed in the Table-1 and described in this chapter. Of them cestodes belonging to 2 genera – Rallietina & Davainea and to 2 genera of Nematodes- Ascaridia and Heteraki & constitute the main and most important group of intestinal helminth parasites of poultry birds – found (Gallus) and pigeon (Columba) in the present study.

2. Materials and Methods

Collection of Parasites:

Helminth parasites (listed in the table) were recovered from examination of 245 specimen of the host bird Gallus and 145 infected with either singly or mixed helminthes, and also only 48 out of 65 pigeons Columba for gastro- intestinal parasites the viscera were collected from the freshly slaughtered host bird both Gallus and Colombia, from the market place and also the live birds were autopsied in the laboratory and the visceral organs were carefully examined for parasites.

Table 1: List of Helminth Parasites

Host	Location	Identification	Group/Class
1. Domestic fowl <i>Gallus gallus domestic</i>	Small Intestine (Scalex embedded into mucosa)	1. Raillietina sp	Cestoda
	Small Intestine (buried in the mucosa)	2. Davraineasp	Cestoda
	Caicum (lumen)	3. Echinostoma sp.	Cestoda
	Small Intestine	4. Ascaridiagalli	Nematoda
	Caecum (lumen)	5. Heterakis gallinae	Nematoda
2. Pigeon, <i>Columa livia domesticus</i>	Small Intestine	6. Raillietina sp.	Cestoda
	Small intestine	7. Cotagnia sp.	Cestoda
	small Intestine	8. Ascaridia galli	Nematodx
	Caecum	9. Echinostome sp.	Trematode

3. Results and Discussion

The present study indicates a very interesting feature, that accounts for infected birds show restlessness different types of helminth parasites produce different types of changes in the haematological parameters in birds, such as which are more or less comparable to those in mammals including man.

The much similar results such as decrease in RBC count and increase in WBC count in the infected host when compared to normal/uninfected host.

Due to helminthes infection whether tapeworm or nematode or even mixed ones there in change in the blood parameters of *Gallus gallus domesticus*. For instance decrease in RBC count but increases in RBC size may be due to deficiency of Vit B₁₂ a maturation factor for RBC as leading to anaemia macrocytosis, and poikilocytosis accompanied by reduction in Hb and PCV-Values.

References

- [1] Bhalerao, G.D. and Rao, NSK 1944: some helminth Ind. Acad Sci. 20(b): 32-39.
- [2] Bhatnagar, P.K. and Rupra. N.S. 1970: some studies on helminthes of pigeons at Hissar. Haryana Vet – 9(20): 1 - 7
- [3] Gugai, AR; Lakkar, B.C. and Saran, P.C 1984: Helminth Fauna of pigeons (*Columba livia domestica*) in Assam, in J. Helm. 1 (1 & 2) 64 – 69.
- [4] Dubey, J. P. 1984: Some helminth fauna Of domestic duck (*Anas platyrhynchos domesticus*). Ind. J. Helm. 16: 33 – 43
- [5] Kishore mawal and Sinha, D.P. 1985 Studies in relation to trematode parasites of domestic ducus (*Anes Platyrhynchos domesticus*) in Bihar. Ind. J. HELM. 2 (1 & 2): 127 – 137.
- [6] Luka, S.A. and Adams, I. S. 2007 Gastro intestinal parasites of domestic chicken *Gallus gallus domesticus*, L. in Samaru, Zaria, Nigeria, Sc: W. J. 2(1) : 27 – 29.
- [7] Maur., B.M., Dawam, N.N. and Madann. V.D. 2010 Gastro intestinal helminth parasites of local and exotic chickens slaughtered in Gwagwalada, Abuja, Nigeria, New Yark Sck. Journal 3(5): 969 – 991.
- [8] Nanware, S.S., Bhure, D.B. and Deshmukh, V.S. 2015: P opulation dynamics of nematodes of freshwater fish, *Mastacembelus asmatius* Lacepele. Proc. Nats. Conf. on “Current Trends in Aquaculture”: 72 – 77.

- [9] Salam, S.T. 2015: Ascariasis in Backyard chicken-prevalence, pathology are control. Intl. J. recent Sci. Res. 6(4): 3361 – 3365.
- [10] Yadav A.K. and Tandon, V. 1991: Helminth Parasitism of domestic fowl (*Gallus domesticus* l.) in subtropitcal high rainfall area of India. Beirrane Zur. Tropischen landwirtschaft and veterinavmedi Zin 29: 97-104.