INCIDENCE AND INTENSITY OF HELMINTHIC INFECTIONS IN SOME BIRDS IN DARBHANGA REGION

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ABSTRACT:

The present communication deals with the study of prevalence of intestinal helminthic infection in some birds. In all 296 birds were examined and average over all prevalence as found as 156 (52.70%), nematodes 76 (25.67%) and mixed 22 (7.43%) thus in an order of nematodes > cestodes > mixed ones. Further, seasonal prevalence showed higher during summer (60.79%) followed by rainy (52.48%) and lowest during winter (37.83%) Thus the study indicated higher prevalence. of helminthic infection particularly Raillietina (cestode) and Ascaridia (nemadude) during summer season in some birds of the study area.

Keyword: Helminthic parasites, Gallus gallus,Columbia livia.

INTRODUCTION

The study of the relationship between the parasite fauna taken as a unit on one hand and the changes in the environmental and physiological conditions of the host on the other constitutes the focal content of what is called “Ecological Parasitology” (Dogiel, 1964). Indeed the most important factors influencing the composition of the parasitic fauna of any host animal include the host’s age and seasonal changes.

Therefore, the present study was undertaken to obtain quantitative data on the helminth fauna of domestic fowl, Gallus and Pigeon. Columba, more-or-less commonly available in and around Darbhanga region to find out:

1. The period of occurrence of various types of helminthes parasites commonly the gastrointestinal helminthes.
2. Incidence of infection that is percentage (%) of infection in the bird host.

3. Intensity of infection i.e. numbers of parasites found per host (each host)
4. Existence of and relationship between the prevalence (both incidence & intensity) of heminthic infection on one hand and the sex of the host and seasons on the other.

Materials And Methods:

The specimens of the host birds the domestic fowl. Gallus gallus domesticus and the pigeon coumbia livia domesticus were collected from local sellers in and around Darbhanga. A total of 245 Gallus (65 males and 180 females) and 65 Columba (21males and 44 females) of both sexes were examined carefully by autopsying the collected viscera of the fresh slaughtered Gallus and Columba from the market place and some freshly slaughtered in the laboratory. All types of helminth pararites recovered from both the hosts were collected. A record of the sex of the host bird of both Gallus and Columba examined, their number, the type of parasite and month of collection was maintained.

Statistical Analysis:

Frequency of occurrence of different types of helminth parasites and level of infection was calculated from the record of parasites and host bird examined.

Statistical evaluation of prevalence of infection and intensity i.e parasite burden from various angles were accomplished by using chi-square. Analysis of 2 x 2 and 2 x n or even n xn contingency tables.

Whenever necessary correlation coefficient (r) and ‘t’- test were also applied for the assessment of the significance of some relationships.

Difference in incidence and intensity in relation to the sex of the host and season were assessed by ANOVA and determination of variance ratio (f) and critical difference (CD)

Formulae Used:

$$\text{Incidence of infection} = \frac{\text{No of host infected}}{\text{No of host examined}} \times 100$$

Intensity (worm burden) of infection

= No. of parasites recovered

No. of host examined or infected.

Index of Infection = No. of Hosts infected x No of parasites collected

Total Hosts examined

Density of infection = Number of parasites collected

Total No. of hosts examined

RESULTS & OBSERVATION:

In the present study two hosts bird were selected for survey of helminth parasites one the domestic fowl, Gallus gallus domesticus pigeon, calumbia livia domesticus. But the pigeon could not be available through all the months of the period of study Hence for the purpose of statistical works relating to incidence and intersity of helminthic infection the domestic pigeon could not be considered except for a few possible considerations, particularly for the types of helminth parasites obtained during the work.

Season and Incidence/ Intensity of the helminth facuna

The following observations are mentioned :

1. That the general infection of all the helminth parasites shows higher incidence during the summer with 84.17% followed by Rainy (52.32%) and whereas low in winter (26.25%)
2. That among them infection with Raillietina sp. shows higher intensity and higher index of infection in the rainy whereas low in the winter.
3. That Darainea spp too shows high intensity and index in the summer followed by rainy (monsoon) and very low in the winter.
4. That Ascaridia sp shows level of infection with intensity higher in the winter whereas index high in the monsoon followed by summer and lower in the winter.

Thus, the level of infection with regard to both cestodes (Raillietina and Davainea) and rematodes (Ascardia & Heterakis) was founder higher in the

summer followed by rainy and low in the winter with only exception of Ascaridia with high intensity in winter.

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