

Seasonal Variation of Cestode *Raillietina (R) fuhrmanni*, Southwell, 1922
in *Gallus gallus domesticus* from Ahmednagar district (MS), India

Pulate Vijay M.

Arts, Commerce and Science College, Satral. Tal- Rahuri, Dist.- Ahmednagar (M.S.)

Abstract

The objective of this study is to examine the seasonal variation of the cestode *Raillietina (R) fuhrmanni*, Southwell, 1922 parasitizing *Gallus gallus domesticus* from different localities of Ahmednagar district (MS), India during the period of Oct 2007 to Sept 2008. The results shown a significant seasonal variation in the prevalence of *Raillietina fuhrmanni*, with the highest prevalence observed during the summer season, followed by the winter, and the lowest during the rainy season.

Key words: Cestode, *Raillietina fuhrmanni*, *Gallus gallus domestics*, seasonal variation

Introduction

Bird rearing is a traditional practice in Ahmednagar district, Maharashtra, India, with many challenges, especially related to health. Gastrointestinal parasite infections are a universal issue for both small and large-scale farmers, but they have a greater impact in India due to a wide range of agro-ecological factors suitable for diversified hosts and parasites. Economic losses are caused by parasites in a variety of way, causing losses through decreased fertility, reduced work capacity, lower food intake, slower weight gains, higher treatment costs and increased mortality in heavily parasitized animals. Climatic factors also influence the host and intermediate hosts.

Material and Method

The cross-sectional study was carried out in the Ahmednagar District, Maharashtra, India. A total of 168 slaughtered domestic fowl intestine of different age group and of both sexes were randomly selected from the area over a year of Oct. 2007 to Sept. 2008. The parasites were collected. Flattened, stained and identified, also recorded both infected and non-infected hosts, along with the number of parasites, to determine the prevalence of infection. The parasites were identified with help of Systema Helminthum by Yamaguti. S.

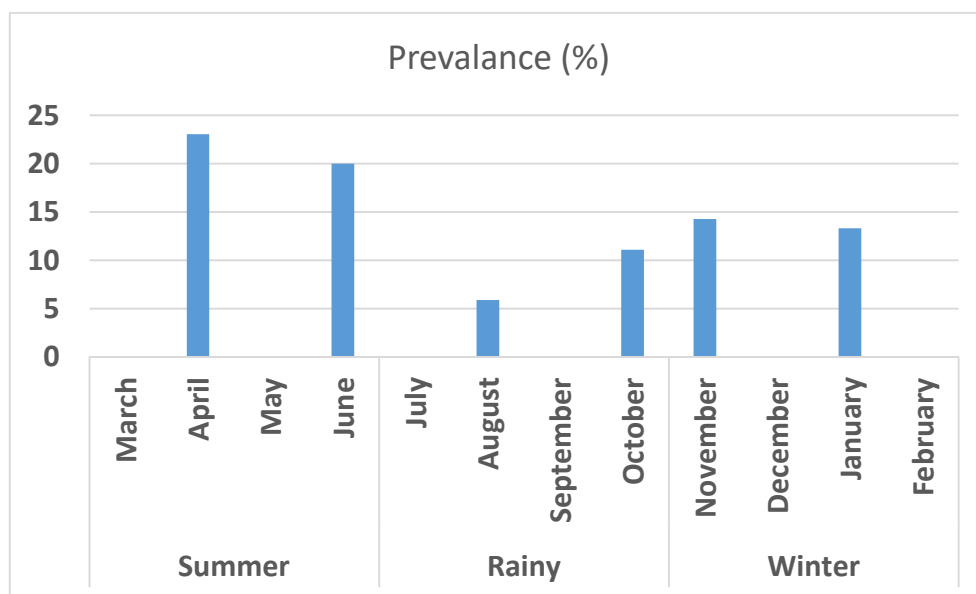
To calculate the prevalence of infection, the following formula was used:

$$\text{Prevalence of infection} = \frac{\text{No. of infected host}}{\text{Total host examined}} \times 100$$

Table 1. Months and seasonal wise Prevalence occurrence of *Raillietina fuhrmanni* from *Gallus gallus domesticus* during Oct 2007 to Sept 2008

Season	Month	2007-2008		
		No. of hosts examined	No. infected hosts examined	Prevalence %
Summer	March	08	00	00
	April	13	03	23.07
	May	16	00	00
	June	10	02	20
Rainy	July	19	00	00
	August	17	01	5.88
	September	09	00	00
	October	18	02	11.11
Winter	November	21	03	14.28
	December	07	00	00
	January	15	02	13.33
	February	15	00	00

Graph 1. Months and seasonal wise Prevalence occurrence of *Raillietina fuhrmanni* from *Gallus gallus domesticus* during Oct2007 to Sept 2008



Result and Discussion

A total of 168 chickens (*Gallus gallus domesticus*) were examined from October 2007 to September 2008. The annual prevalence was recorded at 7.30%. The study found that the highest prevalence of *Raillietina fuhrmanni* occurred in the summer (10.24%), followed by winter (6.90%), with the lowest prevalence in the rainy season (4.24), as shown in Table 1 and Graph 1. Parasites were prevalent throughout the year and in all season. Similar results were reported by Pathan (2018), Sheikh T. Salam et al. (2010) and Gholap A. B. et al. (2019). The present results are agreement with the earlier workers like Dogial et, al. (1958), Hopkins (1959), Anderson (1976) and Susheela (1987). Bhure and Nanware (1914) reported high incidence of infection of *Cotugnia dignopora*, *Cotugnia diamarae* and *Raillietina (R.) domestica* in summer (75%, 67.85% & 71.42%) followed by winter (60%, 52% & 48%) whereas low infections in rainy season (38.09%, 33.33% & 38.09%). The high prevalence during summer finds the support from the earlier report of Achaiah N and N. Vijaya kumar (2013) described high prevalence of cestode parasite *Raillietina tetragona* in summer (43%) followed other seasons. Shukla et, al. (2012) recorded high prevalence of *Raillietina* sp. parasites is occurred in winter season followed by summer. but present studies, we found that prevalence is lowest in rainy season and highest in summer season, as its life cycle stages and intermediate host availability increases in winter and adult in definitive host in summer. Kennedy C. R. (1968) reported temperature, humidity, rainfall, feeding habits of host, availability of infective host and parasites maturation are responsible for influencing the parasitic infections. In the present study the higher infection of *Raillietina (R) fuhrmanni*, Southwell, 1922 to *Gallus gallus domesticus* in high temperature months. There is host specificity because: the morphological, physiological and ecological factors the host specificity. These factors play an important role for controlling the parasite to a particular host species in particular season.

Conclusions

The study on the prevalence and seasonal variation of the cestode *Raillietina (R) fuhrmanni* from October 2007 to September 2008 showed that infections were highest in the summer, moderate in the winter, and lowest during the rainy season in *Gallus gallus domesticus*.

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