

SEASONAL VARIATION OF TAPEWORM *Raillietina singhi* (Malviya, 1971) IN *Gallus gallus domesticus* FROM AHMEDNAGAR DISTRICT, (MS), INDIA

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Abstract

The aim of the present study is to investigate the seasonal variation of tapeworm *Raillietina singhi*, Malviya, 1971 infecting the domestic chicken *Gallus gallus domesticus* from different localities of Ahmednagar district (MS), India during the period of Oct 2008 to Sept 2009. High seasonal variation of *Raillietina singhi* parasite was occurred in winter season followed by summer season and low in rainy season. Due to changing environment factors and feeding habitats are influencing that seasonality of parasitic infection either directly or indirectly.

Key words: Tapeworm, *Raillietina singhi*, *Gallus gallus domesticus*, Seasonal variation

Introduction

Bird rearing is traditionally practiced in Ahmednagar district, MS. (India), Scope with many constraints, especially health related. Gastrointestinal parasite infection are a world problem for both small and large scale farmers, but their impact is greater in and the availability of a wide in India due to range of agro-ecological factors suitable for diversified host and parasite species. The cestode parasite play key role in development, they cause losses through lowered fertility, reduced work capacity, a reduction in food intake and lower weight gains, treatment cost and mortality in heavily parasitized animals. Climatic factors affect the host and intermediate host. Population dynamics of helminthes parasites were carried out by different workers on different

helminthes parasites, Dogiel *et.al.* (1958), Hopkins (1959), Pennyuick (1971), Anderson (1976), Gholap *et.al.* (2019) and Susheela (1987) have shown the effect of season on the geographical distribution of cestode parasites. The other workers also studied the effects of climatic factors on the helminthes includes Kennedy (1968), Lawrence (1970), Patrick and Esch (1977) and Crofton (1971), have elaborately studied the effect of climatic factor on population dynamics of helminthes parasites. According to Lapage (1996), the rainfall and temperature have a significant bearing on the stability of infection levels. In order to contribute to the knowledge of avian diseases in the area and to undertake improvement in traditional bird keeping

Material and Method

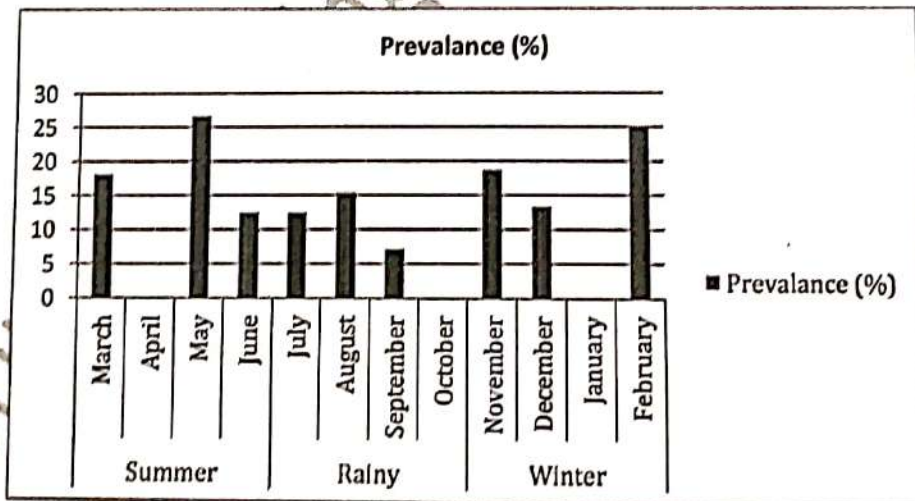
The cross sectional study was carried out in the Ahmednagar District, Maharashtra, India. A total of 164 slaughtered domestic fowl intestine of different age group and of both sexes were randomly selected from the area under study over a year of Oct. 2008 to Sept. 2009. No birds were purchased from a single household during the entire period of study. The parasites were collected. Flattened, stained and identified, also record of infected and non-infected host and number of parasites for study of prevalence of infection. The parasites were identified with help of Systema Helminthum by Yamaguti. S. To find the prevalence of infection of infection the calculation were made with the help of following formula

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

Table-1. Months and season wise occurrence of *Raillietna singhi* from *Gallus gallus domesticus* during Oct 2008 to Sept 2009.

Season	Month	2008-2009		
		No. of hosts examined	No. of Infected hosts examined	Prevalence %
Summer	March	11	02	18.18
	April	07	00	Nil
	May	15	04	26.66
	June	08	01	12.50
Rainy	July	16	02	12.50
	August	13	02	15.38
	September	14	01	7.14
	October	09	00	Nil
Winter	November	16	03	18.75
	December	15	02	13.33
	January	10	00	Nil
	February	12	03	25.00

Graph.1. Histogram showing months and season wise occurrence of *Raillietna singhi* for the years 2008-2009 from *Gallus gallus domesticus*



Result and Discussion

A total of 146 chickens (*Gallus gallus domesticus*) were examined over a period of Oct 2008 to Sept 2009. Annual prevalence was recorded as 17.40%. The present investigation indicates that the maximum prevalence of *Raillietina singhi* Malviya, 1971 of *Gallus gallus domesticus* are occurred in summer 17.03% followed by winter 15.09 whereas minimum prevalence occurred in rainy season Table-1 and Graph 1.

Parasites were prevalent throughout the year and in all season. Similar results were reported by Pandit (1991), Sheikh T. Salam et al. (2010). The present findings are agreement with the earlier workers like Dogial et, al. (1958), Hopkins (1959), Anderson (1976) and Susheela (1987). The high prevalence during summer find 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 by Rainy (31%) whereas infection was low in winter 15% and low prevalence during rainy season from the finding of Patil Sunil D. and Bhamare Ankita V. (2018) reported high prevalence of infections of cestode parasites *Raillietina*, Fuhermann in Summer (2016-2017) was (63-46%) followed by winter (2016-2017) was (35.97%) whereas low in rainy (2016-2017) was (15.07%). Pathan D. M., Madle R. S. and Bhure D. B. (2018) noticed high incidence of infection of cestode parasite *Raillietina friidbergeri* Linstow, 1877 was high in summer followed by other season. 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. In the present study the higher infection of *Raillietina singhi* Malviya, 1971 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 prevalence and seasonal variation of the cestode *Raillietina singhi* from Oct. 2008 to Sept. 2009. From the observations, it is concluded that the

infection is high in summer season, moderate in winter and low in rainy season in the *Gallus gallus domesticus*.

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