



ORIGINAL ARTICLE

Seasonal Variation of Cestode Parasite *Raillietina microscolecina* Fuhrman, 1908 in Domestic Fowl *Gallus domesticus*(L.)

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Received: 8th Nov. 2019, Revised: 27th Nov. 2019, Accepted: 6th Dec. 2019

ABSTRACT

Present investigation deals with the seasonal variation of cestode *Raillietina microscolecina* Fuhrman, 1908 in domestic fowl, *Gallus domesticus*. *Gallus domesticus* (Linnaeus, 1758) domesticated by farmer and poor people of rural area of Nanded district of Maharashtra state. Due to uncontrolled feeding on garbage, The result of present work indicate maximum incidence of infection reported in Summer season (60% & 66.87%), followed by winter season (44.50% & 39.37%) whereas infection were lowest in rainy season (19.25% & 20.62) for two seasonal cycle i.e. June, 2006 to May, 2008.

Key words: Cestode, *Gallus domesticus*, Prevalence, *Raillietina microscolecina* Fuhrman

INTRODUCTION

Birds are important for their commercial, recreational, ethical, spiritual values and form a rich protein source for humans. There is a rich diversity of birds in this area. Among birds, Poultry is of great importance in rural production system in this area. Chicken was the only poultry bird being reared for meat and egg production. *Gallus domesticus* belongs to the order Galiformes and under the family Phasianidae are poultry birds and also domesticated by farmers and poor people of Nanded district. The cestode parasite *Raillietina microscolecina* Fuhrman, 1908 is very common species and play key role in development, growth and reproduction of birds. Parasitological investigation based on examining intestine and survey of cestode species was carried out for two years.

MATERIAL AND METHODS

Survey was carried out during the period of June 2006 to May 2008 at various places of Nanded district, viz. Loha, Kandhar, Ardhapur, Mukhed, Biloli, Dharmabad, Mudkhed, Naigaon. The digestive tract of *Gallus domesticus* collected from slaughter houses. The digestive tract was cut longitudinal and carefully examined. Cestode parasites were collected and a complete record about the infected host, parasites is summarized. The parasites were flattened and kept in 4% formalin, stained by Harris-haematoxylin, mounted in DPX and identified for further observation, drawing were made with the aid of Camera lucida.

$$\text{Prevalence} = \frac{\text{Total infected hosts}}{\text{Total examined hosts}} \times 100$$

RESULTS AND DISCUSSION

Results of present study on prevalence of Cestode Parasites are presented in Table 01&02 and Graph 1&2. The maximum incidence of infection reported in Summer season (60% & 66.87%), followed by winter season (44.50% & 39.37%) whereas infection were lowest in rainy season (19.25% & 20.62) for two seasonal cycle i.e. June, 2006 to May, 2008.

Results of present study are in agreement with Bhure *et. al.*, 2010 reported high incidence (51.78%), intensity (1.18%) and density (0.613%) of *Rhabdocona* sp. in summer followed by winter and rainy season. Shahin *et. al.*, 2011 reported highest incidence of chicken cestode in

summer 5.54% and Autum 5.6% and lowest incidence during winter 3.3% and spring 2.2%. Bhure *et al.*, 2013 studied high prevalence of avian cestodes in summer where as low in monsoon season. Bhure *et al.*, 2014 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 monsoon season (38.09%, 33.33% & 38.09%). Nanware *et al.*, 2015 reported high incidence, density and index of infection of nematode parasites were reported in Summer followed by Winter whereas infection was low in monsoon. Bhure *et al.*, 2018 reported high prevalence of *Gangesia* sp from *Wallago attu* in Summer (75.00%) followed by Winter (46.25%) whereas infection was low in monsoon (22.50%).

Table 1: Showing monthly incidence of infection of the cestode *Raillietina microscolecina* Fuhrman, 1908

Season	Month & year of collection	No. of host infected	% incidence of infection	Month & year of collection	No. of host infected	% incidence of infection
Rainy	June 2006	08	20	June 2007	09	22.5
	July 2006	06	15	July 2007	07	17.5
	Aug 2006	07	17	Aug 2007	08	20
	Sep 2006	10	25	Sep 2007	09	22.5
Winter	Oct 2006	15	37	Oct 2007	14	35
	Nov 2006	17	42.5	Nov 2007	13	32.5
	Dec 2006	19	47.5	Dec 2007	15	37.5
	Jan 2007	20	50	Jan 2008	21	52.5
Summer	Feb 2007	20	50	Feb 2008	23	57.5
	Mar 2007	23	57.5	Mar 2008	26	65
	April 2007	25	62.5	April 2008	28	70
	May 2007	28	70	May 2008	30	75

Graph 1: Showing monthly incidence of infection of the cestode *Raillietina microscolecina* Fuhrman, 1908

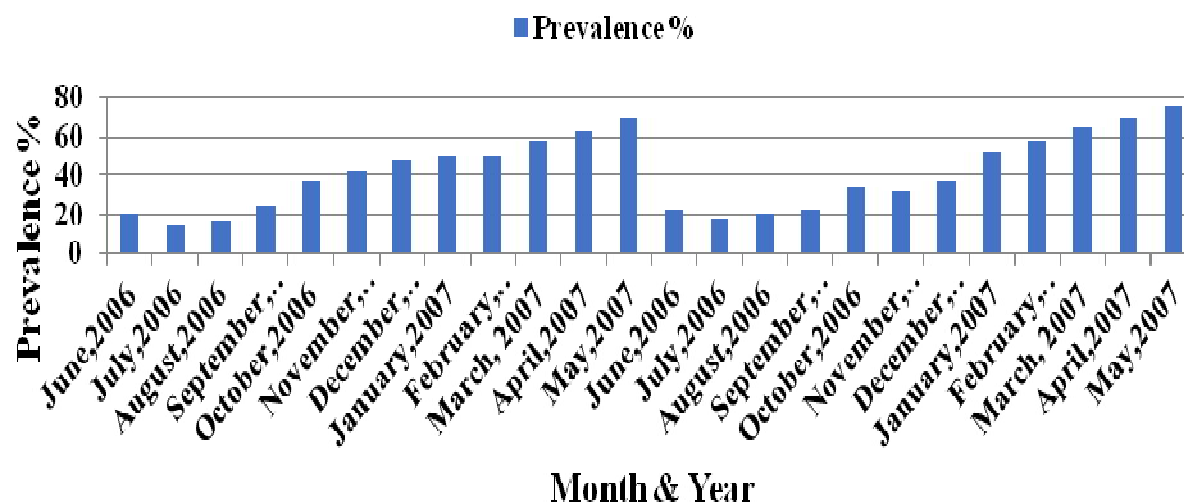
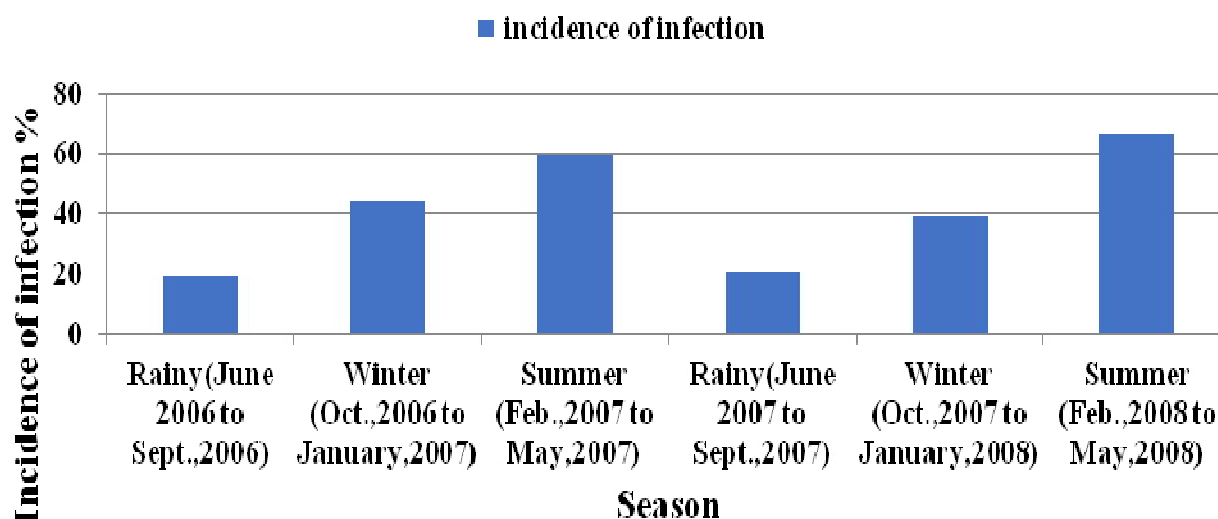


Table 2: Showing seasonal incidence of infection of the cestode *Raillietina microscolecina* Fuhrman, 1908

Season of the year 2006-2007	% incidence of infection	Season of the year 2007- 2008	% incidence of infection
Rainy (June 2006 to Sept.,2006)	19.25	Rainy (June 2007 to Sept.,2007)	20.62
Winter (Oct., 2006 to January, 2007)	44.5	Winter (Oct., 2007 to January, 2008)	39.37
Summer (Feb., 2007 to May, 2007)	60	Summer (Feb., 2008 to May, 2008)	66.87

Graph 2: Showing seasonal incidence of infection of the cestode *Raillietina microscolecina* Fuhrman, 1908



CONCLUSION

The prevalence and seasonal variation of the cestode *Raillietina microscolecina* Fuhrman, 1908 from June 2006 to May 2008 for the period to two years. From the observation, it is concluded that the infection is high in summer season, moderate in winter and low in rainy season in the host *Gallus domesticus*.

ACKNOWLEDGMENT

The author is greatly thankful to the Principal, Yeshwant Mahavidyalaya, Nanded for providing laboratory facilities for carry out the research work.

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