

Prevalence of Cestode parasites in *Gallus gallus domesticus* from Ahmednagar region of Maharashtra (India)

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Abstract

The present study deals with the prevalence of helminth parasites in *Gallus gallus domesticus* from Ahmednagar district of Maharashtra. The experimental work was conducted of the period from February 2018 to January 2019. About 112 infected intestinal samples from host were collected from different villages of Ahmednagar district of each month of year. After that parasites examination and maintain the record of infected host and cestode parasites count and calculate prevalence, mean intensity and abundance, which is on an average prevalence rate of infection was (49.33%), mean intensity is (2.94) and abundance is (1.43) for given result conclude that requirement of proper development of hygienic practice to control the parasite infection and decrease the rate of the infection in poultry management.

Index term: - Prevalence, Cestode parasites, Helminth, *Gallus gallus domesticus*, Mean intensity.

I. INTRODUCTION

Birds are one of the most important life forms and excellent indicators of health of many environments. *Gallus gallus domesticus* have a great socio-economic importance than other animals domesticated by humans. It has important role of human food as well as the source of income due to the production of meat, egg and waste. (Kalim Shaikh, *et.al*, 2018). Poultry birds can carry a large number of viral, bacterial, fungal, protozoan and helminthes infection the hosts of infected vectors. Gastro-intestinal parasitic helminthes have a serious impact on poultry health, productivity, quality and quantity of meat and egg. Helminth parasites of poultry birds are commonly divided into three main groups: Cestode, Nematode and Trematodes. Cestode parasites are the one of the class of helminthes parasites, domestic fowl are infected with helminth infection, which are responsible many diseases to human beings. Population dynamics of the parasites, resulting in dramatic changes in the prevalence and intensity of helminthes infections (Magwisha *et.al*, 2002)

Many workers studies on prevalence of cestode parasites in *Gallus gallus domesticus*. Observed a gastrointestinal helminthes infection of domestics fowl in discharge western Cameroon. These factors may explain the wide range and distribution of cestode and nematode species in poultry birds, especially during the tropical rainy season (Dube *et.al*, 2010). Cestode Parasites of Free-Range Chickens (*Gallus gallus domesticus*) in the North-Eastern of Algeria (Medjouel Ilyes and Benakhla Ahmed, 2013), Prevalence of cestode parasites of *Gallus gallus domesticus* from solapur district, Maharashtra, India (Dama L.B. *et.al*, 2012), Prevalence of helminthic infection in *capra hircus* from Ahmednagar district (M.S.) (Tambe D.S. *et.al*, 2011), Survey of endoparasite Cotugnia Sp. (Platyhelminths) in *Gallus domesticus* from Pune district, (M.S), India.(Kalim Shaikh, *et.al*, 2018).

The present study is a follow up the importance of these parasites in poultry, this study was designed with following aims to determine the prevalence, mean intensity, abundance of different gastrointestinal cestode present in *Gallus gallus domesticus* in the Ahmednagar region.

II. MATERIALS AND METHODS

The present work was carried out in the Ahmednagar district, (M.S.). Total 227 intestine were collected from slaughter house of different villages of Ahmednagar district, out of 227 intestine 112 intestine are infected with helminthes parasites selection of intestines of different age groups and both sexes during the period from February 2018 to January 2019 In laboratory working The gastrointestinal tract of host was opened in a longitudinal section with forceps, cestode parasites were removed from the dissected gastrointestinal tract and it fixed with hot 4% formalin, all cestodes were counted before being fixed and

preparation of permanent slides by staining and mounting then parasitological examinations were performed by standard methods, identify the cestodes as per key (Soulsby 1982). For statistical analysis the formula was used for to calculate prevalence, mean intensity and abundance. (Bari S.M.*et. al*, 2015)

$$\text{Prevalence (\%)} = \frac{\text{Number of a host species infected}}{\text{Number of hosts examines}} \times 100$$

$$\text{Mean Intensity} = \frac{\text{Number of parasites collected}}{\text{Number of infected host}}$$

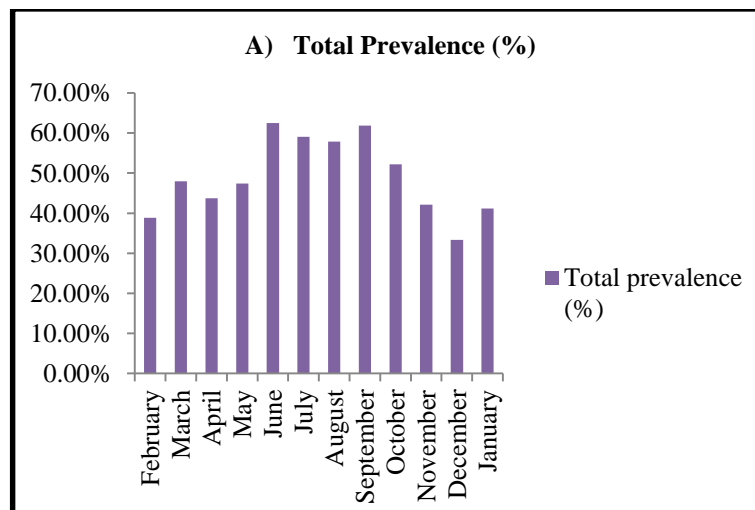
$$\text{Abundance} = \frac{\text{Number of parasites collected}}{\text{Number of hosts examines}}$$

III. RESULTS AND DISCUSSION

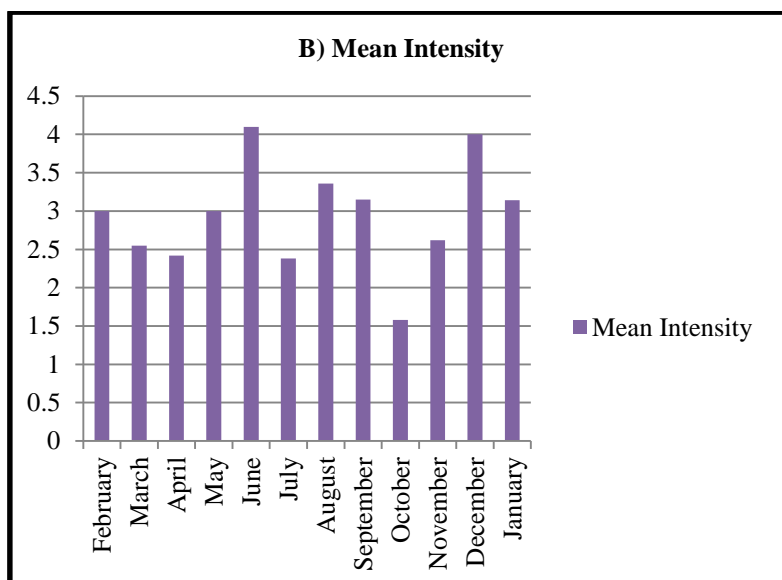
Table-1: Showing prevalence, mean intensity and abundance of the cestode parasites from the host *Gallus gallus domesticus* in the year February 2018 to January 2019.

Month	No. of host Intestine Examine	No. of host Intestine infected	No. of Cestode parasites Recorded	Total Prevalence (%)	Mean Intensity	Abundance
February	18	07	21	38.88 %	3.00	1.16
March	19	09	23	47.96 %	2.55	1.21
April	16	07	17	43.75 %	2.42	1.06
May	19	09	27	47.36 %	3.00	1.42
June	16	10	41	62.50 %	4.10	2.56
July	22	13	31	59.09 %	2.38	1.40
August	19	11	37	57.89 %	3.36	1.94
September	21	13	41	61.90 %	3.15	1.95
October	23	12	19	52.17 %	1.58	0.82
November	19	08	21	42.10 %	2.62	1.10
December	18	06	24	33.33 %	4.00	1.33
January	17	07	22	41.17 %	3.14	1.29
Total	227	112	324	49.00 %	2.94	1.43

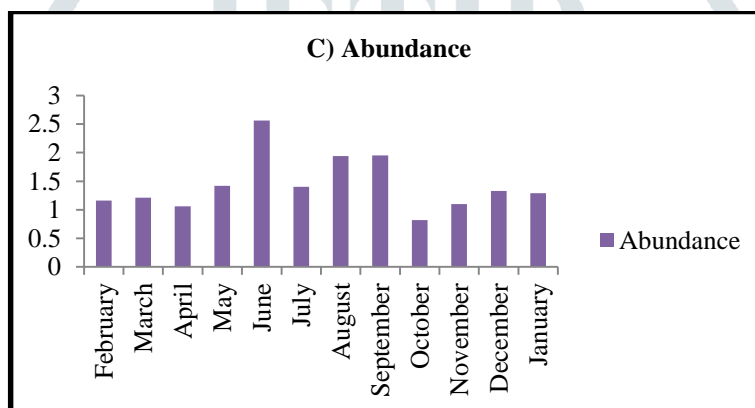
Graph-1: Showing prevalence of the cestode parasites from the host *Gallus gallus domesticus* in the year February 2018 to January 2019



Graph-2: Showing mean intensity of the cestode parasites from the host *Gallus gallus domesticus* in the year February 2018 to January 2019.



Graph-3: Showing abundance of the cestode parasites from the host *Gallus gallus domesticus* in the year February 2018 to January 2019.



During the year 2018 total average prevalence rate of infection was (49.33 %), mean intensity is (2.94) and abundance is (1.43) as 112 out of 227 collected intestines of *Gallus gallus domesticus* and about 324 numbers of cestode parasites were recorded (Table no.-1). The maximum prevalence rate of infection found in the months of June to September is (60.34%), mean intensity is (3.24) and abundance is (1.96) this incidence of parasitic infection occurs due to rainy season because of easy dispersal of larvae in pasture resulting in increased contact between the host and the parasites. While minimum infection prevalence rate was found in the months of October to January on an average (60.34%), mean intensity is (2.83) and abundance is (1.13) and respectively followed in the months of February to May in average prevalence (44.48 %) mean intensity is (2.74) and abundance is (1.21). The most heavily infected segment of the intestine was the lower small intestine. The cestode infection is a common problem in the study area.

The observed total prevalence of tapeworms in the alimentary canal of infected host might be due to consumption of infected droppings or infested intermediate hosts of parasite. Such as beetles, cockroaches, earthworm, flies and grass hoppers in poorly manage stocks (Abdu, 1987). The current results are linked with many prior finds which are discoursed here (Shahin A.M. *et.al*, 2011) also reported the prevalence of cestode (83.00%), (Hamad H, Al-Jamaien 2013) and (Eshetu *et.al*, 2001) in Ethiopia they reported higher prevalence of *Raillietina* sp. (22.4%) and (25.84%) respectively as relate to the present study. The present study related with the report of (Ashenafi and Eshetu, 2004) who documented prevalence of cestode of (86.32%), whereas (Heyradin Hussen *et. al*, 2012) also reported the prevalence of cestode (83.00%). The prevalence of *R. cesticillus* was (22.5%) which is consistent with the prevalence of the same parasite reported the infected birds lose weight, increases appetite and ruffled plumage. If cestode of birds continue to spread, rapid detection will be an important public health issue. Our findings consistent with those of earlier studies, indicate that the gut is the most frequently and sensitive target organ from birds for detecting the infection of cestode. (Naphade S.T. and Chaudhar K.V., 2013)

IV. CONCLUSION

Helminthes infections are the major issue of economical loss in poultry farm and its management. The present work carried out revealed high helminthes infections with cestode parasites having the highest prevalence. This may however increase due to environmental abundance of specific hosts. Therefore development of hygienic practice to control the parasite infection and reduce the rate as well as the load of the infection in poultry farm is suggested.

V. ACKNOWLEDGMENT

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