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POPULATION DYNAMIC STUDY & INTESTINAL TAPEWORMS IN *GALLUS GALLUS DOMESTICS* AT SOLAPUR REGION

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ABSTRACT

The Present investigation deals with the Community Dynamic & tapeworms in *Gallus gallus domesticus* at Solapur region. High infection of Different parasite like cestode, Nematode and trematode (But mostly infected by cestode parasite i.e. *Raillitina*) are occurred in rainy Season followed by summer season & low in rainy season. This type of results indicates that environment factors & feeding habitats are influencing that seasonality & parasitic infection either directly or indirectly. This report summarizes the percentages of incidence, intensity, density and index of infection. The present study shows that the seasonal infection of cestode parasite in *Gallus gallus domisticus.*

KEYWORDS: *Gallus gallus domesticus*, Community Dynamic, Tapeworm, Solapur.

INTRODUCTION

Parasites reduce host biological fitness by general or specialized pathology, from parasitic castration and impairment of secondary sex characteristics to modification of host behavior. Parasites increase their own fitness by exploiting hosts for resources necessary for their survival, in particular transmission. Economic losses are caused by gastrointestinal Parasites in a Variety of ways, they cause looses through lowered fertility, reduced work capacity, a reduction of food intake & lower weight, treatment cost & mortality in heavily parasitized animals.

Study of parasites and their relationship to the hosts requires a multidimensional approach in order to understand the nature of parasite and the pathological effects on the hosts. Such studies include phylogenetic relationship, Morphological aspects, ecological aspects, physiology and biochemistry of the parasites and their relationship with their host. Parasite

can have wide range & impact on the ecology of their hosts, in the form of health, behavior, Sexual selection regulation of the host population morphological characters such as Season, temperature, humidity, age & sex of the host. Chicken is an important source of human food as well as source of economic income. These edible *Gallus gallus domesticus* are infected by number of cestode parasites which cause deteroration in their health also reduces the life span, hence their market & nutritive value is decreased. Economic losses are caused by gastrointestinal Parasites in a Variety of ways, they cause looses through lowered fertility, reduced work capacity, a reduction of food intake & lower weight, treatment cost & mortality in heavily parasitized animals.

The present investigation included application of statistical method to understand the distribution of cestode parasites of population levels in different seasons i.e rainy, winter & summer during the period oct 2014 to sept 2015.

MATERAL AND METHOS

The *Gallus gallus domesticus* intestine were collected from chicken market in various places of Solapur district such as Uplai, Lakshyachivwadi, vairag, vadala, nannaj, shelgaon, Akolakati, Darphal during period & Oct 2013 to Sept 2014.

The Intestines of *Gallus gallus domesticus* were dissected longitudinally & parasite kept in normal saline (0.9%) solution followed by cestodes were collected, flattened preserved in hot 4% formalin. These cestodes stained by Harries haematoxyline. Washed in distilled water, dehydrated in ascending grades of alcohol, cleared in xylene, mounted in D.P.X & drawings are made with the camera Lucida. The identification was made with the help of systema Helminthium vol.II," cestode of Vartebrates.

Population dynamics & Cestode Parasites were determined by following formula.

$$1)\ \text{Incidence of infection} = \frac{\text{Infected host X 100}}{\text{Total hosts examined}}$$

$$2)\ \text{Intensity of infection} = \frac{\text{No. of parasites collected in a sample}}{\text{No .of infected hosts.}}$$

$$3)\ \text{Density of infection} = \frac{\text{No .of parasite collected in a sample}}{\text{Total host examined.}}$$

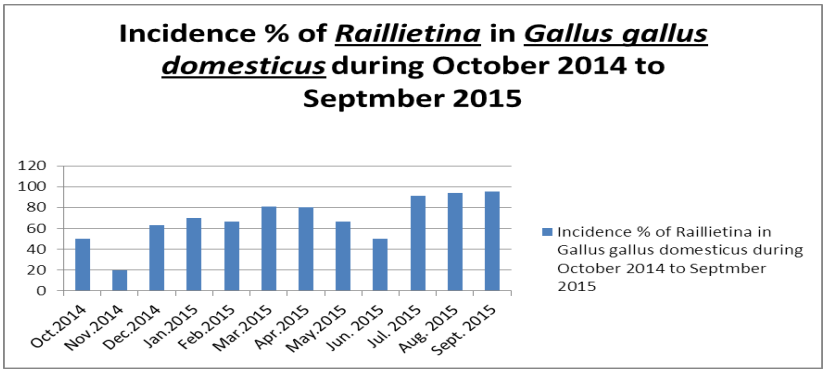
$$4)\ \text{Index G infection} = \frac{\text{No. host infected X No. Parasite collected}}{\text{(Total hosts examined) 2}}$$

RESULT AND **DISSCUSION**

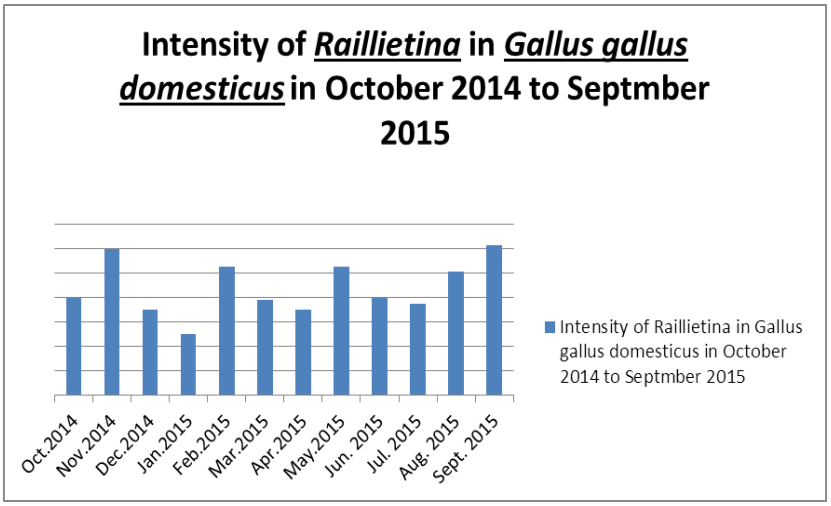
The analysis show that data the occurrence of *Raillietina* parasites are found in variable seasons according to table no 1 and graph number 1 to 4. The *Raillietina* are found in large number during Rainy season and also Summer season but very low in Winter seasons, due to tempreture, humidity and rainfall, feeding habits of host, availability of infective host and parasite maturation, such factor are responsible for influence of parasite infection. (Kennedy, 1976; Dama etal 2012). Table no 1 show infection of *Raillietina* is very high in Rainy seasons followed by summer season and very low in Winetr season. The values for incidence, intensity, Density and index of infection in table number 1.

Table No. 1: Population Dynamics of *Raillietina* in *Gallus gallus* domesticus during Oct 2014 to Sept 2015.

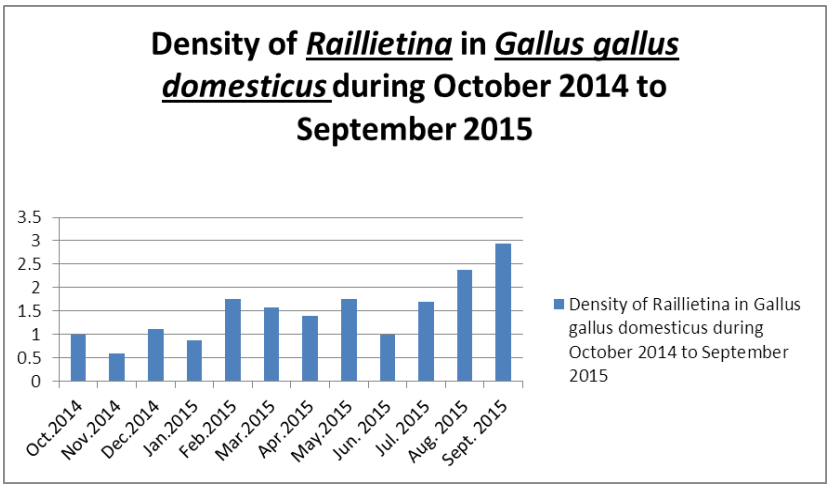
No	Month	No.of host examines	No.of host infected	No.of Parasite Collected	Incidence %	Intensity	Density	Index of Infection	Locality
1	Oct.2014	20	10	20	50	2	1	0.5	Shelgaon
2	Nov.2014	25	05	15	20	3	0.6	0.12	Ghari
3	Dec.2014	27	17	30	62.96	1.76	1.11	0.69	Uplai
4	Jan.2015	40	28	35	70	1.25	0.87	0.61	Vadala
5	Feb.2015	45	30	79	66.66	2.63	1.75	1.17	Akolekat
6	Mar.2015	52	42	82	80.76	1.95	1.57	1.27	Barshi
7	Apr.2015	25	20	35	80	1.75	1.4	1.12	Solapur
8	May.2015	45	30	79	66.66	2.63	1.75	1.17	Vairag
9	Jun. 2015	20	10	20	50	2	1	0.5	Madha
10	Jul. 2015	55	50	94	90.90	1.88	1.70	1.61	Darphal
11	Aug. 2015	47	44	112	93.61	2.54	2.38	2.23	Ghari
12	Sept. 2015	44	42	129	95.45	3.07	2.93	1.84	Lakshyachiwadi



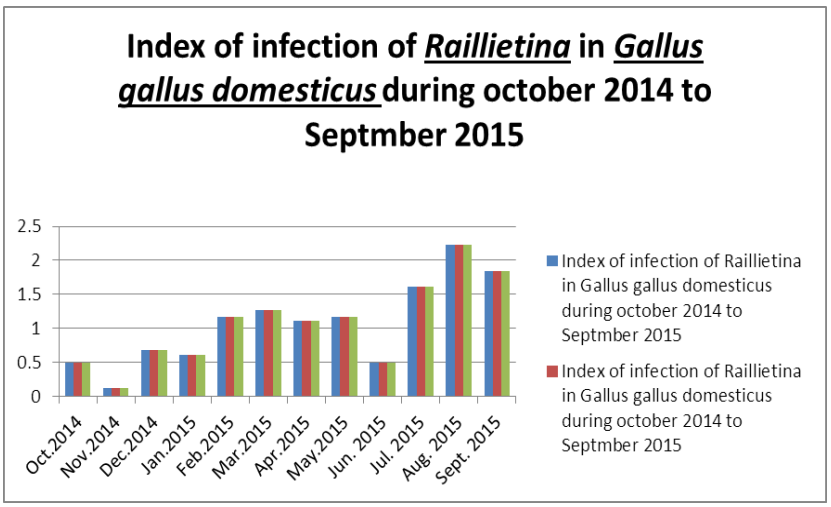
Graph No: 1.



Graph No: 2.



Graph No. 3.



Graph No: 4.

CONCLUSION

After the analysis G data, the present study can be concluded that high prevalence of cestode parasite i.e. *Raillietina* are found in large number during Rainy season also found in Summer season but very low in Winter seasons because environment factors & feeding habitats are favorable in Rainy and summer season so both the seasons for cestode parasites are favorable that's why they are found in large number during both the seasons i.e. Rainy and Winter, Very low in Winter season.

REFERENCES

1. Anderson, R.M.1976 – Seasonal Varation in the Population dynamice & cryptophyllacus laticeps Parsitology, 72: 281-305.
2. Arme C & Owen R (1967) Intections & the three spined stickleback, Gasterosteus, aculeatusL. With the plerocercoid larve & schistocephalus solidus (Muller 1776) with special reference to Pathological effect, Parasitology, (57): 301-314.
3. Balmani BN. & Rao s (1995) Quantitative Stuctural grouping & Parasitic Populations in the Populations & an awian host Riv Parassitol, 12: 4447-4451 4).
4. Bandgar S.S(1992) Studies on cestode Paraasites & vertebrates from sangali & kolhapur district Phd thesis, Marathwada University India.
5. Dama L.B.et al (Vol.1 No.2 (2012))- Research Paper Prevalence & cestode Parasites of Gallus Gallus Domiesticus from solapur district,Maharashtra India
6. Dakshinkar et.al 1983,Occurrence trichuris SP in deer (Axis axis) Veternarian, 7(11): 9.
7. Dogiel V.A.(1958), Parasitology Gallus gallus domesticus Leningrad University press, Oliver & Boyd, Edinberg & London.
8. Esh G.W 1997 Regulation & Parasitic Population, Academic press, INC, New york.
9. Hopkins, C.A 1959.Seasonal Varation in the incidence & development of the cestode Proteolephal fillcolis (Rud 1810) in Gasteosteus aculeatus L.1766 Parasitol 49:529-542
10. Jadhav B.V., Kadam M, N, Bawane V.S & Nanware S.S (1944) – A new cestodes cotugnia rajivaji SP. Nov. from columba livia at Hyderabad A.P.Riv Parasitol, 11: 345-347.
11. Kennecly, C.R. 1968 – Poulation biology & the cestocle caryophyllaeus laticeps (Pallus, 1787) in duce, Leuciscues L. of the river, Avon J.Parasitol, 54: PP,538-543.
12. Kennedy C.R. 1997. The etect of temperature on the establishment & survival of the cestode caryophyllaeus laticeps in orfe, Leucisus idus, Parasitol, 63: PP 59.66.

13. Kharde S.V (1992): studies on cestode Parasites & the vertebrates from stara & solapur District PhD & Thesis Marathwada University India.
14. Lawrence, J.L(1970) Elect G season,host age & sex on endohelminths of Castostomus Commerooni J Parasitol, 56: 567-571.
15. Over, H.J.Jansen J And Von Olm, P.W 1992 Distributor & Impact of helminth disease & livestock in developing countrics. FAO animal production & health paper FAO & United nation Rome Italy PP 221.
16. Patrick & Esch G.W (1977). Seasonal incidence in the painted turtle, chrysennys Picta, J parasitology, 53: PP 818-821.
17. Pennyuick (1971): Seasonal Varation in the Parasitic Population & three spined Stickleback. Gasteosteus aculeatus L Parasit, 63: 373-388.
18. Railliet A & Henry A (1909): Les cestode des Oiseaux Paro, Fuhramann, Rec. Med vet, 86: 337-338.
19. S.S.Jadhav, A.M. Fartade Research Paper on Population dynamics of *Raillietina* in *gallus gallus domesticus*
20. Yamagutis (1940-studies on the helminth of Japan par 30: cestodes & birds, II J Pn, J, Med, Sci F: 15-211).