



Study on Prevalence of Cestode Parasites *Moniezia* sp of *Capra Hircus* L. From Nashik District, (M. S.) India.

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Abstract:

The present research deals with the preliminary survey of cestode parasites *Moniezia* sp. collected from the intestine of Goat i.e., *Capra hircus* (L.) from Nashik district (M.S.) India during June, 2014 to May, 2015. The high incidence of infection of this *Moniezia* sp. was recorded in winter season (62.85 %) followed by summer season (48.71 %) whereas infection was low in summer season (35 %). The results of present study clearly indicate that environmental factors and feeding habitat influence the seasonality of parasitic infection either directly or indirectly.

Key words: Prevalence, *Capra hircus* L., *Moniezia* sp. Nashik.

Introduction

Goat rearing is an important part of Livestock in India, which is economically important through milk and meat products to the farmers and also contributes for the national and international economy. Parasitic disease in livestock is the factor that can decrease the livestock productivity. Gastro intestinal parasitic worm infection is the big causes for dropping of meat production Parasitism is among the major problems faced by farmers.

Most of the valuable information's are also available in the field of seasonal variation, prevalence and population dynamics of cestode parasites of vertebrates from various countries like Austria, Bulgaria, France, Germany, Japan, U.K. and Russia. Many authors worked considerably on the seasonal variation, prevalence and population dynamics like Cole, 1954; Dobson, 1985 and 1994; Dogiel et.al. 1961; Johnson, 1954; Anderson, 1974; Kenddey, 1975; Holems, 1983 and Moller et al., 1995. In India seasonal variation or population dynamics of helminth parasites of vertebrates were done by R.P.Mittal, 1980 on rats and mice; Aruna Kumari, 1985 on

birds; Susheela, 1987 on Parasites of rates; Raghavendra Rao, 1978 on snakes; Md.Hafeez on parasites on mammals; Rama Reddy, 1980 on garden lizard; Shinde G. B.; 1968-1999 on different vertebrates, Jadhav B. V.; since 1977-2009 on vertebrates specially fishes, mammals and birds, Sunita Borde; since 2008 on different vertebrates specially fishes, sheep, goats and birds.

Schimidt and Roberts, (2000) states that the endoparasitic helminths, with indirect life cycles, involve one or more hosts. Dogiel et al. (1961), stated that adverse periodical changes in water such as temperature, pH and conductivity effect on the occurrence of parasites from aquatic host. These climatic conditions host behaviour influenced by habitat and seasonal, while physical state external factors affect internal conditions. The studies have been carried out on the helminth parasites and population dynamics of those occurring in mammalian hosts and work on different aspects of parasites. The study of population dynamics can be used as the biological basis of method to regulate population of parasites. The current investigation deals with the study of seasonal population dynamics of cestode parasites from *Capra hircus* L.

Materials and methods

The Goat intestines were collected from slaughter houses from different places of Nashik district during June, 2014 to May, 2015. covering the three different seasons of the year i.e., winter, summer and monsoon from Nashik district covering all areas. the small intestine, and caecum were kept in separate petri dishes containing normal saline. The organs observed and recorded the data of infected and normal hosts examined. After separating and counting the population of different Cestode parasites from goats, the parasites were preserved in separate bottles. Some of these were used for the taxonomic study. The drawings are made with the aid of Camera Lucida and measurements taken in mm. The identification of these parasites were made by using keys "Systema Helminthum" (Yamaguti, S. 1957). Prevalence of infection calculations were based on the following formula.

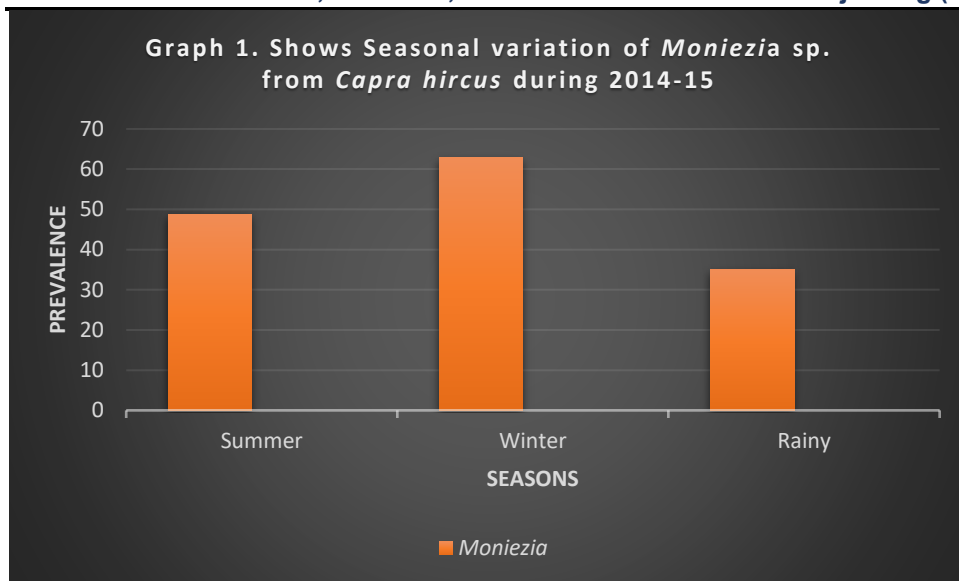
$$\text{Incidence of infection} = \frac{\text{Infected host}}{\text{Total host Examined}} \times 100$$

Table 1. Showing Seasonal variation of cestode *Moniezia sp.* From *Capra hircus L.*

S.N.	Month & Year	Host dissected	Host infected	Parasites Collected	Prevalence in %	Genera	Locality
1	Jun-14	10	02	06	20	<i>Moniezia</i>	Nashik
2	Jul-14	09	04	04	44.44	<i>Moniezia</i>	Niphad
3	Aug-14	10	03	06	30	<i>Moniezia</i>	Yeola
4	Sep-14	10	05	07	50	<i>Moniezia</i>	Niphad
5	Oct-14	09	06	06	66.66	<i>Moniezia</i>	Nandgaon
6	Nov-14	08	05	05	62.50	<i>Moniezia</i>	Yeola
7	Dec-14	08	06	07	75	<i>Moniezia</i>	Nandgaon
8	Jan-15	10	05	05	50	<i>Moniezia</i>	Nandgaon
9	Feb-15	10	06	06	60	<i>Moniezia</i>	Yeola
10	Mar-15	09	06	06	66.66	<i>Moniezia</i>	Niphad
11	Apr-15	10	04	05	40	<i>Moniezia</i>	Niphad
12	May-15	10	03	04	30	<i>Moniezia</i>	Niphad
		113	55	67			

Table 2. Showing Prevalence (Percentage) of Seasonal Variation of cestode *Moniezia sp.* From *Capra hircus L.*

Seasons	No. of Host Examined	No. of host infected	No. of Parasites collected	Prevalence (%)
Monsoon (June to sept 2014)	39	14	15	35
Winter Oct, 2014 to Jan 2015)	35	22	25	62.85
Summer Feb2015 to May 2015	39	19	23	48.71



Result and Discussion

The present study indicates that prevalence of cestodes is presented in Table No. 1 and Graph No. 1 of cestode parasites was recorded as *Moniezia sp.* It was found that, high incidence of infection of *Moniezia sp.* were recorded in winter (62.85 %) followed by summer season (48.71%) whereas infection was low in. Mansoon (35 %)

The infection of cestode parasites in *Capra hircus* an important because they cause economic losses due to condemnation of infection (Bekele et al. 1992). Sissay.et al. (2007). described same results in *Capro hircus* and *Ovis bhoral* from Eastern,Ethiopia. Experimental studies by Kennedy (1976) shown the cestode *Coryophylloceous lattices* can establish in fish and survive for longer period at low temperature is a major controlling factor of seasonal periodicity of infection

According to the Kennedy (1971, 1975 and 1977) and Rodhe (1993) the temp, humidity and rainfall, feeding habits of host, availability of infective host and parasite maturation, such factors are responsible for influencing the parasitic infections. Jadhav, (1976, 2005 and 2006) explained the development of parasites should be needed high temperature, low rainfall and sufficient moisture. Hence the high prevalence's occurs in monsoon followed by another season. Jadhav and Bhure, (2006) reported high temperature, low rainfall and sufficient moisture are necessary for development of parasite

Conclusion

After the analysis of data, the present study can be concluded that the high infection of cestode parasites i.e. *Moniezia sp.* Incidence, is occurred in winter season followed by summer where as low in rainy season. This type of results indicated that environmental factors and feeding habitat are influencing the seasonality of parasitic infection either directly or indirectly.

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