



**ORIGINAL RESEARCH PAPER**

**Zoology**

**STUDIES ON PREVALENCE OF ANAPLOCEPHALIDEAN CESTODE PARASITES OF GOAT IN PAITHAN, DISTRICT AURANGABAD.**

**KEY WORDS:** Aurangabad, Capra Hircus, Moniezia Sp, Paithan,

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**ABSTRACT**

The present investigation deals with the preliminary survey of cestode parasites such as *Moniezia* sp, collected from the intestine of Goat i.e. *Capra hircus* (L.) in Paithan, Aurangabad district (M.S.) India during June, 2017 to May, 2018. The high incidence of infection of all these species *Moniezia* sp. was recorded in summer season (76.92%) followed by winter season (60%) whereas infection was low in rainy season (53.84%). The results of present study clearly indicate that environmental factors and feeding habitat influence the seasonality of parasitic infection either directly or indirectly.

**INTRODUCTION**

Parasites are extremely abundant and diverse in nature, representing a substantial portion of global biodiversity. Study of helminth parasites is therefore an urgent necessity today. Helminth infections are very common in people who consume improperly cooked meat, unhygienic habits and poor sanitation. These helminthic infection leads to various disorders i.e. anemia. Population investigation is necessary to provide data for the prediction of integrated methods to achieve the regulation of numbers of harmful parasites (Kennedy, 1974, 1976), Notable contribution made by Dobson (1994), Dogiel et al. (1935, 1958), Euzeby (1972) , Anderson (1976), Moller, H (1978) and Rajeshwar Rao (1982).

Most of the valuable information's are also available in the field of seasonal variation, prevalence and population dynamics of helminth parasites of vertebrates from various countries like Austria, Bulgaria, France, Germany, Japan, U.K. and Russia. Many author 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; Holes, 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.

Main reasons for studying seasonal variation is the description of the seasonal effect provides a better understanding of the impact this component has upon a particular series. After establishing the seasonal pattern, methods can be implemented to eliminate it from the time-series to study the effect of other components such as cyclical and irregular variations. This elimination of the seasonal effect is referred to as de-seasonalizing or seasonal adjustment of data. To use the past patterns of the seasonal variations to contribute to forecasting and the prediction of the future trends.

Results of present study, therefore, are expected to be helpful for future research on mammalian cestodes in this region. Keeping in view, the importance of these mammalian cestode parasites, present study was undertaken to investigate and evaluate prevalence of cestode parasites of Goat i.e. *Capra hircus* (L.) and distribution of mammalian cestode of genus *Moniezia* sp, collected during annual cycle June, 2017 to May, 2018.

**MATERIAL AND METHODS**

The Goat intestines were collected from slaughter houses from different places of Paithan, Aurangabad district during

June, 2017 to May, 2018. The various organs of the viscera such as stomach, intestine, liver 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.

Prevalence of infection calculations were based on the following formulae

**PREVALENCE OF INFECTION-**

It is the percentage of host infected by particular species of cestode parasites. Observations are recorded annually and calculated by the following formula.

$$\text{Incidence of Infection} = \frac{\text{Infected hosts}}{\text{Total hosts examined}} \times 100$$

**RESULT AND DISCUSSION**

The present investigation indicates that prevalence of cestodes are 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 all these species were recorded in summer (76.92%) followed by winter (60%) whereas infection was low in monsoon season (53.84%)

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 prevalences occurs in summer followed by other season. Pennuyuick (1973), reported fishes and other animals were infected with large number of parasites in late winter to end of summer months, as environmental conditions are favorable in these months. Jadhav and Bhure, (2006) reported high temperature, low rainfall and sufficient moisture are necessary for development of parasite.

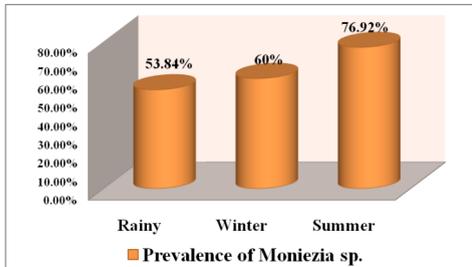
Seasonal variation of *Moniezia* Sp. in *Capra hircus* (L.) also studied by V. R. Pawade, V. M. Pulate and H. K. Bhagwan, 2011 shows high prevalence in winter (32.07%), followed by Rainy (30%) and low prevalence in Summer (24.13%). But in the present investigation the high prevalence of *Moniezia* Sp. occurs in summer seasons followed by winter and low in rainy season.

**Table No.1:-Prevalence of *Moniezia* sp. of *Capra hircus* (L.) during June, 2017 to May, 2018.**

Season	No. of hosts Examined	No. of hosts Infected	No. of parasites collected	Prevalence %
Rainy	26	14	17	53.84%

Winter	25	15	19	60%
Summer	26	20	30	76.92%

**Graph No.1:- Prevalence of Moniezia sp. of Capra hircus (L.) during June, 2017 to May, 2018.**



**CONCLUSION**

After the analysis of data the present study can be concluded that the high infection of Anaplocephalian cestode parasites i.e. *Moniezia* Sp. (incidence, intensity, density and index of infection) are occurred in summer season followed by winter where as low in monsoon 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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