



## Seasonal Variation of Cestode Parasites from Economically Important Mammals

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### ABSTRACT

Seasonal changes are cyclic and source of external variation influencing natural systems. Population investigation can provide data for the prediction of integrated method to achieve the regulation of number of harmful parasites. Seasonality is so ubiquitous in nature that identifying the relevant environmental drivers and parameters they influence become extremely difficult to completely understand many infectious disease systems it will become increasingly important to understand how seasonality affects multiple processes including host behavior, reproduction, immune function and parasite transmission and survival in the environment.

The precise and accurate examination of parameters of cestode parasite population can be achieved by careful and extensive experimentation.

So in the present paper attempt was made to study the seasonal variation of cestode parasites from mammal which includes application of statistical methods to understand the distribution and seasonal variation of cestode parasites in two annual cycles. The study indicates the incidence of infection in *Capra hircus* less in summer and risen considerable in winter season and reached its peak and then moderate in rainy season.

**Keywords:** Cestode, seasonal variation.

### I. INTRODUCTION

Tapeworms infects almost all the vertebrates. Mammals, birds and fishes are used as food by man, since they carry heavy helminthes infection it reduces food value of them. Therefore population investigation of parasites became an important way to order to control the parasitic infection. Ecology, the study of interaction and relationship between living system and the environment. It is an extremely active and dynamic field of life science. The precise and accurate examination of the parameters of cestode parasite population can be achieved through careful and extensive experimentation. Importance of the annual seasons was first reported by Bogayvlenski (1979) who studied the influence on various annual seasons on the infection of trematoda in the Volga district U.S.S.R. The information available in India about the effect of seasonal variation on the incidence of fishes and amphibian helminthes parasites is very major. Since no

attempt was made to study the nature of helminthes population in certain mammalian host of Amravati district M.S. India. An attempt was made to study the population dynamic of cestode parasites and only statistical study of cestode parasite with their host is made.

### II. MATERIAL AND METHODS

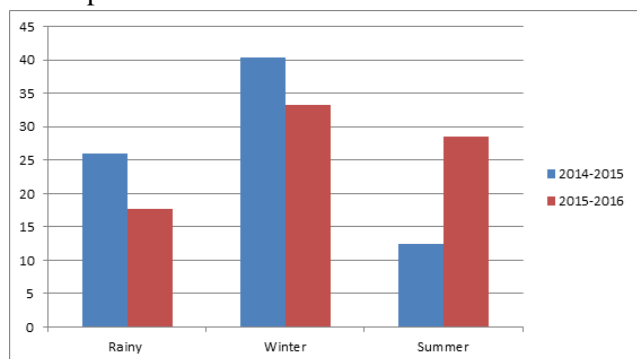
In the present study deals with the effect of seasons on total cestode population from the host collected during two annual cycles 2014-2016. Each annual cycle comprises of

1. rainy season (June to September)
2. winter season (Nov. to January)
3. summer season (Feb. to May)

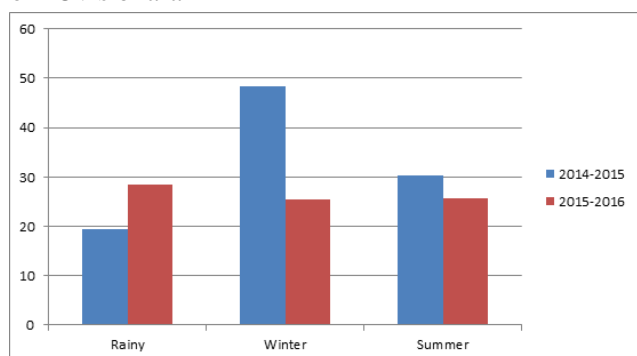
The influence of annual seasons on the population of cestode parasites of mammals *Capra hircus* and *Ovis bharal* was worked out on the basis of incidence of infection

### III. OBSERVATION AND RESULT

Percentage of seasonal incidence of parasite *Monezia* from *Capra hircus*:



Percentage of seasonal incidence of parasite *Stilesia* from *Ovis bharal*



The study reveals that during 2014-16 were examined 420 hosts out of them 162 infected with cestode parasites and remaining were free from infection.

### IV. DISCUSSION

The considerable work on the population dynamics were carried out by many workers on different hosts Mittal(1980), Shushella (1987) have shown the effect seasons on the geographic distribution of cestode parasites. The other worker also studied the effect of climatic factors also studied effect of climatic factor on helminth include Kennedy(1969) Lawrence(1970). Seasonal dynamics have great potential to evolve in part because of the short generation times and high mutation rates of pathogens and because pathogens impact both their own fitness and that of their hosts(Altizer et al 2003).

From above study it shows that the infection of cestode were more observed in Winter season moderate in rainy season and poorly in the summer season. Exactly do not

know the the reason of that fluctuation but some workers concluded that the seasonal changes were influenced by nature of the life cycles and parasites or their intermediate host or by both. Also when host graze most intensively varied the parasite fauna, Doigel and Bkhorrsk (1958).

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