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Seasonal Variation of *Moniezia* (Blanchard) in *Ovis bharal* (L.) at Buldhana District (M.S.), India

Dr. Raosaheb Barote

Assistant Professor and Head,
Department of Zoology
Sant Dnyaneshwar Mahavidyalaya,
Soegaon 431120
Email: drrkbarote@gmail.com

ABSTRACT

The present paper deals with the study of seasonal variation of cestode Moniezia sp. of Ovis bharal in the year July 2004 to June 2006 at district Buldhana. The high Prevalence of Moniezia sp. are recorded in the month of August 2004 and July 2005 i. e. (77.77% and 77.77%) respectively whereas lowest Prevalence of Moniezia sp. are recorded in the month of March 2005 and may 2006 i. e. (28.57% and 0%) respectively.

KEYWORDS

Cestode, Moniezia, Seasonal variation Ovis bharal .

RESEARCH PAPER

Introduction:

Ecology is the study of interaction and relationship between living systems and the environment. It is an extremely active and dynamic field of life sciences. The cestode parasite population study is still budding stage in India.

It is clear that the precise and accurate examination of the parameters of cestode parasite population. Reports on ecological studies on the helminth parasites of the alimentary tract of the host are available from various countries like U.S.S.R. Bulgaria, France, Rumania, Poland, Austarlia, and Hungery.

The effect of climatic factors on helminths are studied by the workers like Lawrance (1970), Crofton (1971), further Patrick and Esch (1977) Kennedy (1968, 1969) Odum (1971) Whitlock (1972).

Many authors worked considerably on the population dynamics of the cestode parasites from different hosts. Hopkin (1959) Pennyuick (1971), Anderson (1976), Mittal (1980) Susheela (1987) have shown that geographical distribution of cestode parasite is affected by seasonal changes.

Regarding study of seasonal variation, notable contribution is made by Elton C.S. (1927), Fergusson (1943), Cole, (1954), Thomas (1963), Boxshall (1974) Esch (1977), Raghvendra Rao (1978), Rajeshwar Rao (1981). Due to above contribution, during last few years moderate work was done in India. On the population dynamics of the helminth parasites in vertebrates R.P. Mittal (1980) made valuable contribution in this field (In Homiotherms, Rats and Mice) in relation to incidence and intensity of nematode parasites. Regarding the Poikilotherm vertebrates. Similar contribution were made by Raghvendra Rao (1978) on snakes, Rama Reddy (1980) on garden lizards and Rajeshwar Rao (1981) on amphibians.

92 Importance of the annual seasons was first reported by Bykhovski (1929) who has studied the influence of various annual seasons on the infection of the trematoda in the Volga district U.S.S.R.

The information available in India about the effect seasonal variation on the incidence of infection by helminth parasites are very major. Since no attempt has been made to study the nature of helminth population in vertebrates.

Material and Methods:

For the study of parasites, the intestine *Ovis bharal* was collected from different places at Buldhana district, from during the two annual year July, 2004 to June 2006. The parasites were collected, flattened, stained and identified, also record of infected and non infected hosts and number of parasites for further study. The parasites were identified with the help of "Systema Helminthum" by Yamaguti, S.

Data was collected month wise and the prevalence of parasites calculated seasonally. To find all the prevalence of cestode parasite infection the calculations were made with the help of following formula.

$$\textbf{Prevalence of infection} = \frac{\textbf{Infected hosts X 100}}{\textbf{Total hosts examined}}$$

Result and Discussion:

In the present study all the Cestode parasites were collected from the host *Ovis bharal* (L.) at Buldhana District (M. S.) India during the period of July 2004 to June 2006.

The data showed that the prevalence of Cestode parasites variable according to season during the two annual cycle July 2004 to June 2005 to July 2005 to June 2006. The high Prevalence of *Moniezia* sp. are recorded in the month of August 2004 and July 2005 i. e. (77.77% and 77.77%) respectively whereas lowest Prevalence of *Moniezia* sp. are recorded in the month of March 2005 and may 2006 i. e. (28.57% and 0%) respectively.

Sarode observed higher incidence of mixed infection (22%) while `Sanjay kale observed higher percentage of single infection in sheep and Goat (55.83%) and (21.17%) were mixed infection. The seasonal variation of Moniezian cestode parasitic infection shows that the higher prevalence of parasites occurs during the winter season (32.07%) followed by Rainy (30%) and summer seasons (24.13%) where as the intensity of infection is maximum in Rainy season (2.13) and minimum during summer season (1.18). The incidence of parasitic infection occurs during winter season because of the suitable climatic conditions and the availability of food i.e. pastures

during their development. The prevalence of this cestode parasite varies considerably depending on local environmental conditions such as humidity, temperature, rainfall, vegetation and management practices. Climatic conditions are responsible for the distribution and prevalence of the disease. It is well recognized that in resource poor regions of the world helminth infections of sheep and goats are major factors responsible for economic losses through reduction in productivity and increased mortality Over et al.,. The effect of climatic factors on helminthes have elaborately studied by Kennedy , Lawrence , Crofton and Esch .

Table 1: Population of ***Moniezia sp***. From *Ovis bharal* at Buldhana district, during the year July 2004 to July, 2005.

Sr. no.	Month & Year	No. of dissected hosts	No. of Infected hosts	No. of collected Parasites	Prevalence
1	July, 2004	08	06	10	75%
2	August, 2004	09	07	08	**77.77%**
3	September,2004	04	03	04	75%
4	October,2004	07	05	09	71.42%
5	November,2004	11	07	10	63.63%
6	December,2004	06	04	09	66.66%
7	January,2005	14	08	16	57.14%
8	February,2005	15	07	18	46.66%
9	March ,2005	07	02	04	**28.57%**
10	April, 2005	06	04	08	66.66%
11	May, 2005	08	03	04	37.5%
12	June, 2005	16	09	09	56.25%
	TOTAL	111	62	109	

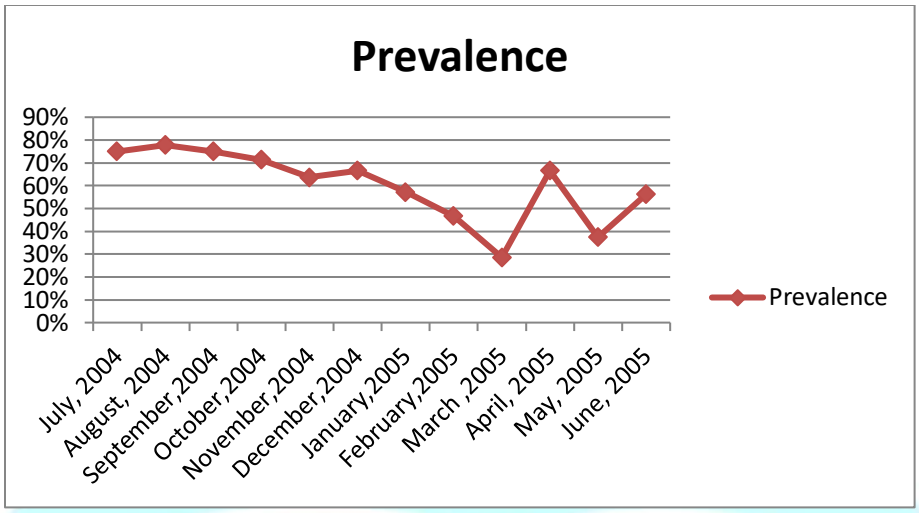
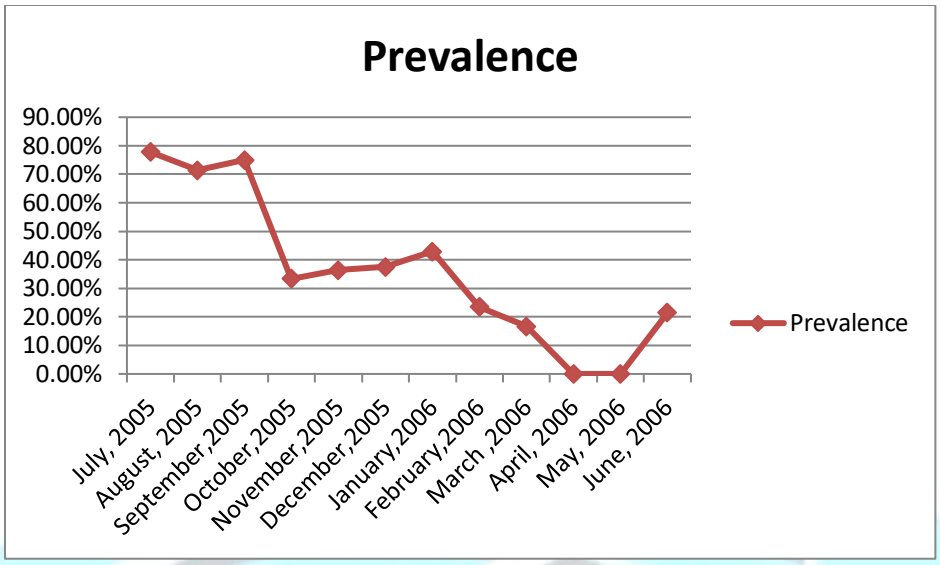


Table 2: Population of ***Moniezia sp.*** From *Ovis bharal* at Buldhana district, during the year July 2005 to July, 2006.

Sr. no.	Month & Year	No. of dissected hosts	No. of Infected hosts	No. of collected Parasites	Prevalence
1	July, 2005	09	07	10	**77.77%**
2	August, 2005	07	05	08	71.42%
3	September,2005	04	03	04	75%
4	October,2005	06	02	03	33.33%
5	November,2005	11	04	07	36.36%
6	December,2005	08	03	09	37.5%
7	January,2006	14	06	12	42.85%
8	February,2006	17	04	15	23.52%
9	March ,2006	06	01	02	16.66%
10	April, 2006	07	Nil	Nil	**0**
11	May, 2006	05	Nil	Nil	**0**
12	June, 2006	14	03	09	21.42%
	TOTAL	108	38	79	



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