



## Incidence of Cestode Parasites in Fresh Water Fishes from Sonvad Dam, Dist. Dhule Region (M.S.), India

Suryawanshi, R. B.

Assistant Professor

Research and Department of Zoology,  
G.E.T.'s ACS College, Nagaon, Dist. Dhule (M.S.), India

**Abstract:** The present investigation deals with the population dynamics of Cestode parasites infection in Fresh water fishes from Sonvad Dam, Dist. Dhule. Total 120 fresh water fish samples were collected during the month of October 2017 to September 2018. Total 30 cestode parasites were collected. The observed cestode parasites species includes *Senga* spp., *Circumoncobothrium* spp. and *Bothriocephalus* spp.

**Keywords:** Incidence, Fresh water fishes, Cestode parasites, Sonvad Dam

### INTRODUCTION

Fishes are the rich source of protein, minerals, oils and vitamins. For parasites development Fresh water Fish culture provides a large reservoir. Due to increase in World human population, environmental degradation, over harvesting of fish resources could no longer fulfill the food demand. Polluted water flourishes great parasitic infection to the fishes which are unfit for human consumption. Parasitic infection some time prove fatal and cause high mortality, when intermediate hosts support their life cycle. For many helminth parasites, fishes serve as definitive and intermediate hosts. Fish parasites affect health, growth, and survival of fish host. The investigation deals with studies on incidence of cestode parasites in the freshwater fishes of Sonvad dam, Dhule region.

### MATERIAL AND METHODS

For the study of Cestode parasites, fresh water fishes, *Clarias batrachus*, *Mastacembellus armatus* and *Chana striatus* were collected from Sonvad Dam near Songir village, Dist. Dhule throughout the years from October 2017 to September 2018.

The Cestode parasites were collected from the intestine and body cavity of the host. All cestodes were preserved in 4% formalin for taxonomical studies. The infected and non-infected host intestine observation was recorded. For further seasonal study the data was collected month wise in order to calculate the percentage of Incidence, Intensity and Density of infection seasonally i.e., summer, monsoon and winter of one year.

Formulae:

$$\begin{aligned} \text{Incidence of infection} &= \frac{B \times 100}{A} \\ \text{Intensity of infection} &= \frac{C}{B} \\ \text{Density} &= \frac{C}{A} \end{aligned}$$

Where,

A = number of hosts examined

B = number of hosts infected

C = number of parasites collected

### RESULTS

The present result shows high incidence of infection in summer and monsoon season and comparatively very low in winter season. The investigation was carried out with 120 Fresh water fishes in which *Clarias batrachus*, *Mastacembellus armatus* and *Channa striatus* was collected. Out of 120 Fresh water fishes, 30 fishes were found infected with cestode parasites during the

period of October, 2017 to September, 2018. Cestodes of three genera i.e., *Circumoncobothrium* spp., *Senga* spp. and *Bothriocephalus* spp., was recorded. In table No. 1, it shows the value in numerical form of incidence, intensity and density of infection of cestode parasites.

**Table-1: - Data Recorded of cestodes parasite collected from fresh water fish, during October, 2017 to September, 2018 from Sonvad Dam, Dhule Region.**

Month and Year	No. of Host Examined A	No. of Host Infected B	No. of Cestode collected C	Incidence of infection (%) (Bx 100/A)	Intensity of infection (%) (C/B)	Density of infection (%) (C/A)
Oct., 2017	10	02	02	20	1.00	0.20
Nov., 2017	10	02	01	20	0.50	0.10
Dec., 2017	10	02	01	20	0.50	0.10
Jan., 2018	10	02	03	20	1.50	0.30
Feb., 2018	10	02	04	20	2.00	0.40
March 2018	10	04	05	40	2.33	0.50
April, 2018	10	03	06	30	2.00	0.60
May, 2018	10	03	05	40	1.66	0.50
June, 2018	10	03	03	30	1.00	0.30
July, 2018	10	02	03	20	1.50	0.30
Aug., 2018	10	03	03	30	1.00	0.30
Sept., 2018	10	02	03	20	1.50	0.30
<b>Total</b>	<b>120</b>	<b>30</b>	<b>39</b>			

## DISCUSSION

The present investigation reveals high incidence of infection of cestode parasites occur in summer, moderate in monsoon and very low in winter season. Similar results and seasonal influence on the cestode parasites were reported by Hiware, 2010, Dhole et. al., 2010, Jadhav et al., 2011, Deshmukh et al., 2013, Borde et al., 2012, Kaur et al., 2012, Rumeet Kaur et. al., 2012.

High temperature and sufficient moisture are the essential requirement for the development of parasites. It has been noticed that surrounding to the water bodies agricultural land waste and drainage from chemical factories directly affect the growth of fishes.

The present investigation shows that occurrence of cestode infection was host specific due to morphological, physiological and ecological factors affect the host specificity. The morphological factor in which site of attachment of parasite to the host (Agrawal, 2006). The ecological factors mean environment and distribution of host and mode of feeding and diet is the physiological factors (Kennedy, 1976). Jadhav and Bhure (2006), explained the distribution of parasites are host specific.

Thus, such type of results shows that how the environmental factor and feeding habitat influenced the parasitic seasonal infection to the host.

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