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STUDY OF CESTODE INFESTATION IN FRESH WATER FISH, *CHANNA PUNCTATUS* (BLOCH.) IN RELATION TO BODY WEIGHT OF THE HOST FROM CHOPRA TALAB, CHIRGAON, DISTRICT JHANSI (U.P.) INDIA

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ABSTRACT

Monthly parasitological surveys was carried out to study host parasite infestation in relation to body weight of the host, *Channa punctatus*. It was found that fish having 60-120g weight showed maximum prevalence and relative density but maximum mean intensity of cestode infection was recorded in the host ranging from 121-180g. body weight.

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KEY WORDS : *Channa punctatus,* Chirgaon, Chopra Talab, Mean intensity, Prevalence, Relative density, Tapeworm,

Introduction

The environmental factors and feeding biology are considered to be paramount important in population dynamics of helminths. Workers emphasised the regulatory or role of hydrobiological and biochemical factors responsible for parasite

TABLE -1 : Average annual variations in the prevalence, mean intensity and relative density of cestode infection in relation to the body weight

Range of the body weight (g)	Number of hosts		Prevalence	Number of cestodes obtained	Mean intensity	Relative density
	Examined	Infected				
60- 120	100	34	0.34	36	1.05	0.36
121-180	100	25	0.25	30	1.20	0.30
181-240	100	20	0.20	22	1.1	0.22
241-300	100	16	0.16	18	1.125	0.18

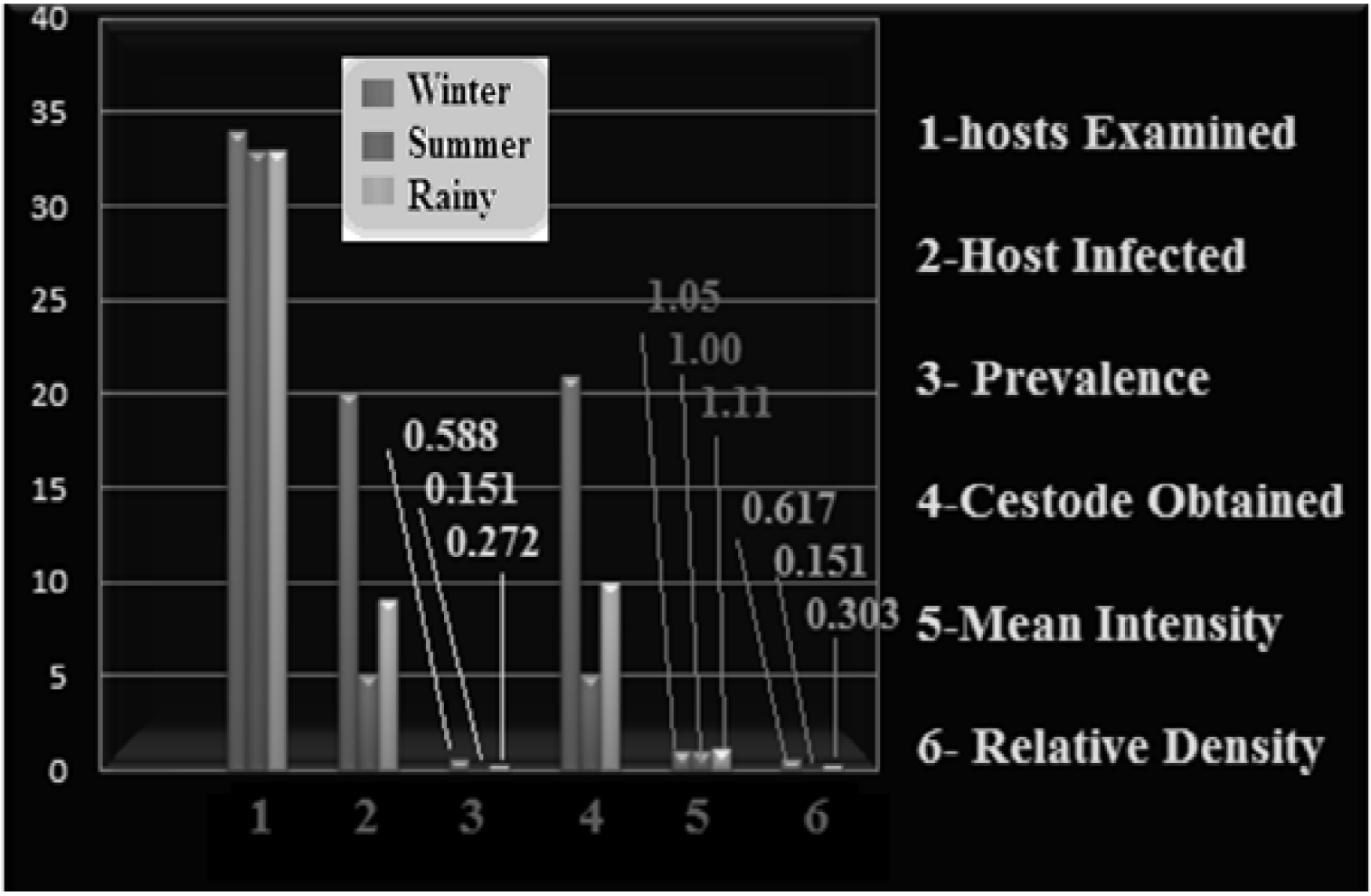

Fig. 1 : Different parameters represented in body weight of 60-120g.

TABLE - 2 : Body weight of the host 60-120 g

Season	Number of hosts		Prevalence	Number of cestodes obtained	Mean intensity	Relative density
	Examined	Infected				
Winter	34	20	0.588	21	1.05	0.617
Summer	33	05	0.151	5	1.00	0.151
Rainy	33	9	0.272	10	1.11	0.303

system in India. A little attention has been paid on the relationship of body weight of host with the cestode infestation. Workers reported interrelationship of *Heterahis pavonis* in poultry with season temperature and sex of the host. The present paper deals with the relationship of body weight with the cestode infestation in fresh water cat fish, *Channa punctatus*.

Material and Methods

Parasitological examinations of five fish per month was conducted in Jhansi during July 2014 to June 2016. Fresh water fish were collected fromChopra Talab, Block Chirgaon of district Jhansi (U.P.). The different parts of the host viz. alimentary canal, liver, pancreas, gall bladder etc. were taken out in normal saline water and cestodes were collected and fixed in 5% formalin. The cestodes from each fish were counted. The formulae for different parameters as given[4]:-

Prevalence = $\frac{\text{Number of hosts infected}}{\text{Number of hosts examined}}$

Mean intensity = $\frac{\text{Total number of parasite obtained}}{\text{Total number of hosts infected}}$

Relative density= $\frac{\text{Total number of parasites obtained}}{\text{Total number of hosts examined}}$

Observation

There are three seasons from ecological point of view rainy, winter and summer. The rainy season includes the month of July, August, September and October. Winter season includes the month November, December, January and February. While summer includes the month March, April, May and June.

The present study showed that maximum annual prevalence of cestode infection was

TABLE - 3 : Body weight of the host 121-180 g

Season	Number of hosts		Prevalence	Number of cestodes obtained	Mean intensity	Relative density
	Examined	Infected				
Winter	33	14	0.424	17	1.214	0.515
Summer	34	2	0.058	2	1.00	0.058
Rainy	33	9	0.272	11	1.22	0.333

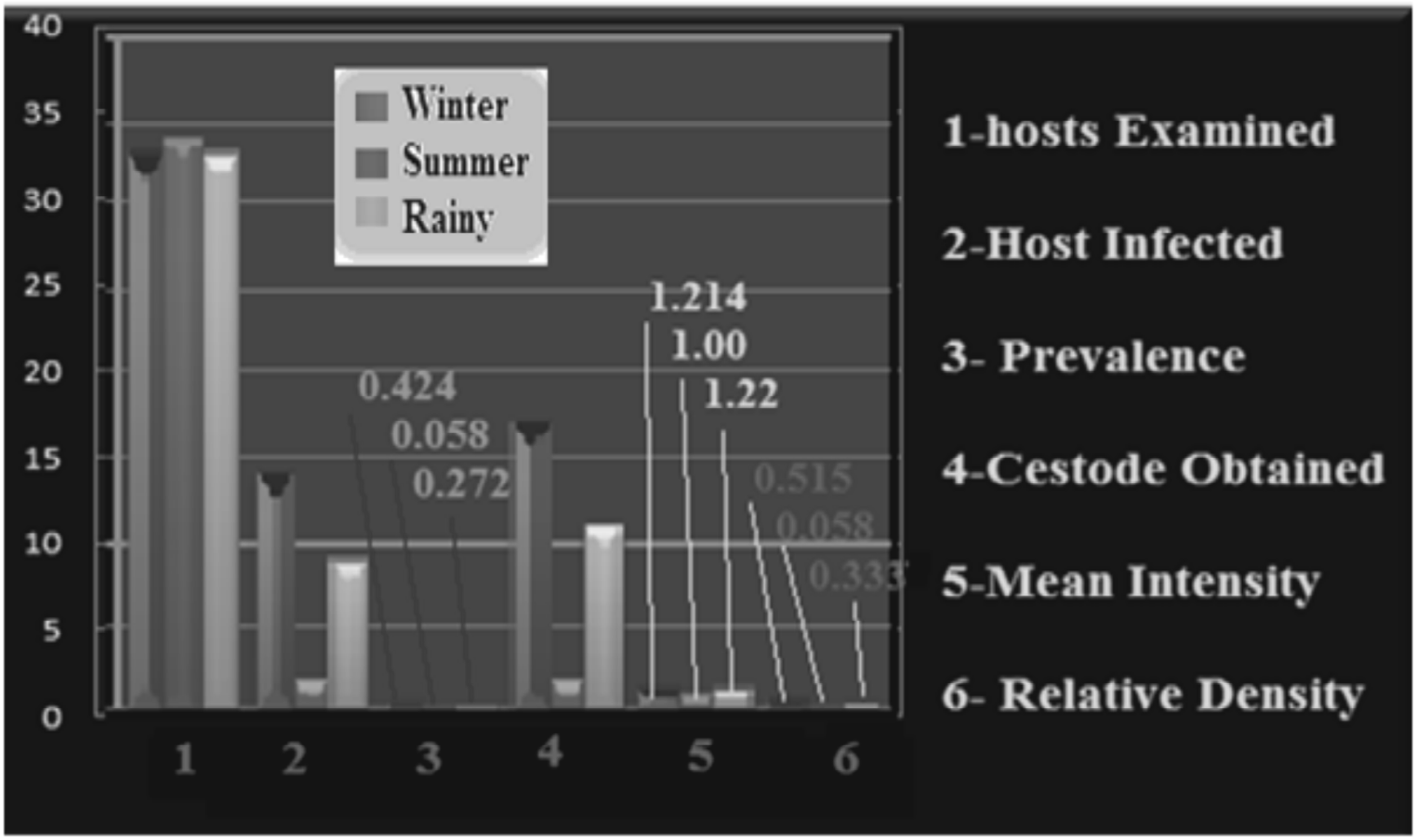

Fig. 2 : Different parameters represented in body weight of 121-180g.

TABLE - 4 : Body weight of the host 181-240g

Season	Number of hosts		Prevalence	Number of cestodes obtained	Mean intensity	Relative density
	Examined	Infected				
Winter	33	12	0.363	13	1.00	0.393
Summer	33	00	00	0	00	00
Rainy	34	08	0.235	9	1.125	0.264

recorded in the host ranging from 60-120 g. body weight while minimum was recorded in the host ranging from 241-300g body weight.Maximum mean intensity of cestode infection was recorded in the host ranging from 121-180 g body weight while minimum was recorded in the host ranging from 60-120 g. Maximum relative density of cestode infection was recorded in the fish ranging from 60-120g body weight while minimum was recorded in the host ranging from 241-300g body weight.

The maximum monthly prevalence was recorded in the host body weight ranging from 60-120gm during winter and minimum was recorded in the host body weight ranging from 181-240 g. and 241-300 during summer.

The maximum mean intensity of cestode infection was recorded in the host body weight ranging from 121-180g. during rainy season. The minimum mean intensity of the cestode infection was recorded in the host body weight ranging from 181-240g and 241-300g. during summer season.

The maximum relative density of cestode infection was recorded in the host body weight ranging from 60-120 g. during winter. The minimum relative density of cestode infection was recorded in the host body weight ranging from 181-240g and 241-300g during summer season.

Result and Discussion

The body weight of the host is related to a number of factors like age, health, length and availability of food. Parasitic prevalence during summer and rainy season was reported[1]. The infection percentage increased rapidly from spring to summer season[6]. Highest prevalence mean intensity and relative density of cestodes infection during summer season[2]. Worker[5] reported that the highest prevalence and relative density during

TABLE - 5 : Body weight of the host 241-300 g

Season	Number of hosts		Prevalence	Number of cestodes obtained	Mean intensity	Relative density
	Examined	Infected				
Winter	33	6	0.181	7	1.16	0.212
Summer	33	0	00	0	00	00
Rainy	34	10	0.294	11	1.10	0.3235

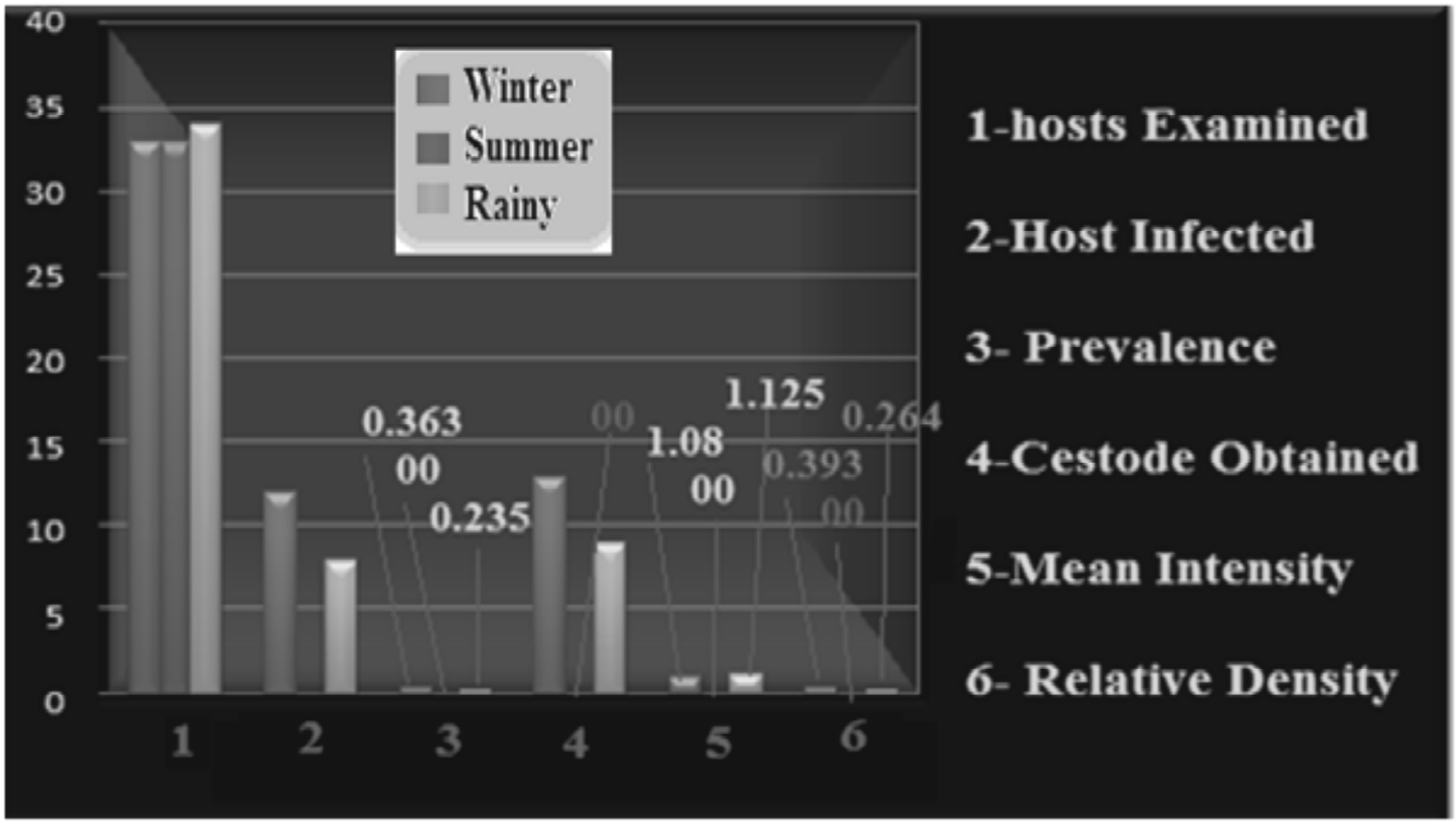

Fig. 3 : Different parameters represented in body weight of 181-240g.

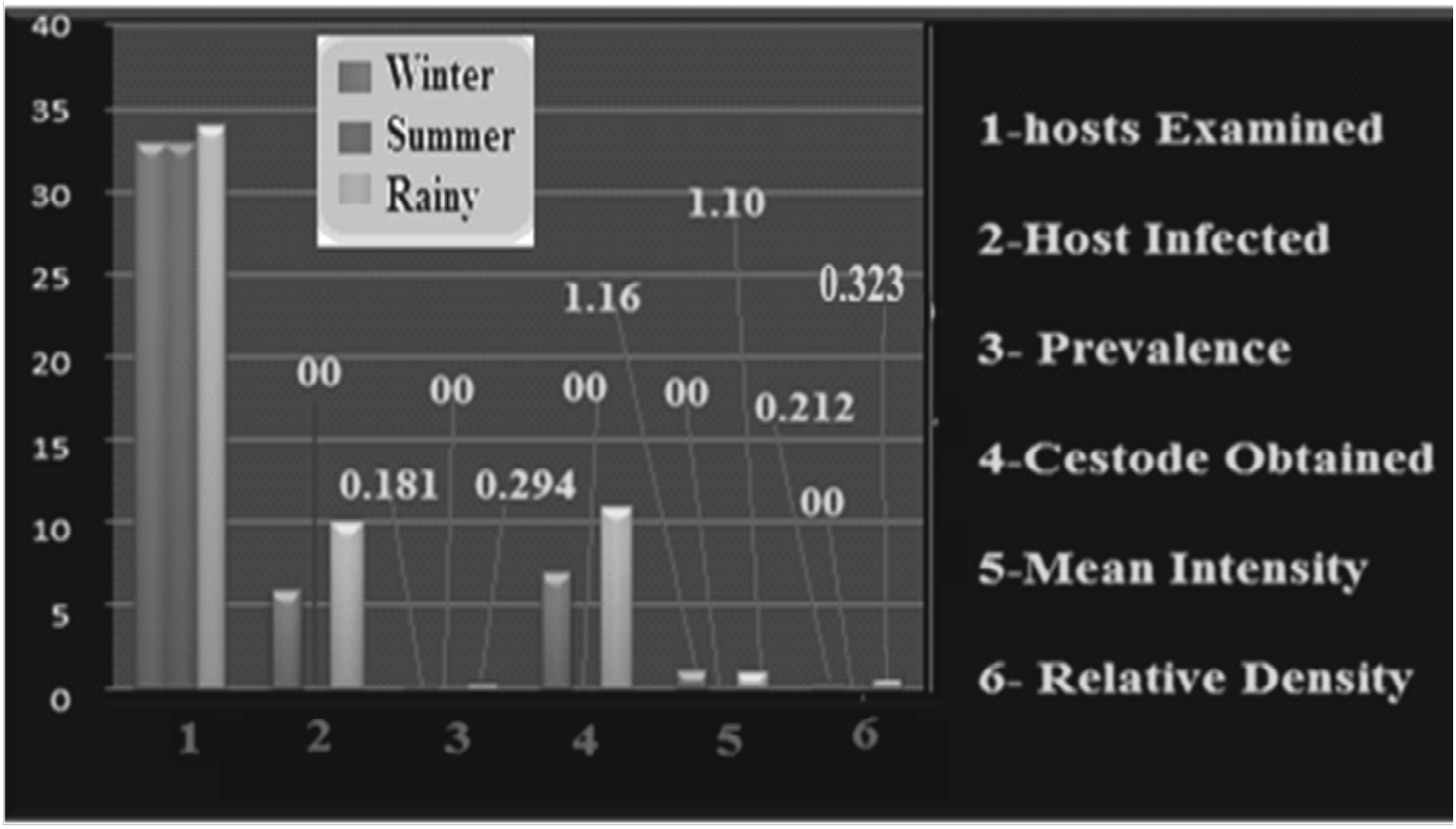

Fig. 4 : Different parameters represented in body weight of 241-300g.

summer season while highest mean intensity during rainy season. Parasitologils[7] reported that highest prevalence during summer season and lowest in rainy season and highest mean intensity during winter season and lowest during rainy season, and relative density highest during summer season and lowest during rainy season and other worker[3] reported that maximum prevalence and relative density were recorded in the summer and minimum prevalence, mean intensity and relative density were recorded in the during winter and rainy season. The maximum mean intensity of cestode infection was recorded in during rainy season.

On the basis of above discussion it can be concluded that the fish, *Channa punctatus* in district Jhansi (U.P.) India have the maximum prevalence in the winter season and minimum was in the during summer season. The maximum mean intensity of cestode infection was recorded in rainy season. The minimum mean intensity of the cestode infection was recorded in summer season.The maximum relative density of cestode infection was recorded in winter season. The minimum relative density of cestode infection was recorded in summer season.

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