

Studies on Digenetic Trematode Parasites in Fresh Water Carnivorous Fishes of Jaunpur

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Abstract: The present study shows the prevalence of infection, seasonal variation and mean intensity of digenetic trematodes of fresh water fish *Channa punctatus*. The infected organs are stomach, intestine, liver etc. Digenetic trematodes were isolated from the sampled fishes. The samples were collected from the river Gomti of Jaunpur district (25°44" to 25°45" N-82°44" E)

Keywords: Digenetic trematode parasites

1. Introduction

Water bodies are important part of Indian geographical area. So it contributes in Indian economy. Fishes are important part of aquatic life. Many parasites are found in aquatic organism. Many pathogenic agents (protozoa, helminthes, viruses and bacteria etc.) are present in fishes. They affect health, qualitative and quantitative production of fishes. Trematodes are major group of infection in fishes. Digenetic trematode complete their life cycle in two host including fish host. *Channa punctatus* is a commonly distributed fish of fresh water. They are easily available in fish market of Jaunpur. They are carnivorous fishes so depend on animal foods (Chandra et.al. 1997). The helminths parasites mainly found in fresh water fishes, which complete their life cycle through intermediate hosts (Chandra 2004). Total no. of 296 fishes were examined in which 60% of fishes infected. We are trying to investigate them.

2. Material and Methods

- 1) Sampling Area:** Surajghat, Kalichabad & Jalalpur Trimuahi, Jaunpur.
- 2) Sampling Points**
- 3) Study Points**
- 4) Host fish:** *Channa punctatus*.
- 5) Collection of fishes:** Living specimens of *Channa punctatus* were collected from different sampling area of all sizes, weight and sex. Samples were brought in the laboratory and collect in a glass aquaria.
- 6) Size and Weight Measurement:** With the help of measuring board samples were measured in centimeter (cm) and weighted to the nearest gram(g) using weighing balance (Paperna, 1996).
- 7) Examination for the Digenetic trematode parasites:** All samples were dissected and examined as per standard protocol. Dissection were done dorsoventrally and the digestive system was removed from their body. The internal organs place in a petri dish with saline and examined separately.
- 8) Processing of trematodes for identification:** First we fixed the parasites in hot 10' formalin following staining by borax carmine. Then washed with distilled water, dehydrated in ascending grades of alcohol and cleared in xylene. Parasites were mounted in D.P.X. (Dibutyl Phthalate Xylene)

- 9) Formula and Statistical Analysis:** Prevalence, Abundance and Mean intensity were determined by the formula proposed by Mangales et.al.15 (1982).

$$\text{Prevalence} = \frac{\text{Total no. of infected fishes}}{\text{Total no. of fishes host examined}} \times 100$$

$$\text{Abundance} = \frac{\text{Total no. of parasites recovered}}{\text{Total no. of fish host examined}}$$

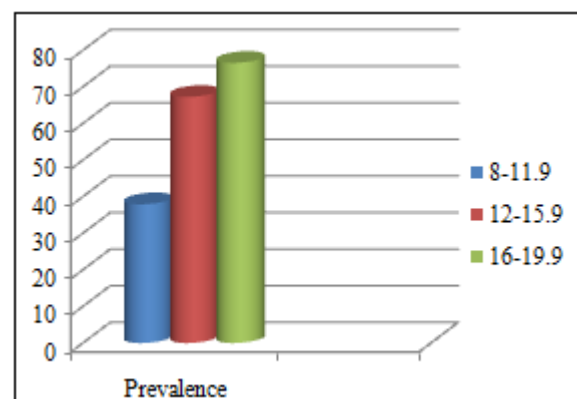
$$\text{Mean Intensity} = \frac{\text{Total no. of parasites recovered}}{\text{Total no. of infected host examined}}$$

3. Result and Discussion

The experimental table shows the aspect of trematodes infection in *Channa punctatus*.

Table 1.2: Relation between standard length and parasitic infection

Length gra.	No. of fish examined	No. of fish infected	No. of Parasites	Prevalence %	Abundance	Mean intensity
8-11.9	87	33	36	37.93	0.41	1.09
12-15.9	162	109	144	67.28	0.88	1.32
16-19.9	47	36	77	76.59	1.63	2.13
	296	178	257			



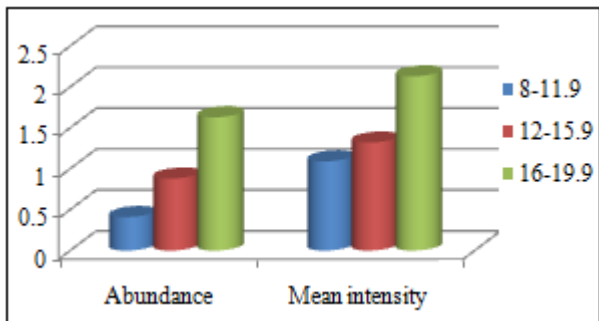


Table 2: Relation between body weight and Parasitic infection

Body weight	No. of fish examined	No. of fish infected	No. of Parasites	Prevalence	Abundance	Mean intensity
25-50	142	83	101	58.45	0.71	1.21
51-75	124	72	116	58.06	0.93	1.61
76-100	30	23	40	76.66	1.33	1.73
	296	178	257			

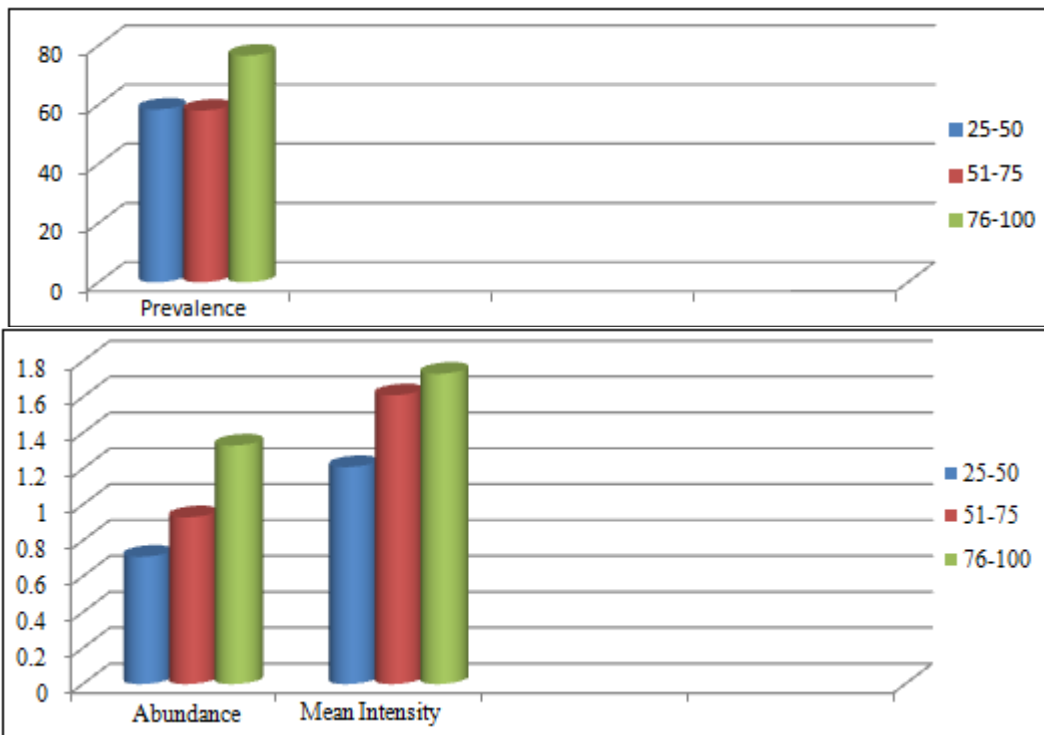


Table 3: Seasonal variance in prevalence, Mean Intensity and Abundance in *Channa punctatus*

Season	Month	No. of Host		Prevalence (%)	No. of tre. obtained	Mean Intensity	Abundance
		Examined	Infected				
Summer	March (2017)	15	13	86.67	31	2.38	2.06
	April (2017)	22	18	81.82	36	2	1.63
	May (2017)	18	14	77.78	28	2	1.55
	June (2017)	28	15	53.57	21	1.4	0.75
Rainy	July (2017)	21	17	80.95	15	0.88	0.71
	Aug. (2017)	25	10	40	7	0.73	0.28
	Sept. (2017)	25	5	20	3	0.6	0.12
	Oct. (2017)	27	16	59.25	17	1.06	0.62
Winter	Nov. (2017)	18	12	66.6	15	1.25	0.83
	Dec. (2017)	32	14	43.75	18	1.25	0.56
	Jan. (2018)	35	21	60	30	1.42	0.85
	Feb. (2018)	30	23	76.66	36	1.56	1.20
		296	178		257		

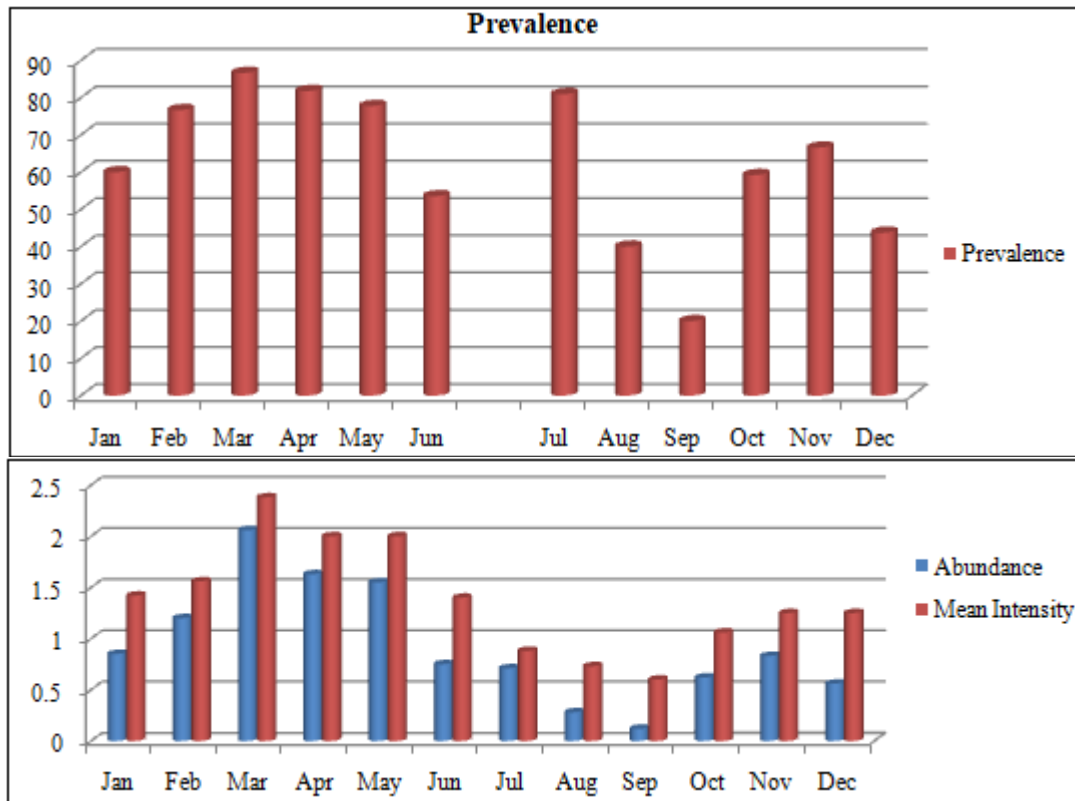


Table No. 1st shows that the parasitic infection increases with the size. Larger fishes have more infection than the smaller fishes.

Table No. 2 shows that the body weight is also directly proportional to the infection. When body weight increases then infection also increases.

Table No. 3 shows the seasonal variation with prevalence, mean intensity and abundance. Prevalence was maximum in summer and minimum in rainy season. Mean intensity was maximum in summer season and minimum rainy season.

Abundance was maximum in summer and minimum in rainy season. This experiment shows the ecological factor affecting the distribution of parasites in *Channa punctatus*.

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