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Prevalence of *Pseudoinverta oraiensis* in fresh water fish, *Clarias batrachus*

Aditya Narayan

Department of Zoology,

Bundelkhand University, JHANSI (U.P.) INDIA

Email- aditya.narayan21@gmail.com

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ABSTRACT

The present investigation deals with the prevalence of infection of cestode, *Pseudoinverta oraiensis*[19] parasitizing *Clarias batrachus* from Bundelkhand Region (U.P.) India. The studies were recorded from different sampling stations of Bundelkhand region of Uttar Pradesh. For this study 360 fresh water fish, *Clarias batrachus* were examined. The incidence of infection, monsoon season (17.50%) followed by winter season (20.00%) whereas high in summer season (30.00%).

Figure : 01 References : 25 Table : 01

KEY WORDS : Bundelkhand region (U.P.), *Clarias batrachus,* Prevalence of infection.

Introduction

Fish parasitic populations are known to differ due to variation in the environment and host population[8]. The infection of cestode parasites are found plenty in fish, which reduce the food value of these hosts and decrease in their production and result in mortality, so the study of cestode parasites is necessary today. Very scanty work on the cestode parasite of catfish of Bundelkhand region of Uttar Pradesh was carried out. Notable contributions were made in population dynamics of helminth parasites by earlier researchers [1,2,3,5,7,10,11,15,20]. The present study was designed to evaluate the prevalence of cestodes, *Pseudoinverta oraiensis*[19] parasitizing fresh water fish, *Clarias batrachus.*

Material and Methods

In this study, intestines of *Clarias batrachus* were examined for cestode infection during the period of Dec. 2015 to Nov. 2018 from different localities of Bundelkhand Region of (U.P.) India. Cestodes were collected, preserved in 5% formalin, dehydrated in various alcoholic grades, stained in Mayer's Hemalum, cleared in xylol and mounted in Canada balsum. These cestodes were prepared for identification by standard methods[14,25]**.** On taxonomic observations identified cestode was *Pseudoinverta oraiensis*[19]. Obtained data were recorded, processed for study of prevalence of infection.

Result and Discussion

Infection of cestode, *Pseudoinverta oraiensis*[19] from *Clarias batrachus* are presented (Table-1, Fig. 1). The prevalence of *Pseudoinverta oraiensis*[19] were recorded monsoon season (17.50%) followed by (20.00%) in winter and in summer (30.00%). It was reported that temperature, humidity, rainfall, feeding habits of host, availability of infective host and parasite maturation were responsible for influencing the parasitic infections[12]. Feeding activity of the host is reason for seasonal fluctuation of infections[22]. Workers[9] reported high prevalence of parasites in the Indian Major Carp *Labeo rohita* (Ham.) in Rajshahi, Bangladesh and highest prevalence (75%) and mean density (10.44) of parasites were found in the month of December and lowest (20%) in the month of February. There was high incidence of infection of *Senga* sp., *Gangesia* sp., *Proteocephalus* sp. Infected to *Channa* sp. In summer season (76.66%), 73.33% & 70.00%) followed by winter (65.21%, 52.17% & 56.52%) whereas infection was low in monsoon (36.84%,26.31%31.57%)[4]. The incidence of infection of *Senga microrostellata*[6] their[23] incidence of infection were recorded (80.00%) in summer season followed in winter (52.50%) whereas low (37.50%) in monsoon season. Workers[24] reported incidence of infection of *Mastacembelus armatus*[13] highest during summer season and lowest in rainy season. High incidences of infection were recorded in summer season (21.66%) followed by winter season (28.33%) whereas low in monsoon season[15] (26.66%). High incidences of infection were recorded in summer season (73.75%) followed by winter season (51.25%) whereas low in monsoon season[16] (48.75%). High incidences of infection were recorded in winter season (78.33%) followed by monsoon season (63.33%) whereas low in summer season[17] (46.66%), incidences of infection were recorded in winter season (27.08%) followed by monsoon season (22.91%) whereas low in summer season[18] (19.58%). A worker[21] recorded infection of *Gangesia* sp. in *Wallago attu* during 2011-2012, maximum prevalence (50.0) in

TABLE- 1: Prevalence of *Pseudoinverta oraiensis*[19] from *Clarias batrachus* during Dec. 2015 to Nov 2018.

Sr. No.	Season	Number of host examined	Number of host infected & their Prevalence	Number of parasites collected
1	Summer	120	36 (30.00%)	38
2	Monsoon	120	21 (17.50%)	23
3	Winter	120	24 (20.00%)	30

male was recorded in the months of January, whereas minimum (0) in August, September, October in rest of months between (42.86) to (37.50). The maximum prevalence (42.86) in female was recorded in the months of, November and January. Whereas minimum (0) in August and September, in rest of months between (37.50) to (28.50) and in 2012-2013 maximum prevalence (57.14) in male was recorded in the months of March, whereas minimum (0) in July, August and September. In rest of months between (12.50) to (37.50). The maximum prevalence (42.86) in female was recorded in the months of, February, May, November, and January. Whereas minimum (0) in July. In rest of months between (12.50) to (37.50).

On the basis of above discussion it can be concluded that the prevalence of infection of cestode, *Pseudoinverta oraiensis*[19] from *Clarias batrachus* in Bundelkhand region of (U.P.) India, the prevalence of infection was recorded in summer season (30.00%), winter season (20.00%) whereas low in monsoon season (17.50%). Fish parasitic populations are known to differ due to variation in the environment and host population[8]

Conclusion

Recorded data of present study show highest incidences of infection of cestodes in summer season followed by winter season whereas low in monsoon season due to environmental factors, breeding factor and feeding habitat influence of the seasonality of parasitic infection either directly or indirectly. Result of present study therefore is expected to be helpful for future research on helminth parasites of fresh water fish in this area.

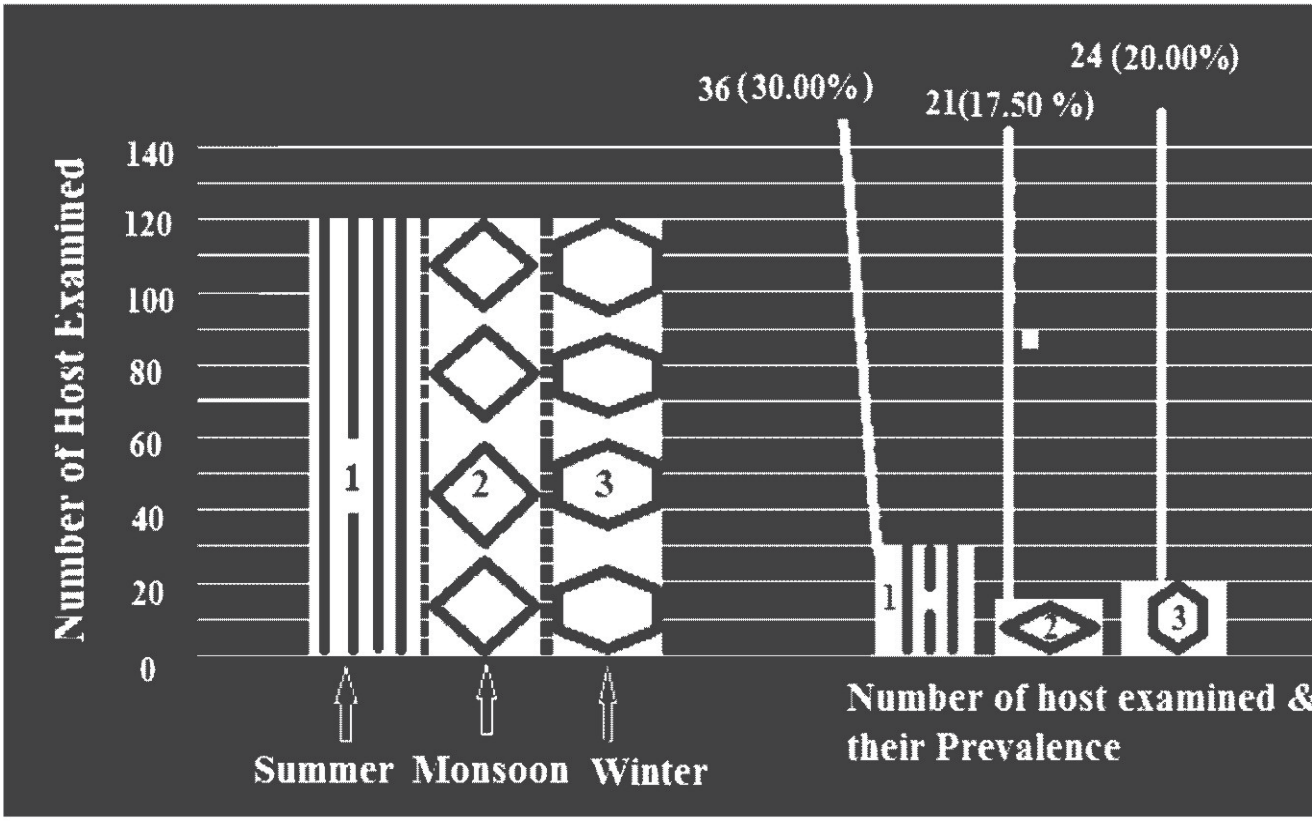

Fig. 1 : Prevalence of *Pseudoinverta oraiensis*[19] from *Clarias batrachus* during Dec. 2015 to Nov 2018.

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