

“STUDIES ON PREVALENCE OF CESTODE *GANGESIA MARATHWADENSIS* BHURE ET.AL.,2011 PARASITIC IN FRESHWATER FISH *WALLAGO ATTU*”

DHANRAJ BALBHIM BHURE, SANJAY SHAMRAO NANWARE AND K.M. SHAIKH¹

Department of Zoology, Yeshwant Mahavidyalaya, NANDED-431602 (M.S., INDIA).

1. Department of Zoology, Poona College, Pune.

email- drajbhure82@gmail.com

ABSTRACT

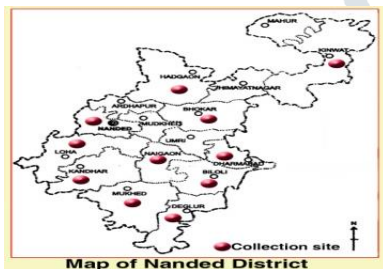
The present investigation deals with the prevalence of cestode *Gangesia marathwadensis* Bhure et.al.,2011 parasitizing of *Wallago attu* from different localities of Nanded District (M.S.) India during October,2017 to September, 2018. The high prevalence were occurred in Summer (75.00 %) followed by Winter (46.25 %) whereas infection was low in monsoon (22.50%).

Key words- *Gangesia marathwadensis* Bhure et.al.,2011, Nanded, Prevalence, *Wallago attu*.

INTRODUCTION

Fish constitute a major component of diet for human being. They are extensively used as a protein-rich food for human consumption. These fishes are parasitized by helminth parasites, which reduce food value. Parasitic diseases are among major public health problems of tropical countries including India. They infect man and also invade domestic animals and wildlife. Keeping in view, importance of these cestode infections of freshwater fish, the present study was designed to evaluate the prevalence of Cestode *Gangesia marathwadensis* Bhure et.al.,2011 parasitizing freshwater fish *Wallago attu*.

MATERIALS AND METHODS



Study area- The study was conducted in different collection sites of Nanded district.

In the present study, a survey on cestodes was conducted on 240 intestines of *Wallago attu*, examined for infection of cestode parasites during the period of October,2017 to September, 2018 from different localities of Nanded District, Maharashtra State India. Cestode parasites were collected, preserved in hot 4% formalin, washed with saline and water, dehydrated in various alcoholic grades, stained with Borax carmine, cleared in xylene, mounted in D.P.X. and collected parasites were prepared for identification by standard (Gerald D. Schmidt, 1934; Yamaguti, S., 1959; Wardle, R.A., Mcleod, J.A. and Radinovsky 1974; Khalil, Jones and Bray,1994; and Bhure, 2008). On taxonomic observations identified cestode is *Gangesia marathwadensis* Bhure et.al.,2011. Obtained data were recorded; processed for present study.

RESULTS AND DISCUSSION

Results of present studies on prevalence of cestode, *Gangesia marathwadensis* Bhure et.al.,2011 from *Wallago attu* are presented in Table No. 01 & 02 and Graph 1& 2. The incidence of infection of *Gangesia marathwadensis* Bhure et.al.,2011 were recorded in Summer (75.00 %) followed by Winter (46.25 %) whereas infection was low in monsoon (22.50%). Kennedy C.R. (1976) reported temperature; humidity, rainfall, feeding habits of host, availability of infective host and parasite maturation are responsible for influencing the parasitic infections. High temperature, low rainfall and

sufficient moisture were necessary for development of parasite were reported by Jadhav and Bhure, (2006).

Table 1-Monthly Prevalence of *Gangesia marathwadensis* Bhure et.al.,2011 from *Wallago attu* during October, 2017 to September, 2018.

Month	Number of host Examined	Number of host Infected	Prevalence %	Number of parasites collected
October,2017	20	08	40 %	10
November,2017	20	08	40 %	11
December,2017	20	10	50 %	12
January,2018	20	11	55 %	14
February,2018	20	13	65 %	16
March,2018	20	14	70 %	18
April,2018	20	16	80 %	20
May,2018	20	17	85 %	22
June,2018	20	03	15 %	05
July,2018	20	03	15 %	04
August,2018	20	05	25 %	07
September,2018	20	07	35 %	09

Graph 1: Monthly Prevalence of *Gangesia marathwadensis* Bhure et.al.,2011 from *Wallago attu* during October, 2017 to September, 2018.

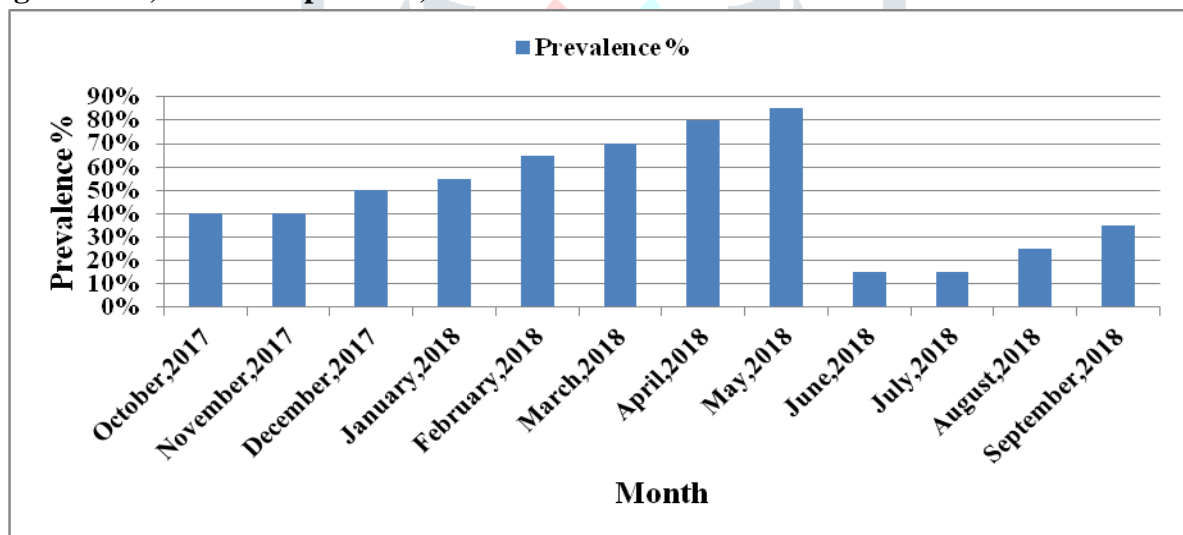
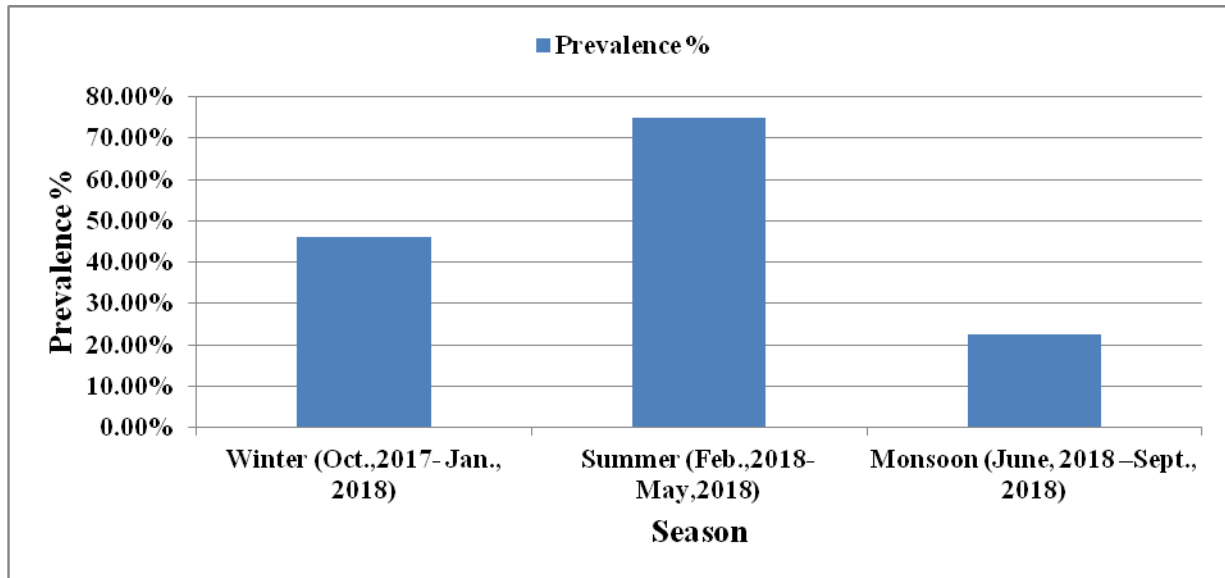


Table 2-Seasonal Prevalence of *Gangesia marathwadensis* Bhure et.al.,2011 from *Wallago attu* during October, 2017 to September, 2018.

Seasons	Number of host Examined	Number of host Infected	Prevalence %	Number of parasites collected
Winter (Oct.,2017- Jan., 2018)	80	37	46.25 %	47
Summer (Feb.,2018-May,2018)	80	60	75 %	76
Monsoon (June, 2018 –Sept., 2018)	80	18	22.5 %	25

Graph 2: Seasonal Prevalence of *Gangesia marathwadensis* Bhure et.al.,2011 from Wallago attu during October, 2017 to September, 2018.



Results of present study are in agreement with Bhure et. al., 2010 reported high incidence (51.78%), intensity (1.18%) and density (0.613%) of *Rhabdocona sp.* in summer followed by winter and rainy season. Shahin et.al., 2011 studied prevalence of Chicken Cestodiasis in Egypt and reported highest incidence in summer 5.54% and Autumn 5.6% and lowest incidence during Winter 3.3% and Spring 2.2%. Bhure et al., 2013 studied diversity and prevalence of avian cestodes and reported high prevalence in summer where as low in monsoon season. Bhure and Nanware, 2014 reported high incidence of infection of *Cotugnia dignopora*, *Cotugnia diamarae* and *Raillietina (R.) domestica* in summer (75%, 67.85 % & 71.42%) followed by winter (60%, 52 % & 48%) whereas low infections in monsoon season (38.09%, 33.33% & 38.09%). Bhure and Nanware, 2014 recorded high incidence of infection of *Senga sp.*, *Gangesia sp.*, *Proteocephalus sp.* infected to *Channa sp.* was in summer (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%).

Recorded data of present study shows high Prevalence was in summer followed by winter where as low in monsoon due to environmental factors and feeding habitat influence the seasonality of parasitic infection either directly or indirectly.

ACKNOWLEDGEMENTS

The authors express sincere thanks to Principal, Yeshwant Mahavidyalaya Nanded for facilities provided.

REFERENCES

- Bhure Dhanraj Balbhim 2008.** Faunal diversity of helminth parasites of freshwater fishes from Maharashtra State, India. *Ph.D. Thesis, Dr. B. A.M.U.Aurangabad, M.S.India. pp.1-178.*
- Bhure, D.B., Nanware, S.S., Kardile, S.P. and Dhondge, R. M., 2010.** A survey of the population ecology of *Rhabdochona* Ralliet, 1916 (Nematoda-Rhabdochonidae) from *Labeo rohita* (Ham. and Buch.). *The Ecosphere (An International Biannual Journal of Environment and Biological Sciences).1(1):12-24.*
- Bhure D.B., Nanware S.S. and Dhondge R.M. 2011.** Review of Proteocephallidean cestode, *Gangesia* from freshwater fishes in Maharashtra State, India. *Flora and Fauna An International Research Journal of Biological Sciences. Vol. 17 (1) pp 83-95.*
- Bhure, Dhanraj Balbhim, Nanware, Sanjay Shamrao and Sunnap, Namrata V. 2013.** Status of Diversity of Cestode Parasites of Domestic Fowl (*Gallus Gallus Domesticus*) from Nanded District, Maharashtra State. *Indian Journal of Applied Research.Vol.3 (10): 28-31*

- Bhure, Dhanraj Balbhim, Nanware, Sanjay Shamrao and Kasar C.R. 2014.** Studies on Prevalence of Cestodes Parasitizing *Gallus gallus domesticus*. *Environment Conservation Journal*. Vol. 15 (1&2) pp 171-175.
- Bhure, Dhanraj Balbhim, Nanware, Sanjay Shamrao 2014.** Studies on Prevalence of Cestode Parasites of Freshwater Fish, *Channa punctatus*. *Journal of Entomology and Zoology Studies*. Vol. 2(4) pp 283-285.
- Jadhav, B.V. and Bhure, D.B. ,2006.** Population dynamics of Helminth parasites in freshwater fishes from Marathwada region (M. S.) India. *Flora and Fauna An International Research Journal*, 12(2): 143-148.
- Kennedy, C.R. ,1976.** *Ecological aspects of parasitology*. North Holland publishing company Amsterdam 10x ford.
- Khalil, L.F, Jones, A. and Bray, R.A, 1994.** *Keys to the cestodes parasites of vertebrates*. CAB International Pub. U.K. pp.1-751.
- Shahin, A.M., Lebdah, M.A., Abu-Elkheir,S. A. and Elmeligy, M.M.2011.** Prevalence of Chicken Cestodiasis in Egypt. *New York Science Journal*;4(9):21-29.
- Schmidt, Gerald D. 1934.** *Handbook of Tapeworm Identification*. CRC Press, Inc. Boca Raton, Florida. pp 1-675.
- Wardle, R.A., Mcleod, J.A. and Radinovsky 1974.** *Advances in the Zoology of tapeworm 1950-1970*, University of Minnesotar Press, Minneapolis 1-780.
- Woodland, WNF.1924.** On a new Proteocephalidae from Indian freshwater fishes. *Parasit. (16): 441-451*.
- Yamaguti, S. 1959.** *Systema Helminthum. II.The Cestodes of Vertebrates*. Intescience Publ., N.Y., pp 860.

