

## **Diversity of Helminth Parasites in Fishes of Karbhala Wetland in Cachar District of Assam**

KH. BINKY<sup>1</sup>, TH. RANIBALA, M. SHOMORENDRA AND DEVASHISH KAR

*Division of Wetlands, Fishery Science & Aquaculture, Department of Life Sciences, Assam (Central) University  
 Silchar, India*

<sup>1</sup>*Fish Disease Research Lab, Department of Zoology, Thambal Marik College, Oinam 795134, Manipur, India  
 E-mail: devashishkar@yahoo.com*

### **Abstract**

The study was made on helminth parasites of freshwater fishes from Karbhala wetland in Cachar district, Assam. The study was conducted between March and May 2010 and found two groups of helminth parasites in 74 fishes. The fishes belonged to four orders, 10 families and 14 species. Among the fishes, 12 specimens (17.14%) were parasitized by one or more groups of helminth parasites. A total of 35 parasites were found infected in fishes belonging to two different groups of helminths. Among them 25 parasites belonged to class Acanthocephala and 11 parasites belonged to class Cestoda.

**Key words :** Helminth, Fishes, Karbhala wetland, Silchar.

Fish being one of the main items of food for most of the people in Assam, the demand for fish is high in the state. About 90% of the people in the state are fish eaters. Karbhala wetland, lying between 24°41' N and 92°42' E is situated 5 km from Assam University. It has a maximum area of approximately 2.02345 ha (5 acre) and maximum depth of 2 meters. Fish constitutes a major component of diet for the people of north east Assam and Manipur. Fish diseases due to helminth parasite is one of the important problems in fish culture and fish farming. The importance of fish parasites is related directly to the importance of the fish they may affect. There is a bewildering array of fish parasites and probably all the fish species harbor one or more parasite species. Chubb (1–4) illustrated the studies of seasonal occurrence of helminthes in freshwater fishes in different climatic zones of the world. Work of Yamaguti (5, 6) related the occurrence of helminth parasite in vertebrate host is of immense importance, Gupta (7) described new cestodes from freshwater fishes. Jha (8) studied on the characterization of parasite fauna of fishes of Muzzaffarpur, Bihar. Shomorendro and Jha (9) studied the acanthocephalan parasites of certain fishes from Manipur. Kar (10) made detailed study of the limnology and ichthyofauna of the waterbodies of north-east (NE) India including diseases in fishes. Kar and Sen (11) studied the systematic list and distribution of fish biodiversity in Mizoram, Tripura and Barak drainage

in north east India. Kar et al. (12) studied the panorama of fish biodiversity in certain rivers and wetlands and protected areas in Assam. Kar and Barbhuiya (13) studied the effect of length of fish on the occurrence of nematode and acanthocephalan parasites.

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### **Methods**

The fishes were collected live and carried in containers to the laboratory in the polythene bags containing water of the same locality. The external and internal body organs were thoroughly examined for the parasites. The parasites collected were fixed in the fixatives prescribed for different helminth groups. The acanthocephalans were fixed and preserved in AFA (alcohol-formalin-acetic acid), cestodes in 5% formalin. To facilitate identification of the worms cestodes is stained in alum carmine and mounted in Canada balsam while in acanthocephala, the worms were cleared in lactophenol and mounted in glycerine jelly.

### **Results and Discussion**

A total of 74 fishes, belonging to four different

**Table 1.** Host- parasite list and prevalence of infection.

Fish hosts	Parasite groups	No. of fishes examined	No. of fishes infected	No. of parasites found	Prevalence (%) of infection
<i>Heteropneustes fossilis</i>	Cestoda	7	2	4	28.57
<i>Mystus tengara</i>	-	4	-	-	-
<i>Channa punctatus</i>	Acanthocephala	15	2	2	13.33
<i>Puntius ticto</i>	Cestoda	3	2	6	66.66
	Acanthocephala	3	2	2	66.66
<i>Calisa fasciatus</i>	-	2	-	-	-
<i>Puntius stoliczkanus</i>	Acanthocephala	5	1	10	20
<i>Puntius sophore</i>	Acanthocephala	12	5	11	41.66
	Cestoda	12	1	1	8.33
<i>Macrognaathus aral</i>	-	7	-	-	-
<i>Macrognaathus pancalus</i>	-	3	-	-	-
<i>Glossogobius giuris</i>	-	3	-	-	-
<i>Mystus cavasius</i>	-	2	-	-	-
<i>Anabas testudineus</i>	-	5	-	-	-
<i>Lepidocephalus guntea</i>	-	4	-	-	-
<i>Badis badis</i>	-	2	-	-	-

order, 10 family and 14 species, 12 specimens (17.14%) were parasitized by one or more species of parasites (Table 1). A total of 35 parasite individuals were found to be infected in fishes belonging to two different groups of helminthes. Acanthocephala and cestode show highest prevalence of infection but still there is no report of trematodes and nematodes from the wetland. The intensity of infection is highest in *Puntius stoliczkanus* and lowest in *Puntius sophore*. There is no report of infection of parasites in *Anabas testudineus*, *Lepidocephalichthys guntea*, *Badis badis*, *Macrognaathus aral*, *Macrognaathus pancalus*, *Colisa fasciatus*, *Glossogobius giuris giuris* and *Mystus cavasius* (Table 1).

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