

## Occurrence of Trematodes in Some Fishes of Utra Lake in Manipur

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### Abstract

The study was done on the occurrence of trematodes in some fishes of Utra Lake in Manipur. Fish species like *Channa orientalis*, *Anabas testudineus*, *Clarias batrachus*, *Heteropneustes fossilis* and *Colisa fasciatus* were regularly examined for the trematode infections. One species of metacercaria and two species of adult digenetic trematodes were collected. The trematode species showed significant variation in the percentage of abundance in different fish hosts. The trematode species *Clinostomum complanatum* showed maximum abundance (54.5%) while *Astiotrema reniferum* and *Allocreadium handia* showed lesser abundance (38.9 and 7.2% respectively). *Colisa fasciatus* harbored the highest number of trematode worms i.e. *Clinostomum complanatum*.

**Key words :** Fishes, Trematode, Utra Lake, Manipur.

Fish is a vital source of human food particularly in the North-East India. It not only provides proteins (upto 13—20%) but also provides fish meal, fish manure, fish oil, isinglass. But its productivity is adversely affected by the parasitic infections and diseases. Such infections not only deteriorate the muscle quality, stunt growth but even sometimes prove fatal due to internal injury. The present paper deals with the study on the occurrence of trematodes in some fishes found in the Utra Lake of Manipur. Utra lake is located in Bishnupur District, Manipur about 24 km from Imphal. The lake has a waterspread area of 94 ha and a depth of about 3 meters. A rich diversity of 35 species of fishes have been recorded in the lake, notably *Channa striatus*, *Channa orientalis*, *Channa punctatus*, *Anabas testudineus*, *Heteropneustes fossilis*, *Puntius sophore*, *Puntius manipurensis*, *Clarias batrachus*, *Amblypharyngodon mola*. Yamaguti (1) related the occurrence of helminth parasites in vertebrate host is of immense importance. Considerable work has been done on the systematics of monogenetic trematodes of fishes by many Indian workers. Many workers made substantial contribution to the taxonomy of digenetic trematode parasites (2—5). Jha (6) studied on the characterization of parasite fauna of fishes of Muzaffarpur, Bihar. Agarwal (7)

worked on some trematode parasites of freshwater fishes from Lucknow Further, Chubb (8, 9) illustrated the studies on seasonal occurrence of helminths in freshwater fishes in different climatic zones of the world. Yashmin et al. (10) studied the panorama of fish catching devices in Manipur State of India. Kar (11) made detailed study of the limnology and ichthyofauna of the waterbodies of North-West India including diseases in fishes Kar and Sen (12) worked on systematic list and distribution of fish biodiversity in Mizoram, Tripura and Barak drainage in North East India. Kar et al. (13) made detailed study on fish biodiversity in certain rivers and in Manipur. Kar et al. (14) worked on the fish diversity in certain rivers, wetlands and protected areas in Assam.

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### Methods

Fishes were collected alive almost on every alternate day from the fishing sites and brought to the laboratory in the polythene bags containing wa-

**Table 1.** Trematode species showing the percentage of abundance in some fishes found in the Utra Lake of Manipur. (+) indicates presence, (–) indicates absence. A = *Anabas testudineus*, B = *Channa orientalis*, C = *Heteropneustes fossilis*, D = *Clarias batrachus*, E = *Colisa fasciatus*.

Name of parasites	Name of the fish host					Total no. of worms found	Percent of abundance
	A	B	C	D	E		
1 <i>Clinostomum complanatum</i>	–	–	–	–	+(60)	60	54.5
2 <i>Astiotrema reniferum</i>	+(30)	–	–	+(12)	–	42	38.9
3 <i>Allocreadium handia</i>	–	+(8)	–	–	–	8	7.2
Grand total						110	

ter of the same locality. Small fishes were killed by pithing and somewhat larger specimens by blow on the top of the cranium. The external body surface and the internal body organs were thoroughly examined for the occurrence of trematodes. The collected trematodes upon being fully relaxed were fixed in AFA (alcohol-formalin-acetic acid) solution and stored in 70% alcohol. To facilitate identification, these worms were stained in alum carmine and mounted in Canada balsam.

### Results and Discussion

The fishes were found to be infected with metacercaria and adult digenetic trematodes. The metacercaria larva of digenetic trematode i.e. *Clinostomum complanatum* were collected from the body cavities of *Colisa fasciatus* (Table 1). This worm was absent in other fishes. The adult stages of digenetic trematode *Astiotrema reniferum* were collected from the intestines of *Anabas testudineus* and *Heteropneustes fossilis*, while the adult stages of digenetic trematode i.e. *Allocreadium handia* were collected/retrieved from the intestines of *Channa orientalis*. So, a grand total of 110 species of trematodes were collected and *Clinostomum complanatum* showed the highest percentage of abundance (54.5%). The infection due to these trematodes may be a major problem in reducing the fish yield by causing mortality in fish. We may also suffer from diseases if we ingest improperly cooked fishes.

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