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# Diversity of Helminth parasite in fresh water fishes at Gangapur dam, Nashik, M.S. India.

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**Abstract:**

Fishes have considerable economic importance they are useful as well as harmful to man. All fish carry pathogens and parasites. The number of fish species studied for parasites is still low. The present status of our knowledge on helminth parasites of fishes in the Gangapur dam is reviewed in the light of the results of a recent investigation on fishes caught from Gangapur dam waters. Diversity of digenetic trematodes, Nematodes and cestodes in fishes of the Gangapur Dam are presented together with a discussion on certain aspects of the relationships between these helminths with their respective fish hosts.Study of Diversity of helminthes parasites in freshwater fishes of Gangapur dams carried for a period of one year i.e. June 2016 to May 2017.So, in present investigation attempt has been made to evaluate the diversity of parasite from fresh water fishes.

**Keywords:** *Parasite, Helminths, Trematodes, Cestodes.*

## I. Introduction

India has a great potential of production of fish resources only because of its huge coastline and inland water resources. Fishery provide good economical option to the Indian agriculture; hence the rapid increase takes place in the fisheries an aquaculture practices Fishery is a kind of industry which is concerned with the catching, processing or selling of fish Studies show that the certain adequate changes in the environment of the fishes may leads to certain emerging health issues such as genetic disorders, histopathological problems or pathogenic infections etc. In most of the cases pathogenic infections are most commonly observed in the fishes and responsible for the decrease in the fish production in most of the aquaculture practices. Viruses, bacteria, nutritional problems, pollution etc. are mainly associated with pathogenic infection in fishes. Most commonly the relation between parasites and fish health can be ignored. They are remaining present in the fishes, but they become the matter of conference when they affect the particular fish species. Parasitic infections in the fish directly lead to the loss of fish production. They make several physical and chemical damages on fish. Several types of parasites has been observed on fish gills or lamellae. In the initial period helminthological studies were carried out from the human being, later on, they study the prevalence of helminth parasite in domesticated animals. Most of the helminth parasites commonly found in vertebrates belongs to two phyla i.e. Platyhelminthes and Nemathelminthes (Rudolphi, 1808). Almost all the fishes carry several types of parasites and diseases. The diseases may cause the rate of mortality in the fishes. Parasites act as agent of such diseases. Fish can sustain such kind of diseases with some biochemical treatment. Initial low grade infection becomes lethal damage in fish, if not controlled. Stress in fishes and disease outbreak may cause in the fish due to the drought, pollution or radiators (Bergmann *et al.*, 2010, Poletto *et al.*, 2017).Several pathogens leads to the viral infection, bacterial infection such as *Pseudomonas flurescens* leading to the fin rot and fish dropsy diseases. Water mould infections, such as *Saprolegnia sp.* Metazoan parasites such as copepods, unicelluar parasites, such as *Ichthyophthirius multifillis* leading to the ich. Several helminth parasites

ich as cestode, nematode, treamatode can lead to the several other diseases to the fishes. Most of the quatic system has parasite as integral part and they may infect fish and invertebrates. Parasite utbreak occurs when quality of aquatic bodies are decreases. The immunity of the fishes increases ith disease outbreak, most of the fishes become susceptible to several diseases which is become a vere issue. Infected or dead fish also become the reasons of infection in the fishes.

**Materials and Methods**

**ollection of Fish Samples:**

The fish species available in the Gangapur Dam was collected at different site with help of cal fisherman site –

NMC Back Water.

.Grape Park Resort ,Gangapur Dam.

Nagalwadi, Gangapur Dam.

Arunday Agro Tourism, Gangapur dam.

Backwater Sula Wine Yards.

**ntification of Fishes:**

For taxonomic identification of fish, it is necessary to know salient characters of fishes ich is helpful for the classification and identification of fish species.These identification characters may be used for their classification (Joshi and Sreekumar, 2015). The fish species collected ing the different cycles from different sampling sites were identified using different standard tocol (Jayaram K.C. 1981, Hiware C.J. *et al.*, 2015).

**ntification of Parasites:**

The collected fish samples are initially dissected in normal saline water for the organs such swimming bladder, gills, stomach, liver, alimentary canal etc. The parasitic worm collected from cted swimming bladder, gills, stomach, liver, alimentary canal etc fish organs were washed with help of distilled water to reduce intestinal contents. After washing the parasites were preserved in formaldehyde solution. For the identification purpose the parasitic worms are stained with matoxylin and pass through several alcoholic grades. Before mounting the parasites on the slides ixed using DPX, the stained parasites were finally cleared by using xylene solution. Systematic sification and identification of helminth parasitic worms is done by using standard protocols dinovsky, Wardle and Mcleod, 1974; Yamaguti, 1959).

**esults and Discussion**

Study of Diversity of helminthes parasites in freshwater fishes of Gangapur dams carried for riod of one year i.e. June 2016 to May 2017. The efforts have been made to study the effect of ation and parasitism on the 12 native fishes i.e.*Clarias batrachus, Labeo pangusia, Oreochromis icus, Labeo rohita, Catla catla, Cirrhinus cirrhosus, Channa marulius, Tenualosa toli, Piaractus hypomus, Macrognathus pancalus, Wallago attu, Pangasianodon hypophthalmus.* The present avor would help to establish a baseline for determining the diversity of different helminthes sites on fish and which would subsequently help to improve fish health by advancing the vledge of important fish host parasite and environment interactions.

Seven different sites were selected for the study diversity of helminthes on fresh water fishes d in Gangapur dam. The fish samples were collected at this site with the help of local rmen's. The fishes were collected according to their local name. The above fish species were ted according to their availability. The fishes and water samples were collected seasonally. The

fish were examined thoroughly for the diversity of parasites. The collected parasites were stored and stained by using standard procedure. The given species of helminth parasite has been observed in fresh water fish.

| Sr. No. | Name of Fish Species | Common Name | Family | Helminth Parasite observed |
|---|---|---|---|---|
| 1. | *Clarias batrachus* | Mangur | Clarridae | *Pomphorhynchuskashmirensis* |
| 2. | *Labeo pangusia* | Kanas | Cyprinidae | *Microcotyloides sp.,* |
| 3. | *Oreochromis niloticus* | Chilapi/tilapia | Cichidae | Acanthocephala *Pallisentisallahabadii* |
| 4. | *Labeo rohita* | Rohu | Cyprinidae | *Asymphylodorakedarai* |
| 5. | *Catla catla* | Catla | Cyprinidae | *Brahamputratremasp* |
| 6. | *Cirrhinus cirrhosus* | Mrigal | Cyprinidae | *Neopodocotylsp* |
| 7. | *Channa marulius* | Maral | Channidae | *Camallanusanabantis* |
| 8. | *Tenualosa toli* | Bhing | Clupeidae | *Onchocamallanus sp.,* |
| 9. | *Piaractus brachypomus* | Halwa | Chariacidae | *C.trichuris C.intestinalus* |
| 10. | *Macrognathus pancalus* | Vam/ Eel | Mastacembelidae | *Cosmoxynemoidnandusi.* |
| 11. | *Wallago attu* | Balu | Siluridae | *Parascarophissp,* |
| 12. | *Pangasianodon hypophthalmus* | Pankaj / chopda | Pangasiidae | *Euclinostomumheterostomum* |

## 4. Conclusion and Future Scope

The following parasite were abundantly found during investigation in fresh water fishes of Gangapur dam Nashik.

| Sr. No. | Parasites |
|---|---|
| 1. | *Pomphorhynchuskashmirensis* |
| 2. | *Microcotyloides sp.,* |
| 3. | *Acanthocephala Pallisentisallahabadii* |
| 4. | *Asymphylodorakedarai* |
| 5. | *Brahamputratremasp* |
| 6. | *Neopodocotylsp* |
| 7. | *Camallanusanabantis* |
| 8. | *Onchocamallanus sp.,* |
| 9. | *C.trichuris C.intestinalus* |
| 10. | *Cosmoxynemoidnandusi.* |
| 11. | *Parascarophissp,* |
| 12. | *Euclinostomumheterostomum* |

With the help of above study we come to know abundance of parasites in fresh water fishes nd cause damage to it which leads to loss of food quality of fishes. So prevention of fish diseases sumes paramount importance in terms of sustainable growth of aquaculture sector in India, hancing productivity, socioeconomic condition and livelihood security of fishers who are directly indirectly depent on this sector.

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