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Original Article

Investigation of Some Cestode Parasites in Fresh water Fishes in Chorakhali Dam Osmanabad (Dharashiv) District Maharashtra India.

Khune Jyotsna Shivaji[1]Dr. Chandashive Shahaji Shivaji[2]
[1]Research scholar,Dr. Babasheaheb Ambedkar Maraathwada University, Chh. Sambhajinagar
[2]Associate Prof. & Rsearch Guide,SGRG Shinde Mahavidylaya, Paranda, Dist. Dharashiv

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Correspondence Address:
Khune Jyotsna Shivaji
Research scholar,Dr. Babasheaheb Ambedkar Maraathwada University, Chh. Sambhajinagar
Email: kulkarniswati1994@gmail.com

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Abstract

Fish parasitology plays an important role in understanding aquatic biodiversity and maintaining the health of fish populations. The present study focuses on the occurrence and morphological characteristics of cestode parasites in freshwater fishes collected from Chorakhali Dam located in Osmanabad district, Maharashtra, India. Fish samples were collected from local fishermen and examined for parasitic infections using standard parasitological techniques. The digestive tract of fishes was carefully dissected and examined for helminth parasites. The collected parasites were washed, stained, and mounted on microscopic slides for detailed morphological observation. The stained specimens showed characteristic segmented bodies typical of cestode parasites. The study confirms the presence of cestode infections in freshwater fishes of the study area and highlights the need for regular monitoring of parasitic infections in aquatic ecosystems. The findings contribute to the existing knowledge of fish parasitology and provide baseline information for future ecological and parasitological research in the region.

Keyword: *Cestode parasites, freshwater fishes, Chorakhali Dam.*

Introduction

Freshwater ecosystems support a wide variety of fish species that play a crucial role in maintaining ecological balance and providing food resources for human populations. Fish are considered an important source of high-quality protein and essential nutrients. However, fish populations are often affected by different types of parasitic infections that may influence their health, growth, reproduction, and survival.

Fish parasites include several groups such as protozoans, trematodes, cestodes, nematodes, and acanthocephalans. Among these, cestodes, commonly known as tapeworms, are important endoparasites found in the intestinal tract of fishes. These parasites possess a flat and segmented body structure composed of a series of segments known as proglottids.

Cestode parasites attach to the intestinal wall of the host fish through specialized attachment organs and absorb nutrients directly from the host. Heavy infestation of these parasites may cause tissue damage, nutritional deficiency, reduced growth, and sometimes mortality in fish populations.

The study of fish parasites is essential not only for understanding host-parasite interactions but also for assessing the health status of aquatic ecosystems. Parasitic infections can also serve as biological indicators of environmental changes in aquatic habitats.

Several researchers have reported the occurrence of cestode parasites in freshwater fishes across different regions of India. However, studies focusing on the parasitic fauna of fishes in Osmanabad district remain limited. Chorakhali Dam is one of the important freshwater bodies in this region and supports a variety of fish species used for local consumption and fisheries activities.

Despite its ecological importance, limited information is available regarding parasitic infections in fishes inhabiting this reservoir. Therefore, the present investigation was

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Undertaken to study the occurrence and morphological characteristics of cestode parasites infecting freshwater fishes from Chorakhali Dam.

Review of Literature

Fish parasitology has attracted considerable attention from researchers due to its importance in fisheries management and aquatic health monitoring. According to Yamaguti (1959), cestodes represent a diverse group of parasitic helminths that infect a wide range of vertebrate hosts including fishes.

Chandra (2006) emphasized that parasitic infections are among the major biological factors affecting fish productivity in natural and cultured aquatic environments. Parasites can influence host physiology, metabolism, and immune response.

Khalil, Jones, and Bray (1994) provided comprehensive taxonomic keys for the identification of cestode parasites and highlighted the diversity of cestodes infecting freshwater fishes worldwide.

In India several studies have reported the occurrence of cestode parasites in freshwater fish species. These studies have documented various genera and species of cestodes infecting economically important fishes.

Bush et al. (1997) highlighted the ecological importance of parasite-host interactions and emphasized the need for integrated parasitological studies in aquatic ecosystems.

Most of the existing studies are concentrated in well-known freshwater bodies, while many reservoirs and dams remain poorly studied. Therefore, regional studies focusing on parasite diversity are essential for understanding the distribution and ecological role of fish parasites.

Materials and Methods

3.1 Study Area

The present study was conducted at **Chorakhali Dam located in Osmanabad district of Maharashtra, India.** The reservoir supports several freshwater fish species and serves as a source of fish for local communities.

3.2 Collection of Fish Samples

Freshwater fishes were collected from Chorakhali Dam with the assistance of local fishermen using traditional fishing nets. The collected specimens were transported to the laboratory in fresh condition for further examination.

3.3 Dissection and Parasite Collection

The fishes were dissected carefully under laboratory conditions. The digestive tract was removed and examined thoroughly for the presence of helminth parasites. Parasites found in the intestinal region were carefully removed using forceps.

3.4 Washing and Preservation

The collected parasites were washed several times in normal saline solution to remove mucus and debris. After cleaning, the specimens were preserved for further examination.

3.5 Staining and Slide Preparation

The parasites were stained using standard staining procedures commonly used in helminthology. The stained specimens were mounted on clean glass slides with mounting medium and covered with cover slips for microscopic observation.

3.6 Microscopic Observation

Prepared slides were examined under a compound microscope to study the morphological characteristics of the parasites. Important features such as body segmentation, shape of proglottids, and general body structure were carefully observed.

3.7 Identification of Parasites

Identification of cestode parasites was carried out using available taxonomic keys and standard literature based on morphological characteristics.

Results

During the present investigation of cestode parasites in freshwater fishes collected from Chorakhali Dam, Osmanabad (Dharashiv) District, several cestode parasites were recovered from the intestinal region of infected fishes.

The parasites were carefully removed from the intestine of the host fishes and preserved in a sample container for further laboratory examination. The freshly collected specimens appeared elongated, thread-like and cream to pale yellow in colour (Figure 1). Multiple individuals were observed in a single host, indicating the presence of intestinal infestation in the studied fish population.

Figure 1 shows the freshly collected cestode parasites obtained from the intestine of freshwater fishes from Chorakhali Dam.



Figure 1

After collection, the parasites were processed using standard parasitological techniques including fixation, staining and slide preparation. Permanent slides were prepared to study the morphological characteristics of the parasites under a microscope.

Two stained preparations were prepared and labelled as A1 and A2 for detailed observation.

The stained slides A1 (Figure 2) clearly show elongated ribbon-like bodies with distinct segmentation. The proglottids are visible and arranged sequentially along the body, which is a typical characteristic of cestode parasites.

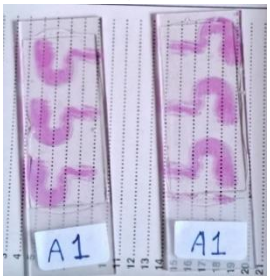

Figure 2

The stained preparation **A2 (Figure 3)** also revealed clearly differentiated segments and internal structures after staining. The staining helped to highlight the body organization and segmentation pattern of the parasite.

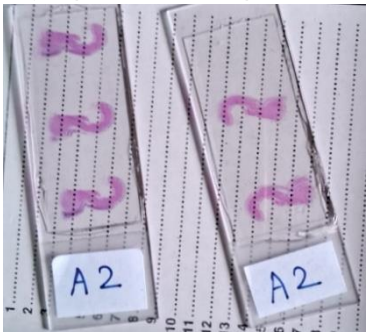

Figure 3

The observed morphological features such as elongated body structure, presence of proglottids and ribbon-like appearance confirm that the collected parasites belong to the class Cestoda.

These observations indicate that freshwater fishes from Chorakhali Dam are infected with intestinal cestode parasites, suggesting the presence of suitable ecological conditions for parasite transmission in the aquatic ecosystem.

Discussion

Cestode infections are commonly reported in freshwater fishes and play an important role in fish parasitology. In the present study, cestode parasites were recovered from the intestinal region of fishes collected from Chorakhali Dam, Osmanabad (Dharashiv) District.

The morphological characteristics observed in the present investigation such as elongated ribbon-like body and distinct proglottids are typical features of cestode parasites reported by several earlier workers in freshwater fish hosts. These parasites inhabit the intestinal region of fishes where they absorb nutrients directly from the host body.

The occurrence of cestode infection in fishes may be influenced by several ecological factors such as water quality, presence of intermediate hosts, feeding habits of fishes, and environmental conditions of the aquatic ecosystem.

The presence of multiple cestode individuals in the infected fishes suggests that the dam ecosystem provides suitable conditions for the life cycle and transmission of these parasites. Freshwater ecosystems with abundant plankton and intermediate hosts often facilitate the development of cestode larvae and their transmission to fish hosts.

Similar observations have been reported in various freshwater bodies where cestode parasites have been found infecting different species of fishes. The present study therefore contributes to the understanding of fish parasitic diversity in the Chorakhali Dam region.

Conclusion

The present investigation confirms the occurrence of cestode parasites in freshwater fishes collected from Chorakhali Dam in Osmanabad District, Maharashtra. The parasitological examination of fish specimens revealed the presence of cestode parasites in the intestinal region of certain host fishes. Microscopic observation of stained specimens demonstrated characteristic morphological features such as an elongated, flattened body and distinct segmentation into proglottids, which are typical of parasites belonging to the class *Cestoda*.

The preparation of permanent microscopic slides and staining techniques enabled clear visualization of the parasite's structural characteristics. The observed morphological features confirmed the identity of the parasites as cestodes commonly found in freshwater fish hosts. The presence of these parasites indicates that the aquatic ecosystem of Chorakhali Dam supports the life cycle of cestodes, possibly involving intermediate hosts such as small crustaceans or aquatic invertebrates.

Parasitic infections in fishes can influence host health, growth, and overall productivity of fish populations. Therefore, regular monitoring of fish parasites in freshwater ecosystems is essential for maintaining fish health and sustainable fisheries management. The findings of this study contribute to the existing knowledge of fish parasitology and provide baseline information for future research on parasite diversity in freshwater fishes of Maharashtra.

Further studies involving detailed taxonomic identification, prevalence analysis, and molecular characterization of the parasites are recommended to gain deeper insights into the diversity, life cycle, and ecological significance of cestode parasites in freshwater ecosystems.

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Conflicts of interest

The authors declare that there are no conflicts of interest regarding the publication of this paper

References

1. Bush, A. O., Lafferty, K. D., Lotz, J. M., & Shostak, A. W. (1997). Parasitology meets ecology on its own terms: Margolis et al. revisited. *Journal of Parasitology, 83*(4), 575–583.
2. Chandra, K. J. (2006). Fish parasitology and fish health management in aquaculture systems. *Aquaculture Research, 37*(4), 345–352.
3. Dogiel, V. A. (1961). Ecology of the parasites of freshwater fishes. *Parasitology*, 1(1), 1–47.
4. Eiras, J. C., Takemoto, R. M., & Pavanelli, G. C. (2006). *Methods for the study of fish parasites*. Universidade Estadual de Maringá.
5. Khalil, L. F., Jones, A., & Bray, R. A. (1994). *Keys to the cestode parasites of vertebrates*. CAB International.
6. Margolis, L., Esch, G. W., Holmes, J. C., Kuris, A. M., & Schad, G. A. (1982). The use of ecological terms in parasitology. *Journal of Parasitology, 68*(1), 131–133.
7. Roberts, L. S., Janovy, J., & Nadler, S. (2013). *Foundations of parasitology* (9th ed.). McGraw-Hill Education.
8. Schmidt, G. D. (1986). *Handbook of tapeworm identification*. CRC Press.
9. Soulsby, E. J. L. (1982). *Helminths, arthropods and protozoa of domesticated animals* (7th ed.). Baillière Tindall.
10. Yamaguti, S. (1959). *Systema Helminthum: The cestodes of vertebrates* (Vol. 2). Interscience Publishers.