

FISH HELMINTHS IN FISH RESERVOIRS OF FERGANA VALLEY

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ABSTRACT

*The purpose of our research work in this article is to systematically study the species composition of helminths in some fish in the water bodies of the Fergana Valley and to study the process of extensive and intensive damage to fish. During the research conducted in 2018-2019, blackfish (*Schizothorax intermedius*) 42 pieces, silver heeler (*Carassius auratusgibelio*) - 47 pieces, carp (*Cyprinus carpio*) - 68 pieces, white carp (*Ctenopharyngodon idella*)- 39 pieces, the amount of fish was examined by the method of slitting. 9 types of helminths belonging to 2 types, 3 classes, 6 families, 9 families, and 9 genera were recorded in the fish in the water reservoirs of the Fergana Valley. 3 of them belong to the class of cestodes (*Cestoda*), 2 to trematodes (*Trematoda*) and 5 to nematodes (*Nematoda*).*

Keywords: *carp, parasites, helminths, cestodes, nematodes, trematodes, reservoirs, Fergana Valley.*

АННОТАЦИЯ

*Целью нашей исследовательской работы в данной статье является систематическое изучение видового состава гельминтов у некоторых рыб водоемов Ферганской долины и изучение процесса экстенсивного и интенсивного поражения рыб. За время исследований, проведенных в 2018-2019 гг., черного карася (*Schizothorax intermedius*) 42 экз., толстолобика (*Carassius auratusgibelio*) - 47 экз., карпа (*Cyprinus carpio*) - 68 экз., белого амура (*Ctenopharyngodon idella*) - 39 экз., количество рыбы исследовали методом разрезания. В водоемах Ферганской долины у рыб зарегистрировано 9 видов гельминтов, относящихся к 2 видам, 3 классам, 6 семействам, 9 семействам и 9 родам. Из них 3 относятся к классу цестод (*Cestoda*), 2 — к трематодам (*Trematoda*) и 5 — к нематодам (*Nematoda*).*

Ключевые слова: карп, паразиты, гельминты, цестоды, нематоды, трематоды, водоемы, Ферганская долина.

INTRODUCTION

The animal world of Uzbekistan is unique, rich and diverse. One of the main places of the fauna of our republic is fish, and more than 80 species of them (except fishing farms) are recorded in water bodies. Some types of fish (Island panfish, false shovelnose, parrak, chortan-marka, etc.) are unique and can be found only in the water bodies of Central Asia. The composition of the ichthyofauna of Uzbekistan was enriched in the second half of the 20th century due to the majority of these fish species. Some of them (white carp, white amur, pelyad, Sevan trout, etc.) are specially acclimatized species, while others (bullfish, Amur carp, Amur snakehead, etc.) are species that accidentally acclimatized to our water bodies (Mirabullayev i dr., 2019). Some authors showed 26 species of fish belonging to 11 families in different types of water bodies of the Fergana Valley (Abdinazarov, Mirabdullayev, 2015).

LITERATURE ANALYSIS AND METHODS

The first information about fish parasites living in the Syrdarya appeared in the scientific press in the middle of the 20th century (Agapova, 1966). According to the research materials of a number of authors (Osmanov, 1971; Kurbanova, 2002; Karimov, 2007; Safarova, 2017), from 35 to 128 species of fish parasites were recorded in the lower and middle reaches of the Syr Darya. Generalized information is presented in the works of S.O. Osmanov (1971). Based on faunistic materials, 118 types of parasites were recorded in Syrdarya reservoirs, 40 of which belong to simple animals, 52 to monogeneans, 11 to cestodes, 5 to nematodes, 4 to acanthocephala, 1 to leeches, and 5 to shrimps. According to S.B. Karimov (2007), as a result of his research in the water bodies of the Fergana Valley, 115 types of parasites belonging to different systematic groups were recorded in fish, of which 19 types are myxosporidia, 2 types of trypanosomes, 1 type of coccidia, 10 ciliated species, 47 species of monogeneans, 10 species of cestodes, 7 species of trematodes, 8 species of nematodes, 3 species of echinoderms, 2 species of leeches and 6 species of crustaceans are recorded. It should also be noted that the researches of the same author were mainly carried out in the territory of the Fergana Valley belonging to Northern Tajikistan (that is, water basins directly bordering Uzbekistan).

To study parasitic diseases of fish, which are a serious obstacle to the development of the fishing industry, including the level of infection with helminths, to determine the species composition based on modern research methods, and to

develop measures to prevent the proliferation of epizootic species. is one of the urgent requirements of today.

The purpose of our research work in this article is to systematically study the species composition of helminths in some fish in the water bodies of the Fergana Valley and to study the process of extensive and intensive damage to fish.

During the research carried out in 2018-2019, the upper reaches of the Syr Darya, the fisheries of the Dangara and Beshariq districts of the Fergana region, as well as the southern watercourses of the region, namely Isfayramsoy, Sukh, Shokhimardonsoy, Naymansoy rivers, Big Farg Samples of helminthological material were collected from fish scattered in the main channel, South Fergana channel, Big Andijan channel, North Baghdad (Rishtonabad) collector. Including Blackfish (*Schizothorax intermedius*) 42 pieces, Silver heeler (*Carassius auratusgibelio*) - 47 pieces, Carp (*Cyprinus carpio*) - 68 pieces, White carp (*Ctenopharyngodon idella*) - 39 The number of pieces was checked by the method of slitting the fish (Bikhovskaya-Pavlovskaya, 1985). The monographs of "Opredelitel parazitov svetnodnikh rib fauna SSSR" and other authors (Osmanov, 1971; Delyamure i dr., 1985) and others were used to determine the species.

RESULTS

According to the conducted preliminary studies and the information given in the literature, 9 types of helminths belonging to 2 types, 3 classes, 6 orders, 9 families, and 9 genera were recorded in the water bodies of the Fergana Valley. 3 of them belong to the class of cestodes (Cestoda), 2 to trematodes (Trematoda) and 5 to nematodes (Nematoda).

Type of Plathelminthes Schneider, 1873

Cestoda Rudolphi, Class 1808

The genus Caryophyllida van Beneden in Carus, 1863

Family Caryophyllaeidae Leuckart, 1878

KhawiaHsü, generation of 1935

1. *Khawia sinensis Hsü, 1935* was found in the intestine of a white carp at the confluence of Sirdarya and Sariksu collectors, IE -2.3%, II -1-5 copies.

Pseudophyllida Carus, 1863 genus

Family Amphicotylidae Ariola, 1899

Genus Bathybothrium Lühe, 1902

2. *Bathybothrium rectangulum Bloch, 1782* type was found in the intestine of carp (common marinka) in Isfayramsoy and Naymansoy, IE -3.1%, II was 1-11 copies.

Family Ligulidae Claus, 1885

Gen. Ligula Bloch, 1782

3. *Ligulaintestinalis* Linnaeus, 1758 larvae were identified from the body cavity of bighead fish in the "Orinboy" fishery of Beshariq district, IE -23.7%, II -3-38 copies.

Type of Plathelminthes Schneider, 1873

Trematoda Rudolphi, class 1808

Sanguinicoli Odening, 1960 series

Family Sanguinicolidae Graff, 1907

Sanguinicola Plehn, 1905 gen

4. *Sanguinicola inermis* Plehn, 1905, was found in the blood circulation system of the bighead fish in the upper reaches of the Syrdarya River and adjacent water bodies, IE -1.6%, II -1-6 copies.

Family Orientocreadiidae Skrjabin et Kowal, 1960

Genus Orientocreadium Tubangui, 1931

5. *Orientocreadium siluri* Bychowsky et Dubinina, 1954, was detected in the intestine of carp (common marinka) in Isfayramsoy, Sokh, Shokhimardonsoy, Naymansoi, IE -1.1%, II was 1-4 copies.

Type of Nematelminthes Schneider, 1866

Nematoda Rudolphi, Class 1808

The genus *Diectophymida* Skrjabin, 1927

Family *Diectophymidae* Railliet, 1915

Gen. Diectophyme Collet-Meygret, 1802

6. *Diectophymerenale* Goeze, 1782 larvae were detected in the intestines of black fish (common marinka) in Isfayramsoy, Sukh, Shokhimardonsoy rivers in the south of the Fergana valley, IE -1.7%, II -1-11 copies.

The genus *Spirurida* Chitwood, 1933

Family *Rhabdochonidae* Skrjabin, 1946

Rhabdochona Railliet, 1916 q

7. *Rhabdochona denudata* Dujardin, 1845 was detected in the intestine of black fish (common marinka) and sardine fish from Syr Darya tributaries, EI -1.2%, II -1-6 copies. Formed

Ascaridida Skrjabin et Schulz, 1940 series

Family *Anisakidae* Skrjabin et Karokhin, 1945

Gen Raphidasca Railliet et Henry, 1915

8. *Raphidascarisacus Bloch, 1779 larvae were detected in the intestine and abdominal cavity of the fish of "Abdurasulov Davron Fayz", "Orinbek" fishing farms, "Dungpesha" and "Kumhtovonbali", IE -3.1%, II 1 - made up 19 copies.*

Family Echinorhynchidae Cobbold, 1879

Gen. Acanthocephalus Kaelruther, 1771

9. *Acanthocephalus lucii Müller, 1776 was detected in the intestine of a fish caught from the collectors of the Syr Darya, IE - 0.8%, II - 1-8 copies.*

CONCLUSION

The upper reaches of the Syr Darya and adjacent water basins, Isfayramsoy, Sukh, Shokhimardonsoy, Naymansoy rivers of the Fergana region, as well as the Big Fergana Canal, the Southern Fergana Canal, the Big Andijan Canal, the Northern Baghdad (Rishtonabad) collector and fishery 19 types of helminths were recorded from the fish caught in the nets, and they belong to the following systematic groups: the average rate of infestation with cestodes is IE -11.8%, II -1-17 copies, trematodes -IE -1.8%, II -1-5 per copy, nematodes - IE -1.8%, II -1-10 copies and acanthocephala - IE -1.2%, II -1-6 copies were found to be gilded.

In the future, it is important to carry out work on the biology of endemic helminths and molecular taxonomy of polymorphic species, as well as measures to prevent fish helminthosis of epizootic significance in the future.

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