



Properties of trematodes of the BILHARZIELLIDAE family Fatima Sharipovna Nazarova, Istamova Zarina

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Abstract: Different types of trematodes have different periods of development. Parasites swallowed by the definitive host turn into sexually mature parasites. This cycle is characteristic of trematode worms. In another way of development, the cercariae enters the second intermediate body of the host and turns into the next stage - metacercariae. The second intermediate inhabitants are various types of fish and crustaceans. Metacercariae, together with the second intermediate body of the host, enter the body of the main host and reach sexual maturity. Thus, adolescaria and metacercaria enter the body of the definitive host. Cercariae penetrate the skin and mucous membranes, they do not have larval metamorphosis. Thus, the general name of the diseases called Trematodiasis. The main causative agents of trematodosis and the ways of their penetration into the human body are different. In addition, different types of trematodes have different periods of development.

Trematodes (or flukes) are parasitic worms. They inhabit humans and animals. Trematodes in humans affect blood vessels, lungs, digestive tract and liver. In the absence of timely diagnosis and treatment, the disease leads to severe complications, death. Who are trematodes. Trematodes are flatworms. More than 7200 species of these parasites are known, 40 of them can live in the human body.

Keywords: Trematodes, flatworms, bilharziellidae, schistosomatida, birds, mammals, system, protonephridia, cercariae, rediae, metacercariae, marita.

Introduction

The purpose of the research: Modernization of the system of the order Schistosomatida, taking into account their morpho-biological features.

Materials and methods. Samples of adults and larvae of 5 species were collected and studied: Schistosoma Turkestanicum Skrjabin, 1913, Bilharziella polonica (Kowalewsky, 1899), Trichobilharzia ocellata (La Valette, 1854), Dendritobilharzia loosy Skrjabin, 1924 and Gigantobilharzia acotylea Odhner, 1910. The adult stages of trematodes were identified by known methods. Identification of cercariae produced by aquatic molluscs (Lymnaeidae, Planorbidae, Physidae, Melanoididae) was carried out by keys. The current system of trematodes of the order Schistosomatida, parasites of vertebrates and humans, is analyzed. Results and discussion. A new variant of the trematode system of the order Schistosomatida has been proposed. It is based on morphobiological features and life cycles of Schistosomatida. Two families stand out in this order: Schistosomatidae and Bilharziellidae, representing parasites of warm-blooded vertebrates. In the order Sanguinicolida there are two families Sanguinicolidae and Spirorchidae, consisting of parasites of fish and reptiles, respectively. For the order Schistosomatida, a new subclass Schistosomatidea is substantiated. The order Sanguinicolida remains in the subclass Digenea, which consisted of hermaphroditic flukes.

Currently, research on the biological diversity of various systematic and ecological groups of animals, which are important components of aquatic and terrestrial ecosystems, is expanding.

An analysis of the results of our own research and literature data allows us to state that the species diversity of bilharciellid fauna of the world is about 90 species. In the CIS countries, 19 species are registered, and in Uzbekistan - 12 species. They are distributed on almost all continents of the globe and are absent in Antarctica.

Representatives of 11 orders of hydrophilic birds form the main nucleus of definitive hosts of bilharciellid . The largest number of genera (5) was noted in Anseriformes . Representatives of two genera *Macrobilharzia* and *Dendritobilharzia* recorded in pelicans . Copepods and grebes are known to be among the most ancient groups of birds. They are closely associated with water bodies and are well adapted to living in the aquatic environment. Based on the antiquity of copepods and grebes, in comparison with waders and geese, it seems possible to us that the bilharciellids parasitizing them , mainly *Dendritobilharzia* , *Gigantobilharzia* and *Macrobilharzia* , parasitic in the body of copepods and grebes, served as the beginning of the formation of groups of modern genera of the family.

An analysis of the distribution of bilharciellid by hosts shows their specificity only in birds, and hydrophilic ones at that. The variety of forms of bilharciellid is noted in the orders of birds that are progressing and flourishing in the modern era. Apparently, the set of a certain range of hosts is a reflection of the phylogenetic process of the formation of the *Bilharziellidae* family , in which the ecological features of trematodes and hosts played a significant role.

The “parasite-host” system is formed in the relationship of trematodes with the corresponding hosts. The process of formation of this system depends on the type of life cycle and begins from the moment the larvae enter the body of the intermediate and definitive hosts. Consequently, the ontogenetic process begins with the penetration of miracidia into the body of the mollusk, where development occurs with metamorphosis. Settling larvae are formed here - cercariae .

For further development , cercariae , through the skin, are actively introduced into the blood vessels of birds. In the organism of the definitive host, the organs and systems of cercariae undergo morphogenetic changes and reach puberty, and individuals of males and females are formed. They begin sexual reproduction.

Currently, the trematodes under consideration pose a serious threat to hydrophilic birds. cercariae bilharciellid , in the corresponding biocenoses, cause cercariosis in non-specific hosts, including humans.

Results and discussions. An analysis of the studies and literature conducted allows us to state that the species diversity of *Trichobilharzia* world fauna is more than 40 species.

Trematodes of the genus *Trichobilharzia* , parasites of the circulatory system of birds, constantly attract the attention of researchers. In this context, the study of species diversity, range formation centers and biological characteristics of dominant representatives is of extreme interest.

Waterbird trematodes have been recorded in anseriformes . They are also found in other ecological groups. According to zoogeographic characteristics, most of these trematodes are represented in birds of the Palearctic, Nearctic, and Ethiopia. *T. ocellata* , *T. filiformis* , and *T. tatainae* are registered in the biogeocenoses of Uzbekistan

The richest in species composition of *Trichobilharzia* (17 species - 40.4%) is the Palearctic region. The second in terms of the number of species was the Nearctic, where 14 species (33.9%) were found. The owners of *trichobilharzia* in this area are Anseriformes , Pigeons and Passeriformes .

In the tropical zone of the Ethiopian region, 9 species were noted. The owners of these species, along with Anseriformes , turned out to be stork-like , grebe-like and coraciiformes . The fauna of *Trichobilharzia* in tropical Africa is highly endemic .

the *Trichobilharzia* fauna species in these areas allow us to suggest that they were the centers of the formation of the ways of dispersal of these parasites.

Conclusions : The spread of trematodes from one region to another is associated primarily with the seasonal migration of hydrophilic birds. An important role in this process is also played by aquatic mollusks, which are intermediate hosts of trematodes that form natural foci of invasion.

Trichobilharzia belong to the number of pathogenic for domestic, wild and game birds. Larvae of the genus *Trichobilharzia* cause serious skin lesions in humans called cercariasis . Peculiar morphology, biology and ecology of trematodes indicate the need for a deep analysis of both the structure of the genus and its position in the *Bilharziellidae* family system .

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