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SOME BIOLOGICAL FEATURES OF THE STAGE OF PROGRESSION OF CYSTOGONY OF THE CAUSATIVE AGENT OF DICHROCELIOSIS

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Annotation
Organisms must overcome numerous bioecological barriers in order to survive as a species, changing or improving their life forms under the influence of natural factors in various biogenocenoses. The ability of some pathogens of invasive diseases to control the behavior of their hosts for their own benefit in recent years has been proven in scientific studies conducted by scientists around the world using innovative research equipment. Among helminths with this characteristic, the trematode Dicrocoelium lanceatum Stiles et Hassall, 1896 can be distinguisheD.lanceatum
D.lanceatum 's article provides data that the larva of lanceatum trematoda, during the development of cystogany, undergoes a stage of development in its second (additional) intermediate host-an ant.

Keywords: Dicrocoelium lanceatum Stiles et Hassall, 1896.,Trematoda Rudolphi, 1808., Trematoda Rudolphi, 1808., Fasciola lanceolata (Rudolphi, 1803)., Formica clara., Formica cunicularia., Formica subpilosa., Xeropicta (Helicella) Candacharica, Xeroptica Ksyniskii, Trichia Retteri., Jaminia pataniniana., 3D three-dimensional image., clones.

Introduction:

animal husbandry in Uzbekistan is one of the leading branches of agriculture, which is of particular importance in providing the population with basic foodstuffs, which accounts for about half of the gross agricultural production.

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The cultivation of the main and by-products of animal husbandry is an important socio-economic indicator of the growth of production, the development of society, participates in solving a number of tasks. They are part of the group of basic food products and are an important source of real income for the rural population, and with the successful development of the industry, prices for products of the direction within the republic decrease, stabilize, and the volume of exported goods increases.

All published decrees and resolutions related to the industry are aimed at increasing the income of animal husbandry in the republic, regardless of the category of farms and ensuring that the domestic market is filled with a sufficient amount of high-quality products.

In the conditions of a market economy, the number of markets selling various animals has increased locally. Animals, mainly cattle and sheep, which could be bought at such markets, became scattered in different districts and even provinces. Under the influence of similar anthropogenic factors and other locally existing biotic and abiotic factors, an outbreak of helminthiasis of helminths is now occurring in a particular area among farm animals, including sheep. Due to the strong epizootic process caused by them, the death or forced slaughter of sheep is sometimes allowed in private subsidiary farms, farms and farms. All these factors, especially in irrigated areas, are somewhat constraining the development of sheep farming. Thanks to this, it becomes possible to widely spread helminthiasis in sheep farms.

Based on the above, it is relevant and important to develop modern, highly effective, inexpensive and convenient methods of helminthiasis prevention in sheep farms and put them into practice. To solve these problems, science faces big challenges, not just practice.

Relevance of the Topic:

D.lanceatum lanceatum the development of the lancet occurs as follows: the embryonic development of the parasite occurs in endogenous conditions. For this reason, eggs with miracidia enter the external environment with animal feces, while D.lanceatum lanceatum the first intermediate host of the lancet - terrestrial mollusks- enters its body during the period of eating animal feces. In the body of a mollusk, the miracidium turns into a maternal sporocyst, and

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daughter sporocysts arise from its embryonic cells parthenogenetically. Caudate cercariae are formed from the cells of daughter sporocysts. Into the lungs of a mollusk they collect 100-200 specimens, forming mucous globular nodules. Such nodes are removed through the respiratory tract of the mollusk outside during its activity. Such nodules with cercariae are eaten by ants. The larvae of dicrocelia that have entered the ant's body pierce its gills and, having lost the tail part, enter the abdominal cavity, where they develop into metacercaria.

Animals get sick with dichroceliosis by swallowing ants infected with metacercariae, along with grass. Dicrocelium larvae that have entered the body of determinant hosts enter from the intestine directly into the bile ducts of the liver.

D.lanceatum the trematode is a developing trematode with three hosts, which has an extremely complex nature of development. Field and laboratory studies to determine the biological characteristics of this species were carried out mainly on mollusks that act as natural intermediate hosts, as well as on additional intermediate host ants. But the mechanisms that lanceatum uses to control the behavior of ants have not yet been fully studied and remain unknown.

In the second intermediate host of the pathogen, developmental biology is interpreted differently in some literatures. This, first of all, misleads students, undergraduates of higher educational institutions, all researchers, researchers, veterinary practitioners regarding the biology, ecology of the causative agent of dicroceliosis, epizootological features of this severe course of trematodosis.

In particular, on pastures where cattle are bred, and on fields created as a result of agrotechnical measures caused by a therapeutic and anthropogenic factor intended for the cultivation of coarse feed for the needs of animal husbandry, the results of myrmecological surveys conducted for the prevention of diseases cause underestimation, a decrease in the quality and reliability of work, contribute to a further outbreak of invasion among predisposed to the disease of animals.

The purpose of the study: in dichroceliogenic furnaces of D.lanceatum trematoda, a deeper study of the nature and behavior of ants belonging to the affected genus Formica, which act as second (additional) intermediate hosts undergoing a period of cystogeny, an assessment of the pathological effects of

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cercariae and metacercariae on this organism, a scientific study of the mechanism of the factor negatively affecting the quality and reliability of myrmecological studies, many aspects of the ants' lifestyle.focused on lighting.

Research objectives: - the correct organization of myrmecological research in identifying biotopes of the causative agent of dicroceliosis;
-identification of the causes of unusual changes in the nature and behavior of ants of the genus Formica infected with the pathogen;
- assessment of the migration of cercariae in the ant's body during the progression of the pathogen's cystogony, as well as the pathological effect of metacercariae on this organism;

Materials and methods of research: our research is presented in the Nukus branch of the Samarkand State University of Veterinary Medicine, Animal Husbandry and Biotechnology in the "Department of Veterinary Medicine and Nutrition" with a brochure of the world's leading helminthologists in online popular scientific publications, as well as reports by scientists of Uzbekistan.the data collected on the basis of the analysis of scientific sources concerning the lanceolate fluke were analyzed biologically, based on the principles of the theory of evolution.

Analysis of the results obtaineD.lanceatum Dicroceliosis is a chronically ongoing invasive disease of more than 70 species of domestic and wild mammals, including all farm animals, caused by the trematode Dicrocoelium lanceatum Stiles et Hassall (1896), parasitizing the bile ducts of the liver and the gallbladder. This parasite is also found in humans and monkeys.
The causative agent of dicroceliosis was first described in 1803 by the founder of the morphology and systematics of helminths, the German naturalist and zoologist K.A.Rudolfi it was identified (1771-1832) and named Fasciola lanceolata (Rudolphi, 1803) with lanceolate suckers. However, the name of this fluke was later changed by Stiles and Hassal in 1896 and renamed Dicrocoelium lanceatum Stiles et Hassal, 1896. Until now, this parasite has such a name. Only in foreign literature this fluke is called dicrocoelium dendriticum.

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Dicroceliosis is common in all regions except the western northern part of Uzbekistan – the Republic of Karakalpakstan and the Khorezm region. Its pathogen has been found to parasitize small and large horned animals, camels, horses, donkeys and herbivorous wild mammals.

The number of products obtained from animals suffering from dichroceliosis decreases somewhat, young animals, especially sheep, lag behind in growth, their resistance to other diseases decreases, with high intensity of invasion, sheep-lambs, goats die.

Many scientists of the European, American, and Asian continents have been developing this fluke for many years. All of them, D.lanceatum was considered as a fluke with two hosts and, accordingly, was considered its intermediate host-terrestrial pulmonate mollusks. But American scientists W.H.Krull and K.P. Mapes' work (1952-1958) showed that in the foci of dichroceliosis, wild mammals infected with dichrocelium eat various invertebrates living in the reserve, and, as a result, animals eaten by ants, D.lanceatum they found that he was infected with lanceolate.

On the basis of the same experiments, D.lanceatum found a second (additional) intermediate host of the lanceolate. Later they became D.lanceatum they found that the ant Formica fuisca, belonging to the genus Formica, is involved in the development of lanceatum. After that, most scientists believe that in the country where they live, D.lanceatum Lancet began to study its first and second intermediate hosts among terrestrial mollusks and ants involved in the development of lanceatum.

For the first time in Uzbekistan, B.Salimov began to study the biology of the lancet, the first and second (additional) hosts involved in its development since 1960. As a result, Xeropicta (Helicella) Candacharica, Xeroptica Ksyniskii, Trichia Retteri., Terrestrial mollusks jaminia pataniniana D.lanceatum having detected infection with lanceatum larvae in the biotopes where these mollusks live, it was found that Formica Clara belongs to the genus Formica., Formica cunicularia. Formica subpilosa ants were infected with metacercariae of this parasite. Having studied only the abdomen of ants that had passed the cystogony cycle in parasitic mollusks, the timing of their infection in this environment, he found 1-2 tailless cerci in the heads of some ants that had not passed the cystogony perio D.lanceatum , made on ants, lanceatum introduced innovations

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in the development of the parasite, artificially infecting metacercariae of various types of farm animals and some rodents.

Also B.S. Salimov's students S.Erimov, M.Taylogova, A. Bazarbayeva in 2015, during research in the conditions of the Samarkand region, D.lanceatum the first intermediate host of the lancet X.candacharica isolated from the body of ants belonging to the genus Formica with a reddish tinge infected with sercariae that were immobile attached to the body of green grass, he examined 52 specimens under a microscope in laboratory conditions, separating the head part from the body one by one and preparing the crushed preparation separately from the parts of the ant's body. As a result, they found that only 12 copies of the ant's head contained a helpless cercarium, which could not turn from 1 copy into a tailless cyst. And 52 copies of ants, when they examine the abdominal cavity in this way, all of them have from 12 to 102 copies of D.lanceatum metacercariae of the lancet have been foun.

Figure 1. An ant of the genus Formica in a numb state and invasive metacercariae in its abdominal cavity.

With this, the authors concluded that ants D.lanceatum they argued that in order to determine whether they were affected by lanceatum metacercariae, an autopsy of the abdominal cavity, not the head, was require D.lanceatum Since the fluid necessary for the period of cystogony of parasitic cercariae is present in the abdominal cavity of ants, it has been suggested that, accordingly, when cercariae enter the ant's body, they pierce its digestive system into the abdominal cavity,

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leaving their tail and forming a cyst, while cercariae that have turned into metacercariae stop moving and they remain in the abdominal cavity forever, so there are no metacercariae in the ant's hea D.lanceatum.

Also Daniel Martin-Vega, Amin Garbut, Fara Ahmed, Martina Wicklane, Cameron P. Trump, Douglas Colwell, Martin J. R. Hall's case in 2018, D.lanceatum lancet was struck by metacercariae of Formica asera ants by scanning a three-dimensional image in micro 3D volumetric a result, gasteri has metacercariae in the ganglia under the esophagus of the ant's head, it has been suggested that there are metacercariae that cannot form 3-6 copies of cysts.

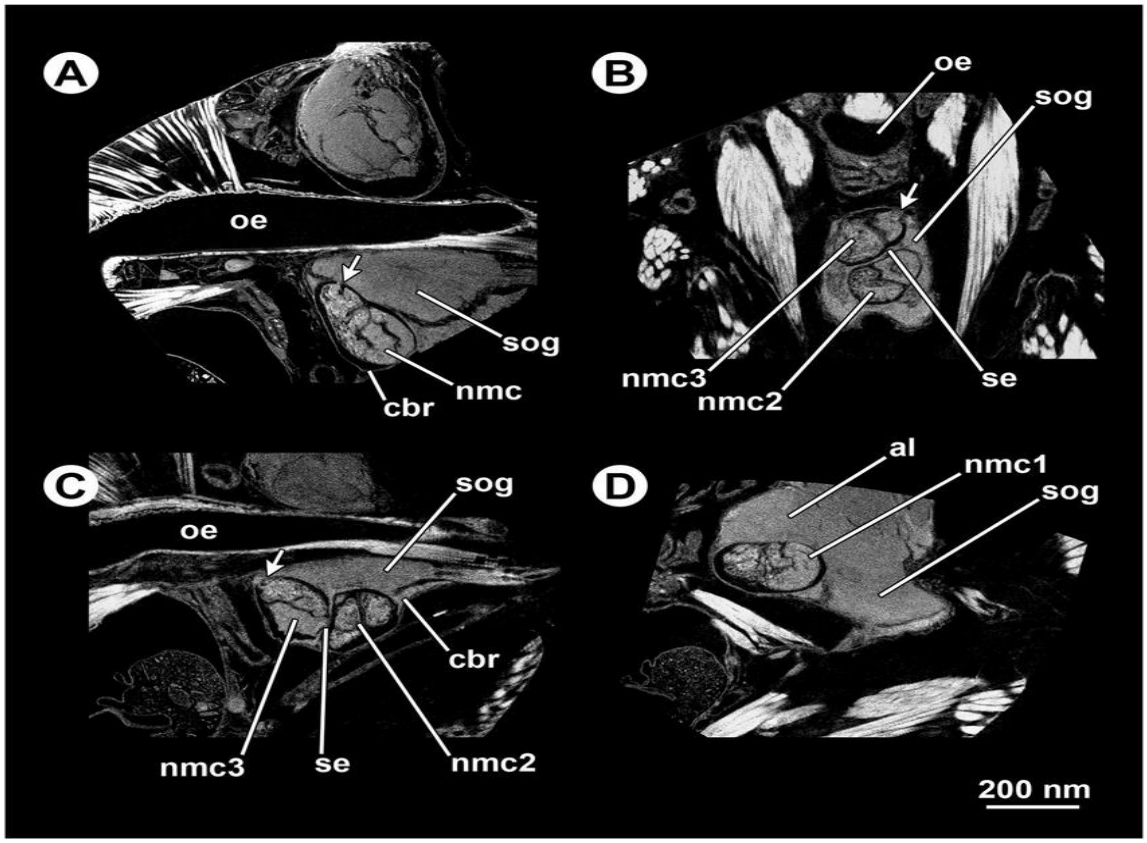

Figure 2. Ants Formica asera micro 3D volumetric image scanner (according to the authors above)

The authors believe that they explained that "When an ant is infected with cercariae, they pierce the sagittal part of the gasteri and move into the abdominal cavity, where they become metacercariae, only a certain amount gets into the underlying ganglia of the esophagus, where it acts as an antenna (message receiver and controller), biting the ganglia".

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Conclusion:

D.lanceatum pollen grains of lanceolate are formed in the body of a mollusk as a result of the development of parthenogony. This is how sercariae are released outward in the form of a spherical node with clonoid parthenoids inside a certain ball. This set of clone bodies dissolves in the digestive tract of ants of the genus Formica and moves into the abdominal cavity when they suddenly intensively fall on ants of the genus Formica. At the same time, cercariae that have a certain genetic marking in the structure of these clones are sent to the underlying ganglia of the esophagus and shed their tail, but cannot form cysts, because there will not be enough environment in this place for the formation of metacercariae, where, biting the ganglia, the antenna acts as a “Message receiver and controller”.

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