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Viability of eggs of widespread bird cestodes in the mountainous landscapes of Uzbekistan

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Abstract; The life cycles of these species take place with the participation of intermediate hosts, the role of which is performed by various invertebrates (woodlice, mollusks, doge worms, etc.).). The number of these invertebrates in different biotopes fluctuated greatly depending on environmental factors. Significant fluctuations were observed in the daily rhythms of their activity. In this regard, it is of no small importance for the completion of the life cycles of the noted helminths withthe storage of theviability of their eggsinbiocenoses.

Keywords; Choanotaenia constricta, Ehinolepis carioca, Hymenolepis fraterna

Many species of cestodesthat parasitize birds are distinguished by a wide distribution area and significant extensiveness and intensityofthe noseof invasion among the finalhosts. Such helmintsin our region are the cestodes Choanotaenia constricta, Ch. infundibulum, Ehinolepis carioca, Skrjabinia cesticillus, Hymenolepis fraternal and some others. In Uzbekistan, a number of works have been carried out to study the life cycles of biohelminths (Azimov, 1976, Kataytseva, 1968, Kabilov, 1971, 1971, 1984, Siddikov, 1984, Tangirov, 1992). However, we are the viability features of the yaic were studied in these three types due to the lack of data on these taxa on the issue raised.

The life cycles of these species take place with the participation of intermediate hosts, the role of which is performed by variousinvertebrates (woodlice, mollusks, doge worms, etc.).). The number of these invertebrates in different biotopes fluctuated greatly depending on environmental factors. Significant fluctuations were observed in the daily rhythms of their activity. In this regard, it is of no small importance for the completion of the life cycles of the noted helminths withthe storage of theviability of their eggsinbiocenoses.

Taking into account the foregoing, we conducted an experimental study of the preservation of theviability of the eggs of three species of cestodes (Choanotaenia constricta, Ehinolepis carioca, Hymenolepis fraterna) in the natural environment of the mountain landscapes of the Baysundistrict of Surkandaryn onlasta (Table. 1).

Table 1
Viabilityof cestode eggs in mountain landscapes

Types of cestodes												
Date of observations	Choanotaenia constricta				Fraternal hymenolepis				Ehinolepis carioca			
	Biotopes											
	Open area			In the Shadows	Open area		In the Shadows		Open area		In the Shadows	
	Quantity ofyai c (copies)											
10.06.90	800	700	1000	700	-	-	-	-	-	-	-	-
11.06.90	348	286	814	487	-	-	-	-	-	-	-	-
12.06.90	19	23	459	189	-	-	-	-	-	-	-	-
13.06.90	-	-	123	324	900	600	800	700	-	-	-	-
14.06.90	-	-	56	-	256	87	504	346	-	-	-	-
15.06.90	-	-	-	-	-	-	178	168	-	-	-	-
16.06.90	-	-	-	-	-	-	14	-	800	900	886	800

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17.06.90	-	-	-	-	-	-	-	-	138	114	488	258
18.06.90	-	-	-	-	-	-	-	-	26	-	137	34
19.06.90	-	-	-	-	-	-	-	-	-	-	14	-
20.06.90	-	-	-	-	-	-	-	-	-	-	-	-

In experiments, we usedinvasive parasite eggs (mature segments of cestodes) obtained by us from birds infected in nature with these helminths (fieldsparrow, common starling, domestic chicken). The viabilityof the eggwasestablished by the presence or absence of signs of development in the eggs of the embryo, the state of changes in the color of the membranes, germinal balls, morphological indicators, etc. They also carried out a bio-test for infection with eggs of sterile woodlice and reproduced their infection.

Observations were carried out in two biotopes: an open area with small grass and in the shade under bushes and trees. Experienced participants weredivided into studiesmeasuring0.75-1.5 m and protected from any mechanical influencesfromtwiy.

The general method of conducting experiments was as follows: acertain amount ofyaic (segments) was mixed with a portion of bird feces and soil from the environment in a layer of 1-1.5 cm and placed in petri dishes, which were placed in the topsoil.

For each type of cestode, 8 samples were used (4 bookmarks in the biotopo of the open area and 4 in the shade). Cestode eggs were subjected to daily (3 times a day) examination for their viability. The air temperature on the soil surface, soil moisture and other environmental indicators were taken into account 3 times a day - at 6 hours, 14-15 and 24. During the observation period in the open area, the temperature on the soil surface was from 18 to 39.9,℃ humidity was 28.7 - 38.1%. Experimental sites under these conditions were subjected to increased solar radiation, frequent winds and other natural factors. In the shade, the temperature on the soil surface was 16.3 - 34.1%,℃soil moisture 36.7 - 41.3%.

As a result of experimental observations, it was established (Table 1)that ofthe 800-700 copies laid down on June 10 in the open biotope. , eggs Ch. constricta viability on June 11 retained respectively 348-286 copies. eggs, and in the shade of 1000-700 copies. , the eggs of this helminth in a day retained the viability of 814-487 copies. On the third day of observations of viable eggs, 19-23 copies remained. , and on the 4th day all the eggs died. In the shade, they retained viability for 4-5 days. In other species of cestodes, the viability of eggs was shorter in the open biotope (2-3 days) compared to the shadow one (3-4 days). In general, the survival time of the eggs of three species of cestodes in mountain biocenoses in the summer ranged from 1 to 5 days. In connection with which the mainreason for theaaration of intermediate hosts (blackthel beetles, etc.).) occurs within 1-2 days (open biotope) and 3-4 days (in the shade).

As the results of the research of this study show, numerous invertebrates play an important role in the circulation of helminths in various landscapes. We analyzed the contacts of invertebrates with birds of certain biotopes (Table 2) andestablished the prevailing importance of 27 species ofinvertebrates (23 species of insects, 2-woodlice, 2-earthworms), among which 23 species of different authors are noted as intermediate hosts of 18 species of helminths. birds (Indian and common starling, black crow, blackbird, field sparrow, magpie, stud, sizosvoronka, domestic kuric, domestic duck, etc.),

Table 2
Contact of invertebrates with birds of different biotopes

Species of invertebrates	**Water bodies**	**Open area with low-cover cover**	**Handicrafts and tallbies**	**Forest masses iny**	**Poultry we**
1	2	3	4	5	6
Sam. Woodlice					
Porcellio scaber	+	+ + +			+ + +
Porcellio wash	+ +	+ + +			+ + +
Class Less bristles					
Sam. Earthworms					

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Allolobophora calliginosa				+ +	+ + +
Eisenia rosea					+ + +
Class Insects					
Otr. Cockroaches					
Polyphaga saussura	+	+ + +			+ +

Continuation of tables2

1	2	3	4	5	6
Sam.Saranchow					
Calliptamus barbarus		+ + +			
Calliptamus italicus		+			
Sam Sverchkovy					
Gryllus bimaculatus	+ +			+	+
Sam.Zhelya					
Acinopus laevigatus	+ +			+	
Zabrus morio	+ +			+	
Zarus tenebrioides	+ +			+	
Sam. Chernotelki					
Blaps halophile gibba					+
Cyhogenia gibba					-
Dila laevicollis		+ +			+
Gonocephalum pubiferum					-
Gonocephalum rusticum					+
Gonocephalum setulosum					+ +
Lasistola hirta	+				
Lasisostola latticollis	+ +				
Tenebrio molitor	+				+
Zophosis punctata	+ +				-
Phachiscellis laevicollis	+	+			
Pimella cephalotes	+ +	+			
Prosodes biformis		+ +			
Prosodes pygmaea	+				
Prosodes punctata		+ +			

Note: + + - occurs in mass form, + + - the usual form, + - is rare (Tab 2).

I am theultimate hosts of these parasitic worms. Some invertebrates (Polyphaga saussura, Acinopus laevigatus, Zabtus morio, Blaps halophiia, Gonocephalus pubiferun, Tenebrio molitor) are also often in contact with birds. but helminths are not involved in biology and should be considered as potential intermediate hosts of parasitic worms. These data are of considerable interest to theoretical and applied zoology.

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