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ГЕЛЬМИНТЫ ПСОВЫХ ВОСТОЧНОЙ ФЕРГАНЫ

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Аннотация

Целью работы являлось изучение гельминтофауны домашних и диких представителей семейства Canidae, особенностей их распространения и показателей заражённости в условиях Ферганской долины. Методами полного и неполного гельминтологического вскрытия было обследовано 165 животных семейства Canidae: *Canis aureus* – 34, *Canis lupus* – 17, *Vulpes vulpes* – 53, *Canis lupus familiaris* – 61. Исследования проводили в 2022-2025 гг. на кафедре зоологии и биохимии Андижанского государственного университета. В условиях Восточной Ферганы у представителей семейства Canidae зарегистрировано 38 видов гельминтов, относящихся к 32 родам, 22 семействам, 13 отрядам, 4 классам и 3 типам. Класс Cestoda включает 12 видов (31,5%), класс Trematoda – 3 вида (7,9%), класс Nematoda – 22 вида (57,9%), класс Acanthocephala – 1 вид (2,6%). В результате исследований установлено паразитирование гельминтов: у волков – 8 видов, у шакалов – 24 вида, у лисиц – 34 вида и у собак – 21 вид. Согласно данным о жизненном цикле видов гельминтов, зарегистрированных у животных семейства псовых, 30 видов относятся к биогельминтам, а 8 видов – к геогельминтам.

Ключевые слова: гельминты, гельминтозы, псовые, инвазия, Узбекистан

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HELMINTHS OF CANIDS IN EASTERN FERGANA

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Abstract

The research purpose was to investigate the helminth fauna of domestic and wild canids, the characteristics of their distribution, and infection rates under the conditions of the Fergana Valley. Complete and partial helminthological dissection methods were used to examine 165 animals of the family Canidae: *Canis aureus* – 34, *Canis lupus* – 17, *Vulpes vulpes* – 53, and *Canis lupus familiaris* – 61. The investigations were conducted at the Department of Zoology and Biochemistry of the Andijan State University during 2022–2025. Under the conditions of Eastern Fergana, 38 species of helminths were recorded in representatives of the family Canidae that belong to 32 genera, 22 families, 13 orders, 4 classes, and 3 phyla. The class Cestoda includes 12 species (31.5%), Trematoda, 3 species (7.9%), Nematoda, 22 species (57.9%), and Acanthocephala, 1 species (2.6%). As a result of the study, the following numbers of helminth species were identified: 8 species in wolves, 24 in jackals, 34 in foxes, and 21 in dogs. According to data on the life cycles of helminth species recorded in canids, 30 species are classified as biohelminths, while 8 species belong to geohelminths.

Keywords: helminths, helminthiasis, Canids, invasion, Uzbekistan

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Introduction. Predators of the order Carnivora have broad trophic and chorological relationships and occupy the top levels of food pyramids. As a result, they have developed a rich and diverse helminth fauna [2]. The species composition of helminths and the epizootiology of helminthiases in domestic and wild canids under the conditions of the Fergana Valley remain insufficiently studied, and the available data are fragmentary, addressing only specific aspects of the helminth fauna of dogs, foxes, and jackals [3, 5]. At the same time, domestic and wild canids are a source of infection for socially significant, natural focal helminthiases, including echinococcosis, toxocariasis, dirofilariasis, as well as a number of infectious diseases [1].

The aim of this study is to investigate the helminth fauna of domestic and wild canids, the characteristics of their distribution, and the levels of infection under the conditions of the Fergana Valley.

Materials and methods. A total of 165 specimens of canid carnivores were examined using the complete and incomplete helminthological dissection methods described by K. I. Skryabin [4]. The examined material included *Canis aureus* – 34 specimens, *Canis lupus* – 17, *Vulpes vulpes* – 53, and *Canis lupus familiaris* – 61. The quantitative indicators of helminth infection and distribution in hosts were assessed using the following indices: prevalence of infection (PI) and intensity of infection (II).

Results. In various regions of Eastern Fergana, 38 helminth species were recorded in canids, belonging to 3 phyla, 4 classes, 13 orders, 22 families, and 32 genera. Among them, 12 species were cestodes, 3 species were trematodes, 22 species were nematodes, and 1 species was an acanthocephalan.

Accordingly, the class Cestoda comprises 12 species, accounting for 31.5% of the total species; Trematoda comprises 3 species, representing 7.9% of the total; Nematoda includes 22 species, or 57.9%; and Acanthocephala includes 1 species, representing 2.6% of the total.

As a result of the helminthological studies, parasitism was observed as follows: 8 species in wolves, 24 species in jackals, 34 species in foxes, and 21 species in dogs.

Among the helminths recorded in canids, 30 species are biohelminths and 8 species are geohelminths, based on their life cycles.

During the study, no cases of mono-invasion were observed in canids. All animals exhibited associative invasions, with multiple helminth species co-occurring simultaneously. Each host harbored 2 to 5 parasite species belonging to different systematic groups.

In jackals, 11 species of cestodes, 2 species of trematodes, 10 species of nematodes, and 1 species of acanthocephalans were recorded. The prevalence of infection ranged from 2.9 to 17.6%, with an intensity of infection ranging from 2 to 26 specimens.

As a result of the conducted study, 8 helminth species were recorded in wolves under the conditions of Eastern Fergana. The prevalence of infection was 5.9%, with an average intensity ranging from 5 to 17 specimens. Among the recorded helminths, 3 species belonged to the class Cestoda, 4 species to the class Nematoda, and 1 species to the class Acanthocephala; 7 of these species parasitized the digestive tract, while 1 species was found in the heart.

As a result of helminthological studies, 34 helminth species were recorded in foxes in the Eastern Fergana Region. The prevalence of helminth infection in foxes ranged from a minimum of 1.9% to a maximum of 24.5%, with an average intensity of infection ranging from 3 to 38 specimens. Among foxes, 9 species of cestodes were identified, with a prevalence ranging from 1.9 to 11.3%.

In the studied foxes, 3 trematode species were recorded, all of which were found in foxes. The prevalence of trematode infection ranged from 5.6 to 11.3%, with the highest infestation observed for *Alaria alata* (11.3%). Among foxes, 21 nematode species were identified, including 10 geohelminths and 11 biohelminths. Infection with acanthocephalans was also relatively high, reaching 18.8%.

Dogs were infected with 21 helminth species, including 6 species of cestodes, 1 species of trematodes, and 14 species of nematodes. Among the nematodes, 8 species were classified as geohelminths and 6 species as biohelminths.

Among trematodes, *Alaria alata* was recorded in dogs, with a prevalence of 9.8% and an average intensity of 11±1.2 specimens.

Conclusion. In the conditions of Eastern Fergana, 38 helminth species were recorded in canids, belonging to 3 phyla, 4 classes, 13 orders, 22 families, and 32 genera. The class Cestoda comprises 12 species (31.5%), Trematoda – 3 species (7.9%), Nematoda – 22 species (57.9%), and Acanthocephala – 1 species (2.6%).

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