

ISSN: 2545-0573

REVIEW OF LITERATURE ON GELMINTOFAUNA OF RODENTA IN THE TERRITORY OF THE REPUBLIC OF UZBEKISTAN

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ARTICLE INFO.

Keywords:

species, desert, hill, fauna, landscape, infection, rodent

Annotation

This article provides information on the review of the literature on rodent helminth fauna of the Republic of Uzbekistan.

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In the world fauna, rodents are one of the largest groups of mammals and can be found in almost all landscapes. Many species of these animals cause significant damage to the agro-industrial complex, including various plantations of cereals and legumes and crops yielding valuable horticultural crops.

Some species of rodents are the primary, intermediate, and secondary hosts of helminths that cause helminthiasis in domestic, wild animals, and humans.

Rodents play an important role in the formation and natural preservation of natural foci of infectious and parasitic diseases. These include infectious and invasive diseases that occur in humans and animals.

About 40 species of Uzbek rodents have been registered [1; 174-p.]. In the biogeocenoses of Northeastern Uzbekistan, 26 species of rodents have been recorded [12; 70-p., 14; 64-p.]. However, the species composition of rodent helminths in the study area has not been adequately studied.

The founder of the science of helminthology, academician K.I. Skryabin research was conducted [15; 78-91-p.]. Subsequent research into the helminth fauna of small mammals (rodents, amphibians, and insects) has been continued by a number of authors [2; P. 25-28., 10; P. 45-46., 16; P. 243-244., 17; P. 25-30., 20; P. 77-80.].

The results of this study provide fragmentary data describing the helminth fauna of animals in different regions of Uzbekistan.

In the southern Kyzylkum region, M.A. Sultanov studied the endoparasites of slender-fingered hummingbirds, large and nocturnal sandpipers, eared hedgehogs [16; P. 243-244.]. 3 species of helminths in the caterpillars *Dermatopollarya bailis*, *Physaloptera leiperi*, *Cysticercus* sp. identified species.

In 1953, E.I. Schleicher and A.B. Samsonovas conducted helminthological research on 455 large ants, which resulted in the discovery of 6 species of parasitic worms: *Dentostomella translucida*, *Acpiculuria aeiatica*, *Trichocephalus rhombomidis*, *Physaloptera massino*, *Catenotaenia rhombomidis* va *Hydatigera krepkogorski* [19; P. 770-774.]. The authors found that 167 gray mice were infected when a

total of 477 gray mice and 272 gray rats were examined in Tashkent by complete helminthological dissection. There are 7 main types of helminths found in infected gray mice: *Cysticercus fasciolaris*, *Catenotaenia pusilis*, *Hymenolepis diminuta*, *Rodentolepis straminea*, *Mastophoris muris*, *Trichocephalus muris*, *Congylyonema problematicum* [19; P. 770-774.]. Gray rats are home to six species of helminths: *Cysticercus fasciolaris*, *Hymenolepis diminuta*, *Rodentolepis straminea*, *Catenotacnia pusilis*, *Trichosomoides crassicauda* va *Protospirura muria*.

M.A. Buliginskaya, V.L. Vladimirov and G.S. Markov conducted helminthological examinations in 1269 ants (large, slender and red-tailed ants) in Kashkadarya region and identified 5 species of helminths: *Catenotaenia rhombomidis*, *Hydatigera krepkogorski*, *Trichocephalus rhombomidis*, *Physaloptera massino* va *Dipetalonema viteae* [4; P. 62-72., 5; P. 54-58.].

L.S. Shaldibin identified 4 species of helminths in 19-eared hedgehogs in a study of 21-eared hedgehogs on the island of “Borsa Kelmes” in Karakalpakstan. The author describes 3 of these species as new species and 1 as a new generation: *Mathavotaenia skrjabini*, *Sobolevispirura arali*, *Physaloptera anadonta* species and *Sobolevispirura* generation [18; P. 39-127.].

M.A. Sultanov, P. Muminov and M.M. Adosheva 7 species of helminths were observed in 176 large sandpipers and 8 Severtsev twins in Mirzachul area: *Catenotaenia rhombomides*, *C. pusills*, *Hydatigera krepkogoraki*, *Aspiculuris asiatica*, *Syphacia obvelata*, *Trichocephalus rhombomidis* va *Dermatopollarya baylisi* [17; P. 25-30.].



Rodents infested with helminths

M.M. Adosheva as a result of helminthological examination of 126 rodents of 9 species in the Parkent Nature Reserve, 10 species of parasitic worms were identified [2; P. 25-28]. In forest mice, *Catenotaenia cricetorum*, *Hymenolepis diminuta*, *Mesocestoides lineatus-larvae*, *Taenia sp. larvae*, *Citelinea alata*, *Ascaris brevispiculus*, *Physaloptera sp.*, *Gongylyonema sp.*, *Syphacia obvelata*, *Trichocephalus muris* species have been recorded.

There are 4 species in the blue: *Citelinea alatau*, *Streptopharagus sp.*, *Trichocephalus muris* and *Moniliformis moniliformis*, 5 species in the relict caterpillar - *Catenotaenia cricetorus*, *Mesocestoides lineatus-larvae*, *Capillaria armeniana*, *Streptophagan sp.*, *Nematodirus mugosericus*.

I.I. Kairov in addition to studying Karakalpak fur animals, studied 239 specimens of muskrats found in muskrats [10; P. 45-46., 11; P. 43-44]. As a result of helminthological research, the author identified 3 types of parasitic worms: *Quingveserialis quingveserialis*, *Plagiorshus eutamitis* and *Alveococcus multilocularis*.

D.A. Azimov, G.I. Ibragimov and T.V. Kataytseva's study of 5 yellow beetles revealed that *Dicrocoelum dendriticum* trematode, a member of the trematode class, was parasitic on 2 beetles. According to them, the yellow squirrel is the new definitive host for this trematode [3; P. 15-17.].

N. Davlatov in 1967, 1969-1971 in the study of endohelminths of 1458 mammals belonging to the family of rodents, amphibians and insects of the Republic of Karakalpakstan and the Fergana Valley. [7; P. 45-52., 8; P. 55-58., 9; P. 17-18., 22; 23-p.].

In the Republic of Karakalpakstan, 21 species of parasitic worms have been identified in captive and wild rodents. Two of these species (*Hydatigera taeniaeformis*, *Syphacia abvelata*) can infect humans and 5 species (*Hydatigera krepkogorski*, *Taenia macrocystis*, *Dermatoxys veligera*, *Micipsella numidica*, *Trichocephalus nutria*) can infect fur animals [9; P. 17-18.].

A helminthological study of 536 rodents of 17 species in the Fergana Valley revealed that 145 individuals were infested with parasitic worms (27.05%).

A total of 32 species of helminths were detected in the Fergana Valley. Of these, 2 species were recorded in trematodes, 11 species in cestodes, 1 species in acanthocephalus and 18 species in nematodes [108; 23-p.].

According to the author, red-tailed ants (10 species) and large ants (9 species) have been shown to be infested with helminths and have the highest rate of species diversity. The second place was taken by house mice and relict lizards (6 species), Turkestan rats (5 species) and long-tailed lizards (5 species). Of the common cestode species for rodents, *T. taeniacollis*, *Taenia sp.*, *H. taeniaeformis*, *H. krepkogorski*, *T. palyocantida* and *M. lineatus* can be found in rodents only during the larval period, but in adulthood they are found in wild domestic and wild carnivores [22; 23-p.].

E.K. Kohanov has conducted extensive research on wild mammalian helminths in Uzbekistan [23; 37-p.]. As a result of helminthological studies of 516 animals belonging to 21 species of rodents, parasitic worms were detected in 166 individuals, their invasiveness was 32.1%. 34 species of helminths have been reported in infected rodents. Of these, trematodes - 3 species, cestodes - 11, acanthocephalus - 1 and nematodes - 19 species. Commonly observed helminths in all species of rodents: *D. dendriticum*, *F. hepatica*, *H. diminuta*, *M. moniliformis* and *S. Obvelata* can parasitize mainly in other species of humans and animals [23; 37-p.].

In 1984, N.M. Matchanov et al examined 260 specimens of 11 species of rodents in some areas of Jizzakh and Syrdarya regions [13; P. 37-57.]. Among the studied rodents, 11 species of helminths belonging to the classes *Cestoda*, *Acanthocephala* and *Nematoda* were identified. The total infestation of rodents with helminths was 15%. There are two species of cestodes - *Catenotaenia rhombomydis*, *Hydatigera krepkogorski*, one species of acanthocephalus - *Moniliformis moniliformis* and nematodes *Trichocephalus rhombomydes*, *Trichocephalus muris*, *Mastephorus muris*, *Streptopharousica kutassi*, *Dipetolonema viteae*, *Aspicularis schulzi*, *Syphacia obvelata*, *Subulura turkmenica*.

In recent years, the study of rodent helminth fauna in urban areas has been revived. In this regard, the characteristics of synanthropic rodents of Tashkent city house mice and gray rat helminth fauna were identified [6; P. 52-58]. In rodents *Mus musculus* and *Rattus norvegicus*, 16 species of cestodes and nematodes were recorded. The invasiveness was 33.1%. 63.3% of rodents were infected with cestodes

and 36.7% with nematodes. The invasive intensity was reported to be 4.6 specimens. Dominant species are *Taenia pisiformes*, *Catenotaenia pusilla*, subdominant *Syphacia obvelata* and *Hydatigera taeniaformis*. The following 7 species of helminths identified in urban rodent populations are parasitic on the human body: *D. caninum*, *H. diminuta*, *S. obvelata*, *M. lineatus*, *T. hydatigena*, *H. taeniaformis*, *A. tetraptera*, *T. pisiformis*. [21; 17-p.]. These data are the general material of the literature on helminth fauna of Uzbek rodents. The study of helminth fauna of small mammals was carried out mainly in the biogeocenoses of Karakalpakstan, the Fergana Valley and partly in the Jizzakh and Syrdarya regions. The results of the study are quite outdated, Davlatov [22; 23-p.], Kohanov [23; 37-p] and Bikova [21; 17-p] are all very scattered data.

Considering the level of study of rodent helminth fauna in the North-Eastern region of Uzbekistan, no specific research on the helminth fauna of rodents and the ecology of helminths has been conducted in this region.

According to the analysis of the literature, the helminth fauna of small mammals has been partially studied in the biogeocenoses of the Amudarya and Fergana valleys. The territory of the republic is rich in species of rodents, most of the most common species have not yet been fully parasitologically studied. In general, the study of rodent helminth fauna significantly complements the data on parasitic fauna of small mammals in Uzbekistan.

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