



SEASONAL DYNAMICS OF NEMATODE FAUNA OF COMMON LICHEN

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Abstract

The main purpose of the study is to study the laws of taxonomic and ecological distribution of nematode fauna of plants of Zarafshan tugai forests. Identify the natural sources of specific pathogens and prevent their spread to cultural landscapes. The study consisted of studying the seasonal dynamics of nematode fauna of tugai plants.

Keywords: Nematoda, Fauna, Nematodafauna, Biotope, Seasonal dynamics, Ecological-trophic, Tour, Saprobiont, Mycotroph, Devisaprobiont, Politroph.

In order to study the seasonal changes in the dynamics of the fauna of phytonematodes living in the soil and around the roots of common licorice, in the territory of the community farm named after Rofi Khamroev, Akdara district, Samarkand region, there is a meadow.

As a result of laboratory analysis of the samples, 62 species (2488) of nematodes were recorded in 4 genera. Of these, 235 nematodes belonging to the genus Tylenchida were recorded in the spring in 7 species, accounting for 32.7% of all nematodes found in and around the root of the common licorice root. In the summer, the number of species of nematodes in this genus increased to II (242 nematodes), ie 39.01%. In autumn, 3 species of this genus (88 nematodes) were recorded, which accounted for 17.42% of the complex of nematodes. In winter, they were relatively numerous, identified in 139



nematodes of 6 species, and accounted for 39.4% of the total number of nematodes found in and around the roots of licorice root. This high rate is mainly due to the high incidence of *Aphelenchus avenae* (105 nematodes).

In the spring, 395 nematodes of 17 species were identified from representatives of the Rhabditida family, which accounted for 53.5% of all nematodes found in and around the root of the red root. In autumn it was 80.8% and in winter it was 55.9%. Nematodes belonging to the genus *Araeolaimida* were recorded in spring (0.5%) and spring.

In the spring, nematodes of the genus *Dorylaimida* were recorded in 96 nematodes of 11 species, which is 13.20% of the nematode complex. It was noted that in the summer, 19.9% of nematodes on 13 species produced 19.9%, in autumn 2 nematodes on 9 species produced 1.8%, and in winter, 11 nematodes on 3 species produced 4.8%.

If we analyze the ratio of ecological-trophic groups, they are also different from each other.

About 82 nematodes of 3 species belonging to the ecological-trophic group of true parasites formed a complex of nematodes (11.3%) in the spring. These are the species *Heterodera glycyrrhizae*, *Pratylenchus pratensis*, *Ditylenchus dipsaci*. In summer, 99 nematodes (10.9%) were registered for 3 species, and in autumn, 37 nematodes (7.4%) belonging to only 1 species were detected. This is a species of *Heterodera glycyrrhizae*. Also, 13 nematodes of 1 species and 1 larva of *Meloidogyne* genus were recorded during the winter. These accounted for 3.9% of the nematode complex. Of the potential parasites, 38 nematodes (5.4%) belonging to 3 species were recorded in spring. These were *Helicotylenchus buxophilus*, *Rotylenchus goodeyi*, which accounted for 0.2% of the nematode complex. In winter, the number of species reached another 3, and the number of nematodes reached 20 (5.7%). Only *Aphelenchus*



avenae species belonging to the mycotrophic ecological-trophic group have been identified. In the spring, 115 nematodes (15.81%) of this species were identified, and in the spring, 168 (19.46%). It was also found that 50 (9.90%) nematodes were found in this species in autumn and 105 (29.59%) in winter.

Representatives of the true saprobiont ecological-trophic group are found in larger numbers than in other groups. Diploscapter, Mesorhabditis, Rhabditis belong to this group. In particular, Mesorhabditis monhystera occurs in large numbers (762 nematodes). The main reason for this is that in places where common licorice grows, the river water is rich in humus. Of the true sprobionts, 316 nematodes (43.4%) of 4 species were recorded in the spring. In the summer, 109 nematodes (11.9%) were registered in 4 species. In addition, 334 (66.1%) nematodes were detected in 2 rounds in autumn and 50 (14%) nematodes in 2 rounds in winter. Species of the genus Panagrolaimus, Heterocephalobus, Cephalobus, Eucephalobus, Acrobeloides, Chiloplacus, Zeldia, Acrobeles, Cervidellus, Plectus, Proterplectus were identified from the Devisaprobiont ecological-trophic group. In the spring, 96 nematodes belonging to 2 groups from this group were identified, which accounted for 10.8% of the total number of nematodes found in and around the root of licorice. In summer, the number of species increases by 18 and the number of nematodes by 267 (29.3%). In autumn, 74 nematodes of 9 species were registered (14.6%), and in winter, 148 nematodes (41.8%) of 9 species were registered. In particular, Cephalobus parvus is abundant in winter (110 nematodes). The main reason for the increase in the number of this species in winter is the fact that the decay of plants and other wastes in the presence of bacteria creates heat and favorable conditions. Because there were a lot of plant remains (leaves and twigs of trees and shrubs) in the soil.



Nematodes belonging to the genera Tylencholaimus, Leptonchus, Aporcelaimellus, Discolaimus, Discolaimium, Eudorylaimus, Diphtheropha, Alamius were identified from the polytrophic ecological-trophic group. In spring, 96 nematodes (13.2%) of 11 species were registered in this group, and in spring, 179 nematodes (19.8%) of 13 species were identified. Also, 9 nematodes (1.7%) belonging to 2 species were registered in autumn, and 7 nematodes (4.8%) belonging to 3 species in winter. Aporcelaimellus obtusicaudatus and Eudorylaimus monohustera are the most common species belonging to this group.

The distribution of nematodes in the soil around the roots of common licorice was found to be unique when examined.

The common licorice root occurs in 95 nematodes of 14 species in the spring at a depth of 0-10 cm in the surrounding soil and accounted for 15.9% of the nematodes detected in the soil. In the spring, 213 nematodes of 27 species were detected in the same depth layer of the soil, which accounted for 32.4% of the nematodes found in the soil around the red root. In autumn, 75 nematodes of 8 species were recorded at this depth, which accounted for 16.08% of soil-borne nematodes. In winter, 65 nematodes (22.3%) were identified in 13 species. In the spring, at a depth of 10-20 cm in the soil around the root of common licorice, 25 species of nematodes were recorded, which accounted for 38.2% of the nematodes detected in the soil around the root of licorice. In summer, 284 nematodes of 23 species (43.7%) were registered, in autumn, 109 nematodes of 11 species, and in winter, 70 species of nematodes of 8 species (24, 05%). 179 nematodes of 9 species (30.1%) belong to 9 species in spring, 106 nematodes (18,%) of 10 species in spring, 7 species of 170 nematodes (36.48%) in autumn. 96 nematodes (32.9%) were identified in 8 rounds. At a depth of 30-40 cm, 34 nematodes belonging to 3 species (5.1%) were detected in spring, 96 nematodes



in 4 species (20.6%) in autumn and 50 nematodes (17.2%) in 4 species in winter.

Nematodes were found in small numbers at a depth of 40-50 cm in the soil around the common licorice root. In particular, 14 nematodes of 3 species were detected at this depth in spring (2.3%), 20 nematodes of 6 species (3.03%) in spring and 16 nematodes of 3 species in autumn (3.1%).

Thus, it was noted that in the soil around the root of the common licorice nematodes are more common in the soil seasons at a depth of 10-20 cm, and in autumn and winter at a depth of 20-30 cm. This means that nematodes migrated to a depth of 20-30 cm in autumn and winter due to the cooling of the surface layers of the soil.

As a result of the analysis of nematodes identified in the root of common licorice, it was observed that the number and quantity of nematode species in each season varied. In particular, 133 nematodes of 17 species were registered in the spring under common lichen, and 253 nematodes of 29 species were detected in the spring. In autumn and winter, the number and number of nematodes decreases. In particular, 39 nematodes of 4 rounds were registered in autumn and 65 nematodes of 11 rounds in winter.

Conclusion Thus, as a result of studying the seasonal dynamics of the common red nematode fauna in the conditions of the Ak-Darya tugai, nematodes belonging to 4 genera and 62 species were recorded. In particular, 35 rounds were identified in spring, 46 rounds in summer, 16 rounds in autumn and 20 rounds in winter. The distribution of nematodes in the soil around the common rhizome root is unique and has been shown to change with each season.



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