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A COMPARATIVE STUDY OF NEMATODA-FAUNA OF PASTURAL PLANTS IN FOREST BIOTOPES

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Abstract
The main purpose of our study was a comparative analysis of the nematode fauna of acute plants in tugai biotopes.
A total of 3,490 nematodes of 64 species were recorded in wild sugar cane root and root atrophy, while 3,394 nematodes of 67 species were detected in common licorice. When we compared the degree of similarity of these two plants according to the Mountford commonality index, it was as follows.
Forty species of wild sugar cane and common anise root, as well as those found in the soil around the root, were found to be common to both plants, with a similarity level of 23.98%.

Keywords: phytonematoda, fauna, genus, family, genus, species, eurybiont, xerophile, mesophile, hygrophile, parasitic nematode, pathogen, rhizosphere. Mountford General Index.

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Introduction

A lot of work is being done in Uzbekistan in the field of biology, systematics, fauna, parasitic species of phytohelminths. The main task of phytonematology is to study the role of plant and soil nematodes in biogeocinosis and their interaction with various other organisms in the soil biota.

Phytonutrients not only cause significant damage to crop yields, but are also actively involved in the transmission of a number of viral, fungal and bacterial diseases. In some cases, phytohelminths cause up to 20% damage to crops.

Until now, phytohelminthologists of our country and abroad have studied the roots of many plants and the composition of nematodes living in the surrounding soil, but a comprehensive study of the ecology of phytonematoids of tugai plants has been completely ignored. It should be noted that many parasitic species of phytonematoids slow down the growth rate of tugai plants, cause the drying of leaves, and some species can cause the loss of plants in these landscapes.

Materials and Methods

The root part of the plants is Y.S. Kiriyanova and E.L. Krall (1969).

Sampling takes into account plant appearance, physiological condition, soil and air temperature, humidity, irrigation methods, soil types, and other factors.

Phytohelminthology is one of the most convenient ways to separate nematodes from plants and soil, using the Berman method. The procedure for using this method is as follows: take a glass funnel with a diameter of 9-12 cm, put a rubber tube 10-15 cm long on its long side, squeeze the open end of the rubber and clamp it with a Mor clamp. The funnel is mounted vertically on a wooden tripod with a rubber tube. The roots and soil around each plant were analyzed separately. The collected plant roots are washed one by one in clean water, cut into 0.5 cm pieces and then mixed well. An average of 10 g is taken from the resulting mixture. Similarly, soil samples are taken in a volume of 10 g. The samples are placed on a nylon or wire mesh and immersed in funnel water. The nematodes released from the soil are collected in front of the clamp through a nylon net. 12-18 hours at a temperature of 25-35 degrees Celsius are sufficient for complete separation of the nematodes. 4-5 to preserve the original nematode % is transferred to formalin liquid.Permanent micropreparations are prepared to determine the species composition of nematodes.

Permanent micropreparations were prepared as follows: Nematodes stored in formalin were transferred to a mixture of 96% alcohol and glycerin (1: 1) with a very fine needle using MBS-1 binoculars. and 5-6 nematodes were transferred to it under a binocular with a fine needle and covered with a closed bottle. The glycerin in the drug was then heated slightly to distribute the gelatin evenly. Once the glycerin-gelatin in the drug had solidified, the location of the nematodes on the underside of the vial was marked using a dream. The upper bouts featured two cutaways, for easier access to the higher frets. On one side is the name of the plant, the term of the farm, the period of sampling and the name of the person who collected it. On the other side, the name and sex of the species are indicated on the phytonemato.

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In particular, the degree of similarity of wild sugar cane and common licorice nematode fauna was calculated by the following formula according to the general index of Mountford (Mountford, 1962).

$$J = \frac{2\,j}{2 \times a \times b - (a + b) \times j} 1000$$

Here J is the total index, j is the total number of species in the plants being compared, and a x b is the number of nematode species encountered in each plant species being compared.

Research Results

Comparing the degree of similarity of wild sugar cane and common anise nematodefauna, the following results were obtained.

A total of 3,490 nematodes of 64 species were recorded in wild sugar cane root and root atrophy, while 3,394 nematodes of 67 species were detected in common licorice. When we compare the similarity of these two plants according to the Mountford commonality index, they are as follows:

$$J = \frac{2 \times 40}{2 \times 64 \times 67 - (64 + 67) \times 40} \times 1000 = 23,98$$

Forty species of wild sugar cane and common anise root, as well as those found in the soil around the root, were found to be common to both plants, with a similarity level of 23.98%. The following species were common to the root and root soil of wild sugar cane and common anise plants: Criconemoides pullus, Aglenchus agricola, Ditylenchus dipsaci, D. triformis, Nothotylenchus acris, Aphelenchus avenae, A. cylindricaudatus, Ap-helenchoides parietinus, Aph. sacchari, Aph. saprophilus, Aph. subparietinus, Mesorhabditis monhystera, Rhabditis intermedia, Panagrolaimus armatus, P. longicaudatus, P. rigidus, P. subelongatus, Heterocephalobus elongates, H. lattus, Cephalobus parvus, Cephalobus persengnis, Eucephalobus acuros, Eucephalobus mucronatus Cervidellus hamatus, C. serratus, Plectus parietinus, Tylencholaimus proximus, Leptonichus obtutus, Aporcelaimellus obtusicaudatus, Discolaimus major, Eudorylaimus acuticaudatus, E. minutes, E. monohystera, E. muchabbatae, E. paraobtica.

The roots of wild sugar cane and common anise plants, as well as the nematodes found in the soil around the roots, showed a sharp difference when we compared them by category. In particular, 767 nematodes (21.9%) of 19 species of the genus Tylenchida were recorded in the soil of wild sugar cane root and rhizome, while 985 (29.1%) nematodes of 20 species were found in the soil of root and root of anise. . From the Rhabditida family, 26 species were identified in the root and soil of both plants, but the nematodes differed in number, with 1,500 nematodes (42.9%) recorded in wild sugar cane and 1,972 nematodes (58.2%) in common licorice.

In the soil around the root of wild sugar cane of the genus Araeolaimida, 7 nematodes (0.2%) belonging to the genus Plectus parietinus were detected, and in common licorice Plectus parietinus, Protcroplectus acuminatus, Pr. found in 11 nematodes (0.3%) belonging to assimila species.

Only 1 Prismatolaimus dolichurus (0.02%) was found in the soil around the root of wild sugar cane from the genus Enopli, but no representatives of this genus were found in common licorice. Mononchus

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truncatus8 (0.2%) from the Mononchida family was found only in the soil around the roots of wild sugar cane, while in the licorice it was not found at all. 1174 nematodes (33.6%) of 16 species were detected in wild sugar cane root and root soil from Dorylaimidaturkumi, while 425 nematodes (12.5%) of 18 species were found in licorice (Table 1). Longidorella flies are common in wild sugar cane root and root soil.

(Table 1)

Categories	Wild cane			Normal erysipelas		
	number of species	nema-todasoni	% calculates	number of species	nema-todasoni	% calculates
1.Tylenchida	19	767	21,97	19	767	29,1
2.Rhabditida	26	1500	42,97	26	1500	58,27
3.Aracolaimida	1	7	0,2	1	7	0,32
4.Chromadorida	_	_	_	_	_	_
5.Enoplida	1	1	0,02	1	1	_
6.Monanchida	1	8	0,22	1	8	_
7.Dorylaimida	16	1174	33,63	18	425	12,55
Total:	64	3490	100	67	3384	100

Conclusion

Thus, it was noted that nematodes belonging to the Rhabditida family were more prevalent in the compacted wild sugar cane and licorice plant. Cephalobus, in particular, has been found to be in large numbers.

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