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State of Study of Nematofauna of Woody Plants in Uzbekistan

Nurmatova Dilnoza Mustafakulovna
Independent seeker (PhD), Samarkand State University

Mavlyanov Ochil
Research advisor. Ph.D., Professor

Abstract: This thesis presents an analysis of works devoted to the study of nematoda fauna of woody plants in Uzbekistan. Based on the conducted research, the scientific and practical importance of studying the nematoda fauna of fruit trees in the future has been revealed.

Purpose of work. Analyzing the researches devoted to the study of nematodafauna of woody plants in Uzbekistan, thereby revealing the scientific and practical importance of studying the nematodafauna of fruit trees in the future

Material and methods. Scientific literature was used in the analysis of studies devoted to the study of the nematoda fauna of woody plants in Uzbekistan.

Results. E. P. Azizova's work on the study of the nematode fauna living in the soil around the vine and its root deserves attention in the study of the nematode fauna of shrubs and woody plants in Uzbekistan. The author studied the composition of nematoda fauna of several varieties of vines in the conditions of Tashkent region. As a result of investigations carried out in 1967-1970 in three farms of the Tashkent region, 49 types of soil nematodes belonging to all ecological groups were identified. For the first time in the Republic of Uzbekistan, the species Xiphinema americanum and X. index were detected in the 40 cm depth of the soil around the root of the vine [3].

Regarding the study of the nematoda fauna of woody plants in Uzbekistan, Prof. The work carried out by Sh. Khurramov has a special place. The nematoda fauna of date palm was studied for the first time in the conditions of Central Asia in the research conducted by Sh. Kh. Khurramov in 1978 in Surkhandarya region. As a result of the study, 17 species of parasitic phytonematodes belonging to the genera Pratylenchus, Macroposthonia, Tylenchorhynchus, Paratylenchus, Helicotylenchus, Xiphinema and other genera were identified in the root and rhizosphere soil of date palm. It was also noted that representatives of the genera Meloidogyne, Xiphinema, Pratylenchus, Helicotylenchus cause serious damage to the growth, development and productivity of dates. Later, as a result of large-scale phytohelminthological studies conducted on the study of palm tree nematoda fauna, 73 species of nematodes belonging to 8 genera, 32 families, and 57 genera were found in the soil of the roots and roots of the plant. It was noted that representatives of the genera Tylenchida, Rhabditi, Aphelenchida, Dorylaimida are dominant in terms of species and number in the soil around the roots and roots of the date palm tree. According to ecological groups, phytonematodes, which do not cause disease, take the leading place (64.1%) [34]. Recommendations are given on ways to use agrotechnical, organizational-prophylactic, physical, chemical measures to fight against parasitic species identified by the scientist [5,6,7,8,9].

Sh.Kh. In 1975-1978, Khurramov studied the nematode fauna of the quince tree growing in Surkhandarya region. Nematodes of 41 species were found in the root system and rhizosphere soil of the quince tree during the conducted research. The identified species were systematically and ecologically analyzed.

G. Norbo'tayeva, G. Abdurakhmanova studied the ecological features of phytonematodes of some fruit trees of Samarkand region, i.e. peach, apple, apricot, date plants. As a result of the research conducted by the authors, 55 species of phytonematodes were identified. It was noted that phytonematodes identified belong to 2 classes (Adenophorea, Sesernentea), 4 orders (Chromodorida, Enoplida, Rhabditida, Tylenchida), 18 families, and 30 genera [4].

Assoc. A.S. Bekmuradov studied phytonematodes found in pomegranate plants in Surkhondarya region. As a result of phytohelminthological studies conducted by the researcher in pomegranate agrocenoses of Surkhondarya region, 98 species of phytonematodes were identified, and they belonged to 7 genera and 3 subclasses of nematodes. Among them, one species (Xiphinema opisthohysterum) is a new species for the fauna of Uzbekistan, and 24 species were returned for the first time in the soil around the pomegranate plant and root. In addition, he found information on the original morphometric parameters and distribution of phytonematodes detected in pomegranate agrocenoses [1,10].

As a result of research carried out in 2018-2020 by Narzullayev and others [2], the diversity of the nematode fauna of fruit trees (walnuts, almonds, pistachios) growing in the biocenoses of the Omonkoton National Nature Park in the Western Zarafshan mountain range. information on the diversity, bioecological characteristics and distribution of species by biotopes is provided. As a result of research, 62 species of nematodes were recorded in the nematode fauna of fruit trees. These species were systematically and ecologically analyzed. It was determined that the species in the fauna belong to 2 classes and 5 genera of the Nematode phylum. They are divided into 5 large and several small groups according to their ecological characteristics. Among ecological groups, groups of polytrophs and plant-eating nematodes are the dominant groups in terms of number of species. The diversity of nematodes was high in the 0-15 and 15-30 cm layers of the soil. It has been shown that the diversity in different biotopes is related to the ecological characteristics of nematodes. In particular, the species in the root system were mainly herbivorous nematodes (72.2%). While the diversity of nematodes increased in the rhizosphere soil layers, there was a sharp increase in the number of species and individuals of polytrophic nematodes and bacteriotrophs in the 0-15 cm soil layer, and this trend was also preserved in the 15-30 cm layer. The opposite trend was observed in herbivorous nematodes [2].

Summary. From the analysis of the cited literature, it is known that several studies have been conducted on the study of nematoda fauna of fruit trees. However, in recent years intensive orchards of various fruit trees have been established in our republic. Some of these fruit tree saplings are grown in our republic, while others are imported directly from foreign countries. This creates the need to study the composition of nematoda fauna of fruit orchards.

REFERENCES:

1. Bekmuradov A.S. Ecological-fauistic analysis of phytonematodes of pomegranate agrocenoses of Surkhandarya region and development of integrated control measures against parasitic species. Doctor of Philosophy (PhD) Dissertation in Biological Sciences. Tashkent 2019. pp. 3-21..
2. Narzullayev S., Kambarov S., Mirzaev U., Tursunova Sh. 2023. Diversity of woody plant nematodes in specially protected biocenosis of Zarafshan Mountain, Uzbekistan. *Biodiversitas* 24 (6): 3145-3151. DOI: 10.13057/biodiv/d240607
3. Азизова П.Э “К изучению фауны нематод виноградников и их прикорневой почвы в условиях Ташкентской области” Ўзбекский биологический журнал 1971 г. Стр 50-52

4. Норбўтаева Г., Абдурахмонова Г. Самарқанд вилояти айрим мевали дарахтлари фитонематодаларининг экологик хусусиятлари // “Ботаника, биоэкология, ўсимликлар физиологияси ва биокимёси муаммолари” мавзусидаги Республика илмий-амалий конференцияси материаллари. Тошкент. 2011. 94-95 бетлар.
5. Хуррамов Ш. Х. Закономерности формирования сообществ нематод субтропических плодовых культур в Средней Азии и разработка интегрированной системы защиты этих растений от фитогельминтов // Автореф. дисс… докт. биол. наук. М. 1990. -38 с.
6. Хуррамов Ш. Х. Закономерности формирования сообществ нематод субтропических плодовых культур в Средней Азии и разработка интегрированной системы защиты этих растений от фитогельминтов // Автореф. дисс… докт. биол. наук. М. 1990. -38 с.