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Research Article

TAXONOMY, DYNAMICS OF DEVELOPMENT AND DAMAGE OF DIASPIDIDAE IN SEED FRUIT ORCHARDS

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ABSTRACT

In order to identify the main pests of seed orchards, as a result of observations on apple, beech and pear orchards on farms in Tashkent region, 3 genera Lepidosaphes, Diaspidiotus and Parlatoria belonging to the family Diaspididae were recorded in orchards.

They were found to be distributed in 3 species Lepidosaphes ulmi (Linnaeus, 1758), Diaspidiotus perniciosus (Comstock, 1881) and Parlatoria oleae (Colvée, 1880) from the family Diaspididae, and 2 were recorded as dominant species.

In order to create a species composition and GIS map of the Diaspididae family in seed orchards, 12 coordinates of pests in apple, quince and pear orchards were determined and a GIS map was constructed.

KEYWORDS

GIS, population, bioecology, habitat, mature breed, offspring, larvae, apple, pear, quince, coordinates.

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INTRODUCTION

In recent years, the republic's horticulture is facing serious difficulties in the system of protection of fruit crops from pests. Many species of pests and pathogens that were previously of no economic importance are now beginning to cause serious damage to gardens.

The technologies used in Uzbekistan to control pests of fruit crops have significant shortcomings and need to be reconsidered. The main pests of the gardens were not monitored. Therefore, it is necessary to provide information on the current state of gardens in the country, the composition of pests and their level of damage, the rate of annual increase. To reduce the level of exposure to pesticides, it is necessary to develop ways to integrate chemical and biological control methods using microbiological agents.

In view of the above, it is important to identify the species currently affected by the Diaspididae family in orchards and their taxonomy, as well as entomophagous mass pest species, to map the distribution of GIS in the country and to use new generation insecticides. reaches

MATERIALS AND METHODS

The research was conducted in Tashkent region, Institute of Zoology of the Academy of Sciences of the Republic of Uzbekistan, Laboratory of Ecology of Entomophages and Theoretical Foundations of Biosteres. In the seed orchards, 3 generations of Lepidosaphes, Diaspidiotus and Parlatoria belonging to the family Diaspididae were recorded and specimens were collected. Some of these materials are stored in the collection of the Department of Entomology of the Institute of Zoology of the Academy of Sciences of the Republic of Uzbekistan. The main materials were collected from different biotopes of Tashkent region in 2020-2021.

Regular field observations on the biological and ecological characteristics of the identified species were conducted in Tashkent region, and practical laboratory observations were conducted in the Institute of Zoology of the Academy of Sciences of the Republic of Uzbekistan, Laboratory of Entomophagous Ecology and Biosulfits and the results were compared.

RESULTS AND DISCUSSION

The fauna and taxonomic analysis of pests found in seeds of Tashkent region were studied. As a result of research and observations, the following are the results of taxonomic analysis of pests in the fruit of Tashkent region (Table 1).

Table 1
Taxonomy of insects of the family Diaspididae in seed orchards (2020-2021)

Синф	Туркум	Оила	Авлод	Тур
Insecta	Hemiptera	Diaspididae	*Lepidosaphes*	*Lepidosaphes ulmi*
			Diaspidiotus	*Diaspidiotus perniciosus*
			Parlatoria	*Parlatoria oleae*

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As can be seen from the table, according to the taxonomic composition of the pest fauna in the seed of Tashkent region, 1 genus Hemiptera, 1 family, 3 genera and 3 species of insects belonging to the class Insecta in the fauna were recorded. Three species of Lepidosaphes ulmi (Linnaeus, 1758), Diaspidiotus perniciosus (Comstock, 1881) and Parlatoria oleae (Colvée, 1880) were found to be distributed from the Diaspididae family. In order to create a species composition and GAT map of the main pests of the Diaspididae family in seed orchards, 12 coordinates of pests in apple, quince and pear orchards were identified and a GIS map was drawn (Figure 1).

Class: Insecta;
Category: Hemiptera;
Family: Diaspididae;
Genus: *Lepidosaphes*.
Species: *Lepidosaphes ulmi*

Lepidosaphes ulmi (Lin., 1758)

Very common, more damage to poplar, willow, rose, all fruit trees and apples. The length of the comma shield is 1-3 mm. The body of the female is elongated, the posterior end is widened, the color is whitish-gray, the male is smaller. The eggs are white, oval in shape.

Damage. The comma-shaped shield sometimes damages figs, pistachios, citrus fruits, olives, junipers, grapes, greatly reducing their commodity value. These insect-infested trees and shrubs do not grow well, twigs and branches die, and sometimes trees and shrubs (especially at a young age) can dry out completely. Infection with Lepidosaphes ulmi in Qibray district of Tashkent region (41 ° 25'13 "N 69 ° 25'56" E), (41 ° 23'19.8 "N 69 ° 25'05.2" E); In Ortachirchik district (41 ° 10'10 "N 69 ° 18'24" E); It was recorded in the coordinates of Akhangaron district (40 ° 56'04 "N 69 ° 35'13" E).

Class: Insecta;
Category: Hemiptera;
Family: Diaspididae;
Genus: *Diaspidiotus*.
Species: *Diaspidiotus perniciosus*

Diaspidiotus perniciosus (Coms., 1881)

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The female is lemon-yellow in color, noxious in shape, 1.3 mm long, with no eyes, legs or mustache. The shield is round, 2 mm in size, bulging, dark or brown in color, with 2 larval skin marks in the middle.

Damage. Seed and fruit trees such as apple, pear, peach, cherry, cherry, plum are a pest of 270 species of plants in total. Larvae and adults cause great damage by sucking the body sap from the branches and bushes of trees, tearing the bark when overgrown, the quality of the fruit deteriorates, i.e. red-purple spots on the fruit fall off and even dry out the whole tree. Diaspidiotus perniciosus Seed infestation in Qibray district of Tashkent region (41 ° 25'13 "N 69 ° 25'56" E), (41 ° 23'50 "N 69 ° 28'51" E), (41 ° 23'36 "N 69 ° 27'10" E), (41 ° 23'36.9 "N 69 ° 27'13.9" E); It was recorded in the coordinates of Pskent district (41 ° 00'42 "N 69 ° 20'50" E).

Class: Insecta;
Category: Hemiptera;
Family: Diaspididae;
Genus: *Parlatoria*.
Species: *Parlatoria oleae*

Parlatoria oleae (Colvée, 1880)

Small insects (1-1.3 mm). Its female is pentagonal in shape, thick, purple, shield (2-2.5 mm) white or gray. The male is small (1 mm), elongated in shape, white in color, has a spot in the middle.

Damage. Coccidia absorb and weaken the sap of trees, often destroying some branches and especially young branches, and sometimes completely drying out the trees. Coccidia stain the fruit and reduce its quality. For example, on the Kibray farm in Tashkent region, about 50 percent of some purple apple varieties have 20 or more spots. Ninety percent of the fruits were found to have spots. Infection with Parlatoria oleae in Qibray district of Tashkent region (41 ° 23'19.8 "N 69 ° 25'05.2" E), (41 ° 23'36.9 "N 69 ° 27'13.9" E); In Ortachirchik district (41 ° 10'10 "N 69 ° 18'24" E); In Yangiyul district (41 ° 11'00.0 "N 69 ° 04'58.8" E); In Akhangaron district (40 ° 56'04 "N 69 ° 35'13" E); It was recorded in the coordinates of Pskent district (41 ° 00'42 "N 69 ° 20'50" E).

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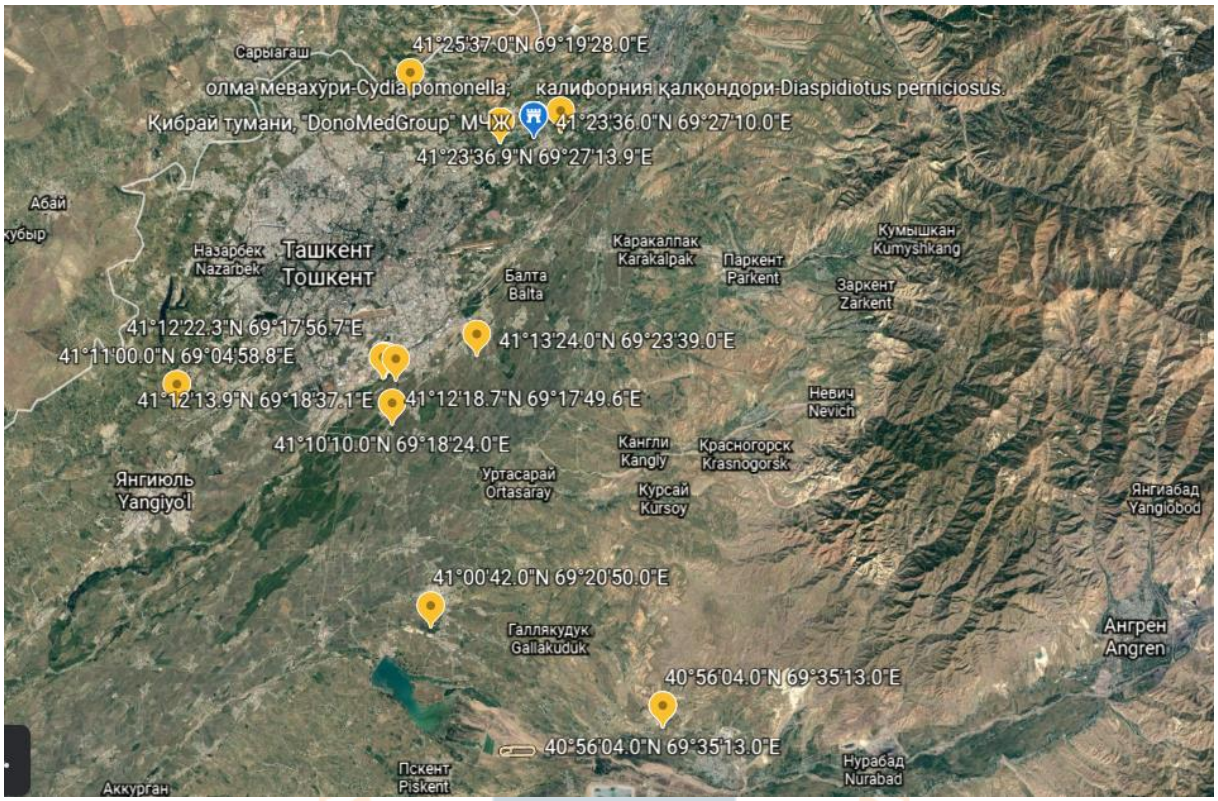

Figure 1. Distribution coordinates of the main representatives of the family Diaspididae in seed orchards.

CONCLUSION

A total of 1 genus Hemiptera, 1 family, 3 genera and 3 species of pests belonging to the class Insecta were recorded in seed orchards from different developmental stages of the identified species.

They were found to be distributed in 3 species of Lepidosaphes ulmi (Linnaeus, 1758), Diaspidiotus perniciosus (Comstock, 1881) and Parlatoria oleae (Colvée, 1880) from the Diaspididae family, and specimens were collected.

The main representatives of the Diaspididae family in seed orchards identified 12 coordinates of pests in apple, quince and pear orchards in order to create a species composition and a GIS map was created.

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