

Taxonomy And Area Of Distribution Of The Major Pests Of Fruit Gardens

Zukhra Yuldashevna Akhmedova,

head of laboratory, Institute of Zoology of the Academy of Sciences of the Republic of Uzbekistan, e-mail: zoology@academy.uz

Zumrad Abdukhakimovna Ganieva,

senior researcher, Institute of Zoology of the Academy of Sciences of the Republic of Uzbekistan, e-mail: zoologiya_zumrad@mail.ru

Vokhidjon Nosirovich Akhmedov,

junior researcher, Institute of Zoology of the Academy of Sciences of the Republic of Uzbekistan, e-mail: zoology@academy.uz

Jurabek Nodirjonovich Yakhyoev,

junior researcher, Institute of Zoology of the Academy of Sciences of the Republic of Uzbekistan, e-mail: dr.jurabek.net@gmail.com

Navruz Sobir ugli Ortikov,

junior researcher, Institute of Zoology of the Academy of Sciences of the Republic of Uzbekistan, e-mail: zoology@academy.uz

Sardor Kuchkorali ugli Kimyonazarov,

doctoral student, Institute of Zoology of the Academy of Sciences of the Republic of Uzbekistan, e-mail: zoology@academy.uz

Bobur Ashirovich Khamidov,

independent researcher, Institute of Zoology of the Academy of Sciences of the Republic of Uzbekistan, e-mail: zoology@academy.uz

Abstract

During our observations in the orchards of the Tashkent region, we found 4 species of aphids, 2 species of false scale insects, 4 species of scale insects, 1 species of fruit fly, 1 species of mealybug, 2 species of weevils, 2 species of bedbug, 3 species of codling moth and 3 species of ticks. As a result of research, from the Aphididae family: *Aphis pomi* (De Geer, 1773), *Eriosoma lanigerum* (Hausmann, 1802), *Acyrtosiphon malvae* subsp. *Malvae* (Mosley, 1841) and *Pterochloroides persicae* (Cholodkovsky, 1898); From the Coccidae family: *Sphaerolecanium prunastri* (Boyer de Fonscolombe, 1834) and *Parthenolecanium corni* (Bouché, 1844); From the Diaspididae family: *Lepidosaphes ulmi* (Linnaeus, 1758), *Diaspidiotus perniciosus* (Comstock, 1881), *Diaspidiotus prunorum* (Laing, 1931) and *Parlatoria oleae* (Colvée, 1880); From the Drosophilidae family: *Drosophila melanogaster* (Meigen, 1830); From the Pseudococcidae family: *Pseudococcus comstocki* (Kuwana, 1902); From the Tenthredinidae family: *Caliroa cerasi* (Linnaeus, 1758) and *Hoplocampa testudinea* (Klug, 1816); From the Tingidae family: *Stephanitis oschanini* (Vasiliev, 1935) and *Stephanitis pyri* (Fabricius, 1775); From the Tortricidae family: *Cydia pomonella* (Linnaeus, 1758), *Grapholita molesta* (Busck, 1916) and *Grapholita funebrana* (Treitschke, 1835) and from the Tetranychidae family: *Eotetranychus pruni* (Oudemans, 1931), *Tetranychus urticae* (Koch, 1836) and *Panonychus ulmi* (Koch, 1836) was found.

Keywords: Garden, population, bioecology, range, taxonomy, damage, coordinates.

INTRODUCTION

Based on tasks such as ensuring food security for the population of our country, gaining a place in the world market, it is necessary to use modern science-based technologies and tools in the cultivation of crops. An additional 25,000-30,000 hectares of

parks are being created every year. But in the process of cultivation, a number of problems arise, reducing the quality and size of the crop. Due to harmful organisms, it is observed that the quality and size of the crop decreases by 15-20% in intensive gardens, and by 25-30% in local gardens.

In order to eliminate the shortcomings in this regard, first of all, it is necessary to study the species composition, bioecology and damage levels of harmful organisms that cause damage to agricultural crops, as well as the dynamics of development in the biocenosis, to reveal the laws of natural management, and on the basis of this, to develop practical recommendations for combating them.

Nevertheless, the parasites of plant pests in biocenosis, their development, parasite-host relations, mutual relations, and the sudden increase of pests have not been thoroughly studied. In the development of biological control measures against sucking pests in agricultural crops, research work has not been carried out on the identification of predatory mites, their systematic analysis, reproduction and use in controlling the amount of phytophages in agrobiocenosis.

RESEARCH MATERIALS AND METHODS. Researches were carried out at the Institute of Zoology of the Academy of Sciences of the Republic of Uzbekistan, Laboratory of theoretical bases of entomophage ecology and biomethods, Tashkent region. Permanent field observations of the biological and ecological characteristics of the identified species were conducted in Tashkent region, and practical laboratory observations were conducted at the Institute of Zoology of the Academy of Sciences of the Republic of Uzbekistan, the Laboratory of Entomophage Ecology and Theoretical Bases of Biomethods, and the results were comparatively analyzed.

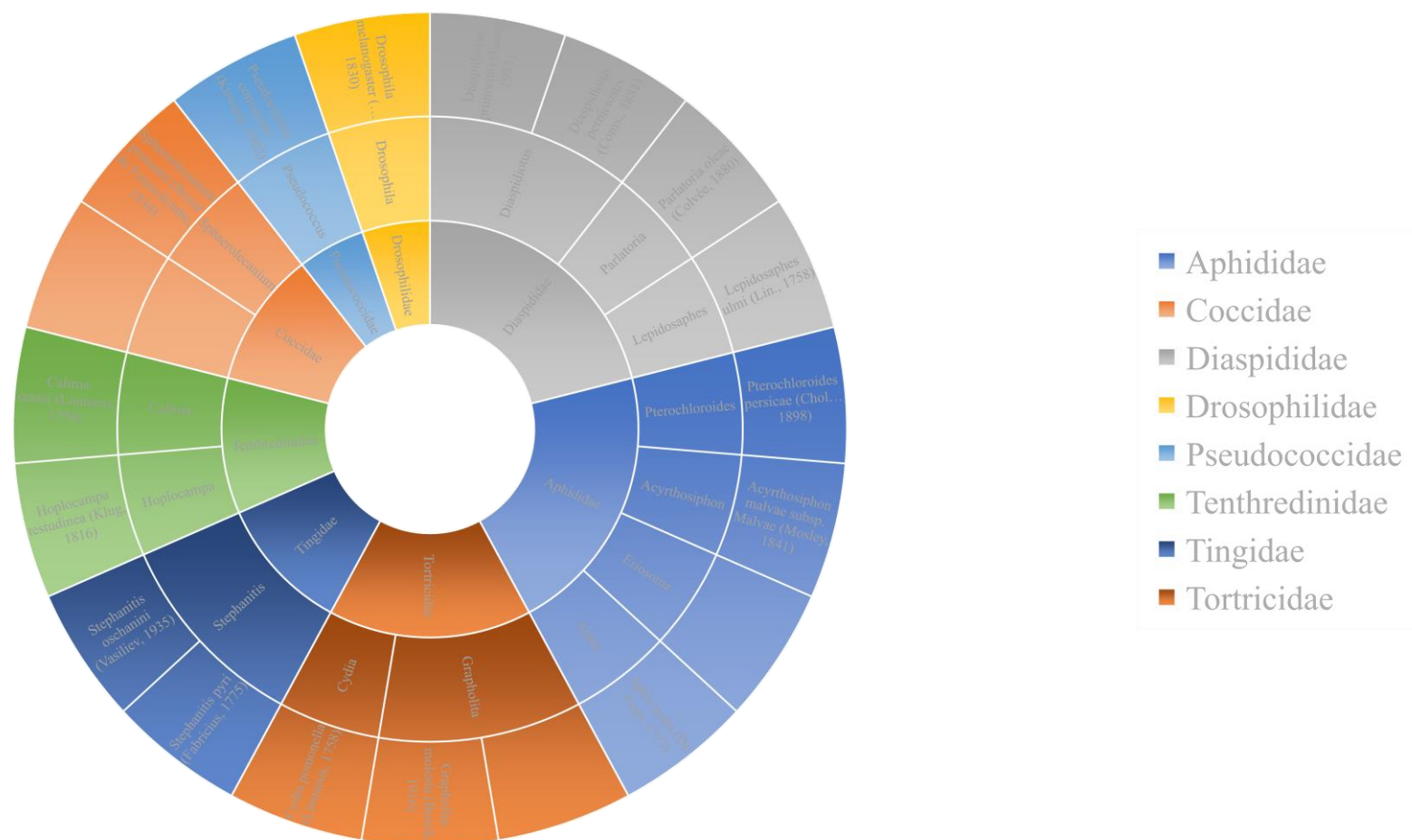
RESEARCH RESULTS AND THEIR DISCUSSION. In order to prepare a list of the main pests of fruit orchards of Tashkent region, biomaterials were collected from fruit orchards in the farms of Akkurgan, Chinoz, Okhangaron, Urta Chirchik, Kibray, Tashkent, Zangioota, Piskent and Yangiyul districts of Tashkent region. In the conditions of the Tashkent region, the species of dangerous pests of plum, cherry, peach, plum and apricot trees from fruit trees were recorded, and their biology and damage-causing properties were fully analyzed.

In order to effectively use plant protection measures in orchards, it is important to know the species composition and dominant species of pests, their bioecological characteristics and the degree of damage. In 2022, observations were made on fruit trees in the horticulturally developed districts of Tashkent region. During our directional observations, we studied the species composition and distribution area of fruit eaters belonging to the Tortricidae family, a group of dangerous pests that cause significant damage in our orchards.

During our observations in fruit orchards of Tashkent region, we found 4 types of aphids, 2 types of aphids, 4 types of beetles, 1 type of fruit fly, 1 type of mealybug, 2 types of weevils, 2 types of weevils, and 3 types of fruit eaters. and it was found that mites belonging to 3 species were distributed (diagram 1).

Diagram 1

Types of pests that are relatively common in orchards in Tashkent region (2022)



Regarding the study of the species composition of the main pests of orchards in the regions of Tashkent region:

Kibray district 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°23'19.8"N 69°25'05.2"E, 41°23'19.8"N 69°25'05.2"E, 41°23'36.9"N 69°27'13.9"E;

YukoriChirchik District 41°10'10"N 69°18'24"E, 41°12'13.9"N 69°18'37.1"E, 41°12'18.7"N 69°17'49.6"E, 41°12'22.3"N 69°17'56.7"E;

Yangiyul district 41°11'00.0"N 69°04'58.8"E;

UrtaChichichik District 41°13'24"N 69°23'39"E;

Okhangaron district 40°56'04"N 69°35'13"E, 40°56'04"N 69°35'13"E;

Tashkent district 41°25'37"N 69°19'28"E;

Piskent District 41°00'42"N 69°20'50"E, 41°00'42"N 69°20'50"E, 41°00'42"N 69°20'50"E In order to conduct observations, a service trip was organized and field research was carried out. Field research was conducted during the 2022 season.

In order to determine the main dominant species and their taxonomy, 22 species of pests were identified and 5 of them were returned as dominant species (table 1).

Table 1

Taxonomy of relatively common pests in fruit orchards in Tashkent region (2022)

Class	Order	Family	Genus	Species
Insecta	Hemiptera	Aphididae	Aphis	Aphis pomi
			Eriosoma	Eriosoma lanigerum
			Acyrtosiphon	Acyrtosiphon malvae
			Pterochloroides	Pterochloroides persicae
		Coccidae	Sphaerolecanium	Sphaerolecanium prunastri
			Parthenolecanium	Parthenolecanium corni
		Diaspididae	Lepidosaphes	Lepidosaphes ulmi
			Diaspidiotus	Diaspidiotus perniciosus
				Diaspidiotus prunorum
			Parlatoria	Parlatoria oleae

Class	Order	Family	Genus	Species
	Diptera	Pseudococcidae	Pseudococcus	Pseudococcus comstocki
		Drosophilidae	Drosophila	Drosophila melanogaster
	Hymenoptera	Tenthredinidae	Caliroa	Caliroa cerasi
			Hoplocampa	Hoplocampa testudinea
	Lepidoptera	Tingidae	Stephanitis	Stephanitis oschanini
				Stephanitis pyri
		Tortricidae	Cydia	Cydia pomonella
			Grapholita	Grapholita molesta
Arachnida	Trombidiformes	Tetranychidae	Eotetranychus	Eotetranychus pruni
			Tetranychus	Tetranychus urticae
			Panonychus	Panonychus ulmi

Class: Insecta;
Order: Hemiptera;
Family: Aphididae;
Genus: Aphis.
Species: Aphis pomi



Aphis pomi (De Geer, 1773)

All districts of Tashkent region:
in Qibray district (41°25'13"N 69°25'56"E),
(41°23'36.9"N 69°27'13.9"E); in the Middle Chirk
district (41°12'22.3"N 69°17'56.7"E);
in Yangiyul district (41°11'00.0"N 69°04'58.8"E); in Yukorichichichik

district (41°13'24"N 69°23'39"E); in
Okhangaron district (40°56'04"N 69°35'13"E); in Tashkent district
(41°25'37"N 69°19'28"E); It was
recorded in Piskent district
(41°00'42"N 69°20'50"E).

Class: Insecta;
Order: Hemiptera;
Family: Aphididae;
Genus: Eriosoma.
Species: Eriosoma lanigerum



Eriosoma lanigerum (Haus., 1802)

district of Tashkent region in Qibray (41°25'13"N 69°25'56"E) (41°23'36.9"N 69°27'13.9"E); in the Middle Chirk district (41°12'22.3"N 69°17'56.7"E); in Yangiyul district

Class: Insecta;

Order: Hemiptera;

Family: Aphididae;

Genus: Myzus.

Species: Myzus antirrhinii

(41°11'00.0"N 69°04'58.8"E); in Yukorichichichik district (41°13'24"N 69°23'39"E); It was recorded in Piskent district (41°00'42"N 69°20'50"E).



Acyrtosiphon malvae subsp.

Malvae (Mosley, 1841)

district of Tashkent region in Qibray (41°25'13"N 69°25'56"E), (41°23'19.8"N 69°25'05.2"E); in

Class: Insecta;

Order: Hemiptera;

Family: Aphididae;

Genus: Pterochloroides.

Species: Pterochloroides persicae

Urtachirchik district (41°10'10"N 69°18'24"E); It was recorded in the coordinates of Okhangaron district (40°56'04"N 69°35'13"E).



Pterochloroides persicae (Cholodkovsky, 1898)

district of Tashkent region in Qibray (41°23'36.9"N 69°27'13.9"E); in Urtachirchik district (41°10'10"N

Class: Insecta;

Order: Hemiptera;

Family: Coccidae;

Genus: Sphaerolecanium.

Species: Sphaerolecanium prunastri

69°18'24"E); It was recorded in the coordinates of Okhangaron district (40°56'04"N 69°35'13"E).



Sphaerolecanium prunastri (Boyer de Fonscolombe, 1834)

district of Tashkent region in Yangiyul (41°11'00.0"N

Class: Insecta;

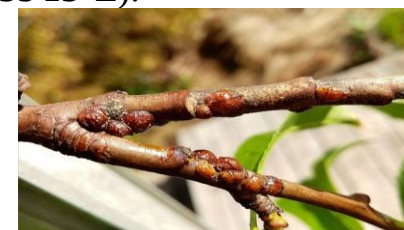
Order: Hemiptera;

Family: Coccidae;

Genus: Parthenolecanium.

Species: Parthenolecanium corni

69°04'58.8"E); in Urtachirchik district (41°10'10"N 69°18'24"E); It was recorded in the coordinates of Okhangaron district (40°56'04"N 69°35'13"E).



Parthenolecanium corni (Bouché, 1844)

district of Tashkent region in Qibray (41°23'19.8"N 69°25'05.2"E), (41°23'36.9"N 69°27'13.9"E); in Urtachirchik district (41°10'10"N 69°18'24"E); in Yangiyul district

Class: Insecta;

Order: Hemiptera;

Family: Diaspididae;

Genus: Lepidosaphes.

Species: Lepidosaphes ulmi

(41°11'00.0"N 69°04'58.8"E); in Okhangaron district (40°56'04"N 69°35'13"E); It was registered in Piskent district (41°00'42"N 69°20'50"E).



Lepidosaphes ulmi (Lin., 1758)

district of Tashkent region in Qibray (41°25'13"N 69°25'56"E), (41°23'19.8"N 69°25'05.2"E); in Urtachirchik district (41°10'10"N

Class: Insecta;

Order: Hemiptera;

Family: Diaspididae;

Genus: Diaspidiotus.

Species: Diaspidiotus perniciosus

69°18'24"E); It was recorded in the coordinates of Okhangaron district (40°56'04"N 69°35'13"E).



Diaspidiotus perniciosus (Coms., 1881)

district of Tashkent region in Qibray (41°25'13"N 69°25'56"E), (41°23'50"N 69°28'51"E), (41°23'36"N 69°27' 10"E),

Class: Insecta;

Order: Hemiptera;

Family: Diaspididae;

Genus: Diaspidiotus.

Species: Diaspidiotus prunorum

(41°23'36.9"N 69°27'13.9"E); It was registered in Piskent district (41°00'42"N 69°20'50"E).



Diaspidiotus prunorum (Laing, 1931)

district of Tashkent region in Qibray (41°23'50"N 69°28'51"E); It

Class: Insecta;

Order: Hemiptera;

Family: Diaspididae;

Genus: Parlatoria.

Species: Parlatoria oleae

was registered in Piskent district (41°00'42"N 69°20'50"E).



Parlatoria oleae (Colvée, 1880)

district of Tashkent region in Qibray (41°23'19.8"N 69°25'05.2"E), (41°23'36.9"N 69°27'13.9"E); in Urtachirchik district (41°10'10"N 69°18'24"E); in Yangiyul district

Class: Insecta;
Order: Diptera;
Family: Drosophilidae;
Genus: Drosophila.
Species: Drosophila melanogaster

(41°11'00.0"N 69°04'58.8"E); in Okhangaron district (40°56'04"N 69°35'13"E); It was registered in Piskent district (41°00'42"N 69°20'50"E).



Drosophila melanogaster (Meigen, 1830)

It was recorded at the coordinates of Tashkent district of

Class: Insecta;
Order: Hemiptera;
Family: Pseudococcidae;
Genus: Pseudococcus.
Species: Pseudococcus comstocki

Tashkent region (41°25'37"N 69°19'28"E).



Pseudococcus comstocki (Kuwana, 1902)

district of Tashkent region in Qibray (41°25'13"N 69°25'56"E), (41°23'50"N 69°28'51"E), (41°23'36"N 69°27' 10"E),

Class: Insecta;
Order: Hymenoptera;
Family: Tenthredinidae;
Genus: Stephanitis.
Species: Stephanitis oschanini

(41°23'36.9"N 69°27'13.9"E); It was registered in Piskent district (41°00'42"N 69°20'50"E).



Caliroa cerasi (Linnaeus, 1758)

district of Tashkent region in Urtachirchik (41°10'10"N 69°18'24"E); in Yangiyul district (41°11'00.0"N 69°04'58.8"E); in

Class: Insecta;
Order: Hymenoptera;
Family: Tenthredinidae;
Genus: Stephanitis.
Species: Stephanitis pyri

Okhangaron district (40°56'04"N 69°35'13"E); It was recorded in Piskent district (41°00'42"N 69°20'50"E).



Hoplocampa testudinea (Klug, 1816)

district of Tashkent region in Urtachirchik (41°10'10"N 69°18'24"E); in Yangiyul district (41°11'00.0"N 69°04'58.8"E); It was

Class: Insecta;

Order: Hemiptera;

Family: Tingidae;

Genus: Stephanitis.

Species: *Stephanitis oschanini*

recorded in the coordinates of Okhangaron district (40°56'04"N 69°35'13"E).



Stephanitis oschanini (Vasiliev, 1935)

district of Tashkent region in Qibray (41°25'13"N 69°25'56"E), (41°23'50"N 69°28'51"E), (41°23'36"N 69°27' 10"E),

Class: Insecta;

Order: Hemiptera;

Family: Tingidae;

Genus: Stephanitis.

Species: *Stephanitis pyri*

(41°23'36.9"N 69°27'13.9"E); It was recorded in Piskent district (41°00'42"N 69°20'50"E).



Stephanitis pyri (Fabricius, 1775)

district of Tashkent region in Qibray (41°25'13"N 69°25'56"E), (41°23'50"N 69°28'51"E), (41°23'36"N 69°27' 10"E),

Class: Insecta;

Order: Lepidoptera;

Family: Tortricidae;

Genus: Cydia.

Species: *Cydia pomonella*

(41°23'36.9"N 69°27'13.9"E); It was registered in Piskent district (41°00'42"N 69°20'50"E).



Cydia pomonella (Linnaeus, 1758)

district of Tashkent region in Qibray (41°25'13"N 69°25'56"E), (41°23'36"N 69°27'10"E), (41°23'19.8"N 69°25' 05.2"E), (41°23'36.9"N 69°27'13.9"E); In Urtachirchik district (41°10'10"N 69°18'24"E), (41°12'13.9"N 69°18'37.1"E), (41°12'18.7"N 69°17'49.6" E), (41°12'22.3"N

69°17'56.7"E); in Yangiyul district (41°11'00.0"N 69°04'58.8"E); in Yukorichichichik district (41°13'24"N 69°23'39"E); in Okhangaron district (40°56'04"N 69°35'13"E); in Tashkent district (41°25'37"N 69°19'28"E); It was registered in Piskent district (41°00'42"N 69°20'50"E).

Class: Insecta;
Order: Lepidoptera;
Family: Tortricidae;
Genus: Grapholita.
Species: Grapholita molesta



Grapholita molesta (Busck, 1916)

It was recorded at the coordinate (40°56'04"N 69°35'13"E) in Okhangaron district, Tashkent region.

Class: Insecta;
Order: Lepidoptera;
Family: Tortricidae;
Genus: Grapholita.
Species: Grapholita funebrana

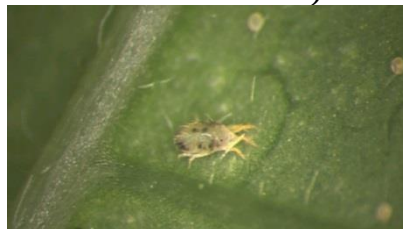


Grapholita funebrana (Treitschke, 1835)

district of Tashkent region In Urtachirchik (41°10'10"N 69°18'24"E), (41°12'13.9"N 69°18'37.1"E), (41°12'18.7"N 69°17'49.6"E), (41°12'22.3"N

Class: Arachnida;
Order: Prostigmata;
Family: Tetranychidae;
Genus: Eotetranychus.
Species: Eotetranychus pruni

69°17'56.7"E); in Okhangaron district (40°56'04"N 69°35'13"E); in Tashkent district (41°25'37"N 69°19'28"E); It was recorded in Piskent district (41°00'42"N 69°20'50"E).



Eotetranychus pruni (Oudemans, 1931)

district of Tashkent region in Qibray (41°25'13"N 69°25'56"E), (41°23'36"N 69°27'10"E), (41°23'36.9"N 69°27'13.9"E); In Urtachirchik district (41°10'10"N 69°18'24"E), (41°12'13.9"N 69°18'37.1"E), (41°12'18.7"N 69°17'49.6"E), (41°12'22.3"N

Class: Arachnida;
Order: Prostigmata;
Family: Tetranychidae;
Genus: Tetranychus.
Species: Tetranychus urticae

69°17'56.7"E); in Yangiyul district (41°11'00.0"N 69°04'58.8"E); in Yukorichichichik district (41°13'24"N 69°23'39"E); in Okhangaron district (40°56'04"N 69°35'13"E); in Tashkent district (41°25'37"N 69°19'28"E); It was registered in Piskent district (41°00'42"N 69°20'50"E).



Tetranychus urticae (Koch, 1836)

district of Tashkent region in Qibray (41°25'13"N 69°25'56"E), (41°23'36.9"N 69°27'13.9"E); In Urtachirchik district (41°10'10"N 69°18'24"E), (41°12'13.9"N 69°18'37.1"E), (41°12'18.7"N 69°17'49.6"E), (41°12'22.3"N 69°17'56.7"E); in Yangiyul district

Class: Arachnida;

Order: Prostigmata;

Family: Tetranychidae;

Genus: Tetranychus.

Species: Tetranychus urticae

(41°11'00.0"N 69°04'58.8"E); in Yukorichichichik district (41°13'24"N 69°23'39"E); in Okhangaron district (40°56'04"N 69°35'13"E); in Tashkent district (41°25'37"N 69°19'28"E); It was registered in Piskent district (41°00'42"N 69°20'50"E).



Panonychus ulmi (Koch, 1836)

district of Tashkent region in Qibray (41°23'36.9"N 69°27'13.9"E); In Urtachirchik district (41°10'10"N 69°18'24"E), (41°12'13.9"N 69°18'37.1"E), (41°12'18.7"N 69°17'49.6"E), (41°12'22.3"N 69°17'56.7"E); in Yangiyul district

(41°11'00.0"N 69°04'58.8"E); in Yukorichichichik district (41°13'24"N 69°23'39"E); in Okhangaron district (40°56'04"N 69°35'13"E); in Tashkent district (41°25'37"N 69°19'28"E); It was recorded in Piskent district (41°00'42"N 69°20'50"E).

CONCLUSION

As a result of research, from the Aphididae family: *Aphis pomi* (De Geer, 1773), *Eriosoma lanigerum* (Hausmann, 1802), *Acyrtosiphon malvae* subsp. *Malvae* (Mosley, 1841) and *Pterochloroides persicae* (Cholodkovsky, 1898); From the Coccidae family: *Sphaerolecanium prunastri* (Boyer de Fonscolombe, 1834) and *Parthenolecanium corni* (Bouché, 1844); From the Diaspididae family: *Lepidosaphes ulmi* (Linnaeus, 1758), *Diaspidiotus perniciosus* (Comstock, 1881), *Diaspidiotus prunorum* (Laing, 1931) and *Parlatoria oleae* (Colvée, 1880); From the Drosophilidae family: *Drosophila melanogaster* (Meigen, 1830); From the Pseudococcidae family: *Pseudococcus comstocki* (Kuwana,

1902); From the Tenthredinidae family: *Caliroa cerasi* (Linnaeus, 1758) and *Hoplocampa testudinea* (Klug, 1816); From the Tingidae family: *Stephanitis oschanini* (Vasiliev, 1935) and *Stephanitis pyri* (Fabricius, 1775); From the Tortricidae family: *Cydia pomonella* (Linnaeus, 1758), *Grapholita molesta* (Busck, 1916) and *Grapholita funebrana* (Treitschke, 1835) and from the Tetranychidae family: *Eotetranychus pruni* (Oudemans, 1931), *Tetranychus urticae* (Koch, 1836) and *Panonychus ulmi* (Koch, 1836) was found.

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