UO‘K 619:595.753

FARG‘ONA VODIYSIDA TARQALGAN UNSIMON QURTLAR (HEMIPTERA: COCCOMORPHA: PSEUDOCOCCIDAE) BO‘YICHA OLIB BORILGAN TADQIQOTLARGA OID

I.B. Isaqov, K. Zokirov, A.K. Husanov, O.T. Sobirov, N.D.Ibrohimova, O‘.Sh. Turg‘unova.

Farg‘ona vodiysida unsimon qurtlarning Pseudococcus comstocki, Planococcus citri, Planococcus vovae, Trabutina serpentina, Phenacoccus aceris, Phenacoccus pumilus, Phenacoccus transcaucasicus, Heliococcus destructor, Ferrisia uzinuri, Neotrionymus monstatus turlari uchraydi. Maqolada ayni yo‘nalishda olib borilgan tadqiqotlar sharhi berilgan. Tadqiqotlarda mazkur turlarning Farg‘ona vodiysidagi diagnostikasi, ularning asosiy ozuqa o‘simliklari va tarqalishi haqida umumiy ma‘lumotlar berilgan.

Kalit so‘zlar: *Pseudococcus comstocki*, *Planococcus citri, Planococcus vovae, Trabutina serpentina, Phenacoccus aceris, Phenacoccus pumilus*, *Phenacoccus transcaucasicus, Heliococcus destructor, Ferrisia uzinuri, Neotrionymus monstatus, sistematika, ozuqa o‘simliklari*.

В Ферганской долине встречаются Pseudococcus comstocki, Planococcus citri, Planococcus vovae, Trabutina serpentina, Phenacoccus aceris, Phenacoccus pumilus, Phenacoccus transcaucasicus, Heliococcus destructor, Ferrisia uzinuri, Neotrionymus monstatus. В исследованиях, проводимых в этом направлении, даны общие сведения о диагностике вышеперечисленных видов в Ферганской долине, их основных пищевых растениях и распространении.

Ключевые слова: *Pseudococcus comstocki, Planococcus citri, Planococcus vovae, Trabutina serpentina, Phenacoccus aceris, Phenacoccus pumilus, Phenacoccus transcaucasicus, Heliococcus destructor, Ferrisia uzinuri, Neotrionymus monstatus, систематика, питающие растения*.

Kirish

Keyingi yillarda respublikamiz hududiga chetdan kelib qolgan va ilgari qayd etilmagan hasharotlar – unsimon qurtlar aksariyat davlatlarda o‘simlik turlarining introduksiyasi hisobiga yangi areallar hosil qilib, fitotsenozlarga jiddiy muammo tug‘dirmoqda [35].

Unsimon qurtlar qishloq xo‘jaligiga jiddiy xavf soluvchi zararkunandalar guruhini o‘z ichiga olgan hasharotlardan sanaladi [20]. Ushbu guruhga mansub Pseudococcidae oilasi vakillarining dunyo faunasi 262 avlodga mansub 2059 ga yaqin turdan iborat [25].

Unsimon qurtlar o‘simliklarning to‘qima shirasi bilan oziqlanuvchi mayda hasharotlardir [34]. Ular o‘simliklarni mexanik shikastlash bilan birgalikda turli kasalliklarni keltirib chiqaradi [19]. Bu hasharotlar ozuqa o‘simliklarining o‘sishi va meva hosil bo‘lishi uchun zarur bo‘lgan muhim oziq moddalarning inqiroziga hamda oxir-oqibatda o‘simlikning zaiflashishiga olib keladi [34]. Unsimon qurtlarning aksariyati polifaglar hisoblanadi [26].

Rossiya federatsiyasining yirik koksidolog olimlari A.N.Kirichenko va A.D.Arxangelskaya 1920-yillardan boshlab sobiq Ittifoqning o‘sha paytda to‘liq o‘rganilmagan keng ko‘lamli ko‘ksidlari faunasini muntazam tadqiq qilishni boshlaganlar. A.N.Kirichenko (1920-y.) Janubiy Ukraina, Qrim, Kavkazorti va O‘rta Osiyoda tarqalgan, ilgari fanga noma’lum bo‘lgan koksidlarni tavsiflash va o‘rganishga bag‘ishlangan 20 ga yaqin ilmiy maqolalar chop etgan. U asosan *Pseudococcidae* oilasining, yarim cho‘l va cho‘l mintaqasi o‘simliklarining ildizlari va poyalari bilan trofik bog‘langan turlariga alohida e’tibor qaratadi [3].

A.D.Arxangelskayaning tadqiqotlari asosan Turkiston koksidlarini o‘rganish bo‘yicha turli oilalardan 20 dan ortiq yangi turlarni kashf etganligi bilan bog‘liq. Tadqiqotchining muhim ilmiy natijalarining bir qismi 1935-yilda chop etilgan. Unda O‘rta Osiyoda tarqalgan Margarodidae oilasiga mansub turlarning morfologiyasi, ekologiyasi va individual taraqqiyoti batafsil yoritilgan [1].

Soha bo‘icha salmoqli ishlar olib borgan yirik olim N.S.Borxsenius tadqiqotlarining ibtidosi 1930-yillarga to‘g‘ri keladi. Uning koksidlar oilalarining morfologiyasi, ekologiyasi, taksonomiyasi va ularning evol-

yutsiyasiga bag‘ishlangan 100 dan ortiq ishlari chop etilgan [3].

1965-yilda N.S.Borxsenius vafot etgandan so‘ng, uning hamkasbi E.M.Danzig sovet koksidologlari lideriga aylandi. Uning sa’y-harakatlari bilan markaziy kolleksiya Rossiya, Yevropaning shimoli-g‘arbi, Kavkaz, Markaziy Osiyo, Janubiy Sibir va Uzoq Sharq, shuningdek, G‘arbiy Yevropaning turli mamlakatlaridan yoki Angliya, Fransiya, Italiya, Vengriya, Polsha, Isroil, AQSh va Avstraliya muzeylaridan olingan materiallar bilan to‘ldirildi.

E.M.Danzig tabiiy va antropogen kelib chiqishga oid taksonomik tartibsizlikni izchil va prinsipial ravishda tartibga solgan, boshqa mualliflar tomonidan asossiz ravishda ilm-fanga kiritilgan ko‘plab tur va avlod nomlarini sinonimlarga aylantirgan. Umuman olganda, E.M.Danzig koksidologiyaga oid 130 ga yaqin ilmiy ish, jumladan, bir nechta monografiya nashr etgan [23, 24].

XX asrning ikkinchi yarmida E.F.Kozarjevskaya manzarali o‘simliklarga zarar keltiruvchi koksidlar bo‘yicha yirik to‘plamli monografiyasini e’lon qilgan [7]. Ayrim zararli koksidlarning reproduktiv biologiyasi, anatomiyasi va ontogenezi bo‘yicha tadqiqotlar bilan shug‘ullangan A.A.Saakyan-Baranovaning ishlari ham alohida o‘rin tutadi [13].

E.M.Tereznikova Ukrainada koksidlar faunasi bo‘yicha bir qator maqolalar va uchta monografiyani nashr etgan [16].

Gruziyada N.S.Borxseniusning ishini uning shogirdi Z.K.Xodjibeyli davom ettirdi. U Kavkaz mintaqasiga xos koksid turlarining ontogenezini va biologiyasini o‘rganishga o‘z hissasini qo‘shdi, ko‘plab ixtisoslashtirilgan maqolalardan tashqari kichik monografiyasini ham tayyorladi [17].

Shuningdek, Gruziyada zararli koksid turlariga qarshi kurashish muammolari bilan I.D.Batiashvili ham shug‘ullangan [21].

Ko‘plab mutaxassislar guruhi Armaniston koksidlarini o‘rganish bilan shug‘ullanganlar. Bu borada M.A.Ter-Grigoryanning tadqiqotlari muayyan to‘plamlarda o‘z aksini topgan [15].

Armaniston amaliy koksidologlari orasida A.S.Avetyan va G.A.Babayanning, shuningdek, Ararat koshenillarini o‘rganish bo‘yicha samarali tadqiqotchilar guruhining (L.P.Mkrtchyan, R.N.Sarkisov, S.M. Sarkisyan va boshqalar) ishlarini keltirish mumkin.

Ozarbayjon koksidlarini tadqiq etishda E.S.Arutyunova, V.N.Rusanova va A.G.Imomquliyevlarning ishlarini ko‘rsatish mumkin. Shunga qaramay, Ozarbayjon koksidlari faunasi bo‘yicha samarali ishlar chop etilmagan [6].

Qozog‘istonda koksidlar faunasi va ekologiyasini o‘rganish bilan G.Y.Matesova (1925–1998) shug‘ullangan. 1960–1980-yillarda G.Y.Matesova Qozog‘iston hududi bo‘ylab ko‘plab ekspeditsiyalarni amalga oshirdi va tadqiqot natijalari ilmiy maqolalar seriyasida o‘z aksini topdi [8, 9, 10].

G.Y.Matesova ishi uning shogirdi R.V.Yashchenko tomonidan davom ettirilgan. U asosan Margarodidae oilasining palearktik turlari koksidlarini har tomonlama o‘rganish bilan shug‘ullangan. Shuningdek, Porphyrophora avlodi vakillaridan karmin olishning amaliy va tarixiy jihatlari bilan shug‘ullangan [27, 28, 29].

Turkmanistonda XX asrning ikkinchi yarmida S.N.Myartseva va uning shogirdlari tomonidan koksidlarning faunasi va ekologiyasi bo‘yicha tadqiqotlar olib borilgan [11, 32, 33].

O‘zbekistonda koksidlarni asosan amaliy jihatdan o‘rganish bilan Z.Boboyeva, Y.M.Fotaxov va N.G.Kim shug‘ullanganlar [3].

Bugungi kunda Farg‘ona vodiysi koksidlari faunasi, ekologiyasi, rivojlanish taraqqiyoti hamda filogeneyasi K.Zokirov, O.Sobirov, I.Isaqov va A.Husanovlar tomonidan o‘rganilmoqda [4, 14].

XX asr oxirida Qirg‘iziston koksidlari faunasi bo‘yicha E.M.Danzigning shogirdi N.I.Abdrashitova nisbatan qisqa vaqt ishlagan. 1998-yilda u ayni yo‘nalish bo‘yicha nomzodlik dissertatsiyasini himoya qildi [18].

Tojikistonda 1960-yillardan boshlab B.B.Bozorov tomonidan koksidlar bo‘yicha ko‘p qirrali tadqiqotlar o‘tkazilgan va muallif ishlari nufuzli nashrlarda chop etilgan [2, 22].

Material va tadqiqot metodlari

Tadqiqotlar Farg‘ona vodiysi hududlarida o‘tkazildi (41^0 03^1 shimoliy kenglik, 40^0 24^1 sharqiy uzunlik) [5, 6].

Materiallar 2021-yilning mart oyidan 2024-yilning mayigacha bo‘lgan davrda yig‘ildi. Namunalarni yig‘ish va saqlashda T.Kondo va G.V.Vatson usullaridan foydalanildi [30].

Turlarning morfologik belgilarini tekshirish va tahlil qilish uchun Kozstarab va Kozarlar taklif etgan usul qo‘llanildi [31]. Turlar bo‘yicha olingan namunalar Andijon davlat universiteti Zoologiya va biokimyo kafedrasi laboratoriyasida, Polarizing mikroskopidan foydalangan holda (A15.2601-T-T, Beijing, China. 20.09.2023 y.) o‘rganildi.

Natijalar va ularning muhokamasi

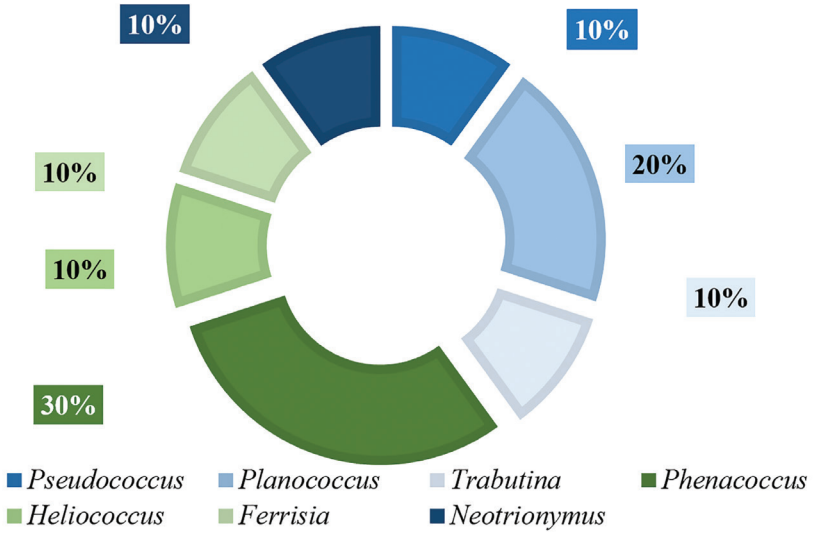
Unsimon qurtlar oilasi turli o‘simliklarning ustki va ildiz qismlarida zararkunandalik qiluvchi mayda hasharotlar guruhi hisoblanadi.

Farg‘ona vodiysi sharoitida mevali, manzarali va o‘t o‘simliklarida uchrovchi unsimon qurtlarning tur tarkibi va tarqalishini amalda atroflicha o‘rganilmaganligi sababli ularning taksonomik tahlili keyingi yillarda olib borilgan tadqiqot natijalari asosida amalga oshirildi.

O‘rganilgan materiallar asosida unsimon qurtlarning taksonomik tahlili o‘tkazildi.

Hemiptera
Coccomorpha
Oila - Pseudococcidae
Avlod – *Pseudococcus* Westwood, 1840
Tur – *Pseudococcus comstocki* (Kuwana, 1902)
Avlod – *Planococcus* Ferris, 1950
Tur – *Planococcus citri* (Risso, 1813)
Tur – *Planococcus vovae* (Nasonov, 1909)
Avlod – *Trabutina* Marchal, 1904
Tur – *Trabutina serpentina* (Green, 1919)
Avlod – *Phenacoccus* Cockerell, 1893
Tur – *Phenacoccus aceris* (Signoret, 1875)
Tur – *Phenacoccus pumilus* Kiritshenko, 1936
Tur – *Phenacoccus transcaucasicus* Hadzibejli, 1960
Avlod - *Heliococcus* Šulc, 1912
Tur – *Heliococcus destructor* Borchsenius, 1941
Avlod – *Ferrisia* Fullaway, 1923
Tur – *Ferrisia uzinuri* Kaydan & Gullan, 2012
Avlod – *Neotrionymus* Borchsenius, 1948
Tur – *Neotrionymus monstatus* Borchsenius, 1948

Yuqorida qayd qilingan turlardan ko‘rinib turganidek, Farg‘ona vodiysining mevali, manzarali va o‘t o‘simliklarida uchrovchi unsimon qurtlarning faunasi taksonomik tarkibiga ko‘ra faunadagi avlodlar soni 7, turlar soni esa 10 tani tashkil etadi.



1-rasm. Farg‘ona vodiysi unsimon qurtlarining avlodlar bo‘yicha taksonomik tarkibi.

Farg‘ona vodiysida uchrovchi unsimon qurtlarning faunadagi avlodlari bo‘yicha taqsimlanishi o‘rganildi. Turlar nisbatiga ko‘ra taqsimlanishda *Planococcus* (2 tur, 20%), *Phenacoccus* (3 tur, 30%) av-

lod vakillari tur nuqtayi nazaridan dominantlik qilsa, *Trabutina* (1 tur, 10%), *Pseudococcus* (1 tur, 10%), *Heliococcus* (1 tur, 10%), *Ferrisia* (1 tur, 10%), *Neotrionymus* (1 tur, 10%) avlodlari vakillari turlari soni bo‘yicha monotipik xarakterda ekanligini ko‘rish mumkin (1-rasm).

Pseudococcus Westwood, 1840

***Pseudococcus comstocki* (Kuwana, 1902).**

Sinonimlar: = *Dactylopius comstocki* Kuwana 1902, = *seudococcus comstocki* Moghaddam 2009, = *Pseudococcus cosmtocki* (Kuwana, 1902) [19].

Material: 90 ♀, Xo‘jaobod, 40°34’0”N 72°39’55”E, 40°35’31”N 72°37’52”E, 28.05.2023, 07.09.2022. I.Isaqov, O.Sobirov; 44 ♀, Marhamat, 40°36’5”N 72°18’3”E, 40°36’01.9”N 72°17’43.1”E, 40°29’17”N 72°14’07”E, 16.08.2022, 27.09.2022, I.Isaqov; 25 ♀, Oltinko‘l, 40°47’56”N 72°0’10”E, 40°47’58.6”N 71°59’24.3”E) 15.05.2022, 30.04.2022, I.Isaqov; 40 ♀, Qo‘rg‘ontepa, 40°40’47”N 72°40’37”E, 9.09.2022. I.Isaqov, O.Sobirov; 10 ♀, Buloqboshi, 40°35’34”N 72°31’49”E, 29.09.2022. I.Isaqov; 30 ♀, Andijon, 40°47’02”N 72°21’15”E, 12.06.2022, I.Isaqov, O.Sobirov; 35 ♀, Andijon, 40°47’23”N 72°28’59”E, 8.09.2023, I.Isaqov O.Sobirov; 15 ♀, Shahrixon, 40°46’39”N 72°58’01”E, 20.05.2022, I.Isaqov; 20 ♀, Ulug‘nor, 40°42’56”N 72°42’21”E, 27.04.2023, I.Isaqov; 120 ♀, So‘x, 39°55’7”N 71°4’59”E, 15.08.2022, I.Isaqov; 150 ♀, Jalolobod (Qirg‘iziston Respublikasi), 41°15’39”N 72°13’9”E, 15.07.2023, I.Isaqov.

Tarqalishi: Afg‘oniston, Argentina, Armaniston, Ozarbayjon, Braziliya, Kanada, Kanar orollari, Kabo-Verde, Xitoy, Kolumbiya, Korsika, Xorvatiya, Mikroneziya Federativ davlatlari, Fransiya, Gruziya, Gretsiya, Indoneziya, Eron, Italiya, Yaponiya, Kampuchiya, Qozog‘iston, Qirg‘iziston, Madeyra orollari, Malayziya, Meksika, Moldova, Shimoliy Koreya, Shimoliy Mariana orollari, Portugaliya, Rossiya, Avliyo Yelena, Janubiy Koreya, Shri-Lanka, Suriya, Tayvan, Tojikiston, Tailand, Turkiya, Turkmaniston, Ukraina, Amerika Qo‘shma Shtatlari, O‘zbekiston, Vetnam [25].

Ozuqa o‘simliklari: 48 oila (Adoxaceae, Amaryllidaceae, Anacardiaceae, Apocynaceae, Aquifoliaceae, Araceae, Araliaceae, Asteraceae, Berberidaceae, Betulaceae, Bignoniaceae, Buxaceae, Cactaceae, Cannabaceae, Caprifoliaceae, Celastraceae, Crassulaceae, Cupressaceae, Elaeagnaceae, Ericaceae, Fabaceae, Fagaceae, Ginkgoaceae, Hydrangeaceae, Hypericaceae, Lauraceae, Loranthaceae, Lythraceae, Meliaceae, Moraceae, Musaceae, Oleaceae, Onagraceae, Pandanaceae, Paulowniaceae, Pinaceae, Pittosporaceae, Platanaceae, Poaceae, Rhamnaceae, Rosaceae, Rubiaceae, Rutaceae, Salicaceae, Sapindaceae, Taxaceae, Theaceae, Vitaceae), 81 turkumga mansub o‘simliklarni zararlashi qayd qilingan [25]. Farg‘ona vodiysida ushbu tur Moraceae, Bignoniaceae, Lythraceae, Ebenaceae, Salicaceae oilalariga mansub o‘simliklarda qayd qilindi.

Planococcus Ferris, 1950

***Planococcus citri* (Risso, 1813).**

Sinonimlar: = *Dorthesia citri* Risso 1813, = *Coccus tuliparum* Bouche 1844, = *Coccus citri* (Risso, 1813), = *Dactylopius citri* (Risso, 1813), = *D. tuliparum* (Bouche, 1844), = *D. alaterni* Signoret 1875, = *D.ceratoniae* Signoret 1875, = *D. cyperi* Signoret 1875, = *D. robiniae* Signoret 1875, = *D. citri* Signoret 1875, = *D. brevispinus* Targioni Tozzetti 1881, = *D. destructor* Comstock 1881, = *D. farinosus* Cockerell 1898, = *D.secretus* Hempel 1900, = *D. achado* Carus & Field 1903, = *D. (Trechocorys) citri* (Risso, 1813), = *Coccus citry* (Risso, 1813), = *Lecanium phyllococcus* Ashmead 1879, = *Coccus citry* (Risso, 1813), = *Phenacoccus spiriferus* Hempel 1900, = *Ph. spiniferus* Hempel, 1900, = *Pseudococcus citri* (Risso, 1813), = *P. alaterni* (Signoret, 1875), = *P. ceratoniae* (Signoret, 1875), = *P. cyperi* (Signoret, 1875), = *P. robiniae* (Signoret, 1875), = *P. tuliparum* (Bouche, 1844), = *P. citri coleorum* Marchal 1908, = *P. citri phenacocciformis* Brain 1915, = *Pseudococcus citris* Gomez-Menor Ortega 1929, = *Planococcoides cubanensis* Ezzat & McConnell 1956, = *Planococcus citricus* Ezzat & McConnell 1956, = *Pl. cucurbitae* Ezzat & McConnell 1956, = *Pl. citri* Meurgey 2011, = *Pl. citi* (Risso, 1813), = *Pl. citri* Risso Ahmed, et al. 2023 [19].

Material: 45 ♀, Xo‘jaobod, 40°35’48.4”N 72°41’11.1”E, 2.06.2023. I.Isaqov; 35 ♀, Oltinko‘l, 40°47’56”N 72°0’10”E, 3.12.2023, 14.04.2024. I.Isaqov.

Tarqalishi: Afg‘oniston, Jazoir, Angola, Antigua va Barbuda, Argentina, Armaniston, Avstraliya, Avstriya, Ozarbayjon, Azor orollari, Bagama orollari, Balear orollari, Bangladesh, Barbados, Belgiya, Benin, Bermuda, Bonin orollari, Braziliya, Britaniya Virjiniya orollari, Bruney, Bolgariya, Burkina-Faso, Birma, Burundi, Kamerun, Kanada, Kanar orollari, Kabo-Verde, Kayman orollari, Chad, Chili, Xitoy, Kolumbiya, Komor orollari, Kongo, Kuk orollari, Korsika, Kosta-Rika, Kot-d’Ivuar, Krit, Xorvatiya, Kuba, Kipr, Che-

xiya, Kongo Demokratik Respublikasi, Dominika, Dominikan Respublikasi, Ekvador, Misr, El Salvador, Eritreya, Efiopiya, Mikroneziya Federativ davlatlari, Fiji, Fransiya, Fransuz Gvianasi, Fransuz Polineziyasi, Gabon, Galapagos orollari, Gruziya,Germaniya, Gana, Gretsiya, Grenada, Gvadelupa, Guam, Gvatemala, Gviana, Gvineya, Gayana, Gaiti, Gavayi orollari, Gonduras, Vengriya, Hindiston, Indoneziya, Eron, Iroq, Irlandiya, Isroil, Italiya, Yamayka, Yaponiya, Iordaniya, Kampuchiya, Keniya, Kiribati, Laos, Livan, Liberiya, Liviya, Lyuksemburg, Madagaskar, Madeyra orollari, Malavi, Malayziya, Maldiva orollari, Mali, Malta, Marshall orollari, Martinika, Mavrikiy, Meksika, Montserrat, Marokash, Mozambik, Niderlandiya, Yangi Kaledoniya, Yangi Zelandiya, Niger, Nigeriya, Niue, Ummon, Pokiston, Palau, Papua-Yangi Gvineya, Paragvay, Peru, Filippin, Polsha, Portugaliya, Puerto-Riko va Vieques oroli, Ruminiya, Rossiya, Ruanda, Ryukyu orollari, Saba va Sint Eustatius, Saint Croix, Avliyo Yelena, Sent-Lyusiya, Sent-Vinsent va Grenadinlar, San-Marino, San-Tome va Prinsipi, Sardiniya, Saudiya Arabistoni, Senegal, Seyshel orollari, Sierra Leone, Sloveniya, Janubiy Afrika, Janubiy Koreya, Ispaniya, Shri-Lanka, Sudan, Surinam, Svazilend, Shveytsariya, Suriya, Tayvan, Tojikiston, Tanzaniya, Tailand, Togo, Tonga, Trinidad va Tobago, Tunis, Turkiya, Turkmaniston, AQSh Virjiniya orollari, Uganda, Ukraina, Buyuk Britaniya, Amerika Qo‘shma Shtatlari, Urugvay, O‘zbekiston, Venesuela, Vyetnam, G‘arbiy Samoa, Yaman, Yugoslaviya, Zambiya, Zanzibar, Zimbabve [25].

Ozuqa o‘simliklari: 109 oila (Acanthaceae, Adoxaceae, Aizoaceae, Alismataceae, Amaranthaceae, Amaryllidaceae, Anacardiaceae, Annonaceae, Apiaceae, Apocynaceae, Araceae, Araliaceae, Arecaceae, Asparagaceae, Asphodelaceae, Asteraceae, Balsaminaceae, Begoniaceae, Berberidaceae, Bignoniaceae, Boraginaceae, Brassicaceae, Bromeliaceae, Burseraceae, Cactaceae, Campanulaceae, Cannabaceae, Cannaceae, Capparaceae, Caricaceae, Caryophyllaceae, Celastraceae, Cephalotaxaceae, Chloranthaceae, Cleomaceae, Clusiaceae, Combretaceae, Convolvulaceae, Crassulaceae, Cucurbitaceae, Cupressaceae, Cyclanthaceae, Cyperaceae, Didiereaceae, Dilleniaceae, Dioscoreaceae, Ebenaceae, Ericaceae, Euphorbiaceae, Fabaceae, Geraniaceae, Gesneriaceae, Goodeniaceae, Grossulariaceae, Hydrangeaceae, Iridaceae, Juglandaceae, Lamiaceae, Lauraceae, Lecythidaceae, Lythraceae, Magnoliaceae, Malpighiaceae, Malvaceae, Marantaceae, Melastomataceae, Menispermaceae, Moraceae, Musaceae, Myrtaceae, Nyctaginaceae, Oleaceae, Onagraceae, Orchidaceae, Orobanchaceae, Paeoniaceae, Pandanaceae, Passifloraceae, Pentaphylacaceae, Phyllanthaceae, Pittosporaceae, Plantaginaceae, Platanaceae, Plumbaginaceae, Poaceae, Polygonaceae, Polypodiaceae, Portulacaceae, Primulaceae, Proteaceae, Resedaceae, Rhamnaceae, Rhizophoraceae, Rosaceae, Rubiaceae, Rutaceae, Sapindaceae, Sapotaceae, Saxifragaceae, Scrophulariaceae, Solanaceae, Strelitziaceae, Tamaricaceae, Theaceae, Thymelaeaceae, Urticaceae, Verbenaceae, Vitaceae, Zygophyllaceae), 333 turkumga mansub o‘simliklar zararkunandasi [25]. Biz tadqiqot olib borgan hududlarda ushbu tur Vitaceae, Moraceae oilalariga mansub o‘simliklarda qayd qilindi.

***Planococcus vovae* (Nasonov, 1909).**

Sinonimlar: = *Coccus gossipifera* Rondani 1874, = *Pseudococcus (Dactylopius) vovae* Nasonov 1909, = *P. gossipifer* (Rondani, 1874), = *P. gossypifer* Lindinger, 1921, = *P. inamabilis* Hambleton 1935, = *P. junipericola* Borchsenius 1949, = *Allococcus inamabilis* (Hambleton, 1935), = *A. vovae* (Nasonov, 1909), = *A. taigae* (Danzig, 1986), = *Planococcus taigae* Danzig 1986, = *P. juniperus* Danzig & Gavrilov-Zimin 2010 = *Crisicoccus taigae* (Danzig, 1986) [25].

Material: 150 ♀, 15 ♂, Jalaquduq, 40°42’40.3”N 72°33’58.9”E, 18.05.2023. I.Isaqov; 200 ♀, 20 ♂, Andijon shahar, 40°47’17.4”N72°22’20.9”E, 14.11.2023, 13.05.2023, 22.04.2023, 4.05.2022, 16.04.2022. I.Isaqov, O.Sobirov; 90 ♀, Andijon tumani, 40°47’23”N 72°28’59”E, 29.05.2023. I.Isaqov; 120 ♀, Andijon 40°50’14.6”N 72°25’01.4”E, 18.05.2023. I.Isaqov; 35 ♀, Ulug‘nor, 40°52’01.0”N 71°39’57.9”E, 27.04.2023. I.Isaqov; 80 ♀, Oltinko‘l, 40°48’24.6”N 72°04’08.4”E, 24.04.2023. I.Isaqov; 50 ♀, Marhamat, 40°36’01.9”N 72°17’43.1”E, 27.09.2022. I.Isaqov; 30 ♀, Paxtaobod, 41°00’17.6”N 72°24’51.9”E, 26.09.2022. I.Isaqov; 80 ♀, 15♂, Qo‘rg‘ontepa, 40°43’35.6”N 72°43’59.1”E, 24.04.2022. I.Isaqov, O.Sobirov; 10 ♀, Shahrixon, 40°41’45.8”N 71°59’54.2”E, 3.03.2022. I.Isaqov; 70 ♀, Xo‘jaobod, 40°35’48.4”N 72°41’11.1”E, 29.04.2022. I.Isaqov; 100 ♀, 15 ♂, Xo‘jaobod, 40°35’31”N 72°37’52”E, 20.05.2024. I.Isaqov, O.Sobirov.

Tarqalishi: Afg‘oniston, Armaniston, Avstriya, Braziliya, Bolgariya, Kanar orollari, Xitoy, Korsika, Krit, Xorvatiya, Kipr, Chexiya, Misr, Estoniya, Fransiya, Gruziya, Germaniya, Gretsiya, Vengriya, Eron, Isroil, Italiya, Latviya, Lyuksemburg, Malta, Marokash, Polsha, Portugaliya, Ruminiya, Rossiya, Sardiniya, Serbiya, Sloveniya, Ispaniya, Shvetsiya, Tojikiston, Tunis, Turkiya, Ukraina, Birlashgan Qirollik, Yugoslaviya [25].

Ozuqa o‘simliklari: 5 oila (Araceae, Cupressaceae, Lauraceae, Moraceae, Taxaceae)ga mansub 10 turkum turlarining zararkunandasi sifatida qayd qilingan [19]. Ushbu tur Cupressaceae oilasiga mansub o‘simlikda qayd qilindi.

Trabutina Marchal, 1904

***Trabutina serpentina* (Green, 1919).**

Sinonimlar: = *Naiacoccus serpentinus* Green 1919, = *N. serpentinus minor* Green 1919, = *N. minor* Green, 1919, = *Trabutina crassispinosa* Ter-Grigorian 1973 [19].

Material: 20 ♀, Andijon, 40°47’58”N 72°32’3”E, 22.07.2023. I.Isaqov; 30 ♀, Bo‘ston, 40°40’52.6”N 71°52’18.7”E, 17.08.2023. I.Isaqov; 120 ♀, Ulug‘-nor, 40°43’53.2”N 71°32’42.4”E, 22.05.20224. I.Isaqov; 70 ♀, Yozyovon, 40°36’05.6”N 71°28’24.8”E, 17.08.2023. I.Isaqov; 30 ♀, Jalolobod (Qirg‘iziston Respublikasi), 41°42’55”N 71°58’35”E, 15.07.2023. I.Isaqov.

Tarqalishi: Afg‘oniston, Jazoir, Armaniston, Xitoy, Misr, Eron, Isroil, Qozog‘iston, Qirg‘iziston, Mo‘g‘uliston, Pokiston, Saudiya Arabistoni, Tojikiston, Turkmaniston, O‘zbekiston [25].

Ozuqa o‘simliklari: 1 ta oila (Tamaricaceae)ga mansub 1 ta turkumga kiruvchi turlar zararkunandasi [25]. Bizning tadqiqotlarimizda ham ushbu tur Tamaricaceae oilasiga mansub o‘simliklarda qayd qilindi.

Phenacoccus Cockerell, 1893

***Phenacoccus aceris* (Signoret, 1875).**

Sinonimlar: = *Coccus farinosus alni* De Geer 1776, = *C. farinosus* Gmelin 1790, = *Pseudococcus aceris* Signoret 1875, = *P. aesculi* Signoret 1875, = *P. hederae* Signoret 1875, = *P. mespili* Signoret 1875, = *P. platani* Signoret 1875, = *P. aceris*; Comstock 1881, = *P. ulicis* Douglas 1888, = *P. ulmi* Douglas 1888, = *P. quercus* Douglas 1890, = *P. socius* Newstead 1892, = *Gossyparia farinosus* Signoret 1875, = *Pulvinaria ribesiae*; Douglas 1890, = *Phenacoccus aceris* (Signoret, 1875), = *Ph. aesculi* (Signoret, 1875), = *Ph. hederae* (Signoret, 1875), = *Ph. platani* (Signoret, 1875), = *Ph. quercus* (Douglas, 1890), = *Ph. socius* (Newstead, 1892), = *Ph. ulicis* (Douglas, 1888), = *Ph. ulmi* (Douglas, 1888), = *Ph. mespili* (Signoret, 1875), = *Ph farinosus* Cockerell 1899, = *Ph. (Paroudablis) socius* Cockerell 1900, = *Ph. farinosus* Fernald 1903, = *Ph. aceris* Kiritchenko 1932, = *Ph. perillustris* Borchsenius 1949, = *Ph. polyphagus* Borchsenius 1949, = *Ph. aceris* Ter-Grigorian 1956, = *Ph. mespili* Ter-Grigorian 1956, = *Ph. gorgasalicus* Hadzibejli 1960, = *Ph. prunicola* Borchsenius 1962, = *Ph. aceris* Schmutterer 1980, = *Ph. gorgasalicus* Hadzibejli, 1960, = *Ph. mespili* Ben-Dov 1994, = *Ph. perilustris* Borchsenius, 1949, = *Ph. karkasicus* Moghaddam, = *Dactylopius vagabundus* Reh 1903, = *D. vagabundus*; Reh 1904, = *Spinococcus gorgasalicus* (Hadzibejli, 1960), = *S. gorgosalicus* (Hadzibejli, 1960) [25].

Material: 65 ♀, Xo‘jaobod, 40°34’0”N 72°39’55”E, 40°35’31”N 72°37’52”E, 40°35’48.4”N 72°41’11.1”E, 16.04.2022, 15.05.2023, 13.04.2023. I.Isaqov; 41 ♀, Marhamat, 40°36’5”N 72°18’3”E, 40°36’01.9”N 72°17’43.1”E, 40°29’17”N 72°14’07”E, 19.04.2023, 18.05.2023. I.Isaqov; 17 ♀, Oltinko‘l, 40°47’56”N 72°0’10”E, 1.05.2022. 8.04.2023. I.Isaqov; 21 ♀, Qo‘rg‘ontepa, 40°40’47”N 72°40’37”E, 18.05.2023. I.Isaqov; 24 ♀, 1 ♂, Buloqboshi, 40°35’34”N 72°31’49”E, 29.09.2022. 19.042023. I.Isaqov; 23 ♀, Andijon, 40°47’23”N 72°28’59”E, 18.05.2023. I.Isaqov; 15 ♀, Andijon, 40°47’02”N 72°21’15”E, 20.04.2023. I.Isaqov; 20 ♀ Shahrixon, 40°46’39”N 72°58’01”E, 40°44’53.1”N 72°04’02.9”E, 21.04.2023, 18.05.2023. I.Isaqov; 21 ♀, Ulug‘nor, 40°42’56”N 72°42’21”E, 27.04.2023. I.Isaqov; 26 ♀, Jalaquduq, 40°44’47”N 72°35’9”E, 14.04.2022. 29.09.2022. I.Isaqov; 40 ♀, So‘x, 39°55’7”N 71°4’59”E, 14.08.2023. I.Isaqov; 62 ♀, Jalolobod (Qirg‘iziston Respublikasi), 41°48’26”N 71°57’42”E, 41°33’54”N 72°8’31”E, 14.07.2023, 15.07.2023. I.Isaqov.

Tarqalishi: Afg‘oniston, Armaniston, Avstriya, Bolgariya, Kanada, Xitoy, Korsika, Xorvatiya, Chexiya, Daniya, Estoniya, Fransiya, Gruziya, Germaniya, Gretsiya, Vengriya, Eron, Iroq, Irlandiya, Italiya, Qozog‘iston, Qirg‘iziston, Latviya, Litva, Lyuksemburg, Moldova, Mo‘g‘uliston, Niderlandiya, Shimoliy Koreya, Polsha, Ruminiya, Rossiya, Sardiniya, Sloveniya, Janubiy Koreya, Shvetsiya, Shveysariya, Tojikiston, Turkiya, Turkmaniston, Ukraina, Birlashgan Qirollik, Amerika Qo‘shma Shtatlari, O‘zbekiston, Yugoslaviya [25].

Ozuqa o‘simliklari: 35 oila (Actinidiaceae, Adoxaceae, Aphelinidae, Araliaceae, Asteraceae, Berberidaceae, Betulaceae, Buxaceae, Cannabaceae, Caprifoliaceae, Celastraceae, Cornaceae, Ebenaceae, Ericaceae, Fabaceae, Fagaceae, Grossulariaceae, Iridaceae, Juglandaceae, Magnoliaceae, Malvaceae, Moraceae, Myricaceae, Myrtaceae, Oleaceae, Pentaphylacaceae, Platanaceae, Poaceae, Rosaceae, Rutaceae, Salicaceae, Sapindaceae, Theaceae, Ulmaceae, Vitaceae), 63 turkumga mansub o‘simlik turlarining zararkunandasi [25]. Tadqiq qilingan hududlarda ushbu tur Rosaceae oilasiga mansub o‘simliklarda qayd qilindi.

***Phenacoccus pumilus* Kiritshenko, 1936.**

Sinonimlar: = *Phenacoccus latus* Kiritshenko 1931, = *Ph. pumilus* Kiritshenko 1931, = *Ph. latus* Kiritshenko 1936, = *Ph. pseudopumilus* Hadzibejli

1960, = *Ph. eurotiae* Danzig 1975, = *Ph. rehacekii* Săvescu 1984 [25].

Material: 40 ♀, Andijon, 40°47’23”N 72°28’59”E, 22.07.2023. I.Isaqov; 20 ♀, Xo‘jaobod, 40°34’9”N 72°35’23”E, 22.07.2023. I.Isaqov; 45 ♀, Jalaquduq, 40°43’59”N 72°34’35”E, 22.07.2023 I.Isaqov; 20 ♀, Marhamat, 40°36’01.9”N 72°17’43.1”E, 22.07.2023. I.Isaqov.

Tarqalishi: Armaniston, Bolgariya, Xitoy, Fransiya, Gruziya, Gretsiya, Vengriya, Eron, Italiya, Qozog‘iston, Mo‘g‘uliston, Marokash, Ruminiya, Rossiya, Tojikiston, Turkiya, Turkmaniston, Ukraina, O‘zbekiston [25].

Ozuqa o‘simliklari: 21 oila (Amaranthaceae, Apiaceae, Asphodelaceae, Asteraceae, Boraginaceae, Brassicaceae, Caprifoliaceae, Caryophyllaceae, Convolvulaceae, Dipsacaceae, Fabaceae, Geraniaceae, Lamiaceae, Malvaceae, Papaveraceae, Plantaginaceae, Polygonaceae, Resedaceae, Restionaceae, Rubiaceae, Scrophulariaceae)ga mansub 92 turkum turlarining zararkunandasi [19]. Ushbu tur Convolvulaceae oilasiga mansub o‘simliklarda qayd qilindi.

***Phenacoccus transcaucasicus* Hadzibejli, 1960.**

Sinonimlar: -

Material: 15 ♀, Xo‘jaobod, 40°35’48.4”N 72°41’11.1”E, 16.04.2022. I.Isaqov; 41 ♀, Marhamat, 40°29’17”N 72°14’07”E, 19.04.2023 I.Isaqov; 17 ♀, Oltinko‘l, 40°47’56”N 72°0’10”E, 1.05.2022. 8.04.2023 I.Isaqov; 23 ♀, Andijon, 40°47’23”N 72°28’59”E, 18.05.2023. I.Isaqov; 20 ♀, Shahrixon, 40°44’53.1”N 72°04’02.9”E), 21.04.2023. I.Isaqov; 26 ♀, Jalaquduq, 40°44’47”N 72°35’9”E, 14.04.2022, 29.09.2022. I.Isaqov.

Tarqalishi: Armaniston, Ozarbayjon, Gruziya, Eron, Qozog‘iston, Qirg‘iziston, Rossiya, Turkiya, Turkmaniston, Ukraina, O‘zbekiston [25].

Ozuqa o‘simliklari: 4 oila (Caprifoliaceae, Juglandaceae, Oleaceae, Rosaceae), 9 turkum turlarining zararkunandasi [25]. Tadqiq qilingan hududlarda ushbu tur Rosaceae oilasiga mansub o‘simliklarda qayd qilindi.

Heliococcus Šulc, 1912

***Heliococcus destructor* Borchsenius, 1941.**

Sinonimlar: = *Heliococcus zizyphi* Borchsenius 1958, = *H. slavonicus* Borchsenius & Tereznifova 1959, = *H. kehejanae* Ter-Grigorian 1967, = *H. kenejanae* Ter-Grigorian, 1967 [25].

Material: 17 ♀, Andijon, 40°47’23”N 72°28’59”E 40°46’45.1”N 72°28’37.8”E, 15.04.2023. I.Isaqov; 35 ♀, Xo‘jaobod, 40°34’9”N 72°35’23”E, 40°34’00.9”N 72°39’55.6”E, 15.05.2023. I.Isaqov; 26 ♀, Jalaquduq, 40°43’59”N 72°34’35”E, 18.05.2023. I.Isaqov; 40 ♀, Qo‘rg‘ontepa, 40°43’35.6”N 72°43’59.1”E 40°44’52.4”N 72°55’35.1”E, 24.04.2022, 17.04.2023. I.Isaqov; 18 ♀, Marhamat, 40°29’54.0”N 72°23’03.6”E, 19.04.2023. I.Isaqov; 26 ♀, Oltinko‘l, 40°47’56”N 72°0’10”E, 21.05.2023. I.Isaqov; 38 ♀, Yozyovon, 40°41’29.9”N 71°42’21.1”E, 27.04.2023. I.Isaqov;

Tarqalishi: Armaniston, Bolgariya, Xitoy, Gruziya, Qozog‘iston, Qirg‘iziston, Marokash, Polsha, Rossiya, Shveysariya, Tojikiston, Turkmaniston, Ukraina, O‘zbekiston [25].

Ozuqa o‘simliklari: 17 oila (Amaranthaceae, Anacardiaceae, Asteraceae, Caprifoliaceae, Caryophyllaceae, Crassulaceae, Elaeagnaceae, Fabaceae, Lamiaceae, Lythraceae, Moraceae, Platanaceae, Ranunculaceae, Rhamnaceae, Rosaceae, Rubiaceae, Zygophyllaceae)ning 23 turkumga mansub o‘simliklari zararkunandasi [25]. Tadqiq qilingan hududlarda ushbu tur Moraceae oilasiga mansub o‘simliklarda qayd qilindi.

Ferrisia Fullaway, 1923

***Ferrisia uzinuri* Kaydan & Gullan, 2012.**

Sinonimlar: -

Material: 21 ♀, Andijon, 40°47’17.7”N 72°22’21.3”E, 01.07.2024. I.Isaqov, O.T.Sobirov.

Tarqalishi: Bagama orollari, Dominikan Respublikasi, Gaiti, Amerika Qo‘shma Shtatlari [25].

Ozuqa o‘simliklari: 7 ta oila (Arecaceae, Cannabaceae, Combretaceae, Euphorbiaceae, Fabaceae, Polygonaceae, Rutaceae)ning 8 turkumga kiruvchi o‘simliklarida qayd qilingan [25]. Ushbu tur Crassulaceae oilasiga mansub o‘simlikda qayd qilindi.

Neotrionymus Borchsenius, 1948

***Neotrionymus monstatus* Borchsenius,1948.**

Sinonimlar: = *Ripersia cellulosa* Archangelskaya 1937, = *R. phragmitis* Archangelskaya 1937, = *Neotrionymus monstatus monstatus* Borchsenius 1948, = *Neotrionymus ibericus* Hadzibejli 1960, = *N. maritimus* Borchsenius & Kozarzhevskaya 1966, = *N. monstarus* Borchsenius, 1948 [25].

Material: 21 ♀, Xo‘jaobod, 40°34’00.8”N

72°40’20.5”E, 07.09.2023. I.Isaqov, O.T.Sobirov; 38 ♀, So‘x, 39°58’57.6”N 71°06’58.3”E, 15.10.2023. I.Isaqov, O.T.Sobirov; 15 ♀, Yozyovon, 40°37’25.7”N 71°34’47.5”E, 14.10.2023. I.Isaqov, O.T.Sobirov; 10 ♀, Buvayda, 40°42’13.7”N 71°02’54.4”E, 15.10.2023. I.Isaqov, O.T.Sobirov.

Tarqalishi: Armaniston, Xitoy, Gruziya, Italiya, Qozog‘iston, Mo‘g‘uliston, Rossiya, Tojikiston, Turkiya, Turkmaniston, Ukraina, O‘zbekiston [19].

Ozuqa o‘simliklari: 1 oila (Poaceae)ga mansub 3 turkumga kiruvchi o‘simliklarning zararkunandasi [25]. Tadqiq qilingan hududlarda ushbu tur Poaceae oilasiga mansub o‘simliklarda qayd qilindi.

O‘rganilgan hududlarda unsimon qurtlar ilmiy manbalar va biz tomonimizdan aniqlangan ozuqa o‘simliklariga ko‘ra oligofag, polifag va keng polifag turlarga taqsimlandi (1-jadval).

1-jadval

Farg‘ona vodiysi o‘simliklarida uchrovchi unsimon qurtlarning oziqlanishiga ko‘ra ekologik guruhlanishi

T/r	Turlarning nomi	Ekologik guruhlari		
		Oligofag	Polifag	Keng polifag
1.	*Pseudococcus comstocki*	-	-	+
2.	*Planococcus citri*	-	-	+
3.	*Planococcus vovae*	-	+	-
4.	*Trabutina serpentina*	+	-	-
5.	*Phenacoccus aceris*	-	+	-
6.	*Phenacoccus pumilus*	-	-	+
7.	*Phenacoccus transcaucasicus*	-	+	-
8.	*Heliococcus destructor*	-	+	-
9.	*Ferrisia uzinuri*	-	+	-
10.	*Neotrionymus monstatus*	+	-	-

Jadvalda ko‘rinib turganidek, unsimon qurtlarning ozuqa o‘simligida yashashga moslanishlariga qarab *Trabutina serpentina, Neotrionymus monstatus* turlari oligofag, *Phenacoccus mespili, Phenacoccus transcaucasicus, Heliococcus destructor, Ferrisia uzinuri, Planococcus vovae* turlari polifag, *Pseudococcus comstocki, Planococcus citri, Phenacoccus pumilus* turlari keng polifag ekanligi aniqlandi. Farg‘ona vodiysida aniqlangan unsimon qurtlarning ichida monofag turlar qayd etilmadi.

Barcha koksid turlari singari unsimon qurtlarning ham ozuqa o‘simliklaridagi ekologik holati muhim xususiyatlardan sanaladi.

Tadqiqotlarimizda turlarning ozuqa o‘simligida joylashgan o‘rniga nisbatan ekologik tahlili ham o‘rganildi (2-jadval).

2-jadval

Farg‘ona vodiysida uchrovchi unsimon qurtlarning ozuqa o‘simligida oziqlanish joylari

T/r	Turlarning nomi	O‘simlikda oziqlanish joylari					
		O‘simlik tanasi	Shox va novdalar	Barg	Ildizi	Mevasi	Kurtak
1.	*Pseudococcus comstocki*	+	+	+	+	+	+
2.	*Planococcus citri*	+	+	+	-	+	+
3.	*Planococcus vovae*	-	+	+	-	-	-
4.	*Trabutina serpentina*	-	-	-	-	-	+
5.	*Phenacoccus aceris*	+	+	-	-	-	-
6.	*Phenacoccus pumilus*	-	-	-	+	-	-
7.	*Phenacoccus transcaucasicus*	+	+	-	-	-	-
8.	*Heliococcus destructor*	+	+	+	-	+	+
9.	*Ferrisia uzinuri*	-	+	+	-	-	-
10.	*Neotrionymus monstatus*	+	-	-	-	-	-

Jadvalda ko‘rinib turganidek, unsimon qurtlar ozuqa o‘simligida oziqlanishi uchun eng qulay joy o‘simlikning shox va novdalari bo‘lsa, ildiz qismi aniqlangan turlar uchun nisbatan eng kam oziqlanish joyi bo‘lib xizmat qiladi.

Xulosa

Farg‘ona vodiysida tarqalgan unsimon qurtlar faunasi 7 avlodga mansub 10 ta turdan iborat ekanligi kuzatildi.

Aniqlangan turlar ichida *Phenacoccus pumilus, Heliococcus destructor*, *Neotrionymus monstatus*, *Phenacoccus transcaucasicus*lar Farg‘ona vodiysi faunasi uchun*, Ferrisia uzinuri* O‘zbekiston faunasi uchun ilk bora qayd qilindi.

Crassulaceae oilasi vakillari *Ferrisia uzinuri* turi uchun*, Pseudococcus comstocki* turi uchun Ebenaceae o‘simliklar oilasi vakillari birinchi marta ozuqa o‘simligi sifatida qayd qilindi.

Farg‘ona vodiysi unsimon qurtlarni o‘rganish asnosida olingan mazkur ilmiy natijalar koksidologiya sohasi bo‘yicha olib borilayotgan keyingi tadqiqot ishlariga asos bo‘lib xizmat qiladi.

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ABOUT RESEARCH ON MEALYBUGS (HEMIPTERA: COCCOMORPHA: PSEUDOCOCCIDAE) COMMON IN THE FERGANA VALLEY

Ilyosbek B. Isaqov[1], Kozimjon Zokirov[1], Alijon K. Khusanov[1], Ozodbek T. Sobirov[1], Nafisa D. Ibrokhimova[1], Oghiloy Sh. Turg'unova[1]

Ilmiy xabarnoma. Seriya: Biologik tadqiqotlar – Scientific Bulletin. Series: Biological Research. 2024. 8(84). 24-36.

[1] Andijan State University, Andijan, 170100, str. University, 129 (Uzbekistan). E-mail: agsu_info@edu.uz

Key words: *Pseudococcus comstocki, Planococcus citri, Planococcus vovae, Trabutina serpentina, Phenacoccus aceris, Phenacoccus pumilus, Phenacoccus transcaucasicus, Heliococcus destructor, Ferrisia uzinuri, Neotrionymus monstatus, taxonomy, host plants.*

Due to the fact that the species composition and distribution of mealybugs found in fruit, ornamental and herbaceous plants in the conditions of the Fergana Valley have not been fully studied, their taxonomic analysis was carried out based on the results of research conducted in recent years. *Pseudococcus comstocki, Planococcus citri, Planococcus vovae, Trabutina serpentina, Phenacoccus aceris, Phenacoccus pumilus, Phenacoccus transcaucasicus, Heliococcus destructor, Ferrisia uzinuri, Neotrionymus monstatus* are found in Fergana valley. In the studies carried out in this direction, general information about the diagnosis of the above species in the Fergana Valley, their main food plants and their distribution is given.

In recent years, insects such as mealybugs, which were previously unrecorded in our republic, have been introduced from other regions, primarily due to the introduction of plant species, leading to the formation of new habitats and causing significant challenges for phytocenoses in many countries.

Mealybugs are considered a group of insects that pose a serious threat to agriculture. The global fauna of the Pseudococcidae family, which belongs to this group, consists of approximately 2,059 species from 262 genera.

Mealybugs are small insects that feed on the sap of plant tissues. In addition to causing mechanical damage to plants, they are responsible for spreading various diseases. Their activity depletes essential nutrients necessary for plant growth and fruit development, ultimately weakening the plants. The majority of mealybugs are classified as polyphagous pests.

It was observed that the fauna of mealybugs distributed in the Fergana Valley consists of 10 species belonging to 7 genera.

Food plants of mealybugs and their ecological grouping were studied. Accordingly, it was found that the species *Trabutina serpentina, Neotrionymus monstatus* are oligophagous, the species *Phenacoccus aceris*, *Phenacoccus transcaucasicus, Heliococcus destructor, Ferrisia uzinuri, Planococcus vovae* are polyphagous, and the species *Pseudococcus comstocki, Planococcus citri, Phenacoccus pumilus* are broad polyphages.

Among the detected species, Phenacoccus pumilus, Heliococcus destructor, Neotrionymus monstatus, Phenacoccus transcaucasicus were recorded for the fauna of Fergana Valley, Ferrisia uzinuri for the fauna of Uzbekistan for the first time.

The representatives of the Crassulaceae family were recorded for the first time as food plants for the Ferrisia uzunuri species, and for the Pseudococcus comstocki species, the representatives of the Ebenaceae plant family.

These scientific results obtained during the study of mealybugs of the Fergana Valley serve as a basis for further research in the field of coccidiology.

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Mualliflar haqida ma'lumot:

ISAQOV Ilyosbek Bozorboy o'g'li – Andijon davlat universiteti Zoologiya va biokimyo kafedrasi tayanch doktoranti. E-mail: ilyosbekisaqov94@gmail.com

ZOKIROV Kozimjon – biologiya fanlari nomzodi, Andijon davlat universiteti Zoologiya va biokimyo kafedrasi dotsenti.

HUSANOV Alijon Karimovich – biologiya fanlari doktori, Andijon davlat universiteti Zoologiya va biokimyo kafedrasi mudiri, professor. E-mail: a_xusanov75@adu.uz

SOBIROV Ozodbek Tojimatovich – PhD, Andijon davlat universiteti Zoologiya va biokimyo kafedrasi dotsenti. E-mail: ozodbeksobirov1988@gmail.com

IBROHIMOVA Nafisa Doniyorbek qizi – Andijon davlat universiteti Zoologiya va biokimyo kafedrasi o'qituvchisi.

TURG'UNOVA Og'iloy Shuhratbek qizi – Andijon davlat universiteti Zoologiya va biokimyo kafedrasi magistranti. E-mail: ogiloyturgunova2@gmail.com