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ANDIJON VILOYATIDAGI MEVALI VA MANZARALI O‘SIMLIKLARDA UCHROVCHI QALQONDORLAR (HOMOPTERA: COCCINEA, DIASPIDIDAE)NI O‘RGANISH BO‘YICHA TADQIQOTLAR

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Maqolada 2022–2024-yillarda Andijon viloyatining tuman va shaharlaridagi mevali va manzarali o‘simliklarda uchraydigan Diaspididae oilasining turlarini aniqlash uchun o‘tkazilgan tadqiqot natijalari yoritilgan. Andijon viloyatining mevali va manzarali o‘simliklarida uchrovchi qalqondorlar *Lepidosaphes ulmi* (Linnaeus, 1758), *Lepidosaphes turanica* Archangelskaya, 1937, *Lepidosaphes juniperi* Lindinger, 1912**,** *Diaspidiotus salicis* (Lupo, 1953), *Diaspidiotus elaeagni* (Borchsenius, 1939), *Prodiaspis tamaricicola* (Malenotti, 1916), *Unaspis evonymi* Bodenheimer, 1953, *Chionaspis salicis* (Linnaeus, 1758), *Aulacaspis rosae* (Bouché, 1833), *Parlatoria oleae* (Colvée, 1880), *Salicicola archangelskyae* (Lindinger, 1929)ni tashkil etdi.

Kalit so‘zlar: Diaspididae, ozuqa o‘simliklari, *Lepidosaphes* Shimer, *Diaspidiotus* Berlese, *Prodiaspis* Young, *Unaspis* MacGillivray**,** *Chionaspis* Signoret, *Aulacaspis* Cockerell, *Parlatoria* Targioni-Tozzetti, *Salicicola* Lindinger.

*В статье описаны результаты исследований, проведенных в 2022–2024 годах по определению видов семейства Diaspididae, встречающихся в плодовых и декоративных растениях районов и городов Андижанской области. Щитовки, встречающиеся на плодовых и декоративных растениях Андижанской области, составляют Lepidosaphes ulmi (Linnaeus, 1758), Lepidosaphes turanica Archangelskaya, 1937, Lepidosaphes juniperi Lindinger, 1912**,** Diaspidiotus salicis (Lupo, 1953), Diaspidiotus elaeagni (Borchsenius, 1939), Prodiaspis tamaricicola (Malenotti, 1916), Unaspis evonymi Bodenheimer, 1953, Chionaspis salicis (Linnaeus, 1758), Aulacaspis rosae (Bouché, 1833), Parlatoria oleae (Colvée, 1880), Salicicola archangelskyae (Lindinger, 1929)*.

Ключевые слова: *Diaspididae, растения-хозяева, Lepidosaphes Shimer, Diaspidiotus Berlese, Prodiaspis Young, Unaspis MacGillivray, Chionaspis Signoret, Aulacaspis Cockerell, Parlatoria Targioni-Tozzetti, Salicicola Lindinger*.

Kirish

Koksidlar tengqanotli-xartumlilar kenja turkumiga mansub hasharotlar guruhi bo‘lib, ular turli o‘simliklarga jiddiy zarar keltiradi [7]. Bugungi kunda koksidlarning dunyoda 56 oila va 8537 turi aniqlangan bo‘lsa, O‘zbekistonda ularning 107 turi qayd qilingan [9]. Shulardan Diaspididae, Pseudococcidae, Coccidae oilalari dunyodagi va O‘zbekistondagi eng keng tarqalgan yirik oilalar hisoblanadi [9].

Koksidlar o‘simliklarning to‘qima shirasini muttasil so‘rib yashashlari natijasida o‘simlik to‘qimalarida moddalar almashinuvi jarayonining buzilishiga sabab bo‘ladi [6, 10]. Bunday o‘simliklar asta-sekin o‘sishdan qolishi, ayrim barg, novda va shoxlarining qurishi, kuchli zararlangan o‘simliklar esa butunlay qurib qolishi kuzatiladi [7]. Undan tashqari koksidlarning ba’zi turlari o‘simlik virusi kasalliklarining tashuvchisi ham hisoblanadi [8].

Koksidlarning Diaspididae oilasi ham o‘ziga xos xususiyatga ega bo‘lib, yer yuzida 419 avlod, 2713 turi aniqlangan. O‘zbekistonda bu oilaning 36 turi qayd qilingan. Tabiatda mazkur oilaga mansub turlarning lichinkalari birinchi yoshni o‘tagandan so‘ng harakatlanishdan to‘xtaydi [9]. Qalqondor lichinkalarining tanasida joylashgan mum bezlaridan ajralib chiqayotgan suyuqlik qotib, tanasini qalqon sifatida qoplaydi va rivojlanishning boshqa davrlari shu joyda o‘tadi [7, 11].

Bugungi kunda Farg‘ona vodiysining turli mintaqalarida koksidlarni, xususan, Diaspididae oilasi turlarini o‘rganishga oid tadqiqotlarni ko‘rish mumkin [5, 7]. Ushbu tadqiqot ishi yuqoridagi ishlarning davomi sifatida Andijon viloyatdagi mevali va manzarali o‘simliklarda uchrovchi Diaspididae oilasiga mansub hasharotlar turlarini aniqlashga qaratilgan.

Material va tadqiqot uslublari

Ushbu tadqiqot 2022–2024-yillar oralig‘ida Andijon viloyatining turli tuman va shaharlaridagi mevali va manzarali bog‘lar, parklar, xiyobonlarda o‘tkazildi (1-rasm). Namunalar yilning turli davrlarida ekspeditsiya paytlarida olindi. Materiallar olishda Qalqondorlar bilan zararlangan o‘simliklarning novda shoxlaridan 10 sm.li uzunlikda kesib olindi va qog‘oz paketchalarda saqlandi. To‘plangan materiallar laboratoriya sharoitida tekshirish uchun alohida qadoqlangan epindorif idishlarga 70% li etil spirtiga fiksatsiya qilindi [2].



1-rasm. Andijon viloyatining tumanlari.

Aniqlangan turlarning xilma-xil rivojlanish bosqichlaridan 8 avlodga mansub 11 turdan jami 456 ta qalqondor namunalari yig‘ildi. Ushbu hasharot namunalari avlodlar kesimida quyidagicha: *Prodiaspis* Young – 20 ta, *Unaspis* **MacGillivray – 55 ta,** *Chionaspis* **Signoret – 31 ta,** *Lepidosaphes* **Shimer – 78 ta,** *Aulacaspis* **Cockerell – 21 ta,** ***Parlatoria*** **Targioni-Tozzetti – 68 ta,** *Salicicola* Lindinger – 19 ta, *Diaspidiotus* Berlese – 164 ta.

Yig‘ilgan materiallar Andijon davlat universiteti (Andijon), Zoologiya muzeyi kolleksiyasida saqlandi. Qalqondorlarning morfologik, tasnifiy belgilari turlarni aniqlagich ilmiy manbalar asosida o‘rganildi [1, 4, 9].

Natija va muhokama

Tadqiqot natijalariga ko‘ra, Andijon viloyatidagi mevali va manzarali o‘simliklarda Diaspididae oilasiga mansub 11 tur aniqlandi. Ushbu turlar quyida keltirilgan.

Oila: Diaspididae
***Paradiaspis* Lahille, 1919 (Diaspididae)**
Prodiaspis tamaricicola (Malenotti, 1916)

Sinonimlari: *Adiscodiaspis tamaricicola* Malenotti, *Abiscodiaspis tamaraxicola* Borchsenius, *Rugaspidiotus tamaricicola* (Malenotti, 1916), *Circodiaspis tamaricola* (Malenotti, 1916), *Prodiaspis tamaricicola* [9].

Material: 5♀ Ulug‘nor tumani (40°46’39”N 71°43’35”E) 25.03.2022, O.T.Sobirov; 3♀ Ulug‘nor tumani (40°46’43”N 71°43’14”E) 17.03.2023, O.T.Sobirov, D.A.Saidjaxonova; 6♀ Ulug‘nor tumani (40°46’50”N 71°44’14”E) 25.03.2022, O.T.Sobirov; 4♀ Ulug‘nor tumani (40°46’53”N 71°43’07”E) 25.03.2022, O.T.Sobirov; 3♀ Ulug‘nor tumani (40°46’50”N 71°42’45”E) 19.04.2022, O.T.Sobirov

Ozuqa o‘simliklari: 2 oila, 4 avlodga mansub o‘simliklarga zarar keltiradi [9]. Andijon viloyati sharoitida Tamaricaceae oilasiga mansub o‘simliklarda qayd qilindi.

Tarqalishi: Afg‘oniston, Armaniston, Ozarbayjon, Xitoy, Krit, Misr, Gruziya, Gretsiya, Eron, Isroil, Qozog‘iston, Mo‘g‘uliston, Pokiston, Saudiya Arabistoni, Turkiya, Turkmaniston, O‘zbekiston, Yugoslaviya [9].

Unaspis **MacGillivray, 1921 (Diaspididae)**

Unaspis evonymi Bodenheimer, 1953

Sinonimlari: *Chionaspis euonymi* Comstock, *Chionaspis evonymi* Comstock, *Chionaspis nemausensis* Targioni Tozzetti, *Unaspis euonymi* (Comstock, 1881), *Unaspis nakayamai* Takahashi & Kanda, *Unaspis evonymi* (Comstock, 1881), *Unaspis evonymi* Bodenheimer, *Unaspis hakayamai* Takahashi & Kanda, *Unaspis euoymi* (Comstock, 1881), *Unaspis euconymi* (Comstock, 1881), *Unaspis evonumi* Bodenheimer, *Unaspis euonymii* (Comstock, 1881) [9].

Material: 26♀ Andijon shahar (40°47’18”N 72°22’17”E) 12.10.2022, D.A.Saidjaxonova; 13♀ Andijon tumani. (40°43’16.3”N 72°26’05.9”E) 30.03.2023, O.T.Sobirov, D.A.Saidjaxonova; 17♀ Andijon shahar (40°47’03”N 72°21’15”E) 19.12.2022, D.A.Saidjaxonova; 28♀ Andijon shahar (40°45’55”N 72°21’35”E) 10.11.2022, D.A.Saidjaxonova.

Ozuqa o‘simliklari: 22 oila, 35 avlodga mansub o‘simliklarga zarar keltirishi qayd qilingan [9].

Andijon viloyati sharoitida Celastraceae oilasiga mansub o‘simliklarda topildi.

Tarqalishi: Jazoir, Argentina, Armaniston, Avstriya, Ozarbayjon, Belgiya, Boliviya, Bolgariya, Kanada, Kanar orollari, Xitoy, Krit, Xorvatiya, Misr, Fransiya, Gruziya, Germaniya, Gretsiya, Vengriya, Eron, Isroil, Italiya, Yaponiya, Malta, Meksika, Marokash, Portugaliya, Ruminiya, Rossiya, Sardiniya, Janubiy Koreya, Ispaniya, Shveytsariya, Turkiya, Ukraina, Buyuk Britaniya, AQSh, O‘zbekiston, Yugoslaviya [9].

Chionaspis **Signoret, 1869**

Chionaspis salicis (Linnaeus, 1758)

Sinonimlari: *Coccus salicis* Linnaeus 1758, *Coccus cryptogamus* Dalman 1826, *Aspidiotes salicis* (Linnaeus, 1758), *Coccus (Aspidiotus) salicis* Linnaeus, *Myzaegirus salicifex* Amyot 1847, *Aspidiotus salicis* (Linnaeus, 1758), *Aspidiotus minimus* Baerensprung 1849, *Aspidiotus Populi* Baerensprung 1849, *Diaspis nivea* Bremi 1849, *Aspidiotus saliceti* Bouché 1851, *Aspidiotus Vaccinii* Bouché 1851, *Mytilaspis cryptogama* (Dalman, 1826), *Aspidiotus salicis-nigrae* Walsh 1868, *Mytilaspis Maquarti* Targioni Tozzetti 1868, *Chionaspis salicis* (Linnaeus, 1758), *Chionaspis vaccinii* (Bouché, 1851), *Chionaspis aceris* Signoret, *Chionaspis alni* Signoret, *Chionaspis fraxini* Signoret, *Diaspis myriadus* Signoret 1869, *Mytilaspis salicis* LeBaron 1872, *Lecanium Vaccinii* (Bouché, 1851), *Diaspis salicicorticis* Bessey 1874, *Coccus (Aspidiotus) mytilus* (Baerensprung, 1849), *Aspidiotus mytilus* Glaser 1877, *Chionaspis salicis* (Linnaeus, 1758), *Chionaspis sorbi* Douglas, *Chionaspis ortholobis*; Cockerell, *Chionaspis ortholobis* Bruneri Cockerell, *Chionaspis salicis-nigrae* (Walsh, 1868), *Chionaspis bruneri* Cockerell, 1898, *Chionaspis micropori* Marlatt, *Diaspis niveus* Bremi, 1849, *Aspidiotus cryptogamus* (Dalman, 1826), *Diaspis populi* (Baerensprung, 1849), *Chionaspis salicis* Archangelskaya 1937, *Aspidiotus aceris* (Signoret, 1869), *Aspidiotus alni* (Signoret, 1869), *Aspidiotus salicifex* (Linnaeus, 1758), *Chionaspis minimus* (Baerensprung, 1849), *Chionaspis salicifex* (Linnaeus, 1758), *Chionaspis montana* Borchsenius, *Chionaspis polypora* Borchsenius, *Chionaspis caucasioni* Hadzibejli 1963 [9].

Material: 11♀ Andijon shahar (40°47’23”N 72°22’37”E) 12.10.2022, D.A.Saidjaxonova; 24♀ Andijon tumani (40°50’17”N 72°25’07”E) 15.03.2023, O.T.Sobirov, D.A.Saidjaxonova; 15♀ Qo‘rg‘ontepa tumani (40°43’41”N 72°46’12”E) 25.01.2023, O.T.Sobirov; 12♀ Izboskan tumani (40°53’28”N 72°15’45”E) 18.11.2022, O.T.Sobirov; 31♀ Andijon tumani (40°43’16”N 72°26’06”E) 22.12.2022, O.T.Sobirov, D.A.Saidjaxonova; 10♀ Asaka tumani (40°41’46”N 72°17’01”E) 27.02.2023, O.T.Sobirov; 9♀ Xo‘jaobod tumani (40°41’04”N 72°32’59”E) 15.10.2023, D.A.Saidjaxonova; 16♀ Xo‘jaobod tumani (40°41’01”N 72°33’11”E) 15.10.2023,

D.A.Saidjaxonova; 13♀ Jalaquduq tumani (40°43’12”N 72°37’20”E) 10.06.2022, O.T.Sobirov; 7♀ Xonobod shahri (40°48’05”N 72°58’39”E) 09.04.2023, O.T.Sobirov; Qo‘rg‘ontepa tumani (40°44’41”N 72°54’59”E) 30.11.2022, O.T.Sobirov; 14♀ Izboskan tumani (41°00’40”N 72°20’47”E) 31.01.2023, O.T.Sobirov; 21♀ Paxtaobod tumani (40°54’37”N 72°29’07”E) 06.04.2023, O.T.Sobirov, D.A.Saidjaxonova; 17♀ Andijon shahar (40°51’25”N 72°18’14”E) 15.03.2023, O.T.Sobirov, D.A.Saidjaxonova; 16♀ Xo‘jaobod tumani (40°42’23”N 72°26’23”E) 15.03.2023, O.T.Sobirov, D.A.Saidjaxonova.

Ozuqa o‘simliklari: 27 oila, 52 avlodga mansub o‘simliklarga zarar keltirishi qayd qilingan [9].

Andijon viloyati sharoitida Celastraceae oilasiga mansub o‘simliklarda aniqlandi.

Tarqalishi: Albaniya, Aljir, Armaniston, Avstriya, Ozarbayjon, Belgiya, Bolgariya, Kanada, Xitoy, Korsika, Xorvatiya, Kipr, Chexoslovakiya, Daniya, Estoniya, Finlyandiya, Fransiya, Gruziya, Germaniya, Gretsiya, Vengriya, Hindiston, Eron, Irlandiya, Italiya, Yaponiya, Qozog‘iston, Latviya, Litva, Malta, Meksika, Mongoliya, Marokko, Niderlandiya, Norvegiya, Pokiston, Polsha, Portugaliya, Ruminiya, Rossiya, Janubiy Koreya, Ispaniya, Shvetsiya, Shveysariya, Turkiya, Buyuk Britaniya, AQSh, Yugoslaviya [9].

***Lepidosaphes* Shimer, 1868**

Lepidosaphes ulmi (Linnaeus, 1758)

Nomlanishi: *Coccus ulmi* Linnaeus 1758, *Coccus amygdali* Schrank 1801, *Coccus berberidis* Schrank 1801, *Aspidiotus conchiformis* Curtis 1843, *Aspidiotus falciformis* Baerensprung 1849, *Aspidiotus pomorum* Bouché 1851, *Aspidiotus juglandis* Fitch 1855, *Aspidiotus conchiformis* Fitch 1855, *Mytilococcus communis* Amerling, *Lepidosaphes conchiformis* Shimer 1868, *Mytilaspis juglandis* (Fitch, 1855), *Mytilaspis pomorum* (Bouché, 1851), *Mytilaspis pomicorticis* Riley 1873, *Mytilaspis ulmicorticis* Riley 1874, *Aspidious fraxini* Altum 1882, *Fiorinia grossulariae* Maskell 1884, *Mytilaspis vitis* Goethe 1884, *Mytilaspis ulicis* Duglas 1886, *Aspidiotus pyrus-malus* Cockerell 1894, *Mytilaspis ceratoniae* Gennadius 1895, *Mytilaspis ulmi* (Linnaeus, 1758), *Mytilaspis pomorum ulicis* Duglas, 1886, *Mytilaspis pomorum candidus* Newstead, *Lepidosaphes pomorum* (Bouché, 1851), *Lepidosaphes ceratoniae* (Gennadius, 1895), *Lepidosaphes juglandis* (Fitch, 1855), *Lepidosaphes ulmi candida* (Nyusted, 1901), *Lepidosaphes ulmi ulicis* (Duglas, 1886), *Lepidosaphes ulmi vitis* (Gyote, 1884), *Mytilaspis (Lepidosaphes) bicolor* Newstead 1906, Mytilaspis pomorum vitis Gyote, 1884, *Mytilaspis (Lepidosaphes) pomorum* (Bouché, 1851), *Lepidosaphes beckii oleae* Leonardi, *Lepidosaphes bicolor* (Nyusted, 1906), *Lepidosaphes ulmi* (Linnaeus, 1758), *Lepidosaphes pinniformis* Lindinger, *Lepidosaphes pinnaeformis oleae* Leonardi, 1908, *Lepidosaphes (Mytilaspis) ulmi* (Linnaeus, 1758), *Lepidosaphes ulmi bisexualis* Thiem, *Lepidosaphes ulmi unisekualis* Thiem, *Lepidosaphes vulva* Nel 1933, *Lepidosaphes ulmi cotini* Koroneos 1934, *Lepidosaphes ulmi oleae* Koroneos 1934, *Lepidosaphes ulmi rosae* Koroneos 1934, *Lepidosaphes linearis* (Kosta, 1829), *Mytilococcus ulmi* (Linnaeus, 1758), *Coccus conchiformis* Ferris 1936, *Mytilococcus saliceti* Lindinger 1936, *Mytilococcus oleae* (Leonardi, 1908), *Aspidiotus saliceti* Ferris, *Lepidosaphes oleae* Leonardi, 1908, *Mytilococcus linearis* (Kosta, 1829), *Lepidosaphes fici* Lindinger 1954, *Lepidosaphes populi* Savescu 1955, *Lepidosaphes tiliae* Savescu 1955, *Mytilococcus ulmi* (Linnaeus, 1758), *Lepidosaphes mesasiatica* Borchsenius 1962, *Mytilaspis fraxini* (Altum, 1882), *Mytilococcus populi* (Savesku, 1955), *Mytilococcus tiliae* (Savescu, 1955), *Lepidosaphes (Lepidosaphes) ulmi* (Linnaeus, 1758), *Lepidosaphis ulmi* Aligeydar [9].

Material: 6♀ Jalaquduq tumani (40°40’59”N 72°36’02”E) 10.06.2022, O.T.Sobirov; 4♀ Xo‘jaobod tumani (40°35’31”N 72°37’54”E) 15.10.2023, D.A.Saidjaxonova; 5♀ Qo‘rg‘ontepa tumani (40°44’13”N 72°46’11”E) 10.04.2023, O.T.Sobirov.

Ozuqa o‘simliklari: 74 oila, 168 avlodga mansub o‘simliklarga zarar keltirishi qayd qilingan [9].

Andijon viloyati sharoitida Rosaceae oilasiga mansub o‘simliklarda topilgan.

Tarqalishi: Jazoir, Argentina, Armaniston, Avstraliya, Avstriya, Ozarbayjon, Braziliya, Bolgariya, Kanada, Kanar orollari, Chili, Xitoy, Korsika, Krit, Xorvatiya, Chexoslovakiya, Daniya, Misr, Estoniya, Finlyandiya, Fransiya, Gruziya, Germaniya, Gretsiya, Gavayi orollari, Vengriya, Hindiston, Eron, Iroq, Irlandiya, Isroil, Italiya, Yaponiya, Qozog‘iston, Latviya, Litva, Madeyra orollari, Malta, Meksika, Chernogoriya, Marokash,

Niderlandiya, Yangi Zelandiya, Norvegiya, Polsha, Portugaliya, Ruminiya, Rossiya, Sardiniya, Saudiya Arabiston, Janubiy Afrika, Janubiy Koreya, Ispaniya, Shvetsiya, Shveysariya, Tayvan, Tojikiston, Tunis, Turkiya, Turkmaniston, Buyuk Britaniya, AQSh, O‘zbekiston, Vyetnam [9].

Lepidosaphes turanica Archangelskaya, 1937

Sinonimlari: *Lepidosaphes turanica* Archangelskaya 1937, *Mytilococcus turanicus* (Archangelskaya, 1937), *Mytilaspis turanica* (Archangelskaya, 1937) [9].

Material: 6♀ Ulug‘nor tumani (40°45’57”N 71°38’52”E) 25.03.2022, O.T.Sobirov; 24♀ Buloqboshi tumani (40°40’33”N 72°29’07”E) 25.10.2023, D.A.Saidjaxonova.

Ozuqa o‘simliklari: 74 oila, 168 avlodga mansub o‘simliklarga zarar keltirishi qayd qilingan [9].

Andijon viloyati sharoitida Rosaceae oilasiga mansub o‘simliklarda topildi.

Tarqalishi: Xitoy, Eron, O‘zbekiston [9].

Lepidosaphes juniperi Lindinger, 1912

Sinonimlari: *Lepidosaphes juniperi* Lindinger, *Mytilococcus juniperi* (Lindinger, 1912), *Insulaspis juniperi* (Lindinger, 1912) [9].

Material: 4♀ Andijon shahar (40°47’18”N 72°22’17”E) 12.10.2022, D.A.Saidjaxonova; 8♀ Andijon tumani. (40°43’11”N 72°26’12”E) 30.03.2023, D.A.Saidjaxonova

Ozuqa o‘simliklari: 2 oila, 8 avlodga mansub o‘simliklarga zarar keltirishi qayd qilingan [9].

Andijon viloyati sharoitida Cupressaceae oilasiga mansub o‘simliklarda topildi.

Tarqalishi: Armaniston, Ozarbayjon, Bolgariya, Korsika, Xorvatiya, Fransiya, Gruziya, Gretsiya, Eron, Iroq, Italiya, Malta, Polsha, Rossiya, Ispaniya, Shveysariya, Turkiya, Turkmaniston, O‘zbekiston, Yugoslaviya [9].

Aulacaspis **Cockerell, 1983**

Aulacaspis rosae (Bouché, 1833)

Sinonimlari: *Coccus rosae* Virey 1821, *Aspidiotus rosae* Bouché 1833, *Chermes rosae* (Bouché, 1833), *Diaspis rosae* (Bouché, 1833), *Aulacaspis rosae* (Bouché, 1833), *Aulacaspis (Diaspis) rosae* (Bouché, 1833), *Diaspis (Aulacaspis) rosae* (Bouché, 1833), *Anamaspis rosae* (Bouché, 1833), *Aulacaspis rosae* (Bouché, 1833) [9].

Material: 25♀ Xonobod shahri (40°48’05”N 72°58’40”E) 10.04.2023, O.T.Sobirov; 10♀ Qo‘rg‘ontepa tumani (40°44’15”N 72°45’56”E) 10.04.2023, O.T.Sobirov.

Ozuqa o‘simliklari: 11 oila, 20 avlodga mansub o‘simliklarga zarar keltirishi qayd qilingan [9].

Andijon viloyati sharoitida Rosaceae oilasiga mansub o‘simliklarda topildi.

Tarqalishi: Jazoir, Argentina, Avstraliya, Avstriya, Ozarbayjon, Barbados, Beliz, Bonin orollari, Braziliya, Bolgariya, Kanada, Kanar orollari, Cape Verde, Chili, Xitoy, Kolumbiya, Kongo, Korsika, Kosta-Rika, Krit, Kipr, Chexiya, Kongo Demokratik Respublikasi, Daniya, Dominikan Respublikasi, Misr, Salvador, Finlyandiya, Fransiya, Gruziya, Germaniya, Gretsiya, Gvatemala, Gayana, Vengriya, Hindiston, Eron, Iroq, Irlandiya, Isroil, Italiya, Yamayka, Yaponiya, Latviya, Lyuksemburg, Madeyra orollari, Malayziya, Malta, Meksika, Niderlandiya, Yangi Kaledoniya, Yangi Zelandiya, Norvegiya, Pokiston, Peru, Filippin, Polsha, Portugaliya, Puerto-Riko, Ruminiya, Sardiniya, Janubiy Afrika, Janubiy Koreya, Ispaniya, Shvetsiya, Shveysariya, Tayvan, Tanzaniya, Tailand, Tunis, Turkiya, Turkmaniston, Buyuk Britaniya, AQSH, O‘zbekiston, Venesuela [9].

Parlatoria **Targioni-Tozzetti, 1868**

Parlatoria oleae (Colvée, 1880)

Sinonimlari: *Diaspis oleae* Colvée 1880, *Parlatoria calianthina* Berlese & Leonardi 1896, *Parlatoria affinis* Newstead, *Parlatoria (Euparlatoria) kalianthina* Berlese & Leonardi, *Diaspis squamosus* Newstead & Theobald, *Parlatoria cilianthina* Berlese & Leonardi, 1896, *Parlatorea oleae* Lindinger, *Parlatoria oleae* (Colvée, 1880), *Syngenaspis oleae* (Colvée, 1880), *Parlatoria judaica* Bodenheimer 1924, *Parlatoria iudaica* Bodenheimer, 1924, *Syngenaspis (Parlatorea) oleae* (Colvée, 1880), *Parlatoriyami pergandii* Bodenheimer 1943, *Parlatoria morrisoni* Bodenheimer, *Parlatoria olae* (Colvée, 1880) [9].

Material: 15♀ Andijon shahar (40°47’25”N 72°22’19”E) 14.02.2023, D.A.Saidjaxonova; 24♀ Andijon shahar (40°47’18”N 72°21’38”E) 23.02.2023, D.A.Saidjaxonova; 14♀ Andijon tumani (40°50’17”N 72°25’08”E) 15.03.2023, D.A.Saidjaxonova; 32♀ Paxtaobod tumani (40°55’26”N 72°28’52”E) 18.04.2023, O.T.Sobirov, D.A.Saidjaxonova; 34♀ Paxtaobod tumani (41°00’53”N 72°20’44”E) 18.04.2023, O.T.Sobirov, D.A.Saidjaxonova; 24♀ Izboskan tumani (41°01’43”N 72°20’56”E) 13.03.2022, O.T.Sobirov; 19♀ Shahrixon tumani (40°43’34”N 72°05’27”E) 28.04.2023, O.T.Sobirov; 21♀ Bo‘ston tumani (40°41’22”N 71°57’25”E) 25.04.2023 O.T.Sobirov; 18♀ Andijon tumani (40°43’12”N 72°26’08”E) 30.03.2023, D.A.Saidjaxonova; 9♀ Xo‘jaobod tumani (40°41’04”N 72°32’54”E) 15.10.2023, D.A.Saidjaxonova; 26♀ Buloqboshi tumani (40°40’36”N 72°29’28”E) 15.10.2023, D.A.Saidjaxonova; 16♀ Oltinko‘l tumani (40°47’36”N 72°12’54”E) 05.06.2022, O.T.Sobirov; 31♀ Baliqchi tumani (40°51’56”N 71°59’16”E) 06.03.2022, O.T.Sobirov; 29♀ Andijon tumani (40°44’39”N 72°35’36”E) 15.03.2023, D.A.Saidjaxonova; 18♀ Andijon tumani (40°51’20”N 72°18’09”E) 03.04.2023, D.A.Saidjaxonova.

Ozuqa o‘simliklari: 64 oila, 132 avlodga mansub o‘simliklarga zarar keltirishi qayd qilingan [9].

Andijon viloyati sharoitida Rosaceae oilasiga mansub o‘simliklarda oziqlanishi aniqlandi.

Tarqalishi: Afg‘oniston, Jazoir, Argentina, Armaniston, Avstraliya, Ozarbayjon, Belgiya, Boliviya, Braziliya, Bolgariya, Kanar orollari, Kayman orollari, Chili, Xitoy, Korsika, Krit, Xorvatiya, Kipr, Misr, Efiopiya, Fransiya, Gruziya, Germaniya, Gretsiya, Vengriya, Hindiston, Eron, Iroq, Isroil, Italiya, Iordaniya, Qozog‘iston, Livan, Liviya, Malta, Meksika, Marokash, Pokiston, Portugaliya, Ruminiya, Sardiniya, Saudiya Arabistoni, Ispaniya, Shri-Lanka, Sudan, Suriya, Tayvan, Tojikiston, Tunis, Turkiya, Turkmaniston, Ukraina, Buyuk Britaniya, AQSH, O‘zbekiston, Yugoslaviya [9].

Salicicola **Lindinger, 1905**

Salicicola archangelskyae (Lindinger, 1929)

Sinonimlari: *Leucaspis archangelskyae* Lindinger, 1929, Leucodiaspis archangelskyae Lindinger, 1932, Suturaspis archangelskyae Borxsenius, 1937, Leucaspidopsis crataegi Bodenheimer, 1943, Leucaspidopsis crataegi forma fraxinicola Bodenheimer, 1943, Suturaspis archangelskajae Borxsenius, 1949, *Salicicola Archangelskatae* Balachowsky, 1953 [3].

Material: 18♀ Oltinko‘l tumani (40°47’49”N 72°10’49”E) 07.05.2023, O.T.Sobirov; 10♀ Andijon shahar (40°46’49”N 72°22’48”E) 27.12.2022, D.A.Saidjaxonova.

Ozuqa o‘simliklari: 5 oila, 15 avlodga mansub o‘simliklarga zarar keltirishi qayd qilingan [3].

Andijon viloyati sharoitida Rosaceae oilasiga mansub o‘simliklarda aniqlandi.

Tarqalishi: Armaniston, Turkmaniston, O‘zbekiston, Tojikiston, Eron, Iroq [3].

Diaspidiotus **Berlese, 1896**

Diaspidiotus salicis (Lupo, 1953)

Sinonimlari: *Hemiberlesia salicis* Lupo, *Quadraspidiotus salicis* (Lupo, 1953), *Diaspidiotus salicis* (Lupo, 1953) [9].

Material: 15♀ Andijon shahar (40°47’26”N 72°22’08”E) 27.10.2022, O.T.Sobirov, D.A.Saidjaxonova, M.F.Xafizddinov; 12♀ Buloqboshi tumani (40°40’34”N 72°29’13”E) 10.10.2023, D.A.Saidjaxonova, M.F. Xafizddinov; 14♀ Xo‘jaobod tumani (40°40’50”N 72°33’22”E) 15.10.2023, D.A.Saidjaxonova, M.F.Xafizddinov; 16♀ Xo‘jaobod tumani (40°35’30”N 72°37’51”E) 26.04.2023, O.T.Sobirov, D.A.Saidjaxonova, M.F.Xafizddinov; 27♀ Shahrixon tumani (40°43’34”N 72°05’26”E) 08.04.2023, O.T.Sobirov, M.F.Xafizddinov; 21♀ Oltinko‘l tumani (40°47’47”N 72°10’57”E) 07.05.2023, O.T.Sobirov; 20♀ Izboskan tumani (40°53’27”N 72°15’46”E) 8.11.2022, O.T.Sobirov; 19♀ Baliqchi tumani (40°53’58”N 71°51’03”E) 07.04.2023, O.T.Sobirov; 18♀ Izboskan tumani (41°02’25”N 72°20’30”E) 06.05.2023, O.T.Sobirov, D.A.Saidjaxonova, M.F.Xafizddinov; 17♀ Andijon shahar (40°47’07”N 72°21’17”E) 17.04.2023, D.A.Saidjaxonova; 23♀ Andijon tumani (40°51’24”N 72°18’10”E) 29.05.2023, D.A.Saidjaxonova.

Ozuqa o‘simliklari: 1 oila, 1 avlodga mansub o‘simliklarga zarar keltirishi qayd qilingan [9].

Andijon viloyati sharoitida Salicaceae oilasiga mansub o‘simliklarda aniqlandi.

Tarqalishi: Italiya [9].

Diaspidiotus elaeagni (Borchsenius, 1939)

Sinonimlari: *Aspidiotus elaeagni* Borchsenius 1939, *Aspidiotus eleagni* Borchsenius, 1939, *Diaspidiotus elaeagni* (Borchsenius, 1939) [9].

Material: 12♀ Andijon tumani (40°44’02”N 72°32’17”E) 15.03.2023, O.T.Sobirov, D.A.Saidjaxonova, M.F.Xafizddinov; 10♀ Xo‘jaobod tumani (40°42’03”N 72°32’24”E) 18.10.2023, D.A.Saidjaxonova, M.F.Xafizddinov; 9♀ Ulug‘nor tumani (40°46’34”N 71°46’34”E) 25.03.2022, O.T.Sobirov; 15♀ Qo‘rg‘ontepa tumani (40°43’31”N 72°45’31”E) 10.04.2023, O.T.Sobirov; 13♀ Xonobod shahri (40°47’55”N 72°59’30”E) 09.04.2023, O.T.Sobirov; 14♀ Jalaquduq tumani (40°41’53”N 72°36’54”E) 11.06.2022, O.T.Sobirov.

Ozuqa o‘simliklari: 4 oila, 5 avlodga mansub o‘simliklarga zarar keltirishi qayd qilingan [9].

Andijon viloyati sharoitida Elaeagnaceae oilasiga mansub o‘simliklarda aniqlandi.

Tarqalishi: Armaniston, Xitoy, Gruziya, Eron, Qozog‘iston, Qirg‘iziston, Tojikiston, Turkiya, Turkmaniston [9].

Yuqorida qayd qilingan turlar, ya’ni Andijon viloyatining mevali va manzarali o‘simliklarida uchrovchi qalqondorlarning avlodlar bo‘yicha nisbati *Lepidosaphes* **Shimer 3 tur (28%),** *Diaspidiotus* Berlese 2 tur (18%), *Prodiaspis* Young 1 tur (9%), *Unaspis* **MacGillivray** 1 tur (9%), *Chionaspis* **Signoret** 1 tur (9%), *Aulacaspis* **Cockerell** 1 tur (9%), ***Parlatoria*** **Targioni-Tozzetti** 1 tur (9%), *Salicicola* Lindinger 1 tur (9%) ni tashkil etadi.

Xulosa

Tadqiqotlarimizda Andijon viloyati mevali va manzarali o‘simlklarida jami 11 ta qalqondor turi aniqlandi. *Diaspidiotus salicis* va *Parlatoria oleae* tadqiqot olib borilgan hududlardagi eng keng tarqalgan turlardan hisoblanadi.

Keng tarqalgan har ikkala turning populyatsiyalaridagi individlar soni oziqlanayotgan o‘simliklar nihoyatda ko‘p va zich joylashgani oqibatida zararlangan o‘simliklarning qurib qolishi kuzatildi.

Olingan natijalar Andijon viloyatida tarqalgan qalqondorlar haqidagi yakuniy xulosa emas. Bu borada yanada ko‘proq ilmiy tadqiqotlarni amalga oshirish va aniqlanmagan yoki chetdan kelib qolishi mumkin bo‘lgan turlarni ham aniqlash tadqiqotchilarni ulkan ishlar kutib turganidan dalolat beradi.

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RESEARCH ON THE STUDY OF ARMORED SCALES (HOMOPTERA: COCCINEA, DIASPIDIDAE) ON FRUIT AND LANDSCAPE PLANTS IN ANDIJAN REGION

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There is a particular feature for coccids in the Diaspididae family, which includes 2,713 species and 419 generations known on Earth. In Uzbekistan, there are 36 species of this family known to exist. In the wild, after they reach their first age, the larvae of this family stop moving [9]. The solid body of the shield larva is shielded by a fluid released from wax glands in its body, where further developmental stages occur [7, 11].

The shield-bearers found in the fruit and ornamental plants of the Andijan region are *Lepidosaphes ulmi* (Linnaeus, 1758), *Lepidosaphes turanica* Archangelskaya, 1937, *Lepidosaphes juniperi* Lindinger, 1912, *Diaspidiotus salicis* (Lupo, 1953), *Diaspidiotus elaeagni* (Borchsenius, 1939), *Prodiaspis tamaricola* (Malenotti, 1916), Unaspis evonymi founded Bodenheimer, 1953, *Chionaspis Salicis* (Linnaeus, 1758), *Aulacaspis Rosae* (Bouché, 1833), *Parlatoria Oleae* (colvée, 1880), *Salicicola archangelskyae* (Lindinger, 1929).

The above-mentioned species are found in the fruit and ornamental plants of the Andijan region in the ratio of shield-bearers by generation. *Lepidosaphes* Shimer 3 species (28%), *Diaspidiotus* Berlese 2 species (18%), *Prodiaspis* Young 1 species (9%), *Unaspis* MacGillivray 1 species (9%), *Chionaspis* Signoret 1 species (9%), *Aulacaspis* Cockerell 1 species (9%), *Parlatoria* Targioni-Tozzetti 1 species (9%), and *Salicicola* Lindinger 1 species (9%).

A total of 456 shield-bearing specimens were collected from 11 species in 8 generations from the diverse developmental stages of the identified species. These insect specimens are listed in the generational cross-section as follows: *Prodiaspis* Young (20), *Unaspis* MacGillivray (55), *Chionaspis* Signoret (31), *Lepidosaphes* Shimer (78), *Aulacaspis* Cockerell (21), *Parlatoria* Targioni Tozzetti (68), *Salicola* Lindinger (19), and *Diaspidiotus* Berlese (164).

In the regions being studied, two of the most prevalent species are Parlatoria oleae and Diaspidiotus salicis. Due to the extraordinarily thick and abundant arrangement of the plants being fed, it has been shown that the quantity of individs in populations of both widespread species dries out the affected plants.

The materials that were gathered were kept in the Museum of Zoology at Andijan State University (Andijan). The outcomes acquired do not represent the definitive analysis of the dispersed shields in the Andijan area. This implies that a great deal of work still has to be done by the researchers in order to identify species that may not have been discovered or may be of foreign origin.

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