

# Studies on True Bugs (Heteroptera: Cimicomorpha, Pentatomomorpha) on the Ustyurt Plateau in North Western Uzbekistan

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## Abstract

The Ustyurt Plateau in north western Uzbekistan fauna of the True bugs (excluding Cimicomorpha and Pentatomomorpha) is summarized in this paper. In total, 6 superfamily, 14 family, 26 tribes, 62 genus and subgenus, and 111 species are listed from Uzbekistan (Karakalpakistan). two species, *Reduvius ciliatus* (Jakovlev, 1879) and *Reduvius personatus* (Linnaeus, 1758), is newly species from Uzbekistan.

**Keywords:** Fauna, Heteroptera, True bugs, Cimicomorpha, Pentatomomorpha, Miridae, Reduviidae, new species, new records, Uzbekistan, Karakalpakistan, Palearctic Region

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## Introduction

With more than 40,000 described species, Heteroptera or true bugs, are part of the most successful radiation of nonholometabolous insects (Weirauch & Schuh 2011). Heteroptera include 9365 species belonging to 1632 genera in the Palearctic Region (Aukema et al. 2013). Species are usually trophically specialized, phytophagous, zoophagous, or mycophagous (Schuh & Slater 1995). As a consequence of their often specialised feeding habits, many species are economically important as crop pests, biological control agents of phytophagous insect pests (Schaefer & Panizzi 2000), or vectors of diseases (Schofield & Dolling 1993; Schaefer 2000; Garcia et al. 2000). Some bugs constitute an important protein source in human diet (Fritsche & Gitsaga 2000).

The Ustyurt Plateau is an elevated area in the central part of the Turan Lowland. It is bordered by cliffs on almost all sides. The cliff from the east is formed by the former western shore of the Aral Sea. The plateau falls to the Kunya Dar'insk ancient alluvial plain and the Uzboi River Valley in the south, to the Karynyaryk Depression and the Northern Caspian Karakumy Sands in the west, and to the Caspian Sea Lowland in the North. According to the geographical zoning of Kazakhstan and Middle Asia (in the desert region), the Ustyurt Plateau was assigned to the western– northern Turan subprovince of the northern Turan province by E.I. Rachkovskaya (2003) and others. The total solar radiation in the northern Turan desert is 130–140 kcal/cm<sup>2</sup> per year, and the radiation balance is 45–50 kcal/cm<sup>2</sup> per year. The total of temperatures above 10°C is 3600°C. The mean temperature is 10°C for January and 26–29°C for July. The growing period lasts 200–210 days (240–270 days in the southern Turan desert). The precipitation regime is similar to the Mediterranean type. The total precipitation is 100–150 mm per year. The snow cover in the northern part of the plateau is more stable (Rachkovskaya, 2003). The water and temperature regimes are characterized by the dryness index (2.5–6.0).

## Material and methods

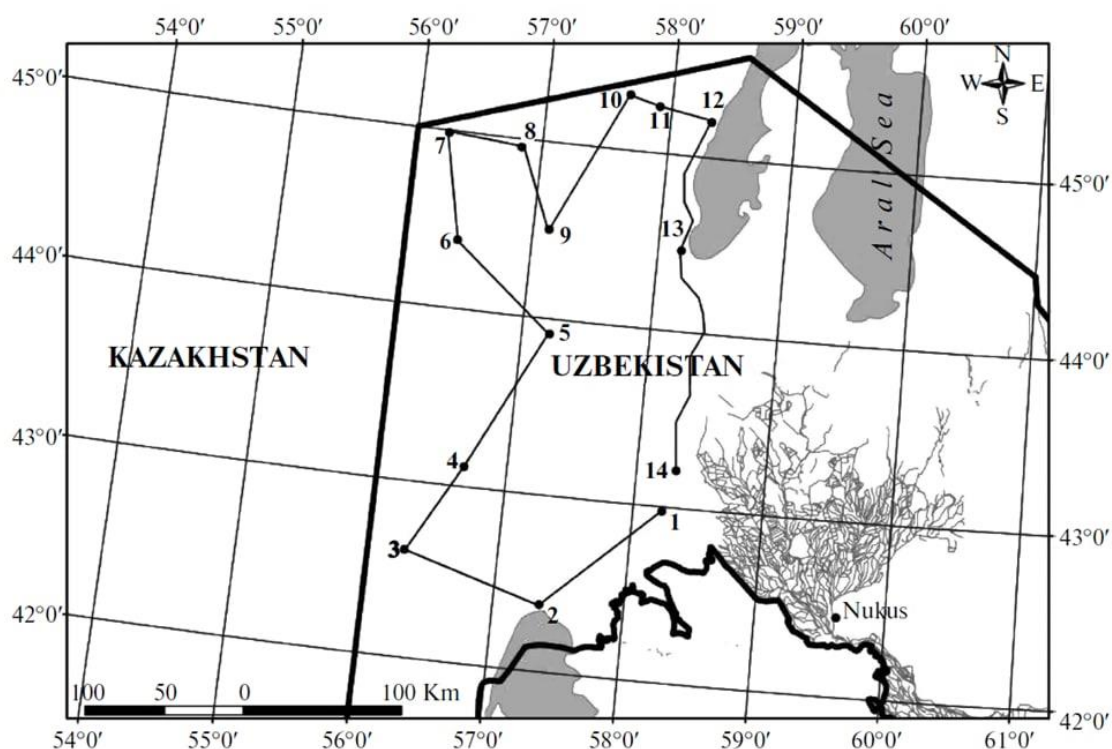
Studies on the fauna of true bugs have been carried out in AskhaMazar, Sarykamysh, Asakeaudan, Karabaur, Kartbaikum, Lysaya, Zharynkuduk, Churuk, Beleuli, Baiterek, Almambet, Aktumsuk, Kasarma, and Kyrkkyz natural areas of Ustyurt plateau (Fig. 1). Samplings were done by using a 45-cm diameter sweep-net, taking 25 (back-forth) sweep samples per site, in 2019-2020 years. Most of the material was collected using light traps. Sampling took place between 10 AM to 4 PM to allow warming so that insects may move onto the surface of plants. All samples were done by the same person, usually a straight line transect across the sample site. Samples were immediately placed into (0.5 L) plastic cups containing 96% ethyl alcohol and returned to the lab for evaluation. Adults and nymphs of Heteroptera species were sorted out from plants materials.

The classification, nomenclature, and synonymies follow Kerzhner (1993), Thomas (1994), Schuh (1995), Putshkov & Putshkov (1996), Kerzhner & Josifov (1999), Aukema & Rieger (2006), Putshkov & Moulet (2010), Linnavuori & Hosseini (2000), Péricart (2010), Rider (2011) and Aukema et al. (2013); later publications concerning taxonomic changes were also considered.

The collected materials were also processed in the Institute of Zoology of the Academy of Sciences of the Republic of Uzbekistan and compared with the existing collection of bugs in the institute.

## Results

A total of 111 species of Heteroptera classified in 6 superfamily, 14 family, 26 tribes, 62 genus are known from Uzbekistan. The list of species with distribution and host data are given below.



**Figure 1.** Map of the Karakalpak part of the Ustyurt Plateau: 1—Askha Mazar, 2—Sarykamysh, 3—Asakeaudan, 4—Karabaur, 5—Kartbaikum, 6—Lysaya, 7—Zharynkuduk, 8—Churuk, 9—Beleuli, 10—Baiterek, 11—Almambet, 12—Aktumsuk, 13—Kasarma, and 14—Kyrkkyz (H. F. Shomurodov *et al.* 2015).

## Order Hemiptera

**Suborder Heteroptera**

**Infraorder Cimicomorpha Leston, Pendergrast & Southwood, 1954**

**Superfamily Reduvidae Latreille, 1807**

**Family Reduviidae Latreille, 1807**

**Subfamily Harpactorinae Amyot & Serville, 1843**

**Tribe Harpactorini Amyot & Serville, 1843**

**Genus *Coranus* Curtis, 1833**

***Coranus (Coranus) aegyptius* Fabricius, 1775**

**Material** - Karabaur; 2♀, 1♂, 42°54'59.81" N, 56°27'14.39" E, Kasarma, 1♂, 44°35'48.66" N, 58°02'33.62" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Давлетшина, 1960), Kharezmi region (Khamraev, 2003).

**General distribution and hosts.** Madeira and The Canary Archipelago, North Africa, Near East, Arabian Peninsula, Central Asia (Putshkov & Putshkov 1996; Kment & Jindra 2005; Putshkov & Moulet 2010; Aukema et al. 2013). In rice fields and on *Sorghum halepense* (Poaceae) (Ghahari et al. 2008a); *C. aegyptius* often inhabits dry biotopes (desert conditions) (Lindberg 1958; Linnavuori 1964); it has been mentioned under *Salicornia* sp. (Amaranthaceae) on a salted soil (Putshkov & Moulet 2010).

***Coranus (Coranus) cf. subapterus* De Geer, 1773**

**Material** - Karabaur; 2♀, 1♂, 42°54'59.81" N, 56°27'14.39" E, Kasarma, 1♂, 44°35'48.66" N, 58°02'33.62" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957), Kharezmi region (Khamraev, 2003).

**General distribution and hosts.** North Africa, Near East, Arabian Peninsula, Central Asia (Putshkov & Putshkov 1996; Kment & Jindra 2005; Putshkov & Moulet 2010; Aukema et al. 2013). On alfalfa and ground (Rahimi et al. 2010a).

**Genus *Rhynocoris* Hahn, 1833**

***Rhynocoris abramovii* Oshanin, 1871**

**Material** - Baiterek; 1♂, 45°16'15.87" N, 57°42'05.11" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957), Kharezmi region (Khamraev, 2003).

**General distribution and hosts.** Central Asia, Kazakhstan, Kirgizia, Tajikistan, Turkmenistan, Uzbekistan. In has been mentioned under *Salicornia* sp. (Amaranthaceae) on a salted soil (Putshkov & Moulet 2010).

***Rhynocoris monticola monticola* Oshanin, 1890**

**Material** – Kyrkkyz, 1♀, 3♂, 43°28'21.86" N, 58°08'07.02" E Almambet, 1♀, 2♂, 45°07'14.20" N, 57°48'27.31" E Baiterek; 1♂, 45°16'15.87" N, 57°42'05.11" E, 45°13'33.30" N, 57°50'04.65" E

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957), Kharezmi region (Khamraev, 2003, Ganjaeva, 2020.).

**General distribution and hosts.** Central Asia, northwest China. Living on *Asphodelus microcarpus* (Chérot, 1997) and *Eremurus stenophyllus* (Linnavuori & Modarres Awal 1999).

**Genus *Vachiria* Stål, 1859**

***Vachiria deserta* Becker, 1867**

**Material** – Kyrkkyz, 1♀, 43°28'21.86" N, 58°08'07.02" E Almambet, 1♀, 1♂, 45°07'14.20" N, 57°48'27.31" E Baiterek; 1♂, 45°16'15.87" N, 57°42'05.11" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezmi region (Ganjaeva, 2020.).

**General distribution and hosts.** North Africa (Mauritania), Central Asia, Near East, Saudi Arabia (Putshkov & Putshkov 1996; Aukema et al. 2013). Living on *Acacia* sp. (Linnavuori 2004b).

**Subfamily Peiratinae Amyot & Serville, 1843**

**Genus *Ectomocoris* Mayr, 1865**

***Ectomocoris ululans* Rossi, 1790**

**Material** – Almambet, 2♀, 3♂, 45°07'14.20" N, 57°48'27.31" E, 45°13'33.30" N, 57°50'04.65" E Askha - Mazar, 2♂, 42°43'21.16" N, 57°54'18.11" E

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezmi region (Khamraev, 2003, Ganjaeva, 2020.).

**General distribution and hosts.** Arabian Peninsula, Mediterranean shores of Spain, Corsica, Italy, Balkan Peninsula, Jordan, Ethiopia (Putshkov & Putshkov 1996; Aukema et al. 2013). Comments. *E. ululans* lives in wet and the more often salty biotopes on *Tamarix* (Tamaricaceae), *Suaeda*, and *Arthrocnemum* (both Amaranthaceae) (Putshkov & Moulet 2010).

**Subfamily Reduviinae Amyot & Serville, 1843**

**Genus *Holotrichius* Burmeister, 1835**

***Holotrichius mesoleucus* Kiritschenko, 1914**

**Material** – Asakeaudan, 1♀, 1♂, 42°15'57.48" N, 56°18'33.30" E

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ).

**General distribution and hosts.** Asian Kazakhstan, Uzbekistan (Putshkov & Putshkov 1996; Aukema et al. 2013). On *Avena fatua* (Poaceae) (Rahimi et al. 2010d). In Algeria it has been collected in excrement of a barnowl (*Tyto alba*) (Putshkov & Moulet 2010).

**Genus *Reduvius* Fabricius, 1775**

***Reduvius ciliatus* Jakovlev, 1879**

**Material** – Kasarma, 2♀, 1♂, 44°35'48.66" N, 58°02'33.62" E, Askha - Mazar, 1♂, 42°43'21.16" N, 57°54'18.11" E.

**Distribution in Uzbekistan.** New record for Uzbekistan.

**General distribution.** Ponto-Mediterranean (though not found in Europe), south European part of Russia, and Near East (Iraq, Israel, Syria) (Putshkov & Putshkov 1996; Aukema et al. 2013).

***Reduvius disciger* Horváth, 1896**

**Material** – Sarykamysh, 2♀, 3♂, 42°14'58.65" N, 57°03'11.30" E

45°24'15.87" N, 58°24'16.62" E, Lysaya, 2♂, 44°21'29.69" N, 56°26'39.20" E

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezmi region (Khamraev, 2003, Ganjaeva, 2020.).

**General distribution.** Central Asia: Kazakhstan, Tajikistan, Turkmenistan, Uzbekistan, Afghanistan (Putshkov & Putshkov 1996).

***Reduvius fedtschenkianus* Oshanin, 1871**

**Material** – Kasarma, 1♀, 42°44'35'48.66" N, 58°02'33.62" E

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezmi region (Khamraev, 2003, Ganjaeva, 2020.), Karakalpakistan (Rulumbetova, 1999).

**General distribution.** Central Asia: Kazakhstan, Tajikistan, Turkmenistan, Uzbekistan, Afghanistan (Putshkov & Putshkov 1996).

***Reduvius personatus* Linnaeus, 1758**

**Material** – Kasarma, 3♀, 4♂, 42°44'35'48.66" N, 58°02'33.62" E

**Distribution in Uzbekistan.** New record for Uzbekistan.

**General distribution.** Holarctic (except China, Far East, Japan), cited in USA (Ontario, New Jersey, Florida) and Canada, mentioned in Australia; not quoted in Africa except The Maghreb (Putshkov & Putshkov 1996; Aukema et al. 2013).

**Comments.** Very often *R. personatus* is collected in human houses or in cowsheds or stables where nymphs hide with sand or dust. *R. personatus* feeds upon various arthropods found in its biotopes and thus has a very diversified supply (Putshkov & Moulet 2010).

***Reduvius testaceus* Herrich-Schaeffer, 1845**

**Material** – Kasarma, 3♀, 42°44'35'48.66" N, 58°02'33.62" E

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezmi region (Khamraev, 2003, Ganjaeva, 2020.).

**General distribution.** Central Asia: Kazakhstan, Tajikistan, Turkmenistan, Uzbekistan, Afghanistan (Putshkov & Putshkov 1996).

**General distribution and hosts.** Mainly an Asian species, westward to Croatia; North Africa (Putshkov & Putshkov 1996; Aukema et al. 2013). On alfalfa and grasses (Rahimi et al. 2010a), and on *Malva neglecta* (Malvaceae) (Ghahari et al. 2011b).

**Subfamily Stenopodainae Amyot & Serville, 1843**

**Genus *Oncocephalus* Klug, 1830**

***Oncocephalus brachymerus* Reuter, 1882**

**Material** – Kasarma, 1♀, 42°44'35'48.66" N, 58°02'33.62" E

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharez m region (Khamraev, 2003, Ganjaeva, 2020.), Karakalpakistan (Rulumbetova, 1999).

**General distribution.** Central Asia: Kazakhstan, Tajikistan, Turkmenistan, Uzbekistan, Afghanistan (Putshkov & Putshkov 1996).

**General distribution.** Asian Turkey, Cyprus, Russia (South European Territory), Near East, European USSR, Central Asia, Afghanistan (Putshkov & Putshkov 1996; Aukema et al. 2013).

***Oncocephalus termezanus* Kiritschenko, 1914**

**Material** – Sarykamysh, 2♂, 42°14'58.65" N, 57°03'11.30" E 45°24'15.87" N, 58°24'16.62" E, Lysaya, 1♂, 44°21'29.69" N, 56°26'39.20" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Karakalpakistan (Rulumbetova, 1999), Kharez m region (Ganjaeva, 2020).

**General distribution.** Azerbaijan, Central Asia: Kazakhstan, Tajikistan, Turmenistan, Uzbekistan (Putshkov & Putshkov 1996)

**Superfamily Miroidea Hahn, 1833**

**Family Miridae Hahn, 1833**

**Subfamily Deraeocorinae Douglas & Scott, 1865**

**Tribe Deraeocorini Douglas & Scott, 1865**

**Genus *Deraeocoris* Kirschbaum, 1856**

***Deraeocoris (Comptobrochis) punctulatus* Fallén, 1807**

**Material** – Kasarma, 5♀, 3♂, 42°44'35'48.66" N, 58°02'33.62" E, Lysaya, 1♀, 3♂, 44°21'29.69" N, 56°26'39.20" E.

**Distribution in Uzbekistan.** Tashkent region (Яхонтов, 1957; Kuchkarov, 2008), Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharez m region (Khamraev, 2003; Baltabaev, 1993; Ganjaeva, 2020.), Karakalpakistan (Kulumbetova, 1999), Southern Uzbekistan (Musaev, 2020).

**General distribution and hosts.** Holarctic species, living on numerous plants as a predator of several tiny insects such as *Bemisia tabaci* Gennadius (Hemiptera: Aleyrodidae) (Modarres Awal 1997c; Ghahari & Ostovan 2006) and *Lygus* spp. especially *L. rugulipennis* Poppius (Miridae) in alfalfa fields (Mirab-balou et al. 2007, 2008) but also able to attack young stems and flowers (Farahbakhsh 1961).

***Deraeocoris (Camptobrochis) serenus* (Douglas & Scott, 1868).**

**Material** –Lysaya, 1♀, 3♂, 44°21'29.69" N, 56°26'39.20" E.

**Distribution in Uzbekistan.** Western Tien-Shan (Papov, 1957 ), Kharez m region (Ganjaeva, 2020.), Southern Uzbekistan (Musaev, 2020).

**General distribution and hosts.** West Palaearctic species; found on several plants such *Vicia sativa* (Modarres Awal 1997b), lucerne, sainfoin and tamarisk (Modarres Awal 1997c).

**Subfamily Mirinae Hahn, 1831**

**Tribe Mirini Hahn, 1831**

**Genus *Adelphocoris* Reuter, 1896**

***Adelphocoris lineolatus* Coeze, 1778**

**Material** – Almambet, 6♀, 8♂, 45°07'14.20" N, 57°48'27.31" E 45°13'33.30" N, 57°50'04.65" E, Askha - Mazar, 2♀, 4♂, 42°45'15.85" N, 58°09'35.73" E.

**Distribution in Uzbekistan.** Tashkent region (Яхонтов, 1957; Kuchkarov, 2008; Kholmatov *et al.*, 2017), Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957), Kharezmi region (Khamraev, 2003; Baltabaev, 1993; Ganjaeva, 2020.), Karakalpakstan (Kulumbetova, 1999), Samarkand region (Daminova, 2004), Southern Uzbekistan (Musaev, 2020).

**General distribution and hosts.** Holopalaeartic species; living on numerous host-plants, a pest of alfalfa, particularly in flower stage (Mirab-balou *et al.* 2007).

**Genus *Agnocoris* Reuter, 1875**

***Agnocoris rubicundus* Fallen, 1807**

**Material** – Kartbaikum, 1♀, 2♂, 42°51'38.49" N, 56°40'29.61" E Lysaya, 1♀, 3♂, 44°21'29.69" N, 56°26'39.20" E.

**Distribution in Uzbekistan.** Western Tien-Shan (Papov, 1957), Kharezmi region (Khamraev, 2003; Ganjaeva, 2020.), Southern Uzbekistan (Musaev, 2020).

**General distribution.** Euro-Siberian species, known from North America, living on *Populus* sp. and *Salix* sp. (Linnavuori 2009).

**Genus *Lygus* Hahn, 1833**

***Lygus pratensis* Linnaeus, 1758**

**Material** – Almambet, 2♀, 3♂, 45°07'14.20" N, 57°48'27.31" E 45°13'33.30" N, 57°50'04.65" E, Askha - Mazar, 2♀, 4♂, 42°45'15.85" N, 58°09'35.73" E.

**Distribution in Uzbekistan.** Tashkent region (Яхонтов, 1957; Kuchkarov, 2008; Kholmatov *et al.*, 2017), Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957), Kharezmi region (Khamraev, 2003; Baltabaev, 1993; Ganjaeva, 2020.), Karakalpakstan (Kulumbetova, 1999), Samarkand region (Daminova, 2004), Southern Uzbekistan (Musaev, 2020).

**General distribution and hosts.** Holopalaeartic species, observed on numerous plants including, *Avena sativa* (Modarres Awal 1997b), *Chenopodium album* (Ebrahimi *et al.* 2012), *Dacus carota* (Ebrahimi *et al.* 2012), kanaf (Farahbakhsh 1961; Modarres Awal 1997c), lucerne (Farahbakhsh 1961; Modarres Awal 1997c), *Medicago sativa* (Ebrahimi *et al.* 2012), *Pisum sativum* (Ebrahimi *et al.* 2012).

***Lygus gemellatus* Herrich Schaeffer, 1835**

**Material** – Almambet, 1♀, 4♂, 45°07'14.20" N, 57°48'27.31" E 45°13'33.30" N, 57°50'04.65" E, Askha - Mazar, 2♀, 4♂, 42°45'15.85" N, 58°09'35.73" E.

**Distribution in Uzbekistan.** Tashkent region (Яхонтов, 1957; Kuchkarov, 2008; Kholmatov *et al.*, 2017), Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957), Kharezmi region (Khamraev, 2003; Baltabaev, 1993; Ganjaeva, 2020.), Karakalpakstan (Kulumbetova, 1999), Samarkand region (Daminova, 2004), Southern Uzbekistan (Musaev, 2020).

**General distribution and hosts.** Holopalaeartic species; living on numerous plants including, *Artemisia* spp. (Linnavuori 2007, 2009), *Medicago sativa* (Modarres Awal 1997b; Ebrahimi *et al.* 2012), *Onobrychis*

*sativa*, *Solanum tuberosum*, *Trifolium* sp. and *Turaenialati folia* (Ebrahimi et al. 2012), collected in alfalfa (Khanjani & Kalafchi 2000; Mirab-balou et al. 2008) and cotton fields (Khormali 2000).

**Genus *Orthops* Fieber, 1858**

***Orthops (Orthops) basalis* A. Costa, 1853**

**Material** – Almambet, 2♀, 4♂, 45°07'14.20" N, 57°48'27.31" E 45°13'33.30" N, 57°50'04.65" E, Askha - Mazar, 2♀, 4♂, 42°45'15.85" N, 58°09'35.73" E.

**Distribution in Uzbekistan.** Tashkent region (Kholmatov *et al.*, 2017), Western Tien-Shan (Papov, 1957 ), Kharezmi region (Khamraev, 2003; Baltabaev, 1993; Ganjaeva, 2020.), Samarkand region (Daminova, 2004), Southern Uzbekistan (Musaev, 2020).

**General distribution and hosts.** Holomediterranean species with a wide distributional range in Europe. *Onobrychis sativa*, *Solanum tuberosum*, *Trifolium* sp. and *Turaenialati folia* (Ebrahimi et al. 2012).

***Orthops (Orthops) kalmii* Linnaeus, 1758**

**Material** – Almambet, 1♀, 3♂, 45°07'14.20" N, 57°48'27.31" E 45°13'33.30" N, 57°50'04.65" E, Askha - Mazar, 2♀, 4♂, 42°45'15.85" N, 58°09'35.73" E.

**Distribution in Uzbekistan.** Tashkent region (Kuchkarov, 2008; Kholmatov *et al.*, 2017), Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezmi region (Khamraev, 2003; Baltabaev, 1993; Ganjaeva, 2020.), Karakalpakstan (Kulumbetova, 1999), Samarkand region (Daminova, 2004), Southern Uzbekistan (Musaev, 2020).

**General distribution.** Holopalaearctic species.

**Genus *Phytocoris* Fallén, 1814**

***Phytocoris (Eckerleinius) kyzylkumi* Muminov, 1989**

**Material** – Zharynkuduk, 1♀, 2♂, 44°44'12.24" N, 56°38'41.92" E **Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Southern Uzbekistan (Musaev, 2020).

**General distribution.** Iran, Kazakhstan (Asian part), Uzbekistan.

***Phytocoris (Eckerleinius) transcaspicus* Stichel, 1958**

**Material** – Zharynkuduk, 2♂, 44°44'12.24" N, 56°38'41.92" E

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ).

**General distribution and hosts.** Iran, Kazakhstan (Asian part), Turkmenistan, Uzbekistan; collected on *Artemisia* sp. (Linnavuori & Modarres Awal 1999; Linnavuori 2000a)

***Phytocoris (Eckerleinius) undulatus* Reuter, 1877**

**Material** – Kyrkkyz, 1♀, 2♂, 43°16'24.71" N, 58°18'56.52" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Southern Uzbekistan (Musaev, 2020).

**General distribution and hosts.** Irano-Turanian species, known from Iran, Kazakhstan, Turkmenistan and Uzbekistan; collected on *Haloxylon aphyllum* (Linnavuori 2000a).

**Genus *Polymerus* Hahn, 1831**

***Polymerus (Poeciloscytus) brevicornis* Reuter, 1879**



**Material** – Almambet, 1♀, 4♂, 45°07'14.20" N, 57°48'27.31" E 45°13'33.30" N, 57°50'04.65" E.

**Distribution in Uzbekistan.** Tashkent region (Kholmatov *et al.*, 2017), Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957), Samarkand region (Daminova, 2004), Southern Uzbekistan (Musaev, 2020).

**General distribution and hosts.** Widely distributed from Central and south Europe to Central Asia and Russian Far East; living on Galium sp. (Linnavuori & Modarres Awal 1999; Linnavuori & Hosseini 2000; Linnavuori 2009).

***Polymerus (Poeciloscytus) cognatus* Fieber, 1858**

**Material** – Almambet, 2♀, 4♂, 45°07'14.20" N, 57°48'27.31" E 45°13'33.30" N, 57°50'04.65" E, Askha - Mazar, 1♀, 1♂, 42°45'15.85" N, 58°09'35.73" E.

**Distribution in Uzbekistan.** Tashkent region (Яхонтов, 1957; Kuchkarov, 2008; Kholmatov *et al.*, 2017), Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957), Kharezm region (Khamraev, 2003; Baltabaev, 1993; Ganjaeva, 2020.), Karakalpakistan (Kulumbetova, 1999), Samarkand region (Daminova, 2004), Southern Uzbekistan (Musaev, 2020).

**General distribution and hosts.** Holopalaeartic species; observed on several plants including, *Chenopodium album* (Linnavuori & Modarres Awal 1999; Linnavuori & Hosseini 2000; Linnavuori 2007), *Medicago sativa*, *Onobrychis sativa* (Ebrahimi *et al.* 2012)—probably accidental records, the normal hosts belong to Chenopodiaceae—and *Salsola kali* (Linnavuori 2009).

***Polymerus (Poeciloscytus) vulneratus* Panzer, 1806**

**Material** – Almambet, 2♀, 3♂, 45°07'14.20" N, 57°48'27.31" E 45°13'33.30" N, 57°50'04.65" E, Askha - Mazar, 2♀, 4♂, 42°45'15.85" N, 58°09'35.73" E.

**Distribution in Uzbekistan.** Tashkent region (Яхонтов, 1957; Kuchkarov, 2008; Kholmatov *et al.*, 2017), Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957), Kharezm region (Khamraev, 2003; Baltabaev, 1993; Ganjaeva, 2020.), Karakalpakistan (Kulumbetova, 1999), Samarkand region (Daminova, 2004), Southern Uzbekistan (Musaev, 2020).

**General distribution and hosts.** Holopalaeartic species; listed on numerous hosts including, Galium spp. (Linnavuori 2007, 2009), *Medicago sativa*, *Solanum tuberosum* and *Triflium sp.* (Ebrahimi *et al.* 2012).

**Tribe *Stenodemini* China, 1943**

**Genus *Notostira* Fieber, 1858**

***Notostira elongata* Geoffroy, 1785**

**Material** – Almambet, 1♀, 45°07'14.20" N, 57°48'27.31" E 45°13'33.30" N, 57°50'04.65" E, Askha - Mazar, 2♀, 4♂, 42°45'15.85" N, 58°09'35.73" E.

**Distribution in Uzbekistan.** Western Tien-Shan (Papov, 1957), Kharezm region (Ganjaeva, 2020.), Samarkand region (Daminova, 2004), Southern Uzbekistan (Musaev, 2020).

**General distribution.** Holopalaeartic species.

***Notostira erratica* Linnaeus, 1758**

**Material** – Aktumsuk, 1♂, 45°07'14.20" N, 57°48'27.31" E 45°13'33.30" N, 57°50'04.65"

**Distribution in Uzbekistan.** Tashkent region (Kholmatov *et al.*, 2017), Western Tien-Shan (Papov, 1957 ), Samarkand region (Daminova,2004), Southern Uzbekistan (Musaev, 2020).

**General distribution and hosts.** Widely distributed in Europe, also known in Asia from Azerbaijan, Armenia, Asian part of Turkey, Georgia, Iran, Russia and Turkmenistan; listed in Iran on *Medicago sativa* and *Triticum sp.* (Modarres Awal 1996; Modarres Awal 1997c).

#### **Genus *Stenodema* Laporte, 1833**

##### ***Stenodema (Brachystira) calcarata* Fallén, 1807**

**Material** – Baiterek, 2♀, 4♂, 45°11'28.04" N, 57°37'33.37" E Kyrkkyz, 1♀, 43°28'21.86" N, 58°08'07.02" E.

**Distribution in Uzbekistan.** Tashkent region (Яхонтов, 1957; Kholmatov *et al.*, 2017), Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezsm region (Khamraev, 2003; Baltabaev, 1993; Ganjaeva, 2020.), Samarkand region (Daminova,2004), Southern Uzbekistan (Musaev, 2020).

**General distribution and hosts.** Holopalaeartic species; living on numerous host plants.

##### ***Stenodema (Stenodema) laevigata* Linnaeus, 1758**

**Material** –Kyrkkyz, 2♀, 1♂, 43°28'21.86" N, 58°08'07.02" E.

**Distribution in Uzbekistan.** Tashkent region (Яхонтов, 1957; Kholmatov *et al.*, 2017), Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezsm region (Khamraev, 2003; Baltabaev, 1993; Ganjaeva, 2020.), Samarkand region (Daminova,2004), Southern Uzbekistan (Musaev, 2020).

**General distribution and hosts.** Holopalaeartic species; living on numerous host plants, including *Cynodon dactylon*, *Hordeum vulgare* and *Triticum sativum* (Ebrahimi et al. 2012).

##### ***Stenodema (Stenodema) turanica* Reuter, 1904**

**Material** – Baiterek, 4♀, 1♂, 45°11'28.04" N, 57°37'33.37" E Kyrkkyz, 2♀, 1♂, 43°28'21.86" N, 58°08'07.02" E.

**Distribution in Uzbekistan.** Tashkent region (Яхонтов, 1957; Kholmatov *et al.*, 2017), Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezsm region (Khamraev, 2003; Baltabaev, 1993; Ganjaeva, 2020.), Samarkand region (Daminova,2004), Southern Uzbekistan (Musaev, 2020).

**General distribution and hosts.** Irano-Turanian species, collected on numerous plants, including *Medicago sativa* (Modarres Awal 1997a; Khalilzadeh 2008; Khaghaninia et al. 2010c, 2011), *Mentha sp.* (Khaghaninia et al. 2010c, 2011), *Populus sp.* (Yarmand et al. 2004), sugar-beet (Askari et al. 2009), *Tamarix sp.* (Modarres Awal 1997c)—probably two sitting records –, *Trifolium sp.* (Ebrahimi et al. 2012) and *Triticum sp.* (Modarres Awal 1997b; Ebrahimi et al. 2012).

##### ***Stenodema (Stenodema) virens* Linnaeus, 1767**

**Material** –Kyrkkyz, 2♀, 1♂, 43°28'21.86" N, 58°08'07.02" E.

**Distribution in Uzbekistan.** Western Tien-Shan (Papov, 1957 ), Samarkand region (Daminova,2004), Southern Uzbekistan (Musaev, 2020).

**General distribution and hosts.** Species widely distributed in Europe, also known from Azerbaijan, Armenia, China, Georgia, Iran, Iraq, Kazakhstan (Asian part), Kirgizia, Mongolia, Russia, Tadjikistan, Turkey (Asian part) and Uzbekistan; observed in Iran in alfalfa field (Mirab-balou et al. 2007, 2008).

#### **Genus *Trigonotylus* Fieber, 1858**

***Trigonotylus pulchellus* Hahn, 1834**

**Material** – Baiterek, 2♀, 2♂, 45°11'28.04" N, 57°37'33.37" E Kyrkkyz, 1♀, 1♂, 43°28'21.86" N, 58°08'07.02" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezms region (Ganjaeva, 2020.), Samarkand region (Daminova,2004), Southern Uzbekistan (Musaev, 2020).

**General distribution and hosts.** West Palaearctic species; observed in Iran on *Medicago sativa* and *Pisum sativum* (Ebrahimi et al. 2012).

***Trigonotylus ruficornis* Geoffroy, 1785**

**Material** –Kyrkkyz, 4♀, 4♂ 43°28'21.86" N, 58°08'07.02" E.

**Distribution in Uzbekistan.** Tashkent region (Яхонтов, 1957; Kholmatov *et al.*, 2017), Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezms region (Khamraev, 2003; Baltabaev, 1993; Ganjaeva, 2020.), Samarkand region (Daminova,2004), Southern Uzbekistan (Musaev, 2020).

**General distribution.** Widely distributed in Europe, present in Turkey (Asian part), Morocco and Tunisia.

**Subfamily Orthotylinae Van Duzee, 1916**

**Tribe Orthotylini Van Duzee, 1916**

**Genus *Orthotylus* Fieber, 1858**

***Orthotylus (Melanotrichus) flavosparsus* Sahlberg, 1841**

**Material** – Beleuli, 2♀, 1♂, 44°44'31.33" N, 57°22'27.03" E, Baiterek, 6♀, 8♂, 45°11'28.04" N, 57°37'33.37" E Kyrkkyz, 4♀, 4♂ 43°28'21.86" N, 58°08'07.02" E.

**Distribution in Uzbekistan.** Tashkent region (Яхонтов, 1957; Kholmatov *et al.*, 2017), Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezms region (Khamraev, 2003; Baltabaev, 1993; Ganjaeva, 2020.), Samarkand region (Daminova,2004), Southern Uzbekistan (Musaev, 2020).

**General distribution and hosts.** Holarctic species, introduced in South America; observed on different plants such *Amaranthus retroflexus* (Ghahari et al. 2008b), some Chenopodiaceae (Linnavuori & Modarres Awal 1999; Linnavuori 2007, 2009), *Malva silvestris* (Malvaceae), *Xanthium spinosum* (Asteraceae) (Ghahari et al. 2011).

***Orthotylus (Orthotylus) eleagni* Jakovlev, 1880**

**Material** – Beleuli, 2♀, 1♂, 44°44'31.33" N, 57°22'27.03" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezms region (Khamraev, 2003; Baltabaev, 1993; Ganjaeva, 2020.), Samarkand region (Daminova,2004), Southern Uzbekistan (Musaev, 2020).

**General distribution and hosts.** Species known from Azerbaijan, Iran, Kazakhstan (Asian and European parts), Kirgizia, Russia, Tadjikistan, Turkmenistan, Turkey (Asian part), Ukraine; collected on *Eleagnus angustifolius* (Linnavuori & Modarres Awal 1999; Linnavuori 2007).

**Subfamily Phylinae Douglas & Scott, 1865**

**Tribe Phylini Douglas & Scott, 1865**

**Genus *Atomoscelis* Reuter, 1875**

***Atomoscelis onusta* Fieber, 1861**

**Material** –E Kyrkkyz, 2♀, 3♂ 43°28'21.86" N, 58°08'07.02" E.

**Distribution in Uzbekistan.** Tashkent region (Kholmatov *et al.*, 2017), Western Tien-Shan (Papov, 1957 ), Southern Uzbekistan (Musaev, 2020).

**General distribution and hosts.** West Palaearctic species, extending to East Siberia and Northern China, Kazakhstan (Asian part), Turkmenistan, Uzbekistan.; living on *Chenopodium album* (Modarres Awal 1997b) and *Atriplex sp.* (Linnavuori & Modarres Awal 1999; Linnavuori 2007, 2010).

**Genus *Camptotylus* Fieber, 1860**

***Camptotylus meyeri* Frey-Gessner, 1863**

**Material** – Beleuli, 1♀, 1♂, 44°44'31.33" N, 57°22'27.03" E, E Kyrkkyz, 2♀, 1♂ 43°28'21.86" N, 58°08'07.02" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Kharezsm region (Khamraev, 2003; Baltabaev, 1993; Ganjaeva, 2020.).

**General distribution and hosts.** Iran, Kazakhstan, Mongolia, Russia, Turkmenistan, Uzbekistan; living on *Tamarix sp.* (Linnavuori & Modarres Awal 1999).

**Genus *Campylomma* Reuter, 1878**

***Campylomma diversicorne* Reuter, 1878**

**Material** – Baiterek, 2♀, 1♂, 45°11'28.04" N, 57°37'33.37" E Kyrkkyz, 1♀, 1♂, 43°28'21.86" N, 58°08'07.02" E.

**Distribution in Uzbekistan.** Western Tien-Shan (Papov, 1957 ), Samarkand region (Daminova,2004), Southern Uzbekistan (Musaev, 2020).

**General distribution and hosts.** Irano-Turanian species, extending from the Balkan Peninsula to the Middle East, Central Asia, China and Pakistan. *C. diversicorne* living on numerous plants and is a predator of aphids, Noctuidae, mites (Modarres Awal 1997c) and Aleyrodidae (Ghahari & Ostovan 2006).

***Campylomma verbasci* Meyer-Dür, 1843**

**Material** – Beleuli, 1♀, 3♂, 44°44'31.33" N, 57°22'27.03" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezsm region (Baltabaev, 1993; Ganjaeva, 2020.), Samarkand region (Daminova,2004), Southern Uzbekistan (Musaev, 2020).

**General distribution and hosts.** Palearctic species introduced in North America; collected on numerous plants; predator of mites, psyllids and aphids.

**Genus *Plagiognathus* Fieber, 1858**

***Plagiognathus (Plagiognathus) bipunctatus* Reuter, 1901**

**Material** – Beleuli, 2♀, 1♂, 44°44'31.33" N, 57°22'27.03" E.

**Distribution in Uzbekistan.** Western Tien-Shan (Papov, 1957 ), Samarkand region (Daminova,2004), Southern Uzbekistan (Musaev, 2020).

**General distribution.** Ponto-Mediterranean subspecies Central Asia, Iran.

**Genus *Tuponia* Reuter, 1875**

***Tuponia (Chlorotuponia) kiritshenkoi* Drapolyuk, 1982**

**Material** - Karabaur; 3♀, 1♂, 42°54'59.81" N, 56°27'14.39" E, Kasarma, 1♂, 44°35'48.66" N, 58°02'33.62" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Давлетшина, 1960), Kharezsm region (Khamraev, 2003).

**General distribution and hosts.** Iran, Mongolia, Tajikistan, Uzbekistan; living on *Tamarix* sp. (Linnavuori & Modarres Awal 1999).

***Tuponia (Tuponia) elegans* Jakovlev, 1867**

**Material** – Almambet, 1♀, 2♂, 45°07'14.20" N, 57°48'27.31" E 45°13'33.30" N, 57°50'04.65" E, Askha - Mazar, 3♀, 1♂, 42°45'15.85" N, 58°09'35.73" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezsm region (Khamraev, 2003; Baltabaev, 1993; Ganjaeva, 2020.), Samarkand region (Daminova, 2004), Southern Uzbekistan (Musaev, 2020).

**General distribution and hosts.** Afghanistan, Armenia, Austria, Azerbaijan, Bulgaria, China, Croatia, Czech Republic, Hungary, Iran, Kazakhstan (Asian and European parts), Kirgizia, Moldavia, Mongolia, Slovakia, Russia, Tadjikistan, Turkey (Asian part), Turkmenistan, Uzbekistan; living on *Tamarix* sp. (Farahbakhsh 1961; Modarres Awal 1997c; Linnavuori & Modarres Awal 1999; Linnavuori 2007, 2010).

***Tuponia (Tuponia) turanica* Drapolyuk, 1980**

**Material** – Askha - Mazar, 3♀, 1♂, 42°45'15.85" N, 58°09'35.73" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Southern Uzbekistan (Musaev, 2020).

**General distribution and hosts.** Eremian species, known from Morocco, Saudi Arabia, Tadjikistan, Turkmenistan, Uzbekistan and Yemen; living on *Tamarix* sp. (Linnavuori 2004b).

**Family Tingidae Laporte, 1832**

**Subfamily Tinginae Laporte, 1833**

**Genus *Monosteira* A. Costa, 1862**

***Monosteira discoidalis* Jakovlev, 1883**

**Material.**- Karabaur, 1♂, 2♀, 42° 50'29.61" N, 56° 30'34.85"E.

**Distribution in Uzbekistan.** Western Tien-Shan (Papov, 1965), Kyzylkum (Davletshina, 1979), Khorezm (Khampaev, 2003).

**General distribution.** From South European Territory of Russia to Iraq, Iran, Pakistan, North-West China, and Mongolia (Péricart & Golub 1996; Lis 2001a).

**Tribe Tingitini Laporte, 1832**

**Genus *Tingis* Fabricius, 1803**

***Tingis (Tingis) leptochila* Horváth, 1906**

**Material** – Kyrkkyz, 1♀, 43°28'21.86" N, 58°08'07.02" E Almambet, 1♀, 1♂, 45°07'14.20" N, 57°48'27.31" E Baiterek; 1♂, 45°16'15.87" N, 57°42'05.11" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezsm region (Ganjaeva, 2020.),

**General distribution.** Central Asia and Iran (Péricart & Golub 1996).

**Superfamily Cimicoidea Jordan, 1912 and Ferris & Usinger, 1939**

**Family Anthocoridae Fieber, 1837**

**Subfamily Anthocorinae Fieber, 1837**

**Tribe Anthocorini Fieber, 1837**

**Genus *Anthocoris* Fallen, 1814**

***Anthocoris angularis* Reuter, 1884**

**Material** – Kasarma, 2♀, 3♂, 42°44'35'48.66" N, 58°02'33.62" E,

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ).

**General distribution and hosts.** Azerbaijan (doubtful record), Kazakhstan, Kirgizia, Mongolia, Tadzhikistan, Uzbekistan (Péricart, 1996). Found on several plants such *Vicia sativa* (Modarres Awal 1997b), lucerne, sainfoin and *tamarisk* (Modarres Awal 1997c).

***Anthocoris pilosus* Jakovlev, 1877**

**Material** – Lysaya, 1♀, 3♂, 44°21'29.69" N, 56°26'39.20" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ).

**General distribution and hosts.** Azerbaijan (doubtful record), Kazakhstan, Kirgizia, Mongolia, Tadzhikistan, Uzbekistan (Péricart, 1996). Found on several plants such *Vicia sativa* (Modarres Awal 1997b), lucerne, sainfoin and *tamarisk* (Modarres Awal 1997c).

**Tribe Oriini Carayon, 1955**

**Genus *Orius* Wolff, 1811**

**Subgenus *Orius* Wolff, 1811**

***Orius niger* Wolff, 1811**

**Material** – Beleuli, 2♀, 1♂, 44°44'31.33" N, 57°22'27.03" E.

**Distribution in Uzbekistan.** Tashkent region (Яхонтов, 1957), Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezsm region (Khamraev, 2003; Baltabaev, 1993; Ganjaeva, 2020.), Karakalpakistan (Kulumbetova, 1999).

**General distribution and hosts.** Widespread in Europe (from Great Britain to Russia), North Africa (Algeria, Egypt, Libya, Morocco, Tunisia), and Palaeartic Asia (from Turkey to India and China) (Péricart 1996). Living on numerous host-plants, cotton, alfalfa, particularly in flower stage (Mirab-balou et al. 2007).

***Orius ribauti* Wagner, 1952**

**Material** - Karabaur; 2♀, 1♂, 42°54'59.81" N, 56°27'14.39".

**Distribution in Uzbekistan.** Western Tien-Shan (Papov, 1957 ), Kharezm region (Khamraev, 2003; Baltabaev, 1993; Ganjaeva, 2020.).

**General distribution and hosts.** Europe, western Asia to Pakistan (Péricart 1996). Living on numerous host-plants, cotton, alfalfa, particularly in flower stage (Mirab-balou et al. 2007).

**Subfamily Prostematinae Reuter 1890**

**Tribe Prostematini Reuter 1890**

**Genus *Prostemma* Laporte, 1832**

***Prostemma sanguineum* Rossi, 1790**

(*Prostemma afghanicum* Poppius, 1909)

**Material** –Kyrkkyz, 1♀, 43°28'21.86" N, 58°08'07.02" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ).

**General distribution and hosts.** Western Palaearctic species distributed from Western Europe and Morocco to Central Asia (Kerzhner 1996). Lives in dry, hot and open biotopes or under stones and plants; predator of Lygaeidae (Péricart, 1987).

**Family Nabidae, Costa, 1852**

**Subfamily Nabinae Costa, 1853**

**Tribe Nabini Costa, 1853**

**Genus *Nabis* Latreille, 1802**

***Nabis (Aspilaspis) viridulus* Spinola, 1837**

(*Nabis viridis* Brullé, 1839)

**Material** – Baiterek, 2♀, 4♂, 45°11'28.04" N, 57°37'33.37" E

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezm region (Khamraev, 2003; Ganjaeva, 2020.).

**General distribution and hosts.** Holomediterranean, extending to North Africa (Senegal, Sudan) and Central Asia (Tadjikistan, Uzbekistan) (Kerzhner 1996). On Tamarix (e.g., Linnavuori & Hosseini 2000).

***Nabis (Nabis) palifer* Seidenstücker, 1954**

**Material** – Baiterek, 2♀, 4♂, 45°11'28.04" N, 57°37'33.37" E Kyrkkyz, 1♀, 43°28'21.86" N, 58°08'07.02" E.

**Distribution in Uzbekistan.** Tashkent region (Яхонтов, 1957; Kholmatov *et al.*, 2017), Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezm region (Khamraev, 2003; Baltabaev, 1993; Ganjaeva, 2020.), Samarkand region (Daminova,2004), Southern Uzbekistan (Musaev, 2020).

**General distribution and hosts.** Irano-Turanian, extending from the Balkan Peninsula to south-west China, north India and Nepal (KERZHNER 1996). In moist habitats with Juncaceae and Cyperaceae (Linnavuori & Modarres Awal 1998, Linnavuori & Hosseini 2000). On undergrowth in a garden (Linnavuori 2004).

***Nabis (Nabis) ferus* Linnaeus, 1758**

**Material** – Beleuli, 2♀, 1♂, 44°44'31.33" N, 57°22'27.03" E.

**Distribution in Uzbekistan.** Tashkent region (Яхонтов, 1957; Kholmatov *et al.*, 2017), Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezsm region (Khamraev, 2003; Baltabaev, 1993; Ganjaeva, 2020.), Samarkand region (Daminova, 2004).

**General distribution and hosts.** Euro-Siberian species, reaching to Caucasus, Central Asia, and Afghanistan (Kerzhner 1996). On and under halophytes such as Suaeda, Salicornia, Atriplex and Artemisia in salt marshes, deserts and semideserts (Linnavuori & Modarres Awal 1998, Linnavuori & Hosseini 2000, Heiss 2002, Linnavuori 2004)

***Nabis (Nabis) punctatus punctatus* A. Costa, 1847**

**Material** – Kasarma, 1♀, 1♂, 45°24'15.87" N, 58°24'16.62" E

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezsm region (Khamraev, 2003; Ganjaeva, 2020.),

**General distribution and hosts.** European, extending to north-west Africa and Central Asia. *Nabis p. mimoferus* Hsiao, 1964 is distributed from Kazakhstan and Afghanistan to Russian Far East and north India (kerzhner 1996).

***Nabis (Nabis) rugosus* (Linnaeus, 1758)**

**Material** – Kasarma, 2♀, 3♂, 45°24'15.87" N, 58°24'16.62" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezsm region (Khamraev, 2003; Baltabaev, 1993; Ganjaeva, 2020.).

**General distribution and hosts.** European, reaching eastwards to Kazakhstan (Altai Mts.) and East Siberia (Yenisey basin) (Kerzhner 1996). On *Tamarix* (e.g., Linnavuori & Hosseini 2000).

**Infraorder Pentotomomorpha**

**Superfamilies Coreoidea Leach, 1815**

**Family Alydidae Amyot & Serville, 1843**

**Genus *Camptopus* Amyot & Serville, 1843**

***Camptopus lateralis* Germar, 1817**

**Material** – Almambet, 2♀, 4♂, 45°07'14.20" N, 57°48'27.31" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ).

**General distribution and hosts.** Holo-Mediterranean, extending to south of Central Europe and Central Asia in the north, and Pakistan and India in the east (Dolling 2006).

**Genus *Megalotomus* Fieber, 1860**

***Megalotomus ornaticeps* Stål, 1858**

**Material** – Baiterek, 2♀, 4♂, 45°11'28.04" N, 57°37'33.37" E Kyrkkyz, 1♀, 43°28'21.86" N, 58°08'07.02" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezsm region (Khamraev, 2003, Ganjaeva, 2020.).



**General distribution and hosts.** Steppe zone of eastern Europe and Asia from Ukraine to Transcaucasia, northern China and West Siberia (Dolling, 2006). Living on *Chenopodium album* (Modarres Awal 1997b) and *Atriplex sp.* (Linnavuori & Modarres Awal 1999; Linnavuori 2007, 2010).

**Family Coreidae Leach, 1815**

**Subfamily Coreinae Leach, 1815**

**Tribe Coreini Leach, 1815**

**Genus *Centrocoris* Kolenati, 1845**

***Centrocoris volxemi* Puton, 1878**

**Material** - Baiterek; 3♂, 45°16'15.87" N, 57°42'05.11" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezsm region (Khamraev, 2003).

**General distribution and hosts.** Irano-Turanian: Central Asia, Transcaucasia, China (north-west), Saudi Arabia. On *Pinus sp.* (Pinaceae) (Modarres Awal 1996a, b, 1997b), and *Chenopodiaceae halophytes* (Linnavuori & Modarres Awal 1998).

**Genus *Coreus* Fabricius, 1794**

***Coreus marginatus marginatus* Linnaeus, 1758**

**Material** - Karabaur; 1♀, 3♂, 42°54'59.81" N, 56°27'14.39" E, Kasarma, 2♂, 44°35'48.66" N, 58°02'33.62" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Давлетшина, 1960), Kharezsm region (Khamraev, 2003).

**General distribution and hosts.** On *Beta vulgaris* (Chenopodiaceae), *Centaurea sp.* (Asteraceae) (Modarres Awal 1996a), *Cirsium sp.* (Asteraceae) (Modarres Awal 1997a, b), *Rumex sp.* and *Polygonum sp.* (Chenopodiaceae), Asteraceae, and Rosaceae (Linnavuori 2007).

**Genus *Enoplops* Amyot & Serville, 1843**

***Enoplops heintzii* Oshanin, 1871**

**Material** – Kyrkkyz, 1♀, 3♂, 43°28'21.86" N, 58°08'07.02" E Almambet, 1♀, 2♂, 45°07'14.20" N, 57°48'27.31" E

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezsm region (Khamraev, 2003, Ganjaeva, 2020.).

**General distribution and hosts.** Afghanistan, Turkemistan, Uzbekistan. Presence of *Enoplops heintzii* in Iran is doubtful, therefore was omitted from Iran by Dolling (2006).

**Subfamily Pseudophloeinae Stål, 1868**

**Tribe Pseudophloeini Stål, 1868**

**Genus *Bothrostethus* Fieber, 1860**

***Bothrostethus annulipes* Herrich-Schaeffer, 1835**

**Material** –Baiterek; 2♂, 45°16'15.87" N, 57°42'05.11" E, 45°13'33.30" N, 57°50'04.65" E

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezsm region (Khamraev, 2003, Ganjaeva, 2020.).

**General distribution and hosts.** Euro-Mediterranean, Transcaucasia, Central Asia. On *Bromus sp.* (Poaceae) (Sakenin et al. 2010; Samin et al. 2011). On *Artemisia sp.* (Asteraceae), *Astragalus sp.* (Leguminosae), *Verbascum sp.* (Scrophulariaceae) (Linnavuori 2007), *Acantholimon sp.* (Plumbaginaceae) (Samin et al. 2011)

***Coriomeris vitticollis* Reuter, 1900**

**Material** – Almambet, 1♀, 2♂, 45°07'14.20" N, 57°48'27.31".

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezsm region (Khamraev, 2003, Ganjaeva, 2020.).

**General distribution and hosts.** Ponto-Mediterranean: Greece, Russia, Ukraine, Morocco, Egypt, Azerbaijan, Afghanistan, Armenia, Cyprus, Georgia, Iran, Lebanon, Turkey (Asian part). On *Artemisia sp.* (Asteraceae), *Astragalus sp.* (Leguminosae), *Verbascum sp.* (Scrophulariaceae) (Linnavuori 2007), *Acantholimon sp.* (Plumbaginaceae) (Samin et al. 2011)

**Family Rhopalidae Amyot & Serville, 1843**

**Subfamily Rhopalinae Amyot & Serville, 1843**

**Tribe Chorosomatini Fieber, 1860**

**Genus *Chorosoma* Curtis, 1830**

***Chorosoma schillingi* Schilling, 1829.**

**Material** – Kyrkkyz, 2♀, 43°28'21.86" N, 58°08'07.02" E Almambet, 1♀, 2♂, 45°07'14.20" N, 57°48'27.31" E Baiterek; 1♂, 45°16'15.87" N, 57°42'05.11" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezsm region (Ganjaeva, 2020.).

**General distribution and hosts.** Euro-Siberian, the Maghreb, Transcaucasia, Near East, Central Asia; in Russia known in West Siberia. On Poaceae (Linnavuori 2012).

**Tribe Rhopalini Amyot & Serville, 1843**

**Genus *Corizus* Fallén, 1814**

***Corizus hyoscyami hyoscyami* Linnaeus, 1758**

**Material** – Baiterek; 1♂, 45°16'15.87" N, 57°42'05.11" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ).

**General distribution and hosts.** Euro-Siberian, the Maghreb, Transcaucasia, Near East, Central Asia; On tobacco (Solanaceae), *Medicago sativa* (Fabaceae) (Farahbakhsh 1961), Asteraceae and Fabaceae (Linnavuori & Modarres Awal 1998), and in cotton fields (Ghahari et al. 2011).

**Genus *Liorhyssus* Stål, 1870**

***Liorhyssus hyalinus* Fabricius, 1794**

**Material** – Kasarma, 2♀, 3♂, 44°35'48.66" N, 58°02'33.62" E, 45°24'15.87" N, 58°24'16.62" E, Askha - Mazar, 2♂, 42°43'21.16" N, 57°54'18.11" E

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharez m region (Khamraev, 2003, Ganjaeva, 2020.).

**General distribution and hosts.** Cosmopolite species. On *Althaea rosea* (Malvaceae) (Modarres Awal 1996a), *Medicago sativa* (Fabaceae), *Solanum tuberosum* (Solanaceae), *Triticum sp.* (Poaceae) (Modarres Awal 1996b).

**Genus Maccavethus Dallas, 1852**

***Maccavethus corsicus persicus* Jakovlev, 1882**

**Material** – Sarykamysh, 2♂, 42°14'58.65" N, 57°03'11.30" E 45°24'15.87" N, 58°24'16.62" E, Lysaya, 1♂, 44°21'29.69" N, 56°26'39.20" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ).

**General distribution and hosts.** Afghanistan, Asian Kazakhstan, Mongolia, Tajikistan, Turkmenistan (Kment & Baňař 2010). On *Medicago sativa* (Fabaceae) *Solanum tuberosum* (Solanaceae), *Triticum sp.* (Poaceae) (Modarres Awal 1996b).

**Genus Rhopalus Schilling, 1827**

***Rhopalus (Rhopalus) distinctus* (Signoret, 1853)**

**Material** - Karabaur; 2♀, 1♂, 42°54'59.81" N, 56°27'14.39" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Давлетшина, 1960), Kharez m region (Khamraev, 2003).

**General distribution and hosts.** Caucasus and Middle Asia (Kazakhstan, Tadjikistan, Uzbekistan), Turkey (Asian part). and hosts. Trans-Paleartic, unknown in Japan and southeast of China. On several Asteraceae, Fabaceae, and Lamiaceae (Linnavuori 2007)

***Rhopalus (Rhopalus) parumpunctatus* Schilling, 1829**

**Material** - Kasarma, 2♂, 44°35'48.66" N, 58°02'33.62" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Давлетшина, 1960), Kharez m region (Khamraev, 2003).

**General distribution and hosts.** Palearctic except in Japan. On several Asteraceae, Fabaceae, and Lamiaceae (Linnavuori 2007)

**Genus Stictopleurus Stal, 1872**

***Stictopleurus angustus* Reuter, 1900**

**Material** - Karabaur; 2♀, 2♂, 42°54'59.81" N, 56°27'14.39".

**Distribution in Uzbekistan.** Kyzylkum desert (Давлетшина, 1960), Kharez m region (Khamraev, 2003).

**General distribution.** Caucasus and Middle Asia (Kazakhstan, Tadjikistan, Uzbekistan), Turkey (Asian part).

**Family Stenocephalidae Dallas, 1852**

**Genus Dicranocephalus Hahn, 1826**

***Dicranocephalus marginatus* Ferrari, 1874**

**Material** - Baiterek; 1♂, 45°16'15.87" N, 57°42'05.11" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharez m region (Khamraev, 2003).

**General distribution and hosts.** Near East, Central Asia, Arabic region (including Kuwait and Oman). On grasses (Modarres Awal 1996a), and *Euphorbia* sp. (Linnavuori 2012).

**Superfamily Lygaeoidea Schilling, 1829**

**Family Geocoridae Baerensprung, 1860**

**Subfamily Geocorinae Baerensprung, 1860**

**Genus *Geocoris* Fallén, 1814**

***Geocoris (Geocoris) ater* Fabricius, 1787**

**Material** –Lysaya, 3♂, 44°21'29.69" N, 56°26'39.20" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Karakalpakistan (Kulumbetova, 1999), Kharezsm region (Ganjaeva, 2020).

**General distribution and hosts.** Euro-Siberian. *Medicago sativa* (Fabaceae) (Modarres Awal 1996a; Mirabbalou et al. 2007).

***Geocoris (Geocoris) arenarius* Jakovlev, 1867**

**Material** – Sarykamysh, 1♂, 42°14'58.65" N, 57°03'11.30" E 45°24'15.87" N, 58°24'16.62" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Karakalpakistan (Rulumbetova, 1999), Kharezsm region (Ganjaeva, 2020).

**General distribution and hosts.** Ponto Mediterranean - Turanian. *Phragmites* sp. (Poaceae), and *Tamarix* sp. (Tamaricaceae) (Linnavuori 2012).

***Geocoris (Geocoris) dispar* Waga, 1839**

**Material** – Kasarma, 2♀, 1♂, 45°24'15.87" N, 58°24'16.62" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezsm region (Ganjaeva, 2020.).

**General distribution and hosts.** Mediterranean - Turanian. *Phragmites* sp. (Poaceae), and *Tamarix* sp. (Tamaricaceae) (Linnavuori 2012).

***Geocoris (Geocoris) fedtschenkoi* Reuter, 1885**

**Material** –Askha - Mazar, 2♂, 42°43'21.16" N, 57°54'18.11" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezsm region (Khamraev, 2003, Ganjaeva, 2020.).

**General distribution and hosts.** Ponto-Mediterranean: Greece, Russia, Ukraine, Morocco, Egypt, Azerbaijan, Afghanistan, Armenia, Cyprus, Georgia, Iran, Lebanon, Turkey (Asian part). Eremian, known from North Africa, Saudi Arabia, and Middle East.

**Family Lygaeidae Schilling, 1829**

**Subfamily Lygaeinae Schilling, 1829**

**Genus *Lygaeus* Fabricius, 1874**

***Lygaeus equestris* Linnaeus, 1758**

**Material** – Almambet, 3♀, 1♂, 45°07'14.20" N, 57°48'27.31" E.

**Distribution in Uzbekistan.** Tashkent region (Яхонтов, 1957; Kuchkarov, 2008; Kholmatov *et al.*, 2017), Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezm region (Khamraev, 2003; Baltabaev, 1993; Ganjaeva, 2020.), Karakalpakistan (Kulumbetova, 1999).

**General distribution and hosts.** HoloPalearctic. On *Prunus armeniaca* (Rosaceae), *Pinus* sp. (Pinaceae) (Modarres Awal 1987),

**Genus *Spilostethus* Stal, 1868**

***Spilostethus (Lygaeus) rubriceps* Horvath, 1899**

**Material** – Askha - Mazar, 2♀, 4♂, 42°45'15.85" N, 58°09'35.73" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezm region (Khamraev, 2003; Baltabaev, 1993; Ganjaeva, 2020.), Karakalpakistan (Kulumbetova, 1999).

**General distribution and hosts.** Holomediterranean, extending to the Middle East and Middle Asia [Kashmir - doubtful in India] (Péricart 1998a). *Xanthium occidentale* (Sakenin *et al.* 2008), in pistachio garden (Zeinoddini Memand *et al.* 2012, 2013), and also on *Alhagi pseudalhagi* (Fabaceae).

***Spilostethus pandurus* Scopoli, 1763**

**Material** – Askha - Mazar, 2♀, 4♂, 42°45'15.85" N, 58°09'35.73" E.

**Distribution in Uzbekistan.** Tashkent region (Яхонтов, 1957; Kuchkarov, 2008; Kholmatov *et al.*, 2017), Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezm region (Ganjaeva, 2020.), Karakalpakistan (Kulumbetova, 1999).

**General distribution and hosts.** A Trans Palearctic species, apparently absent in Korea and Japan; quoted from Australia. Palaetropical, extending to the Mediterranean subregion, Central Europe, and the Middle East. on *Corchorus olitorius* (Tiliaceae), *Euphorbia geniculata* (Euphorbiaceae), *Tribulus terrestris* (Zygophyllaceae) (Sakenin *et al.* 2008), *Rosa* sp. (Rosaceae) (Nateq Golestan *et al.* 2011).

**Subfamily Orsillinae Stål 1872**

**Nysiini Uhler, 1852**

**Genus *Nysius* Dallas, 1852**

***Nysius graminicola* Kolenati, F.A., 1845**

**Material** – Almambet, 1♀, 2♂, 45°07'14.20" N, 57°48'27.31" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezm region (Khamraev, 2003; Baltabaev, 1993; Ganjaeva, 2020.).

**General distribution and hosts.** Holomediterranean, extending to Central Europe, Middle East, and Middle Asia. On elm, oriental plane (Farahbakhsh 1961; Modarres Awal 1997b).

**Family Rhyparochromidae Amyot & Serville, 1843**

**Subfamily Rhyparochrominae Amyot & Serville, 1843**

**Tribe Rhyparochromini Amyot & Serville, 1843**

**Genus *Beosus* Amyot & Serville, 1843**

***Beosus quadripunctatus* Muller, 1766**

**Material** –Askha - Mazar, 1♀, 1♂, 42°45'15.85" N, 58°09'35.73" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezsm region (Ganjaeva, 2020.), Karakalpakistan (Kulumbetova, 1999).

**General distribution and hosts.** Euromediterranean-Turanian (in North Africa only in Tunisia). In saline steppes with *Atriplex halimus*, *Suaeda sp.* (both Amaranthaceae), *Cynodon dactylon* (Poaceae), *Tamarix sp.* (Tamaricaceae) (Linnavuori 2008).

**Genus *Emblethis* Fieber, 1861**

***Emblethis griseus* Wolff, 1802**

**Material**–Kyrkkyz, 2♀, 1♂, 43°28'21.86" N, 58°08'07.02" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezsm region (Khamraev, 2003; Baltabaev, 1993; Ganjaeva, 2020.), Karakalpakistan (Kulumbetova, 1999).

**General distribution and hosts.** Euromediterranean, extending to the Middle East and Middle Asia. On Chenopodiaceae (Linnavuori 2004; Dusoulier & Lupoli 2006).

***Emblethis verbasci* Fabricius, 1803**

**Material**–Kyrkkyz, 1♀, 43°28'21.86" N, 58°08'07.02" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezsm region (Khamraev, 2003; Baltabaev, 1993; Ganjaeva, 2020.), Karakalpakistan (Kulumbetova, 1999).

**General distribution and hosts.** Euro-Siberian. On wild Poaceae (Modarres Awal 1996a), wheat (Modarres Awal 1996a, 1997b), bean caper, harmel, seidlitzia, saltwort, sugar-beet (Modarres Awal 1997b)

***Emblethis ciliatus* Horváth, 1875**

**Material** – Almambet, 1♀, 2♂, 45°07'14.20" N, 57°48'27.31" E 45°13'33.30" N, 57°50'04.65" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezsm region (Khamraev, 2003; Baltabaev, 1993; Ganjaeva, 2020.), Karakalpakistan (Kulumbetova, 1999).

**General distribution and hosts.** Euro-Siberian extending to Middle East, Transcaucasia, and Southern Siberia. On *Aristida sp.*, *Panicum turgidum* (both Poaceae) (Linnavuori 2004), on shores of the Karun River with halophytes and *Tamarix sp.* (Tamaricaceae) (Linnavuori 2012).

***Emblethis denticollis* Horváth, 1878**

**Material** – Baiterek, 2♀, 4♂, 45°11'28.04" N, 57°37'33.37" E Kyrkkyz, 1♀, 43°28'21.86" N, 58°08'07.02" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezsm region (Khamraev, 2003; Baltabaev, 1993; Ganjaeva, 2020.).

**General distribution and hosts.** Euromediterranean, extending to the Middle East, Middle and Central Asia, and Pakistan. On Chenopodiaceae (Linnavuori 2004; Dusoulier & Lupoli 2006).

**Infraorder Pentatomomorpha**

**Superfamily Pentatomoidea Reuter, 1910**

**Family Pentatomidae Leach, 1815**

**Subfamily Pentatominae Leach, 1815**

**Tribe Aelini Douglas & Scott, 1865**

**Genus *Aelia* Fabricius, 1803**

***Aelia acuminata* Linnaeus, 1758**

**Material** – Sarykamysh, 2♂, 42°14'58.65" N, 57°03'11.30" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezsm region (Ganjaeva, 2020.), Karakalpakistan (Kulumbetova, 1999).

**General distribution and hosts.** Euro-Siberian. On barley (Farahbakhsh 1961; Modarres Awal 1997b), wild Poaceae (Farahbakhsh 1961; Modarres Awal 1996a, 1997b; Linnavuori 2008; Mehneh et al. 2010; Nateq Golestan et al. 2011), *Triticum* sp. (Poaceae) (Farahbakhsh 1961; Modarres Awal 1996a, 1997b; Khanjani 2006), *Medicago sativa* (Fabaceae) (Khalilzadeh et al. 2007).

***Aelia furcula* Fieber, 1868**

**Material** – Kasarma, 2♀, 1♂, 44°35'48.66" N, 58°02'33.62".

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezsm region (Khamraev, 2003, Ganjaeva, 2020.).

**General distribution and hosts.** Ponto-Mediterranean and Central Asia: Greece, Turkey, European Russia, Ukraine, Afghanistan, Armenia, Azerbaijan, Tadjikistan, Turkmenistan, Uzbekistan (Derjanschi & Péricart 2005); *Cyprus* (P. Moulet, unpublished data). *Hordeum spontaneum* (all Poaceae), *Helichrysum oligocephalum* (Asteraceae) (Modarres Awal 1997b).

***Aelia melanota* Fieber, 1868**

**Material** – Kasarma, 2♀, 3♂, 44°35'48.66" N.

**General distribution and hosts.** Afghanistan (Hoberlandt 1984), and Caucasian Region and Central Asia including, Armenia, Azerbaijan, Georgia, Iran, Kazakhstan, Kirgizia, Tadjikistan, Uzbekistan. On *Triticum* sp. (Poaceae) (Modarres Awal 1996a, 1997a, b; Khanjani 2006).

**Tribe Nezarini Atkinson, 1888**

**Genus *Brachynema* Mulsant & Rey, 1852**

***Brachynema germari* Kalenati, 1846**

**Material** – Kyrkkyz, 1♀, 43°28'21.86" N, 58°08'07.02".

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezsm region (Ganjaeva, 2020.).

**General distribution and hosts.** Western Mediterranean Europe, North Africa (Canary Archipelago), Near East, Central Asia extending to Mongolia, China, Pakistan. On wild Poaceae (Modarres Awal 1996a).

**Tribe Carpocorini Mulsant & Rey, 1858**

**Genus *Carpocoris* Kolenati, 1846**

***Carpocoris (Carpocoris) fuscispinus* Boheman, 1849**

**Material** – Askha - Mazar, 2♂, 42°43'21.16" N, 57°54'18.11" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ).

**General distribution and hosts.** Afghanistan (Hoberlandt 1984), and Caucasian Region and Central Asia including, Armenia, Azerbaijan, Georgia, Iran, Kazakhstan, Kirgizia, Tadjikistan, Uzbekistan. Asteraceae, Apiaceae (Linnavuori 2008), dill and licorice (Khaghaninia et al. 2010b), *Cirsium sp.*, *Triticum aestivum* (Poaceae) (Nateq Golestan et al. 2011), in alfalfa field (Farshbaf Pour-Abad 2000; Khalilzadeh 2008)

***Carpocoris (Carpocoris) pudicus* Poda, 1761**

**Material** – Sarykamysh, 2♂, 42°14'58.65" N, 57°03'11.30" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ).

**General distribution and hosts.** Afghanistan (Hoberlandt 1984), and Caucasian Region and Central Asia. On *Triticum sp.* (Modarres Awal 1996a, 1997b).

**Genus *Codophila* Mulsant & Rey, 1866**

***Codophila varia* Fabricius, 1787**

**Material** –Lysaya, 1♂, 44°21'29.69" N, 56°26'39.20" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezsm region (Ganjaeva, 2020).

**General distribution and hosts.** Europe (except Great Britain, Scandinavia), North Africa, Near East, Central Asia. On lucerne, sesame, other legumes and Elaeagnaceae family plants (Farahbakhsh 1961; Modarres Awal 1997b).

**Genus *Dolycoris* Mulsant & Rey, 1866**

***Dolycoris baccarum* (Linnaeus, 1758)**

**Material** – Kasarma, 1♀, 3♂, 45°24'15.87" N, 58°24'16.62" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ).

**General distribution and hosts.** Central Asia, Afghanistan, China (occidental regions), Iran, Kazakhstan (Asian part), Kirgizia, Tadjikistan, Turkmenistan. Poaceae, *Trifolium sp.* (Fabaceae), *Pistacia sp.* (Anacardiaceae), *Triticum sp.* (Poaceae), *Rumex sp.* (Polygonaceae) (Modarres Awal 1996a), barley, clover, broad bean, *Cirsium sp.* (Asteraceae), poplar (Modarres Awal 1997b).

***Dolycoris penicillatus* Horvath, 1904**

**Material** – Kasarma, 2♀, 3♂, 44°35'48.66" N, 58°02'33.62" E, 45°24'15.87" N, 58°24'16.62" E, Askha - Mazar, 2♂, 42°43'21.16" N, 57°54'18.11" E

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezsm region (Khamraev, 2003, Ganjaeva, 2020.).

**General distribution and hosts.** Central Asia, Afghanistan, China (occidental regions), Iran, Kazakhstan (Asian part), Kirgizia, Tadjikistan, Turkmenistan. On Poaceae (Safavi 1959), barley, lucerne, lupine, tomato, sunflower, wheat (Farahbakhsh 1961; Modarres Awal 1997b), *Triticum sp.* (Poaceae) (Modarres Awal 1996b; Mehneh et al. 2010), wild Poaceae (Modarres Awal 1996a, 1997a)

**Genus *Desertomenida* Kiritshenko, 1914**

***Desertomenida albula* Kiritshenko, 1914**

**Material** –Askha - Mazar, 2♂, 42°43'21.16" N, 57°54'18.11" E



**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezms region (Khamraev, 2003, Ganjaeva, 2020.).

**General distribution and hosts.** Central Asia: Kazakhstan (Asian part), China (northwestern), Iran, Kirgizia, Tadjikistan, Turkmenistan, Uzbekistan. In saline steppes with *Atriplex halimus*, *Suaeda sp.* (both Amaranthaceae), *Cynodon dactylon* (Poaceae), *Tamarix sp.* (Tamaricaceae) (Linnavuori 2008).

**Tribe Halyini Amyot & Serville, 1843**

**Genus *Apodiphus* Spinola, 1837**

***Apodiphus integriceps* Horváth, 1888**

**Material** – Kasarma, 2♀, 3♂, 44°35'48.66" N, 58°02'33.62" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezms region (Khamraev, 2003, Ganjaeva, 2020.), Karakalpakistan (Rulumbetova, 1999).

**General distribution and hosts.** Central Asia (Kazakhstan (Asian part), Iran, Kirgizia, Tadjikistan, Turkmenistan, Uzbekistan), Indian Peninsula (India, Pakistan), mentioned in Yemen not in Saudi Arabia. On *Rubus fruticosus* (Rosaceae), *Olea europea* (Oleaceae) (Farahbakhsh 1961; Modarres Awal 1997b).

**Tribe Nezarini Atkinson, 1888**

**Genus *Brachynema* Mulsant & Rey, 1852**

***Brachynema germarii* Kolenati, 1846**

**Material** – Sarykamysh, 2♂, 42°14'58.65" N, 57°03'11.30" E 45°24'15.87" N, 58°24'16.62" E, Lysaya, 1♂, 44°21'29.69" N, 56°26'39.20" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Karakalpakistan (Rulumbetova, 1999), Kharezms region (Ganjaeva, 2020).

**General distribution and hosts.** Western Mediterranean Europe, North Africa (Canary Archipelago), Near East, Central Asia extending to Mongolia, China, Pakistan. On wild Poaceae (Modarres Awal 1996a), wheat (Modarres Awal 1996a, 1997b), bean caper, harmel, seidlitzia, saltwort, sugar-beet (Modarres Awal 1997b), *Ephedra major* (Ephedraceae), *Artemisia sp.* (Asteraceae), *Kochia sp.* (Chenopodiaceae).

**Genus *Nezara* Amyot & Serville, 1843**

***Nezara viridula* Linnaeus, 1758**

**Material** - Baiterek; 1♂, 45°16'15.87" N, 57°42'05.11" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharezms region (Khamraev, 2003).

**General distribution and hosts.** Mediterranean basin, Near East, Central and Far Eastern Asia (Japan), tropical and subtropical Africa and Asia, (Ferrari et al. 2010), it is also known from Argentina to the southern half of United States. *Salix sp.* (Salicaceae) near rice field (Miyamoto 1963).

**Tribe Pentatomini Leach, 1815**

**Genus *Menaccarus* Amyot & Serville, 1843**

**Subgenus *Orocephalus* Mulsant & Rey, 1866**

***Menaccarus (Orocephalus) deserticola* Jakovlev, 1900**

**Material - Material** – Kasarma, 2♀, 3♂, 44°35'48.66" N, 58°02'33.62" E, 45°24'15.87" N .

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharez m region (Khamraev, 2003).

**General distribution and hosts.** European Russia, Iran, Kazakhstan, Tadjikistan, Turkmenistan, Uzbekistan; mentioned doubtfully from Algeria by Derjanschi & Péricart (2005). Poaceae (*Festuca sp.*, *Elymus sp.*, *Calamagrostis sp.*, *Corynephorus sp.*) but also on *Artemisia sp.* (Asteraceae), *Thymus sp.* (Lamiaceae) or *Astragalus sp.* (Fabaceae) (Derjanschi & Péricart 2005).

**Genus *Eurydema* Laporte, 1833**

**Subgenus *Eurydema* Laporte, 1833**

***Eurydema (Eurydema) oleracea* Linnaeus, 1758**

**Material** - Karabaur; 2♀, 1♂, 42°54'59.81" N, 56°27'14.39" E, Kasarma, 1♂, 44°35'48.66" N, 58°02'33.62" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Давлетшина, 1960), Kharez m region (Khamraev, 2003).

**General distribution and hosts.** European Russia, Iran, Kazakhstan, Tadjikistan, Turkmenistan, Uzbekistan; mentioned doubtfully from Algeria by Derjanschi & Péricart (2005). On *Sinapis sp.* (Nateq Golestan et al. 2010a).

***Eurydema (Eurydema) ornata* Linnaeus, 1758**

**Material** –Baiterek; 1♂, 45°16'15.87" N, 57°42'05.11" E, 45°13'33.30" N, 57°50'04.65" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharez m region (Khamraev, 2003, Ganjaeva, 2020.).

**General distribution and hosts.** Palearctic though not in Scandinavia, Korea, or Japan. On cabbage (Farahbakhsh 1961; Modarres Awal 1997b; Askari et al. 2009; Hassanzadeh et al. 2009a).

**Subgenus *Rubrodorsalium* Stichel, 1944**

***Eurydem (Rubrodorsalium) maracandica* Oshanin, 1871**

**Material** – Kyrkkyz, 2♀, 3♂, 43°28'21.86" N, 58°08'07.02" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharez m region (Khamraev, 2003, Ganjaeva, 2020.).

**General distribution.** Widely distributed in Asia: Azerbaijan, Asian Kazakhstan, Iran, Turkmenistan, Tadjikistan, Mongolia, China.

***Eurydema (Rubrodorsalium) ventralis* Kolenati, 1846**

**Material** – Kasarma, 2♀, 3♂, 44°35'48.66" N, 58°02'33.62" E, 45°24'15.87" N, 58°24'16.62" E, Askha - Mazar, 2♂, 42°43'21.16" N, 57°54'18.11" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharez m region (Khamraev, 2003, Ganjaeva, 2020.).

**General distribution and hosts.** Euro-Siberian but not in Great Britain, Scandinavia and North Africa. On colza, mustard, raddish, turnip (Modarres Awal 1997b), *lucerne* (Modarres Awal 1997b; Modarres Awal 2008), cabbage (Modarres Awal 1997b; Hassanzadeh et al. 2009a).

**Subfamily Podopinae Amyot & Serville, 1843**

**Tribe Graphosomatini Mulsant & Rey, 1865**

**Genus *Graphosoma* Laporte, 1833**

**Subgenus *Graphosoma* Laporte, 1833**

***Graphosoma (Graphosoma) consimile* Horváth, 1903**

**Material** – Askha - Mazar, 2♂, 42°43'21.16" N, 57°54'18.11" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharez m region (Khamraev, 2003, Ganjaeva, 2020.).

**General distribution and hosts.** Caucasus, Central Asia, Afghanistan. On *Alhagi sp.* (Fabaceae), *Pimpinella anisum* (Apiaceae) (Nateq Golestan & Modarres Awal 2012).

***Graphosoma (Graphosoma) lineatum* Linnaeus, 1758**

**Material** - Karabaur; 2♀, 42°54'59.81" N, 56°27'14.39" E, Kasarma, 1♂, 44°35'48.66" N, 58°02'33.62" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Давлетшина, 1960), Kharez m region (Khamraev, 2003).

**General distribution and hosts.** According to Péricart (2010), this subspecies is distributed in the Maghreb and probably eastern. On Apiaceae (Modarres Awal 1996a, 1997b; Nateq Golestan et al. 2010a), fennel, smoke tree, tawny-fruited chervil (Modarres Awal 1997b), (Heiss 2002; Linnavuori 2008), *Astragalus sp.* (Fabaceae) (Khalilzadeh et al. 2007)

**Tribe Tarsini Stål, 1872**

**Genus *Tarisa* Amyot & Serville, 1843**

***Tarisa elevata* Reuter, 1901**

**Material** - Karabaur; 2♀, 1♂, 42°54'59.81" N, 56°27'14.39" E, Kasarma, 1♂, 44°35'48.66" N, 58°02'33.62" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Давлетшина, 1960), Kharez m region (Khamraev, 2003).

**General distribution and hosts.** Ponto Asian: Kazakhstan (both Asian and European parts), Russia (southern regions), Central Asia extending to China and Mongolia. On Apiaceae (Modarres Awal 1996a, 1997b; Nateq Golestan et al. 2010a), fennel, smoke tree, tawny-fruited chervil (Modarres Awal 1997b)

***Tarisa virescens* Herrich-Schaeffer, 1851**

**Material** – Kyrkkyz, 1♀, 2♂, 43°28'21.86" N, 58°08'07.02" E Almambet, 1♀, 2♂, 45°07'14.20" N, 57°48'27.31" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957 ), Kharez m region (Khamraev, 2003, Ganjaeva, 2020.).

**General distribution and hosts.** Russia (southern territories), Caucasus and Central Asia, Near East. On *Artemisia sp.* (Asteraceae) (Linnavuori 2008).

**Family Scutelleridae Leach, 1815**

**Subfamily Eurygastrinae Amyot & Serville, 1843**

**Tribe Eurygastrini Amyot & Serville, 1843**

**Genus *Eurygaster* Laporte, 1833**

***Eurygaster integriceps* Puton, 1881**

**Material** – Almambet, 10♀, 12♂, 45°07'14.20" N, 57°48'27.31" E 45°13'33.30" N, 57°50'04.65" E, Askha - Mazar, 2♀, 4♂, 42°45'15.85" N, 58°09'35.73" E.

**Distribution in Uzbekistan.** Tashkent region (Яхонтов, 1957; Kuchkarov, 2008; Khallilaev *et al.*, 2015), Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957), Kharezsm region (Khamraev, 2003; Baltabaev, 1993; Ganjaeva, 2020.), Karakalpakistan (Kulumbetova, 1999), Samarkand region (Daminova, 2004).

**General distribution and hosts.** Northeastern Mediterranean basin (from Italy), not in Cyprus, Caucasus, Central Asia extending to China, Near East, Egypt, Pakistan. Poaceae (Heiss 2002; Linnavuori 2008), *Triticum vulgare* (Poaceae) (Sakenin *et al.* 2008), *Hordeum vulgare*, *Triticum aestivum* (both Poaceae) (Nateq Golestan & Modarres Awal 2012).

**Subfamily Odontotarsinae Mulsant & Rey, 1866**

**Tribe Odontotarsini Mulsant & Rey, 1866**

**Genus *Odontotarsus* Laporte, 1833**

***Odontotarsus angustatus* Jakovlev 1883**

**Material** – Askha - Mazar, 2♀, 4♂, 42°45'15.85" N, 58°09'35.73" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957), Kharezsm region (Khamraev, 2003; Baltabaev, 1993; Ganjaeva, 2020.).

**General distribution and hosts.** Afghanistan (Hoberlandt 1984), Caucasus and Central Asia. On *Acroptilon repens* (Asteraceae), and *Carum copticum* (Apiaceae) (Nateq Golestan & Modarres Awal 2012).

***Odontotarsus impictus* Jakovlev, 1886**

**Material** – Askha - Mazar, 1♀, 42°45'15.85" N, 58°09'35.73" E.

**Distribution in Uzbekistan.** Kyzylkum desert (Davletshina, 1960), Western Tien-Shan (Papov, 1957), Kharezsm region (Khamraev, 2003; Baltabaev, 1993; Ganjaeva, 2020.).

**General distribution and hosts.** Caucasus and Central Asia. On *Rumex scutatus* (Polygonaceae), *Ephedra sp.* (Ephedraceae) (Ghahari *et al.* 2011a).

**Discussion**

According to the distribution of families in the Ustyurt Plateau of North-Western Uzbekistan, the most dominant species are Miridae (13 genus, 32 species), Pentatomidae (13 genus, 22 species), Reduviidae (7 genus, 14 species) and the most rare families of the species are Stenocephalidae (1 genus, 1 species), Tingidae, Alydidae (2 genus, 2 species) and Scutelleridae (2 genus, 3 species).

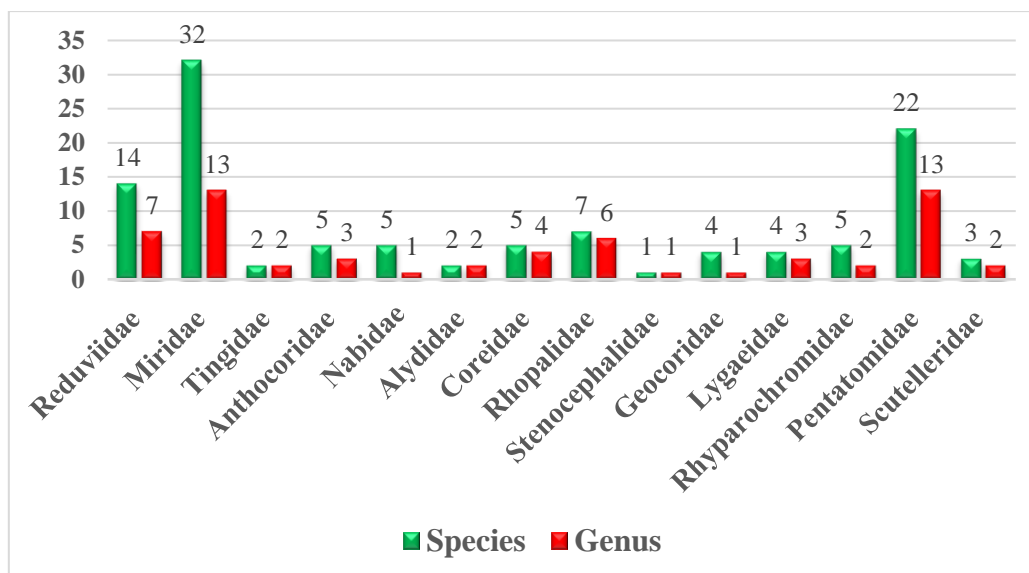


Figure 2. Diversity of true bugs infraorders Cimicomorpha and Pentatomomorpha in the Ustyurt Plateau.

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