

A PRELIMINARY STUDY ON THE MIRIDAE (HEMIPTERA) FAUNA IN SABZEVAR AND ITS COUNTIES (RAZAVI KHORASAN, IRAN)

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Abstract

A faunal study was carried out on plant bugs (Heteroptera: Miridae) from different sites and habitats in Sabzevar and its counties (Razavi Khorasan Province, Iran). In total 20 species belonging to 16 genera were collected from different host plants.

KEY WORDS: Taxonomy, Miridae, Plant bugs, Sabzevar, Razavi Khorasan Province, Iran

Introduction

The Miridae family (Hemiptera: Heteroptera: Cimicomorpha), that has approximately 11020 described species, is one of the richest families of insects. Most species of plant bugs are between 3 to 6 mm in size (Cassis & Schuh, 2012). Most Mirid bugs are herbivore and are abundant on herbs, shrubs and trees but many of them are scavengers or facultative predators that feed on other insects and acarina (Wheeler, 2001). Many plant feeders in the Miridae family, like *Lygus* Hahn and *Adelphocoris* Reuter, could do direct damage to their host plants by feeding on the plants' sap (Brimah *et al.*, 1982). *Nesidiocoris tenuis* (Reuter), a predator, feeds on whiteflies on tomato crops in Mediterranean fields (Perdikis *et al.*, 2009). *Macrolophus caliginosus* Wagner is the other successful biological control agent of whiteflies in greenhouses and fields that belongs to this family (Alomar *et al.* 2006). Despite our relatively advanced knowledge about a few species in this family, the role or potential of many species is still unknown in their ecosystems.

Razavi Khorasan province with an area about of 118,854 km² is one of the largest provinces in Iran, occupying about 7% of the country, located in its northeast. It is situated between North and South Khorasan,

surrounded by Semnan and Yazd provinces in the west, and Turkmenistan and Afghanistan in the east (Fig. 1). Sabzevar ($36^{\circ} 12' 41''$ N, $57^{\circ} 47' 07''$ E) is one of the cities located in the western part of Razavi Khorasan province. It is bound from the north to Jovein ($36^{\circ} 42' 36''$ N, $57^{\circ} 25' 14''$ E), Khushab ($36^{\circ} 24' 16''$ N, $58^{\circ} 02' 20''$ E), and Davarzan ($36^{\circ} 21' 13''$ N, $56^{\circ} 52' 41''$ E), the west to Semnan province ($35^{\circ} 34' 24''$ N, $53^{\circ} 23' 51''$ E), the east to Sheshtamad ($35^{\circ} 57' 35''$ N, $57^{\circ} 46' 02''$ E) and the south to Bardaskan ($35^{\circ} 15' 34''$ N, $57^{\circ} 58' 14''$ E). Sabzevar has a dry and cold climate with a warm summer. The annual precipitation rate in Sabzevar is about 191.6 mm (I. R. of Iran Meteorological Organization, <http://razavimet.ir/sabzevaar/tabid/1551/Default.aspx>).



Figure 1. Map of Razavi Khorasan province, its adjacent provinces and position in Iran. Black area shows the position of Sabzevar among other cities of Razavi Khorasan province.

The fauna of Iranian Miridae was recently studied by Arkani; 2009; Ebrahimi *et al.*, 2012; Ghahari & Cherot, 2014; Hosseini, 1997, 2013a,b,c; 2014a,b; Hosseini & Linnavuori, 2000; Hosseini & Shamsi 2014; Hosseini *et al.*, 2000, 2002a,b; Linnavuori & Hosseini, 1998, 1999, 2000; Lashkari & Hosseini, 2012; Linnavuori, 2006, 2007, 2009; Mirab-Balou, 2008; Shamsi *et al.*, 2014; Wagner 1971; Yarmand *et al.*, 2004. This study aims to conduct research on the fauna of mirid bugs with the focus on Razavi Khorasan province, especially Sabzevar.

Materials and Methods

In order to study the fauna of plant bugs in Sabzevar and its counties (Razavi Khorasan province), the specimens were collected from different locations during the summer of 2014. The plant bugs were randomly collected from gardens and fields on different host plants using a sweeping net, light trap and aspirator. The sweeping method was used to collect living bugs on flowering plants, shrubs, and foliage of trees (Tab. I).

A sweep net (45 cm diameter and 75 cm length) was used for sweeping in vegetation, and a bushnet for tree foliage. The collected specimens were killed promptly in a small tube containing Ethyl acetate, then transferred to the laboratory and prepared for identification under stereomicroscope (Olympus SZX 12). The genitalia was separated from males and using glycerin mounted on a slide. Identification was done by

relevant taxonomic keys (Wagner & Weber, 1964; Wagner, 1971, 1974) and compared with type species available in the Natural History Museum of University of Guilan. In this study all specimens were collected by Abolfazl Malvandi except *Nesidiocoris tenuis*, which was collected by Hamed Hassanpoor. All the specimens were deposited in the department of Plant Protection, Faculty of Agricultural Sciences, University of Guilan, Rasht, Iran.

Table I. List of host plants species and their family.

Species	Family
<i>Tamarix</i> sp.	Tamaricaceae
<i>Artemisia aucheri</i>	Asteraceae
<i>Helianthus annuus</i>	Asteraceae
<i>Solanum lycopersicum</i>	Solanaceae
<i>Alhagi maurorum</i>	Fabaceae
<i>Astragalus</i> sp.	Fabaceae
<i>Medicago sativa</i>	Fabaceae
<i>Elaeagnus angustifolia</i>	Elaeagnaceae
<i>Gossypium hirsutum</i>	Malvaceae
<i>Beta vulgaris</i>	Chenopodiaceae
<i>Haloxylon</i> sp.	Chenopodiaceae
<i>Chenopodium album</i>	Chenopodiaceae
<i>Pistacia vera</i>	Anacardiaceae

Results

The list of the verified species, their examined material, GPS position and their distribution are given as follows.

Subfamily: Bryocorinae

Tribe: Dicyphini

Nesidiocoris tenuis (Reuter, 1895)

Material examined: Sabzevar: Dolat Abad, 938 m a.s.l., 36° 07' 57" N, 57° 44' 04" E, 8.9.2014, 6 specimens, *Solanum lycopersicum*.

Distribution: Palaearctic (Aukema & Rieger, 1999), Nearctic, Neotropical, Palaetropical and Oriental (Linnavuori, 2007).

Subfamily: Deraeocorinae

Tribe: Deraeocorini

Deraeocoris serenus (Douglas & Scott, 1868)

Material examined: Sabzevar: Malvand, 884 m a.s.l., 35° 58' 40" N, 57° 13' 50" E, 19.7.2014, 7 specimens, *Medicago sativa*; Malvand, 894 m a.s.l., 35° 58' 45" N, 57° 15' 58" E, 16.8.2014, 5 specimens, *Medicago sativa*; Malvand, 885 m a.s.l., 35° 59' 27" N, 57° 15' 08" E, 20.9.2014, 5 specimens, *Medicago sativa*; Tasband, 907 m a.s.l., 35° 56' 59" N, 57° 15' 00" E, 10.7.2014, 2 specimens, *Medicago sativa*; Sabzevar, 917 m a.s.l., 36° 10' 05" N, 57° 39' 21" E, 22.8.2014, 6 specimens, *Medicago sativa*; Roudab, 895 m a.s.l., 36° 00' 18" N, 57° 17' 54" E, 2.7.2014, 2 specimens, *Medicago sativa*; Kalate Mirali, 898 m a.s.l., 35° 56' 40" N, 57° 08' 30" E, 5.8.2014, 2 specimens, *Medicago sativa*; Narestan, 1333 m a.s.l., 35° 48' 12" N, 57° 15' 34" E, 18.8.2014, 3 specimens, *Medicago sativa*; Kash, 1168 m a.s.l., 35° 50' 45" N, 57° 17' 16" E, 18.8.2014, 1 specimen, *Medicago sativa*.

Distribution: Holomediterranean, extending to Central Europe and Central Asia (Linnavuori, 2009), Europe, North Africa and Asia (Aukema & Rieger, 1999).

Subfamily: Orthotyliinae

Tribe: Orthotylini

Orthotylus eleagni Jakovlev, 1881

Material examined: Sabzevar: Malvand, 880 m a.s.l., 35° 59' 09" N, 57° 14' 11" E, 28.8.2014, 1 specimen, *Elaeagnus angustifolia*; Malvand, 896 m a.s.l., 35° 58' 52" N, 57° 16' 16" E, 25.8.2014, 2 specimens, *Elaeagnus angustifolia*.

Distribution: Middle Asia (Linnavuori & Modarres, 1999).

Subfamily: Mirinae

Tribe: Mirini

Adelphocoris lineolatus (Goeze, 1778)

Material examined: Sabzevar: Malvand, 884 m a.s.l., 35° 58' 40" N, 57° 13' 50" E, 19.7.2014, 15 specimens, *Medicago sativa*; Malvand, 894 m a.s.l., 35° 58' 45" N, 57° 15' 58" E, 16.8.2014, 8 specimens, *Medicago sativa*; Malvand, 885 m a.s.l., 35° 59' 27" N, 57° 15' 08" E, 20.9.2014, 6 specimens, *Medicago sativa*; Tasband, 907 m a.s.l., 35° 56' 59" N, 57° 15' 00" E, 10.7.2014, 2 specimens, *Medicago sativa*; Sabzevar, 917 m a.s.l., 36° 10' 05" N, 57° 39' 21" E, 22.8.2014, 4 specimens, *Medicago sativa*; Roudab, 895 m a.s.l., 36° 00' 18" N, 57° 17' 54" E, 2.7.2014, 1 specimen, *Medicago sativa*; Kalate Mirali, 898 m a.s.l., 35° 56' 40" N, 57° 08' 30" E, 5.8.2014, 4 specimens, *Medicago sativa*.

Distribution: Holopalaeartic (Linnavuori, 2007), Europe, Asia, North Africa, Pakistan, Kashmir and North America (Aukema & Rieger, 1999).

Adelphocoris insignis Horvath, 1898

Material examined: Sabzevar: Malvand, 884 m a.s.l., 35° 58' 40" N, 57° 13' 50" E, 19.7.2014, 8 specimens, *Medicago sativa*; Malvand, 885 m a.s.l., 35° 59' 27" N, 57° 15' 08" E, 20.9.2014, 3 specimens, *Medicago sativa*; Tasband, 907 m a.s.l., 35° 56' 59" N, 57° 15' 00" E, 10.7.2014, 1 specimen, *Medicago sativa*; Sabzevar, 917 m a.s.l., 36° 10' 05" N, 57° 39' 21" E, 22.8.2014, 2 specimens, *Medicago sativa* (A. Malvandi leg.); Roudab, 895 m a.s.l., 36° 00' 18" N, 57° 17' 54" E, 2.7.2014, 1 specimen, *Medicago sativa*.

Distribution: Bulgaria, Serbia, and Turkey (Linnavuori, 2009).

Creontiades pallidus (Rambur, 1839)

Material examined: Sabzevar: Malvand, 884 m a.s.l., 35° 59' 17" N, 57° 14' 56" E, 19.7.2014, 21 specimens, *Gossypium hirsutum*; Malvand, 906 m a.s.l., 35° 58' 21" N, 57° 16' 57" E, 16.8.2014, 13 specimens, *Gossypium hirsutum*; Malvand, 882 m a.s.l., 35° 59' 43" N, 57° 15' 26" E, 12.9.2014, 11 specimens, *Gossypium hirsutum*; Malvand, 882 m a.s.l., 35° 59' 43" N, 57° 15' 26" E, 12.9.2014, 6 specimens, *Chenopodium album*; Sabzevar, 924 m a.s.l., 36° 10' 29" N, 57° 39' 50" E, 22.8.2014, 4 specimens, *Gossypium hirsutum*; Kalate seyfar, 959 m a.s.l., 36° 12' 13" N, 57° 38' 25" E, 22.8.2014, 4 specimens, *Gossypium hirsutum*; Roudab, 887 m a.s.l., 36° 01' 01" N, 57° 18' 17" E, 19.9.2014, 3 specimens, *Gossypium hirsutum*; Parvand, 900 m a.s.l., 35° 56' 41" N, 57° 05' 51" E, 21.8.2014, 2 specimens, *Gossypium hirsutum*; Damrood, 876 m a.s.l., 36° 00' 35" N, 57° 16' 00" E, 14.9.2014, 4 specimens, *Gossypium hirsutum*; Shams abad, 859 m a.s.l., 36° 03' 12" N, 57° 16' 53" E, 18.9.2014, 1 specimen, *Gossypium hirsutum*; Borabad, 875 m a.s.l., 36° 03' 16" N, 57° 19' 14" E, 19.9.2014, 2 specimens, *Gossypium hirsutum*; Dareyn, 981 m a.s.l., 35° 59' 03" N, 57° 24' 32" E, 22.9.2014, 1 specimen, *Gossypium hirsutum*; Malvand, 906 m a.s.l., 35° 58' 21" N, 57° 16' 57" E, 19.7.2014, 2 specimens, *Helianthus annuus*; Kalate seyfar, 959 m a.s.l., 36° 12' 13" N, 57° 38' 25" E, 16.8.2014, 4 specimens, *Helianthus annuus*; Roudab, 887 m a.s.l., 36° 01' 01" N, 57° 18' 17" E, 19.9.2014, 2 specimens, *Chenopodium album*.

Distribution: Holomediterranean, widely distributed in the Middle East and the Ethiopian Region (Linnavuori, 2007).

Eurystylus bellevoeyi (Reuter, 1879)

Material examined: Sabzevar: Malvand, 884 m a.s.l., 35° 58' 40" N, 57° 13' 50" E, 19.7.2014, 18 specimens, *Medicago sativa*; Malvand, 894 m a.s.l., 35° 58' 45" N, 57° 15' 58" E, 16.8.2014, 11 specimens, *Medicago sativa*; Malvand, 885 m a.s.l., 35° 59' 27" N, 57° 15' 08" E, 20.9.2014, 10 specimens, *Medicago sativa*; Malvand, 894 m a.s.l., 35° 58' 45" N, 57° 15' 58" E, 16.8.2014, 2 specimens, *Chenopodium album*; Tasband, 907 m a.s.l., 35° 56' 59" N, 57° 15' 00" E, 10.7.2014, 4 specimens, *Medicago sativa*; Tasband, 913 m a.s.l., 35° 56' 50" N, 57° 15' 47" E, 10.7.2014, 1 specimen, *Beta vulgaris*; Tasband, 907 m a.s.l., 35° 56' 59" N, 57° 15' 00" E, 10.7.2014, 11 specimens, *Medicago sativa*; Sabzevar, 917 m a.s.l., 36° 10' 05" N, 57° 39' 21" E, 22.8.2014, 4 specimens, *Medicago sativa*; Roudab, 895 m a.s.l., 36° 00' 18" N, 57° 17' 54" E, 2.7.2014, 6 specimens, *Medicago sativa*; Kalate mirali, 898 m a.s.l., 35° 56' 40" N, 57° 08' 30" E, 5.8.2014, 2 specimens, *Medicago sativa*; Narestan, 1333 m a.s.l., 35° 48' 12" N, 57° 15' 34" E, 19.8.2014, 2 specimens, *Medicago sativa*; Kash, 1168 m a.s.l., 35° 50' 45" N, 57° 17' 16" E, 18.8.2014, 1 specimen, *Medicago sativa*.

Distribution: Eremian with a wide distributional range in the Holomediterranean and Sudanese subregions (Linnavuori, 2009), Europe, Asia, Afrotropical regions and Oriental (Aukema & Rieger, 1999).

Lygus gemellatus (Herrich-Schaeffer, 1835)

Material examined: Sabzevar: Malvand, 884 m a.s.l., 35° 58' 40" N, 57° 13' 50" E, 19.7.2014, 12 specimens, *Medicago sativa*; Malvand, 894 m a.s.l., 35° 58' 45" N, 57° 15' 58" E, 16.8.2014, 4 specimens, *Medicago sativa*; Sabzevar, 917 m a.s.l., 36° 10' 05" N, 57° 39' 21" E, 22.8.2014, 7 specimens, *Medicago sativa*; Roudab, 895 m a.s.l., 36° 00' 18" N, 57° 17' 54" E, 2.7.2014, 2 specimens, *Medicago sativa*; Noorabad, 1099 m a.s.l., 35° 50' 49" N, 57° 12' 25" E, 17.8.2014, 3 specimens, *Artemisia aucheri*; Malvand, 894 m a.s.l., 35° 58' 45" N, 57° 15' 58" E, 16.8.2014, 6 specimens, *Alhagi maurorum*; Parvand, 1060 m a.s.l., 35° 53' 42" N, 57° 03' 05" E, 10.8.2014, 1 specimens, *Artemisia aucheri*.

Distribution: Holopalaeartic (Linnavuori, 2007), Europe, Asia, North Africa, North India, Nepal, Pakistan (Aukema & Rieger, 1999).

Orthops kalmii (Linnaeus, 1758)

Material examined: Sabzevar: Malvand, 888 m a.s.l., 35° 58' 54" N, 57° 14' 53" E, 4.7.2014, 1 specimen, *Alhagi maurorum* (A. Malvandi leg.).

Distribution: Holopalaeartic (Linnavuori, 2007).

Orthops pilosulus Jakovlev, 1877

Material examined: Sabzevar: Malvand, 888 m a.s.l., 35° 58' 54" N, 57° 14' 53" E, 19.7.2014, 1 specimen, *Alhagi maurorum*.

Distribution: Irano-Turanian (Linnavuori, 2007).

Polymerus vulneratus (Panzer, 1805)

Material examined: Sabzevar: Malvand, 884 m a.s.l., 35° 58' 40" N, 57° 13' 50" E, 19.7.2014, 2 specimens, *Medicago sativa*; Sabzevar, 917 m a.s.l., 36° 10' 05" N, 57° 39' 21" E, 25.6.2014, 8 specimens, *Medicago sativa*; Roudab, 895 m a.s.l., 36° 00' 18" N, 57° 17' 54" E, 2.7.2014, 3 specimens, *Medicago sativa*.

Distribution: Holopalaeartic (Linnavuori, 2007), Europe, Asia, North Africa and North America (Aukema & Rieger, 1999).

Taylorilygus apicalis (Fieber, 1861)

Material examined: Sabzevar: Tasband, 918 m a.s.l., 35° 56' 15" N, 57° 14' 10" E, 4.7.2014, 3 specimens, *Artemisia aucheri*; Noorabad, 1099 m a.s.l., 35° 50' 49" N, 57° 12' 25" E, 24.7.2014, 1 specimen, *Artemisia aucheri*.

Distribution: Cosmopolitan in tropical and subtropical regions (Linnavuori & Modarres, 1999).

Tribe: Stenodemini

Stenodema calcarata (Fallen, 1807)

Material examined: Sabzevar: Malvand, 888 m a.s.l., 35° 58' 54" N, 57° 14' 53" E, 19.7.2014, 1 specimen, *Alhagi maurorum*.

Distribution: Holopalaeartic (Linnavuori, 2007), Europe, Asia, North Africa (Aukema & Rieger 1999).

Stenodema turanica Reuter, 1904

Material examined: Sabzevar: Malvand, 888 m a.s.l., 35° 58' 54" N, 57° 14' 53" E, 19.7.2014, 2 specimens, *Alhagi maurorum*.

Distribution: Europe, Asia (Aukema & Rieger, 1999), Irano-Turanian (Linnavuori, 2009).

Subfamily: Phylinae

Tribe: Phylini

Aphaenophyes richteri (Wagner, 1957)

Material examined: Sabzevar: Malvand, 901 m a.s.l., 35° 58' 42" N, 57° 16' 43" E, 16.8.2014, 4 specimens, *Tamarix* sp.; Tasband, 906 m a.s.l., 35° 57' 21" N, 57° 15' 42" E, 7.8.2014, 2 specimens, *Tamarix* sp.

Distribution: Eremian species, extending from North Africa to the Middle East, Turkmenistan and tropical Africa (Linnavuori, 2010).

Auchenocrepis alboscuteolata Puton, 1874

Material examined: Sabzevar, 905 m a.s.l., 36° 09' 29" N, 57° 39' 10" E, 7.8.2014, 3 specimens, *Tamarix* sp.; Malvand, 901 m a.s.l., 35° 58' 42" N, 57° 16' 43" E, 16.8.2014, 7 specimens, *Tamarix* sp.; Tasband, 906 m a.s.l., 35° 57' 21" N, 57° 15' 42" E, 7.8.2014, 2 specimens, *Tamarix* sp.

Distribution: Eremian species, extending from North Africa to tropical Africa, Italy, the Middle East and Pakistan (Linnavuori, 2010).

Camptolyidea albovittata (Reuter, 1903)

Material examined: Sabzevar: Dolat abad, 939 m a.s.l., 36° 08' 05" N, 57° 44' 09" E, 8.9.2014, 8 specimens, *Pistacia vera*; Malvand, 887 m a.s.l., 35° 58' 26" N, 57° 14' 01" E, 16.8.2014, 11 specimens, *Haloxylon* sp.; Malvand, 888 m a.s.l., 35° 58' 50" N, 57° 14' 51" E, 4.7.2014, 2 specimens, *Pistacia vera*; Malvand, 885 m a.s.l., 35° 58' 45" N, 57° 13' 57" E, 20.9.2014, 3 specimens, *Pistacia vera*; Berzoo, 896 m a.s.l., 36° 05' 25" N, 57° 30' 51" E, 23.7.2014, 4 specimens, *Pistacia vera*; Fesanghar, 901 m a.s.l., 36° 06' 06" N, 57° 33' 11" E, 23.7.2014, 5 specimens, *Pistacia vera*; Hosein abad ganji, 893 m a.s.l., 36° 05' 12" N, 57° 29' 29" E, 23.7.2014, 2 specimens, *Pistacia vera*; Parvand, 1060 m a.s.l., 35° 53' 42" N, 57° 03' 05" E, 10.8.2014, 3 specimens, *Astragalus* sp.

Distribution: Middle Asia, Iran (Linnavuori & Modarres, 1999).

Camptolyidea suturalis (Reuter, 1903)

Material examined: Sabzevar: Dolat abad, 939 m a.s.l., 36° 08' 05" N, 57° 44' 09" E, 8.9.2014, 5 specimens, *Pistacia vera*; Malvand, 887 m a.s.l., 35° 58' 26" N, 57° 14' 01" E, 16.8.2014, 9 specimens, *Haloxylon* sp.; Malvand, 888 m a.s.l., 35° 58' 50" N, 57° 14' 51" E, 4.7.2014, 2 specimens, *Pistacia vera*; Malvand, 885 m a.s.l., 35° 58' 45" N, 57° 13' 57" E, 20.9.2014, 5 specimens, *Pistacia vera*; Berzoo, 896 m a.s.l., 36° 05' 25" N, 57° 30' 51" E, 23.7.2014, 1 specimens, *Pistacia vera*; Fesanghar, 901 m a.s.l., 36° 06' 06" N, 57° 33' 11" E, 23.7.2014, 2 specimens, *Pistacia vera*; Hosein abad ganji, 893 m a.s.l., 36° 05' 12" N, 57° 29' 29" E, 23.7.2014, 4 specimens, *Pistacia vera*.

Distribution: Irano-Turanian species known from Iran, Central Asia, Mongolia, northern and north-western China and Tunisia (Linnavuori, 2010).

Campylomma diversicornis Reuter, 1878

Material examined: Sabzevar: Malvand, 884 m a.s.l., 35° 58' 40" N, 57° 13' 50" E, 19.7.2014, 5 specimens, *Medicago sativa*; Malvand, 894 m a.s.l., 35° 58' 45" N, 57° 15' 58" E, 16.8.2014, 6 specimens, *Medicago sativa*; Malvand, 885 m a.s.l., 35° 59' 27" N, 57° 15' 08" E, 20.9.2014, 16 specimens, *Medicago sativa*; Malvand, 894 m, 35° 58' 45" N, 57° 15' 58" E, 20.9.2014, 2 specimens, *Chenopodium album*; Tasband, 907 m a.s.l., 35° 56' 59" N, 57° 15' 00" E, 10.7.2014, 1 specimen, *Medicago sativa*; Tasband, 913 m a.s.l., 35° 56' 50" N, 57° 15' 47" E, 10.7.2014, 4 specimens, *Beta vulgaris*; Tasband, 907 m a.s.l., 35° 56' 59" N, 57° 15' 00" E, 10.7.2014, 8 specimens, *Medicago sativa*; Sabzevar, 917 m a.s.l., 36° 10' 05" N, 57° 39' 21" E, 22.8.2014, 1 specimen, *Medicago sativa*; Roudab, 895 m a.s.l., 36° 00' 18" N, 57° 17' 54" E, 2.7.2014, 2 specimens, *Medicago sativa*; Kalate mirali, 898 m a.s.l., 35° 56' 40" N, 57° 08' 30" E, 5.8.2014, 1 specimen, *Medicago sativa*; Parnand, 1060 m a.s.l., 35° 53' 42" N, 57° 03' 05" E, 14.9.2014, 5 specimens, *Artemisia aucheri*.

Distribution: Irano-Turanian (Linnavuori, 2007), Europe, Asia, North Africa, Pakistan, (Aukema & Rieger, 1999).

Psalloopsis basalis Reuter, 1904

Material examined: Sabzevar: Parvand, 1060 m a.s.l., 35° 53' 42" N, 57° 03' 05" E, 14.9.2014, 3 specimens, *Haloxyton* sp.

Distribution: Saudi Arabia, Israel, Jordan, Iraq, Iran (Aukema & Rieger, 1999).

Discussion

In total 20 plant bug species belonging to 16 genera were collected on 13 host plant species. From identified species, 11 species (55%) were Mirinae subfamily, 6 species (30%) Phylinae subfamily, 1 species (5%) Bryocorinae subfamily, 1 species (5%) Orthotylinae subfamily and 1 species (5%) Deraeocorinae. Results showed species belonging to Phylinae and Orthotylinae subfamilies were collected on trees and shrubs where the rest of the species were found on weeds and crops. Specified respectively below, the number of mirid species and specimens collected on each host plant was different: on *Artemisia aucheri* 3, 13; *Helianthus annuus* 1, 6; *Solanum lycopersicum* 1, 6; *Alhagi maurorum* 5, 11; *Astragalus* sp. 1, 3; *Medicago sativa* 7, 238; *Elaeagnus angustifolia* 1, 3; *Gossypium hirsutum* 1, 66; *Beta vulgaris* 2, 5; *Haloxyton* sp. 3, 23; *Chenopodium album* 3, 12; *Pistacia vera* 2, 43 and *Tamarix* sp. 2, 18,. Results indicated that plant bug species were more diverse on *Medicago sativa* than on other host plants.

In this study, identified species were collected on host plants where they had not been reported by other researchers; for example Linnavuori (2010) reported *Camptotyliidea suturalis* on *Holoxyton* whereas in this survey it was collected on *Pistacia vera*. Hence the host plant range of other species needs to be studied in future research.

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ПРЕЛИМИНАРНА ИСТРАЖИВАЊА ФАУНЕ MIRIDAE (HEMIPTERA) САБЗЕВАРА И ЊЕГОВОГ ОКРУГА (РАЗАВИ КОРАСАН, ИРАН)

АБОЛФАЗЛ МАЛВАНДИ, РЕЗА ХОСЕИНИ И ЂАЛИЛ ХАЃИЗАДЕХ

Извод

Фаунистичка истраживања фауне Miridae (Hemiptera) обављена су за време лета 2014. године. Примерци су сакупљани помоћу кечера, светлосних клопки и аспиратора у баштама и на пољима са различитих биљака. Сакупљено је 20 врста фамилије Miridae на 13 врста биљака. Резултати показују да су врсте из подфамилија Phylinae и Orthotylinae сакупљене на дрвећу и грмљу, а на усевима остале врсте. Квалитативни и квантитавни број врста на појединим биљкама је следећи: *Artemisia aucheri* 3, 13; *Helianthus annuus* 1, 6; *Solanum lycopersicum* 1,6; *Alhagi maurorum* 5,11; *Astragalus* sp.1, 3; *Medicago sativa* 7, 238; *Elaeagnus angustifolia* 1,3; *Gossypium hirsutum* 1, 66; *Beta vulgaris* 2, 5; *Haloxylon* sp. 3, 23; *Chenopodium album* 3, 12; *Pistacia vera* 2, 43; *Tamarix* sp. 2, 18.

Received June 24th, 2015
Accepted August 25th, 2015