

UPDATED DISTRIBUTIONS OF ORTHOTYLINAE (HEMIPTERA: HETEROPTERA: MIRIDAE) FROM TURKEY

Gülten Yazıcı*

* Directorate of Plant Protection Central Research Institute, 06172 Yenimahalle, Ankara, TURKEY.

[Yazıcı, G. 2017. Updated distributions of Orthotylinae (Hemiptera: Heteroptera: Miridae) from Turkey. Munis Entomology & Zoology, 12 (1): 79-88]

ABSTRACT: This study is based upon material of subfamily Orthotylinae collected from different localities of Turkey between 1980 and 2014, mostly 2006-2014. The study resulted in recording for Turkish fauna of eight species from five genera of Halticini and nine species from seven genera of Orthotylini. Among them, *Anapus dorsalis* (Reuter, 1890), *Orthocephalus saltator* (Hahn, 1835), *Orthotylus (Melanotrichus) flavosparsus* (C.R. Sahlberg, 1841) and *Orthotylus (Orthotylus) marginalis* Reuter, 1883 have been found the most abundant and widespread species. In addition, new localities are added for some species previously reported for Turkey.

KEY WORDS: Hemiptera, Heteroptera, Miridae, Orthotylinae, Fauna, Turkey

Miridae (or plant-bugs) is a group of Miroidea, which at World scale comprises eight subfamilies. In the World they are represented by nearly 10.040 species, 1507 genera (Cassis et al., 2006). This family comprising eight subfamilies Isometopinae, Psallopinae Cylapinae, Orthotylinae, Bryocorinae, Deraeocorinae, Mirinae and Phylinae (Cassis & Schuh, 2012). This subfamily, 1st rostral segment less than twice as thick as 2nd one. Usually distance between eye and apex of clypeus less than or equal to diameter of eye. Parameres of different form, often with teeth or processes. Aedeagus usually including two or more strongly ramified and toothed or simple sclerotized branches (Lehr, 1988).

Turkey is biogeographically one of the most interesting countries in the West Palaearctic region. Some faunistic studies on this family in the Turkey have been made by Hoberlandt (1955), Önder (1976), Bingöl (1978), Lodos et al. (1978), Altınayar (1981), Önder et al. (1981), Yayla (1983), Özkan (1984), Karaat (1986), Önder & Lodos (1987), Özbek & Alaoğlu (1987), Çam (1988), Lodos et al. (1989), Önder et al. (1990; 1998), Yıldırım & Özbek (1992), Güçlü et al. (1995a,b), Çevik (1996), Yaşarakıncı & Hıncal (1997, 2000), Yıldırım et al. (1999), Tezcan & Önder (1999, 2003), Beyaz (2000), Atakan (2000), Özsaraç & Kıyak (2001), Lodos et al. (2003), Kıyak et al. (2004), Çetin & Alaoğlu (2005), Önder et al. (2006), Ayyıldız & Atlıhan (2006).

The aim of this paper is to present new collection and biological data on Orthotylinae in Turkey.

MATERIALS AND METHODS

The material of the Mirinae was collected from different localities of Turkey between 1978 and 2014. In addition, in previous years collected material from different localities of Turkey, Ataturk University, Faculty of Agriculture, Department of Plant Protection, the Entomology Museum, Erzurum, Turkey (EMET) preserved in the collection is also evaluated. Material was obtained by sweeping from meadow and pasture lands containing a variety of flowering plants. Provinces of the collected specimens are given in alphabetical order in the

following list. The material is deposited in the Entomology Museum, Erzurum, Turkey (EMET).

RESULTS

In this study, eight species from five genera of Halticini and nine species from seven genera Orthotylini are recorded from Turkey.

Subfamily Orthotylinae

Tribe Halticini

Genus *Anapus* Stal, 1858

Anapus dorsalis (Reuter, 1890) (Fig. 1A)

Material examined: Bayburt: 1550 m, 12.VIII.2009, ♀, Demirözü, 1650 m, 17.VI.2010, 3 ♀♀; Erzincan: Mercan, 25.VI.1990, 3 ♀♀; Erzurum: Aziziye, Kayapa, 1750 m, 3.VI.2010, 2 ♀♀; Palandöken, Kümbet, 11.VII.1990, 2 ♀♀; Taşlıgüney, 11.VII.1990, 2 ♀♀; Yakutiye, Güzelyayla, 2000 m, 19.VIII.2009, 3 ♀♀, Karagöbek, 2033 m, 13.VII.2011, ♀, University field, 1850 m, 11.VI.1980, 4 ♀♀, 11.VI.1990, 6 ♂♂, 11.VII.2008, ♀; Çat, 2200 m, 3.VI.2010, ♂, 1913 m, 23.VII.2011, ♀, Çirişli, 1876 m, 23.VII.2011, 3 ♀♀; Hınıs, 1742 m, 2.VII.2010, 2 ♀♀; Horasan, N 40°00'53", E 041°59'06", 1588 m, 22.VII.2014, 5 ♀♀, ♂, Dalbaşı, 1601 m, 17.VII.2011, 3 ♀♀; Karaçoban, Duman, 1560 m, 26.VI.2011, 2 ♀♀, Maruf, 1550 m, 26.VI.2011, 2 ♀♀; Karayazı, Kırğındere, 2215 m, 2.VII.2010, 4 ♀♀, Yukarı Söylemez, 1896 m, 2.VII.2010, ♀; Köprüköy, Güzelhisar, 1930 m, 2.VII.2010, 4 ♀♀; Narman, 1900 m, 24.VII.2009, 3 ♀♀, Dikmetaş, 2665 m, 17.VII.2010, 3 ♀♀; Oltu, Toprakkale, 1416 m, 23.VI.2011, ♀; Pasinler, Büyüktuy, 1800 m, 2.VII.2010, 2 ♀♀, Çöğender, 1737 m, 29.VII.2010, 2 ♀♀, 1768 m, 30.VII.2011, 2 ♀♀; Tekman, Körsü, 1940 m, 2.VII.2010, 5 ♀♀; Kars: Sarnkemiş, Karakurt, 1500 m, 22.VI.2010, 2 ♀♀.

Distribution in Turkey: Erzurum (Hoberlandt, 1955); Ağrı, Muş, Van (Bingöl, 1978); Adana, Eskişehir, İçel, Kahramanmaraş, Kayseri, Kırıkkale, Kırşehir, Konya, Niğde (Lodos et al., 2003); Afyonkarahisar, Ankara, Çorum, Gümüşhane, Isparta, Kars, Kütahya, Mersin, Niğde, Sivas (Önder, 2006).

Distribution in the world: Armenia, Turkey (Hoberlandt, 1955); Armenia, Iran, Turkey (Linnavuori, 2007).

Genus *Euryopicoris* Reuter, 1875

Euryopicoris nitidus (Meyer-Dur, 1843) (Fig. 1B)

Material examined: Erzurum: Çat, 2200 m, 3.VI.2010, ♂; Oltu, Toprakkale, N 40°27'55.5", E 041°59'21.1", 1416 m, 23.VI.2011, ♀.

Distribution in Turkey: Kütahya (Önder, 1976); Adana (Önder et al., 2006).

Distribution in the world: Italy (Tamanini, 1981); Iran, Palearctic Region (Linnavuori, 2007); Russia (Vinokurov & Golub, 2007); Spain (Goula & Serra, 2010).

Genus *Halticus* Hahn, 1833

Halticus apterus (Linnaeus, 1758) (Fig. 1C)

Material examined: Erzurum: Palandöken, Kümbet, N 39°48'57.8", E 041°04'03.3", 1836 m, 9.VIII.2011, ♀; Oltu, Çamlıbel, N 40°29'06", E 041°45'47", 1635 m, 14.VII.2014 m, ♂, İğdeli, N 40°32'44.8", E 041°50'27.6", 1660 m, 30.VI.2012, ♂.

Distribution in Turkey: Ankara (Hoberlandt, 1955); Artvin, Bursa, Muğla, Rize (Önder, 1976); Antalya, Çankırı, Kahramanmaraş, Karabük, Kars, Kütahya, Sakarya, Zonguldak (Lodos et al., 2003; Önder et al., 2006).

Distribution in the world: Canada (Edward, 1941); Middle Asia, Caucasia, Turkestan (Hoberlandt, 1955); Germany (Göllner-Scheiding, 1974; Schuster, 2005); Italy (Tamanini, 1981); Russia (Lehr, 1988); North America (Kerzhner & Schuh, 2001); Nearctic and Palearctic Region (Önder et al., 2006); Latvia (Petrova et al., 2010); Canary Islands (Luis, 2013).

Halticus luteicollis (Panzer, 1804) (Fig. 1D)

Material examined: Uzundere, Yedigöller, N 39°18'17", E 041°55'19", 855 m, 7.VI.2012, ♂.

Distribution in Turkey: Ankara (Hoberlandt, 1955); Bahcesir, Bilecik, Çanakkale, Muğla (Önder, 1976); Gaziantep (Önder et al., 1995); İçel (Lodos et al., 2003); Adana, Bartın, Bolu,

Düzce, Hatay, Kastamonu, Mersin, Zonguldak (Önder et al., 2006); İzmir (Tezcan et al., 2010).

Distribution in the world: England, Swedish, Middle Asia, Turkey (Hoberlandt, 1955); Italy, Central Southern Europe, Turkey (Tamanini, 1981); Germany (Schuster, 2005); Palearctic region (Önder et al., 2006); Spain (Goula & Serra, 2010); Croatia (Pajačet al., 2010); Czech Republic (Malenovský et al., 2011); Austria, Germany (Brandner & Frieb, 2014).

Genus *Orthocephalus* Fieber, 1858

Orthocephalus saltator (Hahn, 1835) (Fig. 1E)

Material examined: Artvin: Oruçlu, 247 m, 16.VI.2012, ♀; Bayburt: Çalidere, 1700 m, 17.VI.2010, ♂; Erzincan: Mercan, 25.VI.1990, ♀; Erzurum: Aziziye, Başçakmak, N 40°00'09.8", E 040°54'48.1", 1863 m, 24.VI.2012, 2 ♂♂, Eskipolat, N 40°04'30.8", E 040°56'45.1", 1847 m, 24.VI.2012, 2 ♂♂; Yakutiye, Karagöbek, N 40°10'15.1", E 041°26'14.9", 2033 m, 13.VII.2011, 2 ♂♂, University field, 1850 m, 15.VII.2010, ♂; Aşkale, Küçükova, N 39°47'36.8", E 040°42'53.3", 1896 m, 5.VII.2012, 2 ♂♂; Çat, Çirişli, N 39°31'16.4", E 040°58'23.4", 1876 m, 23.VII.2011, 2 ♂♂, Hınıs, 1742 m, 2.VII.2010, ♂; İspir, Çayırözü, N 40°33'13.4", E 040°54'44.0", 1947 m, 4.VIII.2012, 6 ♀♀, ♂, Madenköprübaşı, N 40°26'43.3", E 040°51'31.7", 1256 m, 22.VI.2011, 2 ♀♀; Karayazı, Kırğındere, 2215 m, 2.VII.2010, ♂; Köprüköy, Güzelhisar, 1930 m, 2.VII.2010, ♀; Narman, Çimenli, N 40°8'47", E 041°53'22.5", 2311 m, 19.VII.2011, ♂, İncedere, 1987 m, 21.VII.2010, ♂; Oltu, İğdeli, N 40°32'44.8", E 041°50'27.6", 1660 m, 30.VI.2012, 2 ♂♂; Olur, Boğazgören, N 40°49'19.2", E 042°12'42.6", 1168 m, 19.VII.2012, ♀; Pasinler, 29.VI.1987, 2 ♂♂, Çöğender, 1768 m, 30.VII.2011, ♀, Ügümü, N 40°00'39.9", E 041°43'57.0", 1724 m, 17.VII.2011, ♀, ♂; Pazaryolu, N 40°25'02.8", E 040°46'41.3", 1452 m, 15.VII.2012, 3 ♂♂, N 40°25'12.8", E 040°46'13.5", 1450 m, 24.VII.2011, ♀, ♂, N 40°25'12.6", E 040°46'13.9", 1430 m, 4.VIII.2012, 3 ♀♀, ♂; Şenkaya, Gözebaşı, N 40°24'39.9", E 042°18'11.5", 1794 m, 14.VII.2012, 2 ♂♂, İçmesu, N 40°25'27.0", E 042°18'32.1", 1656 m, 14.VII.2012, 2 ♂♂; Tekman, Körsu, N 39°34'8.2", E 041°44'30.2", 1901 m, 16.VII.2011, ♂; Tortum, N 40°16'37.4", E 041°33'30", 1661 m, 23.VI.2011, ♀, N 40°16'38", E 041°33'29.9", 1660 m, 31.VII.2011, 2 ♀♀; İğdir: Tuzluca, Menderes, 1100 m, 23.VI.2010, ♀; Kars: Sarıkamış, Karakurt, 1500 m, 22.VI.2012, 2 ♀♀.

Distribution in Turkey: Bursa (Hoberlandt, 1955; Önder et al., 1981); Afyonkarahisar, Balıkesir, Bilecik, Çanakkale, Çankırı, Edirne, Kayseri, Kırklareli, Kütahya, Manisa, Tekirdağ (Önder, 1976); Mardin (Önder et al., 1995); İçel (Lodos et al., 2003); Antalya, Gaziantep, Erzurum, Hatay, Kahramanmaraş, Karaman, Kilis, Mersin, Osmaniye (Önder et al., 2006); İzmir (Tezcan et al., 2010).

Distribution in the world: Germany (Göllner-Scheiding, 1974); Italy (Tamanini, 1981); North America (Kerzhner & Schuh, 2001); Nearctic and Palearctic regions (Önder et al., 2006); Russia (Vinokurov & Golub, 2007); Holarctic, Iranian (Linnavuori, 2007, 2009); Spain (Goula & Serra, 2010); Croatia (Pajačet al., 2010).

Orthocephalus vittipennis (Herrich-Schaeffer, 1835) (Fig. 1F)

Material examined: Erzurum: Yakutiye, Karagöbek, 1998 m, 3.VIII.2009, ♂.

Distribution in Turkey: Bolu (Hoberlandt, 1955); Artvin, Bilecik, Muş (Önder, 1976); Kahramanmaraş (Lodos et al., 2003); Antalya, Artvin, Bilecik, Kars, Muş (Önder et al., 2006).

Distribution in the world: Caucasia, Turkey (Hoberlandt, 1955); Germany (Göllner-Scheiding, 1974); Europe (Kerzhner & Schuh, 2001); Palearctic Region (Önder et al., 2006); West Palearctic region, Iran (Linnavuori, 2007); Russia (Vinokurov & Golub, 2007); Spain (Goula & Serra, 2010); Croatia (Pajačet al., 2010); Czech Republic (Malenovský et al., 2011).

Genus *Strongylocoris* Blanchard, 1840

Strongylocoris leucocephalus (Linnaeus, 1758) (Fig. 1G)

Material examined: Erzurum: Karayazı, Yeniköy, N 39°43'31.8", E 041°59'29.5", 2199 m, 17.VI.2012, ♀, ♂; Köprüköy, Güzelhisar, 1930 m, 2.VII.2010, ♂; Narman, Göllü, N 40°13'52.1", E 041°52'06.0", 1842 m, 30.VI.2012, ♀; Oltu, Özdere, N 40°25'19.5", E

041°43'25.1", 1822 m, 6.VII.2012, ♀, 2 ♂♂, Tutmaç, N 40°27'23.2", E 041°44'41.4", 1720 m, 16.VII.2012, 2 ♂♂.

Distribution in Turkey: Edirne (Hoberlandt, 1955); Bilecik, Kars, Manisa (Önder, 1976); Sakarya (Lodos et al., 2003; Önder et al., 2006).

Distribution in the world: Caucasia, Middle Asia, Turkey (Hoberlandt, 1955); Russia (Kerzhner, 1973); Italy (Tamanini, 1981); Russia (Lehr, 1988; Vinokurov & Golub, 2007); Germany (Schuster, 2005); Palearctic region (Önder et al., 2006); Spain (Goula & Serra, 2010); Croatia (Pajačet et al., 2010); Czech Republic (Malenovský et al., 2011); Canary Islands (Luis, 2013).

***Strongylocoris niger* (Herrich-Schaeffer, 1835) (Fig. 1H)**

Material examined: Erzurum: Aziziye, Rizekent, 2070 m, 30.VII.2010, ♂; Yakutiye, Ortadüzü, 12.VII.2009, 1850 m, 2 ♀♀; Köprüköy, Ilhasu, N 40°5'39.6", E 041°51'57.1", 2111 m, 30.VII.2011, ♂; Pasinler, Sansar deresi, N 40°04'21.5", E 041°43'28.5", 1877 m, 17.VII.2011, ♀, Yayla, N 40°05'42.7", E 041°44'03.5", 1990 m, 17.VII.2011, 2 ♀♀.

Distribution in Turkey: Edirne (Hoberlandt, 1955); Edirne, Kars (Önder, 1976); Edirne, Kars (Önder et al., 2006); Elazığ (Matocq et al., 2014).

Distribution in the world: Israel, Caucasia, Turkestan, Turkey (Hoberlandt, 1955); Iranian, Israel (Linnavuori, 1961; 2007); Palearctic Region (Önder et al., 2006); Russia (Vinokurov & Golub, 2007); Croatia (Pajačet et al., 2010); Czech Republic (Malenovský et al., 2011).

Tribe Orthotylini Van Duzee, 1916

Genus *Blepharidopterus* Kolenati, 1845

***Blepharidopterus angulatus* (Fallén, 1807) (Fig. 1I)**

Material examined: Erzincan: Yukarı Çakırman, 28.VIII.1991, ♂; Erzurum:Yakutiye, University field, 1850 m, 24.VIII.1998, ♂.

Distribution in Turkey: Artvin, (Önder, 1976); Ankara, Bolu, Karabük, Zonguldak (Lodos et al., 2003; Önder et al., 2006); İzmir (Tezcan et al., 2010).

Distribution in the world: Russia (Kerzhner, 1973); Italy, Canada, Turkey (Tamanini, 1981); Russia (Lehr, 1988; Vinokurov & Golub, 2007); Swedish (Kerzhner & Schuh, 2001); Azores Island, Nearctic ve Palearctic regions (Önder et al., 2006); Holarctic, Iranian (Linnavuori, 2007); Spain (Goula & Serra, 2010); Croatia (Pajačet et al., 2010); Canary Islands (Luis, 2013).

Genus *Brachynotocoris* Reuter, 1880

***Brachynotocoris puncticornis* Reuter, 1880 (Fig. 1J)**

Material examined: Erzincan: Küçük Çakırman, 28.VIII.1991, ♀; Erzurum:Yakutiye, Dadaşköy, N 39°55'39.5", E 041°15'23.2", 1806 m, 4.VIII.2011, ♂, University field, 1850 m, 2.VIII.1998, 3 ♂♂, 5.VIII.1998, ♂, 7.VIII.1998, ♂, 12.VIII.1998, ♂, 18.VIII.1997, ♀, 20.VIII.1998, ♂; Pasinler, Övenler, N 39°59'17", E 041°34'43.9", 1710 m, 21.VIII.2011, ♂; Şenkaya, Paşalı, N 40°40'08.7", E 042°12'18.4", 1106 m, 19.VII.2011, ♀;İğdır: Akyumak, 18.VII.1981, ♀.

Distribution in Turkey: Kırklareli (Önder, 1976); Sakarya (Önder et al., 1981); Diyarbakır (Önder et al., 1995); Adana,Hatay, İçel (Lodos et al., 2003); Gaziantep, Kırşehir, Konya, Mersin, Nevşehir (Önder et al., 2006).

Distribution in the world: Iranian (Linnavuori & Modarres, 1999; Linnavuori, 2009); Germany, Morocco, France, Russia, Spain, Italy, Portugal, Turkey (Önder et al., 2006); Iran, Northern Mediterranean (Linnavuori, 2007); Spain (Goula & Serra, 2010); Europe, Iran, Caucasia (Ghahari, 2013); Canary Islands (Luis, 2013).

Genus *Globiceps* Lapeletier & Serville, 1825

Subgenus *Kelidocoris* Kolenati, 1845

***Globiceps (Kelidocoris) fulvicollis* Jakovlev, 1877 (Fig. 1J)**

Material examined: Erzurum: Palandöken, Abdurrahmangazi, 2170 m, N 39°52'36.0", E 041°18'35.2", 22.VII.2012, ♀, 2190 m, 27.VII.2010, ♀, 2197 m, 1.VIII.2010, ♀, Kümbet, N 39°48'57.8", E 041°0.4'33", 1836 m, 9.VIII.2011, ♀; Yakutiye, Atatürk University field, 1850 m, 9.VII.2007, 2 ♂♂, 14.VII.1996, ♂, 16.VII.1996, 4 ♂♂, 22.VII.2009, 2 ♀♀, ♂, N 39°53'59.1", E 041°14'19.0", 1880 m, 22.VII.2011, 5 ♀♀, ♂, 1850 m, 23.VII.2008, 5 ♀♀, 25.VII.2007, ♂,

26.VII.2010, 2 ♂♂, 27.VII.2010, ♀, 30.VII.1996, ♂; Hınıs, N 39°52'33", E 041°16'46", 1955 m, 26.VI.2011, 2 ♂♂; Narman, Araköy, N 40°21'57.9", E 041°55'20.3", 1472 m, 23.VI.2011, ♀; Pazaryolu, N 40°25'12.1", E 040°47'07.7", 1495 m, 24.VII.2011, 2 ♀♀, 1010 m, 7.VIII.2009, ♀; Tortum, Aşağı Sivri, N 40°19'33.8", E 041°31'46.9", 1546 m, 16.VII.2012, ♀, ♂, Kireçli Geçidi, 1987 m, 21.VII.2010, 2 ♀♀, Taşbaşı, N 40°15'26.6", E 041°32'13.8", 1816 m, 13.VII.2011, ♀; Iğdır: Çalpala, 950 m, 23.VI.2010, ♂; Kars: Sarıkamış, 1900 m, 13.VIII.2009, ♂.

Distribution in Turkey: Edirne (Hoberlandt, 1955).

Distribution in the world: Caucasia, Turkestan (Hoberlandt, 1955); Germany (Schuster, 2005); West Palearctic, Iranian (Linnavuori, 2007); Spain (Goula & Serra, 2010); Croatia (Pajačet al., 2010).

Genus *Heterocordylus* Fieber, 1858

Subgenus *Heterocordylus* Fieber, 1858

Heterocordylus (H.) tumidicornis (Herrich-Schäffer, 1835) (Fig. 1K)

Material examined: Erzurum: Pasinler, 1.VIII.1983, ♀, Ügümü, N 40°00'39.9", E 041°43'57.0", 1724 m, 17.VII.2011, 6 ♀♀.

Distribution in Turkey: Amasya, Balıkesir, Bilecik, Çanakkale, Kütahya (Önder, 1976); Zonguldak (Lodos et al., 2003; Önder et al., 2006); İzmir (Tezcan et al., 2010).

Distribution in the world: Germany (Kerzhner & Schuh, 2001); Palearctic region (Önder et al., 2006); Spain (Goula & Serra, 2010); Croatia (Pajačet al., 2010); Czech Republic (Malenovský et al., 2011).

Genus *Malacocoris* Fieber, 1858

Malacocoris chlorizans (Panzer, 1794) (Fig. 1L)

Material examined: Artvin: Yusufeli, Demirkent, 14.VIII.1991, ♀, ♂; Erzurum: Aşkale, Küçükova, N 39°47'36.8", E 040°42'53.3", 1896 m, 5.VII.2012, ♀; İspir, 24.VII.1991, ♀; Oltu, 4.IX.1991, ♂; Pazaryolu, 27.VII.1991, ♂; Uzundere, Gölbaşı, 13.VIII.1991, ♂.

Distribution in Turkey: Artvin, Edirne, Giresun (Önder, 1976); Bursa, İstanbul, Sakarya (Önder et al., 1981); Antalya (Özkan, 1984); Adana (Öncüer, 1991); Bolu, Çorum, Kayseri, Nevşehir, Yozgat (Lodos et al., 2003; Önder et al., 2006).

Distribution in the world: Iranian (Linnavuori & Modarres, 1999; Linnavuori, 2009); Germany (Göllner-Scheiding, 1974; Kerzhner & Schuh, 2001; Schuster, 2005); Palearctic Region (Önder et al., 2006); West Palearctic region, Iranian (Linnavuori, 2007); Spain (Goula & Serra, 2010); Croatia (Pajačet al., 2010); Canary Islands (Luis, 2013); Serbia (Prodanović & Protić, 2013).

Genus *Orthotylus* Fieber, 1858

Subgenus *Melanotrichus* Reuter, 1875

Orthotylus (Melanotrichus) flavosparsus (C.R. Sahlberg, 1841) (Fig. 1M)

Material examined: Erzurum: Aziziye, 21.VII.1989, ♀, 3 ♂♂, 26.VII.1989, 3 ♂♂; Yakutiye, Dadaşköy, N 39°55'39.5", E 041°15'23.2", 1806 m, 4.VIII.2011, 10 ♀♀, 8 ♂♂, University field, 2.VII.1987, 4 ♀♀, ♂, 13.VII.1988, ♀, 16.VII.1989, ♀, ♂, 28.VII.1986, ♀, 2 ♂♂, 29.VII.1989, ♂, 13.VIII.1988, ♂, 17.VIII.1998, ♂, 22.VIII.1988, 2 ♀♀, ♂, 5.VIII.1998, ♂; Aşkale, Abdalcık, 1756 m, 1.VIII.2010, 2 ♀♀; Horasan, 16.VIII.1988, 2 ♂♂; İspir, Madenköprübaşı, N 40°26'34.3", E 040°50'42.4", 1245 m, 4.VIII.2012, ♂, Özlüce, N 40°31'13.8", E 040°55'11.1", 1736 m, 4.VIII.2012, 2 ♀♀, 9 ♂♂; Narman, 30.VI.1989, ♂, 2.VII.1987, 3 ♀♀, 6 ♂♂, Kışlaköy, N 40°19'20.7", E 042°02'08.3", 1892 m, 13.VIII.2012, 3 ♀♀, 6 ♂♂; Oltu, 3.VI.1989, 2 ♂♂, 30.VI.1989, ♂, 2.VII.1987, 3 ♀♀, 5 ♂♂, 2.VII.1989, ♂, 5.VIII.1988, ♂, 20.VIII.1988, 3 ♂♂, 23.VIII.1987, 2 ♂♂, Sarsaz, N 40°32'00.9", E 041°54'27.2", 1421 m, 30.VIII.2012, ♀; Pasinler, 1600 m, 25.VII.2009, 2 ♀♀, ♂, 16.VIII.1988, 2 ♀♀, ♂, Çöğender, 1740 m, 22.VI.2012, 3 ♀♀, 2 ♂♂, Demirdöven, 1727 m, 29.VII.2010, ♀, ♂, Övenler, N 39°59'17", E 041°34'43.9", 1710 m, 21.VIII.2011, ♂; Şenkaya, 2.VII.1989, ♂, 15.VIII.1988, 3 ♂♂; Tortum, Arılı, N 40°22'11.6", E 041°28'50.8", 1428 m, 30.VIII.2012, ♀; Iğdır: 830 m, 23.VI.2010, ♀, Akyumak, 18.VII.1991, ♀, Çalpala, 950 m, 23.VI.2010, ♂, Melekli, 850 m, 23.VI.2010, 2 ♀♀, 3 ♂♂, Aralık, 830 m, 23.VI.2010, 7 ♀♀, 2 ♂♂; Kars: Kağızman, Altıngedik, 1280 m, 22.VI.2010, ♀.

Distribution in Turkey: Iğdır (Hoberlandt, 1955); Afyonkarahisar, Ankara, Artvin, Çanakkale, Kütahya, Tekirdağ (Önder, 1976); Bolu, Bursa, Kocaeli, Sakarya (Önder et al., 1981); Erzurum (Özbek & Alaoğlu, 1987); İçel (Öncüer, 1991; Lodos et al., 2003); Diyarbakır (Önder et al., 1995); Afyonkarahisar, Ankara, Antalya, Artvin, Burdur, Çanakkale, Çorum, Eskişehir, Hatay, İzmir, Kahramanmaraş, Kars, Kastamonu, Kayseri, Kütahya, Nevşehir, Tekirdağ (Önder et al., 2006); İzmir (Tezcan et al., 2010).

Distribution in the world: A.B.D. (Edward, 1941); Caucasia, Turkestan (Hoberlandt, 1955); Russia (Kerzhner, 1973); Germany (Göllner-Scheiding, 1974; Schuster, 2005); Russia (Lehr, 1988; Vinokurov & Golub, 2007); Iranian (Linnavuori & Modarres, 1999; Linnavuori, 2009; Havaskary et al., 2015); Swedish (Kerzhner & Schuh, 2001); Canary Islands (Aukema et al., 2006; Luis, 2013); Nearctic, Neotropical and Palearctic regions, Azores Island, Canary Islands (Önder et al., 2006); Spain (Goula & Serra 2010); Croatia (Pajačet al., 2010); Latvia (Petrova et al., 2010).

Subgenus *Orthotylus* Fieber, 1858

Orthotylus (Orthotylus) marginalis Reuter 1883 (Fig. 1N)

Material examined: Artvin: Ardanuç, Ferhatlı, 573 m, 15.VI.2010, ♀, Yusufeli, İşhan, 600 m, 16.VI.2010, ♂; Erzincan: Akyazı, 1202 m, 13.VI.2010, ♂; Erzurum: Aziziye, Başçakmak, N 40°00'09.8", E 040°54'48.1", 1863 m, 24.VI.2012, ♂, N 40°00'05.6", E 040°54'39.3", 1860 m, 20.VII.2011, ♀, Ortabağçe, N 39°53'35.3", E 040°51'19.0", 1763 m, 5.VII.2012, 5 ♂♂; Palandöken, Taşlıgüney, 2032 m, 26.VI.2009, 2 ♂♂; Yakutiye, Akdağ, 1820 m, 1.VII.2010, ♂, Dumluluba, Güngörmez, 2500 m, 1.VII.2010, ♂, Karagöbek, N 40°10'15.1", E 041°26'14.9", 2033 m, 13.VII.2011, 2 ♂♂, University field, 1850 m, 25.VI.2009, ♂; Aşkale, Gölören, N 40°01'28.9", E 040°47'55.1", 1897 m, 18.VII.2012, 2 ♀♀, Küçükova, N 39°47'36.8", E 040°42'53.3", 1896 m, 5.VII.2012, ♀, ♂; Çat, Yaylasuyu Geçidi, 2322 m, 29.VI.2009, 2 ♂♂, Yukarı Çat, N 39°39'46.3", E 041°00'56.2", 2162 m, 23.VII.2011, ♀, 3 ♂♂; Horasan, Değirmenli, N 40°05'20.7", E 042°06'56.7", 1608 m, 22.VI.2012, ♂; Karaçoban, Duman, N 39°18'22", E 041°55'5", 1560 m, 26.VI.2011, ♂, Maruf, N 39°18'42", E 041°55'5", 1550 m, 26.VI.2011, ♀, ♂; Köprüköy, Güzelhisar, 1930 m, 2.VII.2010, 2 ♀♀, Marifet, N 39°50'03.1", E 041°47'38.2", 1685 m, 26.VI.2011, 2 ♂♂; Narman, Demirdağ, N 40°19'23.5", E 041°42'45.5", 2028 m, 16.VII.2012, 3 ♂♂; Oltu, 28.VI.1988, ♀, Çamlıbel, N 40°29'36.1", E 041°45'45.2", 1775 m, 13.VII.2011, ♀, Özdere, N 40°27'57.7", E 041°44'11.9", 1927 m, 16.VII.2012, ♂; Şenkaya, Gözebaşı, N 40°24'39.9", E 042°18'11.5", 1794 m, 14.VII.2012, ♂.

Distribution in Turkey: Edirne (Hoberlandt, 1955); Afyonkarahisar, Balıkesir, Bilecik, Çanakkale, Edirne, Kırklareli, Kütahya, Muğla, Uşak (Önder, 1976); Bolu, Bursa, Kocaeli (Önder et al., 1981); Adana, Ankara, Antalya, Eskişehir, İçel, Karaman, Kastamonu, Konya (Lodos et al., 2003); İzmir (Tezcan et al., 2010).

Distribution in the world: Caucasia, Turkey (Hoberlandt, 1955); Germany (Göllner-Scheiding, 1974; Schuster, 2005); Italy (Tamanini, 1981); Avrupa-Sibirya, Iranian (Linnavuori, 2007); Russia (Vinokurov & Golub, 2007); Spain (Goula & Serra, 2010); Croatia (Pajačet al., 2010); Czech Republic (Malenovský et al., 2011); Canary Islands (Luis, 2013); Serbia (Prodanović & Protić, 2013).

Orthotylus (Orthotylus) nassatus (Fabricius, 1787) (Fig. 1O)

Material examined: Erzurum: Yakutiye, University field, 1850 m, 30.VI.2009, ♂, 2.VIII.1996, ♀, 26.VIII.1997, ♀; Iğdır: 17.VII.1991, ♀, Akyumak, 18.VII.1991, ♀, 2 ♂♂.

Distribution in Turkey: Balıkesir, Bilecik, Mardin, (Önder, 1976); Bolu, Bursa, İstanbul, Kocaeli, Sakarya (Önder et al., 1981); Tokat (Çam, 1988); Mardin (Önder et al., 1995); Burdur, Kayseri (Çevik, 1996); Ankara, Antalya, Çorum, Eskişehir, Kahramanmaraş, Kastamonu, Kayseri, Konya, Nevşehir, Niğde (Lodos et al., 2003; Önder et al., 2006); İzmir, Manisa (Tezcan & Önder, 2003).

Distribution in the world: Israel (Linnavuori, 1961); Russia (Lehr, 1988); Germany (Göllner-Scheiding, 1974; Schuster, 2005); Nearctic and Palearctic regions (Önder et al., 2006); Russia (Vinokurov & Golub, 2007); West Palearctic region, Iranian (Linnavuori, 2007; 2009); Spain (Goula & Serra, 2010); Croatia (Pajačet al., 2010).

***Orthotylus (Orthotylus) obscurus* Reuter, 1875 (Fig. 1Ö)**

Material examined: Erzurum: Yakutiye, University field, 1850 m, 26.VI.1996, ♂, 16.VII.1996, ♀; Narman, Göllü, N 40°13'52.1", E 041°52'06.0", 1842 m, 30.VI.2012, ♂; Tortum, 1653 m, 15.VI.2010, ♂, Pehlivanlı, N 40°29'37.1", E 041°30'17.6", 1158 m, 21.VII.2012, ♀, Şenyurt, 1265 m, 21.VII.2012, ♀.

Distribution in Turkey: Erzurum (Yıldırım et al., 1999).

Distribution in the world: Bulgaria, France, Romania, Yugoslavia (Tamanini, 1981); Germany (Schuster, 2005); Spain (Goula & Serra, 2010); Croatia (Pajačet al., 2010).

Genus Reuteria* Puton, 1875**Reuteria marqueti* Puton, 1875 (Fig. 1P)**

Material examined: Erzurum: Yakutiye, University field, 1850 m, 19.VIII.1998, 2 ♂♂; Aşkale, Çayköy, N 39°56'46.6", E 040°48'27.4", 1720 m, 21.VI.2011, ♀; Çat, N 39°35'42.4", E 040°57'59.6", 1913 m, 23.VII.2011, ♀; Horasan, Dalbaşı, N 40°3'2.4", E 042°7'48.2", 1601 m, 17.VII.2011, ♂; Oltu, Demirtaş, N 40°24'58.6", E 041°44'14.4", 1888 m, 6.VII.2012, ♂.

Distribution in Turkey: Bursa (Önder et al., 1981); İçel (Lodos et al., 2003); Antalya (Önder et al., 2006).

Distribution in the world: Italy, Central Southern Europe (Tamanini, 1981); Nearctic and Palearctic regions (Önder et al., 2006); Spain (Goula & Serra, 2010); Croatia (Pajačet al., 2010); Austria, Germany (Brandner & Frieb, 2014).

ACKNOWLEDGEMENTS

I am grateful to Dr. Rauno Linnavuori (Finland), Dr. Chérot Frédéric (Belgium) and Prof. Dr. Jacek Gorczyca (Poland) for determining some of the reference material. The study was supported by the Atatürk University Scientific Research Fund (Project Number: 2009/23) and is a partial summary of Gülten Yazıcı's PhD thesis (Atatürk University, Institute of Science, Department of Plant Protection), adopted on 11.05.2015. I also thank all my colleagues that in previous years collected material from different localities of Turkey.

LITERATURE CITED

- Altınayar, G.** 1981. Orta Anadolu Bölgesi tahıl tarlalarındaki böcek faunasının saptanması üzerinde çalışmalar. Bitki Koruma Bülteni, 21 (2): 53-88.
- Atakan, E.** 2000. Avcı böcek *Chrysoperla carnea* S. (Neuroptera: Chrysopidae), *Deraeocoris pallens* Reut. (Hemiptera: Miridae) ve *Orius niger* Wolff (Hemiptera: Anthracoridae)'nin pamuk bitkinde dağılımı. Turkey Entomoloji Dergisi, 24 (4): 267-277.
- Aukema, B., Duffels, J. P. & Baez, M.** 2006. A Checklist of the Heteroptera of the Canary Islands (Insecta). Denisia 19, Zugleich Kataloge der OÖ. Landesmuseen. Neue Serie, 50: 755-774.
- Ayyıldız, Y. & Athhan, R.** 2006. Balıkesir İli sebze alanlarında görülen yaprakbiti türleri ve doğal düşmanları. Yüzüncü Yıl Üniversitesi, Ziraat Fakültesi, Tarım Bilimleri Dergisi, 16 (1): 1-5.
- Beyaz, G.** 2000. Manisa yöresi kültür kekiği (*Origanum* spp.) üretim alanlarındaki Heteroptera takımına bağlı böcek faunasının belirlenmesi üzerine araştırmalar. Ege Üniversitesi, Fen Bilimleri Enstitüsü, Yüksek Lisans Tezi, s: 52.
- Bingöl, C. M.** 1978. Güneydoğu Anadolu Bölgesi'nde kültür yem bitkilerinde zarar yapan Miridae ve Curculionidae familyalarına ait böcek türleri, tanımları ve zararları üzerinde araştırmalar. Bölge Zirai Mücadele Araştırma Enstitüsü, 4: 7. Diyarbakır.
- Brandner, J. & Frieb, T.** 2014. Interessante wanzenfunde aus österreich und Bayern (Insecta: Heteroptera). Joannea Zoologie, 13: 13-127.
- Cassis, G., Wall, M. & Schuh, R. T.** 2006. Insect biodiversity and industrialising the taxonomic process: the Plant Bug Case Study (Insect:Heteroptera:Miridae). Reconstructing the Tree of Life, The Systematics Association Special Volume Series, 72: 193-212.
- Cassis G. & Schuh, R. T.** 2012. Systemetic, biodiversity, biogeography, and host associations of the Miridae (Insecta: Hemiptera: Heteroptera: Cimicomorpha). The Annual review of Entomology, 57: 377-404.
- Çam, H.** 1988. Tokat ve çevresinde kiraz, vişne ve idris ağaçlarında bulunan Heteroptera türlerinin tanımları ve beslenme rejimleri üzerinde araştırmalar. Ege Üniversitesi Fen Bilimleri Enstitüsü, Yüksek Lisans Tezi, İzmir, s: 52.
- Çetin, H. & Alaoglu, Ö.** 2005. Mut (Mersin) İlçesinde zeytin ağaçlarında bulunan yararlı böcek türlerinin tespiti ve önemli türlerin popülasyon değişimi. Selçuk Üniversitesi, Ziraat Fakültesi Dergisi, 19 (36): 59-65.
- Çevik, T.** 1996. Orta Anadolu Bölgesi ceviz ağaçlarında zararlı ve faydalı faunanın tespiti üzerinde araştırmalar. Bitki Koruma Bülteni, 36 (1-2): 55-72.
- Edward, L. T.** 1941. State geological and natural history survey. State of Connecticut, Public Document No: 47: 499-658.
- Ghahari, H.** 2013. A study on Miridae (Hemiptera: Heteroptera) from Golestan National Park, Northern Iran. Linzer biol. Beitr., 45 (2): 1983-1989.
- Goula, M. & Serra, J. R. A.** 2010. Checklist of Heteroptera of Catalonia (Insecta, Hemiptera, Heteroptera) Version 1. Centre de Recursos de Biodiversitat Animal, pp: 40.

- Göllner-Scheidung, U.** 1974. Beiträge zur Heteropterenfauna Brandenburgs 3. Die Heteropterenfauna der Oderwiesen und hänge bei Lebus/Oder (Hemiptera, Heteroptera). Faunistischeabhandlungen Staatliches Museum für Tierkunde in Dresden, 5 (3): 181-198.
- Güçlü, Ş., Hayat, R. & Özbek, H.** 1995a. Erzurum ve çevre illerde ceviz (*Juglans regia* Linnaeus)'de bulunan fitofag böcek türlerinin tespiti üzerine araştırmalar. Turkey Entomoloji Dergisi, 19 (2): 137-145.
- Güçlü, Ş., Hayat, R. & Özbek, H.** 1995b. Artvin yöresinde zeytin (*Olea europaea* L.)'de bulunan fitofag ve predatör böcek türleri. Turkey Entomoloji Dergisi, 19 (3): 231-240.
- Havaskary, M., Pourabad, R. F. & Rafiee, A.** 2015. Fauna of plant bugs (Hemiptera: Heteroptera: Miridae) from Jolfa and Vicinity, NW Iran. Mun. Ent. Zool., 10 (1): 234-237.
- Hoberlandt, L.** 1955. Results of the zoological scientific expedition of the national museum in Praha to Turkey. Acta Entomologica Musei Nationalis Pragae, 3: 261 pp.
- Karaat, Ş.** 1986. Doğu ve Güneydoğu Anadolu Bölgelerinde tütün (*Nicotiana tabacum* L.)'de zararlı olan böcek türleri, tanımları, yayılış alanları ve zararları üzerinde araştırmalar. Diyarbakır Bölge Zirai Mücadele Araştırma Enstitüsü Müdürlüğü, Araştırma Eserleri Serisi, No: 4, s: 74.
- Kerzhner, I. M. & Schuh, R. T.** 2001. Corrections to the catalog "Plant Bugs of the World" By Randall T. Schuh (Heteroptera: Miridae). J. New York Entomol. Soc., 109 (2): 263-299.
- Kıyak, S., Özşarac, Ö. & Salur, A.** 2004. Additional notes on the Heteroptera fauna of Nevşehir province (Turkey). G.U. Journal of Science, 17 (1): 21-29.
- Lehr, P. A.** 1988. Keys to the insects of the far east of the USSR, Volume II. (Hemiptera). Academy of Sciences of the USSR far east Branch Institute of Biology and Soil Sciences, pp: 211.
- Linnavuori, R. E. & Modarres, M.** 1999. Studies on the Hemiptera of the Khorasan province in NE Iran. II. Cimicomorpha: Miridae. Entomologica Fennica, 10: 215-231.
- Linnavuori, R. E.** 2007. Studies on the Miridae (Hemiptera) of Gilan and the adjacent provinces in northern Iran. II. list of species. Acta Entomologica Musei Nationalis Pragae, 47: 17-56.
- Lodos, N., Önder, F., Pehlivan, E. & Atalay, R.** 1978. Ege ve Marmara Bölgesinin zararlı bölgeler faunasının tespiti üzerine çalışmalar. T.C. Gıda-Tarım ve Hayvancılık Bakanlığı Zirai Mücadele ve Zirai Karantina Genel Müdürlüğü, Ankara, 135-136.
- Lodos, N., Önder, F., Pehlivan, E., Atalay, R., Erkin, E., Karsavuran, Y. & Tezcan, S.** 1989. Akdeniz bölgesinin ziraatta zararlı ve faydalı böcek faunasının tespiti üzerine araştırmalar [Curculionidae, Scarabaeidae (Coleoptera), Plataspidae, Cydnidae, Acathosomatidae, Scutelleridae, Pentatomidae, Lygaeidae, Miridae (Hemiptera)]. Ege Üniversitesi, Ziraat Fakültesi, Bitki Koruma Bölümü, Bornova, İzmir, s: 75.
- Lodos, N., Önder, F., Pehlivan, E., Atalay, R., Erkin, E., Karsavuran, Y., Tezcan, S. & Aksoy, S.** 2003. Faunistic studies on Miridae (Hemiptera) of western Black Sea, Central Anatolia and Mediterranean Regions of Turkey. Department of Plant Protection Faculty of Agriculture University of Ege 35100 Bornova, İzmir, Turkey, s: 85.
- Luis, V.** 2013. Heteroptera, Equipo de Heterópteros de insectarium- biodiversidad virtual. BV news, Noticias de Biodiversidad y Geodiversidad Para el Naturalista, pp: 46.
- Malenkovský, I., Banar, P. & Kment, P.** 2011. A contribution to the faunistics of the Hemiptera (Cicadomorpha, Fulgoromorpha, Heteroptera, and Psylloidea) associated with dry grassland sites in southern Moravia (Czech Republic). Acta Musei Moraviae, Scientiae biologicae (Brno), 96 (1): 41-187.
- Matocq, A., Pluot-Sigwalt, D. & Özgen, I.** 2014. Terrestrial Hemiptera (Heteroptera) collected in South-East Anatolia (Diyarbakır, Mardin and Elazığ Provinces) (Turkey): Second List. Mun. Ent. Zool., 9 (2): 884-930.
- Önder, F.** 1976. Turkey Miridae (Hemiptera) faunası üzerine sistematik çalışmalar. Ege Üniversitesi Ziraat Fakültesi, Entomoloji ve Zirai Zooloji Kürsüsü, Doçentlik Tezi, İzmir, s: 506.
- Önder, F., Ünal, A. & Ünal, E.** 1981. Hemiptera fauna collected by light traps in some districts of northwestern part of Anatolia. Turkey Bitki Koruma Dergisi, 5 (3): 151-169.
- Önder, F. & Lodos, N.** 1987. Turkey'de bulunan predatör Hemiptera türleri üzerinde genel bir değerlendirme. Turkey Entomoloji Dergisi, 11 (2): 117-125.
- Önder, F., Karsavuran, Y. & Tezcan, S.** 1990. Yabancı ot savaşında potansiyel öneme sahip Turkey Hemiptera faunası üzerinde araştırmalar. Çevre Biyolojisi Sempozyumu, Ankara, s: 15.
- Önder, F., Karsavuran, Y. & Tezcan, S.** 1998. Investigations on the vertical distribution in the habitats of plant bugs (Hemiptera: Miridae) of Turkey. Ege Üniversitesi Ziraat Fakültesi Dergisi, 35 (1-3): 33-40.
- Önder, F., Karsavuran, Y., Tezcan, S. & Fent, M.** 2006. Turkey Hemiptera Kataloğu. Meta Basım Matbaacılık Hizmetleri, İzmir, s: 164.
- Özbek, H. & Alaoglu, Ö.** 1987. Erzurum ve çevresinde patates bitkisinde bulunan fitofag Hemiptera türleri. Bitki Koruma Bülteni, 27 (3-4): 227-238.
- Özkan, A.** 1984. Antalya ve çevresi yumuşak çekirdekli meyve ağaçlarının Coleoptera ve Hemiptera takımlarına ait faydalı böcek türleri, tanımları, konukçuları ve önemlerinin etkinlikleri üzerine araştırmalar. Biyolojik Mücadele Araştırma Enstitüsü, Antalya, s: 65.
- Özşarac, Ö. & Kıyak, S.** 2001. A study on the Hemiptera fauna of Bozcaada (Çanakkale Province). Turk. J. Zool., 25: 313-322.
- Pajač, I., Barić, B. & Milošević, B.** 2010. Katalog Stjenica (Heteroptera: Miridae) Hrvatske. Entomol. Croat., 14 (1-2): 23-76.
- Petrova, V., Samsone, I. & Jankevica, L.** 2010. True bug community on strawberry fields of Latvia. Environmental and Experimental Biology, 8: 71-74.
- Prodanović, D. J. & Protić, L. J.** 2013. True bugs (Hemiptera, Heteroptera) as psyllid predators (Hemiptera, Psylloidea). ZooKeys, 319: 169-189.
- Schuster, G.** 2005. Wanzen aus Bayern IV (Insecta, Heteroptera). Bericht der Naturf. Gesellsch. Augsburg, 63-124.
- Tamanini, L.** 1981. Gli Eterotteri Della Basilicata e Della Calabria (Italia Meridionale (Hemiptera: Heteroptera). Memorie Del Museo Civico di Storia Naturale di Verona (Ipa Serie) Sezione Scienze Della Vita (A: Biologica), No 3: 75.
- Tezcan, S. & Önder, F.** 1999. Heteropterous insects associated with cherry trees in Kemalpaşa district of İzmir, Turkey. Ege Üniversitesi Ziraat Fakültesi Dergisi, 36 (1-3): 119-124.
- Tezcan, S. & Önder, F.** 2003. İzmir ve Manisa illeri ekolojik kiraz bahçelerinin faunası üzerinde araştırmalar: Hemiptera takımına bağlı türler üzerinde bir değerlendirme. Anadolu, 13 (1): 124-131.
- Tezcan, S., Tezcan, F. & Gülperçin, N.** 2010. İzmir'den 4000 Böcek Türü. Egetan Bas. Yay. Tan. Ltd. Şti., İzmir, pp: 250.
- Vinokurov, N. N. & Golub, V. B.** 2007. New records of plant bugs from the Asian part of Russia (Heteroptera: Miridae). Zoosystematica Rossica, 16 (1): 27-30.
- Wheeler, A. G. & Henry, J. T.** 2004. Plant Bugs (Hemiptera: Miridae). Encyclopedia of Entomology, USA.

Wheeler, A. G. 2001. Biology of the plant bugs. Cornell University Press, Ithaca, NY, pp: 507.

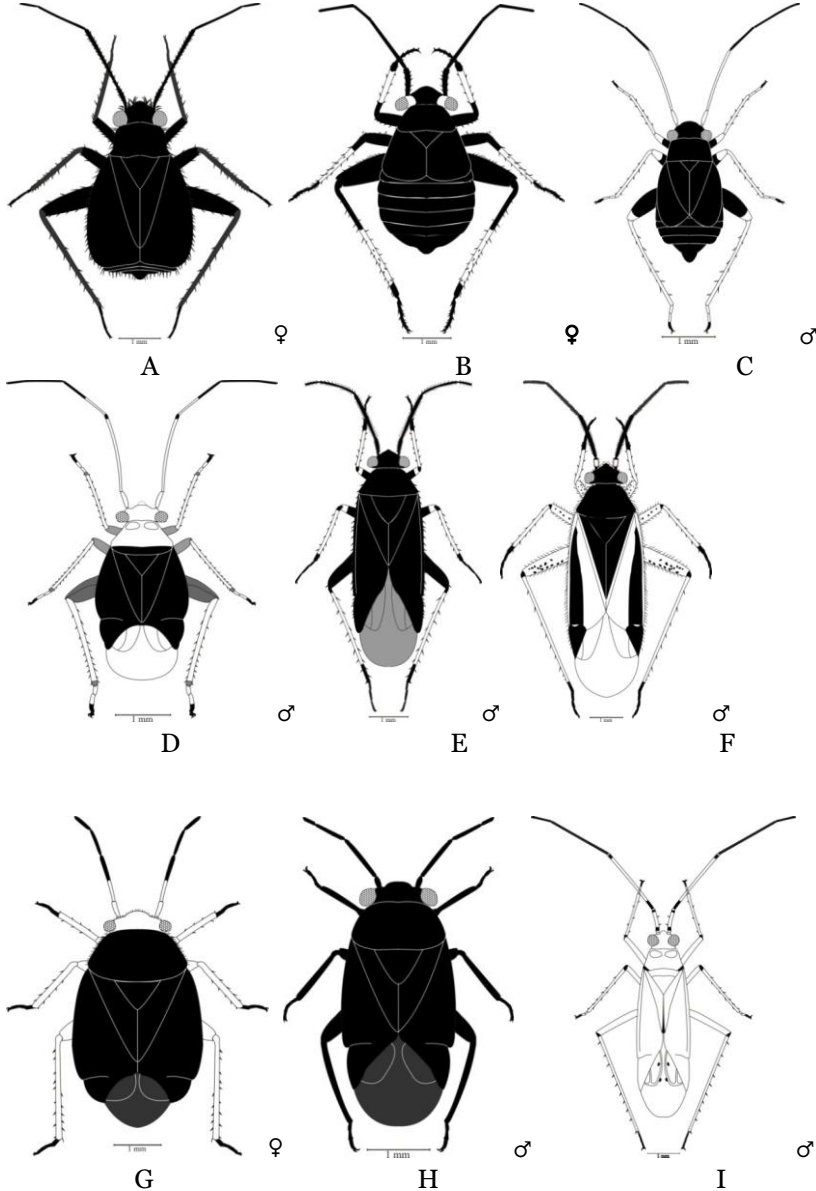
Yaşarakıncı, N. & Hıncal, P. 1997. İzmir ilinde örtü altında yetiştirilen domates, hıyar, biber ve marulda bulunan zararlı ve faydalı türler ile bunların popülasyon yoğunlukları üzerinde araştırmalar. Bitki Koruma Bülteni, 37 (1-2): 79-89.

Yaşarakıncı, N. & Hıncal, P. 2000. İzmir ilinde örtü altında yetiştirilen patlıcanda bulunan zararlılar ile bunların doğal düşmanları ve popülasyon gelişmeleri üzerinde çalışmalar. Bitki Koruma Bülteni, 40 (1-2): 29-48.

Yayla, A. 1983. Antalya ve çevresi zeytin ağaçlarında rastlanan faydalı Hemipter'lerin tanınmaları, konukçuları ve etkinlikleri üzerine araştırmalar. Biyolojik Mücadele Araştırma Enstitüsü, Antalya, s: 58.

Yıldırım, E. & Özbek, H. 1992. Erzurum Şeker Fabrikasına bağlı şekerpancari üretim alanlarındaki zararlı ve yararlı böcek türleri. Turkey II. Entomoloji Kongresi, 28-31 Ocak 1992, Adana, 621-635.

Yıldırım, E., Özbek, H. & Önder, F. 1999. Atatürk Üniversitesi (Erzurum) kampus alanında ışık tuzaklarında yakalanan Hemiptera türleri üzerinde bir araştırma. Turkey Entomoloji Dergisi, 23 (3): 225-228.



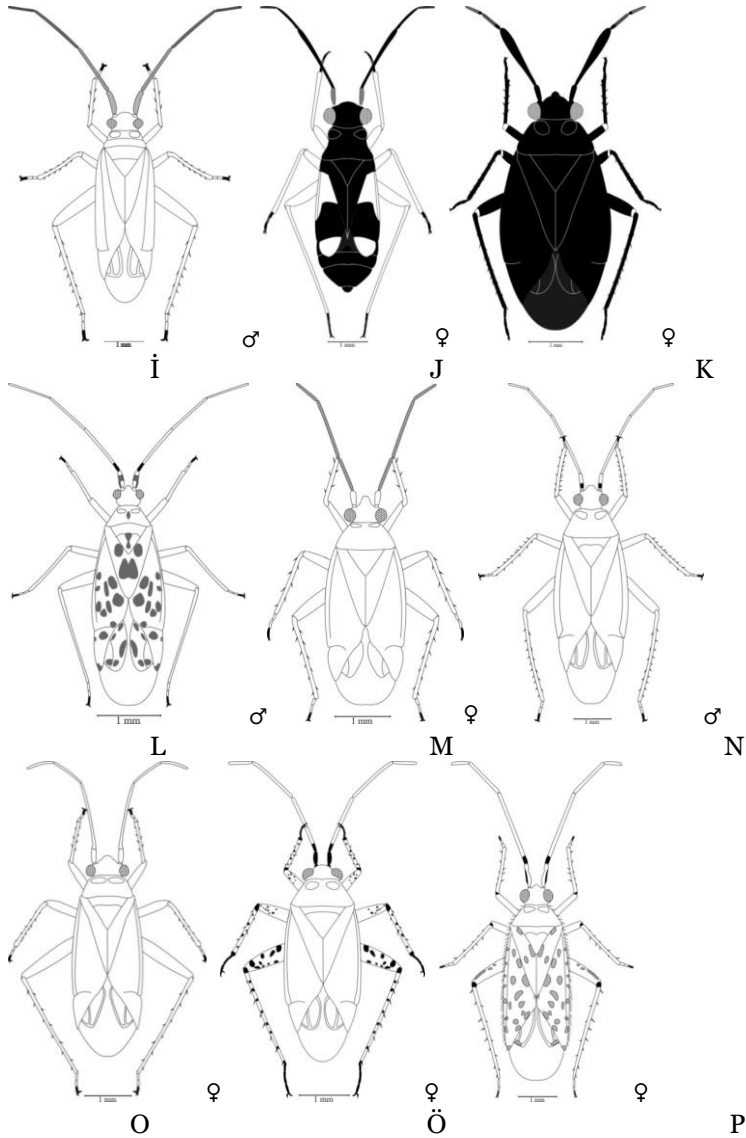


Figure 1. A- *Anapus dorsalis* (Reuter 1890); B- *Euryopicoris nitidus*(Meyer-Dur 1843); C- *Halticus apterus*(Linnaeus 1758); D- *Halticus luteicollis*(Panzer 1804); E- *Orthocephalus saltator* (Hahn 1835); F- *Orthocephalus vittipennis* (Herrich-Schaeffer 1835); G- *Strongylocoris leucocephalus* (Linnaeus 1758); H- *Strongylocoris niger* (Herrich-Schaeffer 1835); I- *Blepharidopterus angulatus* (Fallen 1807); I- *Brachyotocoris puncticornis* Reuter 1880; J- *Globiceps fulvicollis* Jakovlev 1877; K- *Heterocordylus tumidicornis* (Herrich-Schäffer 1835); L- *Malacocoris chlorizans* (Panzer 1794); M- *Orthotylus (Melanotrichus) flavosparsus* (C.R. Sahlberg 1841); N- *Orthotylus (Orthotylus) marginalis* Reuter 1883; O- *Orthotylus (Orthotylus) nassatus* (Fabricius 1787); Ö- *Orthotylus (Orthotylus) obscurus* Reuter 1875; P- *Reuteria marqueti* Puton 1875.