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Additional faunistic notes on heteroptera (Hemiptera: Insecta) in East Anatolia (Turkey)

Barış Çerçi, İnanç Özgen and Paride Dioli

Abstract

The bugs Heteroptera collected in seven provinces of the East Anatolia (Bingöl, Bitlis, Elazığ, Erzincan, Malatya, Muş and Tunceli) were listed in the present study. It was based on a short but intensive collecting trip made in April-September 2014-2016. Eighty species were reported, many firstly recorded for collecting sites. From these species, 1 species belonging to each of the Ochteridae, Nabidae, Tingidae, Artheneidae, Blissidae, Heterogastridae families, 10 species belonging to Miridae family, 7 species belonging to Reduviidae family, 6 species belonging to Coreidae family, 10 species belonging to Rhopalidae family, 2 species belonging to each of the Alydidae, Berytidae, Geocoridae, Cydinidae and Scutelleridae families, 17 species belonging to Lygaeidae family, 11 species belonging to Pentatomidae family and 3 species belonging to Pyrrhocoridae family were obtained. The most of these species are new record for these locations.

Keywords: Hemiptera, heteroptera, fauna, East Anatolia, turkey, new regional record

1. Introduction

Heteroptera species of the Eastern Turkey are still little known. The Heteroptera fauna of eastern part of Turkey is still little known compared to the one of the other parts of Anatolia. Önder *et al.* [1] listed a total of 1526 heteropteran species/subspecies for the whole Turkey, in which they have included eastern species The last work of Matocq and Özgen [2], Gözüaçık *et al.* [37], Dursun and Fent, [3], Fent *et al.* [4], Yıldırım *et al.* [5], Matocq *et al.* [6], Yazıcı *et al.* [7, 8, 45], Çerçi and Koçak, [9]; gave an good review of the studies realized in this area. The bugs specimens were collected around Bitlis, Bingöl, Elazığ, Erzincan, Malatya, Muş and Tunceli country (Eastern Turkey), in different localities.

2. Materials and Methods

The bugs were mainly collected by hand and visual sampling. Specimens were caught by sweep-netting the herbaceous vegetation, or collected by beating the branches of trees and shrubs over a white net. Studies were carried between years 2013-2017 in different localities (Bitlis, Bingöl, Elazığ, Erzincan, Malatya, Muş and Tunceli country (Eastern Turkey)).

The species were identified and analyzed their geographic distribution starting from the main historical work on the Heteroptera of Turkey [47] which gave impetus to all the following ones. We have also studied the volumes containing the classification keys of Tingidae [48], Berytidae [49], Nabidae [50], Lygaeoidea with the allied families [51, 52, 53], Pentatomidae [54, 55, 56, 67] and Ochteridae [57]. For Miridae we consulted three volumes concerning the fauna of the Mediterranean and surrounding Areas [58] and the supplement [59]. For Reduviidae, reference was made to the volume of the Faune de France [60], for Coreoidea (Coreidae, Rhopalidae, Alydidae), Pyrrhocoridae, Stenocephalidae [61]. General distribution of the species is presented according to the Catalogue of the Heteroptera of the Palaearctic Region in six volumes [62, 63, 64, 65, 66, 67]. Finally, specimens preserved into the collections of the Natural History Museum in Milan (Italy) and the Authors (Fırat University, Bioengineering Department and First author private collection (İstanbul), were consulted.

3. Results and Discussion

Family: Ochteridae

Ochterus marginatus marginatus (Latreille, 1804).

Material examined: Elazığ, Palu, Baltaş village, 20.10.2017. 2 exs, leg. Ozgen.

Distribution in Turkey: Adana, Elazığ, Niğde [1, 6, 46]

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Family Nabidae***Prostemma sanguineum*** (Rossi, 1790)**Material examined:** Elazığ, Center, 14.05.2016, 2 exs. leg. Ozgen. Elazığ, Günbağı village, 4 exc, leg. Ozgen. Tunceli, Pertek, 22.05.2015, 3 exs. leg. Ozgen.**Totally:** 9 exc.**Distribution in Turkey:** Adana, Balıkesir, Gümüşhane, Hatay, İzmir, Erzurum, Kahramanmaraş, Konya ^[1, 10, 11, 12].**Note:** First record in Elazığ and Tunceli provinces.**Family: Miridae*****Adelphocoris lineolatus*** (Goeze, 1778)**Material examined:** Elazığ, Palu, Baltaşlı village, 22.10.2017, 2 exs. leg. Ozgen.**Distribution in Turkey:** Widespread.**Note:** It is canola pest in Hatay province ^[13]. In that reason, It should be follow in next time in agricultural areas.***Horistus orientalis*** (Gmelin, 1790)**Material examined:** Elazığ, Merkez, Günbağı village, 26.04.2016, 5 exs., leg. Ozgen. Elazığ, Baskil, 25.05.2015, 2 exs, leg. Ozgen. **Totally:** 7 exs.**Distribution in Turkey:** Ankara, Bursa, Diyarbakır, Edirne, Kayseri, Antalya, Çorum, İçel, Kahramanmaraş, Kırıkkale, Kırşehir, Nevşehir, Niğde ^[1, 14]**Note:** First record in Elazığ province.***Closterotomus norwegicus*** (Gmelin, 1790)**Material examined:** Elazığ, Baskil, Doğancık village, 05.5.2015, 1 exs. leg. Ozgen. Malatya, Kale, 05.5.2016, 2 exs, leg. Ozgen. **Totally:** 3 exs**Distribution in Turkey:** Adana, Antalya, Bartın, Bolu, Çankırı, Gaziantep, Hatay, Kahramanmaraş, Karabük, Kastamonu, Osmaniye, Zonguldak ^[1]**Note:** First record in East Anatolia.***Lygus rugulipennis*** (Poppius, 1911)**Material examined:** Elazığ, Palu, Baltaşlı village, 2 exs, *Quercus sp.*, 2 exs. leg. Ozgen.**Distribution in Turkey:** Adapazarı, Artvin, Bayburt, Erzincan, Erzurum, Iğdır, İskenderun, Konya, Mersin, Trabzon ^[15].**Note:** First record in Elazığ province.***Deraeocoris serenus*** (Douglas & Scott, 1868)**Material examined:** Elazığ, Doğukent, 10.10.2017, 5 exs. leg. Ozgen.**Distribution in Turkey:** Afyon, Ağrı, Artvin, Aydın, Adana, Antalya, Bayburt, Erzincan, Erzurum, Giresun, Iğdır, İstanbul, Kars, Kırklareli, Kütahya, Mersin, Muğla, Tunceli, Hakkâri, Tekirdağ, Uşak, Van and many province ^[6, 15]***Deraeocoris rutilus*** (Herrich-Schäffer, 1839)**Material examined:** Elazığ, Baskil, Şahaplı village, 29.05.2014, 2 exs. leg. Ozgen.**Distribution in Turkey:** Widespread ^[1]***Deraeocoris putoni*** (Montandon, 1885)**Material examined:** Elazığ, Sütlüce village, 12.11.2017. 2 exs., *Quercus sp* leg. Ozgen.**Distribution in Turkey:** Ankara, Edirne, İzmir, Karaman, Kırklareli, Nevşehir, Sinop, Tekirdağ ^[1].**Note:** First record in East Anatolia.***Calocoris roseomaculatus angularis*** (De Geer, 1773)**Material examined:** Elazığ, Sütlüce village, 09.09.2017. 3exs, leg. Ozgen.**Distribution in Turkey:** Widespread ^[1].***Trigonotylus pulchellus*** (Hahn, 1834)**Material examined:** Elazığ, Palu, Baltaşlı village, 20.10.2017. 2 exs, leg. Ozgen.**Distribution of Turkey:** Adana, Ağrı, Aksaray, Ankara, Antalya, Artvin, Bartın, Diyarbakır, Çankırı, Çorum,Eskişehir, Gaziantep, Hatay, İçel, Kahramanmaraş, Kayseri, Manisa, Mersin, Nevşehir, Niğde, Osmaniye, Yozgat, Zonguldak ^[16].**Note:** Firstly record in Elazığ province.***Globiceps horvathi*** (Reuter, 1912)**Material examined:** Elazığ, Günbağı village, 24.04.2016. 3 exs. leg. Ozgen.**Distribution in Turkey:** Afyonkarahisar, Ankara, Çanakkale, Diyarbakır, Edirne, İzmir, Muş, Tekirdağ, Uşak ^[1].**Note:** First record in Elazığ province.**Family: Tingidae*****Monosteira lobulifera*** (Reuther, 1888)**Material examined:** Elazığ, Karakoçan, 22.05.2016. 10 exs, leg. Özgen**Distribution in Turkey:** Adana, Antalya, Antakya, Adıyaman, Batman, Bingöl, Denizli, Diyarbakır, Elazığ, Gaziantep, İzmir, Manisa, Mardin, Muğla, Nevşehir, Siirt, Şanlıurfa and Van. ^[17, 18]**Family: Reduviidae*****Coranus griseus*** (Rossi, 1790)**Material examined:** Elazığ, Baskil, Doğancık village, 18.06.2014, 2 exs. leg. Ozgen**Distribution in Turkey:** Widespread ^[12]***Rhynocoris punctiventris*** (Herrich-Schäffer, 1846)**Material examined:** Elazığ, Baskil, Center, 18.06.2014, 8 exs. leg. Ozgen**Distribution in Turkey:** Widespread ^[1].***Rhynocoris iracundus*** (Poda, 1761)**Material examined:** Malatya, Center, 05.06.2014, 3 exs, leg. Özgen**Distribution of Turkey:** Widespread ^[12].***Oncocephalus squalidus*** (Rossi, 1790)**Material examined:** Elazığ, Baskil, Doğancık village 05.05.2016., 3 exs. leg. Ozgen.**Distribution in Turkey:** Widespread (Dursun and Salur., 2013).***Oncocephalus pilicornis*** (Reuter, 1882)**Material examined:** Elazığ, Baskil, 05.05.2016, 2 exs., leg. Ozgen., 05.07.2015, Doğancık village, 5 exs., leg. Ozgen.**Totally:** 7 exs.**Distribution in Turkey:** Widespread ^[19]***Vachiria natolica*** (Stal, 1859).**Material examined:** Elazığ, Doğukent, 20.10.2017, 2 exs, leg. Ozgen.**Distribution of Turkey:** Ankara, Aydın, Çorum, Diyarbakır, Iğdır, İzmir, Manisa, Mardin, Mersin. ^[1, 2, 19]**Note:** First record in Elazığ province.***Nagusta goedeli*** (Kolenati, 1856)**Material examined:** Elazığ, Harput, Obuz village, 07.09. 2013. 2 exs, leg. Ozgen.**Distribution of Turkey:** Widespread ^[1].**Family: Alydidae*****Camptopus tragacanthae*** (Kolenati, 1845)**Material examined:** Elazığ, Baskil, Beşbölük village, 26.05.2016, 2 exs. leg. Ozgen**Distribution in Turkey:** Bayburt, Bursa, Elazığ, Erzurum, Gaziantep, Kars, Kastamonu, Sivas, Tokat ^[1, 5, 20, 21]***Camptopus lateralis*** (Germar, 1817)**Material examined:** Malatya, Kale, 22.7.2017, 4 exs. leg. Ozgen.**Distribution in Turkey:** Widespread ^[1]**Family: Coreidae*****Coriomeris affinis*** (Herrich-Schaeffer, 1839)**Material examined:** Elazığ, Baskil, Doğancık village, 24.06.2014, 3 exs. leg. Ozgen, Elazığ, Günbağı village,

05.06.2016, 2 exs. Leg. Özgen.

Totally: 5 exs.

Distribution in Turkey: Adana, Ağrı, Ankara, Antalya, Aydın, Bursa, Elazığ, Erzurum, Gaziantep, Giresun, Gümüşhane, Hatay, Iğdır, Isparta, İstanbul, İzmir, Kayseri, Konya, Mersin, Muğla, Muş, Niğde, Sivas, Tokat, Van ^[22].

Coriomeris hirticornis (Fabricius, 1794)

Material examined: Elazığ, Harput, 26.05.2014, 2 exs,

Distribution in Turkey: Adana, Ankara, Aydın, Balıkesir, Bursa, Çanakkale, Elazığ, Giresun, Hatay, İzmir, Konya, Sivas, Tokat ^[1, 22].

Phylloperla laciniata (Villers, 1789)

Material examined: Elazığ, Merkez, Baskil, Beşbölük, 14.05.2016, 7 exs. Apricot. leg. Ozgen.

Distribution in Turkey: Ankara, Çanakkale, Elazığ, İzmir, İstanbul ^[22]

Syromastus rhombeus (Linnaeus, 1767)

Material examined: Elazığ, Merkez, Çağlar village, 05.05.2016. 4 exs, leg. Ozgen.

Distribution in Turkey: Adana, Ankara, Artvin, Aydın, Balıkesir, Bursa, Edirne, Elazığ, Hatay, Isparta, İstanbul, İzmir, Kars, Manisa, Nevşehir ^[1, 23].

Gonocerus juniperi (Herrich-Schäffer, 1839)

Material examined: Elazığ, Sivrice 3 exc, *Quercus*, 3 exs. leg. Ozgen.

Distribution in Turkey: Adana, Ankara, Burdur, Bursa, Çankırı, Erzurum, Hatay, Isparta, İstanbul, Muğla ^[1, 21].

Note: First record in Elazığ province.

Arenocoris waltlii (Herrich-Schäffer, 1834)

Material examined: Elazığ, Center, Sütluçe village, 2 exs, leg. Ozgen. Elazığ, Baskil, Center, 18.06.2014, 4 exs. leg. Ozgen. **Totally:** 6 exs.

Distribution of Turkey: Diyarbakır, Balıkesir, Bursa, Gaziantep, Gümüşhane, Hatay, İzmir, Kahramanmaraş, Kayseri, Manisa, Muğla, Tokat ^[1, 5, 22, 24]

Note: First record in Elazığ province.

Family: Rhopalidae

Corizus hyoseyami (Linnaeus, 1758)

Material examined: Elazığ, Günbağı village, 05.06.2016, 3 exs, leg. Ozgen, Elazığ, Harput, 2 exs. leg. Ozgen.

Totally: 5 exs.

Distribution in Turkey: Widespread ^[1].

Rhopalus maculatus (Fieber, 1837)

Material examined: Elazığ, Baskil, Doğancık village, 24.06.2014, 4 exs. leg. Ozgen

Distribution in Turkey: Sivas, Tokat ^[20].

Remarks: First record in East Anatolia

Rhopalus conspersus (Fieber, 1836)

Material examined: Elazığ, Günbağı village, 05.06.2016, 5 exs, leg. Ozgen.

Distribution in Turkey: Edirne, Gümüşhane, Isparta, İzmir, Kırklareli, Kütahya, Mardin, Tokat ^[1, 20].

Remarks: First record in East Anatolia

Rhopalus parumpunctatus (Schilling, 1829)

Material examined: Elazığ, Baskil, Kuşsarayı village, 05.05.2017, 2 exs, leg. Ozgen.

Distribution in Turkey: Widespread ^[1].

Stictopleurus abutilon (Rossi, 1790)

Material examined: Elazığ, Günbağı village, 26.04.2016, 15 exs. leg. Ozgen, Malatya, Kale, 05.07.2016, 2 exs, leg. Ozgen.

Totally: 17 exs.

Distribution in Turkey: Widespread ^[1].

Stictopleurus pictus (Fieber, 1861)

Material examined: Elazığ, Günbağı village, 12.06.2017, 2 exs, leg. Ozgen.

Distribution in Turkey: Widespread ^[1].

Brachycarenum tigrinus (Schilling, 1829)

Material examined: Malatya, Kale, 11.7.2016, 44 exs. leg. Ozgen.

Distribution in Turkey: Adana, Adıyaman, Amasya, Ankara, Bayburt, Erzincan, Erzurum, Eskişehir, Giresun, Iğdır, Kars, Nevşehir, Tokat. ^[5, 20, 23, 25]

Note: First record in Malatya province.

Brachycarenum languidus (Horvath, 1891)

Material examined: Elazığ, Baskil, Şahaplı village, 29.05.2014, 2 exs, leg. Ozgen. Malatya, Kale, 22.7.2017, 2 exs. leg. Ozgen.

Totally: 4 exs.

Distribution in Turkey: Kars, Ankara, Hatay ^[1, 26].

Note: First record in East Anatolia. It is an Asian distributed species. Turkish findings represents the southern and the western limit of the range of this species in the Palaearctic Region ^[26].

Liorhynchus hyalinus (Fabricius, 1794)

Material examined: Elazığ, Center, 12 exs, leg. Ozgen. Malatya, Kale, 25.6.2015, 2 exs, leg. Ozgen.

Totally: 14 exs

Distribution in Turkey: Widespread ^[1].

Chrosoma schillingi (Schilling, 1829)

Material examined: Elazığ, Sivrice, 11.10.2017, 2 exs, leg. Ozgen.

Distribution in Turkey: Eskişehir, Kastamonu, Nevşehir ^[21, 23, 25]

Note: First record in East Anatolia.

Family: Artheneidae

Holocranum saturejae (Kolenati, 1845)

Material examined: Elazığ, Palu, Baltaş village, 20.10.2017. 3 exs, leg. Ozgen.

Distribution in Turkey: Bursa, Edirne, Hatay, Kahramanmaraş, Mersin. ^[1]

Note: Firstly record in East Anatolia.

Family: Berytidae

Berytinus striola (Ferrai, 1874)

Material examined: Elazığ, Sütluçe village, 12.04.2016. 1 exs, leg. Ozgen

Distribution in Turkey: Diyarbakır, Elazığ, Mardin ^[6].

Berytinus distinguendus (Ferrari, 1874)

Material examined: Elazığ, Sivrice, 16.10.2017. 4 exs, leg. Ozgen.

Distribution in Turkey: Medirrean Region of Turkey ^[1].

Note: Firstly record in East Anatolia.

Family: Blissidae

Dimorphopterus blissoides (Bärensprung, 1859)

Material examined: Elazığ, Center, Sütluçe village, 15.05.2016. 3 exs, leg. Ozgen. typha sp, leg. Özgen

Distribution in Turkey: Mediterrean region of Turkey ^[1].

Note: First record in East Anatolia.

Family: Geocoridae

Geocoris luridus luridus (Fieber, 1844)

Material examined: Elazığ, Günbağı village, 22.10.2017, 30 exs, leg. Ozgen.

Distribution in Turkey: Widespread ^[6].

Geocoris (Piocoris) erythrocephalus (Lepelleiter & Serville, 1825)

Material examined: Elazığ, Baskil, Şahaplı village, 09.05.2014, 2 exs, leg. Ozgen.

Distribution in Turkey: Adana, Antalya, Çankırı, Erzurum, Hatay, Kars, Kastamonu ^[7, 21]

Note: First record in Elazığ province.

Family: Heterogastridae

Heterogaster cathariae (Geoffroy, 1785)

Material examined: Elazığ, Baskil, Şahaplı village, 29.05.2014, 2 exs, leg Ozgen.

Distribution in Turkey: Adana, Erzurum, Hatay, Kars, Mersin ^[1, 15].

Note: Firstly record in Elazığ province.

Family: Lygaeidae

Apterola kuenckeli (Mulsant & Rey, 1866)

Material examined: Elazığ, Baskil, 25.5.2015, 2 exs..leg. Ozgen.

Distribution in Turkey: Adana, Gaziantep, Hatay ^[27]

Note: First record in East Anatolia.

Ischnopeza pallipes (Puton, 1892)

Material examined: Tunceli, Pertek, 22.06.2016., 3 exs, leg. Özgen.

Distribution in Turkey: Adana, Ankara, Diyarbakır, Gaziantep, Hatay, Tokat, Malatya; Hatay, Mersin. ^[1, 6, 28]

Note: First record in Tunceli province.

Rhyparochromus sanguineus (Douglas & Scott, 1868)

Material examined: Bingöl, Kurudere, 3 exs., Elazığ, Günbağı village, 14.05.2016, 2 exc., Baskil, Doğancık village 2 exs, leg. Ozgen,

Totally: 7 exs.

Distribution in Turkey: Ankara, Diyarbakır, Erzincan, Erzurum, Eskişehir, Gaziantep, Hatay, Kayseri, Mardin, Niğde, Tunceli. ^[6, 28]

Note: First record in Elazığ and Bingöl provinces.

Neurocladus brachüdens (Dufour, 1851)

Material examined: Elazığ, Baskil, 14.05.2017, 2 exs, leg. Ozgen.

Distribution of Turkey: Diyarbakır, Elazığ, Hatay, Malatya. ^[1, 6, 7]

Megalonotus colon (Puton, 1874)

Material examined: Bingöl, Kurudere, 05.7.2016, 2 exs., leg. Ozgen. Elazığ, Baskil, 12.07.2017, 1 exs, leg. Ozgen,

Totally: 3 exs.

Distribution in Turkey: Adana, Afyonkarahisar, Ankara, Bingöl, Bursa, Çanakkale, Gaziantep Hatay, Diyarbakır, İzmir, Siirt, Şanlıurfa, Kahramanmaraş. ^[1, 2, 28, 29, 30]

Note: First record in Elazığ province.

Macroplox fasciata (Herrich-Schäffer, 1835)

Material examined: Elazığ, Baskil, Şahaplı village, 29.05.2014, leg Ozgen, 2 exs., Keban, Nimri village, 2 exc, almond orchard, **Totally:** 4 exc

Distribution in Turkey: Ankara, Aydın, Artvin, Çanakkale, Edirne, Elazığ, Erzincan, Erzurum, İzmir, Muğla. ^[1, 4, 7, 31]

Spilostethus saxatilis (Scopoli, 1763)

Material examined: Elazığ, Baskil, 18.06.2014. 8 exs., leg. Ozgen, Elazığ, Harput, 08.09.2017, 2 exs. leg. Ozgen

Totally: 10 exs

Distribution in Turkey: Afyon, Diyarbakır, Isparta, Nevşehir. ^[6, 23, 32, 33]

Note: First record in Elazığ province.

Spilostethus pandurus (Scopoli, 1763)

Material examined: Elazığ, Baskil, Doğancık village, 24.06.2014, 2 exs. leg. Ozgen

Distribution in Turkey: Antalya, Elazığ, Gaziantep, Hatay, Kahramanmaraş, Mardin. ^[1, 6]

Beosus quadripunctatus (Müller, 1766)

Material examined: Elazığ, Baskil, 18.06.2014, 4 exs.. leg. Ozgen, Malatya, Kale, 5 exs. leg. Ozgen.

Totally: 9 exs.

Distribution in Turkey: Adana, Antalya, Bartın, Çankırı, Çorum, Diyarbakır, Elazığ, Hatay, Kahramanmaraş, Karabük, Karaman, Kastamonu, Kayseri, Konya, Mardin ^[2, 3, 4].

Note: First record in Malatya province.

Nysius cymoides (Spinola, 1837)

Material examined: Elazığ, Günbağı, 26.05.2017, 30 exs., leg. Ozgen

Distribution of Turkey: Widespread ^[1]

Gonianotus marginepunctatus (Wolff, 1804)

Material examined: Elazığ, Merkez, Günbağı village, 26.05.2017, 2 exs. leg. Ozgen

Distribution in Turkey: Niğde, Sivas. ^[1]

Note: First record in East Anatolia.

Lygaeosoma sardeum (Spinola, 1837)

Material examined: Bingöl, Kurudere, 05.7.2016, 2 exc. leg. Ozgen.

Distribution of Turkey: Çanakkale ^[35].

Note: First record in East Anatolia.

Metopoplax origami (Kolenati, 1845)

Material examined: Malatya, Kale, 05.7.2017, 3 exc. leg. Ozgen.

Distribution in Turkey: Widespread. ^[1, 6, 7, 8]

Proderus bellevoeyi (Puton, 1874)

Material examined: Elazığ, Center, Yedigöze, 10.10.2017, 3 exs, leg. Ozgen.

Distribution in Turkey: Antalya, İzmir, Hatay. ^[1, 10]

Note: Firstly record in East Anatolia.

Plinthisus longicollis (Fieber, 1861)

Material examined: Elazığ, Karakoçan, 22.05.2016. 1 exs, leg. Ozgen.

Distribution in Turkey: Adana, Balıkesir Bursa, Hatay. ^[1, 11]

Note: First record in East Anatolia.

Raglius alboacuminatus (Goeze, 1778)

Material examined: Muş, Center, 22.06.2017. 3 exs, leg. Özgen

Distribution in Turkey: Ankara, Balıkesir, Edirne, Erzincan, Eskişehir, Hatay, İstanbul, Kahramanmaraş, Kars, Kayseri, Kahramanmaraş. ^[1, 11, 34]

Note: First record in Muş province.

Lygaeus equestris (Linnaeus, 1758)

Material examined: Elazığ, Baskil, Beşbölük village, 14.05.2017. 2 exs, leg. Özgen

Distribution in Turkey: Widespread ^[7].

Family: Cydinidae

Canthophorus melanopterus (Herrich-Schäffer, 1835)

Material examined: Elazığ, Baskil, Doğancık village, 2 exs, Tunceli, Pülümür, 15.05.2015., 1 exs, leg. Özgen.

Totally: 3 exs.

Distribution in Turkey: All of Turkey ^[1].

Tritomegas sexmaculatus (Rambur, 1839)

Material examined: Erzincan, Refahiye, 15.05.2014, 4 exs. leg. Özgen.

Distribution in Turkey: Ardahan, Bursa, Erzurum, İstanbul, Mersin, Samsun, West, Middle, Southeastern Anatolia ^[1, 8, 36]

Note: First record in Erzincan province.

Family: Pentatomidae

Codophila varia (Fabricius, 1787)

Material examined: Malatya, Battalgazi, 05.06.2014, 3 exs. leg. Ozgen.

Distribution in Turkey: Adana, Adıyaman, Ankara, Çanakkale, Diyarbakır, Edirne, Erzurum, Eskişehir, Gaziantep, Hatay, Mardin, Siirt, Şanlıurfa ^[1, 37].

Note: First record in Malatya province.

Carpocoris coreanus iranus (Distant, 1899)

Material examined: Elazığ, Baskil, 18.06.2014. 5 exs. leg. Ozgen

Distribution in Turkey: Adıyaman, Ardahan, Erzurum, Şanlıurfa, Iğdır ^[37, 38]

Note: First record in Elazığ province.

Carpocoris pudicus (Poda, 1761)

Material examined: Elazığ, Günbağı village, 05.06.2016, 5 exs., leg. Ozgen. Baskil, 26.04.2016. 3 exs. leg. Ozgen.

Totally: 8 exs.

Distribution in Turkey: Widespread [1, 3, 23, 37, 38].

Ventocoris trigonus (Krynicky, 1871)

Material examined: Elazığ, Baskil, 21.06.2014. 4 exs., leg. Özgen, Malatya, 05.06.2014. 2 exs, leg. Özgen.

Totally: 6 exs.

Distribution in Turkey. Adana, Afyonkarahisar, Amasya, Ankara, Aydın, Balıkesir, Bursa, Edirne, Gaziantep, Hatay, Kahramanmaraş, Konya [1].

Note: First record in Elazığ and Malatya provinces.

Dolycoris baccarum (Linnaeus, 1758)

Material examined: Elazığ, Baskil, Doğancık village, 24.06.2014, 4 exs. leg. Ozgen.

Distribution in Turkey Adıyaman, Diyarbakır, Şanlıurfa and Southeastern Anatolia [17, 37]

Note: First record in Elazığ province.

Graphosoma inexpectatum (Carapezza & Jindra, 2008)

Material examined: Elazığ, Baskil, 18.06.2014. 8 exs. leg. Ozgen.

Distribution of Turkey: Gaziantep, Adana [39].

Note: First record in East Anatolia.

Apodiphus amygdali (Germar, 1817)

Material examined: Malatya, Battalgazi, 05.06.2014, 11 exs., Apricot, leg. Ozgen.

Distribution in Turkey: Widespread. [40, 68]

Holcogaster fibulata (Germar, 1831)

Material examined: Elazığ, Günbağı village, 22.10.2017, 30 exc. *Juniperus excelsa*, leg. Ozgen.

Distribution in Turkey: Gaziantep, Hatay, İstanbul, Sivas, Tokat [1, 3]

Note: First record in East Anatolia.

Eurydema ornata (Linnaeus, 1758)

Material examined: Elazığ, Günbağı, 05.07.2017, 10 ex., leg. Özgen. Bingöl, Kurudere, 12.05.2015, 3 exs. Malatya, Battalgazi, 5 exc.

Totally: 18 exs.

Distribution in Turkey: Batman, Diyarbakır, Elazığ, Gaziantep, Hatay, Mardin [1, 6, 41].

Note: First record in Malatya province.

Eurydema laticollis (Horváth, 1907)

Material examined: Elazığ, Baskil, 18.06.2014. 2 exs. leg. Özgen.

Distribution in Turkey: Diyarbakır, Iğdır [1, 6]

Note: First record in Elazığ province.

Peribalus strictus strictus (Fabricius, 1803)

Material examined: Elazığ, Günbağı village, 22.06.2017, 4 exs, leg. Ozgen.

Distribution in Turkey: Adana, Antalya, Bayburt, Çankırı, Çorum, Edirne, Gaziantep, Giresun, Hatay, Kastamonu, Mardin, Sivas, Tekirdağ, Tokat, Zonguldak [1, 3, 21, 42].

Note: First record in Elazığ province.

Family: Scutelleridae

Odontotarsus robustus (Jakovlev, 1883)

Material examined: Malatya, Center, 05.06.2014. 2 exs., leg. Ozgen

Distribution in Turkey: :Adana, Afyonkarahisar, Ankara, Antalya, Aydın, Balıkesir, Bilecik, Bursa, Çanakkale, Denizli, Diyarbakır, Edirne, Gaziantep, Isparta, Hatay, İstanbul, İzmir, Kahramanmaraş, Kars, Kırklareli, Konya, Mersin, Muğla, Sakarya, Uşak [1].

Note: First record in Elazığ province.

Irochrotus maculiventris (Germar, 1839)

Material examined: Elazığ, Harput, 22.10.2016, 2 exs. leg. Ozgen.

Distribution in Turkey: Gaziantep, Isparta, İçel, İstanbul, Kahramanmaraş, Tokat. [1, 3, 32]

Note: First record in East Anatolia.

Family: Pyrrhocoridae

Pyrrhocoris marginatus (Kolenati, 1845)

Material examined: Elazığ, Baskil, 30.05.2014, 2 exs, leg. Özgen. Tunceli, Pülümür, 22.06.2014, 4 exs. leg. Ozgen.

Totally: 4 exs.

Distribution in Turkey: Ankara, Erzurum, Hatay, Kahramanmaraş, Kayseri, İzmir [1, 43]

Note: First record in Elazığ and Tunceli provinces.

Pyrrhocoris apterus (Linné, 1758)

Material examined: Bitlis, Ahlat, Seyrantepe village, 2 exc., 30.05.2014. leg. Çağlar

Distribution in Turkey: Widespread [1]

Note: First record in Bitlis province.

Scantius aegyptius aegyptius (Linné, 1758).

Material examined: Elazığ, Mollakendi, 01.05.2016, 3 exc, leg. Ozgen.

Distribution in Turkey: South East Anatolia and Mardin. [6, 44]

Note: First record in East Anatolia.

In the study, *S. aegyptius aegyptius*, *I. maculiventris*, *H. fibulata*, *G. inexpectatum*, *P. longicollis*, *P. bellevoeyi*, *L. sardeum*, *A. kuenckeli*, *D. blissoides*, *B. distinguendus*, *H. saturejae*, *Chrosoma schillingi*, *R. conspersus*, *R. maculatus*, *C. norwegicus* and *D. putoni* species were recorded for the first time in Eastern Anatolia. These species are thought to have wider spread.

4. Conclusion

The most abundant species in the study were obtained from Lygaeidae and Pentatomidae families. Among the species detected in the study, *V. naticola*, *R. maculatus*, *B. languidus*, *C. schillingi*, *H. saturejae*, *B. striola*, *B. distinguendus*, *D. blissoides*, *H. cathariae*, *A. kuenckeli*, *N. brachioidens*, *G. marginepunctatus*, *L. sardeum*, *P. longicollis*, *G. inexpectatum*, *H. fibulata* and *E. laticollis* are rare species and are not widely spread in our country. Thus, it is important to give their new location records in this study. It is estimated that the number of species will increase in future studies. In addition to the damage situations and plant preferences of these species, reveal the prey of species with predator characteristics should be prioritized in future studies.

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