

A study on the Coreoidea (Hemiptera: Heteroptera) fauna of Çorum Province

Nazım Akman¹§ Ahmet Dursun^{2*}

¹Mustafa Kemal Ortaokulu Buharaevler Mahallesi 6. Cadde, No: 8, Çorum/Turkey
E-mail: nazimakman@hotmail.com ORCID iD: 0000-0002-5381-9752

§: This study was produced from the MSc thesis.

²Amasya University, Faculty of Arts and Science, Department of Biology, 05100, Amasya/
Turkey
ORCID iD: 0000-0002-5114-7470

*Corresponding author, e-mail: ahmet.dursun@amasya.edu.tr

ABSTRACT: : In this study is reported 28 species belonging to 20 genera from 4 families (Alydidae, Coreidae, Rhopalidae and Stenocephalidae) of the superfamily Coreoidea on the material collected from 39 different localities in Çorum province between 2019 and 2021. Of them, 23 species are new records for the Coreoidea fauna of Çorum. While 20 species recorded in the present study are of Holomediterranean origin, 3 species of Pontomediterranean origin, 2 species of Irano-Turanian origin, 1 species has distribution in Euro-Siberian, Mediterranean and Nearctic. As a result of our observations in the field, a total of 21 taxon at genus level from 15 plant families were identified in relation to Coreoidea species.

KEYWORDS: Heteroptera, Alydidae, Coreidae, Rhopalidae, Stenocephalidae, new records, Çorum, Turkey.

To cite this article: Akman, N., Dursun, A., 2021, A study on the Coreoidea (Hemiptera: Heteroptera) fauna of Çorum Province, *J.Het.Turk.*, 3 (2):157-170

DOI: 10.5281/zenodo.5717259

To link to this article: <https://www.j-ht.org/wp-content/uploads/2021/11/V32-A10.pdf>

Received: Nov 18, 2021; **Revised:** Nov 19, 2021; **Accepted:** Nov 21, 2021; **Published online:** Nov 30, 2021

INTRODUCTION

The superfamily Coreoidea take part in the infraorder Pentatomomorpha (Hemiptera: Heteroptera) and that includes families

Alydidae, Coreidae, Rhopalidae and Stenocephalidae in Palaearctic region. Currently approximately 344 species in 84 genera of family Coreidae, approximately



69 species in 26 genera of family Alydidae, 71 species belonging to 14 genera of family Rhopalidae and 18 species of a genus of family Stenocephalidae are known from the Palearctic region (Dolling, 2006). Data based on the studies on Coreoidea in Turkey, show that there are 7 species in 4 genera of Alydidae, 48 species from 20 genera of Coreidae, 29 species in 11 genera of Rhopalidae, and 7 species in 1 genus of Stenocephalidae. Of those, *Camptopus bifasciatus* Fieber, 1864 of the family Alydidae from Amasya and *Anoplocerus luteus* (Fieber, 1861) from İzmir, *Arenocoris latissimus* Seidenstücker, 1960 from Ulukışla (Niğde), *Cercinthus griseus* (Fieber, 1861) from Turkish Thrace region, *Cerionomeris armeniacus* Tshernova, 1978 from eastern Anatolia of the family Coreidae, *Corizus brevicornis* Horváth, 1917 from Oltu (Erzurum), *Corizus fenestella* Horváth, 1917 from Tuzluca (Iğdır) of the family Rhopalidae and *Dicranocephalus putoni* (Horváth, 1897) from Hassa (Hatay) of the family Stenocephalidae are species described from Turkey (Puton & Noualhier, 1895; Horváth, 1883, 1901; Fahringer, 1922; Kiritshenko, 1918, 1924; Hoberlandt, 1955; Seidenstücker, 1958, 1960; Wagner, 1959, 1966); Linnavuori, 1965; Pehlivan, 1981; Kiyak, 1990a, b, c; 1993; 2000; Moulet, 1995; Öz Saraç & Kiyak, 2001; Önder et al., 2006; Dursun, 2009, 2011; Dursun & Fent, 2009, 2017; Dursun et al., 2010; Fent & Kment, 2011; Fent & Dursun, 2019 and Zengin & Dursun, 2019).

Although it has been rarely reported of feeding on fecal and putrefaction matters and that humans were bitten by species of superfamily Coreoidea, especially the species are phytophagous and feed on meristematic tissues and ripe seeds. Many species of Coreoidea are known as economically and biologically important (Dolling, 2006; Faúndez, 2016).

The study area Çorum is located in the Central Black Sea region and is a transition area between the Black Sea and the Central Anatolia region. The Black Sea

climate is generally dominant in the province. The Black Sea climate type is especially prevails in Bayat, Dodurga, İskilip, Kargı, Laçın, Oğuzlar, Osmançık and Uğurludağ districts situated in the Kızılırmak basin. In Alaca, Boğazkale, Mecitözü, Ortaköy and Sungurlu districts prevails Central Anatolian climate. The winter months are cloudy and the summers are hot with the effect of the Central Anatolian climate. In the southern parts of İskilip is the steppes consisting of herbaceous plants. Çorum province is located at the intersection of Irano-Turanian and Euro-Siberian plant belt. Therefore Çorum province has very rich areas in terms of microclimate, different vegetation and habitat properties of flora and faunal elements (Kaya, 2015). The aim of this study is to give the current fauna of superfamily Coreoidea, and to open a new way for scientific and ecological studies in Çorum province.

MATERIAL AND METHODS

The study material was obtained from 39 localities with different vegetation and habitat in Çorum province in the years from 2019 to 2021 (Fig. 1).

The specimens were collected from herbaceous vegetation with a sweep net and from trees plants with a Japanese umbrella. All samples were put in tubes in 70% ethanol and brought to the laboratory. In the laboratory, specimens were softened in hot water (80°C-100°C) for preparation of the male genitalia which was used for further identifications. The specimens were prepared and identified using the relevant diagnostic was investigated under a stereomicroscope (Leica EZ4) and keys of Stichel (1960), Pehlivan (1981) and Moulet (1995).

The material is deposited in the collection of Amasya University, Faculty of Science and Arts, Department of Biology (Amasya, Turkey).

RESULTS**Hemiptera Linnaeus, 1758****Heteroptera Latreille, 1810****Coreoidea Leach, 1815****Alydidae Amyot & Serville, 1843****Alydinae Amyot & Serville, 1843*****Alydus* Fabricius, 1803*****Alydus calcaratus* (Linnaeus, 1758)**

Material examined: **Çorum:** Center, 19.07.2020, 2♀♀, 2♂♂; **Çatak,** 03.07.2021, 1♂;

Osmancık: Yaylabaşı, 06.10.2020, 1♂; Sarpınkavak, 19.10.2020, 2♀♀.

Comments: This Holomediterranean species was found under *Astragalus* sp. and it is widespread and frequently distributed in Turkey (Pehlivan, 1981; Önder et al., 2006; Dursun, 2009; Fent & Dursun, 2019; Zengin & Dursun, 2019). In the study, this species was recorded for the first time from Çorum province.

Camptopus* Amyot & Serville, 1843**Camptopus lateralis* (Germar, 1817)**

Material examined: **Osmancık,** Center, 25.05.2019, 1♂; 23.04.2021, 1♂; Sarpınkavak, 19.10.2020, 1♀, 1♂; **Alaca,** 05.06.2021, 1♀; **Kargı,** Karapürçek, 02.10.2021, 11♀♀, 9♂♂.

Comments: This Holomediterranean species was found on *Chrysantemum* sp., *Rosa* sp., and *Rumex* sp. and it is widespread and frequently distributed in Turkey (Pehlivan, 1981; Önder et al., 2006; Dursun, 2009; Fent & Dursun, 2019; Zengin & Dursun, 2019; Çerçi et al., 2016; Çerçi & Özgen, 2021). In the study, this species was recorded for the first time from Çorum province.

***Camptopus tragacanthae* (Kolenati, 1845)**

Material examined: **Osmancık,** Akören Plateau, 18.04.2020, 1♂; Sarpınkavak, 19.10.2020, 1♂.

Comments: This Irano-Turanian species was found under *Astragalus* sp. and it is widespread and frequently distributed in Turkey (Pehlivan, 1981; Kiyak et al., 2004; Önder et al., 2006; Dursun, 2009; Kiyak & Akar, 2010; Fent & Japoshvili, 2013; Küçükbasmacı & Kiyak, 2015; Kiyak, 2016; Özgen et al., 2018; Fent & Dursun, 2019; Dursun, 2009; Kiyak & Baş, 2021). In the study, this species was recorded for the first time from Çorum province.

Coreidae Leach, 1815**Pseudophloeinae Stål, 1868*****Ceraleptus* A. Costa, 1847*****Ceraleptus gracilicornis* (Herrich-Schaeffer, 1835)**

Material examined: **Kargı,** Uzunyurt, 19.06.2021, 1♂.

Comments: This Holomediterranean species is rarely encountered in Turkey and it was recorded for the first time from Çorum province (Önder et al., 2006; Baş, 2013; Yıldırım et al., 2013; Seferoğlu, 2013; Küçükbasmacı & Kiyak, 2015; Fent & Dursun, 2019; Zengin & Dursun, 2019). It has been found on *Trifolium* sp. in the study.

Coriomeris* Westwood, 1842**Coriomeris affinis* (Herrich-Schaeffer, 1839)**

Material examined: **Kargı,** Karapürçek, 20.06.2020, 2♂♂.

Comments: The known distribution of this Mediterranean species in Turkey is widely and frequently distributed (Puton, 1892; Seidenstücker, 1960; Önder et al., 2006; Baş, 2013; Matocq, 2014; Çerçi et al., 2016; Fent & Dursun, 2019; Zengin & Dursun, 2019). In the study, this species was recorded for the first time from Çorum province and it has been found on *Pinus* sp.

***Coriomeris denticulatus* (Scopoli, 1763)**

Material examined: Alaca, 05.06.2021, 3♀♀, 3♂♂; **Osmancık**, Öbektaş Plateau, 24.07.2021, 1♂.

Comments: The known distribution of this Euro-Siberian species is common and widely distributed in Turkey (Horváth, 1883; Hoberlandt, 1955; Linnavuori, 1965; Önder et al., 2006; Dursun, 2011; Fent & Dursun, 2019; Zengin & Dursun, 2019; Bolu, 2020; Bulak Korkmaz & Yıldırım, 2021). This species was found on *Lamium* sp. and the record of the species given in the present study is for the first time from Çorum province.

Coreinae Leach, 1815

Leptoglossus Guérin-Méneville, 1831

***Leptoglossus occidentalis* Heidemann, 1910**

Material examined: Çorum, Center, 17.08.2020, 1♀, 1♂♂; **Osmancık**, Yaylabası, 04.05.2020, 1♀, 1♂; Sarpinkavak, 19.10.2020, 1♂; **Laçın**, Yeşilgöl, 03.10.2021, 1♀.

Comments: This western conifer seed bug is an invasive alien species originated from North America. The distribution of *Leptoglossus occidentalis* rapidly expanded to the eastern and western of Turkey. This species was found on *Pinus* sp. This Neactic species is common and widely distributed in Turkey (Arslangündoğdu & Hızal, 2010; Fent & Kment, 2011; Hızal & İnan, 2012; Çerçi & Koçak, 2016; Özgen et al., 2017; Parlak, 2017; Yücel & Kıvan, 2018; Zengin & Dursun, 2019; Oğuzoğlu & Avcı, 2020).

Centrocoris Kolenati, 1845

***Centrocoris spiniger* (Fabricius, 1781)**

Material examined: Çorum, Center, 06.06.2021, 1♀; **Ortaköy**, Mollahasan, 26.07.2020, 1♀; **Osmancık**, Sarpinkavak, 19.10.2020, 1♀.

Comments: This Holomediterranean species is common and widely distributed in Turkey according to available data (Horváth, 1883; Kiritschenko, 1918; Hoberlandt 1955; Wagner, 1966; Tuatay et al., 1972; Kıyak, 1993; Önder et al., 2006; Dursun & Fent, 2009; Dursun, 2011; Fent & Dursun, 2019; Zengin & Dursun, 2019). This species was found on *Cirsium* sp. and it is reported for the first time from Çorum province in the study.

***Centrocoris variegatus* Kolenati, 1845**

Material examined: **Osmancık**, 23.06.2021, 5♀♀, 3♂♂.

Comments: This Holomediterranean species is frequently and widely distributed in Turkey according to the available records (Horváth, 1901; Hoberlandt, 1955; Kıyak, 1990a; Kıyak, 1990b; Öz Saraç, 2004; Önder et al., 2006; Dursun, 2011; Yıldırım et al., 2011; Fent & Dursun, 2019; Zengin & Dursun, 2019; Bolu, 2020; Koçakoğlu, 2020; Bulak Korkmaz & Yıldırım, 2021). This species was found on *Cirsium* sp. and it is reported for the first time from Çorum province in the study.

***Coreus* Fabricius, 1794**

***Coreus marginatus* (Linnaeus, 1758)**

Material examined: **Çorum**, Center, 27.06.2020, 1♀, 1♂; 19.07.2020, 2♀♀; 17.08.2020, 1♂; 18.08.2020, 2♀♀; **Çatak**, 12.06.2021, 5♀♀, 7♂♂; 03.07.2021, 1♀; Kivrırcık, 26.07.2020, 2♀♀, 1♂; **Bayat**, 19.07.2020, 2♀♀, 2♂♂; **Dodurga**, Berkköy, 18.09.2020, 1♀, 1♂; **İskilip**, Seyirtepe, 11.07.2020, 4♀♀; **Kargı**, Hacıhamza, 02.10.2021, 1♀, 1♂; 26.06.2021, 1♀, 3♂♂; Uzunyurt, 19.06.2021, 3♀♀, 4♂♂; Kara-pürçek, 02.10.2021, 2♀♀; **Mecitözü**, Elvançelesi, 30.07.2020, 2♀♀, 2♂♂; Hıdırlık, 09.10.2021, 2♀♀, 3♂♂; 09.10.2021, 4♀♀, 2♂♂; **Oğuzlar**, Obruk Barajı, 28.09.2020, 1♀; **Ortaköy**, İncesu; 26.07.2020, 1♀; Oruçpınar, 26.07.2020, 1♂; Mollahasan, 26.07.2020, 1♀, 1♂; **Osmancık**, 25.05.2019, 1♀; Ardıç, 02.10.2021, 1♀; Akören Plateau, 18.06.2020, 1♂; Yaylabaşı, 04.08.2020, 2♀♀, 3♂♂; 04.05.2020, 1♂; Öbektaş Plateau, 24.07.2021, 1♀; **Sungurlu**, Karakaya, 15.07.2020, 1♀; Koparan, 15.07.2020, 1♀, 1♂; **Uğurludağ**, 10.07.2021, 1♀.

Comments: This Holomediterranean species is frequently and widely distributed in all the regions of Turkey according to the available records (Hoberlandt, 1955; Önder et al., 2006; Yıldırım et al., 2011; Baş, 2013; Küçükbasmacı & Kıyak, 2015; Fent & Dursun, 2019; Kaçar, 2019; Zengin & Dursun, 2019; Bulak Korkmaz & Yıldırım, 2021; Kıyak & Baş, 2021). This species was found on *Rumex* sp.

Enoplops Amyot & Serville, 1843

Enoplops disciger (Kolenati, 1845)

Material examined: **Osmancık**, 25.05.2019, 1♀; **Ortaköy**, Fındıklı, 26.07.2020, 1♂.

Comments: This Pontomediterranean species is commonly and widely distributed in Turkey according to available records (Horváth, 1901; Kiritshenko, 1918; 1924; Hoberlandt, 1955; Linnavuori, 1965; Moulet, 1995; Kıyak, 2000; Öz Saraç & Kıyak, 2001; Öz Saraç, 2004; Önder et al., 2006; Dursun & Fent, 2009; Dursun, 2011; Yıldırım et al., 2011; Zengin & Dursun, 2019). This species was found on *Echium* sp. and it is reported for the first time from Çorum province in the study.

Spathocera Stein, 1860

Spathocera lobata (Herrich-Schaffer, 1840)

Material examined: **Çorum**, Center, 06.06.2021, 1♀.

Comments: This Holomediterranean species is rarely encountered in Turkey according to available records (Önder et al., 2006; Yıldırım et al., 2013; Bayrakçı, 2011; Dursun, 2011). This species was recorded for the first time from Çorum province in the study and it was found on *Rumex* sp.

Syromastus Berthold, 1827

Syromastus rhombeus (Linnaeus, 1767)

Material examined: **Osmancık**, 25.05.2019, 1♀; Akören Plateau, 18.04.2020, 1♀, 1♂; **İskilip**, Seyirtepe, 11.07.2020, 1♀.

Comments: This Holomediterranean species is common in Turkey according to available records (Horváth, 1883; 1901; Kiritshenko, 1918; 1924); Hoberlandt, 1955; Linnavuori, 1965; Tuatay et al., 1972; Kıyak, 1990a, b; Çağlar, 1992; Öz Saraç, 2004; Önder et al., 2006; Dursun & Fent, 2009; Dursun, 2011; Fent & Dursun, 2019; Altınok & Muştu, 2019; Zengin & Dursun, 2019). This species was found on *Poa* sp.

Gonocerus Berthold, 1827

Gonocerus acuteangulatus (Goeze, 1778)

Material examined: **Çorum**, Center, 19.07.2020, 1♀, 1♂; Kivrırcık, 26.07.2020, 2♀♀, 1♂; **Laçın**, Yeşilgöl, 01.09.2019, 1♀; Kırkdilim, 01.09.2021, 1♂; **Osmancık**, 1♀; Yaylabaşı, 14.07.2019, 1♀; 04.05.2020, 1♀, 1♂; Akören Plateau, 18.04.2020, 1♀, 1♂.

Comments: This Holomediterranean species is commonly and widely distributed in

Anatolia according to available records (Horváth, 1883; Hoberlandt, 1955; Linnavuori, 1965; Tezcan & Önder, 1999; Tezcan & Önder, 1999; Öz Saraç, 2004; Önder, et al. 2006; Dursun, 2011; Yıldırım et al. 2011; Küçükbasmacı & Kıyak, 2015; Zengin & Dursun, 2019; Bulak Korkmaz & Yıldırım, 2021; Çerçi & Özgen, 2021). This species was found on *Juniperus* sp. and it is reported for the first time from Çorum province in the study.

***Gonocerus juniperi* Herrich-Schaeffer, 1839**

Material examined: **Dodurga**, Berkköy, 18.09.2020, 1♀, 1♂; **Oğuzlar**, Obruk Barajı, 28.09.2020, 1♀; **Osmancık**, Akören Plateau, 18.04.2020, 1♂; Sarpınkavak, 19.10.2020, 1♂; Yaylabaşı, 14.07.2019, 1♀; 06.10.2020, 1♀, 1♂; 08.02.2020, 1♀, 1♂.

Comments: This Holomediterranean species is frequent and widely distributed in Anatolia and Turkish Thrace according to the available records (Horváth, 1883; Kiritshenko, 1918; Hoberlandt, 1955; Kıyak, 1993; Önder et al., 2006; Dursun & Fent, 2009; Dursun, 2011; Kıvan & Dirik, 2016; Özgen et al., 2018; Sert & Özdemir, 2019). It was found on *Juniperus* sp. and is reported for the first time from Çorum province in the study.

***Phyllomorpha* Laporte, 1833**

***Phyllomorpha laciniata* (Villers, 1789)**

Material examined: **Bayat**, 19.07.2020, 1♀, 1♂; **Dodurga**, Berkköy, 18.09.2020, 1♀, 1♂; **Osmancık**, Akören Plateau, 18.04.2020, 1♂; **Osmancık**, 25.05.2019, 1♀; **Ortaköy**, Fındıklı, 26.07.2020, 1♂; Sarpınkavak, 19.10.2020, 1♂; Yaylabaşı, 14.07.2019, 1♀.

Comments: *Phyllomorpha laciniata* (= *Phyllomorpha lacerata* Herrich-Schaeffer, 1835) is Holomediterranean species. It is frequent and widely distributed in Anatolia and Turkish Thrace according to the available records (Fahringer, 1922; Hoberlandt, 1955; Kıyak, 1990a; Kıyak, 1990b; Moulet, 1995; Öz Saraç, 2004; Önder et al., 2006; Dursun & Fent, 2009; Dursun, 2011; Zengin & Dursun, 2019). This species was found under *Acantholimon* sp. and *Astragalus* sp. and is reported for the first time from Çorum province in the study.

Rhopalidae Amyot & Serville, 1843

Rhopalinae Amyot & Serville, 1843

***Brachycarenum* Fieber, 1860**

***Brachycarenum languidus* (Horváth, 1891)**

Material examined: **Çorum**, Center, 19.07.2020, 2♀♀, 1♂; Kırırcık, 26.07.2020, 2♀♀, 2♂♂; **Laçın**, Yeşilgöl, 01.09.2019, 1♂, Kırkdilim, 01.09.2021, 1♂; **Osmancık**, 1♀, 1♂; Yaylabaşı, 14.07.2019, 2♂♂, 1♀; 04.05.2020, 1♀, 1♂.

Comments: This Irano-Turanian species is rare in Turkey according to available records (Horváth, 1891; Kiritshenko, 1918; Zengin & Dursun, 2019). This species is reported for the first time from Çorum province in the study and it was found on *Chenopodium* sp.

***Brachycarenum tigrinus* (Schilling, 1829)**

Material examined: **Kargı**, Karapürçek, 02.10.2021, 2♀♀.

Comments: This Holomediterranean species is widespread distributed and frequently found in Turkey (Puton & Noualhier, 1895; Horvath, 1901, 1905; Kiritshenko, 1918; Gadeau de Kerville, 1939; Tuatay et al., 1972; Pehlivan, 1981; Yıldırım et al., 2011; Dursun, 2009; Fent & Dursun, 2019; Zengin & Dursun, 2019; Kaçar, 2019; Bulak Korkmaz & Yıldırım, 2021). This species was found on *Chenopodium* sp.

Corizus Fallén, 1814**Corizus hyoscyami (Linnaeus, 1758)**

Material examined: Alaca, 05.06.2021, 1♂; Bayat, 19.07.2020, 2♀♀, 1♂; Osmancık, 25.05.2019, 1♂; 23.04.2021, 1♂; 23.06.2021, 2♀♀; Yaylabaşı, 17.04.2020, 1♂, 1♀; Akören Plateau, 18.04.2020, 1♂, 1♀; Sungurlu, 16.10.2021, 1♂; Uğurludağ, 10.07.2021, 1♂.

Comments: This Holomediterranean species is widespread distributed and frequently found in Turkey. (Pehlivan, 1981; Yıldırım et al., 2011; Yücel & Kıvanç, 2018; Fent & Dursun, 2019; Zengin & Dursun, 2019; Bolu, 2020; Çerçi & Özgen, 2021; Kıyak & Baş, 2021). This species has been found on the *Hypericum* sp. and *Onosma* sp. It is reported for the first time from Çorum province in this study.

Liorhyssus Stål, 1870**Liorhyssus hyalinus (Fabricius, 1794)**

Material examined: Çorum, Center, 23.08.2021, 1♀, 1♂; Kargı, Karapürçek, 02.10.2021, 1♀; Osmancık, Yaylabaşı, 14.07.2019, 1♀.

Comments: This Holomediterranean and cosmopolitan species is widespread and frequently distributed in Turkey (Pehlivan, 1981; Özaraç & Kıyak, 2001; Önder et al., 2006; Dursun, 2009; Yıldırım et al., 2011; Matocq et al., 2014; Altınok & Muştu, 2019; Fent & Dursun, 2019; Dursun ve Zengin, 2019; Bulak Korkmaz & Yıldırım, 2021). This species is new record for the Heteroptera fauna of Çorum province and it was found on the *Poa* sp.

Maccevethus Dallas, 1852**Maccevethus corcicus corsicus Signoret, 1862**

Material examined: Çorum, Center, 18.10.2020, 1♀; Sungurlu, 30.10.2021, 1♀.

Comments: The distribution of this Ponto-Mediterranean species is common in the Turkey. (Pehlivan, 1981; Önder et al., 2006; Dursun, 2009; Fent & Dursun, 2019; Altınok & Muştu, 2019; Zengin & Dursun, 2019; Bulak Korkmaz & Yıldırım, 2021). In the study, this subspecies was recorded for the first time from Çorum. It has been found on the *Poa* sp.

Maccevethus errans caucasicus (Kolenati, 1845)

Material examined: Sungurlu, 16.10.2021, 1♂.

Comments: This Ponto-Mediterranean subspecies was recorded on the *Erodium* sp. from Çorum for the first time in the study. It is widespread and frequently distributed in Turkey (Pehlivan, 1981; Önder et al., 2006; Dursun, 2009; Altınok & Muştu, 2019; Zengin & Dursun, 2019; Bolu, 2020; Çerçi & Özgen, 2021; Kıyak & Baş, 2021).

Rhopalus Schilling, 1827**Rhopalus parumpunctatus Schilling, 1829**

Material examined: Çorum, Center, 19.07.2020, 3♀♀, 2♂♂; 06.06.2021, 2♀♀, 1♂; Kargı, Karapürçek, 02.10.2021, 2♀♀; Osmancık, Ardiç, 02.10.2021, 2♀♀; Yaylabaşı, 17.04.2020, 1♀; Akören Plateau, 18.04.2020, 1♀.

Comments: This Holomediterranean species was recorded on the *Alnus* sp., *Artemisia* sp., and *Geranium* sp. and from Çorum for the first time in the study. It is widespread and frequently distributed in Turkey (Pehlivan, 1981; Önder et al., 2006; Dursun, 2009; Yıldırım et al., 2011; Matocq et al., 2014; Fent & Dursun, 2019; Fent & Dursun, 2019; Zengin & Dursun, 2019; Altınok & Muştu, 2019).

Rhopalus subrufus (Gmelin, 1790)

Material examined: Kargı, Başköy, 26.06.2021, 1♀, 1♂.

Comments: This Holomediterranean species was recorded from Çorum for the first time in the study. It is widespread and frequently distributed in Turkey (Pehlivan, 1981; Önder et al., 2006; Dursun, 2009; Uygun & Yiğit, 1982; Yıldırım et al., 2013; Beyaz & Tezcan, 2002; Fent & Dursun, 2019; Kıyak & Baş, 2021; Sarı & Yıldırım, 2021). It was found on the *Poa* sp.

***Stictopleurus* Stål, 1872**

***Stictopleurus abutilon* (Rossi, 1790)**

Material examined: Çorum, Center, 18.08.2020, 1♀, 2♂♂; 06.06.2021, 1♀.

Comments: In the study, this Holomediterranean species was recorded for the first time from Çorum. It was found on the *Achillea* sp. and *Artemisia* sp. It is widespread and frequently distributed in Turkey (Puton, 1892; Horvath, 1901; Fahringer, 1922; Gadeau de Kerville, 1939; Tuatay et al., 1972; Pehlivan, 1981; Önder et al., 2006; Dursun, 2009; Yıldırım et al., 2011; Matocq et al., 2014; Fent & Dursun, 2019; Zengin & Dursun, 2019; Bolu, 2020; Bulak Korkmaz & Yıldırım, 2021).

***Chorosoma* Curtis, 1830**

***Chorosoma schillingii* (Schilling, 1829)**

Material examined: Çorum, Center, 06.06.2021, 2♀♀, 2♂♂; Dodurga, Berkköy, 18.09.2020, 2♀♀, 1♂; **Osmancık**, Akören Plateau, 18.04.2020, 2♀♀, 3♂♂; 25.05.2019, 3♀♀, 4♂♂; Ortaköy, Fındıklı, 26.07.2020, 1♀, 2♂♂; Sarpınkavak, 19.10.2020, 1♀ 1♂.

Comments: This Holomediterranean species is widespread and frequently distributed in Turkey and it was recorded for the first time from Çorum province in this study (Horvath, 1894; 1905; Puton et Noualhier, 1895; Kiritshenko, 1918; Fahringer, 1922; Hoberlandt, 1955; Pehlivan, 1981; Dursun, 2009; Yıldırım et al., 2013; Matocq et al., 2014; Fent & Dursun, 2019; Zengin & Dursun, 2019). This species has been found on the *Poa* sp.

Stenocephalidae Dallas, 1852

***Dicranocephalus* Hahn, 1826**

***Dicranocephalus agilis* (Scopoli, 1763)**

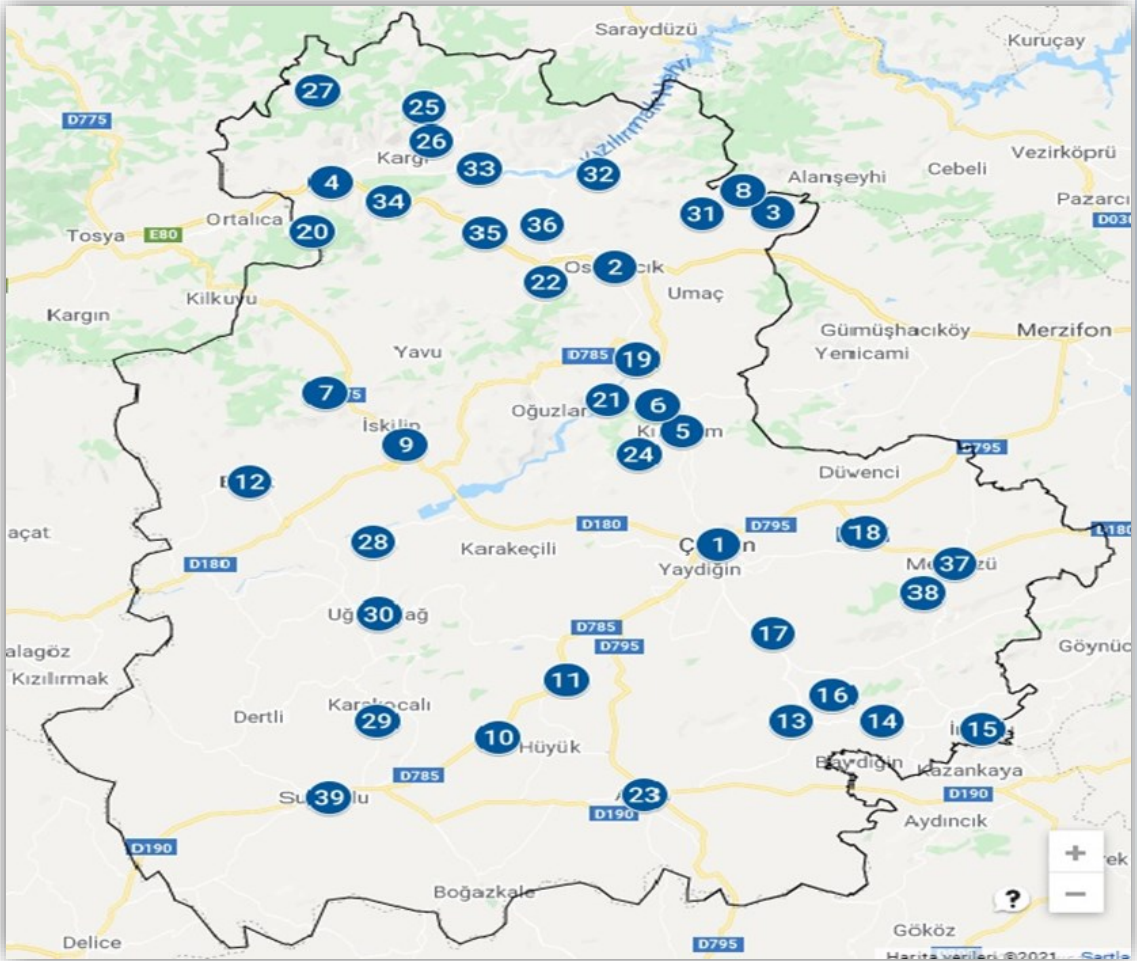
Material examined: Çorum, Center, 27.07.2021, 2♂♂; **Osmancık**, Akören Plateau, 18.04.2020, 1♀, 1♂; **Kargı**, Kargı Plateau, 19.06.2021, 1♀, 1♂.

Comments: This Holomediterranean species is widespread distributed and frequently found in Turkey (Pehlivan, 1981; Önder et al., 2006; Dursun, 2009; Fent & Dursun, 2019; Zengin & Dursun, 2019). The finding of the species is the first record for Çorum province and it has been found on *Euphorbia* sp.

***Dicranocephalus albipes* (Fabricius, 1781)**

Material examined: Bayat, 19.07.2020, 2♀♀; **Kargı**, Kargı Plateau, 19.06.2021, 2♀♀, 3♂♂; Kargı Tatil Köyü, 26.06.2021, 6♀♀, 4♂♂; **Osmancık**, Ardıç, 02.10.2021, 1♀; Öbektaş Plateau, 24.07.2021, 1♀; **Sungurlu**, Kertme, 10.07.2021, 4♀♀, 3♂♂.

Comments: The present record of this Holomediterranean species is the first time for the Heteroptera fauna of Çorum province. It has been found on *Euphorbia* sp. This species is widespread distributed and frequently found in Turkey (Pehlivan, 1981; Önder et al., 2006; Dursun, 2009; Küçükbasmacı & Kıyak, 2015; Fent & Dursun, 2019).

Figure 1. The area of study in Çorum (from google earth).

CONCLUSION AND DISCUSSION

In this study, as a result of the identification of the material collected from 39 different localities in around Çorum province between 2019 and 2021 revealed 3 species belonging to 2 genera of the Alydidae family, 13 species belonging to 10 genera of the Coreidae family, 10 species belonging to 7 genera of the Rhopalidae family and 2 species belonging to 1 genera of the Stenocephalidae family. The total 28 species belonging to 20 genera of the superfamily Coreoidea were reported in Çorum province. Of them, 23 species are new records for the Coreoidea fauna of Çorum province.

The species *Ceraleptus gracilicornis*, *Coriomeris affinis*, *Centrocoris variegatus*, *Spathocera lobata* from the family Coreidae

and *Brachycarenum tigrinus*, *Maccevetthus errans caucasicus* from the family Rhopalidae found at only in one locality in the research area too. Although of those species *C. affinis*, *C. variegatus*, *B. tigrinus* and *M. errans caucasicus* are widespread reported and frequently founded in Turkey, the species were found rarely in research area. Among the species of superfamily Coreoidea recorded in the surrounding of Çorum; *A. calcaratus*, *C. lateralis*, *C. marginatus*, *G. acuteangulatus*, *G. juniperi*, *P. laciniata*, *C. hyoscyami*, *R. parumpunctatus*, *C. schillingii*, *D. albipes* and the invasive alien species *L. occidentalis* are widespread distributed and frequently found in Turkey and also in our present study area.

In the present study, 1 species origin of Euro-Siberian, 20 species origin of

Table 1. The plant relationships of Coreoidea species from Çorum province

Family	Species	Origin	Host Plant
Alydidae Amyot & Serville, 1843	<i>Alydus calcaratus</i> (Linnaeus, 1758)	Holomediterranean	<i>Astragalus</i> sp. (Fabaceae)
	<i>Camptopus lateralis</i> (Germar, 1817)	Holomediterranean	<i>Chrysanthemum</i> sp. (Asteraceae) <i>Rosa</i> sp., (Rosaceae) <i>Rumex</i> sp. (Polygonaceae)
	<i>Camptopus tragacanthae</i> (Kolenati, 1845)	Irano-Turanian	<i>Astragalus</i> sp. (Fabaceae)
Coreoidea Leach, 1815	<i>Ceraleptus gracilicornis</i> (Herrich-Schaeffer, 1835)	Holomediterranean	<i>Trifolium</i> sp. (Fabaceae)
	<i>Coriomeris affinis</i> (Herrich-Schaeffer, 1839)	Mediterranean	<i>Pinus</i> sp. (Pinaceae)
	<i>Coriomeris denticulatus</i> (Scopoli, 1763)	Euro-Siberian	<i>Lamium</i> sp. (Lamiaceae)
	<i>Leptoglossus occidentalis</i> Heidemann, 1910	Neactic region	<i>Pinus</i> sp. (Pinaceae)
	<i>Centrocoris spiniger</i> (Fabricius, 1781)	Holomediterranean	<i>Cirsium</i> sp. (Asteraceae)
	<i>Centrocoris variegatus</i> Kolenati, 1845	Holomediterranean	<i>Cirsium</i> sp. (Asteraceae)
	<i>Coreus marginatus</i> (Linnaeus, 1758)	Holomediterranean	<i>Rumex</i> sp. (Polygonaceae)
	<i>Enoplops disciger</i> (Kolenati, 1845)	Pontomediterranean	<i>Echium</i> sp. (Boraginaceae)
	<i>Spathocera lobata</i> (Herrich-Schaeffer, 1840)	Holomediterranean	<i>Rumex</i> sp. (Polygonaceae)
	<i>Syromastus rhombeus</i> (Linnaeus, 1767)	Holomediterranean	<i>Poa</i> sp. (Poaceae)
	<i>Gonocerus acuteangulatus</i> (Goeze, 1778)	Holomediterranean	<i>Juniperus</i> sp. (Cupressaceae)
	<i>Gonocerus juniperi</i> Herrich-Schaeffer, 1839	Holomediterranean	<i>Juniperus</i> sp. (Cupressaceae)
	<i>Phyllomorpha laciniata</i> (Villers, 1789)	Holomediterranean	<i>Acantholimon</i> sp. (Plumbaginaceae) <i>Astragalus</i> sp. (Fabaceae)
Rhopalidae Amyot & Serville, 1843	<i>Brachycarenum languidus</i> (Horváth, 1891)	Irano-Turanian	<i>Chenopodium</i> sp. (Chenopodiaceae)
	<i>Brachycarenum tigrinus</i> (Schilling, 1829)	Holomediterranean	<i>Chenopodium</i> sp. (Chenopodiaceae)
	<i>Corizus hyoscyami</i> (Linnaeus, 1758)	Holomediterranean	<i>Hypericum</i> sp. (Hypericaceae) <i>Onosma</i> sp. (Boraginaceae)
	<i>Liorhyssus hyalinus</i> (Fabricius, 1794)	Holomediterranean	<i>Poa</i> sp. (Poaceae)
	<i>Maccevechus corcicus corsicus</i> Signoret, 1862	Pontomediterranean	<i>Poa</i> sp. (Poaceae)
	<i>Maccevechus errans caucasicus</i> (Kolenati, 1845)	Pontomediterranean	<i>Erodium</i> sp. (Geraniaceae)
	<i>Rhopalus parumpunctatus</i> Schilling, 1829	Holomediterranean	<i>Alnus</i> sp., (Betulaceae) <i>Artemisia</i> sp., (Asteraceae) <i>Geranium</i> sp. (Geraniaceae)
	<i>Rhopalus subrufus</i> (Gmelin, 1790)	Holomediterranean	<i>Poa</i> sp. (Poaceae)
	<i>Stictopleurus abutilon</i> (Rossi, 1790)	Holomediterranean	<i>Achillea</i> sp., <i>Artemisia</i> sp. (Asteraceae)
	<i>Chorosoma schillingii</i> (Schilling, 1829)	Holomediterranean	<i>Poa</i> sp. (Poaceae)
Stenocephalidae Dallas, 1852	<i>Dicranocephalus agilis</i> (Scopoli, 1763)	Holomediterranean	<i>Euphorbia</i> sp. (Euphorbiaceae)
	<i>Dicranocephalus albipes</i> (Fabricius, 1781)	Holomediterranean	<i>Euphorbia</i> sp. (Euphorbiaceae)

Holomediterranean, 2 species origin of Nearctic region (cosmopolitan) have been recorded from Çorum. Holomediterranean, 3 species origin of Pontomediterranean species are a very common and abundant in the surroundings of Çorum.

As a result of our observations in the field, a total of 21 taxon at genus level from 15 plant families were identified in relation to Coreoidea species. When take into account the preferences of Coreoidea species in these families, 5 species were associated with Asteraceae and Poaceae, 4 species with Fabaceae, 3 species with Polygonaceae, 2 species with Boraginaceae, Chenopodiaceae, Cupressaceae, Euphorbiaceae, Geraniaceae and Pinaceae, 1 species with Betulaceae, Hypericaceae, Plumbaginaceae and Rosaceae (Table.1).

Many microclimate areas is very important for faunal component. The geographical location of Çorum is beetwen central Antolia and central Black sea region. There are also microclimate areas in Çorum. Because of its location, Çorum is a dispersal corridor for different animal. With the present additional records were contributed to the distribution of the families Alydidae, Coreidae, Rhopalidae and Stenocephalidae, in Turkey the determination of biodiversity of this families in the surroundings of Çorum.

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