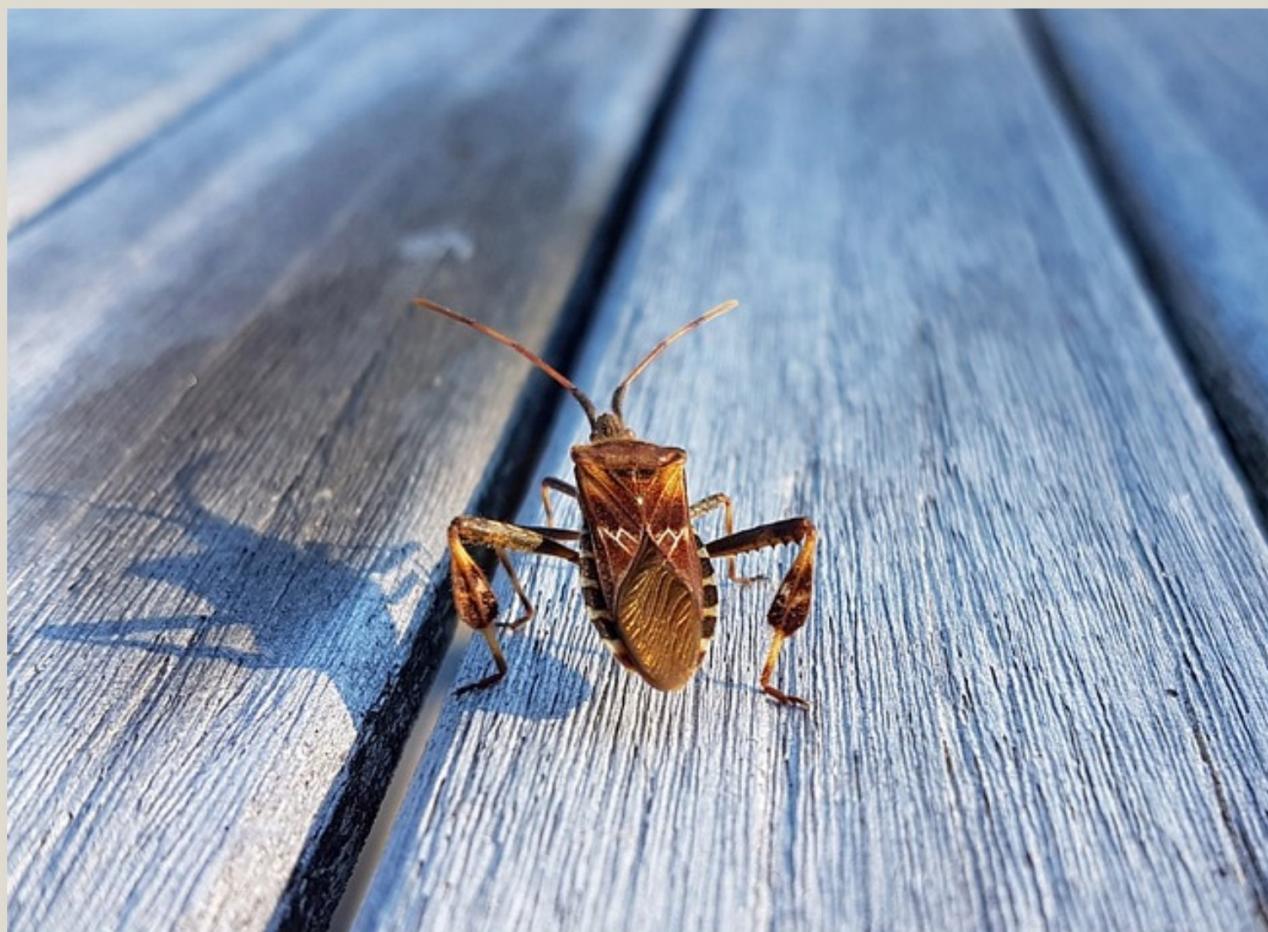




Journal of the *HETEROPTERA* of Turkey

-ISSN 2687-3249

Vol. 5:1



May, 2023



J.Het.Turk

“*Journal of the Heteroptera of Turkey*” is a international journal, and publish scholarly heteropteran studies.

ISSN: 2687-3249 (only Online edition)

This journal is published semiannually (May and November) by Heteropterists of Turkey.

Description

“*Journal of the Heteroptera of Turkey*” publishes original research and review articles all key areas in Heteroptera (Insecta) of paleearctic region. All work needs to have a clear and significant impact on paleearctic Heteroptera taxons. Review studies considerations are only accepted in combination with new faunistic or taxonomic data in studies area. The journal focuses on research into systematic, taxonomic, ecologic, faunistic etc heteroptera and articles presenting innovative approaches. Prospective review authors should read instruction for authors on the web page (www.j-ht.org) before submitting a manuscript.

Editor-in-Chief:

Prof.Dr.Suat KIYAK

Gazi University Faculty of Science, Department of Biology, Ankara /Turkey

Editors:

Prof.Dr.Meral FENT

Trakya Univ. Faculty of Sci. Dept. of Biol. Turkey

Prof.Dr.Ahmet DURSUN

Amasya Univ. Fac. of Arts & Sci. Dept.of Biol,Turkey

Assoc.Prof.Dr. Damla Amutkan MUTLU (Managing) & Assoc.Prof.Dr.Esra PER (Executive)

Gazi University Faculty of Science, Department of Biology, Ankara /Turkey

Advisory Board

Prof. em Dr. Zekkiye SULUDERE Gazi University Faculty of Science, Department of Biology, Ankara /Turkey

Prof. Dr. Yusuf KARSAVURAN Ege Univ. Faculty of Agriculture, Dept.of Plant Protection Izmir / Turkey

Prof. Dr. Serdar TEZCAN Ege Univ. Faculty of Agriculture, Dept.of Plant Protection Izmir / Turkey

Dr. Petr KMENT (Ph.D.) Dept. of Entomology, Nat. Museum Cirkusova, Praha / Czech Republic

Prof. Dr. İnanç ÖZGEN Firat University, Baskil Vocational School, Elazığ / Turkey.

Assoc. Prof. Dr Nikolay SIMOV National Museum of Natural History, Sofia / Bulgaria

Prof. Dr. Mirza DAUTBAŠIĆ Faculty of Forestry University of Sarajevo / Bosnia-Herzegovina

Prof. zw. Dr. hab. Jerzy LIS Lab. of Bioinform. Institute of Biol.Uni. of Opole Oleska, Opole / Poland

Assoc. Prof. Dr. Halil BOLU Dicle Univ. Faculty of Agriculture, Dept.of Plant Protect. D.Bakir / Turkey

Dr. İbrahim KÜÇÜKBASMACI Kastamonu Univ.Faculty of Arts & Sci., Dept. of Biol. Kastamonu / Turkey

Dr. em Paride DIOLI Department of Entomology, Natural History Museum, Milan / Italy

Dr. Pierre MOULET Chef d'Etablissement Museum Requien 67rue Joseph Vernet F-84000 Avignon/France

Prof.Dr. Selma ÜLGENTÜRK Ankara University Faculty of Agriculture Plant Protection Department/ Ankara/Turkey

Dr. Gülsen YAZICI Republic of Turkey Ministry of Agriculture and Forestry Directorate of Plant Protection Central Research Institute Ankara / Turkey

Editorial Assistants:

MSc.Biol. Oğuz ÜNVER

English Language Editors:

Assist. Prof. Dr. İsmail ARI & Zeynep KARARTI

Editorial Office:

Journal of the Heteroptera of Turkey (JHT)

c/o Gazi University, Sciences Faculty, Department of Biology, 06500 Teknikokullar-ANKARA / TURKEY

Phone: (+90) 312 202 11 79 Fax: (+90) 312 212 22 79 E-mail: editor_office@j-ht.org

Powered by peer review management and editorial system Heteropterists.

Publication Frequency: Semiannual [2 issues per year (November and May)]

JHT is indexed/abstracted in: Index Copernicus, CiteFactor-Academic Scientific Journals, Academic Research Index, DRJI, Google Scholar, ResearchGate, EZB-Electronic Journals Library, Worldcat, ASOS Index, ROAD, Biological Abstracts, BIOSIS Previews, Zoological Record.

Archived at: Internet Archive-Wayback machine – <https://archive.org> ; ZENODO (<https://zenodo.org/deposit?page=1&size=20>)

Journal web addresse: www.j-ht.org

The cover photo is a “pixabay.com” product available free of charge for use in printed and digital prints. Citing and credit is not required

“Journal of the Heteroptera of Turkey”
ISSN: 2687-3249

J.Het.Turk., Volume 5, Issue 1, May, 2023

Table of Contents

	Page(s)
Dursun, A., Brailovsky, H., 2023, New and Additional Records of Coreidae (Hemiptera: Heteroptera) fauna from Peru	1-6
van der Heyden, T., 2023, First records of <i>Leptoglossus occidentalis</i> Heidemann, 1910 (Hemiptera: Heteroptera: Coreidae) and <i>Zelus renardii</i> Kolenati, 1857 (Hemiptera: Heteroptera: Reduviidae) in Uzbekistan	7-9
Çerçi, B., Koçak, Ö., 2023, Heteroptera (Hemiptera) fauna of Karaman with new records for Türkiye	10-128
van der Heyden, T., 2023, First record of <i>Solenosthedium bilunatum</i> (Lefèvre, 1827) (Hemiptera: Heteroptera: Scutelleridae) in Bosnia and Herzegovina	129-131
Fent, M., Dursun, A., Yence, K., 2023, Hebridae (Hemiptera: Heteroptera) Fauna of the Turkish Thrace Region	132-137
Polat, I., Kiyak, S., Suludere, Z., 2023, The morphological characterization of the sensilla on the antennae and mouthparts of <i>Camptopus tragacanthae</i> (Kolenati, 1845) (Hemiptera, Alydidae)	138-153
Yazıcı, G., Bal, N., Kiyak, S., 2023, Additional List of the Anthocoridae, Berytidae, Coreidae, Cydnidae, Lygaeidae, Nabidae, Piesmatidae, Reduviidae, Rhopalidae, Scutelleridae, Tingidae (Hemiptera: Heteroptera) of Çankırı Province in Türkiye	154-174
Tepecik, G., Dursun, A., 2023, A study on the Mirinae (Hemiptera: Heteroptera: Miridae) fauna of Amasya Province, Türkiye	175-194
Kiyak, S., 2023, About distribution, Host plant and habitat preferences of the Alydidae (Hemiptera, Heteroptera) species of Türkiye	195-199

New and Additional Records of Coreidae (Hemiptera: Heteroptera) fauna from Peru

Ahmet Dursun¹

Harry Brailovsky^{2*}

¹Amasya University, Faculty of Science, and Arts Department of Biology, 05100, Amasya/Türkiye,

E-mail: ahmet.dursun@amasya.edu.tr ORCID ID: 0000-0002-5114-7470.

²Departamento de Zoología, Instituto de Biología UNAM, Apartado Postal 70153, Ciudad de México, 04510, México. HBA:

E-mail: coreidae@ib.unam.m ORCID: 0000-0001-7456-5678.

ABSTRACT: In the present study, two species are recorded from Peru (Coreidae). *Anasa fusca* Stål, 1870 is recorded for the first time from the country, whereas new locality information is provided for *Piezogaster rubropictus* (Montandon, 1897).

Anasa fusca, whose species description was based on 9 males and 16 females specimens is shortly redescribed.

KEY WORDS: : *Anasa fusca*, *Piezogaster rubropictus*, new faunistic records, Coreidae, Peru.

To cite this article: Dursun, A., Brailovsky, H., 2023, New and Additional Records of Coreidae (Hemiptera: Heteroptera) fauna from Peru, *J.Het.Turk.*, 5(1):1-6

DOI: 10.5281/zenodo.7986424

To link to this article: <https://www.j-het.org/wp-content/uploads/2023/05/V51-A1.pdf>

Received: Feb 16, 2023; **Revised:** Feb 25, 2023; **Accepted:** Feb 26, 2023; **Published online:** May 31, 2023

INTRODUCTION

The family Coreidae Leach, 1815 species distributed among 450 genera (Hemiptera: Heteroptera) includes four worldwide, with around 1007 species subfamilies, Coreinae Leach, 1815; and 165 genera distributed in the Nearctic Hydarinae Stål, 1873; Meropachyinae and Neotropical regions. Coreinae is the

Stål, 1868; and Pseudophloeinae Stål, 1868. It contains more than 2,600

CC BY NC SA An Open Access article distributed under the Creative Commons 4.0 (CC BY NC SA) International License.

most common subfamily, represented by 32 tribes in both the Old and New World (Packauskas, 2010; Henry, 2017; Brailovsky & Perez-Gelabert, 2019; Pluot-Sigwalt & Moulet, 2022). Coreini contains 376 species belonging to 37 genera in the Nearctic and Neotropical regions (Brailovsky & Barrera, 2022). Juárez & González (2016) indicate that the Peruvian Coreidae fauna is poorly known, and only around 94 species of the Coreini were recorded.

Recent studies in the New World revealed the presence of 79 species belonging to the genus *Anasa* Amyot & Serville, 1843 (Coreinae: Coreini). Of those, the species *Anasa abdicata* Brailovsky, 1985, *A. apicalis* (Westwood, 1842), *A. bellator* (Fabricius, 1787), *A. byssoidescerus* Brailovsky & Barrera, 2009, *A. guayaquila* Brailovsky, 1985, *A. haglundi* Stål, 1870, *A. jucunda* Breddin, 1904, *A. marginella* Blöte, 1935, *A. micans* Brailovsky, 1985, *A. rectangulariformis* Brailovsky, 1985, *A. scorbutica* (Fabricius, 1775), *A. siblica* Brailovsky, 1985, *A. sinuaticollis* Blöte, 1935 and *A. trilineata* Stål, 1870 are fund in Peru. *Anasa marginella* and *A. rectangulariformis* are endemic to Peru (Brailovsky, 1985, 2016, 2017; Packauskas, 2010; Cruces & Vergara, 2015).

The tribe Nematopodini Amyot & Serville, 1843 (Leaf-footed bugs), which contains some of the largest species of Coreidae, contains 160 species belonging to 37 genera. Thirty three species belong to the genus *Piezogaster* Amyot & Serville, 1843 (Coreinae: Nematopodini).

Of those, *Piezogaster congruus* Brailovsky & Barrera, 1984, *Piezogaster dilatatus* (Dallas, 1852), *Piezogaster obscuratus* (Montandon, 1899), and *Piezogaster rubropictus* (Montandon, 1897) occur in Peru. *Piezogaster congruus* is endemic to Peru (Brailovsky & Barrera, 1983; Dealy, 2000; Packauskas, 2010; Juárez & González, 2016).

All Coreidae species are phytophagous and cause considerable damage to plants in both adult and nymphal stages.

Faunal records of countries, are very important for identifying agriculturally beneficial and harmful species, to develop control methods against harmful species, and identifying local and foreign species.

MATERIAL AND METHODS

The following abbreviation is used for the institution cited herein: Instituto de Biología, Universidad Nacional Autónoma de México, México City, México.

The specimens were collected with an entomological net in Aquas Calientes, Peru in 2018. For preparation of the genitalia, specimens were softened in hot water and their genitalia extracted using forceps. Genitalia of males and females were examined using a Leica SZX stereoscopic microscope and body Canon 70D, ring flash, 69mm. MacroTube T, Canon 100mm. IS USM 2.8L. Keys and descriptions from Brailovsky (1985; 2016) and Cruces (2013) were used to identify the specimens.

RESEARCH AND DISCUSSION

Family Coreidae Leach, 1815

Subfamily Coreinae Leach, 1815

Tribe Coreini Leach, 1815

Anasa Amyot & Serville, 1843

Anasa fusca Stål, 1870

Material examined. Peru: Cusco region: Aguas Calientes, 24.01.2018, 2161 masl, 1♂, (leg. A. Dursun; det. H. Brailovsky).

Distribution in Peru: New record from Peru.

Distribution in Neotropic Region: Colombia, Surinam, Venezuela (Packauskas, 2010).

Host plant. Unknown.

Redescription of male: (Figure 1 a-h). Dorsal coloration (Figure 1a). Head yellowish brown with black pitting (Figure 1a, c). Length of head 1.5mm. Diatone 1.8mm. Rostrum brownish yellow reaching

middle coxa (Figure 1b). Antennae yellow with short yellowish hairs, distally and proximally of four antennal segment black. Lengths of antennae segments I-V (mm): 1.2, 2.0, 1.99, 1.7. (Figure 1d). Pronotum blackish brown, proximal corners of pronotum black (Figure 1c). Length of pronotum 2.8 mm. and pronotum width 5 mm.

Pronotum, scutellum and hemelytra with yellowish hairs. Membrane light brown. Connexivum blackish brown, distally and proximally yellow. Dorsum brownish yellow. Bucculae yellow with brown pitting. Pectus and abdominal ventral surface brown with black pitting (Figure 1b).

Peritreme of scent gland ostiole widened and oval apically, laterally corrugated with yellowish tubercle (Figure 1e). Legs yellow, distally of femur brown. Femur and tibia brownish pitting (Figure 1b). Pygophore yellow with black pitted and yellowish hairs, the ventral rim of pygophore shallow incised medially (Figure 1f). Blade of paramere slightly rounded dorsally, towards tip nearly straight (Figure 1 g, h). Total length 12.5 mm.

Tribe Nematopodini Amyot & Serville, 1843

***Piezogaster* Amyot & Serville, 1843**

***Piezogaster rubropictus* (Montandon, 1897) (Figure 2 a, b, c, d, e)**

Material examined. Peru: Cusco region: Aguas Calientes, 24.01.2018, 2161 masl. 4♀♀, 2♂♂ (leg. & det. A. Dursun).

Distribution in Peru: Pazuzu (As *Capaneus* (*Leptoxuthus*) *rubropictus*) (Blöte, 1938).

Distribution in Neotropic Region: Bolivia, Ecuador, Peru (Blöte, 1938; Packauskas, 2010).

Host plant: The specimens were collected on an unidentified Solanaceae species (Figure 2c).

This study contributed to knowledge of

the Peruvian Coreidae fauna. In particular, *Anasa fusca*, a species that causes significant damage to both wild plants and cultivated cucurbits, and is one of the most economically important species, has been recorded for the first time for Peruvian fauna. Thus, the number of Peruvian *Anasa* species has been increased to 15 species. In addition, according to records made by Staudinger in 1932, *Piezogaster rubropictus* species cited in Peru is the second record. *Piezogaster rubropictus* was cited by Blöte (1938) as *Capaneus (Leptoxuthus) rubropictus* in Pazuzu, Peru, but their are no records from any other peruvian locality.

ACKNOWLEDGEMENTS

We are grateful to Dr. Ian Butler (Instituto de Biología, Universidad Nacional Autónoma de México) for provided critical review of this manuscript.

REFERENCES

- Blöte, H. C., 1938, Catalogue of the Coreidae in the Rijksmuseum van Natuurlijke Historie. Part IV. Coreinae, third part. Zoologische Mededeelingen, (Leiden). 20: 275-308.
- Brailovsky, H. & Barrera, E., 1983, Descripción de dos nuevas especies sudamericanas de la tribu Nematopodini (Hemiptera-Heteroptera-Coreidae). Anales del Instituto de Biología de la Universidad Nacional Autónoma México, 54(1): 69-77.
- Brailovsky, H., 1985, Revisión del género *Anasa* Amyot-Serville (Hemiptera-Heteroptera-Coreidae-Coreinae-Coreini). Monografías del Instituto de Biología, Universidad Nacional Autónoma México 2: 1-266.
- Brailovsky, H., 2016, A new species of *Anasa* from Honduras (Hemiptera: Heteroptera: Coreidae). Entomologica Americana 122 (1-2), 31-36.
- Brailovsky, H., 2017, The genus *Anasa* from Ecuador with description of three new species and key to the Ecuadorian species (Hemiptera: Heteroptera: Coreidae). Acta Entomologica Musei Nationalis Pragae 57 (1): 61-71.

- Brailovsky, H. & Perez-Gelabert, D.E., 2019, A review of the Coreidae of Hispaniola (Hemiptera: Heteroptera), with description of one new species, new distributional records, and a key to the subfamilies, tribes, genera and species. *Zootaxa*, 4568 (2), 201–241. <https://doi.org/10.1646/zootaxa.4568.2.1>.
- Brailovsky, H. & Barrera, E., 2022, Redescription of Four Little-Known Genera and One New Genus of Coreidae (Hemiptera: Heteroptera) from South America. *Proc. Entomol. Soc. Wash.* 123 (4), 703–720.
- Cruces, L., 2013, Contribución al Conocimiento de la Tribu Coreini (Heteroptera: Coreidae) en Perú. Universidad Naciona Agraria La Molina Escuela De Post Grado Maestria En Entomología. Master thesis.
- Cruces, L. & Vergara, C., 2015, Distribución de las especies de ocho géneros de la Tribu Coreini (Heteroptera: Coreidae) en Perú. *Ecología Aplicada*, 14(1), 41–54.
- Dealy, B., 2000, A revision of the genus *Piezogaster* Amyot & Serville (Heteroptera: Coreidae: Nematopodini) and the description of two new species. Master's theses. Fort Hays State University. 125pp.
- Pluot-Sigwalt, D., & Moulet, P., 2022, Morphological types of spermatheca in Coreidae: bearing on intra-familial classification and tribal-groupings (Hemiptera: Heteroptera). *Zootaxa* 4834 (4): 451–501.
- Henry, T.J., 2017, *Biodiversity of Heteroptera*. In: Foottit RG, & Adler PH (Eds) *Insect Biodiversity*, Science and Society, Vol. I, Wiley-Blackwell, Oxford, 279–335.
- Juárez, G. & González, U., 2016, Nuevos Registros de la Tribu Nematopodini (Hemiptera: Heteroptera: Coreidae) para Peru. *Boletín de la Sociedad Entomológica Aragonesa*, 59: 204–206.
- Packauskas, R., 2010, Catalog of the Coreidae, or Leaf-footed Bugs, of the New World. *Fort Hays Studies*, Series 4, 5, 1–270.

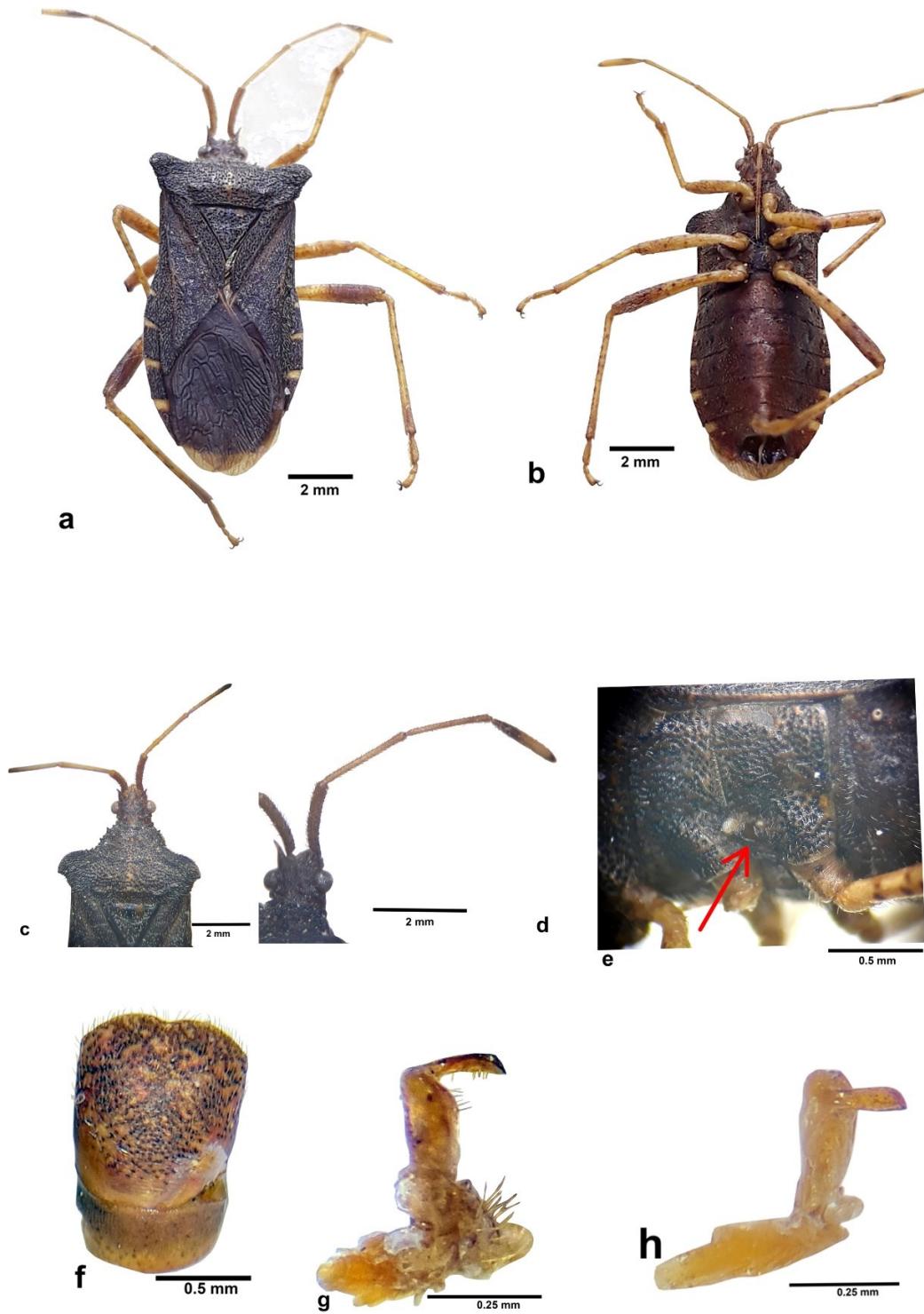


Figure 1. *Anasa fusca* Stål, 1870 (male). a) Dorsal view, b) Ventral view, c) Pronotum and scutellum, d) Antennae, e) Evaporatorium surface, f) Pygophore, g-h) Paramere.

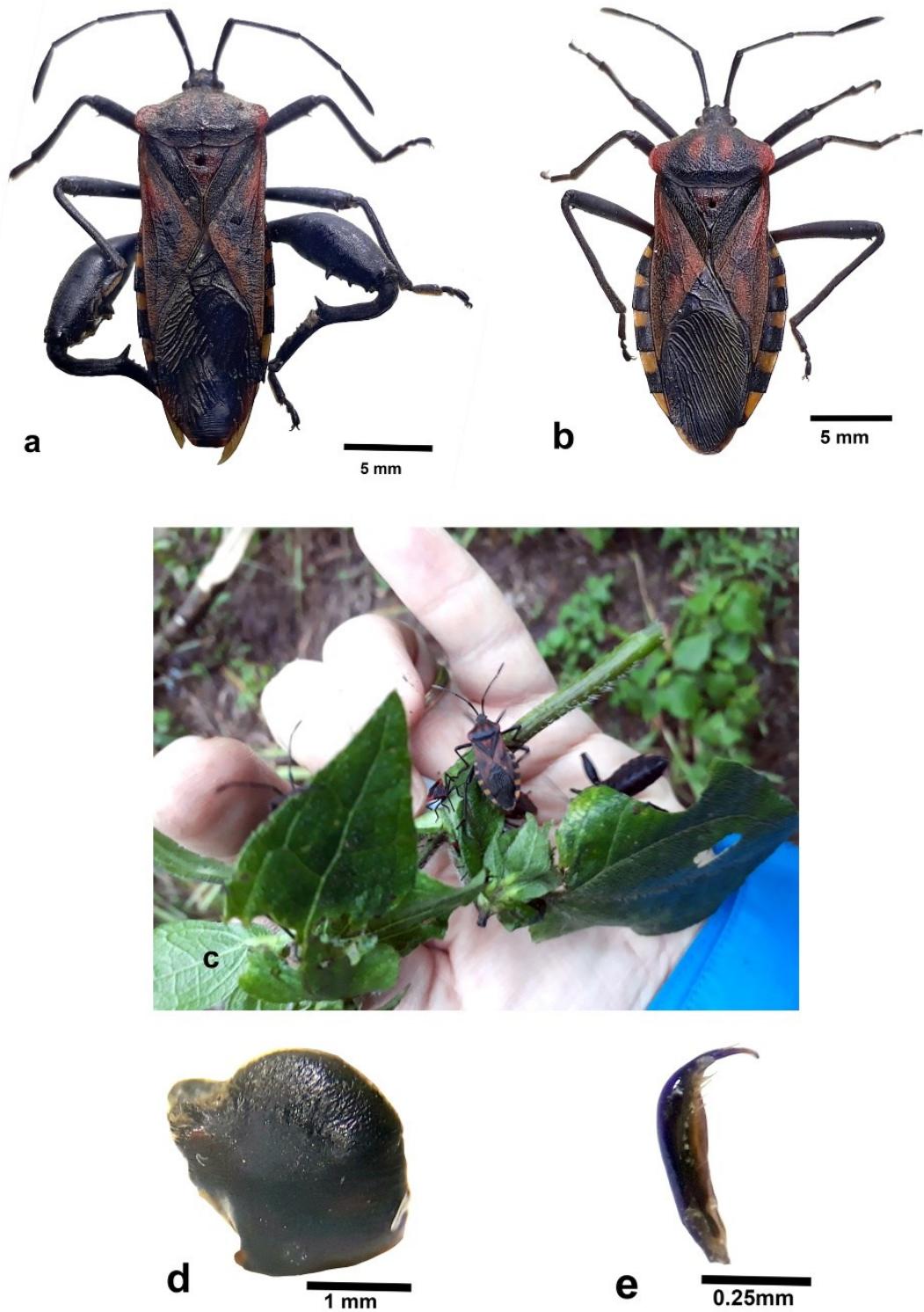


Figure 2. *Piezogaster rubropictus* (Montandon, 1897) a) Male (Dorsal view), b) Female (Dorsal view), c) Host plant, d) Pygophore (Lateral view), e) Paramere.

First records of *Leptoglossus occidentalis* Heidemann, 1910 (Hemiptera: Heteroptera: Coreidae) and *Zelus renardii* Kolenati, 1857 (Hemiptera: Heteroptera: Reduviidae) in Uzbekistan

Torsten van der Heyden

Immenweide 83, D-22523 Hamburg, Germany.
E-mail: tmvdh@web.de ORCID iD: 0000-0003-4138-7160

ABSTRACT: The first records of *Leptoglossus occidentalis* Heidemann, 1910 (Hemiptera: Heteroptera: Coreidae) and *Zelus renardii* Kolenati, 1857 (Hemiptera: Heteroptera: Reduviidae) for Uzbekistan are reported. Additional information on the distribution of both species, mainly in Europe, is summarised.

KEY WORDS: *Leptoglossus occidentalis*, *Zelus renardii*, invasive species, first records, distribution, Uzbekistan.

To cite this article: van der Heyden, T., 2023, First records of *Leptoglossus occidentalis* Heidemann, 1910 (Hemiptera: Heteroptera: Coreidae) and *Zelus renardii* Kolenati, 1857 (Hemiptera: Heteroptera: Reduviidae) in Uzbekistan, *J.Het.Turk.*, 5(1):7-9

DOI: 10.5281/zenodo.7986515

To link to this article: <https://www.j-hht.org/wp-content/uploads/2023/05/V51-A2.pdf>

Received: Feb 4, 2023; **Revised:** Feb 15, 2023; **Accepted:** Apr 4, 2023; **Published online:** May 31, 2023

The western conifer seed bug *Leptoglossus occidentalis* Heidemann, 1910 (Hemiptera: Heteroptera: Coreidae) and the leafhopper assassin bug *Zelus renardii* Kolenati, 1857 (Hemiptera: Heteroptera: Reduviidae), both species with a Nearctic origin, are invasive in other regions of the world. In Europe, *L. occidentalis* has colonised nearly all parts of the continent (van der Heyden, 2019), while *Z. renardii* can mainly be found in the Mediterranean Region (Kment & van der Heyden, 2022).



An Open Access article distributed under the Creative Commons 4.0 (CC BY NC SA) International License.

Now, both species can be reported for Uzbekistan in Central Asia:

On 24.10.2022, a single specimen of *Z. renardii* was found in Tashkent, the capital of Uzbekistan (Fig. 1). Photos of the specimen were uploaded to the online database iNaturalist by Bulat Khaydarov (Khaydarov, 2022a). The specimen was found on a kitchen table in a private household. The botanical garden of Tashkent had been visited two days before. Thus, the specimen might have been brought from there (Bulat Khaydarov, pers. comm.). It is also possible that the specimen had been introduced to Tashkent with imported fruits, e.g. grapes from the Mediterranean Region, as it had happened in other cases (van der Heyden, 2021), but no such fruits were bought by the family of Bulat Khaydarov (pers. comm.).

On 25.11.2022, a single specimen of *L. occidentalis* was found in Tashkent. Photos of the specimen were uploaded to the online database iNaturalist by Bulat Khaydarov (Khaydarov, 2022b). Five years ago, *L. occidentalis* was reported from Kazakhstan (Barclay & Nikolaeva, 2018).

It seems possible that *L. occidentalis* arrived in Uzbekistan from its neighbouring country in the north.

As *L. occidentalis* and *Z. renardii* have not been reported for Uzbekistan in scientific publications yet, the records reported in this note are the first ones of both species for this country.

ACKNOWLEDGEMENTS

I would like to thank Bulat Khaydarov for allowing me to use his photo of *Z. renardii* to illustrate this paper and for additional information about the findings reported here.

REFERENCES

- Barclay, M., Nikolaeva, S., 2018, Arrival in Kazakhstan of *Leptoglossus occidentalis* (Hemiptera: Heteroptera: Coreidae); a North American invasive species expands 2,500 kilometres to the east, *Klapalekiana*, 54: 1-3.
- Khaydarov, B., 2022a, Leafhopper Assassin Bug (*Zelus renardii*). Photographs to be found on iNaturalist [Online database]. Available from: <https://www.inaturalist.org/observations/139939592>. (Accessed: 04.02.2023).
- Khaydarov, B., 2022b, Western Conifer Seed Bug (*Leptoglossus occidentalis*). Photographs to be found on iNaturalist [Online database]. Available from: <https://www.inaturalist.org/observations/142887564>. (Accessed: 04.02.2023).
- Kment, P., van der Heyden, T., 2022, *Zelus renardii* (Hemiptera: Heteroptera: Reduviidae): first records from Croatia, Montenegro, and an accidental introduction to the Czech Republic, *Heteroptera Poloniae – Acta Faunistica*, 16: 7-14.
- van der Heyden, T., 2019, Summarized data on the European distribution of *Leptoglossus occidentalis* Heidemann (Hemiptera: Coreidae: Coreinae: Anisoscelini), *Revista Chilena de Entomología*, 45 (3): 499-502.
- van der Heyden, T., 2021, On the recent Northern European dispersion of *Zelus renardii* Kolenati (Hemiptera: Heteroptera: Reduviidae) via human activity, *Israel Journal of Entomology*, 51: 43-46.



Figure 1. Specimen of *Zelus renardii* Kolenati, 1857, Tashkent, Uzbekistan, 24.10.2022.
(Photo: Bulat Khaydarov).

Heteroptera (Hemiptera) fauna of Karaman with new records for Türkiye

Barış Çerçi^{1*} Özgür Koçak²

¹Faculty of Medicine, Hacettepe University, Ankara, Türkiye
E-mail: www.heteropteran99@gmail.com ORCID iD:0000-0002-7372-7812 (BÇ)
*corresponding author

²Cevre ve Şehircilik Müdürlüğü Başakşehir Mah. 2020 Sk. No:3, Karaman, Türkiye
E-mail: turkelebek@yahoo.com ORCID iD:0000-0001-8105-5713 (ÖK)

ABSTRACT: A list of 414 species belonging to 30 families of Heteroptera from Karaman, Türkiye is compiled, based on previous records in literature and new records from comprehensive field studies conducted in numerous localities between 2010 and 2021.

Among them 254 species are recorded from Karaman for the first time, *Adelphophylus pericarti* Matocq & Magnien, 2009, *Teratocoris antennatus* (Boheman, 1852) and *Dicyphus (Dicyphus) lindbergi* Wagner, 1951 (Miridae) constitute new records for the fauna of Türkiye. Additionally, 41 species are recorded for the first time, either from Central Anatolian or Mediterranean regions.

A chorotype analysis is done to illustrate the main elements of the Heteroptera fauna of Karaman province. This chorotype analysis revealed that Heteroptera fauna of Karaman is mainly composed of Mediterranean related species (32%, 128 spp.), followed by Middle Eastern related (16%, 66 spp.) and European related (15%, 62 spp.) species. The number of Anatolian endemic species is 25, four of which are endemic to Karaman. These findings indicate that the Heteroptera fauna of Karaman has remained mostly undiscovered until now and although present study is a major step forward in understanding the species diversity of this region, future studies are needed to uncover the true biodiversity of Karaman province.

KEY WORDS: Heteroptera, faunistic, new records, chorotype, Karaman, Türkiye.

To cite this article: Çerçi, B., Koçak, Ö., 2023, Heteroptera (Hemiptera) fauna of Karaman with new records for Türkiye, *J.Het.Turk.*, 5(1): 10-128

DOI: 10.5281/zenodo.7986562

To link to this article: <https://www.j-hht.org/wp-content/uploads/2023/05/V51-A3.pdf>

Received: Mar 16, 2023; **Revised:** Apr 20, 2023; **Accepted:** Apr 25, 2023; **Published online:** May 31, 2023



An Open Access article distributed under the Creative Commons 4.0 (CC BY NC SA) International License.

INTRODUCTION

The study of Heteroptera fauna of Türkiye dates back to the work of Horváth (1883) who lists 176 species of Heteroptera from environs of Bursa. In the following years, several other authors contributed to the knowledge of Heteroptera fauna of Türkiye. Hoberlandt (1956) reviewed all previous faunistic studies focused on the Heteroptera fauna of Türkiye and recorded and described many new species from Türkiye. Since then several comprehensive faunistic studies on the Heteroptera fauna of Türkiye were conducted by Seidenstücker (1958, 1960b, 1957b), Wagner (1959a, 1966), Linnavuori (1965), Önder (1976, 1980), Lodos & Önder (1978), Pehlivan (1981), Önder & Lodos (1983), Lodos et al. (1998, 1999) and Matocq et al. (2014). In addition, many minor faunistic studies have complemented the knowledge of the Heteroptera fauna of Türkiye which cumulatively reaches a total number of 1645 species of Heteroptera (unpublished data).

To our knowledge, only three papers and a book have been published so far which focus on the Heteroptera fauna of a single province of Türkiye and list all the Heteroptera species recorded from that province. Kiyak et al. (2004) recorded 36 species of Heteroptera from Nevşehir for the first time and reviewed several previous faunistic studies and listed a total of 191 species of Heteroptera from Nevşehir. Tezcan et al. (2010b) listed 4000 insect species recorded from İzmir province, based on some 550 publications scanned by the authors. They listed 517 species of Heteroptera from İzmir, but some of the species listed are now considered synonyms of other already listed species and several more Heteroptera species have been recorded from İzmir after the publication of that book. More recently, Kemal & Koçak (2018) listed 3072 pterygot insect species from Van province. Among them 157 species of Heteroptera were also listed. Like Tezcan et al. (2010b), this list also contains several synonymous taxa listed as valid

species. Finally, Çerçi & Özgen (2021) presented a checklist of Heteroptera species recorded from Elazığ which included 293 species.

The first record of a Heteroptera species from Karaman dates back to Önder (1980) who mentioned *Peirates hybridus* (Scopoli, 1763) from Ermene. Later, Lodos & Önder (1982) and Lodos & Önder (1983) recorded a few more species from Karaman. The major faunistic studies conducted by Lodos et al. (1998, 1999, 2003) recorded further 106 species from Karaman. Since these studies, records of Heteroptera species from Karaman were scattered in various faunistic papers. A comprehensive literature review revealed that the total number of Heteroptera species recorded from Karaman so far was 160.

Karaman province is located south of the Central Anatolian region. Its neighbours are Konya in the north and east, Mersin in the south and southeast and Antalya in the west. It is formed mainly of a plain of average 1.033 meters altitude. It extends over an area of 9.590 km². It is found in steppic climate zone and its yearly average temperature is 17.1°C and yearly average rainfall is 521 mm. Karaman harbours climatic and floral elements of both Mediterranean and Central Anatolian regions. It is bordered by Toros mountain chains in the south and Bolkar mountains in the east. Karadağ mountain rises from the middle of the Karaman plane and reaches to 2.300 m in altitude (Fig. 2A-B). South to Karadağ mountain, Hacıbaba mountain is located which is 2.400 m in height (Fig. 2C). Göksu river influences the climate and vegetation along the valleys it forms and Mediterranean climate reigns in these areas (Fig. 3C). Taşeli region, composed of Ermene (Fig. 3B), Sarveliler (Fig. 3A) and Başyayla (Fig. 3D) counties, is placed on Toros mountain chain. This region is dominated by large and dense forests and decorated by deep valleys and high hills (Fig. 4). Plateaus above 1500 m are common in this region and these are the areas where the biodiver-

sity is the richest. The only natural lake within the borders of Karaman provinces is the "Akgöl" lake. However, many artificial lakes are formed by Ermenek, Fisandon, Ayrancı and Yeşildere dam.

MATERIAL AND METHODS

The examined specimens were mainly collected by light trapping, pitfall trapping and sweeping of low grasses in 31 different localities between 2010 and 2021 (Table 1). The localities 2, 8, 11, 13, 14, 15, 17, 18, 19, 22, 23, 24, 27, 28, 29, 30, 31 are part of Central Anatolian ecoregion whereas localities 1, 3, 4, 5, 6, 7, 9, 10, 12, 16, 20, 21, 25, 26 are part of Mediterranean ecoregion. The collected specimens are preserved in the private collection of Türkiye. The photographs were taken with a Nikon D3200 DSLR camera combined with a macro bellow and a Lomo 3.7x 0.11 microscope lens. Chorotypes of species are assigned in accordance with the proposed names and distribution ranges by Vigna Taglianti et al. (1999). Chorotypes are determined based on the distributional data given for each species by Aukema (2022). Distributional data of each species are based on the first original citation of that species when the original paper is available, when not, it is based on Önder et al. (2006) or Fent et al. (2011), and repetitive records of a species from a province are not mentioned. As a result, references of this paper provide a comprehensive list of most of the faunistic studies on the Heteroptera fauna of Google Earth Pro (Google Inc., USA).

Table 1. Localities and their coordinates

No.	Locality	Coordinates
	Ağaçyurdu	36°57'56.64"N, 33°13'56.02"E
	Ağlönü	37°13'33.47"N, 33°22'19.18"E
	Bademli	36°55'47.37"N, 33° 8'23.91"E
	Balkusan	36°46'13.21"N, 32°53'14.95"E
	Başyayla	36°44'49.33"N, 32°40'39.29"E
	Bucaklısla	36°57'17.14"N, 33° 1'45.17"E
	Dağkonak	37° 1'0.03"N, 32°57'1.56"E
	Dereköy	37° 7'29.53"N, 33°16'14.68"E
	Ermenek	36°38'13.68"N, 32°53'29.47"E
	Evsin	36°35'7.84"N, 33° 6'7.67"E
	Gökçe	37° 2'50.62"N, 33°17'31.61"E
	Güneyyurt	36°40'23.16"N, 32°48'31.72"E
	Hacıbabası Dağı	37°11'34.30"N, 32°53'20.38"E
	Hamza Zindanı	37° 9'14.82"N, 33°12'28.71"E
	Karadağ	37°22'58.17"N, 33° 9'1.26"E
	Kazancı	36°29'31.29"N, 32°50'33.30"E
	Kazımkarabekir	37°13'39.94"N, 32°57'34.18"E
	Kılbasan	37°18'52.06"N, 33°11'18.19"E
	Küçükkoras	37° 6'16.55"N, 33°49'6.11"E

Table 1. Continued...

Lale	36°59'39.02"N, 33°18'5.86"E
Medreselik	36°56'16.64"N, 33°16'57.45"E
Merkez	37°11'22.56"N, 33°13'30.26"E
Morcalı	37° 4'14.35"N, 33° 6'23.76"E
Pınarbaşı	37° 5'31.77"N, 33° 3'14.47"E
Sarıveliler	36°35'55.58"N, 32°35'4.05"E
Sertavul Geçidi	36°55'7.31"N, 33°16'11.02"E
Seyithasan	37° 2'16.04"N, 33°13'18.23"E
Taşkale	37° 7'52.29"N, 33°36'44.33"E
Üçkuyu	37°25'29.08"N, 33° 7'4.95"E
Yeşildere	37°12'49.52"N, 33°30'21.03"E
Yollarbaşı	37°11'31.27"N, 33° 1'50.69"E

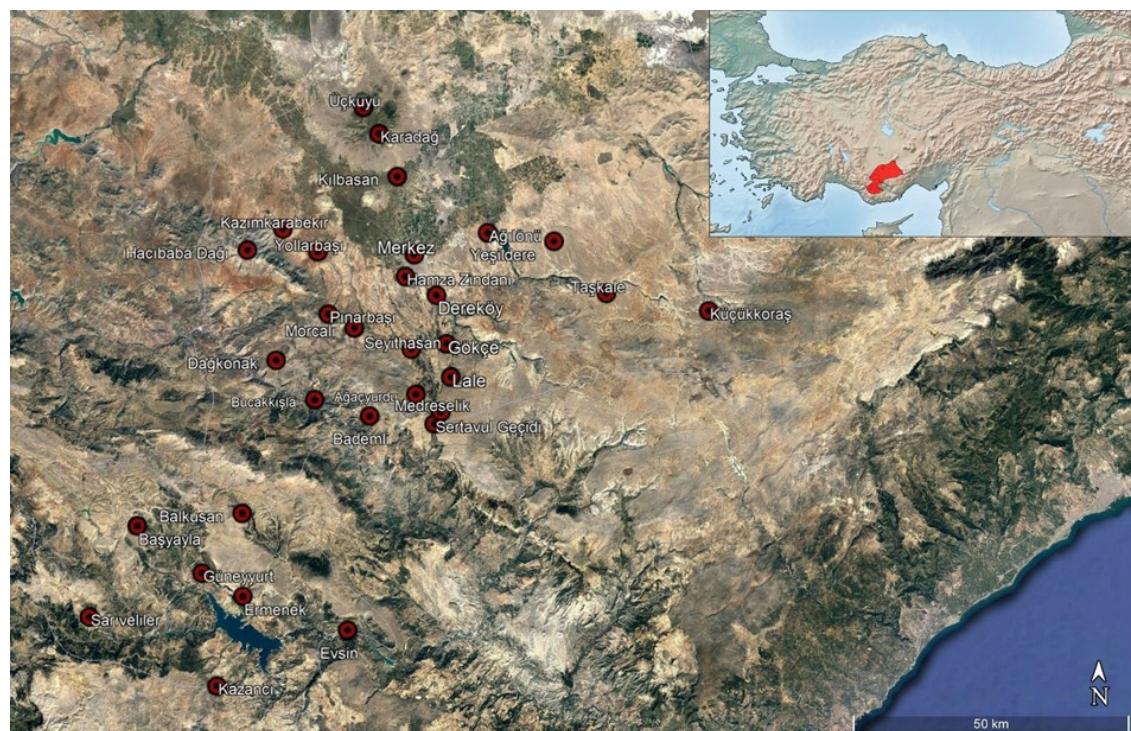
**Figure 1** – Localities on the map.



Figure 2A-C. **A-** Karaman plain seen from Karadağ mountain. **B-** A hill in Karadağ mountain. **C-** Karaman plain and Karadağ mountain seen from Hacıbaba mountain.



Figure 3A-D. **A-** a valley and river in Sarıveliler, **B-** Ermene, **C-** Göksu river, **D-** Başyayla.

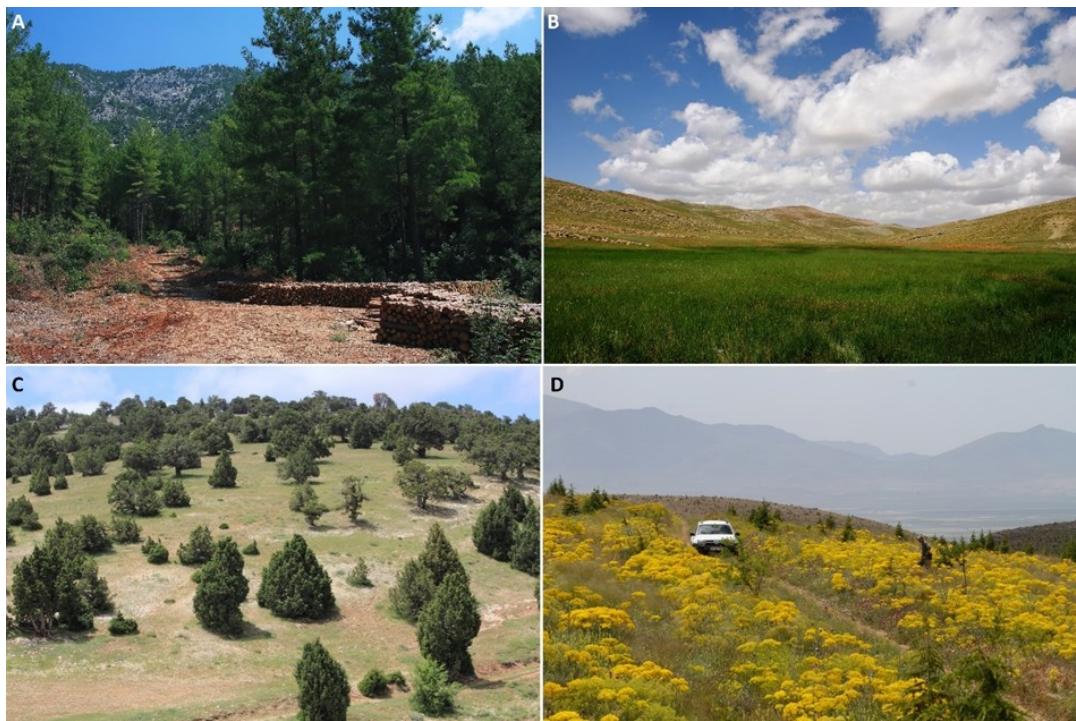


Figure 4A-D. **A-** Bucaklışa, **B-** Balkusan plateau, **C-** *Juniperus* sp. forest in Ayrancı, **D-** Akçaşehir, near Merkez, Karaman.

RESULTS

Below some selected species deserveing further comments are listed

Miridae Hahn, 1833

Bryocorinae Baerensprung, 1860

Dicyphus (Dicyphus) lindbergi Wagner, 1951 (Fig. 5E–G)

Material examined: Karaman, Bucaklışa, 30.06.2020 1♂ Ö. Koçak coll & B. Çerci det.

Comments: This species was originally described from Larnaca, Cyprus by Wagner (1951) and is also known from Lebanon, Palestine and Syria (Sanchez & Cassis 2018). It is associated with *Hyoscyamus albus* L. and *Hyoscyamus aureus* L. (Wagner 1951; Sanchez & Cassis 2018). After molecular analysis, Sanchez & Cassis (2018) found out that *Dicyphus (Dicyphus)* consists of two clades (A and B). Distinction of clades is also supported by the male genitalia. The clade A, consisting of *D. (D.) escalerae* Lindberg, 1934, *D. (D.) rubicundus* Blöte, 1929 and *D. (D.) boliviari* Lindberg, 1934, is characterized by the endosoma possessing fields of spinules and having no or small endosomal lobal sclerites. *D. (D.) lindbergi* also has the same type of male genitalia as the species of the clade A. Its male genitalia are especially similar to those of *D. (D.) boliviari* but differ from it by the apophysis of the left paramere being shorter and having fewer small endosomal lobal sclerites (Sanchez & Cassis 2018) (Fig. 5F–G). Also, *D. (D.) lindbergi* is the only species with this type of male genitalia present in the East Mediterranean. This species is recorded from Türkiye for the first time.

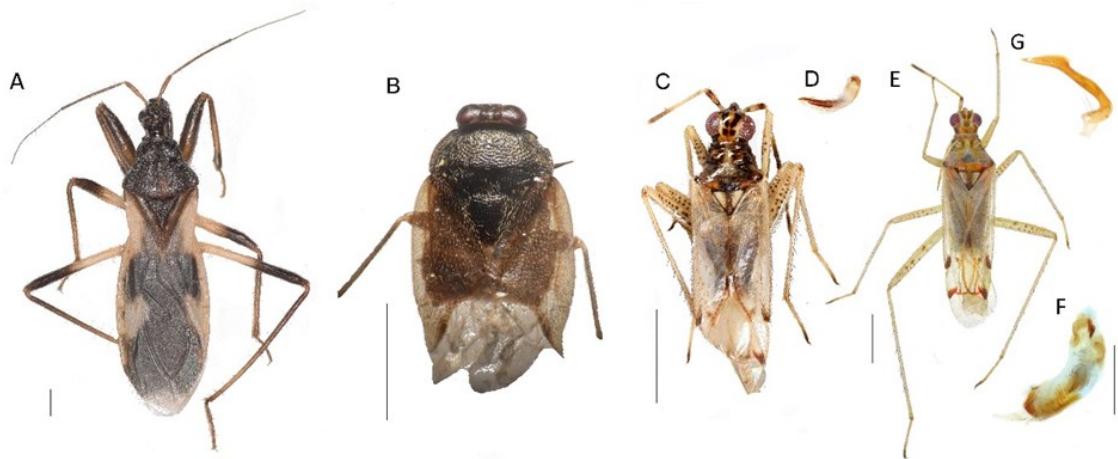


Figure 5A-G. **A.** *Reduvius ciliatus* Jakovlev, 1879 (Scale= 1 mm), **B.** *Isometopus (Isometopus) diversiceps* Linnauvuori, 1962 (Scale= 1 mm), **C.** *Dicyphus (Dicyphus) alkannae* Seidenstücker, 1956 (Scale= 1 mm), **D.** *idem*, aedeagus (Scale= 0,5 mm), **E.** *Dicyphus (Dicyphus) lindbergi* Wagner, 1951 (Scale= 1 mm), **F.** *idem*, aedeagus (Scale= 0,5 mm), **G.** *idem*, left paramere (same scale bar with F).

Mirinae Hahn, 1833

Adelphocoris insignis Horváth, 1898 (Fig. 6A-B)

Material examined: Karaman, Merkez, 23.06.2015 1♂; Pınarbaşı, 02.07.2015 1♂; Yolalarbaşı, 09.07.2015 9♂♂; Lale, 15.07.2016 3♂♂2♀♀; 29.07.2015 2♂♂; Hacıbaba Dağı, 30.06.2017 2♂♂ Ö. Koçak coll. & B. Çerçi det.

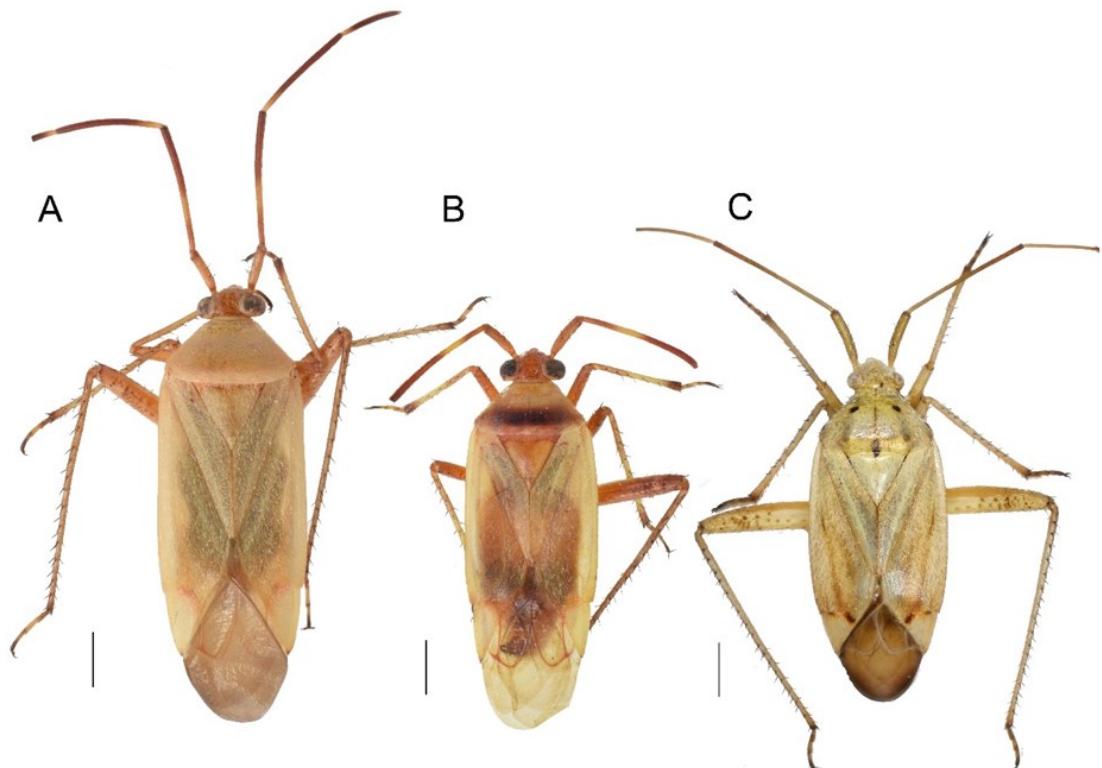


Figure 6A-C. **A.** *Adelphocoris insignis* Horváth, 1898 (Scale= 1 mm), **B.** *idem* (Scale= 1 mm), **C.** *Closterotomus kroesus* (Seidenstücker, 1977) (Scale= 1 mm).

Comments: This species is known from Bulgaria, Serbia, Iran and Türkiye (Kerzhner & Josifov 1999; Linnauvori 2009). It was mentioned from Türkiye without any locality by Wagner (1974a) and later reported only from Gökçeada and Bozcaada by Önder (1976). This species is very abundant in Karaman on various Fabaceae species and is attracted to light trap very often in large numbers. Wagner (1974a) described this species as having unicolorous pale pronotum and large body size of 8.6–9.5 mm. Though most of the specimens that we examined fit these criteria (Fig. 6A), some of the specimens bear more or less strong dark transverse band along the posterior half of the pronotum and a very unusual male specimen measures only 7 mm (Fig. 6B).

Teratocoris antennatus (Boheman, 1852) (Fig. 7C)

Material examined: Karaman, Dereköy, 17.07.2020 1♀ Ö. Koçak coll & B. Çerçi det.

Comments: This species is considered as a rare species in Europe. It feeds on different species of reeds and sedges on the banks of lakes or flooded grounds (Kelton 1966). It is a West Palaearctic species known from many of the European countries including Greece; in Asia it is known from Iran, Kazakhstan, Russia (East and West Siberia), Tadzhikistan and Turkmenistan (Kerzhner & Josifov 1999). It may be confused with some dark color forms of *Notostira* species known from Türkiye but can be readily distinguished by the shorter and apically rounded form of the head (Fig. 7C). This species is recorded from Türkiye for the first time.

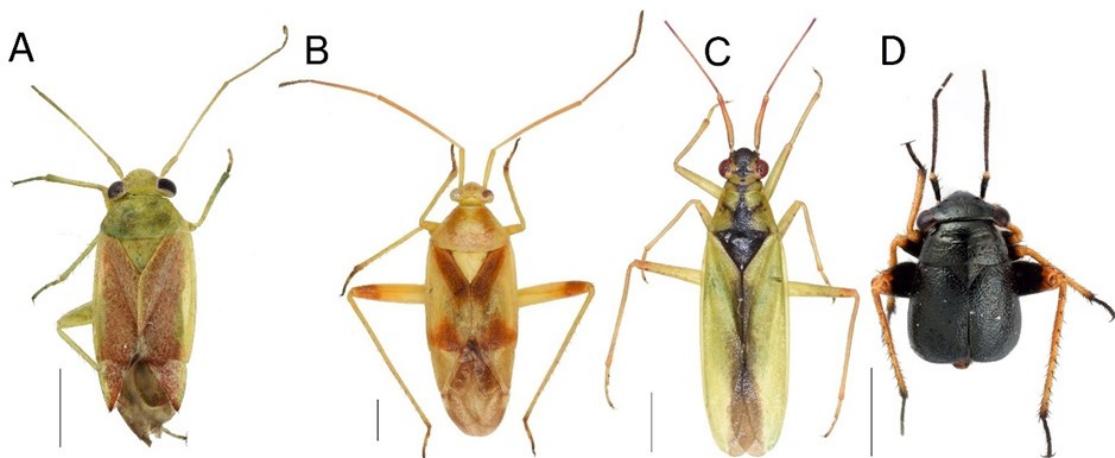


Figure. 7A–D. **A.** *Dichrooscytus tauricus* Seidenstücker, 1954 (Scale= 1 mm), **B.** *Lygocoris pernicooides* Seidenstücker, 1957 (Scale= 1 mm), **C.** *Teratocoris antennatus* (Boheman, 1852), **D.** *Barbarosia decalvata* (Seidenstücker, 1962) (Scale= 1 mm).

Phylinae Douglas & Scott, 1865

***Adelphophylus pericarti* Matocq & Magnien, 2009 (Fig. 8A–C)**

Material examined: Karaman, Sertavul Geçidi, 25.06.2019 4♂♂1♀ (on *Verbascum* sp.) Ö. Koçak coll. & B. Çerçi det.

Comments: This species was originally described from Greece and Bulgaria (Matocq & Magnien 2009). Very recently, a new species of this genus, *Adelphophylus oenderi*, was described from Silifke and Mut by Çerçi *et al.* (2019). This new species was distinguished from *A. pericarti* by the presence of a third process of the vesica and absence of hand like teeth around secondary gonopore (Çerçi *et al.* 2019) (Fig. 8D). After examination of all specimens of both species that we have, we observed that the shape of vesica of both species show a remarkable constancy (Fig. 8B–D). It is already known that different species of *Adelphophylus* can be collected from very

close localities in Balkans (Protić 2003). The finding of *Adelphophylus pericarti* from south of Anatolia shows that this species has a wider distribution than all the other Balkanian species which are restricted to mountains of Balkans (Protić 2003). This species is recorded from Türkiye for the first time.

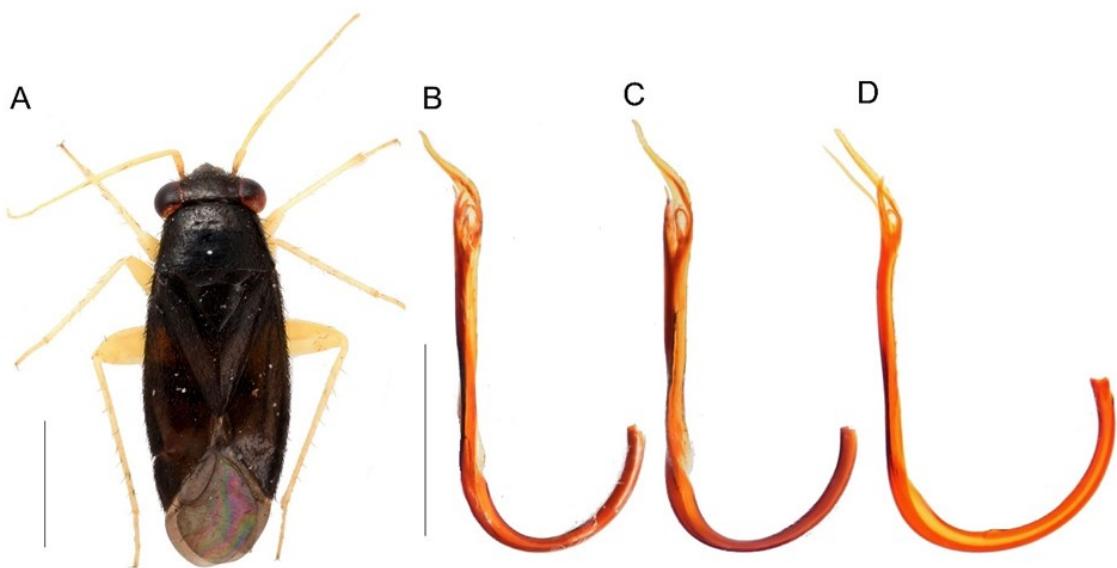


Figure 8A-D. **A.** *Adelphophylus pericarti* Matocq, 2009 (Scale 1 mm), **B-C.** *idem*, vesica from different views, **D.** *Adelphophylus oenderi* Çerçi, Koçak & Tezcan, 2019, vesica. (Scale= 0,5 mm).

HETEROPTERA (HEMIPTERA) SPECIES OF KARAMAN

The list of 414 Heteroptera species recorded from Karaman up to now is given below with localities of specimens collected during field studies, distribution of each species in Türkiye and chorotypes (Table 2). In total, 254 species are recorded from Karaman for the first time. Among them, 184 were already known from at least one of the three neighbouring provinces of Karaman and 39 were known from all three. Hence, 70 of the newly recorded species were not known from neighbouring provinces of Karaman. Among these species, 33 are recorded from Central Anatolian region for the first time and further eight species are recorded from Mediterranean region for the first time. Species which are marked with an asterisk (*) are first records for Karaman, those with two asterisks (**) are newly recorded from either Mediterranean or Central Anatolian regions and those with three asterisks (***) are recorded from Türkiye for the first time. Links to photographs of most of the examined species that are not illustrated in this article can be found in the following GBIF export: GBIF.org (15 February 2023) GBIF Occurrence Download <https://doi.org/10.15468/dl.uzhq7b>.

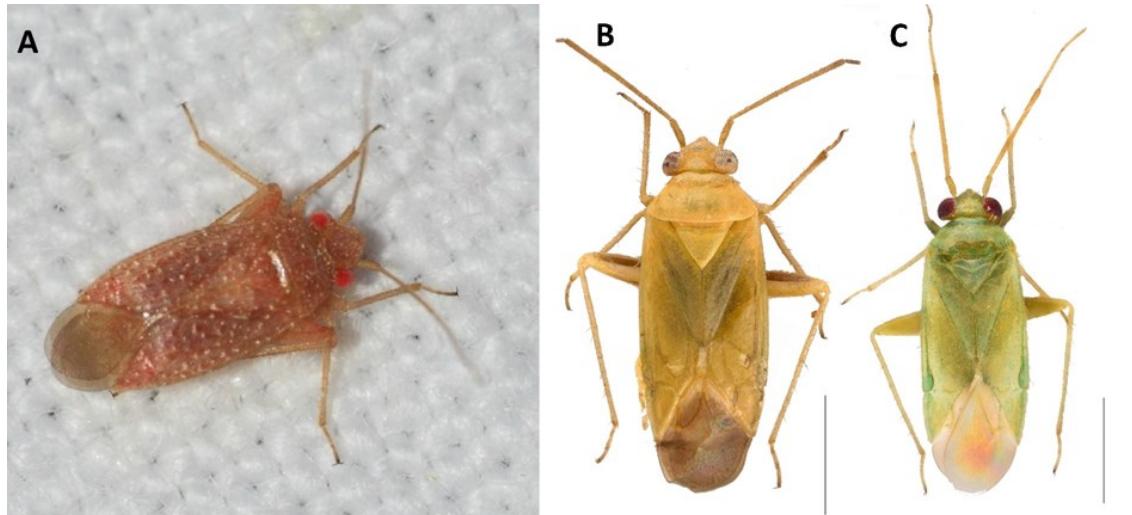


Figure 9A–C. **A.** *Orthotylus (Melanotrichus) rubidus* (Puton, 1874), **B.** *Orthotylus (Parapachylops) caprai* Wagner, 1955 (Scale= 1 mm), **C.** *Orthotylus (Parapachylops) hodiernus* Linnavuori, 1961 (Scale= 1 mm).

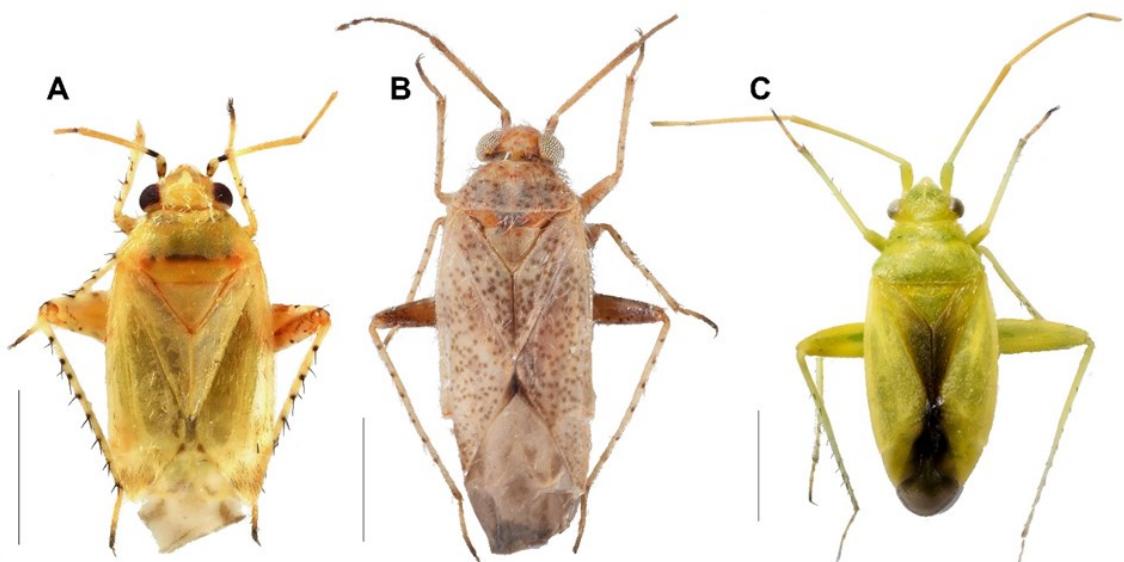


Figure 10A–C. **A.** *Badezorus signaticornis* (Reuter, 1904) (Scale= 1 mm), **B.** *Compsidolon (Apsinthophylus) absinthii* (Scott, 1870) (Scale= 1 mm), **C.** *Eurycolpus enslini* Seidenstücker, 1959 (Scale= 1 mm).

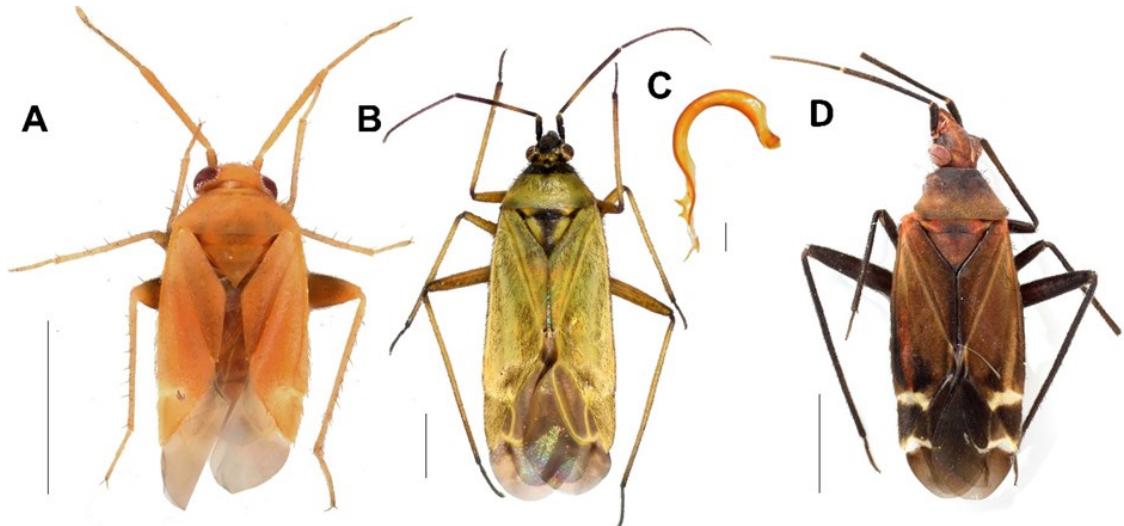


Figure 11A-D. **A.** *Juniperia rubescens* Linnauvori, 1965 (Scale= 1 mm), **B.** *Macrotylus (Macrotylus) antennalis* Horváth, 1906 (Scale= 1 mm), **C.** *idem*, vesica (Scale bar= 0,1 mm), **D.** *Macrotylus (Macrotylus) seidenstickeri* Wagner, 1954 (Scale= 1 mm).

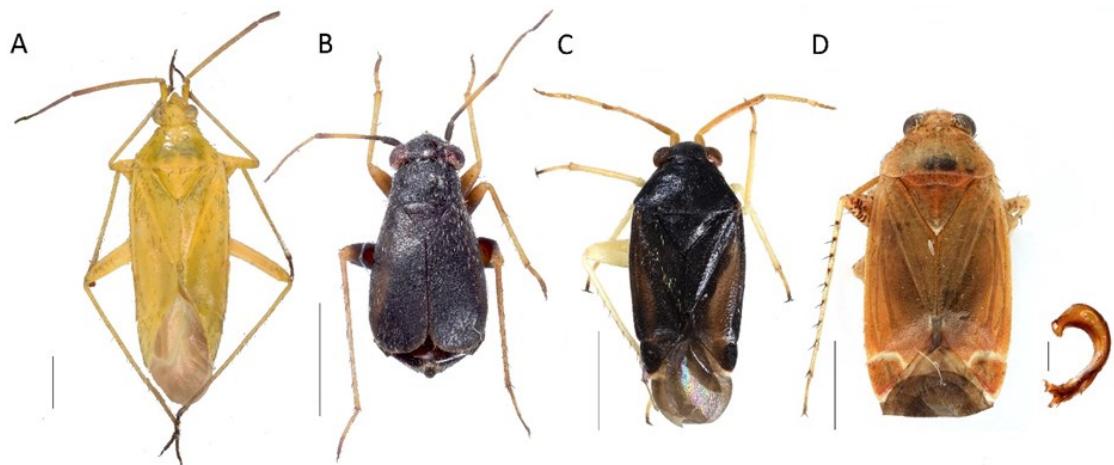


Fig. 12A-B. **A.** *Oncotylus (Oncotylus) nigdensis* Linnauvori, 1961 (Scale= 1 mm), **B.** *Orthocephalus humilis* Seidenstücke, 1970 (Scale= 1 mm), **C.** *Criocoris contrastus* Seidenstücke, 1970 (Scale= 1 mm), **D.** *Psallus (Psallus) rubinicterus* Seidenstücke, 1966 (Scale= 1 mm) and its vesica (Scale= 0,25 mm).

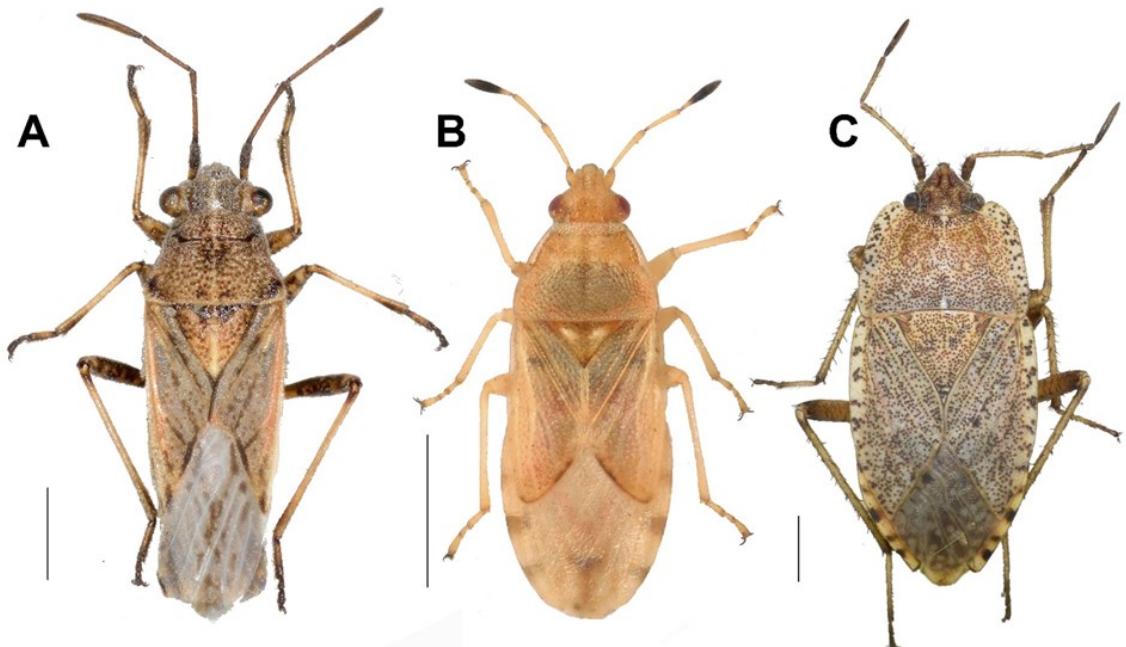


Fig. 13A–C. **A.** *Ortholomus carinatus* (Lindberg, 1932) (Scale= 1 mm), **B.** *Artheneis wagneri* Ribes, 1972 (Scale= 1 mm), **C.** *Emblethis karamanus* Seidenstücker, 1963 (Scale= 1 mm).

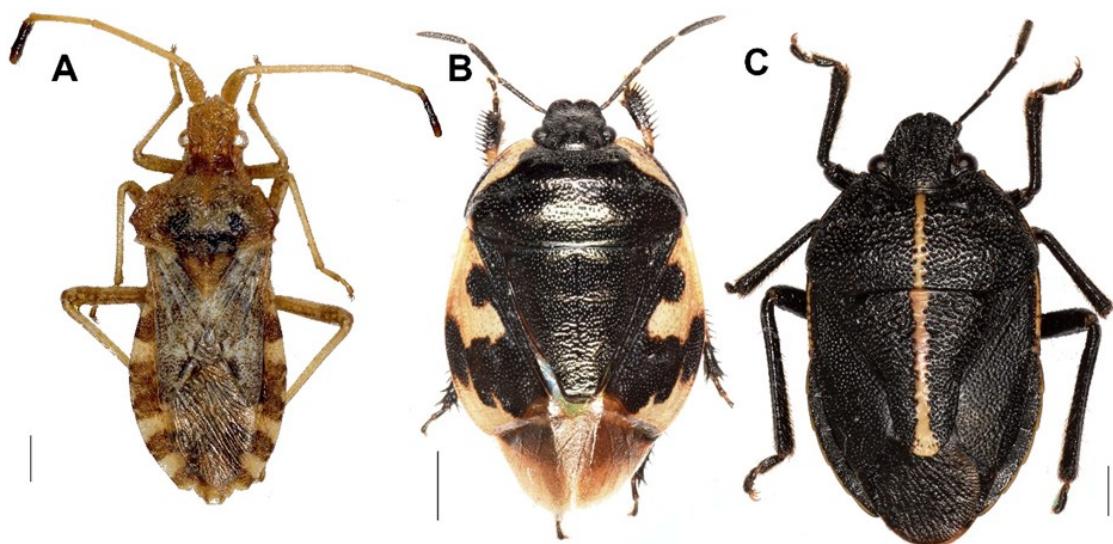


Fig. 14A–C. **A.** *Centrocoris volxemi* (Puton, 1878) (Scale= 1 mm), **B.** *Tritomegas delagrangei* (Puton, 1888) (Scale= 1 mm), **C.** *Agatharchus (Agatharchus) linea* (Klug, 1845) (Scale= 1 mm).

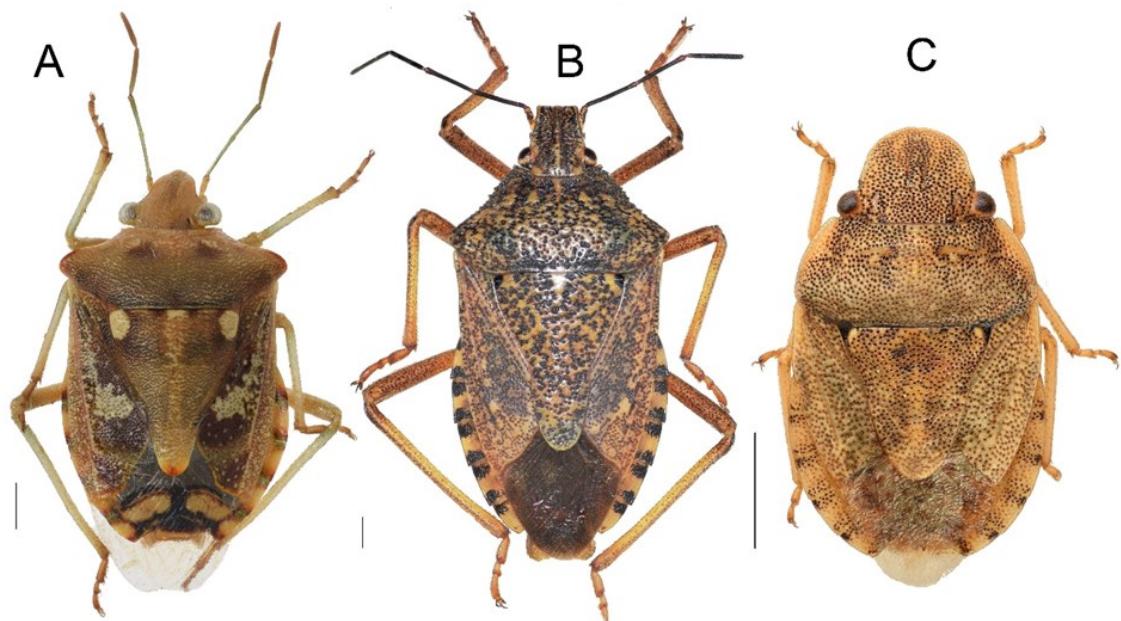


Fig. 15A–C. **A.** *Chroantha ornatula* (Herrich-Schäffer, 1842) (Scale= 1 mm), **B.** *Apodiphus integriceps* Horváth, 1888 (Scale= 1 mm), **C.** *Sciocoris (Neosciocoris) persimilis* Wagner, 1965 (Scale= 1 mm).

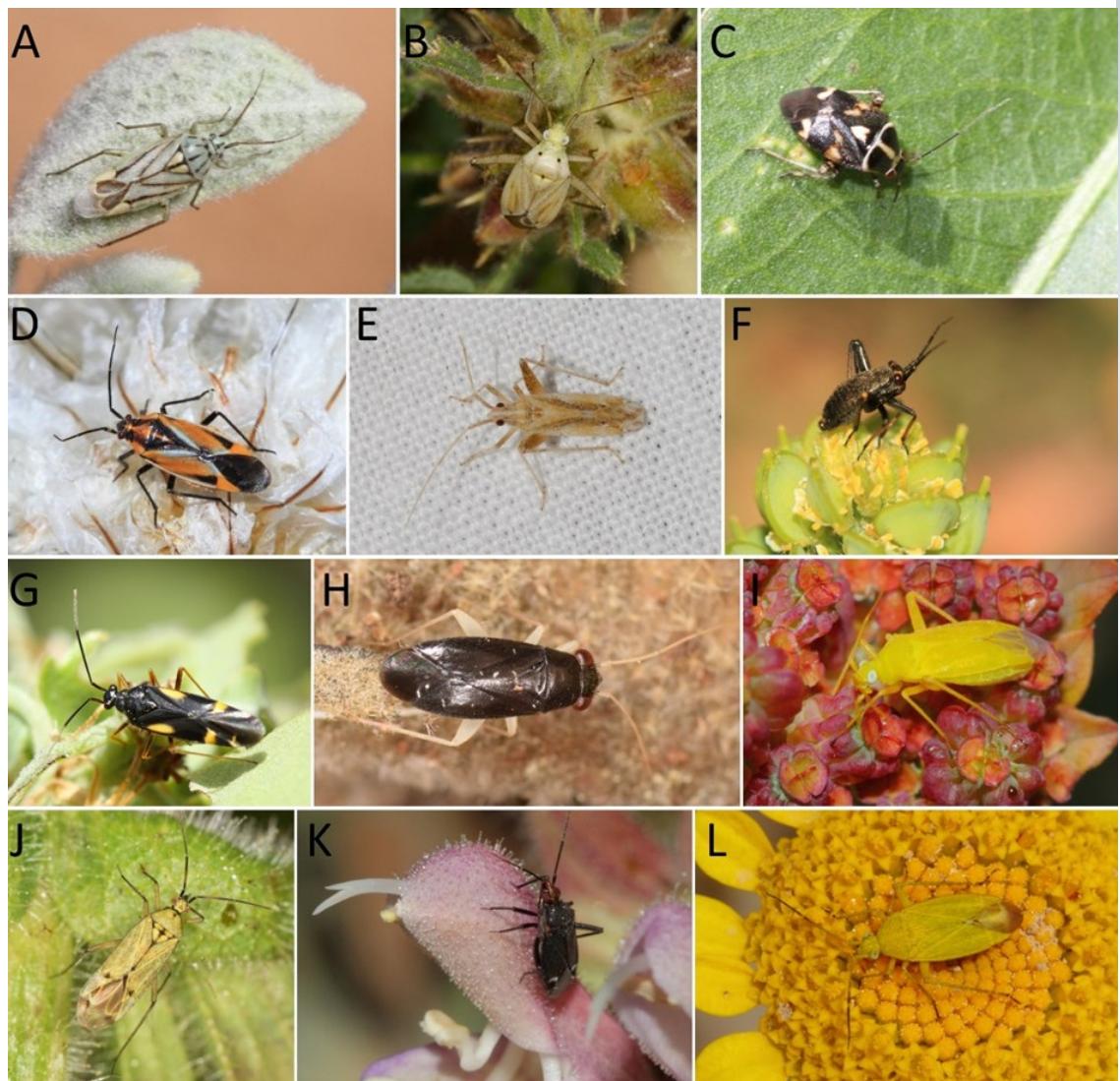


Fig. 16A-L. **A.** *Brachycoleus lineellus* Jakovlev, 1884, **B.** *Closterotomus kroesus* (Seidenstücker, 1877), **C.** *Cyphodema cilicica* Seidenstücker, 1954, **D.** *Horistus (Horistus) bimaculatus* (Jakovlev, 1884), **E.** *Phytocoris (Ktenocoris) raunoi* Kerzhner & Schuh, 1995, **F.** *Anapus dorsalis* (Reuter, 1890), **G.** *Dryophilocoris (Camarocyphus) persimilis* (Puton, 1895), **H.** *Adelphophylus pericarti* Matocq, 2009, **I.** *Eurycolpus aureolus* Seidenstücker, 1961, **J.** *Macrotylus (Macrotylus) antennalis* Horváth, 1906, **K.** *Macrotylus (Macrotylus) seidenstückeri* Wagner, 1954, **L.** *Oncotylus (Oncotylus) nigdensis* Linnnavuori, 1961.

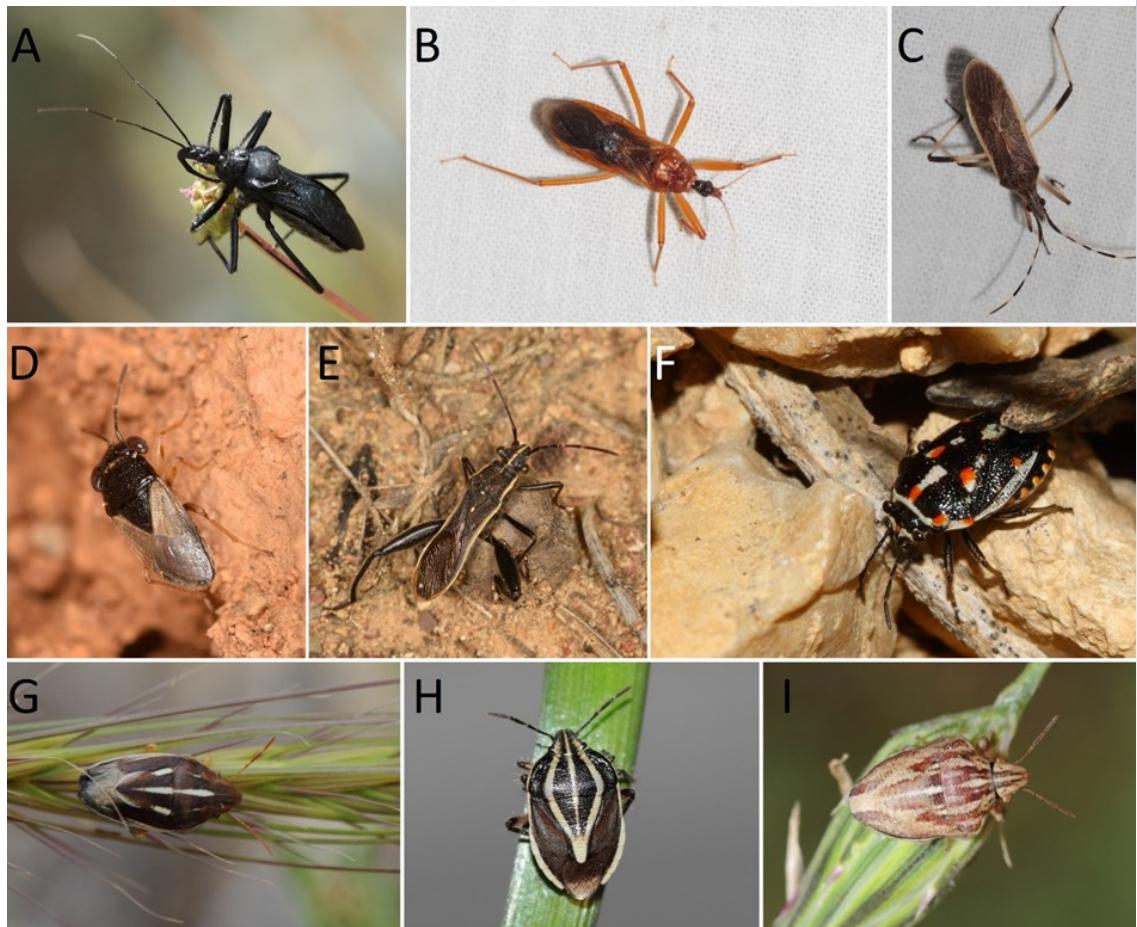


Fig. 17A-I. **A.** *Rhynocoris (Rhynocoris) ibericus* Kolenati, 1857, **B.** *Reduvius testaceus* (Herrich-Schaeffer, 1845), **C.** *Dicranocephalus marginatus* (Ferrari, 1874), **D.** *Geocoris (Geocoris) pubescens* (Jakovlev, 1871), **E.** *Camptopus tragacanthae* (Kolenati, 1845), **F.** *Bagrada funerea* Horváth, 1901, **G.** *Aelia albovittata* Fieber, 1868, **H.** *Rhombocoris regularis* (Herrich-Schäffer, 1851), **I.** *Odontoscelis rufescens* Fieber, 1861.

ANALYSIS OF HETEROPTERA FAUNA OF KARAMAN

Species recorded from Karaman belong to 30 families (Figure 18). Majority of them belong to families Miridae (42%, 172 spp.), Pentatomidae (13%, 54 spp.) and Rhyparochromidae (9%, 37 spp.).

We noticed that following families were underrepresented in the Heteroptera fauna of Karaman when compared to Turkish fauna: Aradidae (0,2% vs 1,1%), Gerridae (0,2% vs 0,6%), Notonectidae (0,2% vs 0,5%), Cydnidae (0,7% vs 2,6%), Corixidae (0,7% vs 1,9%), Berytidae (0,7% vs 1,5%), Saldidae (0,7% vs 1,1%), Nabidae (0,9% vs 1,5%), Veliidae (0% vs 0,7%), Blissidae

(0% vs 0,5%), Micronectidae (0% vs 0,4%) and Piesmatidae (0% vs 0,4%).

Underrepresentation of these families are probably due to methods that we primarily used to collect specimens, light trapping and sweeping netting, which are not suitable to collect aquatic and ground dwelling species.

Our analysis shows that the Heteroptera fauna of Karaman can be divided into 9 major categories of distribution patterns: Widespread (%25, 106 spp.), Mediterranean (21,5%, 89 spp.), European (15%, 62 spp.), Local (10%, 41 spp.), Turano-Mediterranean (9,5%, 39 spp.), Turanian

(8,5%, 35 spp.), Anatolian endemic (6%, (15%, 62 spp.) compared to Turanian 25 spp.), Europeo-Mediterranean (4%, 16 elements, it is considerably lower than spp.) and Alien (0,5%, 2 spp.)(Figure 19). that of the entire Turkish fauna (22%, When widespread species are omitted, it 371 spp., unpublished data) and similar is evident that the Mediterranean region to that of Mediterranean region (16%, 170 related Mediterranean, East-Medi- spp. unpublished data). Anatolian endemic terranean, Turano-and Mediterranean species constitute only 6% (25 spp.) of the chorotypes (41%, 128 spp.) are the most abundant chorotypes, followed by Middle Eastern related Southwest Asiatic, Anatolian of the entire Turkish fauna (7,5%, 122 endemic, Balkano-Anatolian, Caucaso- spp.) (Dursun & Fent 2017b; unpublished Anatolian chorotypes (22%, 66 spp.) and European, Sibero-European and Turano- European chorotypes (20%, 62 spp.). This analysis shows that the Mediterranean elements make up the major part (31%, 128 spp.) of the Heteroptera fauna of Karaman. Middle Eastern (16%, 66 spp.) and Turanian elements (8,5%, 35 spp.) are represented remarkably less compared to Mediterranean elements.

Although, European related elements constitute a substantially larger percentage

Çerçi, Koçak & Tezcan, 2019, *Orthotylus (Pinocapsus) kmenti* Çerçi & Koçak, 2021, Çerçi, 2022 (Miridae) and *Lasiacantha karamanensis* Çerçi & Koçak, 2021 (Tingidae).

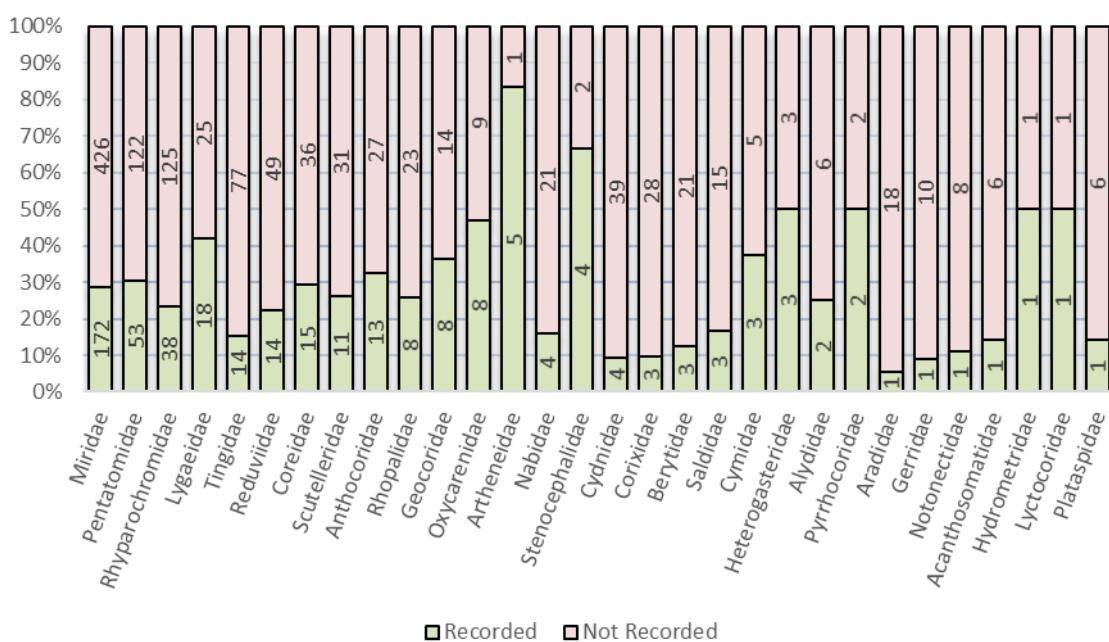


Figure 18. Number of species recorded from Karaman, sorted into families. Number of species known from Türkiye but not recorded from Karaman is also added for each family.

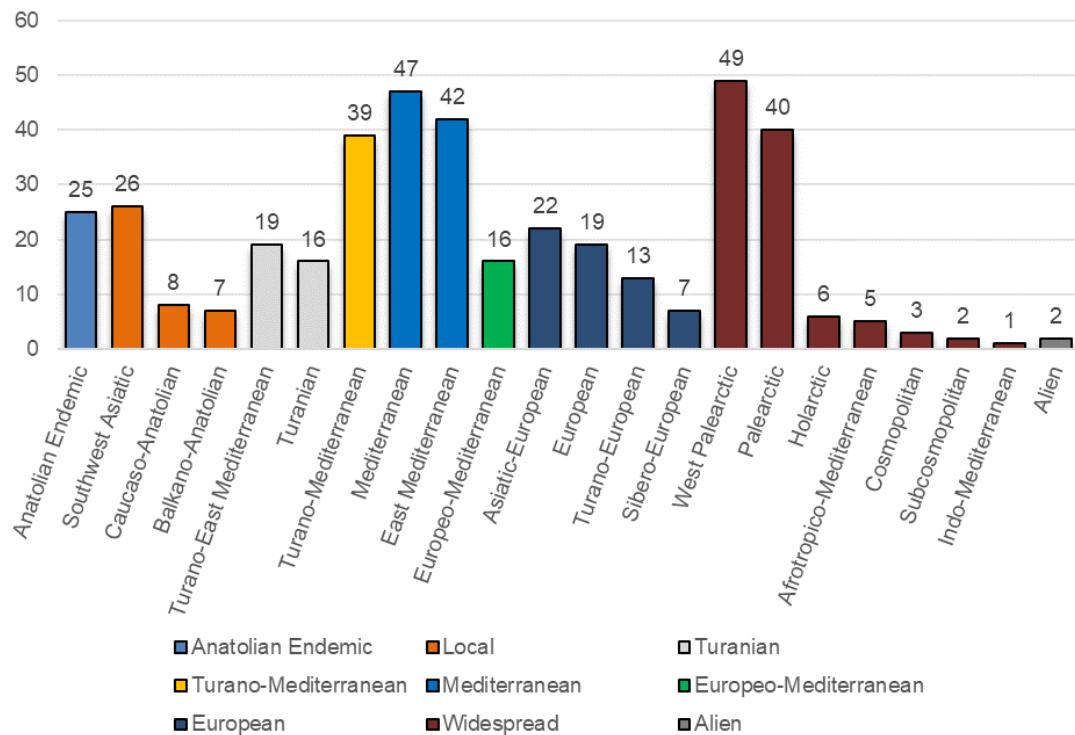


Figure 19. Distribution of species in chorotypes.

DISCUSSION

As a result of this study, a total of 414 species of Heteroptera are listed from Karaman. Among them, 254 species are recorded from Karaman for the first time and three species constitute new records for Türkiye. The high number of newly recorded species from Karaman is a result of lack of adequate studies in the past. We believe that even our study does not suffice to illustrate the real Heteroptera fauna of Karaman because there are still plenty of species that we could not find in our field researches even though they were already recorded from neighbouring provinces of Karaman (Antalya, Mersin and/or Konya). We also collected several species and a genus new for science which we did not include in this paper and plan to describe in the future. These findings strongly suggest that Karaman province possesses a species rich Heteroptera fauna which, even after this study, remains to be fully uncovered. The analysis of Heteroptera fauna of Karaman revealed that it was dominated by Mediterranean species.

Endemism among Heteroptera species of Karaman was slightly less (6%, 25 spp.) than the entire Heteroptera fauna of Türkiye (123 spp., 7,7%). We believe that this also is caused by lack of adequate research. Supporting this argument, four new species have been described from Karaman only in the last three years. All three species, newly recorded from Türkiye in this paper, have local distribution around Türkiye. Therefore, their discovery in Türkiye is not unexpected and add to the fact that our knowledge of Heteroptera fauna of Türkiye is far from being complete and needs further research.

ACKNOWLEDGEMENTS

We are thankful to Petr Kment (Prague, Czechia) for providing some of the literature sources which were not available to the authors, Attilio Carapezza (Palermo, Italy) for his help in the identification of some species, as well as for reviewing the manuscript and Ahmet Dursun (Amasya, Türkiye) for critical review of the manuscript.

REFERENCES

- Akman, N., Dursun, A., 2021, A study on the Coreoidea (Hemiptera: Heteroptera) fauna of Çorum Province, *Journal of the Heteroptera of Turkey*, 3: 157–170.
- Arslangündoğdu, A., Hızal, E., 2010, The western conifer seed bug, *Leptoglossus occidentalis* (Heidemann, 1910), recorded in Turkey (Heteroptera: Coreidae), *Zoology in the Middle East*, 50: 138–139.
- Atlıhan, R., Yardım, E.N., Özgökçe, M.S., Kaydan, M.B., 2003, Harmful Insects and Their Natural Enemies in Potato Fields in Van Province, *Tarım Bilimleri Dergisi*, 9: 291–295.
- Aukema, B., 2022, Catalogue of the Palaearctic Heteroptera,. Available from: https://catpalhet.linnaeus.naturalis.nl/linnaeus_ng/app/views/introduction/topic.php?id=9&epi=1 (July 11, 2022)
- Awad, I.T., Pehlivan, E., 2001, Systematic and faunistic study of the species of the tribe *Carpocorini* (Heteroptera: Pentatomidae: Pentatominae) in Turkey part I: *Holcogaster* Fb., *Staria* D. and *Cnephosa* Jak, *Turkish Journal of Entomology*, 25: 165–174.
- Awad, T.I., 2000, Türkiye *Carpocorini* (Heteroptera: Pentatomidae: Pentatominae) Türleri Üzerinde Sistematiske ve Faunistik Araştırmalar. Ph.D. dissertation, Ege University, İzmir.
- Awad, T.I., Önder, F., 1997, Contribution to the Study of Turkish Pyrrhocoridae (Heteroptera), *Turkish Journal of Entomology*, 21: 163–171.
- Awel, M.M., 1977, Türkiye'de bulunan önemli *Aelia* F. (Heteroptera: Pentatomidae) türlerinin taksonomik karakterleri ve bunlardan Ege Bölgesi'nde yaygın olarak bulunan *Aelia acuminata* L.'nın biyolojisi ve doğal düşmanları üzerinde araştırmalar. M.S. thesis, Ege University, İzmir.
- Aysal, T., Kivan, M., 2018, Tingidae (Hemiptera, Heteroptera) species and their distribution in Tekirdağ Province, *Tekirdağ Ziraat Fakültesi Dergisi*, 15: 1–8.
- Banbal, T., Fent, M., 2016, New Records of Gerromorpha and Nepomorpha (Hemiptera: Heteroptera) Fauna of Turkey, *Journal of the Entomological Research Society*, 18: 121–128.
- Belousova, E.N., 1999, Revision of Shield Bugs of the Genus *Agatharchus* Stål (Heteroptera, Pentatomidae), *Entomologicheskoe Obozrenie*, 75: 836–856.
- Beyaz, G., Tezcan, S., 2002, Studies on the determination of Heteroptera fauna on *Origanum* spp. (Lamiaceae), *Turkish Journal of Entomology*, 26: 3–10.
- Bolu, H., Özgen, İ., Fent, M., 2006, The Investigations on Almond Pentatomidae (Heteroptera) Fauna in Diyarbakır, Elazığ and Mardin Province, *Yüzüncü Yıl Üniversitesi, Ziraat Fakültesi, Tarım Bilimleri Dergisi*, 16: 25–28.
- Brown, E.S., Eralp, M., 1962, The distribution of the species of *Eurygaster* Lap. (Hemiptera, Scutelleridae) in Middle East countries, *Annals and Magazine of Natural History*, 13: 65–81.
- Çağatay, N., 1985a, Türkiye Oxycareninae (Heteroptera-Lygaeidae) alt familyasının taksonomisi ve erkek genital organının önemi üzerine çalışmalar, *Bitki Koruma Bülteni*, 25: 18–29.
- Çağatay, N., 1985b, Türkiye Rhyparochrominae (Heteroptera-Lygaeidae) alt familyasının taksonomisi ve erkek genital organının önemi üzerinde çalışmalar., *Bitki Koruma Bülteni*, 25: 73–92.
- Çağatay, N., 1987, Systematic studies on the subtribus Gonianotina (Het.: Lygaeidae) of Turkey. In: *Türkiye 1. Entomoloji Kongresi*, pp. 631–642.
- Çağatay, N., 1988a, Some Artheneinae from Turkey (Hemiptera: Lygaeidae), *Türkiye Entomoloji Dergisi*, 12: 201–208.
- Çağatay, N., 1988b, Studies on the taxonomy and morphology of male genitalia of Rhyparochromina from Turkey, *Doğa: Turkish Journal of Zoology*, 12: 1–23.
- Çağatay, N., 1989a, Geocorinae of Turkey (Insecta, Heteroptera, Lygaeidae), *Entomologische Abhandlungen, Staatliches Museum für Tierkunde Dresden*, 53: 27–36.
- Çağatay, N., 1989b, Systematical studies on the Heterogasterinae of Turkey (Heteroptera: Lygaeidae), *Turkish Journal of Entomology*, 13: 5–14.
- Çağatay, N., 1995, Lygaeinae of Turkey (Heteroptera, Lygaeidae), *Acta Entomologica Musei Nationalis Pragae*, 44: 167–179.
- Çakır, S., Önder, F., 1990, Türkiye Geocorinae (Heteroptera: Lygaeidae) altfamilyası

- üzerinde sistematik ve faunistik araştırmalar, *Türkiye Entomoloji Dergisi*, 14: 37–52.
- Çam, H., 1993, Some Studies on the Heteropterous species collected on Mahalep, Sweet and Sour Cherries Trees in Tokat and Surrounding Area, *Gaziosmanpaşa University Journal of Agriculture Faculty*, 10: 32–42.
- Canbay, A., Alaserhat, I., Tohma, Ö., 2014, Erzincan ve İğdır İlleri Domates Alanlarında Zararlı Tuta absoluta (Meyrick) (Lep.: Gelechiidae) ve Predatörlerinin Popülasyon Takibi, *Atatürk Üniversitesi Ziraat Fakültesi Dergisi*, 45: 79–97.
- Candan, S., Suludere, Z., Durak, D., 2005, Ultrastructure of the Eggs Chorion of *Ceraleptus obtusus* (Brulle, 1839) (Heteroptera: Coreidae), *Ohio Journal of Science*, 105: 138–141.
- Carapezza, A., Kerzhner, I.M., 2005, Species of the subgenus *Psacasta* s. str. (Heteroptera: Scutelleridae), *Zoosystematica Rossica*, 14: 55–60.
- Carapezza, A., Kment, P., 2018, *Psallus thomashenryi* sp. n. and *Psallus lucanicus* from Turkey (Hemiptera, Heteroptera, Miridae), *ZooKeys*, 796: 253–265. <https://doi.org/10.3897/ZOOKEYS.796.21536>
- Çerçi, B., 2022, A new species of *Plagiognathus* (Heteroptera: Miridae) associated with the locally endemic *Phlomis leucophracta* (Lamiaceae) from Karaman, Turkey, *European Journal of Taxonomy*, 806:148–160. <https://doi.org/10.5852/ejt.2022.806.1709>
- Çerçi, B., Gorczyca, J., Koçak, Ö., 2021a, Description of new Miridae and Tingidae species (Hemiptera: Heteroptera) and new records from southern Turkey, *Zootaxa*, 4949: 312–322. <https://doi.org/10.11646/zootaxa.4949.2.5>
- Çerçi, B., Gözüaçık, C., 2019, Contribution to Pentatomidea (Heteroptera) Fauna of İğdır and İstanbul with Three New Records for Turkish Fauna, *Journal of Heteroptera of Turkey*, 1: 33–40.
- Çerçi, B., Gültekin, N., Gözüaçık, C., Güdek -Güçlü, M., Doğan, D., 2022, Contributions to the Heteroptera (Hemiptera) fauna of Anatolia with new records for Turkey, *Journal of Insect Biodiversity*, 36: 1–35. <https://doi.org/10.12976/jib/2022.36.1.1>
- Çerçi, B., Karataş, A., Karataş, A., 2021b, Insecta non gratae: New Distribution Records of Eight Alien Bug (Hemiptera) Species in Turkey with Contributions of Citizen Science, *Zootaxa*, 5057: 1–28.
- Çerçi, B., Koçak, Ö., 2016, Contribution to the knowledge of Heteroptera (Hemiptera) fauna of Turkey, *Journal of Insect Biodiversity*, 4: 1–18. <https://doi.org/10.12976/jib/2016.4.15>
- Çerçi, B., Koçak, Ö., 2017a, Further contribution to the Heteroptera (Hemiptera) fauna of Turkey with a new synonymy, *Acta Biologica Turcica*, 30: 121–127.
- Çerçi, B., Koçak, Ö., 2017b, Six new Heteroptera (Hemiptera) species for the fauna of Turkey with a new synonymy, *Munis Entomology & Zoology*, 12: 532–538.
- Çerçi, B., Koçak, Ö., Tezcan, S., 2019, Two new species and ten new records of heteroptera from turkey, including the first record of the potential alien *Campylomma miyamotoi* in the western Palaearctic, *Acta Entomologica Musei Nationalis Pragae*, 59: 295–306. <https://doi.org/10.2478/aemnp-2019-0023>
- Çerçi, B., Özgen, İ., 2021, Contribution to the Knowledge of Heteroptera (Hemiptera) Fauna of Elazığ Province with a New Record for the Fauna of Turkey, *Journal of the Heteroptera of Turkey*, 3: 50–75.
- Çerçi, B., Özgen, İ., Dioli, P., 2018, Additional faunistic notes on Heteroptera (Hemiptera: Insecta) in East Anatolia (Turkey), *Journal of Entomology and Zoology Studies*, 6: 1225–1231.
- Çerçi, B., Özgen, İ., Tezcan, S., 2021c, Description of a new *Phytocoris* (*Compsocerocoris*) species (Heteroptera: Miridae) from southeastern Anatolia with a checklist of the *Phytocoris* species of Turkey, *Zoology in the Middle East*, 67: 321–331. <https://doi.org/10.1080/09397140.2021.1992834>
- Çerçi, B., Tezcan, S., 2021, New records of Heteroptera (Hemiptera) species from Turkey ,with the reconsideration of several previous records, *North-Western Journal of Zoology*, 17: 160–169.
- Çevik, T., 1996, Orta Anadolu Bölgesi ceviz ağaçlarında zararlı ve faydalı faunanın

- tespiti üzerinde araştırmalar, *Bitki Koruma Bülteni*, 36: 55–72.
- Chérot, F., 1997, Révision du genre *Horistus* Fieber, 1861 (Heteroptera: Miridae), *Bulletin et Annales de la Société Royale Belge d'Entomologie*, 133: 113–196.
- Derjanschi, V.V., Péricart, J., 2005, *Faune de France, 90. Hémiptères Pentatomoidae euro-méditerranéens 1. Généralités. Systématique: Première Partie*. Fédération Française des Sociétés de Sciences Naturelles, Paris, 494 pp.
- Doğanlar, M., Karsavuran, Y., Demirel, N., 2007, Taxonomic studies on *Coptosoma* (Laporte, 1832) species (Heteroptera: Plataspidae) from Turkey, *Journal of Entomology*, 4: 404–424.
- Drapolyuk, I.S., 1993, Review of the capsid bugs of the genus *Lepidargyrus* (Heteroptera: Miridae), *Zoosystematica Rossica*, 2:107–119.
- Dursun, A., 2009, Studies on the Alydidae, Rhopalidae and Stenocephalidae (Heteroptera: Coreoidea) species of the Kelkit Valley of Turkey, *Turkish Journal of Entomology*, 33: 205–215. <https://doi.org/10.16970/ted.95864>
- Dursun, A., 2011a, A Study on the Nabidae and Reduviidae (Hemiptera: Heteroptera) of the Kelkit Valley and Amasya, Turkey, *Acta Entomologica Serbica*, 16: 35–43.
- Dursun, A., 2011b, A study on the Nepomorpha (Hemiptera) species of some provinces of Anatolia, Turkey, with new records of *Anisops debilis perplexus* Poisson, 1929 and *Notonecta reuteri* Hungerford, 1928, *Turkish Journal of Entomology*, 35: 461–474. <https://doi.org/10.16970/ted.87212>
- Dursun, A., 2011c, Additional records of Coreidae (Hemiptera: Heteroptera) from Turkey, with checklist, *Entomological News*, 122: 135–148. <https://doi.org/10.3157/021.122.0205>
- Dursun, A., 2012, Additional records of Gerromorpha (Hemiptera: Heteroptera) and redescription of *Rhagovelia nigricans nigricans* (Burmeister, 1835) from Anatolia (Turkey), *Turkish Journal of Zoology*, 36: 652–661. <https://doi.org/10.3906/zoo-1107-12>
- Dursun, A., Fent, M., 2009, A study on the Coreidae (Insecta: Heteroptera) of the Kelkit valley, Turkey, *Acta Entomologica Serbica*, 14: 13–25.
- Dursun, A., Fent, M., 2010, Systematische und faunistische Untersuchungen über die Überfamilie Pentatomoidea (Insecta, Heteroptera) aus dem Kelkit-Tal der Türkei, *Linzer biologische Beiträge*, 42: 587–598.
- Dursun, A., Fent, M., 2011a, A study on the Sciocorini Amyot & Serville, 1843 and Strachiini Mulsant & Rey, 1866 (Hemiptera: Pentatomidae: Pentatominae) faunas of the Kelkit Valley (Turkey), *Turkish Bulletin of Entomology*, 1: 181–188.
- Dursun, A., Fent, M., 2011b, Additional records on the Halyini, Carporocorini, Aeliini and Eysarcorini (Hemiptera: Pentatomidae: Pentatominae) of the Kelkit Valley, Turkey, *Biharean Biologist*, 5: 151–156.
- Dursun, A., Fent, M., 2013, Overview of the subgenus *Ventocoris* s. str. (Hemiptera: Heteroptera: Pentatomidae) with new records and a revised key to the *Ventocoris* species of Turkey, *Zootaxa*, 3682: 151–177. <https://doi.org/10.11646/zootaxa.3682.1.8>
- Dursun, A., Fent, M., 2015, Notes on some little known species of heteroptera from Turkey with new records for the fauna of Europe and the Turkish Thrace, *North-Western Journal of Zoology*, 11: 92–96.
- Dursun, A., Fent, M., 2016, Beiträge zur Lygaeidae-Fauna (Hemiptera: Heteroptera) des Westlichen Schwarzmeer-Gebietes in der Türkei, *Heteropteron*, 47: 30–36.
- Dursun, A., Fent, M., 2017a, Annotated checklist of Tingidae (Hemiptera: Heteroptera) in Turkey with new records for the faunas of Europe and Turkish thrace, *Zootaxa*, 4347: 465–491. <https://doi.org/10.11646/zootaxa.4347.3.3>
- Dursun, A., Fent, M., 2017b, Type localities of Heteroptera (Insecta: Hemiptera) from Turkey, *Zootaxa*, 4227: 451–494. <https://doi.org/10.11646/zootaxa.4227.4.1>
- Dursun, A., Fent, M., 2018, Contributions to Nepomorpha (Insecta: Hemiptera: Heteroptera) fauna in wetland areas, *Acta Biologica Turcica*, 31: 193–202.
- Dursun, A., Fent, M., 2019, Contributions of the Infraorders Gerromorpha and Leptopodomorpha (Insecta: Hemiptera: Heteroptera) Fauna Amasya's Wetlands

- of Turkey, *Entomofauna*, 40: 443–452.
- Dursun, A., Kaçar, G., Ulusoy, M.R., 2010, The Alydidae (Hemiptera: Heteroptera: Coreoidea) of Turkey: A Key To The Genera, New Records And A Species Checklist, *Entomological News*, 121: 487–497.
- Dursun, A., Kartal, V., 2008a, A faunistic study on the Carpcocorini Stål, 1876 (Heteroptera: Pentatomidae: Pentatominae) species of the Middle Black Sea Region of Turkey, *Turkish Journal of Entomology*, 32: 43–59.
- Dursun, A., Kartal, V., 2008b, A faunistic study on the Halyini Amyot & Serville, 1843, Sciocorini Amyot & Serville, 1843, Aeliini Douglas & Scott, 1865 and Eysarcorini Mulsant & Rey, 1866 (Heteroptera: Pentatomidae: Pentatominae) species of the Middle Black Sea Region of Turkey, *Turkish Journal of Entomology*, 32: 303–315.
- Dursun, A., Kartal, V., 2008c, A faunistic study on the Strachiini Mulsant & Rey, 1866, Pentatomini Leach, 1815 and Piezodorini Atkinson, 1888 (Heteroptera: Pentatomidae: Pentatominae) species of the Middle Black Sea Region of Turkey, *Turkish Journal of Entomology*, 32: 225–239. <https://doi.org/10.16970/ted.43935>
- Dursun, A., Salur, A., 2013, Presence of *Sphedanolestes sanguineus* (Fabricius, 1794) in Turkey, followed by an annotated checklist of Reduviidae (Hemiptera: Heteroptera), *Turkish Journal of Zoology*, 37: 610–620. <https://doi.org/10.3906/zoo-1203-17>
- Dursun, G., 2016, Balıkesir kent ormanı ve BAUN Çağış Yerleşkesindeki Heteroptera (Hemiptera) faunasının kışlak tuzaklarla belirlenmesi üzerinde araştırmalar. M.S. thesis, Balıkesir University, Balıkesir.
- Erbay, H., 1986, Türkiye Nabidae (Heteroptera) faunası üzerinde sistematik çalışmalar. M.S. thesis, Ege University, İzmir.
- Escherich, K., 1897, Beitrag zur Hemipterenfauna Kleinasiens, *Entomologische Nachrichten*, 23: 124–127.
- Fahringer, J., 1922, Eine Rhynchotenausbeute aus der Türkei, Kleinasiens und den benachharten Gebieten, *Konowia*, 1: 137–144.
- Fent, M., 2010, Contributions to Pentatomoidea (Heteroptera) Fauna of Western Black Sea Region with a New Record for Anatolian Fauna: *Neottiglossa lineolata* (Mulsant & Rey, 1852), *Journal of Entomological Research Society*, 12: 53–65.
- Fent, M., 2011, Gökçeada Ve Bozcaada Heteroptera (Insecta: Hemiptera) Faunasına Katkilar, *Trakya University Journal of Science*, 12: 35–46.
- Fent, M., Aktaç, N., 1999, Edirne Yöresi Pentatomidae (Heteroptera) Faunası Üzerine Taksonomik ve Faunistik Araştırmalar, *Turkish Journal of Zoology*, 23: 377–395.
- Fent, M., Aktaç, N., 2007, New records of Pentatomoidea (Heteroptera) for the fauna of Europe, Turkey, and the Turkish Thrace, *Entomological News*, 118: 336–349. [https://doi.org/10.3157/0013-872X\(2007\)118\[336:NROPHF\]2.0.CO;2](https://doi.org/10.3157/0013-872X(2007)118[336:NROPHF]2.0.CO;2)
- Fent, M., Aktaç, N., 2008, Anmerkungen zu einigen im Adultstadium überwinternden Heteropteren und ihren Überwinterungsplätzen in der (Türkischen) Provinz Edirne, *Heteropteron*, 28: 11–15.
- Fent, M., Aktaç, N., 2009, Contributions to the fauna of Acanthosomatidae, Thyreocoridae, Cydnidae, Plataspidae, Scutelleridae (Pentatomoidea: Heteroptera) from Turkish Thrace, *Turkish journal of entomology*, 33: 193–204. <https://doi.org/10.16970/ted.32175>
- Fent, M., Bolu, H., Kiyak, S., 2022, Heteroptera (Hemiptera) Species Collected by Light Trap in Diyarbakır (Türkiye), *Journal of the Heteroptera of Turkey*, 4: 141–165.
- Fent, M., Dursun, A., 2019, Contributions to Coreoidea (Hemiptera: Heteroptera) fauna of Western Black Sea Region, *Munis Entomology & Zoology*, 14: 217–223.
- Fent, M., Dursun, A., 2022, An Up-to-date Checklist of Turkish Pentatomidae (Hemiptera: Heteroptera) with Additional Records, *Trakya University Journal of Natural Sciences*, 23: 65–111. <https://doi.org/10.23902/trkjnat.1123152>
- Fent, M., Dursun, A., Karsavuran, Y., Tezcan, S., Demirözer, O., 2010, A review of the tribe Halyini in Turkey (Hemiptera: Heteroptera: Pentatomidae) with two new records: *Apodiphus integriceps* and *Mustha vicina*, *Journal of the*

- Entomological Research Society*, 12: 1–13.
- Fent, M., Japoshvili, G., 2012, Heteroptera (Hemiptera) Fauna of Isparta-Gölcük Natural Park with some rare and peculiar species and new records for Mediterranean Region of Turkey, *Turkish Journal of Entomology*, 2: 149–163.
- Fent, M., Kment, P., 2011, First record of the invasive western conifer seed bug *Leptoglossus occidentalis* (Heteroptera: Coreidae) in Turkey, *North-Western Journal of Zoology*, 7: 72–80.
- Fent, M., Kment, P., Çamur-Elipek, B., Kırızı, T., 2011, Annotated catalogue of Enicocephalomorpha, Dipsocoromorpha, Nepomorpha, Gerromorpha, and Leptopodomorpha (Hemiptera: Heteroptera) of Turkey, with new records, *Zootaxa*, 2856: 1–84.
- Fent, M., Okyar, Z., 2022, Heteroptera (Hemiptera) species visiting *Verbascum densiflorum* Bertol. in Edirne (Türkiye), *Journal of the Heteroptera of Turkey*, 4: 169–183.
- Fieber, X., 1868, Die europäischen Aelia-Arten, *Verhandlungen der Zoologisch-Botanischen Gesellschaft in Wien*, 18: 465–478.
- Gadeau de Kerville, H., 1939, *Voyage zoologique d'Henri Gadeau de Kerville en Asie-Mineure (Avril-Mai 1912). Tome I, Par. 1*. Paul le Chevalier, Paris, 117–123 pp.
- Gapon, D., 2018, Morphology of male and female terminalia and taxonomic revision of the burrower bugs genus *Canthophorus* (Heteroptera: Cydnidae), *Annales de la Société entomologique de France* (N.S.), 54: 183–228.
- Gençer, S.N., Kovancı, B.O., Kovancı, B., Akgül, C.H., 2004, Heteroptera species found in strawberry fields in Bursa province of Turkey, *Turkish Journal of Entomology*, 28: 69–80.
- Gerini, V., 1971, Contributo alla Conoscenza della Entomofauna Nociva della Turchia, *Rivista di Agricoltura Subtropicale e tropicale*, 65: 1–48.
- Ghauri, M.S.K., 1977, A Revision of *Apodiphus Spinola* (Heteroptera: Pentatomidae), *Bulletin of Entomological Research*, 67: 97–106.
- Giray, H., 1980, Ege Bölgesinde Anason (Pimpinella anisum L.) zararlı böceklerine ait liste, *Türkiye Bitki Koruma Dergisi*, 4: 49–57.
- Gözüaçık, C., Fent, M., 2012, The investigations on fauna of Scutelleridae (Hemiptera) family in Southeastern Anatolia Region, *Bitki Koruma Bülteni*, 52: 313–323.
- Gözüaçık, C., Fent, M., Özgen, İ., 2011, Contribution to the knowledge of Pentatomidae (Hemiptera: Heteroptera) Fauna of Southeastern Anatolia Region of Turkey, *Turkish Bulletin of Entomology*, 1: 235–252.
- Heiss, E., Önder, F., 1991, On the Aradidae fauna of Turkey (Heteroptera), *Turkish Journal of Entomology*, 15: 65–70.
- Heiss, E., Péricart, J., 2007, *Hémiptères Aradidae, Piesmatidae et Dipsocoromorphes Euro-méditerranéens*. Fédération Faune de France. Française des Sociétés de Sciences Naturelles, Paris, 509 pp.
- Hızal, E., İnan, M., 2012, *Leptoglossus occidentalis* (Heidemann, 1910) is an invasive insect species, *Bartın Orman Fakültesi Dergisi*, 14: 56–61.
- Hoherlandt, L., 1952, Results of the zoological scientific expedition of the National Museum in Praha to Turkey. 2. Hemiptera-Heteroptera I. The aquatic and semiaquatic Heteroptera of Turkey, *Acta Entomologica Musei Nationalis Pragae*, 26: 1–74.
- Hoherlandt, L., 1956, Results of the zoological scientific expedition of the National Museum in Praha to Turkey. 18. Hemiptera IV. Terrestrial Hemiptera-Heteroptera of Turkey, *Acta Entomologica Musei Nationalis Pragae*, Suppl. 3: 1–264.
- Hoherlandt, L., 1961, Heteroptera collected in Ankara (Turkey) by Light Trap, *Acta Entomologica Musei Nationalis Pragae*, 34: 394–416.
- Horváth, G., 1883, Heteroptera Anatolica in regione Brussae collecta enumeravit, *Termeszterajzi Füzetek*, 7: 21–30.
- Horváth, G., 1889, Essai monographique sur le genre *Trigonosoma*, *Revue d'Entomologie*, 8: 33–49.
- Horváth, G., 1890, Conspectus specierum generis *Mustha* (Hemiptera, Pentatomidae), *Revue d'Entomologie*, 9: 262–264.

- Horváth, G., 1894, Hemipteres recueillis dans la Russie meridionale et en Transcaucasie, *Revue d'Entomologie*, 13: 169–189.
- Horváth, G., 1895, Hémiptères nouveaux d'Europe et des pays limitrophes, *Revue d'Entomologie*, 14: 152–162.
- Horváth, G., 1897, Description d'Hemipteres nouveaux et notes diverses, *Revue d'Entomologie*, 16: 81–97.
- Horváth, G., 1898, Espèces et Variétés nouvelles des Lygaearia palearctiques, *Revue d'Entomologie*, 17: 281–284.
- Horváth, G., 1901, Hémiptères du voyage de M. Martinez Escalera dans l'Asie-Mineure, *Természetrájzi Füzetek*, 24: 469–485.
- Horváth, G., 1903, Conspectus Specierum Generis Graphosoma, *Annales Musei Nationalis Hungarici*, 1: 345–354.
- Horváth, G., 1905a, Ergebnisse einer naturwissenschaftlichen Reise zum Erdschias-Dagh (Kleinasiens). Hemipteren, *Annalen des K.K. Naturhistorischen Hofmuseums*, 20: 179–189.
- Horváth, G., 1905b, Tingitidae novae vel minus cognitae e regione palaearctica, *Annales Historico-Naturales Musei Nationalis Hungarici*, 3: 556–572.
- Horváth, G., 1906a, Monographia generis Hemipterorum Odontotarsus Lap., *Annales historico-naturales Musei nationalis hungarici*, 4: 462–483.
- Horváth, G., 1906b, Synopsis Tingitidarum regionis palaearcticae, *Annales Musei Nationalis Hungarici*, 4: 1–116.
- Horváth, G., 1907, Hemiptera nova vel minus cognita e regione palaearctica. I, *Annales Musei Nationalis Hungarici*, 5: 289–323.
- Horváth, G., 1916, Species palaearcticae generis Melanocoryphus, *Annales Musei Nationalis Hungarici*, 14: 459–470.
- Horváth, G., 1917a, Hemiptera palaearctica nova vel minus cognita. I, *Annales Musei Nationalis Hungarici*, 15: 365–381.
- Horváth, G., 1917b, Species generis Corizus Fall. (Therapha Am. Serv.), *Annales Musei Nationalis Hungarici*, 15: 161–174.
- Horváth, G., 1918, Ad cognitionem faunae Hemipterorum Balcanicae, *Annales Musei Nationalis Hungarici*, 16: 321–340.
- Horváth, G., 1919, Ergebnisse einer mit Unterstützung der Kais. Akademie der Wissenschaften in Wien ausgeführten zoologischen Forschungsreise von weiland Prof. Dr. Franz Tölg nach Kleinasiens (Amanus-Gebirge), *Archiv für Naturgeschichte. Abteilung A*, 85: 146–147.
- Horváth, G., 1936, Monographia Pentatomidarum generis Bagrada, *Annales Musei Nationalis Hungarici*, 30: 22–47.
- İpekdal, K., Oğuzoğlu, Ş., Oskay, F., Aksu, Y., Lehtijärvi, H.T.D., Lehtijärvi, A.T., Aday Kaya, A.G., Can, T., Özçankaya, İ.M., Avcı, M., 2019, Çam kozalak emici böceği *Leptoglossus occidentalis* Heidemann (1910) (Hemiptera: Coreidae): Türkiye ve dünyadaki son durum. Orman Genel Müdürlüğü Matbaası, Ankara, 70 pp.
- Jansson, A., 1986, The Corixidae (Heteroptera) of Europe and some adjacent regions, *Acta Entomologica Fennica*, 52: 1–93.
- Josifov, M., 1974, Beitrag zur Systematik der paläarktischen Dichrooscytus-Arten (Heteroptera-Miridae), *Reichenbachia*, 15: 149–173.
- Kaplan, C., Büyükk, M., Eren, S., 2011, Güneydoğu Anadolu Bölgesi zeytin bahçelerinde saptanan zararlı ve faydalı böcek türleri, *Bitki Koruma Bülteni*, 51: 267–275.
- Karsavuran, Y., Demirözer, O., Aslan, B., Karaca, İ., 2008, Studies on Pentatomidae and Scutelleridae (Heteroptera) Fauna of Isparta Province (Turkey), *Journal of Entomology*, 5: 213–217.
- Kelton, L.A., 1966, Review of the Species of Teratocoris Fieber, With Description of a New Species From the Nearctic Region (Hemiptera: Miridae), *The Canadian Entomologist*, 98: 1265–1271.
- Kemal, M., Koçak, A.Ö., 2014a, Illustrated and annotated list on the Entomofauna of Gören Mount (Van Province, East Turkey), with ecological remarks I – Period of April-June 2014, *Centre for Entomological Studies Ankara*, 33: 1–206.
- Kemal, M., Koçak, A.Ö., 2014b, Van Gölü Havzası Hemiptera Faunasına Katkilar I. Artos Dağı Hemiptera Türleri Hakkında, *Cesa News*, 94: 1–31.
- Kemal, M., Koçak, A.Ö., 2018, Revised

- synonymous list of the pterygot insects in Van Province (East Turkey), *Priamus*, 17: 1–112.
- Kerzhner, I.M., 1981, Bugs of the family Nabidae, *Fauna SSSR (N.S.)*, 124) *Rhynchota*, 13: 1–326.
- Kerzhner, I.M., Josifov, M., 1999, Miridae Hahn, 1883. In: B. Aukema and C. Rieger (Eds), *Catalogue of the Heteroptera of the Palaearctic Region*. Vol. 1, *Enicocephalomorpha, Dipsocoromorpha, Nepomorpha, Gerromorpha and Leptopodomorpha*. The Netherlands Entomological Society, Amsterdam, pp. 1–576.
- Kiritschenko, A.N., 1916, Insectes Hemipteres, Coreidae: Coreinae, *Faune de la Russie*, 6: 1–395.
- Kiritschenko, A.N., 1918, Bugs (Hemiptera-Heteroptera) of the Caucasian region. I, *Mémoires du Musée du Caucase (A)*, 6: 1–177.
- Kiritschenko, A.N., 1924, Beitrag zur Hemipteren fauna des südlichen Armenien, *Wiener Entomologische Zeitung*, 41: 1–5.
- Kiritschenko, A.N., 1930, Beiträge zur Kenntnis palaearktischer Hemipteren. II, *Konouvia*, 8: 451–456.
- Kiritschenko, A.N., 1938, Die echten Halbflügler (Hemiptera) der Nachitschewan ASSR, *Trudy Zoologicheskogo Instituta, Azerbaidzhanskii Filial Akademii Nauk SSSR*, 8: 75–121.
- Kiyak, S., 1990, Systematisch-Ökologische Untersuchungen über die Wanzen (Insecta- Heteroptera) aus dem Gebiet Hazar-See, Maden und Ergani (Prov. Elazığ), *Journal of Biology of Gazi University Faculty of Arts and Sciences*, 1: 43–95.
- Kiyak, S., 1993, Über terrestrische Wanzenarten von Soğuksu Nationalpark, *Priamus*, 6: 131–156.
- Kiyak, S., 2000, Işık Dağı ve Çevresinde Yaşayan Heteroptera (Insecta) Türlerinin Faunistik, Sistemik ve Ekolojik Yönden Araştırılması I-II, *Journal Institute Science and Technology, Gazi University*, 13: 323–367.
- Kiyak, S., 2016, On Heteroptera fauna of Binboğa Mountains (Turkey, Kahramanmaraş-Kayseri), *Munis Entomology & Zoology*, 11: 441–449.
- Kiyak, S., Akar, E., 2010, Faunistic study of terrestrial Heteroptera of Çaldağ (Ankara, Turkey), *Munis Entomology & Zoology*, 5: 1104–1118.
- Kiyak, S., Canbulat, S., Salur, A., 2007, Nepomorpha (Heteroptera) fauna of south-western Anatolia (Turkey), *Boletín Sociedad Entomológica Aragonesa*, 40: 548–554.
- Kiyak, S., Özdamar, H., 2017, Contribution to the knowledge of the genus Apterola (Heteroptera: Lygaeidae) in Turkey, *Munis Entomology & Zoology*, 12: 653–654.
- Kiyak, S., Özsaraç, Ö., Salur, A., 2004a, Additional Notes on the Heteroptera Fauna of Nevşehir Province (Turkey), *Gazi University Journal of Science*, 17: 21–29.
- Kiyak, S., Salur, A., Canbulat, S., 2008, Gerromorpha and leptopodomorpha (Insecta; Heteroptera) fauna of southwest Anatolia, *Turkish Journal of Zoology*, 32: 309–326.
- Kiyak, S., Salur, A., Canbulat, S., Özsaraç, Ö., 2004b, Contributions of the aquatic and semiaquatic Heteroptera fauna of the Afyon Province, *Gazi Üniversitesi Fen Bilimleri Dergisi*, 17: 31–34.
- Kment, P., Jindra, Z., 2008, New records of Eurydema fieberi from the Czech Republic with corrections to some previously published records of Palaearctic Eurydema species (Hemiptera: Heteroptera: Pentatomidae), *Acta Musei Moraviae, Scientiae biologicae*, 93: 11–27.
- Koçak, A.Ö., Kemal, M., 2010, List of the species of some pterygot orders recorded in the Province Van (East Turkey) and a description of a new species in the family Cicadidae (Insecta), *Priamus*, 12: 130–149.
- Koçak, A.Ö., Kemal, M., 2012, List of the two thousand species of the pterygot insects in Van province (East Turkey), *Cesa News*, 81: 2–86.
- Konstantinov, F. V., 2008, Review of the genus Camptotylus Fieber, 1860 (Heteroptera: Miridae) with description of two new species, *American Museum Novitates*, 3606: 1–23. [https://doi.org/10.1206/0003-0082\(2008\)3606\[1:rotgcf\]2.0.co;2](https://doi.org/10.1206/0003-0082(2008)3606[1:rotgcf]2.0.co;2)

- Korkmaz, B., Yıldırım, E., 2021, Contribution to the Knowledge of Alydidae, Coreidae, Rhopalidae and Pentatomidae (Hemiptera) Fauna from Fruit Orchards in İğdır Province of Turkey, *Munis Entomology & Zoology*, 16: 947–952.
- Küçükbaşmacı, İ., 2020, A new faunistic record from Kastamonu (Turkey): *Hydrometra stagnorum* (Linnaeus, 1758) (Hemiptera: Heteroptera: Hydrometridae), *Journal of Heteroptera of Turkey*, 2: 34–41.
- Küçükbaşmacı, İ., Kiyak, S., 2015, A Study on the Fauna of Heteroptera of Ilgaz Mountains (Kastamonu, Çankırı) With a New Record for Turkey, *Nevşehir Bilim ve Teknoloji Dergisi*, 4: 1–33. <https://doi.org/10.17100/nevbiltek.11159>
- Külekçi, G., Yıldırım, E., Tezcan, S., 2009, Contribution to the knowledge of the Pentatomidae (Heteroptera) fauna of Turkey G., *Linzer Biologische Beiträge*, 41: 697–708. <https://doi.org/10.1080/09397140.2011.10648892>
- Lansbury, I., 1965, A revision of the Stenocephalidae Dallas 1852 (Hemiptera -Heteroptera), *Entomologist's Monthly Magazine*, 101: 145–160.
- Lindberg, H., 1922, Verzeichnis der von John Sahlberg und Unio Saales in den Mittelmeer gebieten gesammelten semiaquatilen und aquatilen Heteropteren, *Notulae Entomologicae*, 2: 15–19, 46–49.
- Linnavuori, R.E., 1953, A Palaearctic Heteropterous material collected by J. Sahlberg and U. Saalas, *Annales Entomologici Fennici*, 19: 147–167.
- Linnavuori, R.E., 1961, Two new species of Miridae from the Middle East, *Annales Entomologici Fennici*, 27: 210–212.
- Linnavuori, R.E., 1962, A new Isometopus species, *Annales Entomologici Fennici*, 28: 187–189.
- Linnavuori, R.E., 1965, Studies on the South- and East-Mediterranean Hemipterous Fauna, *Acta Entomologica Fennica*, 21: 1 –69.
- Linnavuori, R.E., 2009, Studies on the Nepomorpha, Gerromorpha, Leptopodomorpha, and Miridae excluding Phylini (Hemiptera: Heteroptera) of Khuzestan and the adjacent provinces of Iran, *Acta Entomologica Musei Nationalis Pragae*, 49: 1–32.
- Lodos, N., 1960, A new variety of *Eurygaster austriacus* (Schrk.) from Turkey (Hemiptera-Heteroptera Pentatomidae), *Annals and Magazine of Natural History*, 3: 87–90.
- Lodos, N., 1963, A New Species of *Eurygaster* and notes on some little known species of Turkish Pentatomidae (Hemiptera: Heteroptera), *Psyche*, 70: 144–150.
- Lodos, N., Önder, F., 1978, Türkiye Pentatomidea (Heteroptera) üstfamiliasi üzerinde araştırmalar. II. familya: Plataspidae DALL., *Türkiye Bitki Koruma Dergisi*, 2: 195–239.
- Lodos, N., Önder, F., 1979, Contribution to the study on the Turkish Pentatomidea (Heteroptera) IV. Family: Acanthosomatidae Stal 1864, *Türkiye Bitki Koruma Dergisi*, 3: 139–160.
- Lodos, N., Önder, F., 1980, Türkiye Pentatomidea (Heteroptera) üst familyası üzerinde araştırmalar. III. Familia: Cydnidae Billberg, Ege Üniversitesi: Ziraat Fakültesi Yayınları, 381: 81.
- Lodos, N., Önder, F., 1982, Contribution to the study of the Turkish Pentatomidea (Heteroptera). V. Sciocorini Bergroth (Pentatomidae), *Türkiye Bitki Koruma Dergisi*, 6: 133–146.
- Lodos, N., Önder, F., 1983, Contribution to the study of Turkish Pentatomidea (Heteroptera) VI. Asopinae Amyot & Serville 1843, *Türkiye Bitki Koruma Dergisi*, 7: 221–230.
- Lodos, N., Önder, F., Pehlivan, E., Atalay, R., 1978, *Ege ve Marmara Bölgesi'nin Zararlı Böcek Faunasının Tespiti Üzerinde Çalışmalar [Curculionidae, Scarabaeidae (Coleoptera); Pentatomidae, Lygaeidae, Miridae (Heteroptera)]*. Gıda-Tarım ve Hayvancılık Bakanlığı Zirai Mücadele ve Zirai Karantina Genel Müdürlüğü, Ankara.
- Lodos, N., Önder, F., Pehlivan, E., Atalay, R., Erkin, E., Karsavuran, Y., Tezcan, S., Aksoy, S., 1998, *Faunistic Studies On Pentatomidea (Plataspidae, Acanthosomatidae, Cydnidae, Scutelleridae, Pentatomidae) of Western Black Sea, Central Anatolia And Mediterranean*

- Regions of Turkey.* Ege Üniversitesi Basımevi, İzmir.
- Lodos, N., Önder, F., Pehlivan, E., Atalay, R., Erkin, E., Karsavuran, Y., Tezcan, S., Aksoy, S., 1999, Faunistic studies on Lygaeidae (Heteroptera) of Western Black Sea, Central Anatolia and Mediterranean Regions of Turkey. Ege Üniversitesi Basımevi, İzmir.
- Lodos, N., Önder, F., Pehlivan, E., Atalay, R., Erkin, E., Karsavuran, Y., Tezcan, S., Aksoy, S., 2003, Faunistic Studies on Miridae (Heteroptera) of Western Bleach Sea, Central Anatolia and Mediterranean Regions of Turkey. Ege Üniversitesi Basımevi, İzmir.
- Lodos, N., Önder, F., Şimşek, Z., 1984, Diyarbakır (Karacadağ)'da Süne (Eurygaster integriceps Put.) (Heteroptera: Scutelleridae)'nın Ovalara Göç Ettiği Dönemde Kişiak Böcek Faunasının Tespiti Ve Süne İle Diğer Bazı Türlerin Kişiak Yeklerinden Çıkış Ve Göç Etme Davranışları Üzerinde Araştırmala, *Bitki Koruma Bülteni*, 24: 75–87.
- Maral, H., Ulusoy, M.R., Bolu, H., Guilbert, E., 2013, Faunistic studies on Tingidae (Hemiptera) species of Diyarbakır, Mardin and Elazığ provinces, *Turkish Bulletin of Entomology*, 3: 139–155.
- Matocq, A., 2004, Revue des espèces attribuées au genre *Megalocoleus* Reuter, 1890 (Heteroptera: Miridae), *Annales de la Société entomologique de France (N.S.)*, 40: 69–101.
- Matocq, A., Magnien, P., 2009, Un nouvel *Adelphophylus* Wagner, 1959 des Balkans (Heteroptera, Miridae, Phylinae), *Nouvelle Revue d'Entomologie (Nouvelle Série)*, 25: 241–245.
- Matocq, A., Özgen, İ., 2010, A preliminary list of Heteroptera collected in Mardin and Siirt provinces from South-Eastern Anatolia of Turkey (Hemiptera), *Munis Entomology & Zoology*, 5: 1011–1019.
- Matocq, A., Plout-Sigwalt, D., 2012, Revision de *Amblytylus* et essai de mise au point sur le genres *Amblytylus* Reuter et *Megalocoleus* Reuter (Heteroptera: Miridae: Phylinae), *Annales de la Société Entomologique de France*, 48: 123–154.
- Matocq, A., Plout-Sigwalt, D., Özgen, İ., 2014, Terrestrial Hemiptera (Heteroptera) collected in South-East Anatolia (Diyarbakır, Mardin and Elazığ provinces) (Turkey): second list, *Munis Entomology & Zoology*, 9: 884–930.
- Montandon, L., 1889, Lygaeides nouveaux de la faune palearctique, *Revue d'Entomologie*, 8: 287–292.
- Moulet, P., 1995, *Hemiptères Coreoidea (Coreidae, Rhopalidae, Alydidae), Pyrrhocoridae, Stenocephalidae euro-méditerranens. Faune de France*, 81. Fédération Française des Sociétés de Sciences Naturelles, Paris, 336 pp.
- Namyatova, A.A., Konstantinov, F. V., 2009, Revision of the genus *Orthocephalus* Fieber, 1858 (Hemiptera: Heteroptera: Miridae: Orthotylinae), *Zootaxa*, 2316: 1–118.
- Oğuzoğlu, Ş., Avcı, M., 2018, Isparta ve Burdur illerinde *Leptoglossus occidentalis* Heidemann, 1910 (Hemiptera: Coreidae)'e ait gözlemler ve Türkiye'deki durumu. In: *Proceeding of III. Turkish Forest Entomology and Pathology Symposium*. Artvin, pp. 13–14.
- Oğuzoğlu, Ş., Avcı, M., 2020, Türkiye'de *Leptoglossus occidentalis* Heidemann, 1910 (Hemiptera: Coreidae) üzerine biyolojik gözlemler, parazitoitleri ve yayılışına katkılar, *Ormancılık Araştırma Dergisi*, 7:9–21. <https://doi.org/https://doi.org/10.17568/ogmoad.548950>
- Öncül-Abacigil, T., Varlı, S.V., Tezcan, S., 2010, Heteroptera species determined by using hibernating trap bands in olive orchards near Edremit (Balikesir) Bay, Turkey, *Turkish Journal of Entomology*, 34: 105–115. <https://doi.org/10.16970/ted.43944>
- Önder, F., 1976, Türkiye Miridae (Hemiptera) faunası üzerinde sistematik çalışmalar. Ph.D. dissertation, Ege University, İzmir.
- Önder, F., 1980, The first list of Family Reduviidae (Heteroptera) of Turkey, *Ege Üniversitesi Ziraat Fakültesi Dergisi*, 17: 1–20.
- Önder, F., 1982, Türkiye Anthocoridae (Heteroptera) Faunası Üzerinde Taksonomik ve Faunistik Araştırmalar, *Ege Üniversitesi: Ziraat Fakültesi Yayınları*, 459: 159.
- Önder, F., Adıgüzel, N., 1979, Some Heteroptera collected by light trap in

- Diyarbakır (Turkey), *Türkiye Bitki Koruma Dergisi*, 3: 25–34.
- Önder, F., Atalay, R., Karsavuran, Y., 1983a, Species of Heteroptera overwintering as adult stage in İzmir and surrounding areas and some observations on their hibernation sites. I. Notonectidae, Leptopodidae, Anthocoridae, Miridae, Nabidae, Reduviidae, Tingidae, Aradidae, Pyrrhocoridae, Coreidae, Al, *Turkish Journal of Plant Protection*, 7: 65–77.
- Önder, F., Atalay, R., Karsavuran, Y., 1983b, Species of Heteroptera overwintering as adult stage in İzmir and surrounding areas and some observations on their hibernation sites. II. Lygaeoidea, Pentatomidea, *Turkish Journal of Plant Protection*, 7: 129–144.
- Önder, F., Karsavuran, Y., Örümlü, A.E., 1995a, Güneydoğu Anadolu Projesi (GAP) uygulama alanında saptanın Cimicoidea ve Tingoidea (Heteroptera) türlerinin durumu ve gelecek için düşündürdükleri. In: *GAP Bölgesi Bitki Koruma Sorunları ve Çözüm Önerileri Sempozyumu*. Şanlıurfa, pp. 149–158.
- Önder, F., Karsavuran, Y., Pehlivan, E., Turanlı, F., 1995b, Güneydoğu Anadolu Projesi (GAP) uygulama alanında saptanın Pentatomoidea (Heteroptera) türleriyle ilgili bir değerlendirme. In: *GAP Bölgesi Bitki Koruma Sorunları ve Çözüm Önerileri Sempozyumu*. Şanlıurfa, pp. 120–130.
- Önder, F., Karsavuran, Y., Tezcan, S., Fent, M., 2006, *Heteroptera (Insecta) Catalogue of Turkey*. META Basım Matbaacılık, İzmir, 164 pp.
- Önder, F., Lodos, N., 1983, Preliminary List of Tingidae with Notes on Distribution and Importance of Species in Turkey, *Ege Üniversitesi: Ziraat Fakültesi Yay.*, 449: 51.
- Önder, F., Ünal, A., Ünal, E., 1981, Heteroptera fauna collected by light traps in some districts of Northwestern part of Anatolia, *Türkiye Bitki Koruma Dergisi*, 5: 151–169.
- Önder, F., Ünal, A., Ünal, E., 1984, Heteropteraus insects collected by light traps in Edirne (Turkey), *Türkiye Bitki Koruma Dergisi*, 8: 215–224.
- Özbek, H., Alaoğlu, Ö., 1988, Erzurum Ve Çevresinde Patates Bitkisinde Bulunan Fitofag Heteroptera Türleri, *Bitki Koruma Bülteni*, 27: 227–238.
- Özek, T., Avcı, M., 2017, İsparta Orman Bölge Müdürlüğü göknar, çam ve sedir ormanlarında tespit edilen kozalak zararlıları, *Turkish Journal of Forestry*, 18: 178–186.
- Özer, M., Duran, M., 1968, Orta Anadolu'da Yonca ve Korungalarda Zarar Yapan Bazi Böcek Türleri Üzerinde İlk Çalışmalar, *Atatürk Üniversitesi Ziraat Fakültesi Yayınları*, 316: 68.
- Özesmi, U., Önder, F., 1988, Sultan Sazlığı (Kayseri)'nın sucul Heteroptera ve Coleoptera türleri üzerine faunistik bir çalışma. In: *IX. Ulusal Biyoloji Kongresi*. Sivas, pp. 177–186.
- Özgen, İ., 2012, The species of suborder Heteroptera (Hemiptera) on vineyards agroecosystems which found in Diyarbakır, Elazığ and Mardin provinces, Turkey, *Munis Entomology & Zoology*, 7: 255–258.
- Özgen, İ., Dioli, P., 2018, Additional faunistic notes on Pentatomidae and Scutelleridae (Heteroptera) in Bingöl, Elazığ and Tunceli province (Turkey), *International Journal of Fauna and Biological Studies*, 5: 24–26.
- Özgen, İ., Dioli, P., 2019, Contribution to the knowledge of Lygaeidae and Miridae (Hemiptera: Heteroptera) in East Anatolia, *Journal of the Heteroptera of Turkey*, 1: 25–32.
- Özgen, İ., Dioli, P., Çelik, V., 2017, New and interesting record of western conifer seed bug: *Leptoglossus occidentalis* (Heidemann, 1910) (Heteroptera: Coreidae) in Eastern Turkey, *Journal of Entomology and Zoology Studies*, 5: 830–833.
- Özgen, İ., Dioli, P., Çerçi, B., 2021, Additional Notes on Heteroptera (Hemiptera) of Eastern Turkey, *International Journal of Fauna and Biological Studies*, 8: 1–4.
- Özgen, İ., Gözüaçık, C., Karsavuran, Y., Fent, M., 2005a, Investigations on the Pentatomidae (Heteroptera) Fauna in Apricot, Cherry, Olive and Pistachio Plantations in East and Southeastern Anatolia Region (Turkey), *Ege Univ. Ziraat Fakültesi Dergisi*, 42: 35–43.
- Özgen, İ., Gözüaçık, C., Karsavuran, Y., Fent, M., 2005b, Investigations on the

- Pentatomidae (Heteroptera) fauna in wheat-growing areas in Southeastern Anatolia Region (Turkey), *Turkish Journal of Entomology*, 29: 61–68.
- Özgen, İ., Kara, B.K., Miroğlu, S., Koç, İ., Dioli, P., 2020, A New Potential Pest of East and Southeastern Anatolia in Turkey: *Nysius cymoides* (Spinola, 1837) (Heteroptera, Lygaeidae), *Munis Entomology & Zoology*, 15: 265–268.
- Özsaraç, Ö., Kiyak, S., 2001, A Study on the Heteroptera Fauna of Bozcaada (Çanakkale Province), *Turkish Journal of Zoology*, 25: 313–322.
- Parlak, S., 2017, An invasive species: *Leptoglossus occidentalis* (Heidemann) how does it affect forestry activities?, *Journal of Forestry Faculty*, 17: 531–542.
- Pehlivan, E., 1981, Türkiye Stenocephalidae, Rhopalidae ve Alydidae (Heteroptera: Coreoidea) Faunası Üzerinde Sistemmatik Araştırmalar, *Ege Üniversitesi: Ziraat Fakültesi Yayınları*, 410: 189.
- Péricart, J., 1972, *Hémiptères Anthocoridae, Cimicidae et Microphysidae de l'Ouest-Paléarctique. Faune de l'Europe et du Bassin méditerranéen* 7. Cie and Masson (Eds). Centre National de la Recherche Scientifique, 404 pp.
- Péricart, J., 1983, *Hémiptères Tingidae Euro-Méditerranéens. Faune de France* 69. Fédération Française des Sociétés de Sciences Naturelles, Paris, 618 pp.
- Péricart, J., 1984, *Hémiptères Berytidae. Faune de France*, 70. Fédération Française des Sociétés de Sciences Naturelles, Paris, 172 pp.
- Péricart, J., 1998a, *Hémiptères Lygaeidae euro-méditerranéens, volume 1. Faune de France. Vol. 84*. Fédération Française des Sociétés de Sciences Naturelles, Paris, 475 pp.
- Péricart, J., 1998b, *Hémiptères Lygaeidae euro-méditerranéens, volume 2. Faune de France. Vol. 84*. Fédération Française des Sociétés de Sciences Naturelles, Paris, 453 pp.
- Péricart, J., 1998c, *Hémiptères Lygaeidae euro-méditerranéens, volume 3. Faune de France. Vol. 84*. Fédération Française des Sociétés de Sciences Naturelles, Paris, 493 pp.
- Péricart, J., 2010, *Hémiptères Pentatomoidea Euro-Méditerranéens. Volume 3: Podopinae et Asopinae. Faune de France*, Vol. 93. Fédération Française des Sociétés de Sciences Naturelles, Paris, 291 pp.
- Protić, L., 2003, Species Of The Genus *Adelphophylus* Wagner (Heteroptera: Miridae) On The Balkan Peninsula, *Acta Entomologica Serbica*, 8: 79–84.
- Puton, A., 1888, Un genre nouveau d'Hémiptères et notes diverses, *Revue d'Entomologie*, 7: 255–257.
- Puton, A., 1892, Hémiptères d'Akbès, Région de l'Amanus (Syrie septentrionale) récoltés par M. Delagrange, *Revue d'entomologie*, 11: 34–36.
- Puton, A., 1895, Hémiptères nouveaux, *Revue d'Entomologie*, 14: 83–91.
- Puton, A., Noualhier, M., 1895, Supplément à la liste des Hémiptères d'Akbès, *Revue d'Entomologie*, 14: 170–177.
- Putshkov, V.G., Moulet, P., 2010, *Hémiptères Reduviidae d'Europe Occidentale. Faune de France*, Vol. 92. Fédération Française des Sociétés de Sciences Naturelles, Paris, 668 pp.
- Reuter, O.M., 1879, Till kändedomen om mimiska Hemiptera och deras lefnads historia, *Öfversigt af Finska Vetenskaps-Societetens Förhandlingar*, 21: 141–198.
- Reuter, O.M., 1883, *Hemiptera Gymnocerata Europae. Hémiptères Gymnocérates d'Europe, du bassin de la Méditerranée et de l'Asie Russe. III*. Helsingfors, 434–496 pp.
- Reuter, O.M., 1884, Monographia Anthocoridarum Orbis terrestris, *Acta Societatis Scientiarum Fennicae*, 14: 1–204.
- Reuter, O.M., 1890, Ad cognitionem Nabidarum, *Revue d'Entomologie*, 9: 289–309.
- Reuter, O.M., 1896, *Hemiptera Gymnocerata Europae. Hémiptères Gymnocérates d'Europe, du bassin de la Méditerranée et de l'Asie Russe. V*. Helsingfors, 392 pp.
- Reuter, O.M., 1901, Capsidae rossicae, *Öfversigt af Finska Vetenskapssocietetens Förhandlingar B*, 43: 161–194.
- Reuter, O.M., 1904a, Capsidae novae mediterraneae. V. Species a dominis J. et U. Sahlberg in itinere a. 1903–1904 collectae, *Öfversigt af Finska Vetenskaps*

- Societetens Förhandlingar*, 47: 1–26.
- Reuter, O.M., 1904b, Capsidae palaearctivae novae et minus cognitae, *Öfversigt af Finska Vetenskaps-Societetens Förhandlingar B*, 46: 1–18.
- Reuter, O.M., 1909, Ad cognitionem Reduviidarum palaearticarum fragmenta, *Öfversigt af Finska Vetenskaps-Societetens Förhandlingar*, 51A: 1–30.
- Salur, A., Mesci, S., 2009, Gerromorphan fauna of Çorum province in Turkey (Insecta: Heteroptera), *Munis Entomology & Zoology*, 4: 340–345.
- Sanchez, J.A., Cassis, G., 2018, Towards solving the taxonomic impasse of the biocontrol plant bug subgenus *Dicyphus* (*Dicyphus*) (Insecta: Heteroptera: Miridae) using molecular, morphometric and morphological partitions, *Zoological Journal of the Linnean Society*, 184: 330–406. <https://doi.org/10.1093/zoolinnean/zly005>
- Seabra, A.F. de, 1926, Revisão dos Hemípteros Heterópteros da fauna paleártica existentes no Museu Zoológico da Universidade de Coimbra, *Memórias e Estudos do Museu Zoológico da Universidade de Coimbra*, 1: 1–234.
- Seidenstücker, G., 1954a, Cyphodema cilicum n. sp. (Hem. Het., Miridae), *Revue de la Faculté des Sciences de l'Université d'Istanbul* (B), 19: 223–226.
- Seidenstücker, G., 1954b, Dichrooscytus tauricus n. sp. aus dem Bulgar-Dagh (Hem., Het., Miridae), *Revue de la Faculté des Sciences de l'Université d'Istanbul* (B), 19: 223–226.
- Seidenstücker, G., 1954c, Ein neuer Reduviolus aus der ferus-Gruppe: Nabis (R.) palifer n. sp., *Revue de la Faculté des Sciences de l'Université d'Istanbul* (B), 19: 125–129.
- Seidenstücker, G., 1954d, Monanthia triconula n. sp. und einige Tingiden aus der südlichen Türkei, *Revue de la Faculté des Sciences de l'Université d'Istanbul* (B), 19: 231–236.
- Seidenstücker, G., 1956a, Ein neuer Dicyphus aus Kleinasiens (Heteroptera-Miridae), *Revue de la Faculté des Sciences de l'Université d'Istanbul* (B), 21: 145–148.
- Seidenstücker, G., 1956b, Heterocordylus carbonellus sp. n. (Heteroptera, Miridae), *Revue de la Faculté des Sciences de l'Université d'Istanbul* (B), 21: 231–235.
- Seidenstücker, G., 1957a, Eine neue anatolische Miriden-Art aus der Lygus-Verwandschaft, *Revue de la Faculté des Sciences de l'Université d'Istanbul* (B), 22: 171–177.
- Seidenstücker, G., 1957b, Heteroptera aus Anatolien I, *Revue de la Faculté des Sciences de l'Université d'Istanbul* (B), 22: 179–189.
- Seidenstücker, G., 1958, Heteropteren aus Anatolien II, *Revue de la Faculté des Sciences de l'Université d'Istanbul* (B), 23: 119–129.
- Seidenstücker, G., 1959a, Sigara emesa n.sp. and some Corixidae from Turkey and Syria, *Revue de la Faculté des Sciences de l'Université d'Istanbul* (B), 24: 33–38.
- Seidenstücker, G., 1959b, Zwei neue Macrotylus-Arten aus der Türkei (Hem., Het., Miridae), *Revue de la Faculté des Sciences de l'Université d'Istanbul* (B), 24: 25–31.
- Seidenstücker, G., 1960a, Ein neuer Arenocoris aus der Türkei, *Opuscula Zoologica*, 41: 1–4.
- Seidenstücker, G., 1960b, Heteropteren aus Anatolien III, *Revue de la Faculté des Sciences de l'Université d'Istanbul* (B), 25: 145–154.
- Seidenstücker, G., 1961, Zwei neue Miriden-Arten aus Anatolien, *Abhandlungen und Berichte aus dem Staatlichen Museum für Tierkunde in Dresden*, 26: 47–51.
- Seidenstücker, G., 1962, Über einige Miriden aus Kleinasien mit Beschreibung von zwei neuen Halticinen (Heteroptera), *Reichenbachia*, 1: 129–143.
- Seidenstücker, G., 1963, Über Emblethis-Arten Kleinasiens (Heteroptera, Lygaeidae), *Acta Entomologica Musei Nationalis Pragae*, 35: 649–665.
- Seidenstücker, G., 1965, Beitrag zu Gampsocoris (Heteroptera, Berytidae), *Reichenbachia*, 5: 273–282.
- Seidenstücker, G., 1966a, Neue Psallus-Arten aus der Türkei (Heteroptera, Miridae), *Reichenbachia*, 6: 291–302.
- Seidenstücker, G., 1966b, Zwei neue

- Emblethis-Arten aus der ciliatus-Verwandtschaft (Heteroptera, Lygaeidae), *Reichenbachia*, 8: 27–37.
- Seidenstücker, G., 1968, Noch zwei Opisthotaenia-Arten (Heteroptera, Miridae), *Reichenbachia*, 10: 31–38.
- Seidenstücker, G., 1969, Zwei neue Miriden aus der Türkei (Hemiptera, Heteroptera), *Reichenbachia*, 12: 143–148.
- Seidenstücker, G., 1970, Zwei neue anatolische Miriden (Heteroptera, Phylinae), *Nachrichtenblatt der Bayerischen Entomologen*, 18: 117–121.
- Seidenstücker, G., 1972, Eine neue Form von Odontoscelis Lap. aus der Türkei (Heteroptera: Scutelleridae), *Mitteilungen der Münchner Entomologischen Gesellschaft*, 61: 108–113.
- Seidenstücker, G., 1976, Phytocoris milvus n. sp. aus der Turkei (Heteroptera, Miridae), *Reichenbachia*, 16: 73–80.
- Seidenstücker, G., 1977, Calocoris krueperi Reut. und C. kroesus n. sp. (Heteroptera, Miridae), *Reichenbachia*, 16: 257–264.
- Selek, F., 2018, İzmir-Bergama/Kozak Yöresinde Leptoglossus occidentalis (Heidemann) Zararı. In: *Proceedings of III. Turkish Forest Entomology and Pathology Symposium*. Artvin, pp. 69–70.
- Şerban, C., 2010, Faunistic Data On Some True Bugs Species (Insecta: Heteroptera) From West Turkey [Results Of The “Taurus” - 2005 And „Focida“ - 2006 Expeditions], *Travaux du Muséum National d’Histoire Naturelle*, 53: 171–180.
- Sert, O., Fırat, S., Şabanoglu, B., 2013, A Study on Determination of Insect Fauna of Başkomutan Historical National Park (Afyonkarahisar, Turkey), *Hacettepe Journal of Biology & Chemistry*, 41: 259–277.
- Tezcan, S., Gülperçin, N., Fent, M., 2010a, Contribution to the knowledge of the light trap collected Heteroptera fauna occurring in cherry orchards in western Turkey, *Linzer Biologische Beiträge*, 42: 817–823.
- Tezcan, S., Gülperçin, N., Fent, M., 2013, An analysis of Scutelleridae, Cydnidae and Pentatomidae (Hemiptera: Pentatomoidea) fauna of farming terraces in Aspat (Strobilos) ancient city and its territorium, Bodrum, Muğla, western Turkey, *Turkish Journal of Entomology*, 37: 249–259.
- Tezcan, S., Önder, F., 1999, Heteropterous Insects Associated With Cherry Trees In Kemalpaşa District Of Izmir, Turkey, *Ege Üniversitesi Ziraat Fakültesi Dergisi*, 36: 119–124.
- Tezcan, S., Önder, F., 2003, Faunistical studies in ecological cherry orchards in Izmir and Manisa Provinces of Turkey: An evaluation on the species of Heteroptera, *Anadolu*, 13: 124–131.
- Tezcan, S., Tezcan, F., Gülperçin, N., 2010b, 4000 insect species from İzmir, Turkey. Dilan Matbaası, İzmir, xx+253 p.
- Topkara, E.T., 2013, Contribution to the knowledge on distribution of water boatmen (Heteroptera: Corixidae) in Turkey, *Ege Journal of Fisheries and Aquatic Science*, 30: 15–19.
- Tuatay, N., Güll, S., Demirtola, A., Kalkandelen, A., Çagatay, N., 1966, *Nebat Koruma Müzesi böcek kataloğu (1961-1966)*. Ayyıldız Matbaası, Ankara, 1–66 pp.
- Tuatay, N., Kalkandelen, A., Aysev, N., 1972, *Nebat Koruma Müzesi Böcek Kataloğu (1961-1971)*. Yenigün Matbaası, Ankara, 119 pp.
- Vigna Taglianti, A., Audisio, P.A., Biondi, M., Bologna, M.A., Carpaneto, G.M., De Biase, A., Fattorini, S., Piattella, E., Sindaco, R., Venchi, A., Zapparoli, M., 1999, A proposal for chorotype classification of the near east fauna, in the framework of the Western Palearctic region, *Biogeographia. Lavori della Società italiana di Biogeografia* (n. s.), 20: 31–59.
- Wagner, E., 1951, Zur Systematik der Gattung Dicyphus (Hem. Het., Miridae), *Societas Scientiarum Fennica, Commentationes Biologicae*, 12: 1–36.
- Wagner, E., 1952, Die europäischen Arten der Gattung Orius Wff. (Hem. Het. Anthocoridae), *Notulae Entomologicae*, 32: 22–59.
- Wagner, E., 1954a, Die Art Berechtigung von Deraeocoris (Camptobrochis) pallens Reut. (Hem. Het. Miridae), *Revue de la Faculté des Sciences de l’Université d’Istanbul (B)*, 19: 297–301.
- Wagner, E., 1954b, Macrotylus seidenstückeri nov. spec. (Hem. Het. Miridae), *Revue de la Faculté des Sciences de l’Université d’Istanbul (B)*, 19: 237–239.

- Wagner, E., 1954c, *Oncotylus viridiflavus longipes* nov. subspec. (Hem. Het. Miridae), *Revue de la Faculté des Sciences de l'Université d'Istanbul (B)*, 19: 241–243.
- Wagner, E., 1955a, 3 neue Phytocoris-Arten aus der Türkei und aus Syrien, *Revue de la Faculté des Sciences de l'Université d'Istanbul (B)*, 20: 161–168.
- Wagner, E., 1955b, Beitrag zur Systematik der Gattung *Tuponia* Reuter (Heteroptera, Miridae), *Revue de la Faculté des Sciences de l'Université d'Istanbul (B)*, 20.
- Wagner, E., 1955c, *Phytocoris pilifer* Reuter, 1880 (Heteroptera, Miridae)., *Beiträge zur Entomologie*, 5: 486–488.
- Wagner, E., 1956, Zur Systematik von *Psallus (Apocremnus) ancorifer* Fieb. 1858 (Hem. Het. Miridae), *Revue de la Faculté des Sciences de l'Université d'Istanbul (B)*, 21: 199–210.
- Wagner, E., 1959a, Beitrag zur Heteropterenfauna Anatoliens, *Zeitschrift für Angewandte Entomologie*, 49: 102–113.
- Wagner, E., 1959b, Fünf neue Phytocoris-Arten aus dem östlichen Mittelmeerraum (Hem. Het. Miridae), *Bollettino della Società Entomologica Italiana*, 89.
- Wagner, E., 1960, *Calocoris quadripunctatus fasciatus* nov. subspec., a new subspecies from Turkey (Hem. Het. Miridae), *Revue de la Faculté des Sciences de l'Université d'Istanbul (B)*, 25: 23–26.
- Wagner, E., 1961, Über einige neue Miriden-Arten aus dem Zoologischen Museum Helsingfors (Hem. Heteropt.), *Notulae Entomologicae*, 40: 112–122.
- Wagner, E., 1963, Neuer Beitrag zur Systematik der Gattung *Tuponia* (Hem. Het. Miridae), *Entomologische Berichten*, 23: 8–18.
- Wagner, E., 1965, Die taxonomische Bedeutung des Baues der Genitalien des Manchens bei der Gattung *Sciocoris* Fallén, 1829 (Hem., Het., Pentatomidae), *Acta Entomologica Musei Nationalis Pragae*, 36: 91–161.
- Wagner, E., 1966, Eine Heteropterenausbeute aus der Türkei (Hemiptera, Heteroptera), *Bulletin des Recherches Agronomiques de Gembloux*, 1: 646–654.
- Wagner, E., 1968, *Saundersiella Reuter*, 1890 (Hemiptera, Heteroptera, Miridae), *Reichenbachia*, 10: 19–24.
- Wagner, E., 1969, Die *Globiceps cruciatus*-Gruppe (Heteroptera, Miridae), *Notulae Entomologicae*, 49: 25–30.
- Wagner, E., 1974a, Die Miridae Hahn, 1831, des Mittelmeerraumes und der Makaronesischen Inseln (Hemiptera, Heteroptera). Teil 1, *Entomologische Abhandlungen Museum für Tierkunde Dresden*, 37: 1–484.
- Wagner, E., 1974b, Die Miridae Hahn, 1831, des Mittelmeerraumes und der Makaronesischen Inseln (Hemiptera, Heteroptera). Teil 2, *Entomologische Abhandlungen Museum für Tierkunde Dresden*, 39: 1–421.
- Yanmazdağ, A., 1987, Türkiye Deraeocorinae (Hemiptera: Miridae) faunası üzerinde sistematik çalışmalar. M.S. thesis, Ege University, İzmir.
- Yardım, E.N., 1990, Türkiye Stenodemini (Heteroptera: Miridae: Mirinae) Faunası Üzerine Sistematiske Araştırmalar. M.S. thesis, Ege University, İzmir.
- Yazıcı, G., 2017, Updated distributions of Orthotylinae (Hemiptera: Heteroptera: Miridae) from Turkey, *Munis Entomology & Zoology*, 12: 79–88.
- Yazıcı, G., 2020, New Hosts and Spread Areas of Invasive Species *Nysius cymoides* (Spinola, 1837) (Hemiptera: Heteroptera: Lygaeidae) in Crop Plants in Turkey, *Kahramanmaraş Sütçü İmam Üniversitesi Tarım ve Doğa Dergisi*, 25: 267–273. <https://doi.org/10.18016/ksutarmdoga.vi.798617>
- Yazıcı, G., 2022, Heteroptera (Insecta: Hemiptera) fauna of Kastamonu and Bartın Provinces in Turkey, *Journal of the Heteroptera of Turkey*, 4: 43–55.
- Yazıcı, G., Avar, Y., Yıldırım, E., 2015a, Contribution to the knowledge of the Cydnidae (Hemiptera, heteroptera, pentatomoidae) fauna of Turkey, *Turkish Journal of Zoology*, 39: 604–609. <https://doi.org/10.3906/zoo-1404-59>
- Yazıcı, G., Bal, N., Kiyak, S., 2022, Contribution to the Knowledge of the Fauna of the Alydidae, Anthocoridae, Berytidae, Coreidae, Cydnidae, Lygaeidae,

- Nabidae, Plataspidae, Pyrrhocoridae, Reduviidae, Rhopalidae, Scutelleridae, Stenocephalidae, Tingidae (Hemiptera: Heteroptera) with a new r, *Journal of the Heteroptera of Turkey*, 4: 184–204.
- Yazıcı, G., Yıldırım, E., 2016a, Contribution to the Knowledge of Phylinae (Hemiptera: Heteroptera: Miridae) from Turkey, *Bitki Koruma Bülteni*, 56: 327–348. <https://doi.org/10.1080/00837792.2016.1222668>
- Yazıcı, G., Yıldırım, E., 2016b, Contribution to the knowledge of the Bryocorinae and Deraeocorinae (Hemiptera: Heteroptera: Miridae) fauna of Turkey, *Linzer Biologische Beiträge*, 48: 887–896.
- Yazıcı, G., Yıldırım, E., 2016c, Distributional Data on Mirini (Hemiptera: Heteroptera: Miridae: Mirinae) Fauna of Turkey, *Linzer Biologische Beiträge*, 48: 859–886.
- Yazıcı, G., Yıldırım, E., 2017a, Contribution to the knowledge of the Herdoniini and Stenodemini (Hemiptera: Heteroptera: Miridae: Mirinae) fauna of Turkey, *Entomofauna*, 38: 177–192.
- Yazıcı, G., Yıldırım, E., 2017b, New and interesting records of Orthops Fieber, 1858 (Hemiptera: Heteroptera: Miridae) in Turkey, *Acta Entomologica Serbica*, 22: 1–14.
- Yazıcı, G., Yıldırım, E., Moulet, P., 2014, Contribution to the knowledge of the Pentatomidae and Plataspidae (Hemiptera, Heteroptera, Pentatomomorpha) fauna of Turkey, *Linzer Biologische Beitraege*, 46: 1819–1842.
- Yazıcı, G., Yıldırım, E., Moulet, P., 2015b, Contribution to the knowledge of the Lygaeoidea (Hemiptera, Heteroptera) fauna of Turkey, *Linzer Biologische Beitraege*, 47: 969–990.
- Yence, K., 2019, Taxonomic and faunistic studies on the Lygaeidae (Hemiptera: Heteroptera) fauna of Aladağlar National Park. Master thesis, Trakya University, Edirne.
- Yiğit, A., Uygun, N., 1982, Adana, İçel Ve Kahramanmaraş İlleri Elma Bahçelerinde Zararlı Ve Yararlı Faunanın Saptanması Üzerinde Çalışmalar, *Bitki Koruma Bülteni*, 22: 163–178.
- Yıldırım, E., Moulet, P., Külekçi, G., Bulak, Y., 2010, Contribution to the Knowledge of Reduviidae (Hemiptera) Fauna of Turkey, *Linzer Biologische Beiträge*, 42: 825–831. <https://doi.org/10.12976/jib/2016.4.15>
- Yıldırım, E., Özbek, H., Önder, F., 1999, Heteropterous species caught in light traps in the Campus of Atatürk University in Erzurum (Turkey), *Turkish Journal of Entomology*, 23: 225–228.
- Yıldırım, E., Yazıcı, G., Karakurt, N., 2014, Contribution to the knowledge of the Scutelleridae (Hemiptera, Heteroptera) fauna of Turkey, *Turkish Journal of Zoology*, 38: 544–551. <https://doi.org/10.3906/zoo-1307-23>
- Yıldırım, E., Yazıcı, G., Kul, R., Moulet, P., 2013a, Contribution to the knowledge of the Anthocoridae, Lyctocoridae, Nabidae, Reduviidae and Tingidae (Hemiptera, Heteroptera) fauna of Turkey, *Journal of the Entomological Research Society*, 15: 53–66.
- Yıldırım, E., Yazıcı, G., Linnauvori, R.E., 2011, Contribution to the knowledge of Alydidae, Coreidae, Rhopalidae and Stenocephalidae (Coreoidea: Heteroptera: Hemiptera) fauna of Turkey, *Linzer Biologische Beiträge*, 43: 1625–1639.
- Yıldırım, E., Yazıcı, G., Moulet, P., 2013b, Contribution To the Knowledge of the Gerridae, Coreoidea, Piesmatidae, Saldidae, Corixoidea, Nepoidea and Notonectidae (Hemiptera, Heteroptera) Fauna of Turkey, *Linzer Biologische Beiträge*, 45: 995–1010.
- Yılmaz, D., Dursun, A., 2022, A study on the Geocoridae (Hemiptera: Heteroptera: Lygaeoidea) fauna of Amasya Province, Turkey, *Journal of the Heteroptera of Turkey*, 4: 19–26.
- Yılmaz, F., 1996, Türkiye'de Eurydema Lap. (Heteroptera: Pentatomidae) Türleri Üzerinde Sistematisk Araştırmalar. M.S. thesis, Ege University, İzmir.
- Zengin, P., Dursun, A., 2019, A Study on the Coreoidea (Hemiptera: Heteroptera) Fauna of Amasya, *Acta Biologica Turcica*, 32: 160–167.
- Zwölfer, W., 1931, Beitrage zur Kenntnis der Schadlingsfauna Kleinasiens I. Untersuchungen zur Epidemiologie der Getreidewanze Eurygaster integriceps Put. (Hemipt. Het.), *Zeitschrift für Angewandte Entomologie*, 17: 227–252.

Table 2. List of Heteroptera species of Karaman province

Taxonomy	Locality	Distribution in Türkiye	Chorotype
LEPTOPODOMORPHA Popov, 1971			
SALDIDAE Amyot & Serville, 1843			
SALDINAE Amyot & Serville, 1843			
SALDOIDINI Reuter, 1912			
<i>Macrosaldula variabilis</i> (Herrich-Schaeffer, 1835)*	Loc. 1	Adana, Ankara, Antalya, Aksaray, Bolu, Edirne, İzmir (Lindberg 1922; Hoberlandt 1952; Önder et al. 1984; Fent et al. 2011)	West Palearctic
<i>Saldula palustris</i> (Douglas, 1874)*	Loc. 6, 22, 30	Afyonkarahisar, Ankara, Eskişehir, Mersin (Fent et al. 2011)	Palearctic
<i>Saldula pilosella pilosella</i> (Thomson, 1871)**	Loc. 13, 30	Amasya, Edirne, Samsun (Fent et al. 2011; Dursun & Fent 2019)	Palearctic
NEPOMORPHA Popov, 1968			
CORIXIDAE Leach, 1815			
CORIXINAE Leach, 1815			
CORIXINI Leach, 1815			
<i>Corixa affinis</i> Leach, 1817*	Loc. 31	Adana, Afyonkarahisar, Ağrı, Ankara, Antalya, Aydın, Burdur, Çanakkale, Çorum, Denizli, Diyarbakır, Edirne, Erzincan, Erzurum, Eskişehir, Hatay, İsparta, İzmir, Kırklareli, Kocaeli, Konya, Manisa, Mersin, Muğla, Osmaniye, Samsun, Sivas, Tekirdağ, Zonguldak (Hoberlandt 1952; Önder & Adıgüzel 1979; Jansson 1986; Önder et al. 2006; Kiyak et al. 2007; Dursun 2011b; Fent et al. 2011; Topkara 2013; Yıldırım et al. 2013b)	Palearctic
<i>Corixa punctata</i> (Illiger, 1807)*	Loc. 8	Adana, Afyonkarahisar, Ağrı, Amasya, Ankara, Antalya, Ardahan, Aydın, Burdur, Bursa Çanakkale, Çankırı, Denizli, Edirne, İsparta, İstanbul, İzmir, Kars, Kastamonu, Kayseri, Kırklareli, Kirşehir, Kocaeli, Konya, Muğla, Samsun (Kiritschenko 1918; Linnauvori 1965; Jansson 1986; Yıldırım et al. 1999;	Palearctic

			Önder et al. 2006; Kiyak et al. 2007; Dursun 2011b; Fent et al. 2011; Topkara 2013; Dursun & Salur 2013; Dursun & Fent 2015, 2018)	
<i>Sigara (Vermicorixa) lateralis</i> (Leach, 1817)*	Loc. 8	Adana, Afyonkarahisar, Ağrı, Amasya, Ankara, Antalya, Artvin, Aydin, Bitlis, Bolu, Burdur, Bursa, Çanakkale, Çorum, Denizli, Diyarbakır, Edirne, Eskişehir Erzurum, Gaziantep, Isparta, İğdir, İstanbul, İzmir, Karabük, Kars, Kastamonu, Kayseri, Kırklareli, Kırşehir, Kilis, Kocaeli, Konya, Mersin, Muğla, Samsun, Sinop, Niğde, Osmaniye, Rize, Tekirdağ, Tunceli, Van, Zonguldak (Kiritshenko 1918; Hoberlandt 1952; Seidenstücker 1959a; Linnauvori 1965; Wagner 1966; Özesmi & Önder 1988; Önder et al. 2006; Kiyak et al. 2007; Dursun 2011b; Fent et al. 2011; Topkara 2013)	Palearctic	
NOTONECTIDAE Latreille, 1802				
ANISOPINAE Hutchinson, 1929				
<i>Anisops sardeus sardeus</i> Herrick-Schaeffer, 1849**	Loc. 8	Adana, Amasya, Antalya, Aydin, Denizli, Edirne, Gaziantep, İzmir, Kilis, Mersin, Muğla, Osmaniye (Hoberlandt 1952; Linnauvori 1965; Wagner 1966; Önder et al. 2006; Kiyak et al. 2007; Fent et al. 2011; Banbal & Fent 2016; Dursun & Fent 2018)	Turano-Mediterranean	
GERROMORPHA Popov, 1971				
GERRIDAE Leach, 1815				
GERRINAE Leach, 1815				
GERRINI Leach, 1815				
<i>Gerris (Gerris) thoracicus</i> Schummel, 1832*	Loc. 22, 31	Adana Afyonkarahisar, Ağrı, Amasya, Ankara, Antalya, Ardahan, Artvin, Aydin, Bartın, Burdur, Bursa, Çankırı, Çorum, Denizli, Edirne, Erzincan, Giresun, Hatay, İğdir, Isparta, İzmir, Karabük, Kahramanmaraş, Konya, Kırşehir, Mersin,	West Palearctic	

		Muğla, Nigde, Samsun, Sinop, Sivas, Tekirdağ, Tokat, Trabzon, Van (Lindberg 1922; Hoberlandt 1952; Seidenstücker 1957b; Kiyak et al. 2004b, 2008; Salur & Mesci 2009; Fent et al. 2011; Dursun 2012; Kemal & Koçak 2018)	
HYDROMETRIDAE Billberg, 1820			
HYDROMETRINAE Billberg, 1820			
<i>Hydrometra stagnorum</i> (Linnaeus, 1758)*	Loc. 31	Adana, Afyonkarahisar, Aksaray, Amasya, Ankara, Antalya, Artvin, Aydın, Bartın, Bolu, Bitlis, Burdur, Bursa, Çorum, Çanakkale, Çankırı, Denizli, Edirne, Erzincan, Gümüşhane, Hatay, İğdır, Isparta, İzmir, Kahramanmaraş, Kastamonu, Kırklareli, Kirşehir, Konya, Mersin, Muğla, Samsun, Şanlıurfa, Sivas, Tokat, Tunceli (Lindberg 1922; Önder et al. 2006; Kiyak et al. 2008; Salur & Mesci 2009; Fent et al. 2011; Dursun 2012; Küçükbaşmacı 2020)	West Palearctic
CIMICOMORPHA Leston, Pendergrast & Southwood, 1954			
TINGIDAE Laporte, 1832			
TINGINAE Laporte, 1832			
<i>Catoplatus anticus</i> (Reuter, 1880)*	Loc. 8	Afyonkarahisar, Ankara, Antalya, Balıkesir, Bilecik, Çanakkale, Edirne, Gaziantep, Giresun, Hakkâri, Hatay, İzmir, Kastamonu, Kırklareli, Kütahya, Tekirdağ, Tokat (Puton 1892; Önder & Lodos 1983; Péricart 1983; Kiyak & Akar 2010; Dursun & Fent 2017a)	East Mediterranean
<i>Catoplatus crassipes</i> (Fieber, 1861)	Loc. 8	Adana, Ankara, Artvin, Bolu, Çorum, Diyarbakır, Gaziantep, Giresun, Gümüşhane, Hatay, İzmir, Kahramanmaraş, Karaman, Kastamonu, Kayseri, Kırklareli, Konya, Malatya, Manisa, Mardin, Mersin, Niğde, Şanlıurfa (Seidenstücker 1960b; Önder & Lodos 1983)	East Mediterranean

<i>Catoplatus distinctus</i> Montandon, 1895*	Loc. 22	Ankara, Bingöl, İzmir, Kastamonu, Kırklareli, Niğde, Siirt (Hoberlandt 1956; Seidenstücker 1957b; Önder & Lodos 1983; Önder et al. 2006; Dursun & Fent 2017a);	Turano-East Mediterranean
<i>Catoplatus nigriceps</i> Horváth, 1905*	Loc. 16	Adana, Ankara, Bitlis, Diyarbakır, Erzincan, İzmir, Kars, Nevşehir, Niğde, Van (Péricart 1983; Kiyak et al. 2004a; Yıldırım et al. 2013a; Kemal & Koçak 2014b; Dursun & Fent 2017a)	Sibero-European
<i>Dictyla echii</i> (Schrink, 1782)	Loc. 31	Adana, Adiyaman, Afyonkarahisar, Ağrı, Ankara, Antalya, Aydın, Balıkesir, Bayburt, Bilecik, Bitlis, Bolu, Burdur, Bursa, Çanakkale, Çankırı, Çorum, Diyarbakır, Düzce, Elazığ, Erzincan, Erzurum, Gaziantep, Giresun, Gümüşhane, Hakkâri, Hatay, İsparta, İstanbul, İzmir, Kahramanmaraş, Karaman, Kars, Kastamonu, Kayseri, Kirikkale, Kırklareli, Kırşehir, Kocaeli, Konya, Kütahya, Malatya, Manisa, Mardin, Muğla, Nevşehir, Niğde, Ordu, Samsun, Siirt, Sivas, Şanlıurfa, Tekirdağ, Tokat, Tunceli, Uşak, Van (Horváth 1883, 1905a, 1919; Puton & Noualhier 1895; Kiritshenko 1918; Fahringer 1922; Seidenstücker 1954d; Hoberlandt 1956; Önder & Lodos 1983; Yıldırım et al. 2013a; Dursun & Fent 2017a)	Palearctic
<i>Dictyla rotundata</i> (Herrick- Schaeffer, 1835)	-	Ankara, Karaman, Kayseri, Nevşehir, Niğde (Seidenstücker 1954d; Hoberlandt 1956; Önder & Lodos 1983)	Turano-European
<i>Hyalochiton multiseriatus</i> (Reuter, 1888)*	Loc. 16	Ankara, Antalya, Bilecik, Diyarbakır, Eskişehir, Gaziantep, Hakkâri, Kahramanmaraş, Kayseri, Konya, Malatya, Mardin, Nevşehir, Niğde (Horváth 1906b; Seidenstücker 1954d; Önder & Lodos 1983; Péricart 1983; Maral et al. 2013)	East Mediterranean

<i>Lasiacantha karamanensis</i> Çerçi & Koçak, 2021	-	Karaman (Çerçi et al. 2021a)	Anatolian endemic
<i>Monosteira unicostata</i> (Mulsant & Rey, 1852)	Loc. 31	Adana, Adiyaman, Ağrı, Ankara, Antalya, Artvin, Aydın, Batman, Balıkesir, Bingöl, Bitlis, Burdur, Bursa, Çankırı, Denizli, Diyarbakır, Edirne, Elazığ, Erzurum, Erzincan, Eskişehir, Gaziantep, İğdır, Isparta, İzmir, Kars, Kayseri, Kırklareli, Konya, Karaman, Kütahya, Malatya, Manisa, Mardin, Muğla, Nevşehir, Niğde, Samsun, Siirt, Sivas, Şanlıurfa, Tekirdağ, Tunceli, Uşak (Seidenstücker 1954d; Hoberlandt 1956; Linnauvori 1965; Önder & Adıgüzel 1979; Önder & Lodos 1983; Yıldırım et al. 2013a; Dursun & Fent 2017a)	West Palearctic
<i>Physatocheila confinis</i> Horváth, 1905	-	Adana, Ankara, Balıkesir, Bingöl, Bolu, Çankırı, Çorum, Erzincan, Giresun, Gümüşhane, Hatay, İstanbul, İzmir, Karaman, Kastamonu, Konya, Manisa, Nevşehir, Ordu, Sivas, Zonguldak (Horváth 1905b; Hoberlandt 1956; Linnauvori 1965; Önder & Lodos 1983)	Turano-European
<i>Physatocheila municeps</i> Horváth, 1903	-	Amasya, Ankara, Antalya, Aydın, Bingöl, Bolu, Burdur, Çankırı, Çorum, Denizli, Diyarbakır, Elazığ, Eskişehir, Gaziantep, Isparta, İstanbul, İzmir, Kayseri, Kırıkkale, Kırşehir, Karaman, Mardin, Mersin, Uşak (Önder & Lodos 1983; Péricart 1983; Maral et al. 2013; Matocq et al. 2014)	East Mediterranean
<i>Stephanitis (Stephanitis) pyri</i> (Fabricius, 1775)	Loc. 22	Adana, Ağrı, Amasya, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bartın, Bingöl, Bursa, Çankırı, Diyarbakır, Elazığ, Erzurum, Eskişehir, Gaziantep, Hakkâri, İstanbul, İzmir, Karaman, Kayseri, Kırıkkale, Kırşehir, Manisa, Mardin, Muğla, Nevşehir, Niğde, Rize, Şanlıurfa, Tekirdağ, Tunceli, Zonguldak (Reuter 1890; Puton & Noualhier 1895; Escherich 1897; Hoberlandt	Mediterranean

		1956; Önder & Lodos 1983; Çevik 1996; Yıldırım et al. 2013a; Aysal & Kivan 2018; Yazıcı et al. 2022)	
<i>Tingis (Tingis) auriculata</i> (A. Costa, 1847)	-	Adiyaman, Afyonkarahisar, Ankara, Antalya, Artvin, Aydın, Çankırı, Diyarbakır, Edirne, Elazığ, Erzincan, Erzurum, Eskişehir, Gaziantep, Giresun, Hatay, İğdır, İstanbul, İzmir, Kahramanmaraş, Karaman, Kayseri, Kırklareli, Konya, Kütahya, Mersin, Niğde, Ordu, Samsun, Siirt, Sinop, Sivas, Tekirdağ, Tokat, Uşak, Van, Yalova (Horváth 1883; Puton 1892; Seidenstücker 1954d; Hoberlandt 1956; Önder & Lodos 1983; Maral et al. 2013; Yıldırım et al. 2013a; Dursun & Fent 2017a)	Turano-Mediterranean
<i>Tingis (Tingis) cardui</i> (Linnaeus, 1758)*	Loc. 8	Ankara, Bolu, Bursa, Kastamonu, Aydın, Afyonkarahisar, Erzincan, Gümüşhane, İzmir, Kocaeli, Ordu, Sinop, Tokat (Horváth 1883; Hoberlandt 1956; Önder & Lodos 1983; Kiyak & Akar 2010; Dursun & Fent 2017a)	Palearctic
NABIDAE A. Costa, 1853			
NABINAE A. Costa, 1853			
<i>Himacerus (Aptus) mirmicoides</i> (O. Costa, 1834)	Loc. 8, 9	All regions including Karaman province (Kerzhner 1981; Önder et al. 2006)	West Palearctic
<i>Nabis (Aspilaspis) viridulus</i> Spinola, 1837*	Loc. 9	Adana, Elazığ, İğdır, Kastamonu, Kahramanmaraş (Horváth 1894; Hoberlandt 1956; Matocq et al. 2014; Küçükbaşmacı & Kiyak 2015; Kiyak 2016)	West Palearctic
<i>Nabis (Nabis) punctatus</i> punctatus A. Costa, 1847*	Loc. 8, 22	Adana, Ankara, Bursa, Diyarbakır, Elazığ, Erzincan, Erzurum, Giresun, İğdır, İzmir, Kahramanmaraş, Konya, Mardin, Nevşehir, Niğde, Sivas, Tokat, Van (Seidenstücker 1954c; Hoberlandt 1956; Tezcan & Önder 1999; Atlıhan et al. 2003; Gençer et al. 2004; Kiyak et al. 2004a; Dursun	West Palearctic

			2011a; Yıldırım et al. 2013a; Matocq et al. 2014)
<i>Prostemma (Prostemma) guttula asiaticum</i> Kerzhner, 1968*	Loc. 22	Adana, Afyonkarahisar, Elazığ, Gümüşhane, Hatay, İsparta, İzmir, Kars, Konya, Tokat, Van (Puton 1892; Horváth 1901; Kiritshenko 1918; Kerzhner 1981; Önder et al. 1983a; Erbay 1986; Dursun 2011a; Fent & Japoshvili 2012; Sert et al. 2013; Kemal & Koçak 2014a; Çerçi & Tezcan 2021; Özgen et al. 2021)	Turanian
ANTHOCORIDAE Fieber, 1836			
ANTHOCORINAE Fieber, 1836			
ANTHOCORINI Fieber, 1836			
<i>Anthocoris confusus</i> Reuter, 1884	-	Afyonkarahisar, Bolu, Bursa, Diyarbakır, İzmir, Kırklareli, Karaman, Konya, Van, Zonguldak (Seidenstücke 1958; Önder 1982)	Paleartic
<i>Anthocoris gallarumulmi</i> (De Geer, 1773)	-	Afyonkarahisar, Ankara, Aydın, Bursa, Erzincan, İzmir, Karaman, Kütahya, Niğde (Reuter 1884; Hoberlandt 1956; Önder 1982)	European
<i>Anthocoris minki pistaciae</i> Wagner, 1957*	Loc. 9, 15, 22	Adana, Adıyaman, Ankara, Antalya, Bartın, Bingöl, Bitlis, Çankırı, Çorum, Diyarbakır, Gaziantep, Hakkâri, Isparta, İzmir, Kastamonu, Kırıkkale, Kırşehir, Konya, Manisa, Mardin, Muğla, Muş, Nevşehir, Niğde, Ordu, Şanlıurfa, Tokat, Van (Önder 1982)	Turano- Mediterranean
<i>Anthocoris nemoralis</i> (Fabricius, 1794)*	Loc. 20, 22	Ankara, Antalya, Bolu, Burdur, Bursa, Erzincan, Erzurum, Hatay, İzmir, Kayseri, Mardin, Mersin (Horváth 1883; Puton & Noualhier 1895; Linnauvori 1965; Çevik 1996; Tezcan & Önder 1999; Yıldırım et al. 2013a; Matocq et al. 2014)	West Paleartic
<i>Anthocoris pilosus</i> (Jakovlev, 1877)*	Loc. 5	All regions, including Karaman, except in Thrace & Southeast Anatolian regions (Kiritshenko 1924; Hoberlandt 1956; Önder	Asiatic-European

			1982; Yigit & Uygun 1982; Yıldırım et al. 2013a; Kemal & Koçak 2018)	
<i>Anthocoris visci</i> Douglas, 1889	-	Afyonkarahisar, Balıkesir, Bolu, Çankırı, Gaziantep, İzmir, Kırşehir, Karaman, Konya, Nevşehir, Niğde, Tokat (Önder 1982)		European
<i>Dufouriellus ater</i> (Dufour, 1833)**	Loc. 8	Antalya, Gaziantep, İzmir (Puton & Noualhier 1895; Önder 1982)		Palearctic
<i>Elatophilus (Euhadrocerus) pachycnemis</i> Horváth, 1907	-	Hatay, İstanbul, Karaman (Horváth 1907; Seidenstücker 1958; Önder 1982)		Anatolian endemic
CARDIASTETHINI Carayon, 1972				
<i>Amphiareus constrictus</i> (Stål, 1860)	-	Karaman, Muğla (Çerçi & Koçak 2017a; Çerçi & Tezcan 2021)		Alien
ORIINI Carayon, 1958				
<i>Orius (Heterorius) horvathi</i> (Reuter, 1884)	Loc. 22	Adana, Ağrı, Amasya, Ankara, Antalya, Artvin, Bitlis, Çanakkale, Çankırı, Çorum, Denizli, Edirne, Elazığ, Gaziantep, Gümüşhane, İstanbul, Kahramanmaraş, Karaman, Kars, Kayseri, Kırklareli, Konya, Mardin, Muğla, Muş, Nevşehir, Niğde, Tekirdağ, Trabzon, Van, Yozgat, Zonguldak (Hoberlandt 1956; Péricart 1972; Önder 1982)		Palearctic
<i>Orius (Heterorius) laticollis</i> (Reuter, 1884)*	Loc. 22	Adana, Ağrı, Ankara, Bursa, Denizli, Diyarbakır, Edirne, İstanbul, Kırklareli, Konya, Niğde, Sivas, Şanlıurfa, Van (Wagner 1952; Hoberlandt 1956; Önder & Adıgüzel 1979; Önder 1982; Çerçi & Koçak 2017b)		Palearctic
<i>Orius (Heterorius) vicinus</i> (Ribaut, 1923)*	Loc. 8	Ankara, Antalya, Kayseri, Konya, Mardin, Niğde, Nevşehir (Péricart 1972; Önder 1982)		Asiatic-European
XYLOCORINI Herrich-Schaeffer, 1850				
<i>Xylocoris (Proxylocoris) galactinus</i> (Fieber, 1836)*	Loc. 6	Adana, Gaziantep, İzmir, Siirt (Hoberlandt 1956; Önder 1982; Matocq & Özgen 2010)		Palearctic
LYCTOCORIDAE Reuter, 1884				

<i>Lyctocoris (Lyctocoris) campestris</i> (Fabricius, 1794)*	Loc. 22	Adana, Ankara, Bilecik, İzmir, Mersin (Hoberlandt 1956; Önder 1982; Önder et al. 1983a)	Cosmopolitan
REDUVIIDAE Latreille, 1807			
EMESINAE Amyot & Serville, 1843			
EMESINI Amyot & Serville, 1843			
<i>Stenolemus novaki</i> Horváth, 1888**	Loc. 26	Bursa, Kayseri (Dursun & Salur 2013)	Mediterranean
HARPACTORINAE Amyot & Serville, 1843			
HARPACTORINI Amyot & Serville, 1843			
<i>Coranus (Coranus) griseus</i> (Rossi, 1790)*	Loc. 22	Adana, Adiyaman, Ağrı, Amasya, Ankara, Artvin, Aydın, Bilecik, Bursa, Çorum, Denizli, Diyarbakır, Elazığ, Erzurum, Eskişehir, İstanbul, İzmir, Konya, Malatya, Manisa, Mersin, Muğla, Nevşehir, Siirt, Şanlıurfa, Tekirdağ, Tokat, Van (Horváth 1883, 1901; Fahringer 1922; Wagner 1966; Önder 1980; Atlıhan et al. 2003; Yıldırım et al. 2010; Kiyak & Akar 2010; Dursun 2011a; Çerçi et al. 2018, 2022)	Turano-Mediterranean
<i>Coranus (Coranus) tuberculifer</i> Reuter, 1881*	Loc. 13	Afyonkarahisar, Amasya, Antalya, Aydın, Bursa, Edirne, Isparta, İstanbul, İzmir, Kahramanmaraş, Sivas, Tekirdağ, Yalova (Horváth 1883, 1901; Hoberlandt 1956; Önder 1980; Önder et al. 2006; Putshkov & Moulet 2010; Dursun 2011a; Fent & Japoshvili 2012; Matocc et al. 2014; Çerçi & Özgen 2021)	East Mediterranean
<i>Nagusta goedelii</i> (Kolenati, 1857)*	Loc. 9.	Adana, Adiyaman, Afyonkarahisar, Ağrı, Amasya, Ankara, Antalya, Artvin, Burdur, Bursa, Çanakkale, Çankırı, Çorum, Diyarbakır, Edirne, Elazığ, Erzincan, Erzurum, Gaziantep, Hakkâri, İğdır, Isparta, İstanbul, İzmir, Kars, Kayseri, Kırklareli, Kırşehir, Konya, Kütahya, Malatya, Manisa, Mardin, Nevşehir, Niğde, Ordu,	East Mediterranean

		Samsun, Sivas, Şanlıurfa, Tokat, Tunceli, Uşak, Van, Zonguldak (Escherich 1897; Reuter 1909; Kiritshenko 1918; Hoberlandt 1956; Önder 1980; Atlıhan et al. 2003; Yıldırım et al. 2010; Dursun 2011a; Fent 2011; Kaplan et al. 2011; Matocq et al. 2014; Fent et al. 2022)	
<i>Rhynocoris (Rhynocoris) ibericus</i> Kolenati, 1857* (Fig. 17A)	Loc. 31	Adana, Ağrı, Artvin, Bingöl, Elazığ, Erzurum, İğdır, İstanbul, İzmir, Kahramanmaraş, Kars, Konya, Mersin, Muş, Niğde, Tunceli (Horváth 1901, 1918; Kiritshenko 1918, 1924; Seidenstücker 1958; Önder 1980; Yıldırım et al. 2010, 2013a; Kiyak 2016)	Southwest Asiatic
<i>Rhynocoris (Rhynocoris) punctiventris</i> (Herrich-Schaeffer, 1846)*	Loc. 17	Adana, Adıyaman, Ankara, Antalya, Ardahan, Artvin, Aydın, Balıkesir, Bayburt, Bilecik, Bingöl, Burdur, Bursa, Çanakkale, Çankırı, Çorum, Diyarbakır, Elazığ, Erzincan, Erzurum, Gaziantep, Giresun, Gümüşhane, Hatay, İğdır, İstanbul, İzmir, Kahramanmaraş, Kars, Kastamonu, Kayseri, Kocaeli, Konya, Malatya, Manisa, Mersin, Muğla, Niğde, Osmaniye, Rize, Şanlıurfa, Sivas, Tokat, Tunceli, Van (Horváth 1883, 1901, 1905a, 1919; Puton 1892; Gadeau de Kerville 1939; Hoberlandt 1956; Linnavuori 1965; Wagner 1966; Önder 1980; Kiyak 1990; Şerban 2010; Yıldırım et al. 2010; Dursun 2011a; Dursun & Salur 2013; Matocq et al. 2014; Küçükbaşmacı & Kiyak 2015)	East Mediterranean
PEIRATINAE Amyot & Serville, 1843			
<i>Peirates hybridus</i> (Scopoli, 1763)	Loc. 31	Adana, Adıyaman, Ankara, Antalya, Artvin, Bursa, Diyarbakır, Edirne, Elazığ, Erzurum, Eskişehir, Gaziantep, Giresun, Gümüşhane, Hatay, İzmir, Kahramanmaraş, Karaman, Kars, Kocaeli, Konya, Niğde,	Palearctic

		Rize, Siirt, Trabzon, Uşak, Van (Horváth 1883; Puton & Noualhier 1895; Gadeau de Kerville 1939; Hoberlandt 1956; Seidenstücker 1958; Önder 1980; Önder et al. 1981, 1984, 2006; Tezcan et al. 2010a; Yıldırım et al. 2010, 2013a; Dursun & Salur 2013; Matocq et al. 2014; Kemal & Koçak 2018; Özgen et al. 2021)	
REDUVIINAE Laterille, 1807			
<i>Holotrichius denudatus</i> A. Costa, 1842*	Loc. 22, 24, 26	Aydın, Çanakkale, Hakkâri, İsparta, İzmir, Kahramanmaraş, Konya, Niğde (Seidenstücker 1957b; Önder 1980; Önder et al. 2006; Dursun 2011a; Fent & Japoshvili 2012; Kiyak 2016)	Mediterranean
<i>Reduvius ciliatus</i> Jakovlev, 1879* (Fig. 5A)	Loc. 13	Çağrı, Diyarbakır, Gaziantep, Hatay, İğdır, Mardin (Puton & Noualhier 1895; Kiritschenko 1918; Hoberlandt 1956; Matocq et al. 2014; Çerçi et al. 2022; Fent et al. 2022)	Southwest Asiatic
<i>Reduvius pallipes</i> Klug, 1830*	Loc. 17, 22	Adana, Aksaray, Amasya, Ankara, Artvin, Aydın, Bursa, Denizli, Diyarbakır, Edirne, Elazığ, Erzincan, Gaziantep, Hatay, İzmir, Kahramanmaraş, Konya, Kirşehir, Manisa, Mardin, Nevşehir, Osmaniye, Malatya, Mersin, Niğde, Siirt, Sivas, Van, Yozgat (Reuter 1890, 1896; Puton 1892; Fahringer 1922; Hoberlandt 1956; Wagner 1966; Tuatay et al. 1972; Önder & Adıgüzel 1979; Önder 1980; Kiyak et al. 2004a; Yıldırım et al. 2010, 2013a; Matocq & Özgen 2010; Koçak & Kemal 2012)	East Mediterranean
<i>Reduvius testaceus</i> (Herrick-Schaeffer, 1845)** (Fig. 17B)	Loc. 29	Adana, Ağrı, Elazığ, İzmir, Kars (Reuter 1890; Kiritschenko 1918; Hoberlandt 1956; Kiyak 1990)	Turano-Mediterranean
STENOPODAINAE Amyot & Serville, 1843			
<i>Oncocephalus acutangulus</i> Reuter, 1882**	Loc. 8, 17, 22	Bursa, Diyarbakır, Edirne, Hatay, İstanbul, Kocaeli, Sakarya (Puton 1892; Önder	Mediterranean

		1980; Önder et al. 1981, 1984)	
<i>Oncocephalus squalidus</i> (Rossi, 1790)*	Loc. 15, 22	Adana, Ankara, Antalya, Bursa, Diyarbakır, Düzce, Edirne, Elazığ, Gaziantep, Hatay, İğdır, İstanbul, İzmir, Kahramanmaraş, Kocaeli, Konya, Malatya, Manisa, Sakarya, Şanlıurfa (Horváth 1883, 1901, 1918; Hoberlandt 1956; Önder et al. 2006, 1981, 1984; Yıldırım et al. 2010; Kiyak 2016; Çerçi et al. 2018, 2022; Fent et al. 2022)	Mediterranean
<i>Oncocephalus thoracicus</i> Fieber, 1861*	Loc. 8, 11, 22	Ankara, Antalya, Diyarbakır, Hatay, Konya, Rize (Hoberlandt 1956; Seidenstücker 1958; Önder & Adıgüzel 1979; Önder 1980; Yıldırım et al. 2010)	Southwest Asiatic
MIRIDAE Hahn, 1833			
ISOMETOPINAE Fieber, 1860			
ISOMETOPINI Fieber, 1860			
<i>Isometopus (Isometopus)</i> <i>diversiceps</i> Linnauvori, 1962** (Fig. 5B)	Loc. 17, 22	Bolu, Gaziantep, Hatay, Mardin (Linnauvori 1962, 1965; Önder et al. 2006; Matocq et al. 2014)	Anatolian endemic
BRYOCORINAE Baerensprung, 1860			
DICYPHINI Reuter, 1883			
<i>Dicyphus (Brachyceroea)</i> <i>geniculatus</i> * (Fieber, 1858)	Loc. 26	Artvin, Kars, Kocaeli, Mersin, Zonguldak (Kiritshenko 1918; Hoberlandt 1956; Önder 1976; Lodos et al. 2003)	Europeo- Mediterranean
<i>Dicyphus (Dicyphus) alkannae</i> Seidenstücker, 1956* (Fig. 5C-D)	Loc. 29	Aksaray, Antalya, Kayseri, Niğde, Sinop, Van (Seidenstücker 1956a; Wagner 1974a; Önder 1976; Lodos et al. 2003)	Anatolian endemic
<i>Dicyphus (Dicyphus) errans</i> (Wolff, 1804)*	Loc. 8	Artvin, Bursa, Çorum, Düzce, Erzincan, Hatay, İstanbul, İzmir, Kars, Kastamonu, Kayseri, Kocaeli, Konya, Mersin, Nevşehir, Osmaniye Sakarya (Kiritshenko 1918; Önder 1976; Önder et al. 1981; Lodos et al. 2003; Canbay et al. 2014)	European

<i>Dicyphus (Dicyphus) hyalinipennis</i> (Burmeister, 1835)**	Loc. 22	Adana, Antalya, Artvin, Erzincan, İzmir, Kocaeli, Manisa, Mersin (Reuter 1883; Hoberlandt 1956; Önder 1976; Lodos et al. 2003; Canbay et al. 2014)	Europeo-Mediterranean
<i>Dicyphus (Dicyphus) lindbergi</i> Wagner, 1951*** (Fig. 5E-F)	Loc. 6	Karaman (this paper)	East Mediterranean
<i>Dicyphus (Mesodicyphus) martinoi</i> Josifov, 1958	-	Karaman (Çerçi & Koçak 2017b)	Balkano-Anatolian
<i>Macrolophus costalis</i> Fieber, 1858*	Loc. 22, 29	Aksaray, Ankara, Antalya, Artvin, Bilecik, Bursa, Çankırı, Çorum, Düzce, Edirne, Erzurum, Eskişehir, Hatay, İğdır, İstanbul, İzmir, Kastamonu, Kayseri, Kırıkkale, Kırşehir, Kocaeli, Konya, Kütahya, Mersin, Nevşehir, Niğde, Osmaniye, Sakarya, Sinop, Zonguldak (Önder 1976; Önder et al. 1981, 1983a, 1984; Yıldırım et al. 1999; Lodos et al. 2003; Yazıcı & Yıldırım 2016b)	Mediterranean
<i>Macrolophus glaucescens</i> Fieber, 1858*	Loc. 22	Antalya, Bursa, Hatay, Nevşehir (Önder et al. 1981; Lodos et al. 2003; Kiyak et al. 2004a)	Europeo-Mediterranean
<i>Macrolophus pygmaeus</i> (Rambur, 1839)	Loc. 6, 22	Adana, Ankara, Antalya, Artvin, Balıkesir, Bursa, Çanakkale, Diyarbakır, Düzce, Edirne, Gaziantep, Hatay, İstanbul, İzmir, Kahramanmaraş, Karaman, Kırşehir, Kilis, Kocaeli, Mardin, Mersin, Nevşehir, Niğde, Osmaniye, Sakarya, Siirt, Şanlıurfa (Hoberlandt 1956, 1961; Önder 1976; Önder et al. 1981, 1984, 1995a; Lodos et al. 2003; Matocq et al. 2014)	West Palearctic
<i>Nesidiocoris tenuis</i> (Reuter, 1895)*	Loc. 6	Adana, Antalya, İzmir, Mersin (Hoberlandt 1956; Önder et al. 1983a, 1995a; Lodos et al. 2003)	Cosmopolitan
DERAEOCORINAE Douglas & Scott, 1865			
CLIVINEMATINI Reuter, 1876			
<i>Bothynotus pilosus</i> (Boheman, 1852)**	Loc. 11, 20, 22, 26	Kayseri, Kastamonu, Kırklareli (Yanmazdağ 1987; Lodos et al. 2003;	Holarctic

		Küçükbasmacı & Kiyak 2015)	
	DERAECORINI	Douglas & Scott, 1865	
<i>Alloeotomus germanicus</i> Wagner, 1939**	Loc. 22	Antalya, Kastamonu, Kütahya, Muğla (Önder 1976; Lodos et al. 2003)	European
<i>Deraeocoris (Camptobrochis) pallens pallens</i> (Reuter, 1904)*	Loc. 22	Adana, Artvin, Diyarbakır, Erzincan, Erzurum, Gaziantep, Hatay, İstanbul, İzmir, Kahramanmaraş, Kars, Kayseri, Kilis, Mardin, Mersin, Muğla, Osmaniye (Wagner 1954a; Hoberlandt 1956; Önder 1976; Lodos et al. 2003; Yazıcı & Yıldırım 2016b)	Southwest Asiatic
<i>Deraeocoris (Camptobrochis) punctulatus</i> (Fallén, 1807)*	Loc. 20, 22	Adana, Afyonkarahisar, Ağrı, Ankara, Antalya, Artvin, Aydın, Balıkesir, Burdur, Bursa, Çanakkale, Çorum, Denizli, Diyarbakır, Edirne, Elazığ, Erzincan, Erzurum, Eskişehir, Gaziantep, Hatay, İsparta, İzmir, Kahramanmaraş, Kars, Kayseri, Kırklareli, Kütahya, Mardin, Mersin, Muğla, Rize, Sakarya, Siirt, Trabzon, Van (Horváth 1883, 1894; Escherich 1897; Kiritshenko 1918; Önder 1976; Lodos et al. 2003; Matocq & Özgen 2010; Matocq et al. 2014; Yazıcı & Yıldırım 2016b)	Holarctic
<i>Deraeocoris (Camptobrochis) serenus</i> (Douglas & Scott, 1868)	Loc. 20, 31	Adana, Afyonkarahisar, Ağrı, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bayburt, Bilecik, Bolu, Burdur, Bursa, Çanakkale, Çankırı, Çorum, Denizli, Diyarbakır, Düzce, Edirne, Elazığ, Erzincan, Erzurum, Eskişehir, Gaziantep, Giresun, Hakkâri, Hatay, İğdır, İstanbul, İzmir Kahramanmaraş, Karabük, Karaman, Kars, Kastamonu, Kayseri, Kırşehir, Kilis, Kocaeli, Konya, Kütahya, Kırklareli, Malatya, Manisa, Mardin, Mersin, Muğla, Nevşehir, Niğde, Sakarya, Sinop, Tekirdağ, Tunceli, Uşak, Van, Yozgat (Puton & Noualhier 1895; Hoberlandt 1956; Linnauvori 1965; Tuatay et al. 1966; Önder	Palearctic

		1976; Önder et al. 1981; Lodos et al. 2003)	
<i>Deraeocoris (Deraeocoris) ruber</i> (Linnaeus, 1758)	Loc. 24	Ankara, Antalya, Bartın, Bolu, Burdur, Bursa, Çankırı, Denizli, Düzce, Erzurum, Eskişehir, İstanbul, İzmir, Karabük, Karaman, Kastamonu, Kütahya, Nevşehir, Sakarya, Samsun, Zonguldak (Linnavuori 1965; Önder 1976; Önder et al. 1981, 2006; Lodos et al. 2003; Kiyak et al. 2004a; Yazıcı & Yıldırım 2016b)	West Palearctic
<i>Deraeocoris (Deraeocoris) rutilus</i> (Herrich-Schaeffer, 1838)	Loc. 14, 16, 24	Adana, Adiyaman, Amasya, Ankara, Antalya, Aydin, Balıkesir, Bilecik, Bolu, Burdur, Bursa, Çanakkale, Çankırı, Çorum, Denizli, Diyarbakır, Edirne, Elazığ, Erzincan, Erzurum, Eskişehir, Gaziantep, Hatay, Isparta, İstanbul, İzmir, Kahramanmaraş, Karabük, Karaman, Kastamonu, Kayseri, Kırşehir, Kilis, Kocaeli, Konya, Kütahya, Kırklareli, Manisa, Mardin, Mersin, Muğla, Muş, Nevşehir, Osmaniye, Sakarya, Siirt, Sinop, Tekirdağ, Uşak, Van (Horváth 1883, 1901, 1905a; Puton 1892; Hoberlandt 1956; Tuatay et al. 1966; Önder 1976; Önder & Adıgüzel 1979; Önder et al. 1981, 1984; Lodos et al. 2003; Yazıcı & Yıldırım 2016b; Kemal & Koçak 2018)	East Mediterranean
<i>Deraeocoris (Deraeocoris) trifasciatus</i> (Linnaeus, 1767)*	Loc. 14	Adana, Afyonkarahisar, Ankara, Aydin, Bilecik, Burdur, Bursa, Denizli, Düzce, Edirne, Elazığ, Gümüşhane, Isparta, İzmir, Kocaeli, Kütahya, Manisa, Muğla, Sakarya, Tekirdağ, Tokat, Uşak (Horváth 1883; Escherich 1897; Hoberlandt 1956; Önder 1976; Önder et al. 1981; Çam 1993; Lodos et al. 2003; Çerçi et al. 2022)	European
<i>Deraeocoris (Knightocapsus) lutescens</i> (Schilling, 1837)	Loc. 17, 22	Adana, Afyonkarahisar, Ankara, Artvin, Balıkesir, Bartın, Bilecik, Bolu, Bursa,	Europeo- Mediterranean

		Çankırı, Çorum, Edirne, Elazığ, Erzincan, Erzurum, Eskişehir, İğdır, Isparta, İzmir, Kahramanmaraş, Karabük, Karaman, Kastamonu, Kayseri, Kırklareli, Kocaeli, Konya, Kütahya, Manisa, Niğde, Ordu, Rize, Sakarya, Sinop, Tokat, Trabzon, Uşak, Van, Yozgat, Zonguldak (Horváth 1883; Hoberlandt 1956; Linnauori 1965; Önder 1976; Önder et al. 1981; Çam 1993; Çevik 1996; Athihan et al. 2003; Lodos et al. 2003; Matocq et al. 2014; Yazıcı & Yıldırım 2016b)	
<i>Deraeocoris (Knightocapsus) putoni</i> (Montandon, 1885)	-	Ankara, Edirne, İzmir, Karaman, Kırklareli, Nevşehir, Sinop, Tekirdağ (Hoberlandt 1956; Önder 1976; Lodos et al. 2003; Önder et al. 2006)	Balkano- Anatolian
MIRINAE Hahn, 1833			
MIRINI Hahn, 1833			
<i>Adelphocoris insignis</i> Horváth, 1898** (Fig. 6A-B)	Loc. 13, 20, 22, 24	Çanakkale (Önder 1976)	Balkano- Anatolian
<i>Adelphocoris lineolatus</i> (Goeze, 1778)	Loc. 22	Adana, Afyonkarahisar, Ağrı, Ankara, Antalya, Artvin, Balıkesir, Bartın, Bilecik, Bolu, Burdur, Bursa, Çanakkale, Çankırı, Çorum, Denizli, Edirne, Elazığ, Erzincan, Erzurum, Eskişehir, Gaziantep, Hakkâri, Hatay, Isparta, İstanbul, İzmir, Kahramanmaraş, Karabük, Karaman, Kars, Kastamonu, Kayseri, Kırıkkale, Kırklareli, Kırşehir, Kilis, Konya, Kütahya, Manisa, Mersin, Muğla, Nevşehir, Niğde, Osmaniye, Sakarya, Samsun, Sinop, Şanlıurfa, Tekirdağ, Tokat, Trabzon, Yozgat, Zonguldak (Horváth 1894, 1905a; Puton & Noualhier 1895; Kiritshenko 1918; Fahringer 1922; Hoberlandt 1956; Linnauori 1965; Tuatay et al. 1966; Önder 1976; Özbek & Alaoğlu 1988)	Holarctic

<i>Agnocoris reclairei</i> (Wagner, 1949)	Loc. 8	Adana, Bilecik, Bolu, Bursa, Çorum, Edirne, Eskişehir, İzmir, Kahramanmaraş, Karaman, Kastamonu, Kayseri, Kırklareli, Kocaeli, Konya, Kütahya, Mersin, Niğde, Sinop, Uşak (Hoberlandt 1956; Önder 1976; Yiğit & Uygun 1982; Lodos et al. 2003)	European
<i>Brachycoleus decolor</i> Reuter, 1887*	Loc. 22	Adana, Ağrı, Amasya, Ankara, Bayburt, Bilecik, Bitlis, Bursa, Çankırı, Diyarbakır, Eskişehir, Erzincan, Erzurum, Hatay, İğdır, Kahramanmaraş, Kars, Kastamonu, Kayseri, Kırıkkale, Konya, Nevşehir, Uşak, Van (Tuatay et al. 1966; Gerini 1971; Önder 1976; Lodos et al. 2003; Kiyak et al. 2004a; Matocq et al. 2014; Küçükbaşmacı & Kiyak 2015; Yazıcı & Yıldırım 2016c; Kemal & Koçak 2018)	Asiatic-European
<i>Brachycoleus lineellus</i> Jakovlev, 1884 (Fig. 16A)	Loc. 24	Adana, Afyonkarahisar, Ankara, Antalya, Aydın, Bilecik, Burdur, Çanakkale, Denizli, Diyarbakır, Edirne, Erzincan, Erzurum, Gaziantep, Isparta, Kahramanmaraş, Karaman, Kars, Kayseri, Kırklareli, Kilis, Konya, Mardin, Niğde, Uşak (Horváth 1905a; Kiritschenko 1918; Seidenstücker 1958; Önder 1976; Lodos et al. 2003; Matocq et al. 2014; Yazıcı & Yıldırım 2016c)	Southwest Asiatic
<i>Brachycoleus steini</i> Reuter, 1877*	Loc. 14, 31	Afyonkarahisar, Ağrı, Antalya, Aydın, Balıkesir, Bilecik, Burdur, Bursa, Çanakkale, Denizli, Edirne, Elazığ, Gaziantep, Gümüşhane, Isparta, İstanbul, İzmir, Kahramanmaraş, Kars, Kayseri, Kırklareli, Kırşehir, Konya, Kütahya, Manisa, Muğla, Muş, Niğde, Tekirdağ, Uşak (Horváth 1883; Fahringer 1922; Hoberlandt 1956; Önder 1976; Lodos et al. 2003; Önder et al. 2006;	East Mediterranean

			Özgen & Dioli 2019; Çerçi et al. 2022)
<i>Calocoris roseomaculatus angularis</i> (Fieber, 1864)*	Loc. 22, 24, 26, 31	Adana, Afyonkarahisar, Ağrı, Amasya, Ankara, Antalya, Balıkesir, Bartın, Bilecik, Bolu, Burdur, Bursa, Çanakkale, Çankırı, Denizli, Diyarbakır, Edirne, Elazığ, Erzincan, Erzurum, Eskişehir, Gaziantep, Hatay, Isparta, İstanbul, İzmir, Kahramanmaraş, Karabük, Kars, Kastamonu, Kayseri, Kırıkkale, Kırklareli, Kırşehir, Konya, Kütahya, Manisa, Mardin, Mersin, Muğla, Nevşehir, Niğde, Osmaniye, Siirt, Sinop, Tekirdağ, Trabzon, Uşak (Reuter 1896; Horváth 1905a; Kiritshenko 1918; Hoberlandt 1956; Tuatay et al. 1966; Önder 1976; Lodos et al. 1978, 2003; Matocq et al. 2014; Yazıcı & Yıldırım 2016c; Çerçi et al. 2022)	East Mediterranean
<i>Calocoris rubicundus</i> Reuter, 1904	-	Adana, Ankara, Eskişehir, Karaman (Reuter 1904b; Gerini 1971; Lodos et al. 2003)	Anatolian endemic
<i>Capsodes gothicus gothicus</i> (Linnaeus, 1758)	Loc. 9	Karaman, Sakarya (Çerçi & Koçak 2017a)	Asiatic-European
<i>Charagochilus (Charagochilus) gyllenhalii</i> (Fallén, 1807)*	Loc. 8, 11, 13, 20, 22, 26	Ankara, Artvin, Aydın, Bolu, Bursa, Çankırı, Çorum, Düzce, Edirne, Hatay, İzmir, Kahramanmaraş, Karabük, Kars, Kastamonu Erzurum, Kayseri, Kocaeli, Konya, Malatya, Mardin, Mersin, Muğla, Nevşehir, Niğde, Sakarya, Siirt, Sinop, Uşak (Kiritshenko 1918; Hoberlandt 1956; Önder 1976; Önder et al. 1981; Lodos et al. 2003; Matocq et al. 2014; Küçükbaşmacı & Kiyak 2015; Kiyak 2016; Yazıcı & Yıldırım 2016c)	West Palearctic
<i>Clasterotomus annulus</i> (Brullé, 1832)*	Loc. 9, 16, 22, 31	Adana, Afyonkarahisar, Amasya, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bilecik, Burdur, Bursa, Çanakkale, Denizli, Gaziantep, Gümüşhane, Hatay, İzmir, Kahramanmaraş, Kilis,	East Mediterranean

		Manisa, Mersin, Muğla, Osmaniye, Rize, Sakarya, Tekirdağ (Reuter 1890; Puton & Noualhier 1895; Hoberlandt 1956; Tuatay et al. 1966; Önder 1976; Lodos et al. 2003; Çerçi et al. 2022)	
<i>Closterotomus hedenborgi</i> (Fieber, 1870)	-	İstanbul, İzmir, Kahramanmaraş, Karaman, Kayseri, Konya, Mersin, Nevşehir, Niğde (Reuter 1896; Horváth 1901; Seidenstücker 1958; Önder 1976; Lodos et al. 2003)	East Mediterranean
<i>Closterotomus kroesus</i> (Seidenstücker, 1977)* (Figs. 6C, 16B)	Loc. 1	Adana, Diyarbakır, Giresun, Hatay, Kahramanmaraş, Mersin, Niğde (Seidenstücker 1977; Matocq et al. 2014; Yazıcı & Yıldırım 2016c)	Anatolian endemic
<i>Closterotomus krueperi</i> (Reuter, 1880)	-	Adana, Ankara, Antalya, Aydın, Balıkesir, Burdur, Diyarbakır, Eskişehir, Gaziantep, Hatay, İzmir, Kahramanmaraş, Karaman, Kütahya, Mersin, Muğla, Osmaniye, Uşak (Önder 1976; Lodos et al. 2003)	East Mediterranean
<i>Closterotomus picturatus</i> (Reuter, 1896)	Loc. 13	Antalya, Antalya, Aydın, Bilecik, Burdur, Bursa, Çanakkale, İzmir, Karaman, Kastamonu, Konya, Kütahya, Mersin, Muğla, Zonguldak (Reuter 1896; Seidenstücker 1958; Önder 1976; Lodos et al. 2003; Önder et al. 2006)	Balkano- Anatolian
<i>Cyphodema ciliica</i> Seidenstücker, 1954* (Fig. 16C)	Loc. 24	Adana, Mersin, Niğde, Osmaniye (Seidenstücker 1954a; Önder 1976; Lodos et al. 2003)	Anatolian endemic
<i>Dichrooscytus cyprius</i> Lindberg, 1948*	Loc. 20	Adana (Hoberlandt 1956)	Southwest Asiatic
<i>Dichrooscytus seidenstückeri</i> Josifov, 1974*	Loc. 26	Adana, Antalya, Bolu, Burdur, Çankırı, Çorum, Karabük, Kastamonu, Konya, Kırıkkale, Mersin, Niğde (Josifov 1974; Önder 1976; Lodos et al. 2003; Çerçi & Tezcan 2021)	Southwest Asiatic
<i>Dichrooscytus tauricus</i> Seidenstücker, 1954 (Fig. 7A)	Loc. 9	Adana, Antalya, Isparta, Kahramanmaraş, Karaman, Kütahya, Mersin, Muğla, Osmaniye (Seidenstücker	Anatolian endemic

		1954b; Önder 1976; Lodos et al. 1978, 2003)	
<i>Dionconotus neglectus neglectus</i> (Fabricius, 1798)	Loc. 9	Adana, Ankara, Aydın, Antalya, Çanakkale, Gaziantep, Hatay, İstanbul, İzmir, Karaman, Kilis, Kocaeli, Konya, Mersin, Muğla, Sakarya (Reuter 1890; Hoberlandt 1956; Önder 1976; Lodos et al. 2003; Önder et al. 2006)	East Mediterranean
<i>Eurystylus bellevoyei</i> (Reuter, 1879)**	Loc. 22	Muğla, İzmir (Çerçi & Koçak 2016)	Afrotropico-Mediterranean
<i>Horistus (Horistus) bimaculatus</i> (Jakovlev, 1884) (Fig. 16D)	Loc. 3, 4, 20, 22, 30	Adana, Ankara, Erzurum, Eskişehir, Kahramanmaraş, Karaman, Kars, Kayseri, Malatya, Mersin, Nevşehir, Niğde, Samsun, Tekirdağ (Reuter 1904b; Kiritshenko 1918; Seidenstücker 1958; Önder 1976; Chérot 1997; Lodos et al. 2003)	Southwest Asiatic
<i>Horistus (Primihoristus) orientalis</i> (Gmelin, 1790)*	Loc. 22	Adana, Afyonkarahisar, Amasya, Ankara, Antalya, Balıkesir, Bilecik, Bursa, Çanakkale, Çankırı, Çorum, Denizli, Diyarbakır, Edirne, Elazığ, Erzurum, Isparta, İzmir, Kahramanmaraş, Kayseri, Kırıkkale, Kırklareli, Kırşehir, Kütahya, Manisa, Mardin, Mersin, Muğla, Nevşehir, Niğde, Siirt, Tekirdağ, Uşak, Van (Horváth 1883, 1905a; Hoberlandt 1956; Tuatay et al. 1966; Önder 1976; Lodos et al. 2003; Matocq et al. 2014; Yazıcı & Yıldırım 2016c; Kemal & Koçak 2018)	Mediterranean
<i>Liocoris tripustulatus</i> (Fabricius, 1781)	Loc. 8	Adana, Aksaray, Amasya, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bayburt, Bilecik, Bitlis, Bolu, Burdur, Bursa, Çorum, Denizli, Diyarbakır, Edirne, Elazığ, Erzurum, Gaziantep, Hakkâri, Hatay, İğdır, İstanbul, İzmir, Kahramanmaraş, Karabük, Karaman, Kars, Kastamonu, Kayseri, Konya, Kütahya, Malatya, Manisa, Mardin, Mersin, Nevşehir, Niğde, Osmaniye, Sakarya, Trabzon, Van, Yozgat, Zonguldak	Asiatic-European

		(Horváth 1883; Puton & Noualhier 1895; Kiritshenko 1918; Hoberlandt 1956; Tuatay et al. 1966; Önder 1976; Atlıhan et al. 2003; Lodos et al. 2003; Matocq et al. 2014; Küçükbaşmacı & Kiyak 2015; Yazıcı & Yıldırım 2016c)	
<i>Lygocoris pernicooides</i> Seidenstücker, 1957* (Fig. 7B)	Loc. 29	Antalya, Konya, Mersin, Elazığ (Seidenstücker 1957a; Önder 1976; Lodos et al. 2003; Önder et al. 2006)	Balkano- Anatolian
<i>Lygus gemellatus</i> (Herrick- Schaeffer, 1835)*	Loc. 6, 22, 24	Adana, Amasya, Ankara, Antalya, Artvin, Ağrı, Bayburt, Bursa, Çanakkale, Denizli, Diyarbakır, Edirne, Elazığ, Erzincan, Erzurum, İğdır, Kars, Kayseri, Konya, Kütahya, Mardin, Mersin, Nevşehir, Siirt (Hoberlandt 1956; Tuatay et al. 1966; Önder 1976; Fent 2011; Matocq et al. 2014; Yazıcı & Yıldırım 2016c)	Palearctic
<i>Lygus pratensis</i> (Linnaeus, 1758)	Loc. 30	Adana, Afyonkarahisar, Ağrı, Amasya, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bartın, Bilecik, Bitlis, Bolu, Burdur, Bursa, Çanakkale, Çankırı, Çorum, Denizli, Diyarbakır, Düzce, Edirne, Elazığ, Erzincan, Erzurum, Eskişehir, Gaziantep, Hakkâri, Hatay, Isparta, İstanbul, İzmir, Kahramanmaraş, Karabük, Karaman, Kars, Kastamonu, Kayseri, Kırıkkale, Kırklareli, Kırşehir, Kilis, Kocaeli, Konya, Kütahya, Manisa, Mardin, Mersin, Muğla, Nevşehir, Niğde, Osmaniye, Sakarya, Samsun, Sinop, Şanlıurfa, Trabzon, Uşak, Yozgat, Zonguldak (Horváth 1894, 1905a; Kiritshenko 1918, 1924; Fahringer 1922; Gadeau de Kerville 1939; Hoberlandt 1956; Linnavuori 1965; Tuatay et al. 1966; Wagner 1966; Önder 1976; Önder et al. 1981)	Palearctic
<i>Lygus rugulipennis</i> Poppius, 1911	Loc. 22	Adana, Adıyaman, Afyonkarahisar, Ağrı, Aksaray, Ankara, Antalya,	Holarctic

		Artvin, Bartın, Bayburt, Bilecik, Bitlis, Bolu, Burdur, Bursa, Çankırı, Çorum, Denizli, Düzce, Edirne, Elazığ, Erzincan, Erzurum, Eskişehir, Gaziantep, Giresun, Hatay, İğdır, İstanbul, İzmir, Kars, Kahramanmaraş, Karabük, Karaman, Kastamonu, Kayseri, Kırklareli, Kırşehir, Kocaeli, Konya, Kütahya, Mersin, Nevşehir, Niğde, Sakarya, Samsun, Sinop, Şanlıurfa, Tekirdağ, Trabzon, Uşak, Van, Yozgat, Zonguldak (Linnauori 1965; Gerini 1971; Önder 1976; Önder et al. 1981; Atlıhan et al. 2003; Lodos et al. 2003; Yazıcı & Yıldırım 2016c)
<i>Orthops (Orthops) campestris</i> (Linnaeus, 1758)*	Loc. 22	Adana, Aksaray, Amasya, Ankara, Antalya, Aydin, Balıkesir, Bilecik, Bolu, Burdur, Bursa, Çanakkale, Çorum, Düzce, Edirne, Erzurum, Eskişehir, Giresun, Hatay, İstanbul, İzmir, Kahramanmaraş, Karabük, Kars, Kastamonu, Kayseri, Kocaeli, Konya, Kütahya, Manisa, Mersin, Nevşehir, Niğde, Sakarya, Samsun, Tokat, Uşak, Yozgat, Zonguldak (Kiritschenko 1918; Gadeau de Kerville 1939; Hoberlandt 1956; Wagner 1966; Önder 1976; Önder et al. 1981, 1984; Lodos et al. 2003)
<i>Orthops (Orthops) kalmii</i> (Linnaeus, 1758)*	Loc. 22	Adana, Afyonkarahisar, Ankara, Antalya, Artvin, Aydın, Bilecik, Bolu, Burdur, Bursa, Çankırı, Çorum, Denizli, Diyarbakır, Düzce, Edirne, Erzincan, Erzurum, Eskişehir, Gaziantep, İğdır, İstanbul, İzmir, Kahramanmaraş, Karabük, Kars, Kastamonu, Kayseri, Kocaeli, Konya, Malatya, Mardin, Mersin, Nevşehir, Osmaniye, Sakarya, Sinop, Tekirdağ, Trabzon, Uşak, Yozgat, Zonguldak (Kiritschenko 1918, 1924; Fahringer 1922; Hoberlandt 1956; Tuatay et al. 1966;

		Gerini 1971; Önder 1976; Önder & Adıgüzel 1979; Önder et al. 1981; Yazıcı & Yıldırım 2017b)	
<i>Phytocoris (Eckerleinius) niveatus</i> Horváth, 1891**	Loc. 20	Agırı, Elazığ (Kiritshenko 1918; Çerçi et al. 2021c)	Southwest Asiatic
<i>Phytocoris (Exophytocoris) carapezzai</i> Çerçi, Koçak & Tezcan, 2019	-	Karaman (Çerçi et al. 2019)	Anatolian endemic
<i>Phytocoris (Exophytocoris) pinihalepensis</i> Lindberg, 1948	-	Adana, Antalya, Aydın, Gaziantep, Hatay, İzmir, Kahramanmaraş, Karaman, Kilis, Mersin, Muğla, Osmaniye (Linnauvori 1965; Önder 1976; Lodos et al. 2003)	East Mediterranean
<i>Phytocoris (Exophytocoris) scitulus</i> Reuter, 1908	-	Karaman (Çerçi & Koçak 2017a)	Turano-East Mediterranean
<i>Phytocoris (Ktenocoris) insignis</i> Reuter, 1876*	Loc. 22, 31	Artvin, Balıkesir, Bilecik, Bolu, Edirne, İzmir, Konya, Manisa, Sakarya (Wagner 1955a; Linnauvori 1965; Önder 1976)	Asiatic-European
<i>Phytocoris (Ktenocoris) obliquoides</i> Wagner, 1959*	Loc. 13, 20, 24	Erzurum, Konya (Wagner 1959b; Yıldırım et al. 1999)	Anatolian endemic
<i>Phytocoris (Ktenocoris) raunoi</i> Kerzhner & Schuh, 1995* (Fig. 16E)	Loc. 22	Çankırı, Düzce, Karabük, Kastamonu, Kayseri, Kirşehir, Mardin, Nevşehir, Niğde, Sinop, Yozgat, Zonguldak (Linnauvori 1965; Önder 1976; Lodos et al. 2003)	Anatolian endemic
<i>Phytocoris (Ktenocoris) weidneri</i> Wagner, 1975*	Loc. 8	Ankara (Seidenstücker 1976)	East Mediterranean
<i>Phytocoris (Phytocoris) pilifer</i> Reuter, 1880*	Loc. 13, 22, 24, 31	Adana, Ankara, Antalya, Aydın, Gaziantep, İzmir, Kahramanmaraş, Konya, Manisa, Mersin, Osmaniye (Horváth 1901; Wagner 1955c; Hoberlandt 1956; Önder 1976; Lodos et al. 2003)	East Mediterranean
<i>Phytocoris (Phytocoris) tiliiae</i> (Fabricius, 1777)	-	Afyonkarahisar, Artvin, Bartın, Bolu, Çorum, Diyarbakır, Erzurum, İzmir, Karaman, Konya, Zonguldak (Linnauvori 1965; Önder 1976; Lodos et al. 2003; Yazıcı & Yıldırım 2016c)	Europeo- Mediterranean
<i>Phytocoris (Stictophytocoris) linnauvori</i> Kerzhner & Schuh, 1998*	Loc. 13, 31	Adana, Ankara, Kahramanmaraş, Kocaeli (Linnauvori 1965; Yiğit &	Southwest Asiatic

		Uygun 1982; Lodos et al. 2003)	
<i>Phytocoris (Stictophytocoris) meridionalis</i> Herrich-Schaeffer, 1835**	Loc. 11	Kahramanmaraş, Mardin (Lodos et al. 2003; Matocq et al. 2014)	Turano-European
<i>Pinalitus atomarius</i> (Meyer-Dür, 1843)**	Loc. 14, 22	Adana, Antalya, Bolu, İsparta, İzmir, Kahramanmaraş, Mersin (Reuter 1890; Seidenstücker 1958; Önder 1976; Lodos et al. 2003)	European
<i>Pinalitus conspurcatus</i> (Reuter, 1875)**	Loc. 22	Antalya, Kahramanmaraş, Mersin (Seidenstücker 1958; Lodos et al. 2003)	Mediterranean
<i>Polymerus (Poeciloscytus) asperulae</i> (Fieber, 1861)**	Loc. 22, 26	Bursa, Hatay (Önder et al. 1981; Lodos et al. 2003)	Europeo-Mediterranean
<i>Polymerus (Poeciloscytus) brevicornis</i> (Reuter, 1879)*	Loc. 22, 31	Çerçi, Bartın, Konya (Seidenstücker 1958; Lodos et al. 2003; Çerçi et al. 2022)	Asiatic-European
<i>Polymerus (Poeciloscytus) cognatus</i> (Fieber, 1858)*	Loc. 20, 22, 30	Adana, Ankara, Antalya, Ağrı, Balıkesir, Bayburt, Burdur, Çankırı, Çorum, Denizli, Diyarbakır, Edirne, Erzincan, Erzurum, Eskişehir, Gaziantep, İğdır, İstanbul, Kars, Kastamonu, Kayseri, Konya, Kırklareli, Manisa, Mersin, Nevşehir, Niğde, Van, Yozgat, Zonguldak (Hoberlandt 1956, 1961; Linnavuori 1965; Özer & Duran 1968; Önder 1976; Önder & Adığuzel 1979; Giray 1980; Önder et al. 1984; Lodos et al. 2003; Yazıcı & Yıldırım 2016c; Çerçi et al. 2022)	Holarctic
<i>Pseudomegacoelum beckeri</i> (Fieber, 1870)*	Loc. 24	Ankara, Çanakkale, Hakkâri, Kahramanmaraş, Rize (Önder 1976; Lodos et al. 2003)	West Palearctic
<i>Rhabdomiris striatellus</i> (Fabricius, 1794)	-	Adana, Amasya, Ankara, Antalya, Bayburt, Bilecik, Bolu, Bursa, Denizli, Edirne, Elazığ, Hatay, İstanbul, İzmir, Kahramanmaraş, Karabük, Karaman, Kastamonu, Kütahya, Kirikkale, Manisa, Mersin, Niğde, Osmaniye, Sinop (Horváth 1901, 1918; Hoberlandt 1956; Wagner 1960; Önder 1976; Lodos et	West Palearctic

		al. 2003; Matocq et al. 2014; Yazıcı & Yıldırım 2016c)	
<i>Saundersiella hirta</i> Wagner, 1968	-	Ankara, Antalya, Balıkesir, Bilecik, Bolu, Isparta, İzmir, Karaman, Kütahya, Mersin, Sakarya, Uşak (Wagner 1968; Önder 1976; Önder et al. 1981; Lodos et al. 2003)	Anatolian endemic
STENODEMINI China, 1943			
<i>Notostira erratica</i> (Linnaeus, 1758)*	Loc. 26	Adana, Ankara, Artvin, Ağrı, Bartın, Bartın, Bayburt, Bilecik, Bursa, Çankırı, Erzurum, İğdır, İzmir, Karabük, Kars, Kastamonu, Kayseri, Konya, Muş, Siirt, Yozgat (Horváth 1905a; Kiritschenko 1918; Hoberlandt 1956; Önder 1976; Özbek & Alaoğlu 1988; Yardım 1990; Lodos et al. 2003; Yazıcı & Yıldırım 2017a)	West Palearctic
<i>Stenodema (Brachystira) calcarata</i> (Fallén, 1807)*	Loc. 31	Adana, Afyonkarahisar, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bitlis, Burdur, Bursa, Çanakkale, Çankırı, Diyarbakır, Edirne, Elazığ, Erzurum, Eskişehir, Gaziantep, Hatay, İzmir, Kahramanmaraş, Kars, Kastamonu, Kırklareli, Kilis, Konya, Kütahya, Mersin, Muğla, Niğde, Rize, Sakarya, Samsun, Sinop, Tekirdağ, Tokat, Trabzon, Uşak, Van, Yozgat (Puton & Noualhier 1895; Escherich 1897; Horváth 1901, 1905a; Kiritschenko 1918; Hoberlandt 1956; Önder 1976; Önder & Adıgüzel 1979; Önder et al. 1981, 1984; Yardım 1990; Lodos et al. 2003; Fent 2011; Küçükbaşmacı & Kiyak 2015; Yazıcı & Yıldırım 2017a; Kemal & Koçak 2018)	Palearctic
<i>Stenodema (Brachystira) trispinosa</i> Reuter, 1904*	Loc. 22	Ankara, Ağrı, Erzurum, Kahramanmaraş, Kastamonu, Kırşehir, Niğde (Hoberlandt 1961; Önder 1976; Yardım 1990; Lodos et al. 2003; Yazıcı 2022)	Holarctic
<i>Stenodema (Stenodema) turanica</i> Reuter, 1904*	Loc. 22	Adana, Adıyaman, Ağrı, Ankara, Antalya, Artvin,	Turano-East Mediterranean

		Bingöl, Bitlis, Bursa, Çankırı, Çorum, Denizli, Diyarbakır, Elazığ, Erzincan, Erzurum, Gümüşhane, Hakkâri, İzmir, Kahramanmaraş, Kayseri, Konya, Kütahya, Malatya, Mardin, Mersin, Muğla, Muş, Nevşehir, Niğde, Osmaniye, Siirt, Şanlıurfa, Şırnak, Trabzon, Tunceli, Van, Yozgat (Hoberlandt 1956; Seidenstücker 1960b; Önder 1976; Önder & Adıgüzel 1979; Yardım 1990; Lodos et al. 2003)	
<i>Teratocoris antennatus</i> (Bohemian, 1852) (Fig. 7C)***	Loc. 8	Karaman (this paper)	Sibero-European
<i>Trigonotylus pulchellus</i> (Hahn, 1834)*	Loc. 8, 22	Adana, Adiyaman, Ağrı, Aksaray, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bartın, Bayburt, Bilecik, Bursa, Çanakkale, Çankırı, Çorum, Denizli, Diyarbakır, Düzce, Edirne, Erzincan, Erzurum, Eskişehir, Gaziantep, Giresun, Hatay, İğdır, İstanbul, İzmir, Kahramanmaraş, Kars, Kayseri, Kocaeli, Kırklareli, Manisa, Mersin, Muğla, Nevşehir, Niğde, Osmaniye, Sakarya, Siirt, Şanlıurfa, Tekirdağ, Uşak, Yozgat, Zonguldak (Linnavuori 1965; Önder 1976; Önder et al. 1981; Yardım 1990; Lodos et al. 2003; Matocq et al. 2014; Yazıcı & Yıldırım 2017a)	West Palearctic
HERDONIINI Distant, 1904			
<i>Camponotidea fieberi</i> Reuter, 1879*	Loc. 17, 31	Adana, Afyonkarahisar, Ağrı, Amasya, Antalya, Aydın, Balıkesir, Burdur, Bursa, Çanakkale, Çorum, Denizli, Diyarbakır, Elazığ, Erzurum, Gaziantep, Gümüşhane, Hatay, İstanbul, İzmir, Kahramanmaraş, Kars, Kütahya, Mersin, Muğla, Nevşehir, Osmaniye, Siirt, Uşak (Reuter 1879; Puton 1892; Horváth 1918; Seidenstücker 1958; Önder 1976; Lodos et al. 2003; Matocq et al. 2014; Çerçi et al. 2022)	East Mediterranean

ORTHTYLINEAE Van Duzee, 1916			
HALTICINI A. Costa, 1853			
<i>Anapus dorsalis</i> (Reuter, 1890)* (Fig. 16F)	Loc. 2	Adana, Afyonkarahisar, Ankara, Ağrı, Bayburt, Çorum, Diyarbakır, Elazığ, Erzincan, Erzurum, Eskişehir, Gümüşhane, Isparta, Kahramanmaraş, Kars, Kayseri, Konya, Kütahya, Kırıkkale, Kırşehir, Mersin, Muş, Niğde, Sivas, Van f	Caucaso-Anatolian
<i>Barbarosia decalvata</i> (Seidenstücker, 1962)* (Fig. 7D)	Loc. 20, 31	Ankara, Elazığ, Konya, Niğde (Seidenstücker 1962; Lodos et al. 2003; Matocq et al. 2014)	Anatolian endemic
<i>Halticus macrocephalus</i> Fieber, 1858*	Loc. 31	Bartın, Edirne, Çanakkale, Çankırı, Konya, Kırklareli, Manisa, Muğla, Nevşehir (Hoberlandt 1956; Önder 1976; Lodos et al. 2003)	Mediterranean
<i>Orthocephalus fulvipes</i> Reuter, 1904	-	Adana, Ankara, Diyarbakır, Gaziantep, Hatay, İzmir, Kahramanmaraş, Karaman, Mardin, Mersin, Muğla, Osmaniye, Şanlıurfa, Tekirdağ, Van (Puton & Noualhier 1895; Reuter 1904a; Hoberlandt 1956; Önder 1976; Lodos et al. 2003; Matocq et al. 2014)	Mediterranean
<i>Orthocephalus saltator</i> (Hahn, 1835)	Loc. 26	Adana, Afyonkarahisar, Ankara, Antalya, Artvin, Balıkesir, Bayburt, Bilecik, Bursa, Çanakkale, Çankırı, Edirne, Erzincan, Erzurum, Eskişehir, İğdır, İzmir, Kahramanmaraş, Karaman, Kars, Kastamonu, Kayseri, Kırıkkale, Kırklareli, Kırşehir, Konya, Kütahya, Manisa, Mardin, Mersin, Muğla, Nevşehir, Niğde, Tekirdağ (Horváth 1883; Kiritschenko 1918, 1924; Hoberlandt 1956; Seidenstücker 1958; Önder 1976; Lodos et al. 2003; Namyatova & Konstantinov 2009; Yazıcı 2017)	Sibero-European
ORTHTYLINI Van Duzee, 1916			

<i>Blepharidopterus diaphanus</i> (Kirschbaum, 1856)*	Loc. 11	Ankara, Kayseri, Kırşehir (Linnauvori 1965; Lodos et al. 2003)	Asiatic-European
<i>Brachynotocoris cyprius</i> <i>cyprius</i> Wagner, 1961	-	Antalya, Gaziantep, Hatay, Karaman, Mardin, Mersin (Lodos et al. 2003; Matocq et al. 2014)	East Mediterranean
<i>Dryophilocoris</i> (<i>Camarocyphus</i>) <i>persimilis</i> (Puton, 1895)* (Fig. 16G)	Loc. 22	Antalya, Bilecik, Bolu, Denizli, Elazığ, Hatay, Kastamonu, Konya, Kütahya, Mersin, Uşak (Puton 1895; Seidenstücker 1958; Önder 1976; Lodos et al. 2003; Matocq et al. 2014)	Turanian
<i>Globiceps</i> (<i>Globiceps</i>) <i>sphaegiformis</i> (Rossi, 1790)	-	Afyonkarahisar, Ankara, Antalya, Artvin, Bartın, Bilecik, Bolu, Bursa, Çanakkale, Çankırı, Denizli, Diyarbakır, Elazığ, Karaman, Kastamonu, Kayseri, Konya, Kütahya, Mersin, Muğla, Tekirdağ, Uşak (Önder 1976; Lodos et al. 2003; Matocq et al. 2014; Özgen & Dioli 2019)	European
<i>Globiceps</i> (<i>Kelidocoris</i>) <i>horvathi</i> Reuter, 1912*	Loc. 22	Afyonkarahisar, Ankara, Çanakkale, Diyarbakır, Edirne, İzmir, Muş, Tekirdağ, Uşak (Önder 1976; Kiyak 2000)	Mediterranean
<i>Globiceps</i> (<i>Kelidocoris</i>) <i>syriacus</i> <i>syriacus</i> Wagner, 1969*	Loc. 1	Diyarbakır, Hatay, Mersin, Muğla (Wagner 1969; Önder 1976; Matocq et al. 2014)	Southwest Asiatic
<i>Heterocordylus</i> (<i>Bothrocranon</i>) <i>carbonellus</i> Seidenstücker, 1956	-	Adana, Karabük, Karaman, Kayseri, Mersin (Seidenstücker 1956b; Önder 1976; Lodos et al. 2003)	Anatolian endemic
<i>Heterocordylus</i> (<i>Heterocordylus</i>) <i>leptocerus</i> (Kirschbaum, 1856)	-	İzmir, Karaman, Mersin, Zonguldak (Önder 1976; Lodos et al. 2003)	European
<i>Malacocoris chlorizans</i> (Panzer, 1794)*	Loc. 8	Antalya, Artvin, Bolu, Bursa, Çorum, Edirne, Erzurum, Giresun, İstanbul, Kayseri, Nevşehir, Sakarya, Yozgat (Linnauvori 1965; Önder 1976; Önder et al. 1981; Lodos et al. 2003; Yazıcı 2017)	Turano-European
<i>Orthotylus</i> (<i>Melanotrichus</i>) <i>flavosparsus</i> (C. R. Sahlberg, 1841)*	Loc. 6, 13, 22	Afyonkarahisar, Ankara, Antalya, Artvin, Burdur, Bursa, Çanakkale, Çorum, Düzce, Edirne, Erzurum, Erzurum, Eskişehir, Hatay, İğdır, İstanbul, İzmir,	Palearctic

		Kahramanmaraş, Kars, Kastamonu, Kayseri, Kocaeli, Kütahya, Mersin, Nevşehir, Sakarya, Tekirdağ (Horváth 1894; Önder 1976; Önder et al. 1981, 1984, 2006; Özbeğ & Alaoğlu 1988; Lodos et al. 2003; Yazıcı 2017)	
<i>Orthotylus (Melanotrichus) minutus</i> Jakovlev, 1877**	Loc. 8, 20, 22	Ankara, İzmir, Kars, Niğde (Horváth 1894; Hoberlandt 1961; Linnauori 1965; Önder 1976)	Turano-Mediterranean
<i>Orthotylus (Melanotrichus) rubidus</i> (Puton, 1874)** (Fig. 9A)	Loc. 22	İstanbul (Çerçi & Koçak 2017b)	Asiatic-European
<i>Orthotylus (Orthotylus) marginalis</i> Reuter, 1883	Loc. 8, 22	Adana, Afyonkarahisar, Ankara, Antalya, Balıkesir, Bilecik, Bursa, Çanakkale, Düzce, Edirne, Eskişehir, İzmir, Karaman, Kastamonu, Konya, Kütahya, Kırklareli, Mersin, Muğla, Uşak (Hoberlandt 1956; Önder 1976; Önder et al. 1981; Lodos et al. 2003)	Asiatic-European
<i>Orthotylus (Orthotylus) nassatus</i> (Fabricius, 1787)*	Loc. 20	Ankara, Antalya, Balıkesir, Bilecik, Bolu, Burdur, Bursa, Çorum, Düzce, Erzurum, Eskişehir, İstanbul, İzmir, Kahramanmaraş, Kastamonu, Kayseri, Kocaeli, Konya, Manisa, Mardin, Nevşehir, Niğde, Sakarya, Tokat (Hoberlandt 1961; Linnauori 1965; Önder 1976; Önder et al. 1981; Çam 1993; Çevik 1996; Lodos et al. 2003; Tezcan & Önder 2003; Yazıcı 2017)	Asiatic-European
<i>Orthotylus (Parapachylops) caprai</i> Wagner, 1955** (Fig. 9B)	Loc. 22	İzmir (Çerçi & Koçak 2016)	Mediterranean
<i>Orthotylus (Parapachylops) hodiernus</i> Linnauori, 1961* (Fig. 9C)	Loc. 20, 26	Adana (Linnauori 1965)	East Mediterranean
<i>Orthotylus (Parapachylops) junipericola terminalis</i> Linnauori, 1965	-	Adana, Ankara, Antalya, Eskişehir, Hatay, Karaman, Kastamonu, Konya, Mersin (Linnauori 1965; Lodos et al. 2003; Önder et al. 2006)	Balkano-Anatolian
<i>Orthotylus (Pinocapsus) kmentii</i> Çerçi & Koçak, 2021	-	Karaman (Çerçi et al. 2021a)	Anatolian endemic

<i>Platycranus (Genistocapsus) remanei</i> Wagner, 1955*	Loc. 22	İzmir, Kırşehir (Linnauvori 1965; Önder 1976)	Mediterranean
<i>Pseudoloxops coccineus</i> (Meyer-Dür, 1843)*	Loc. 22	Ankara, Diyarbakır, Eskişehir, İstanbul, İzmir (Önder 1976; Önder & Adıgüzel 1979; Önder et al. 1981; Lodos et al. 2003)	Europeo-Mediterranean
<i>Zanchius alatanus</i> Hoberlandt, 1956*	Loc. 6	Adana, Antalya, Diyarbakır, Hatay, İzmir, Mersin (Hoberlandt 1956; Önder 1976; Önder & Adıgüzel 1979; Lodos et al. 2003)	Afrotropico-Mediterranean
PHYLINAЕ Douglas & Scott, 1865			
PILOPHORINI Douglas & Scott, 1876			
<i>Pilophorus clavatus</i> (Linnaeus, 1767)*	Loc. 20	Adana, Afyonkarahisar, Amasya, Artvin, Balıkesir, Ankara, Bartın, Bilecik, Çankırı, Burdur, Bursa, Erzurum, Gaziantep, İzmir, Kahramanmaraş, Konya, Kütahya, Kırklareli, Manisa, Nevşehir, Rize, Tekirdağ, Tokat, Yozgat (Önder 1976; Çam 1993; Yıldırım et al. 1999; Lodos et al. 2003)	Sibero-European
<i>Pilophorus perplexus</i> Douglas & Scott, 1875*	Loc. 6, 22	Adana, Afyonkarahisar, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bilecik, Bolu, Çanakkale, Çorum, Denizli, Edirne, Erzurum, Eskişehir, Hatay, Isparta, İğdır, İzmir, Kahramanmaraş, Karabük, Kars, Kastamonu, Kayseri, Kocaeli, Konya, Kırklareli, Mersin, Muğla, Nevşehir, Sakarya, Samsun, Sinop, Tekirdağ, Trabzon, Uşak, Yozgat, Zonguldak (Horváth 1894; Linnauvori 1965; Önder 1976; Çevik 1996; Lodos et al. 2003; Yazıcı & Yıldırım 2016a)	Europeo-Mediterranean
HALLODAPINI Van Duzee, 1916			
<i>Acrorrhinium conspersum</i> Noualhier, 1895*	Loc. 20, 29	Adana, Adiyaman, Ankara, Antalya, Aydın, Diyarbakır, Gaziantep, Hatay, Isparta, İzmir, Kahramanmaraş, Kilis, Manisa, Yozgat (Puton & Noualhier 1895; Hoberlandt 1956; Önder 1976; Önder & Adıgüzel 1979; Önder et al.	East Mediterranean

			1995a; Lodos et al. 2003; Tezcan & Önder 2003)
PHYLINI Douglas & Scott, 1865			
<i>Adelphophylus pericarti</i> Matocq & Magnien, 2009*** (Fig. 8A–C, 16H)	Loc. 26	Karaman (this paper)	Balkano-Anatolian
<i>Amblytylus concolor</i> Jakovlev, 1877*	Loc. 26	Adana, Afyonkarahisar, Ankara, Antalya, Bilecik, Burdur, Bursa, Çanakkale, Çorum, Diyarbakır, Düzce, Edirne, Gaziantep, Isparta, İstanbul, İzmir, Kahramanmaraş, Kastamonu, Kayseri, Kütahya, Kırklareli, Kirşehir, Manisa, Mersin, Muğla, Nevşehir, Tekirdağ, Trabzon (Horváth 1905a; Hoberlandt 1956; Önder 1976; Önder et al. 1981; Lodos et al. 2003; Matocq et al. 2014)	West Palearctic
<i>Anonychiella brevicornis</i> (Reuter, 1879)*	Loc. 22	Konya, Nevşehir, Niğde (Linnauvori 1965; Lodos et al. 2003)	Turanian
<i>Atomoscelis onusta</i> (Fieber, 1861)*	Loc. 20, 22	Ankara, Antalya, Bursa, Çorum, Diyarbakır, Edirne, Erzincan, Erzurum, Eskişehir, Gaziantep, Hatay, Kahramanmaraş, Karabük, Kayseri, Konya, Kırıkkale, Kirşehir, Mersin, Nevşehir, Niğde, Sakarya, Yozgat (Linnauvori 1965; Önder et al. 1981, 1984, 1995a; Lodos et al. 2003; Yazıcı & Yıldırım 2016a)	Palearctic
<i>Atractotomus magnicornis</i> (Fallén, 1807)	-	Ankara, Artvin, Çankırı, Karaman, Kastamonu, Konya, Sinop (Lodos et al. 2003; Çerçi & Tezcan 2021)	European
<i>Atractotomus mali</i> (Meyer-Dür, 1843)	-	Adana, Afyonkarahisar, Ankara, Antalya, Artvin, Balıkesir, Bartın, Bilecik, Bolu, Burdur, Çanakkale, Çankırı, Çorum, Denizli, Diyarbakır, Eskişehir, Gaziantep, Hakkâri, İzmir, Kahramanmaraş, Karabük, Karaman, Kastamonu, Kayseri, Kocaeli, Konya, Manisa, Mersin, Muğla, Nevşehir, Rize, Siirt, Trabzon, Uşak, Van, Zonguldak	Europeo-Mediterranean

		(Önder 1976; Atlihan et al. 2003; Lodos et al. 2003)	
<i>Badezorus signaticornis</i> (Reuter, 1904)** (Fig. 10A)	Loc. 22	Siirt (Matocq et al. 2014)	Indo-Mediterranean
<i>Camptotylus linae</i> (Puton, 1881)	Loc. 31	Ankara, Antalya, Çorum, Denizli, Diyarbakır, Gaziantep, Hatay, Kahramanmaraş, Karaman, Kars, Kayseri, Konya, Nevşehir, Yozgat (Horváth 1894; Önder 1976; Lodos et al. 2003; Konstantinov 2008; Matocq et al. 2014)	Southwest Asiatic
<i>Campylomma diversicorne</i> Reuter, 1878*	Loc. 6	Adana, Adiyaman, Antalya, Aydın, Bursa, Çanakkale, Denizli, Diyarbakır, Edirne, Elazığ, Erzurum, Gaziantep, Hatay, İzmir, Kahramanmaraş, Kars, Mardin, Mersin, Muğla, Sakarya (Horváth 1894; Hoberlandt 1956; Gerini 1971; Tuatay et al. 1972; Önder 1976; Önder et al. 1981, 1984; Lodos et al. 2003; Yazıcı & Yıldırım 2016a)	Turano-Mediterranean
<i>Campylomma lindbergi</i> Hoberlandt, 1953	-	Adana, Adiyaman, Ankara, Antalya, Çankırı, Gaziantep, Hatay, Kahramanmaraş, Karaman, Kastamonu, Kayseri, Konya, Kırşehir, Mersin, Nevşehir, Niğde, Siirt, Şanlıurfa (Tuatay et al. 1972; Önder 1976; Önder et al. 1995a, 2006; Lodos et al. 2003)	Turanian
<i>Campylomma simillimum</i> Jakovlev, 1882**	Loc. 11	İzmir (Çerçi & Koçak 2017b)	Turano-East Mediterranean
<i>Campylomma vendicarinum</i> Carapezza, 1991	-	Karaman (Çerçi & Koçak 2017a)	East Mediterranean
<i>Campylomma verbasci</i> (Meyer-Dür, 1843)	Loc. 11, 20, 22	Adana, Ankara, Antalya, Aydın, Balıkesir, Bayburt, Bilecik, Bolu, Burdur, Bursa, Çanakkale, Çankırı, Çorum, Denizli, Edirne, Erzincan, Erzurum, Eskişehir, Gaziantep, Hatay, Isparta, İğdır, İzmir, Kahramanmaraş, Karaman, Kars, Kastamonu, Kayseri, Kırıkkale, Kırklareli, Kırşehir, Kocaeli, Konya, Manisa, Mardin, Mersin, Muğla, Nevşehir, Niğde, Sakarya,	Palearctic

		Samsun, Siirt, Sinop, Tekirdağ, Van, Yozgat, Zonguldak (Hoberlandt 1956; Gerini 1971; Önder 1976; Önder et al. 1981; Atlıhan et al. 2003; Lodos et al. 2003; Matocq & Özgen 2010; Yazıcı & Yıldırım 2016a)	
<i>Campylomma viticis</i> Lindberg, 1948*	Loc. 9	Antalya, Hatay, Kayseri, Mersin (Linnauvori 1965; Önder 1976; Lodos et al. 2003)	East Mediterranean
<i>Chlorillus pictus</i> (Fieber, 1864)	Loc. 26	Erzurum, Karaman (Çerçi & Koçak 2016; Yazıcı & Yıldırım 2016a)	Turano-European
<i>Compsidolon (Apsinthophylus) absinthii</i> (Scott, 1870)** (Fig. 10B)	Loc. 22	Kahramanmaraş, Mersin (Lodos et al. 2003)	Turano- Mediterranean
<i>Compsidolon (Apsinthophylus) pumilum</i> (Jakovlev, 1876)*	Loc. 22	Ankara, Kahramanmaraş (Hoberlandt 1961; Lodos et al. 2003)	Turano- Mediterranean
<i>Conostethus roseus</i> (Fallén, 1807)	-	Adana, Afyonkarahisar, Ankara, Antalya, Ağrı, Erzurum, Erzurum, Eskişehir, Karaman, Konya, Mersin, Uşak (Hoberlandt 1956; Gerini 1971; Önder 1976; Lodos et al. 2003; Yazıcı & Yıldırım 2016a)	Europeo- Mediterranean
<i>Criocoris contrastus</i> Seidenstücker, 1970** (Fig. 12C)	Loc. 5	Ankara (Seidenstücker 1970)	Anatolian endemic
<i>Damioscea komaroffii</i> (Jakovlev, 1879)	Loc. 31	Karaman, Nevşehir (Çerçi & Koçak 2016)	Caucaso- Anatolian
<i>Eurycolpus aureolus</i> Seidenstücker, 1961* (Fig. 16I)	Loc. 9	Adana, Ankara, Diyarbakır, Erzurum, İsparta, Kahramanmaraş, Kırşehir, Mersin, Niğde (Seidenstücker 1961; Önder 1976; Lodos et al. 2003; Matocq et al. 2014; Yazıcı & Yıldırım 2016a; Çerçi & Tezcan 2021)	Anatolian endemic
<i>Eurycolpus enslini</i> Seidenstücker, 1959 (Fig. 10C)*	Loc. 26	Antalya, Diyarbakır, Kahramanmaraş, Niğde (Lodos et al. 2003; Matocq et al. 2014)	Anatolian endemic
<i>Harpocera hellenica</i> Reuter, 1876*	Loc. 20	Adana, Antalya, Bursa, Hatay, İzmir, Kocaeli, Konya, Manisa, Mersin (Horváth 1883; Seidenstücker 1960b; Önder 1976; Lodos et al. 2003)	East Mediterranean

<i>Harpocera thoracica</i> (Fallén, 1807)	-	Antalya, Artvin, Balıkesir, Bilecik, Bolu, Çankırı, Erzurum, Gaziantep, Hatay, İstanbul, İzmir, Kahramanmaraş, Karabük, Karaman, Kastamonu, Konya, Kütahya, Muğla, Zonguldak (Önder 1976; Lodos et al. 2003; Çerçi et al. 2022)	European
<i>Heterocapillus tigripes</i> (Mulsant & Rey, 1852)*	Loc. 20	Adana, Antalya, Kahramanmaraş, Manisa, Mersin (Önder 1976; Lodos et al. 2003)	European
<i>Juniperia rubescens</i> Linnavuori, 1965** (Fig. 11A)	Loc. 28	Adana, Antalya, Hatay, Kahramanmaraş, Mersin (Linnavuori 1965; Lodos et al. 2003)	Southwest Asiatic
<i>Lepidargyrus syriacus</i> (Wagner, 1956)*	Loc. 24, 31	Adana, Diyarbakır, Hatay, Kahramanmaraş, Mersin, Niğde, Osmaniye (Wagner 1956; Drapoluk 1993; Çerçi & Tezcan 2021)	East Mediterranean
<i>Macrotylus (Alloeonycha) ancyranus</i> Seidenstücker, 1969	-	Ankara, Elazığ, Karaman, Nevşehir, Niğde (Seidenstücker 1969; Lodos et al. 2003; Matocq et al. 2014)	Southwest Asiatic
<i>Macrotylus (Alloeonycha) horvathi</i> (Reuter, 1876)	Loc. 17	Ankara, Bursa, Edirne, Karaman, Kocaeli, Sakarya (Önder et al. 1981, 1984; Lodos et al. 2003)	European
<i>Macrotylus (Alloeonycha) paykullii</i> (Fallén, 1807)*	Loc. 6	Antalya, Balıkesir, Bilecik, Çanakkale, Denizli, Edirne, Hatay, İzmir, Kahramanmaraş, Kırklareli, Mersin, Muğla, Osmaniye (Önder 1976; Lodos et al. 2003)	West Palearctic
<i>Macrotylus (Macrotylus) anahtaridis</i> Seidenstücker, 1959*	Loc. 27	Adana, Kahramanmaraş, Konya, Mersin, Niğde (Seidenstücker 1959b; Lodos et al. 2003)	Anatolian endemic
<i>Macrotylus (Macrotylus) antennalis</i> Horváth, 1906** (Figs. 11B, 16J)	Loc. 26	Kayseri, Niğde (Horváth, 1905a; Wagner, 1974b)	Anatolian endemic
<i>Macrotylus (Macrotylus) seidenstückeri</i> Wagner, 1954* (Figs. 11C, 16K)	Loc. 1	Adana, Antalya (Wagner 1954b; Lodos et al. 2003)	Anatolian endemic
<i>Maurodactylus albidus</i> (Kolenati, 1845)*	Loc. 22	Afyonkarahisar, Amasya, Ankara, Aydın, Ağrı, Bolu, Burdur, Diyarbakır, Erzurum, Kahramanmaraş,	Turano-European

		Karabük, Kars, Kastamonu, Kayseri, Konya, Kırıkkale, Mersin, Muğla, Niğde, Uşak (Horváth 1894; Hoberlandt 1956; Seidenstücker 1960b; Önder 1976; Lodos et al. 2003; Çerçi & Tezcan 2021)	
<i>Megalocoleus delicatus</i> (Perris, 1857)	Loc. 22	Ankara, Antalya, Gaziantep, Kahramanmaraş, Karaman, Kırıkkale, Mersin (Hoberlandt 1961; Lodos et al. 2003; Matocq & Plout-Sigwalt 2012)	Mediterranean
<i>Megalocoleus exsanguis</i> (Herrich-Schaeffer, 1835)*	Loc. 24	Ankara, Hatay, Kırklareli, Mersin, Uşak (Hoberlandt 1961; Önder 1976; Lodos et al. 2003)	Turano-European
<i>Megalocoleus molliculus</i> (Fallén, 1807)	-	Ankara, Balıkesir, Bilecik, Bursa, Çankırı, Diyarbakır, Düzce, Edirne, Erzurum, Gaziantep, Isparta, İstanbul, İzmir, Karaman, Kars, Kastamonu, Kayseri, Kocaeli, Kütahya, Kırklareli, Kırıkkale, Kırşehir, Manisa, Muğla, Nevşehir, Sakarya, Şanlıurfa, Tekirdağ (Kiritschenko 1918; Hoberlandt 1956; Önder 1976; Önder et al. 1981, 1984; Yıldırım et al. 1999; Lodos et al. 2003; Matocq 2004)	West Palearctic
<i>Nanopsallus carduellus</i> (Horváth, 1888)	Loc. 13, 22	Ankara, Antalya, Bursa, Çorum, Diyarbakır, Edirne, Erzurum, Gaziantep, İstanbul, İzmir, Kahramanmaraş, Karaman, Kırşehir, Mardin, Mersin, Siirt (Reuter 1904a; Hoberlandt 1961; Önder & Adıgüzel 1979; Önder et al. 1981, 1984; Yıldırım et al. 1999; Lodos et al. 2003; Matocq & Özgen 2010; Matocq et al. 2014)	East Mediterranean
<i>Oncotylus (Cylindromelus) setulosus</i> (Herrich-Schaeffer, 1837)	Loc. 22, 31	Adana, Ankara, Bartın, Çankırı, Çorum, Diyarbakır, Edirne, Elazığ, Erzurum, Gaziantep, İğdır, Isparta, Kahramanmaraş, Karabük, Karaman, Kars, Kastamonu, Kayseri, Konya, Nevşehir, Sakarya (Kiritschenko 1918; Hoberlandt 1956; Önder 1976; Önder et al. 1981,	Turano-European

			1984; Lodos et al. 2003; Çerçi et al. 2022)	
<i>Oncotylus (Oncotylus) nigdensis</i> Linnavuori, 1961* (Figs. 12A, 16L)	Loc. 22	Ankara, Mersin, Niğde (Linnavuori 1961; Lodos et al. 2003)	Caucaso-Anatolian	
<i>Oncotylus (Oncotylus) viridiflavus</i> (Goeze, 1778)	Loc. 24, 31	Adana, Aksaray, Ankara, Antalya, Bayburt, Bilecik, Bolu, Burdur, Bursa, Çanakkale, Çankırı, Çorum, Denizli, Diyarbakır, Edirne, Erzincan, Erzurum, Eskişehir, Gaziantep, Hatay, İğdır, İzmir, Kahramanmaraş, Karaman, Kars, Kastamonu, Kayseri, Kirikkale, Konya, Mersin, Muş, Nevşehir, Niğde, Sakarya, Siirt, Sinop, Sanlurfa (Horváth 1901; Kiritschenko 1918, 1924; Wagner 1954c; Hoberlandt 1956; Önder 1976; Önder et al. 1981; Özbeş & Alaoğlu 1988; Lodos et al. 2003; Yazıcı & Yıldırım 2016a)	Sibero-European	
<i>Opisthotaenia (Opisthotaenia) fulvipes</i> Reuter, 1901*	Loc. 14	Afyonkarahisar, Ağrı, Amasya, Ankara, Artvin, Bayburt, Çanakkale, Çankırı, Diyarbakır, Edirne, Erzurum, Kars, Kayseri, Malatya, Nevşehir, Niğde (Reuter 1901; Hoberlandt 1956; Seidenstücker 1968; Önder 1976; Önder et al. 1984; Lodos et al. 2003; Matocq et al. 2014; Yazıcı & Yıldırım 2016a; Çerçi et al. 2022)	East Mediterranean	
<i>Orthonotus fraudatrix</i> (Reuter, 1904)	-	Balıkesir, Bursa, Çanakkale, Diyarbakır, Edirne, Gaziantep, İzmir, Karaman, Kastamonu, Konya, Kütahya, Kırklareli, Mardin, Mersin, Muğla, Nevşehir, Niğde, Sinop (Reuter 1904a; Önder 1976; Lodos et al. 2003; Matocq et al. 2014)	East Mediterranean	
<i>Orthonotus humilis</i> Seidenstücker, 1970** (Fig. 12B)	Loc. 26	Kayseri, Niğde (Seidenstücker 1970)	Anatolian endemic	
<i>Plagiognathus arbustorum</i> <i>arbustorum</i> (Fabricius, 1794)**	Loc. 22, 26	Antalya, Balıkesir, Bolu, Çankırı, İstanbul, İzmir, Kahramanmaraş, Karabük, Kastamonu, Kocaeli, Kütahya, Mersin, Sinop (Fahringer 1922; Hoberlandt	Asiatic-European	

		1956; Önder 1976; Lodos et al. 2003)	
<i>Plagiognathus bipunctatus albicans</i> Reuter, 1901	-	Karaman (Çerçi 2022)	Turanian
<i>Plagiognathus bipunctatus bipunctatus</i> Reuter, 1883	Loc. 8, 20, 22	Adana, Afyonkarahisar, Ağrı, Ankara, Amasya, Antalya, Artvin, Bayburt, Balıkesir, Bolu, Burdur, Çanakkale, Çankırı, Çorum, Denizli, Diyarbakır, Edirne, Elazığ, Erzincan, Erzurum, Eskişehir, Gaziantep, Hatay, İğdır, İzmir, Kahramanmaraş, Karabük, Karaman, Kars, Kastamonu, Kayseri, Kırıkkale, Kırklareli, Kırşehir, Kilis, Konya, Kütahya, Manisa, Mardin, Mersin, Muş, Nevşehir, Niğde, Ordu, Osmaniye, Siirt, Sinop, Sivas, Tekirdağ, Uşak, Yozgat (Kiritschenko 1918; Hoberlandt 1956; Linnauvoi 1965; Wagner 1966; Lodos et al. 2003; Matocq & Özgen 2010; Matocq et al. 2014; Yazıcı & Yıldırım 2016a)	Turano-European
<i>Plagiognathus fulvipennis</i> Kirschbaum, 1856*	Loc. 31	Adana, Ankara, Antalya, Bursa, Denizli, Diyarbakır, Düzce, Edirne, Erzurum, Gaziantep, Hatay, Isparta, İstanbul, İzmir, Kahramanmaraş, Kars, Kocaeli, Konya, Kırklareli, Mersin, Muğla, Nevşehir, Osmaniye, Sakarya, Van (Kiritschenko 1918; Hoberlandt 1956; Önder 1976; Önder et al. 1981; Athihan et al. 2003; Lodos et al. 2003; Matocq et al. 2014)	Turano-European
<i>Plagiognathus mariwanensis</i> Linnauvoi, 2010	Loc. 6	Diyarbakır, Elazığ, Karaman, Mersin (Matocq et al. 2014; Carapezza & Kment 2018; Çerçi 2022)	Caucaso-Anatolian
<i>Plagiognathus ozgurkocaki</i> Çerçi, 2022	Loc. 9	Karaman (Çerçi 2022)	Anatolian endemic
<i>Psallopssis kirgisica</i> (Becker, 1864)*	Loc. 22	Ankara, Çorum, İzmir, Kayseri, Kırşehir, Niğde (Önder 1976; Lodos et al. 2003)	Turanian
<i>Psallus (Phylidea) henschii</i> Reuter, 1888	-	Adana, Antalya, Balıkesir, İzmir, Kahramanmaraş, Karaman, Kastamonu, Konya, Muğla, Osmaniye	East Mediterranean

		(Seidenstücker 1962; Önder 1976; Lodos et al. 2003)	
<i>Psallus (Psallus) cruentatus</i> (Mulsant & Rey, 1852)	Loc. 22, 27	Artvin, Karaman (Çerçi & Koçak 2017a; Çerçi & Tezcan 2021)	European
<i>Psallus (Psallus) lepidus</i> Fieber, 1858**	Loc. 22	Bartın, Erzurum, Hakkâri, Kırklareli, Tekirdağ, Zonguldak (Önder 1976; Lodos et al. 2003; Yazıcı & Yıldırım 2016a)	European
<i>Psallus (Psallus) rubinicterus</i> Seidenstücker, 1966* (Fig. 12D)	Loc. 17	Niğde (Seidenstücker 1966a)	Anatolian endemic
<i>Psallus (Psallus) varians</i> <i>varians</i> (Herrich-Schaeffer, 1841)	Loc. 22	Ankara, Antalya, Bartın, Bursa, Bursa, Çankırı, Hatay, İzmir, Kahramanmaraş, Karaman, Kastamonu, Kayseri, Kocaeli, Kocaeli, Konya, Kırıkkale, Manisa, Mersin, Sakarya (Hoherlandt 1956; Önder 1976; Önder et al. 1981; Lodos et al. 2003)	European
<i>Salicarus (Salicarus) roseri</i> (Herrich-Schaeffer, 1838)	Loc. 31	Adana, Ankara, Balıkesir, Bartın, Bolu, Burdur, Bursa, Çanakkale, Diyarbakır, Edirne, Erzurum, Eskişehir, Isparta, İzmir, Kahramanmaraş, Karabük, Karaman, Kastamonu, Kayseri, Kocaeli, Konya, Kütahya, Kırıkkale, Kırşehir, Mersin, Muğla, Nevşehir, Sinop (Hoherlandt 1956; Önder 1976; Önder et al. 1981; Lodos et al. 2003; Yazıcı & Yıldırım 2016c)	Asiatic-European
<i>Solenoxyphus fuscovenosus</i> (Fieber, 1864)*	Loc. 22	Niğde (Linnauvori 1965)	Turanian
<i>Solenoxyphus punctipennis</i> (Reuter, 1879)	-	Karaman (Çerçi & Koçak 2017a)	Turanian
<i>Stenoparia putoni</i> Fieber, 1870*	Loc. 20, 22	Adana, Ankara, Aydın, Konya, Kütahya, Mersin, Niğde, Uşak (Seidenstücker 1960b; Hoherlandt 1961; Önder 1976)	Mediterranean
<i>Tuponia (Chlorotuponia)</i> <i>hippophae</i> (Fieber, 1861)	-	Adana, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bilecik, Çanakkale, Çankırı, Çorum, Diyarbakır, Edirne, Elazığ, Eskişehir, Hatay, İstanbul, İzmir, Kahramanmaraş, Karaman,	Europeo- Mediterranean

		Kastamonu, Kayseri, Konya, Kütahya, Manisa, Mersin, Nevşehir, Niğde, Sinop, Yozgat, Zonguldak (Wagner 1955b; Hoberlandt 1956, 1961; Önder 1976; Önder & Adıgüzel 1979; Önder et al. 1981; Lodos et al. 2003; Matocq et al. 2014)	
<i>Tuponia (Chlorotuponia) prasina</i> (Fieber, 1864)**	Loc. 31	Adana, İzmir, Osmaniye (Önder 1976; Lodos et al. 2003)	Turano-European
<i>Tuponia (Tuponia) ayasensis</i> Wagner, 1963	-	Ankara, Karaman, Kayseri, Sinop, Siirt (Wagner 1963; Lodos et al. 2003; Matocq & Özgen 2010)	Southwest Asiatic
<i>Tuponia (Tuponia) mixticolor</i> (A. Costa, 1862)*	Loc. 22	Adana, Antalya, Bursa, Düzce, Edirne, Gaziantep, Hatay, İstanbul, Kahramanmaraş, Karaman, Kocaeli, Mersin, Niğde, Osmaniye, Siirt (Önder 1976; Önder et al. 1981; Lodos et al. 2003)	Mediterranean
<i>Tuponia (Tuponia) montandoni</i> Reuter, 1899**	Loc. 31	Edirne, İzmir, Muğla (Önder 1976; Önder et al. 1984)	East Mediterranean
PENTATOMOMORPHA	Leston, Pendergrast & Southwood, 1954		
ARADOIDEA	Brullé, 1836		
ARADIDAE	Brullé, 1836		
ARADINAE	Brullé, 1836		
<i>Aradus (Aradus) flavigornis</i> Dalman, 1823**	Loc. 11	Adana, Antalya, Edirne, Siirt (Hoberlandt 1956; Heiss & Önder 1991; Heiss & Péricart 2007; Matocq & Özgen 2010)	Turano- Mediterranean
LYGAEOIDEA	Schilling, 1829		
LYGAEIDAE	Schilling, 1829		
LYGAEINAE	Schilling, 1829		
<i>Apterola (Apterola) lownii</i> (Saunders, 1876)	Loc. 13	Adana, Ankara, Edirne, Kahramanmaraş, Karaman, Kayseri, Konya, Malatya, Mardin, Mersin (Horváth 1898, 1905a; Hoberlandt 1956; Péricart 1998a; Kiyak & Özdamar 2017)	Turano-East Mediterranean
<i>Arocatus longiceps</i> Stål, 1872*	Loc. 9	Adana, Ankara, Antalya, Aydın, Bartın, Bursa,, Çanakkale, Denizli, Edirne, Hatay, Isparta, İstanbul, İzmir, Kahramanmaraş, Karabük, Mersin, Muğla,	Europeo- Mediterranean

		Samsun, Tekirdağ, Uşak, Zonguldak (Linnauvori 1965; Lodos et al. 1978, 1999; Çağatay 1995; Péricart 1998a)	
<i>Arocatus melanocephalus</i> (Fabricius, 1798)	-	Ankara, Aydın, Denizli, İstanbul, İzmir, Kahramanmaraş, Karaman, Manisa, Muğla, Sinop, Tekirdağ, Zonguldak (Escherich 1897; Çağatay 1995; Péricart 1998a; Lodos et al. 1999)	Sibero-European
<i>Horvathiolus superbus</i> (Pollich, 1781)	Loc. 22	Adana, Afyonkarahisar, Ankara, Antalya, Aydın, Ağrı, Balıkesir, Bolu, Diyarbakır, Edirne, Gaziantep, Hatay, Isparta, İzmir, Karaman, Kayseri, Kilis, Konya, Kirikkale, Mersin, Niğde, Uşak, Van (Puton & Noualhier 1895; Horváth 1905a; Kiritshenko 1918; Gadeau de Kerville 1939; Hoberlandt 1956; Lodos et al. 1978, 1999; Önder & Adıgüzel 1979; Çağatay 1995; Péricart 1998a; Fent & Aktaç 2008; Öncül-Abacigil et al. 2010; Fent & Japoshvili 2012; Kemal & Koçak 2018)	West Palearctic
<i>Horvathiolus syriacus</i> (Reuter, 1885)	Loc. 17, 22	Adana, Afyonkarahisar, Ankara, Antalya, Edirne, İstanbul, Kahramanmaraş, Karaman, Kars, Konya, Mersin, Niğde (Horváth 1916; Hoberlandt 1956; Péricart 1998a; Fent & Aktaç 2008; Çerçi et al. 2022)	Turano- Mediterranean
<i>Lygaeosoma sardeum</i> <i>sardeum</i> Spinola, 1837	Loc. 8, 22	Adana, Aksaray, Ankara, Antalya, Bursa, Çanakkale, Çankırı, Çorum, Diyarbakır, Düzce, Gaziantep, Hatay, İzmir, Kahramanmaraş, Karaman, Kastamonu, Kayseri, Kilis, Kocaeli, Konya, Kirikkale, Kırşehir, Mersin, Nevşehir, Osmaniye, Sakarya, Tokat, Yozgat (Horváth 1883; Reuter 1890; Puton & Noualhier 1895; Hoberlandt 1956; Lodos et al. 1978, 1984, 2003; Tezcan & Önder 1999; Kiyak et al. 2004a; Şerban 2010; Dursun & Fent 2016)	West Palearctic

<i>Lygaeus creticus</i> Lucas, 1853*	Loc. 8	Adana, Ankara, Antalya, Aydın, Balıkesir, Gaziantep, Hakkâri, Hatay, Isparta, İzmir, Konya, Kirikkale, Malatya, Manisa, Mardin, Mersin, Muğla, Yalova (Puton & Noualhier 1895; Seidenstücker 1958; Lodos et al. 1978, 1999; Çağatay 1995; Péricart 1998a; Öncül- Abacigil et al. 2010; Matocq et al. 2014)	Mediterranean
<i>Lygaeus equestris</i> (Linnaeus, 1758)	Loc. 22	Adana, Afyonkarahisar, Ağrı, Aksaray, Amasya, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bartın, Bayburt, Bilecik, Bingöl, Bolu, Burdur, Bursa, Çanakkale, Çankırı, Çorum, Denizli, Diyarbakır, Edirne, Elazığ, Erzincan, Erzurum, Eskişehir, Gaziantep, Giresun, Hakkâri, Hatay, İğdır, Isparta, İstanbul, İzmir, Kahramanmaraş, Karabük, Karaman, Kars, Kastamonu, Kayseri, Kırklareli, Kilis, Konya, Kütahya, Malatya, Manisa, Mersin, Muğla, Muş, Nevşehir, Niğde, Osmaniye, Rize, Sinop, Sivas, Tekirdağ, Trabzon, Tunceli, Uşak, Van, Yozgat (Horváth 1883, 1901, 1905a, 1919; Puton 1892; Escherich 1897; Kiritshenko 1924, 1918; Fahringer 1922; Gadeau de Kerville 1939; Hoberlandt 1956; Linnauvoori 1965; Lodos et al. 1978, 1999; Kiyak 1990; Çağatay 1995; Koçak & Kemal 2012; Yazıcı et al. 2015b)	Palearctic
<i>Melanocoryphus albomaculatus</i> (Goeze, 1778)*	Loc. 22	Afyonkarahisar, Ankara, Antalya, Artvin, Çankırı, Çorum, Elazığ, Erzincan, Erzurum, Eskişehir, Isparta, Karabük, Kars, Kastamonu, Sakarya, Van, Zonguldak (Kiritshenko 1918, 1924; Hoberlandt 1956; Önder et al. 2006, 1981; Kiyak 1990; Lodos et al. 1999; Fent & Japoshvili 2012; Sert et al. 2013; Yazıcı et al. 2015b; Küçükbasmacı & Kiyak 2015; Dursun & Fent 2016; Kemal & Koçak 2018)	Turano- Mediterranean

<i>Melanocoryphus tristrami</i> (Douglas & Scott, 1868)	-	Adana, Afyonkarahisar, Ankara, Antalya, Aydın, Bilecik, Bitlis, Burdur, Bursa, Çanakkale, Denizli, Diyarbakır, Hatay, Isparta, İstanbul, İzmir, Karabük, Karaman, Kastamonu, Kayseri, Kırıkkale, Kırklareli, Konya, Kütahya, Manisa, Mersin, Muğla, Niğde, Sakarya, Samsun, Uşak, Zonguldak (Horváth 1883, 1916; Puton & Noualhier 1895; Hoberlandt 1956; Lodos et al. 1978, 1984, 1999; Péricart 1998a; Önder et al. 2006; Fent & Japoshvili 2012)	Turano-East Mediterranean
<i>Spilostethus pandurus</i> (Scopoli, 1763)	Loc. 9, 22	Adana, Afyonkarahisar, Ankara, Antalya, Aydın, Balıkesir, Bartın, Bilecik, Burdur, Bursa, Çanakkale, Çankırı, Denizli, Diyarbakır, Edirne, Elazığ, Erzincan, Erzurum, Eskişehir, Gaziantep, Giresun, Hakkâri, Hatay, Isparta, İğdır, İzmir, Kahramanmaraş, Karaman, Kars, Kayseri, Kilis, Konya, Kütahya, Kırklareli, Manisa, Mardin, Mersin, Muğla, Niğde, Osmaniye, Rize, Sanlıurfa, Uşak, Van (Horváth 1883, 1905a; Escherich 1897; Fahringer 1922; Gadeau de Kerville 1939; Hoberlandt 1956; Wagner 1959a; Kiyak 1990; Çağatay 1995; Lodos et al. 1999; Atlıhan et al. 2003; Öncül-Abacigil et al. 2010; Matocq et al. 2014; Yazıcı et al. 2015b)	Subcosmopolitan
<i>Spilostethus saxatilis</i> (Scopoli, 1763)	Loc. 28	Adana, Afyonkarahisar, Ağrı, Aksaray, Ankara, Antalya, Ardahan, Burdur, Çankırı, Çorum, Diyarbakır, Elazığ, Erzincan, Erzurum, Eskişehir, Gaziantep, Hatay, Isparta, İstanbul, Kahramanmaraş, Karaman, Kars, Kastamonu, Kayseri, Kırıkkale, Kırşehir, Konya, Malatya, Mersin, Muğla, Nevşehir, Niğde, Osmaniye, Sivas, Tunceli, Van, Yalova, Yozgat (Puton 1892; Escherich 1897; Horváth	West Palearctic

		1901; Kiritshenko 1918, 1924; Fahringer 1922; Hoberlandt 1956; Linnauvori 1965; Kiyak 1990; Lodos et al. 1999; Fent & Japoshvili 2012; Koçak & Kemal 2012; Sert et al. 2013; Matocq et al. 2014; Yazıcı et al. 2015b; Küçükbaşmacı & Kiyak (2015)	
<i>Tropidothorax leucopterus</i> (Goeze, 1778)*	Loc. 22	Ankara, Antalya, Artvin, Bartın, Bursa, Çanakkale, Çorum, Denizli, Erzincan, Erzurum, İğdır, Kars, Kastamonu, Konya, Manisa, Niğde, Zonguldak (Horváth 1883; Kiritshenko 1918; Hoberlandt 1956; Çağatay 1995; Lodos et al. 1999; Şerban 2010; Yazıcı et al. 2015b)	West Palearctic
ORSILLINAE Stål, 1872			
NYSIINI Uhler, 1876			
<i>Nysius cymoides</i> (Spinola, 1837)	Loc. 30	Adana, Adiyaman, Ankara, Antalya, Aydın, Artvin, Balıkesir, Batman, Bayburt, Burdur, Bursa, Çanakkale, Çorum, Denizli, Diyarbakır, Edirne, Elazığ, Erzincan, Erzurum, Eskişehir, Hatay, İğdır, Isparta, İstanbul, İzmir, Kahramanmaraş, Karaman, Kars, Kastamonu, Kayseri, Kırklareli, Kilis, Kocaeli, Konya, Manisa, Mardin, Mersin, Muğla, Muş, Niğde, Osmaniye, Siirt, Şanlıurfa, Şırnak, Tekirdağ, Tokat, Yalova, Yozgat, Van (Horváth 1890; Puton 1892; Hoberlandt 1956; Linnauvori 1965; Lodos et al. 1978, 1999; Önder & Adıgüzel 1979; Önder et al. 1984, 2006; Özbek & Alaoglu 1988; Péricart 1998a; Beyaz & Tezcan 2002; Atlıhan et al. 2003; Matocq & Özgen 2010; Özgen 2012; Yazıcı et al. 2015b; Çerçi et al. 2018; Özgen et al. 2020; Yazıcı (2020)	West Palearctic
<i>Nysius graminicola</i> <i>graminicola</i> (Kolenati, 1845)	-	Adana, Afyonkarahisar, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bartın, Bayburt, Bilecik, Burdur,	West Palearctic

		Bursa, Çanakkale, Çorum, Denizli, Diyarbakır, Edirne, Erzincan, Erzurum, Eskişehir, Gaziantep, Hatay, Isparta, İstanbul, İzmir, Kahramanmaraş, Karaman, Kars, Kastamonu, Kayseri, Kilis, Kocaeli, Konya, Manisa, Mardin, Mersin, Muğla, Nevşehir, Sakarya, Osmaniye, Tekirdağ, Uşak, Zonguldak (Puton & Noualhier 1895; Horváth 1901, 1905a; Hoberlandt 1956; Lodos et al. 1978, 1999; Önder & Adıgüzel 1979; Önder et al. 1981, 1984; Özgen 2012; Yazıcı et al. 2015b)	
ORSILLINI Stål, 1872			
<i>Orsillus depressus</i> (Mulsant & Rey, 1852)*	Loc. 3	Adana, Antalya, Çankırı, Çorum, Denizli, Elazığ, Kahramanmaraş, Konya, Mersin, Niğde (Hoberlandt 1956; Péricart 1998a; Lodos et al. 1999)	West Palearctic
<i>Ortholomus carinatus</i> (Lindberg, 1932)* (Fig. 13A)	Loc. 26	Balıkesir, Bilecik, Diyarbakır, Edirne, Elazığ, Isparta, Kayseri, Kırşehir, Konya, Mardin (Hoberlandt 1956; Lodos et al. 1978; Péricart, 1998a; Lodos et al. 1999; Matocq et al. 2014; Yence 2019; Çerçi & Özgen 2021)	Mediterranean
ISCHNORHYNCHINAE Stål, 1872			
<i>Kleidocerys ericae</i> (Horváth, 1908)	-	Antalya, Balıkesir, Bartın, Bilecik, Bolu, Bursa, Düzce, İstanbul, Karaman, Kocaeli, Muğla, Sinop, Zonguldak (Linnauvori 1965; Önder et al. 1981; Lodos et al. 1999; Şerban 2010)	Mediterranean
CYMIDAE Baerensprung, 1860			
CYMINAE Baerensprung, 1860			
<i>Cymus claviculus</i> (Fallén, 1807)*	Loc. 22	Adana, Ankara, Antalya, Bartın, Bursa, Diyarbakır, Hatay, İzmir, Kahramanmaraş, Kocaeli, Konya, Mersin, Muğla, Zonguldak (Horváth 1901; Gadeau de Kerville 1939; Hoberlandt 1956; Önder et	Palearctic

		al. 1981, 2006; Lodos et al. 1984, 1999)	
<i>Cymus glandicolor</i> Hahn, 1832*	Loc. 26	Adana, Afyonkarahisar, Ankara, Antalya, Bartın, Bursa, Hatay, İstanbul, Kahramanmaraş, Kars, Kastamonu, Kocaeli, Kütahya, Kırşehir, Osmaniye, Yozgat, Zonguldak (Horváth 1883, 1901, 1918; Kiritshenko 1918; Lodos et al. 1999; Önder et al. 2006; Dursun & Fent 2016)	Asiatic-European
<i>Cymus melanocephalus</i> Fieber, 1861*	Loc. 26	Adana, Ankara, Antalya, Bartın, Bayburt, Bolu, Bursa, Çanakkale, Diyarbakır, Edirne, Erzincan, Erzurum, Gaziantep, Hatay, İstanbul, İzmir, Kahramanmaraş, Karabük, Kastamonu, Kayseri, Kocaeli, Konya, Konya, Kırşehir, Mersin, Muğla, Nevşehir, Nevşehir, Niğde, Ordu, Sinop, Sivas, Yozgat, Zonguldak (Horváth 1883, 1901, 1918; Hoberlandt 1956; Lodos et al. 1999; Önder et al. 2006; Matocq et al. 2014; Yazıcı et al. 2015b; Dursun & Fent 2016)	West Palearctic
GEOCORIDAE Dahlborn, 1851			
GEOCORINAE Dahlborn, 1851			
<i>Geocoris (Geocoris) arenarius</i> (Jakovlev, 1867)	-	Antalya, Diyarbakır, Hatay, Kahramanmaraş, Karaman, Konya, Mersin (Önder & Adıgüzel 1979; Çakır & Önder 1990; Lodos et al. 1999)	Turano- Mediterranean
<i>Geocoris (Geocoris) ater</i> (Fabricius, 1787)	Loc. 22, 31	All regions including Karaman province (Péricart 1998a; Önder et al. 2006)	Asiatic-European
<i>Geocoris (Geocoris) megacephalus</i> (Rossi, 1790)*	Loc. 22	Adana, Adıyaman, Amasya, Ankara, Antalya, Aydın, Balıkesir, Denizli, Diyarbakır, Elazığ, Hatay, İzmir, Kahramanmaraş, Kayseri, Malatya, Manisa, Mardin, Mersin, Nevşehir, Niğde, Siirt, Şanlıurfa, Tekirdağ, Uşak (Hoberlandt 1956; Çakır & Önder 1990; Péricart 1998a; Lodos et al. 1999; Öncül-Abacıgil et al. 2010;	West Palearctic

		Çerçi & Özgen 2021; Yılmaz & Dursun 2022)	
<i>Geocoris (Geocoris) phaeopterus</i> (Germar, 1838)**	Loc. 22, 26	Adana, Hatay, Mardin, Şanlıurfa (Péricart 1998a; Matocq et al. 2014)	Afrotropico- Mediterranean
<i>Geocoris (Geocoris) pubescens</i> (Jakovlev, 1871)* (Fig. 17D)	Loc. 13, 20	Ankara, Elazığ, Kastamonu, Malatya, Sinop (Péricart 1998a; Dursun & Fent 2016; Çerçi & Özgen 2021; Yılmaz & Dursun 2022)	Mediterranean
<i>Geocoris (Piocoris) erythrocephalus</i> <i>erythrocephalus</i> (Lepeletier & Serville, 1825)	Loc. 18, 20, 22	All regions including Karaman province (Péricart 1998a; Önder et al. 2006)	Mediterranean
<i>Geocoris (Piocoris) luridus</i> (Fieber, 1844)	-	Adana, Adiyaman, Ankara, Diyarbakır, Elazığ, Gaziantep, Hatay, İzmir, Kahramanmaraş, Karaman, Kilis, Mardin, Mersin, Osmaniye, Şanlıurfa (Puton & Noualhier 1895; Seidenstücker 1958; Çağatay 1989a; Çakır & Önder 1990)	Turano- Mediterranean
HENESTARINAE Douglas & Scott, 1865			
<i>Engistus exsanguis exsanguis</i> Stål, 1872	-	Karaman (Çerçi & Koçak 2017a)	Turano- Mediterranean
ARTHENEIDAE Stål, 1872			
ARTHENEINAE Stål, 1872			
<i>Artheneis alutacea</i> Fieber, 1861	-	Adana, Aksaray, Ankara, Antalya, Balıkesir, Çanakkale, Denizli, Edirne, Elazığ, Eskişehir, Gaziantep, İğdır, İzmir, Kahramanmaraş, Karaman, Kırıkkale, Mersin, Muğla, Nevşehir, Niğde, Osmaniye (Reuter 1890; Kiritshenko 1918; Hoberlandt 1956; Lodos et al. 1978, 1999; Çağatay 1988a; Önder et al. 2006)	Mediterranean
<i>Artheneis balcanica</i> (Kormilev, 1938)	-	Afyonkarahisar, Ankara, Balıkesir, Bolu, Bursa, Diyarbakır, Elazığ, Gaziantep, İzmir, Karabük, Karaman, Kastamonu, Konya, Nevşehir, Niğde, Zonguldak (Önder et al. 1981, 2006; Çağatay 1988a; Lodos et al. 1999; Matocq et al. 2014)	Turano-East Mediterranean

<i>Artheneis foveolata</i> Spinola, 1837	-	Adana, Ankara, Antalya, Karabük, Karaman, Konya, Manisa, Mersin, Nevşehir, Niğde, Osmaniye, Zonguldak (Linnauvori 1953; Hoberlandt 1956; Lodos et al. 1999; Önder et al. 2006)	Mediterranean
<i>Artheneis wagneri</i> Ribes, 1972* (Fig. 13B)	Loc. 8, 31	Adana, Ankara, Çanakkale, Elazığ, Kahramanmaraş, Niğde (Péricart 1998a)	Mediterranean
<i>Holcocranum saturejae</i> (Kolenati, 1845)**	Loc. 22	Bursa, Edirne, Hatay, İzmir, Kahramanmaraş, Kocaeli, Mersin (Önder et al. 1981, 1984; Çağatay 1988a; Péricart 1998a; Lodos et al. 1999)	Turano- Mediterranean
HETEROGASTERIDAE Stål, 1872			
<i>Heterogaster cathariae</i> (Geoffroy, 1785)*	Loc. 22	Adana, Ankara, Gaziantep, Elazığ, Erzurum, İzmir, Karaman, Kars, Mersin (Kiritsenko 1918; Hoberlandt 1956; Çağatay 1989b; Lodos et al. 1999; Yazıcı et al. 2015b; Çerçi et al. 2018)	West Palearctic
<i>Heterogaster urticae</i> (Fabricius, 1775)	Loc. 20	Adana, Aksaray, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bartın, Bayburt, Bilecik, Bolu, Bursa, Erzurum, Gaziantep, Hatay, İzmir, Kahramanmaraş, Karaman, Kars, Kayseri, Kırıkkale, Kütahya, Manisa, Mersin, Muğla, Nevşehir, Osmaniye, Samsun, Trabzon, Zonguldak (Horváth 1883, 1905a; Hoberlandt 1956; Lodos et al. 1978, 1999; Yiğit & Uygun 1982; Çağatay 1989b; Yazıcı et al. 2015b)	Palearctic
<i>Platyplax salviae</i> (Schilling, 1829)	Loc. 26	Adana, Antalya, Bursa, Erzurum, Karaman, Kastamonu, Kayseri, Konya, Mersin (Horváth 1905a; Hoberlandt 1956; Çağatay 1989b; Lodos et al. 1999; Önder et al. 2006; Yazıcı et al. 2015b; Dursun & Fent 2016)	West Palearctic
OXYCARENIDAE Stål, 1862			
<i>Brachyplax tenuis</i> (Mulsant & Rey, 1852)*	Loc. 17	Ankara, Edirne, Elazığ, Gaziantep, Hatay, İzmir, Kastamonu, Kayseri, Mersin, Niğde (Horváth 1901;	Turano- Mediterranean

		Linnauvori 1953; Hoberlandt 1956; Lodos et al. 1999; Önder et al. 2006; Matocq et al. 2014)	
<i>Leptodemus minutus</i> (Jakovlev, 1874)**	Loc. 22	Afyonkarahisar, Aydın, Bilecik, Burdur, Bursa, Çanakkale, Edirne, Gaziantep, Isparta, İzmir, Kahramanmaraş, Kilis, Kütahya, Manisa, Muğla, Siirt, Şanlıurfa, Tekirdağ, Uşak (Seidenstücker 1960b; Lodos et al. 1978, 1999; Çağatay 1985a; Matocq & Özgen 2010)	Turano-Mediterranean
<i>Macroplax fasciata fasciata</i> (Herrich-Schaeffer, 1835)	Loc. 20, 21, 22	Adana, Afyonkarahisar, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bilecik, Bursa, Çanakkale, Çorum, Denizli, Düzce, Edirne, Elazığ, Erzincan, Erzurum, Gaziantep, Hatay, Isparta, İstanbul, İzmir, Kahramanmaraş, Karaman, Kayseri, Kırıkkale, Kırşehir, Konya, Kocaeli, Kütahya, Manisa, Mardin, Mersin, Muğla, Osmaniye, Sinop, Tekirdağ, Uşak, Zonguldak (Horváth 1883, 1905b; Fahringer 1922; Linnauvori 1953; Hoberlandt 1956; Lodos et al. 1978, 1999; Çağatay 1985a; Fent & Japoshvili 2012; Matocq et al. 2014; Yazıcı et al. 2015b; Dursun & Fent 2016)	Mediterranean
<i>Metopoplax origani</i> (Kolenati, 1845)	-	All regions including Karaman province (Péricart 1998b; Önder et al. 2006)	Turano-Mediterranean
<i>Microplax albofasciata</i> (A. Costa, 1847)*	Loc. 31	Adana, Afyonkarahisar, Ankara, Antalya, Balıkesir, Bilecik, Bursa, Edirne, Gaziantep, İstanbul, Kayseri, Kütahya, Mersin, Tekirdağ, Uşak (Horváth 1883; Linnauvori 1953; Hoberlandt 1956; Péricart 1998b; Lodos et al. 1999; Önder et al. 2006; Öncül-Abacigil et al. 2010)	Mediterranean
<i>Microplax interrupta</i> (Fieber, 1837)*	Loc. 13, 22	Adana, Ankara, Antalya, Diyarbakır, Edirne, Erzurum, Gaziantep, Hatay, Kahramanmaraş, Karabük, Kayseri, Konya, Kırşehir,	Turano-Mediterranean

		Mardin, Mersin (Linnauvori 1953; Hoberlandt 1956; Lodos et al. 1984, 1999; Matocq et al. 2014; Yazıcı et al. 2015b; Dursun & Fent 2016)	
<i>Oxycarenus (Euoxyccarenus) pallens</i> (Herrich-Schaeffer, 1850)	Loc. 17, 20, 22	Adana, Ankara, Antalya, Balıkesir, Bayburt, Bolu, Çankırı, Çorum, Diyarbakır, Edirne, Elazığ, Erzincan, Erzurum, Gaziantep, Hatay, İzmir, Kahramanmaraş, Karabük, Karaman, Kastamonu, Kayseri, Kilis, Konya, Kırıkkale, Kırşehir, Mardin, Mersin, Muğla, Nevşehir, Niğde, Sivas, Şanlıurfa, Van, Yozgat, Zonguldak (Linnauvori 1953; Hoberlandt 1956; Önder & Adıgüzel 1979; Çağatay 1985a; Lodos et al. 1999; Önder et al. 2006; Öncül-Abacigil et al. 2010; Matocq et al. 2014; Yazıcı et al. 2015b; Dursun & Fent 2016)	Turano-Mediterranean
<i>Oxycarenus (Oxycarenus) hyalinipennis</i> (A. Costa, 1843)	-	Adana, Ankara, Antalya, Çanakkale, Hatay, İstanbul, İzmir, Karaman, Kastamonu, Kilis, Konya, Mersin, Niğde, Osmaniye, Sinop (Puton & Noualhier 1895; Linnauvori 1953; Hoberlandt 1956; Çağatay 1985a; Péricart 1998b; Lodos et al. 1999; Önder et al. 2006; Şerban 2010; Yazıcı et al. 2015b)	Afrotropico-Mediterranean
RHYPAROCHROMIDAE Amyot & Serville, 1843			
RHYPAROCHROMINAE Amyot & Serville, 1843			
ANTILLOCORINI Ashlock, 1964			
<i>Tropistethus lanternae</i> Linnauvori, 1960*	Loc. 22	Adana, Adiyaman, Ankara, Diyarbakır, Gaziantep, Hatay, Kahramanmaraş, Mersin, Siirt (Hoberlandt 1956; Çağatay 1985b; Péricart 1998c; Matocq & Özgen 2010)	Southwest Asiatic
DRYMINI Stål, 1872			
<i>Drymus (Sylvadrymus) brunneus confinis</i> Reuter, 1893*	Loc. 10, 16	Adana, Diyarbakır, Erzincan, Erzurum, Hatay, Kahramanmaraş, Mersin, Tunceli (Horváth 1901;	Mediterranean

		Péricart 1998c; Matocq et al. 2014; Yazıcı et al. 2015b)	
<i>Eremocoris fenestratus</i> (Herrich-Schaeffer, 1839)*	Loc. 6, 20, 22	Adana, Ankara, Antalya, Bitlis, Burdur, Diyarbakır, İsparta, İzmir, Kahramanmaraş, Mersin, Muğla (Hoberlandt 1956; Lodos et al. 1978, 1999; Önder et al. 1981; Péricart 1998c; Şerban 2010; Fent & Japoshvili 2012; Matocq et al. 2014)	Turano- Mediterranean
<i>Scolopostethus affinis</i> (Schilling, 1829)	-	Ankara, Antalya, Bolu, Çanakkale, Erzurum, Hatay, İzmir, Karaman, Konya, Nevşehir, Ordu, Sinop, Zonguldak (Puton & Noualhier 1895; Hoberlandt 1956; Lodos et al. 1978, 1999; Péricart 1998c; Yazıcı et al. 2015b)	Asiatic-European
<i>Scolopostethus decoratus</i> (Hahn, 1833)*	Loc. 7	Adana, Bursa, İsparta, Kahramanmaraş, Karabük, Konya (Horváth 1883; Hoberlandt 1956; Péricart 1998c; Lodos et al. 1999)	West Palearctic
<i>Scolopostethus pictus</i> (Schilling, 1829)*	Loc. 6	Adana, Antalya, Balıkesir, Bursa, Düzce, Hatay, İzmir, Kahramanmaraş, Kocaeli, Mersin, Muş, Ordu, Osmaniye (Horváth 1883, 1901; Puton & Noualhier 1895; Lodos et al. 1978, 1999; Önder et al. 1983b; Çağatay 1985b; Péricart 1998b; Dursun & Fent 2016)	European
GONIANOTINI Stål, 1872			
<i>Aphanus rolandri</i> (Linnaeus, 1758)*	Loc. 8, 18	Adana, Ankara, Antalya, Balıkesir, Bingöl, Bolu, Çorum, Elazığ, Erzurum, Kahramanmaraş, Karabük, Kars, Kayseri, Konya, Kirşehir, Mardin, Muğla, Niğde, Osmaniye, Samsun (Horváth 1901; Kiritshenko 1918; Gadeau de Kerville 1939; Péricart 1998c; Lodos et al. 1999; Öncül-Abacigil et al. 2010; Matocq et al. 2014; Yazıcı et al. 2015b; Fent & Okyar 2022)	West Palearctic
<i>Diomphalus hispidulus</i> Fieber, 1864	-	Antalya, Aydın, Kahramanmaraş, Karaman,	Turano- Mediterranean

		Tunceli (Lodos et al. 1978, 1999; Péricart 1998c)	
<i>Emblethis angustus</i> Montandon, 1890*	Loc. 13, 26	Adana, Adiyaman, Ankara, Antalya, Çanakkale, Gaziantep, Hatay, Isparta, İzmir, Kahramanmaraş, Kayseri, Konya, Manisa, Mersin, Muğla, Niğde, Siirt (Seidenstücker 1963; Lodos et al. 1978, 1999; Matocq & Özgen 2010)	Turano-Mediterranean
<i>Emblethis denticollis</i> Horváth, 1878*	Loc. 13, 22	Adana, Ankara, Antalya, Burdur, Çanakkale, Çorum, Edirne, Erzincan, Erzurum, Eskişehir, Hatay, Kahramanmaraş, Karabük, Kayseri, Konya, Kırşehir, Mersin, Nevşehir, Niğde, Siirt, Yozgat (Puton & Noualhier 1895; Horváth 1905a; Kiritshenko 1924; Hoberlandt 1956; Lodos et al. 1978, 1999; Önder et al. 1984; Özsaraç & Kiyak 2001; Kiyak et al. 2004a; Matocq & Özgen 2010; Yazıcı et al. 2015b)	Palearctic
<i>Emblethis karamanus</i> Seidenstücker, 1963*(Fig. 13C)	Loc. 8, 22	Adana, Ankara, Eskişehir, Gaziantep, Kahramanmaraş, Konya, Niğde (Seidenstücker 1963; Çağatay 1987)	Turano-East Mediterranean
<i>Emblethis osmanus</i> Seidenstücker, 1963*	Loc. 22	Ankara, Elazığ, Erzurum, Eskişehir, Gaziantep, İzmir, Kahramanmaraş, Karabük, Kayseri, Konya, Malatya, Manisa, Mersin, Niğde (Seidenstücker 1963; Péricart 1998c; Lodos et al. 1999; Yazıcı et al. 2015b)	Southwest Asiatic
<i>Emblethis setifer</i> Seidenstücker, 1966*	Loc. 31	Adana, Ankara, Gaziantep, Kayseri, Konya, Malatya, Mardin, Niğde (Seidenstücker 1966b; Péricart 1998c; Lodos et al. 1999; Matocq et al. 2014)	Turanian
<i>Emblethis verbasci</i> (Fabricius, 1803)	-	Adana, Afyonkarahisar, Aksaray, Ankara, Artvin, Bolu, Bursa, Çankırı, Çorum, Diyarbakır, Düzce, Edirne, Hatay, Isparta, İstanbul, Kahramanmaraş, Karaman, Kayseri, Konya, Konya, Kırıkkale, Mardin, Nevşehir, Niğde (Horváth 1883; Puton & Noualhier 1895;	West Palearctic

		Hoberlandt 1956; Önder & Adıgüzel 1979; Péricart 1998c; Lodos et al. 1999; Fent & Japoshvili 2012; Matocq et al. 2014; Dursun & Fent 2016)	
<i>Ischnopeza hirticornis</i> (Herrich-Schaeffer, 1850)	Loc. 8, 31	Adana, Afyonkarahisar, Ankara, Antalya, Balıkesir, Bilecik, Çanakkale, Çorum, Edirne, Elazığ, Erzincan, Eskişehir, Hatay, İğdır, Isparta, İzmir, Kahramanmaraş, Kastamonu, Kırıkkale, Kırklareli, Konya, Manisa, Mersin, OsmanİYE, Uşak (Horváth 1901; Kiritschenko 1924; Hoberlandt 1956; Seidenstücker 1963; Lodos et al. 1978, 1999; Fent & Japoshvili 2012; Dursun & Fent 2016; Çerçi et al. 2018, 2022)	Turano-Mediterranean
<i>Neurocladus brachiidens</i> (Dufour, 1851)*	Loc. 20	Adana, Ankara, Diyarbakır, Elazığ, Hatay, İğdır, İzmir, Konya, Malatya, Niğde (Puton & Noualhier 1895; Hoberlandt 1956; Péricart 1998b; Lodos et al. 1999; Matocq et al. 2014; Çerçi et al. 2022)	Turano-Mediterranean
<i>Pionosomus persimilis</i> Horváth, 1895*	Loc. 6	Ankara (Hoberlandt 1956)	Turanian
<i>Pterotmetus staphyliniformis</i> (Schilling, 1829)**	Loc. 26	Aksaray, Ankara, Bursa, Edirne, Erzurum, Kastamonu, Kayseri, Sinop (Hoberlandt 1956; Péricart 1998b; Yazıcı et al. 2015b; Dursun & Fent 2016)	Asiatic-European
LETHAEINI Stål, 1872			
<i>Camptocera glaberrima</i> (Walker, 1872)*	Loc. 6, 22	Adana, Ankara, Diyarbakır, Eskişehir, Gaziantep, Kahramanmaraş, Kocaeli, Mersin, Nevşehir, Siirt (Hoberlandt 1956; Önder et al. 1981; Lodos et al. 1999; Matocq & Özgen 2010)	Turano-Mediterranean
<i>Lethaeus cibratissimus</i> (Stål, 1858)*	Loc. 20, 22	Adana, Ankara, Antalya, Aydin, Bursa, Çanakkale, Diyarbakır, Elazığ, Gaziantep, Hatay, Isparta, İstanbul, İzmir, Kayseri, Kilis, Konya, Malatya, Mersin, Muğla, Niğde, Sakarya, Sinop, Sivas, Tokat,	East Mediterranean

		Zonguldak (Horváth 1883, 1901, 1905a; Puton & Noualhier 1895; Seabra 1926; Lodos et al. 1978, 1999; Çağatay 1985b; Péricart 1998b; Fent & Japoshvili 2012; Matocq et al. 2014)	
<i>Lethaeus picipes</i> (Herrich-Schaeffer, 1850)*	Loc. 11	Antalya, Artvin, Diyarbakır, Hatay, İğdır, Kayseri, Konya, Malatya, Mardin, Mersin, Niğde, Siirt (Reuter 1890; Puton & Noualhier 1895; Önder & Adıgüzel 1979; Péricart 1998b; Lodos et al. 1999; Matocq & Özgen 2010; Kiyak 2016; Çerçi et al. 2022)	Turano-East Mediterranean
MEGALONOTINI J.A. Slater, 1957			
<i>Lamprodema maura</i> (Fabricius, 1803)	Loc. 6, 8, 22, 30	Ankara, Ağrı, Antalya, Balıkesir, Bursa, Diyarbakır, Edirne, Erzincan, Hatay, İstanbul, İzmir, Kahramanmaraş, Karaman, Kars, Kayseri, Kocaeli, Konya, Kırşehir, Sakarya, Siirt, Van (Puton & Noualhier 1895; Horváth 1901; Kiritshenko 1918, 1924; Hoberlandt 1956; Lodos et al. 1978, 1999; Önder et al. 1981, 1983b, 1984; Çağatay 1988b; Péricart 1998c; Atlhan et al. 2003; Matocq & Özgen 2010; Çerçi et al. 2022)	Turano-Mediterranean
<i>Lasiocoris anomalus</i> (Kolenati, 1845)*	Loc. 9, 22, 31	Adana, Ankara, Ağrı, Bursa, Elazığ, Erzurum, Gaziantep, Hakkâri, Konya, Malatya, Niğde, Tokat, Van (Kiritshenko 1918; Hoberlandt 1956; Kiyak 1990; Péricart 1998c; Yazıcı et al. 2015b; Kemal & Koçak 2018)	Turano-Mediterranean
<i>Lasiocoris crassicornis</i> (Lucas, 1849)*	Loc. 31	Adana, Adıyaman, Ankara, Antalya, Bursa, Edirne, Elazığ, Hatay, İstanbul, İzmir, Kayseri, Kahramanmaraş, Konya, Kütahya, Malatya, Van (Horváth 1883; Montandon 1889; Puton & Noualhier 1895; Linnavuori 1953; Kiyak 1990; Péricart 1998c;	Mediterranean

		Lodos et al. 1999; Kemal & Koçak 2018)	
<i>Megalonotus setosus</i> Puton, 1874	-	Diyarbakır, Hatay, Karaman (Puton & Noualhier 1895; Önder & Adıgüzel 1979; Lodos et al. 1999)	Mediterranean
MYODOCHINI Blanchard, 1845			
<i>Paraparomius leptopoides</i> (Baerensprung, 1859)*	Loc. 6	Hatay, İstanbul (Puton & Noualhier 1895; Seidenstücker 1960b)	Mediterranean
<i>Remaudiereana annulipes</i> (Baerensprung, 1859)**	Loc. 8	Adana, İstanbul, Mersin, Sakarya (Hoberlandt 1956; Önder et al. 1981)	Afrotropico-Mediterranean
RHYPAROCHROMINI Amyot & Serville, 1843			
<i>Aelopus atratus</i> (Goeze, 1778)*	Loc. 22	Adana, Afyonkarahisar, Ankara, Aydin, Bursa, Diyarbakır, Elazığ, Hatay, İsparta, Kayseri, Konya, Niğde, Sinop, Tokat (Puton & Noualhier 1895; Horváth 1897, 1901; Hoberlandt 1956; Péricart 1998c; Fent & Japoshvili 2012; Matocq et al. 2014; Yazıcı et al. 2015b; Dursun & Fent 2016; Özgen et al. 2021)	West Palearctic
<i>Beosus maritimus</i> (Scopoli, 1763)*	Loc. 9	Adana, Adıyaman, Ankara, Antalya, Bursa, Çankırı, Diyarbakır, Elazığ, Erzurum, Gaziantep, Giresun, Hatay, İsparta, Kahramanmaraş, Karabük, Kastamonu, Kayseri, Manisa, Mersin, Osmaniye, Van, Zonguldak (Horváth 1883; Puton 1892; Hoberlandt 1956; Önder & Adıgüzel 1979; Lodos et al. 1999; Atlıhan et al. 2003; Önder et al. 2006; Fent & Japoshvili 2012; Yazıcı et al. 2015b)	West Palearctic
<i>Beosus quadripunctatus</i> (Müller, 1766)	Loc. 6, 8, 23	Adana, Afyonkarahisar, Ağrı, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bartın, Bilecik, Bursa, Çanakkale, Çankırı, Çorum, Denizli, Diyarbakır, Düzce, Edirne, Elazığ, Erzurum, Eskişehir, Hatay, İğdır, İstanbul, İzmir, Kahramanmaraş, Karabük, Kars, Kastamonu, Kayseri, Karaman, Kırklareli, Konya, Kütahya, Manisa, Mardin, Niğde, Osmaniye, Sakarya,	West Palearctic

		Siirt, Sinop, Tekirdağ, Uşak, Zonguldak (Horváth 1883, 1918; Puton & Noualhier 1895; Kiritshenko 1918, 1924; Seabra 1926; Hoberlandt 1956; Linnauori 1965; Lodos et al. 1978, 1999; Önder & Adıgüzel 1979; Matocq & Özgen 2010; Matocq et al. 2014; Yazıcı et al. 2015b; Dursun & Fent 2016)	
<i>Graptopeltus validus</i> (Horváth, 1875)*	Loc. 22	Adana, Afyonkarahisar, Ankara, Aydin, Bolu, Bursa, Çankırı, Edirne, Hatay, İsparta, Kahramanmaraş, Kayseri, Konya, Kırıkkale, Nevşehir, Niğde, Osmaniye, Tunceli, Yozgat, Zonguldak (Horváth 1883, 1905a; Puton 1892; Hoberlandt 1956; Lodos et al. 1978, 1999; Önder et al. 1984; Péricart 1998c; Kiyak et al. 2004a; Fent & Japoshvili 2012)	East Mediterranean
<i>Peritrechus gracilicornis</i> Puton, 1877	-	Adana, Ankara, Antalya, Artvin, Balıkesir, Bingöl, Bitlis, Bursa, Çankırı, Diyarbakır, Edirne, Erzurum, Hakkâri, İsparta, İğdır, İstanbul, Kahramanmaraş, Karaman, Kars, Kastamonu, Mersin, Ordu, Osmaniye, Sakarya, Sinop, Yalova, Zonguldak (Hoberlandt 1956; Önder & Adıgüzel 1979; Önder et al. 1981, 1984; Péricart 1998c; Lodos et al. 1999; Fent & Japoshvili 2012; Küçükbaşmacı & Kiyak 2015; Yazıcı et al. 2015b; Dursun & Fent 2016)	West Palearctic
<i>Peritrechus meridionalis</i> Puton, 1877	-	Adana, Ankara, Ağrı, Balıkesir, Bursa, Çankırı, Düzce, Edirne, İstanbul, Kahramanmaraş, Karaman, Kastamonu, Kayseri, Konya, Kırşehir, Malatya, Mersin, Nevşehir, Niğde, Sakarya, Samsun (Kiritshenko 1918; Lodos et al. 1978, 1999; Önder et al. 1981, 1984; Péricart 1998c; Öncül- Abacigil et al. 2010; Özgen & Dioli 2019)	Turano- Mediterranean

<i>Peritrechus nubilus</i> (Fallén, 1807)*	Loc. 20, 22, 31	Ağrı, Ankara, Çanakkale, Düzce, İğdır, İstanbul, İzmir, Konya, Mersin (Linnauori 1965; Çağatay 1988b; Péricart 1998c; Çerçi et al. 2022)	West Palearctic
<i>Rhyparochromus sanguineus</i> (Douglas & Scott, 1868)*	Loc. 15, 17, 22, 24, 31	Adana, Ankara, Diyarbakır, Erzincan, Erzurum, Eskişehir, Gaziantep, Hatay, İğdır, Kastamonu, Kayseri, Konya, Mardin, Mersin, Niğde, Tokat, Tunceli (Horváth 1901; Gadeau de Kerville 1939; Péricart 1998c; Matocq et al. 2014; Yazıcı et al. 2015b; Dursun & Fent 2016; Çerçi et al. 2022)	Mediterranean
<i>Rhyparochromus vulgaris</i> (Schilling, 1829)*	Loc. 8, 9, 12, 22	Adana, Afyonkarahisar, Ankara, Aydın, Balıkesir, Bursa, Çanakkale, Denizli, Düzce, Edirne, Erzincan, Erzurum, Hatay, Isparta, İzmir, Kütahya, Manisa, Mersin, Muğla, Osmaniye, Tunceli, Uşak, Van (Horváth 1883; Puton 1892; Hoberlandt 1956; Önder et al. 1983b, 2006; Lodos et al. 1999; Şerban 2010; Fent & Japoshvili 2012; Sert et al. 2013; Yazıcı et al. 2015b; Dursun & Fent 2016; Kemal & Koçak 2018)	European
<i>Xanthochilus saturnius</i> (Rossi, 1790)*	Loc. 9	Adana, Ankara, Antalya, Bursa, Diyarbakır, Elazığ, Erzurum, Gaziantep, Hatay, İzmir, Kahramanmaraş, Mersin, Osmaniye, Siirt (Gadeau de Kerville 1939; Wagner 1959a; Kiyak 1990; Péricart 1998c; Lodos et al. 1999; Kiyak & Akar 2010; Matocq & Özgen 2010; Yazıcı et al. 2015b)	Mediterranean
PLINTHISINAE J.A. Slater & Sweet, 1961			
<i>Plinthisus (Isioscytus) ptilioides</i> Puton, 1874*	Loc. 22	Adana, Ankara, Bursa, Edirne, Eskişehir, Hatay, Isparta, Kayseri, Konya (Hoberlandt 1956; Önder et al. 1981, 1984; Péricart 1998c; Lodos et al. 1999)	East Mediterranean
BERYTIDAE Fieber, 1851			
BERYTINAE Fieber, 1851			

BERYTININI Southwood & Leston, 1959			
<i>Berytinus (Berytinus) hirticornis nigrolineatus</i> (Jakovlev, 1903)*	Loc. 22	Ankara, Diyarbakır, Hatay, Isparta, Konya (Seidenstücker 1957b; Péricart 1984; Matocq et al. 2014)	Turano-East Mediterranean
<i>Neides brevipennis</i> Puton, 1895	Loc. 15	Adiyaman, Diyarbakır, Elazığ, Gaziantep, Karaman, Kayseri, Konya, Malatya, Mardin, Mersin, Niğde, Sanlıurfa, Van (Seidenstücker 1958; Péricart 1984; Matocq et al. 2014; Kemal & Koçak 2018)	Southwest Asiatic
GAMPSOCORINAE Southwood & Leston, 1959			
GAMPSOCORINI Southwood & Leston, 1959			
<i>Gampsocoris punctipes pallidus</i> Hoberlandt, 1951*	Loc. 22	Adana, Ankara, Antalya, Aydın, Diyarbakır, Hatay, İzmir, Kahramanmaraş (Hoberlandt 1956; Seidenstücker 1965; Péricart 1984; Matocq et al. 2014)	Southwest Asiatic
PYRRHOCOROIDEA Amyot & Serville, 1843			
PYRRHOCORIDAE Amyot & Serville, 1843			
<i>Pyrrhocoris apterus</i> (Linnaeus, 1758)	-	Adana, Adiyaman, Afyonkarahisar, Ağrı, Ankara, Antalya, Ardahan, Artvin, Aydın, Batman, Bayburt, Bilecik, Bitlis, Burdur, Bursa, Çanakkale, Çankırı, Çorum, Denizli, Edirne, Elazığ, Erzincan, Erzurum, Eskişehir, Giresun, Hatay, İğdır, Isparta, İstanbul, İzmir, Kahramanmaraş, Karaman, Kars, Kastamonu, Kayseri, Kırklareli, Konya, Malatya, Manisa, Mardin, Mersin, Muğla, Muş, Nevşehir, Niğde, Sakarya, Samsun, Sivas, Sanlıurfa, Tokat, Trabzon, Van (Horváth 1883, 1901, 1905a, 1918; Puton & Noualhier 1895; Escherich 1897; Kiritshenko 1918, 1924; Fahringer 1922; Hoberlandt 1956; Önder et al. 1983b; Kiyak 1990; Awad & Önder 1997; Özsarac & Kiyak 2001; Kiyak et al. 2004a; Koçak & Kemal 2010; Şerban 2010; Fent & Japoshvili 2012; Sert et al.	Palearctic

		2013; Matocq et al. 2014; Küçükbaşmacı & Kiyak 2015; Çerçi et al. 2018; Yazıcı et al. 2022)	
<i>Scantius aegyptius aegyptius</i> (Linnaeus, 1758)*	Loc. 22	Antalya, Diyarbakır, Elazığ, Erzurum, Hatay, Kahramanmaraş, Mardin, Mersin, Niğde, Şanlıurfa (Puton & Noualhier 1895; Horváth 1901; Hoberlandt 1956; Wagner 1959a; Linnavuori 1965; Matocq et al. 2014; Yazıcı et al. 2015b)	Turano- Mediterranean
COREOIDEA Leach, 1815			
ALYDIDAE Amyot & Serville, 1843			
ALYDINAE Amyot & Serville, 1843			
<i>Camptopus lateralis</i> (Germar, 1817)	-	Adana, Ağrı, Ankara, Artvin, Aydın, Bilecik, Burdur, Bursa, Çanakkale, Çorum, Denizli, Diyarbakır, Edirne, Elazığ, Eskişehir, Gaziantep, Gümüşhane, Hatay, Hakkâri, İğdır, Isparta, İstanbul, İzmir, Karaman, Kars, Kayseri, Kırklareli, Kocaeli, Kütahya, Mardin, Mersin, Muğla, Muş, Sakarya, Samsun, Siirt, Şanlıurfa, Tekirdağ, Tokat, Tunceli, Uşak, Yozgat (Horváth 1883, 1901, 1905a, 1919; Puton 1892; Kiritshenko 1918; Hoberlandt 1956; Wagner 1966; Tuatay et al. 1972; Pehlivan 1981; Akman & Dursun 2021; Korkmaz & Yıldırım 2021; Çerçi et al. 2022)	Turano- Mediterranean
<i>Camptopus tragacanthae</i> (Kolenati, 1845)* (Fig. 17E)	Loc. 1	Ankara, Bayburt, Bilecik, Bingöl, Bursa, Çorum, Elazığ, Erzurum, Eskişehir, Gaziantep, Isparta, İğdır, İzmir, Kahramanmaraş, Kars, Kayseri, Konya, Malatya, Nevşehir, Niğde, Sivas, Tokat, Tunceli, Van (Horváth 1883; Kiritshenko 1918; Pehlivan 1981; Moulet 1995; Kiyak et al. 2004a; Dursun 2009; Dursun et al. 2010; Yıldırım et al. 2011, 2013b; Fent & Japoshvili 2012; Kiyak 2016; Kemal & Koçak 2018; Akman &	Turanian

		Dursun 2021; Çerçi et al. 2022)	
COREIDAE Leach, 1815			
PSEUDOPHLOEINAE Stål, 1868			
PSEUDOPHLOEINI Stål, 1868			
<i>Arenocoris waltlii</i> (Herrich-Schäffer, 1835)*	Loc. 30	Adana, Adiyaman, Ankara, Balıkesir, Bursa, Diyarbakır, Elazığ, Erzurum, Gümüşhane, Hatay, İzmir, Manisa, Muğla (Horváth 1883; Puton & Noualhier 1895; Wagner 1959a; Önder et al. 2006; Dursun & Fent 2009; Dursun 2011c; Yıldırım et al. 2013b; Çerçi et al. 2018)	West Palearctic
<i>Ceraleptus obtusus</i> (Brullé, 1839)*	Loc. 8	Amasya, Ankara, Antalya, Bursa, Çankırı, Hatay, Isparta, İstanbul, İzmir, Konya, Samsun, Tokat (Puton & Noualhier 1895; Moulet 1995; Kiyak 2000; Candan et al. 2005; Dursun & Fent 2009; Dursun 2011c; Fent & Japoshvili 2012; Zengin & Dursun 2019)	Turano-Mediterranean
<i>Coriomeris affinis</i> (Herrich-Schaeffer, 1839)*	Loc. 31	Amasya, Ankara, Antalya, Aydın, Bursa, Çorum, Diyarbakır, Elazığ, Erzurum, Gaziantep, Giresun, Gümüşhane, Hatay, Isparta, İğdır, İstanbul, İzmir, Kastamonu, Kayseri, Konya, Manisa, Mersin, Muğla, Muş, Nevşehir, Niğde, Sinop, Sivas, Tokat, Van (Horváth 1883; Puton & Noualhier 1895; Lindberg 1922; Kiritschenko 1924; Kiyak 1990; Moulet 1995; Kiyak et al. 2004a; Önder et al. 2006; Dursun & Fent 2009; Dursun 2011c; Yıldırım et al. 2013b; Matocq et al. 2014; Kemal & Koçak 2018; Zengin & Dursun 2019; Fent & Dursun 2019; Akman & Dursun 2021)	Mediterranean
<i>Coriomeris hirticornis</i> (Fabricius, 1794)*	Loc. 23, 30	Adana, Ankara, Antalya, Aydın, Balıkesir, Bursa, Çanakkale, Çankırı, Diyarbakır, Düzce, Elazığ, Erzurum, Gaziantep, Giresun, Hatay, Isparta, İstanbul, İzmir, Karabük,	Mediterranean

		Kars, Kastamonu, Kayseri, Konya, Malatya, Mersin, Muğla, Niğde, Samsun, Sivas, Tokat, Van (Horváth 1883, 1901; Puton & Noualhier 1895; Lindberg 1922; Fahringer 1922; Hoberlandt 1956; Kiyak 1990; Atlıhan et al. 2003; Önder et al. 2006; Dursun & Fent 2009; Şerban 2010; Dursun 2011c; Yıldırım et al. 2011; Matocq et al. 2014; Küçükbaşmacı & Kiyak 2015; Fent & Dursun 2019)	
<i>Coriomeris scabricornis</i> <i>scabricornis</i> (Panzer, 1805)	-	Ankara, Antalya, Artvin, Bayburt, Bilecik, Bingöl, Erzincan, Erzurum, İğdır, Isparta, Karaman, Kayseri, Mersin, Muş, Sinop, Sivas, Van (Horváth 1905a; Hoberlandt 1956; Moulet 1995; Dursun & Fent 2009; Yıldırım et al. 2011; Kemal & Koçak 2018; Fent & Dursun 2019)	Sibero-European
<i>Coriomeris subglaber</i> Horváth, 1917*	Loc. 20	Ankara, Balıkesir, Çanakkale, Elazığ, Gaziantep, Isparta, Kayseri, Konya, Malatya, Muğla, Niğde (Seidenstücker 1957b; Kiyak 1990; Moulet 1995; Önder et al. 2006; Fent 2011)	Turano-East Mediterranean
COREINAE Leach, 1815			
ANISOSCELINI Laporte, 1832			
<i>Leptoglossus occidentalis</i> Heidemann, 1910*	Loc. 22	Adana, Afyonkarahisar, Amasya, Ankara, Antalya, Ardahan, Artvin, Balıkesir, Bartın, Bilecik, Bolu, Burdur, Bursa, Çorum, Denizli, Düzce, Edirne, Elazığ, Erzurum, Eskişehir, Giresun, Isparta, İstanbul, İzmir, Karabük, Kastamonu, Kayseri, Kırklareli, Kütahya, Muğla, Ordu, Osmaniye, Sakarya, Samsun, Tokat, Sinop, Tekirdağ, Uşak, Yalova, Zonguldak (Arslangündoğdu & Hızal 2010; Fent & Kment 2011; Hızal & İnan 2012; Yıldırım et al. 2013b; Çerçi & Koçak 2016; Dursun 2016; Özgen et al. 2017; Parlak 2017; Özek & Avcı 2017; Selek	Alien

			2018; Oğuzoğlu & Avcı 2018, 2020; Zengin & Dursun 2019; İpekdal et al. 2019; Çerçi et al. 2021b)
COREINI Leach, 1815			
<i>Centrocoris spiniger</i> (Fabricius, 1781)*	Loc. 8, 13	Adana, Adiyaman, Amasya, Ankara, Antalya, Artvin, Aydın, Balıkesir, Burdur, Bursa, Çanakkale, Çorum, Diyarbakır, Edirne, Erzincan, Erzurum, Giresun, Hatay, Isparta, İğdır, İstanbul, İzmir, Kars, Kayseri, Konya, Mardin, Mersin, Muğla, Nevşehir, Sivas, Şanlıurfa, Tokat, Tunceli, Van (Horváth 1883, 1905a; Puton 1892; Kiritschenko 1918; Gadeau de Kerville 1939; Hoberlandt 1956; Linnauvoori 1965; Wagner 1966; Kiyak et al. 2004a; Önder et al. 2006; Dursun & Fent 2009; Şerban 2010; Dursun 2011c; Yıldırım et al. 2011, 2013b; Matocq et al. 2014; Kemal & Koçak 2018; Zengin & Dursun 2019; Akman & Dursun 2021)	Mediterranean
<i>Centrocoris variegatus</i> Kolenati, 1845*	Loc. 8	Adana, Amasya, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bayburt, Burdur, Bursa, Çorum, Denizli, Elazığ, Erzincan, Erzurum, Giresun, Isparta, İğdır, İstanbul, İzmir, Kahramanmaraş, Konya, Manisa, Muğla, Tokat (Horváth 1883; Hoberlandt 1956; Kiyak 1990, 2016; Moulet 1995; Önder et al. 2006; Dursun & Fent 2009; Öncül-Abacigil et al. 2010; Dursun 2011c; Yıldırım et al. 2011, 2013b; Zengin & Dursun 2019; Akman & Dursun 2021; Korkmaz & Yıldırım 2021)	Mediterranean
<i>Centrocoris volxemi</i> (Puton, 1878)* (Fig. 14A)	Loc. 17, 22	İğdir, Kars, Konya, Van (Kiritschenko 1918; Moulet 1995; Dursun 2011c; Kemal & Koçak 2018)	Turanian
<i>Coreus marginatus</i> <i>marginatus</i> (Linnaeus, 1758)*	Loc. 8, 25	Adana, Afyonkarahisar, Ağrı, Amasya, Ankara, Antalya, Ardahan, Artvin, Aydin, Balıkesir, Bayburt, Bilecik,	Asiatic-European

		Bingöl, Burdur, Bursa, Çanakkale, Çorum, Denizli, Edirne, Elazığ, Elazığ, Erzincan, Erzurum, Giresun, Gümüşhane, Hatay, İsparta, İğdır, İstanbul, İzmir, Kars, Kastamonu, Kocaeli, Kütahya, Malatya, Mardin, Mersin, Mersin, Muğla, Muş, Osmaniye, Rize, Samsun, Sivas, Tokat, Trabzon, Tunceli, Van (Puton 1892; Escherich 1897; Kiritshenko 1918, 1924, 1916; Horváth 1918; Fahringer 1922; Hoberlandt 1956; Kiyak 1990; Özsaraç & Kiyak 2001; Athhan et al. 2003; Gençer et al. 2004; Önder et al. 2006; Dursun & Fent 2009; Şerban 2010; Yıldırım et al. 2011, 2013b; Fent & Japoshvili 2012; Sert et al. 2013; Matocq et al. 2014; Küçükbaşmacı & Kiyak 2015; Akman & Dursun 2021; Korkmaz & Yıldırım 2021)	
<i>Enoplops scapha</i> (Fabricius, 1794)*	Loc. 9	Bursa, Edirne, İsparta, Kastamonu (Reuter 1890; Hoberlandt 1956; Dursun 2011c; Küçükbaşmacı & Kiyak 2015)	West Palearctic
<i>Syromastus rhombeus</i> (Linnaeus, 1767)*	Loc. 22, 24	Adana, Afyonkarahisar, Amasya, Ankara, Artvin, Aydın, Balıkesir, Bingöl, Bursa, Çankırı, Çorum, Edirne, Elazığ, Erzurum, Hatay, İsparta, İstanbul, İzmir, Kars, Kastamonu, Kayseri, Manisa, Nevşehir, Sinop, Sivas, Tokat, Van (Horváth 1883, 1919; Puton 1892; Escherich 1897; Kiritshenko 1916, 1924; Fahringer 1922; Hoberlandt 1956; Kiyak et al. 2004a; Önder et al. 2006; Dursun & Fent 2009; Yıldırım et al. 2011; Dursun 2011c; Sert et al. 2013; Küçükbaşmacı & Kiyak 2015; Zengin & Dursun 2019; Fent & Dursun 2019; Akman & Dursun 2021; Çerci et al. 2022)	West Palearctic

PHYLLOMORPHINI Mulsant & Rey, 1870			
<i>Phyllophora lacerata</i> Herrick-Schäffer, 1835*	Loc. 8, 17, 20	Adana, Ankara, Antalya, Bitlis, Bursa, Diyarbakır, Elazığ, Eskişehir, Hatay, İstanbul, İzmir, Kayseri, Konya, Malatya, Mersin, Niğde, Şanlıurfa, Tokat, Tunceli, Van (Fahringer 1922; Gadeau de Kerville 1939; Hoberlandt 1956; Kiyak 1990; Moulet 1995; Dursun & Fent 2009; Dursun 2011c; Yıldırım et al. 2011; Kemal & Koçak 2018)	Turano-East Mediterranean
<i>Phyllophora laciniata</i> (Villers, 1789)*	Loc. 21	Adana, Afyonkarahisar, Amasya, Ankara, Bursa, Çorum, Edirne, Elazığ, Erzincan, Erzurum, Eskişehir, Gümüşhane, İsparta, İzmir, Kars, Konya, Konya, Kırıkkale, Malatya, Mersin, Niğde, Sivas, Tokat, Tunceli, Van (Horváth 1905a; Kiritshenko 1916; Gadeau de Kerville 1939; Kiyak 1990; Moulet 1995; Önder et al. 2006; Dursun & Fent 2009; Dursun 2011c; Yıldırım et al. 2011; Kemal & Koçak 2018; Akman & Dursun 2021)	Mediterranean
RHOPALIDAE Amyot & Serville, 1843			
RHOPALINAE Amyot & Serville, 1843			
RHOPALINI Amyot & Serville, 1843			
<i>Brachycarenus tigrinus</i> (Schilling, 1829)	Loc. 22	Adana, Adıyaman, Ağrı, Amasya, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bayburt, Bilecik, Bitlis, Burdur, Bursa, Çanakkale, Çorum, Denizli, Diyarbakır, Edirne, Elazığ, Erzincan, Erzurum, Eskişehir, Gaziantep, Giresun, Hakkâri, İğdır, İsparta, İstanbul, İzmir, Kahramanmaraş, Kars, Karabük, Kastamonu, Kayseri, Kırklareli, Kocaeli, Konya, Kütahya, Malatya, Manisa, Mardin, Muğla, Nevşehir, Niğde, Ordu, Sivas, Siirt, Tekirdağ, Tokat, Uşak, Van, Yozgat (Puton & Noualhier 1895; Horváth 1901, 1905a; Kiritshenko 1918; Gadeau de Kerville 1939; Wagner 1959a;	Palearctic

		Linnnavuori 1965; Tuatay et al. 1972; Pehlivan 1981; Kiyak et al. 2004a; Dursun 2009; Yıldırım et al. 2011; Kiyak 2016; Fent & Dursun 2019; Korkmaz & Yıldırım 2021)	
<i>Corizus fenestella fenestella</i> Horváth, 1917**	Loc. 22	Denizli, Diyarbakır, İzmir, Manisa, Van (Horváth 1917b; Pehlivan 1981; Beyaz & Tezcan 2002)	Caucaso-Anatolian
<i>Corizus hyoscyami hyoscyami</i> (Linnaeus, 1758)*	Loc. 8	Adana, Afyonkarahisar, Ağrı, Amasya, Ankara, Antalya, Ardahan, Artvin, Aydın, Balıkesir, Bayburt, Bolu, Burdur, Bursa, Çanakkale, Çankırı, Çorum, Diyarbakır, Edirne, Elazığ, Erzincan, Erzurum, Gaziantep, Giresun, Gümüşhane, İğdır, İstanbul, İzmir, Kahramanmaraş, Karabük, Kars, Kastamonu, Kırklareli, Konya, Kütahya, Malatya, Manisa, Mardin, Mersin, Muğla, Muş, Ordu, Siirt, Sinop, Sivas, Şanlıurfa, Tekirdağ, Tokat, Uşak, Van, Zonguldak (Horváth 1883, 1901; Puton & Noualhier 1895; Escherich 1897; Kiritschenko 1918; Hoberlandt 1956; Wagner 1959a, 1966; Tuatay et al. 1972; Pehlivan 1981; Lodos et al. 1984; Çevik 1996; Özsarac & Kiyak 2001; Dursun 2009; Küçükbasmacı & Kiyak 2015; Fent & Dursun 2019; Akman & Dursun 2021; Korkmaz & Yıldırım 2021)	Palearctic
<i>Liorhyssus hyalinus</i> (Fabricius, 1794)	Loc .22	All regions including Karaman province (Pehlivan 1981; Önder et al. 2006)	Cosmopolitan
<i>Rhopalus (Rhopalus) parumpunctatus</i> Schilling, 1829*	Loc. 13, 22, 31	Adana, Afyonkarahisar, Ağrı, Amasya, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bilecik, Bitlis, Bolu, Burdur, Bursa, Çanakkale, Çankırı, Çorum, Denizli, Diyarbakır, Düzce, Edirne, Elazığ, Erzincan, Erzurum, Eskişehir, Gaziantep, Giresun, Gümüşhane, Hakkâri, Isparta, İstanbul,	Palearctic

		Izmir, Kahramanmaraş, Kars, Kastamonu, Kırklareli, Kocaeli, Konya, Kütahya, Malatya, Manisa, Mardin, Mersin, Muğla, Muş, Nevşehir, Ordu, Sakarya, Samsun, Siirt, Sinop, Sivas, Şanlıurfa, Tekirdağ, Tunceli, Tokat, Uşak (Horváth 1883, 1901, 1905a; Puton & Noualhier 1895; Kiritshenko 1918, 1924; Hoberlandt 1956; Tuatay et al. 1972; Pehlivan 1981; Kiyak et al. 2004a; Dursun 2009; Yıldırım et al. 2013b; Matocq et al. 2014; Küçükbaşmacı & Kiyak 2015; Kiyak 2016; Zengin & Dursun 2019; Fent & Dursun 2019; Akman & Dursun 2021)	
<i>Stictopleurus subtomentosus</i> (Rey, 1888)*	Loc. 22	Adana, Ankara, Bilecik, Bitlis, Burdur, Çanakkale, Diyarbakır, Edirne, Elazığ, Erzurum, Gaziantep, Hakkâri, Hatay, Kars, Kayseri, Kütahya, Manisa, Niğde, Osmaniye, Siirt, Sivas, Şanlıurfa, Tokat, Uşak, Van (Hoberlandt 1956; Önder & Adıgüzel 1979; Pehlivan 1981; Moulet 1995; Yıldırım et al. 2013b; Matocq et al. 2014)	Turano- Mediterranean
CHOROSOMATINI Fieber, 1860			
<i>Chorosoma gracile</i> Josifov, 1968*	Loc. 22	Kırşehir (Moulet 1995)	Turano-European
<i>Chorosoma schillingii</i> (Schilling, 1829)*	Loc. 17, 20	Adana, Adiyaman, Afyonkarahisar, Amasya, Ankara, Bilecik, Bitlis, Burdur, Bursa, Çanakkale, Çorum, Denizli, Diyarbakır, Edirne, Elazığ, Erzincan, Erzurum, Gaziantep, Giresun, Hakkâri, Isparta, Kars, Kastamonu, Kayseri, Kırklareli, Konya, Kütahya, Mardin, Muş, Siirt, Sivas, Şanlıurfa, Tokat, Uşak, Van (Horváth 1894, 1905a; Puton & Noualhier 1895; Kiritshenko 1918; Fahringer 1922; Hoberlandt 1956; Pehlivan 1981; Dursun 2009; Yıldırım et al. 2011; Küçükbaşmacı & Kiyak	West Palearctic

		2015; Zengin & Dursun 2019; Akman & Dursun 2021)	
STENOCEPHALIDAE Dallas, 1852			
<i>Dicranoccephalus agilis</i> (Scopoli, 1763)*	Loc. 13	Afyonkarahisar, Amasya, Ankara, Artvin, Bolu, Bursa, Çanakkale, Çankırı, Düzce, Elazığ, Erzincan, Erzurum, Eskişehir, Giresun, Gümüşhane, Hatay, İsparta, İstanbul, İzmir, Karabük, Kars, Kastamonu, Kayseri, Mersin, Muğla, Muş, Samsun, Samsun, Sivas, Tunceli, Uşak (Horváth 1883, 1905a; Kiritshenko 1918; Fahringer 1922; Hoberlandt 1956; Linnavuori 1965; Pehlivan 1981; Kiyak 1990; Özsaraç & Kiyak 2001; Dursun 2009; Yıldırım et al. 2011, 2013b; Fent & Japoshvili 2012; Sert et al. 2013; Küçükbaşmacı & Kiyak 2015; Zengin & Dursun 2019; Fent & Dursun 2019)	Europeo- Mediterranean
<i>Dicranoccephalus albipes</i> (Fabricius, 1781)*	Loc. 9	Adana, Afyonkarahisar, Ağrı, Amasya, Ankara, Artvin, Balıkesir, Bayburt, Bilecik, Bolu, Bursa, Çanakkale, Çankırı, Çorum, Denizli, Diyarbakır, Elazığ, Erzincan, Erzurum, Eskişehir, Gaziantep, Giresun, Gümüşhane, İğdır, İstanbul, İzmir, Kars, Kastamonu, Kırklareli, Konya, Kütahya, Mardin, Muğla, Muş, Sakarya, Samsun, Siirt, Sivas, Tokat, Uşak, Van (Horváth 1883, 1901, 1905a; Puton & Noualhier 1895; Kiritshenko 1918; Gadeau de Kerville 1939; Lansbury 1965; Tuatay et al. 1972; Pehlivan 1981; Özsaraç & Kiyak 2001; Dursun 2009; Yıldırım et al. 2011; Küçükbaşmacı & Kiyak 2015; Zengin & Dursun 2019; Çerçi et al. 2022)	Mediterranean
<i>Dicranoccephalus marginatus</i> (Ferrari, 1874)* (Fig. 17C)	Loc. 22	Diyarbakır, Hatay, Konya, Malatya (Pehlivan 1981; Moulet 1995)	Southwest Asiatic

<i>Dicranocephalus setulosus</i> (Ferrari, 1874)*	Loc. 17	Adana, Ankara, Antalya, Artvin, Bursa, Diyarbakır, Elazığ, İğdır, İzmir, Kars, Kayseri, Konya, Kütahya, Malatya, Muş, Niğde, Sivas, Tunceli (Horváth 1883; Kiritshenko 1918; Hoberlandt 1956; Seidenstücker 1960b; Önder & Adıgüzel 1979; Moulet 1995; Önder et al. 2006; Dursun 2009; Kiyak & Akar 2010; Yıldırım et al. 2011; Çerçi et al. 2022)	Mediterranean
PENTATOMOIDEA Leach, 1815			
ACANTHOSOMATIDAE Signoret, 1964			
ACANTHOSOMATINAE Signoret, 1964			
<i>Cyphostethus tristriatus</i> (Fabricius, 1787)	Loc. 22	Adana, Antalya, İzmir, Kahramanmaraş, Karabük, Karaman, Konya, Kütahya, Mersin, Niğde, Osmaniye, Tekirdağ, Tokat (Seidenstücker 1957b; Lodos et al. 1978, 1998; Lodos & Önder 1979; Fent & Aktaç 2007; Dursun & Fent 2010)	West Palearctic
CYDNIDAE Billberg, 1820			
CYDNINAE Billberg, 1820			
<i>Cydnus aterrimus</i> (Forster, 1771)*	Loc. 19, 20, 30, 31	Adana, Aksaray, Ankara, Antalya, Burdur, Bursa, Çorum, Denizli, Diyarbakır, Edirne, Erzurum, Gaziantep, Hakkâri, Hatay, İğdır, İsparta, İstanbul, İzmir, Karabük, Kırşehir, Konya, Manisa, Mersin, Muğla, Osmaniye, Samsun, Sakarya, Şanlıurfa, Tokat, Uşak, Van (Horváth 1883, 1901; Puton 1892; Escherich 1897; Fahringer 1922; Lodos & Önder 1980; Lodos et al. 1998; Dursun & Fent 2010; Fent & Japoshvili 2012; Yazıcı et al. 2015a; Kemal & Koçak 2018; Çerçi et al. 2022)	West Palearctic
SEHIRINAE Amyot & Serville, 1843			
<i>Canthophorus melanopterus</i> <i>melanopterus</i> (Herrick- Schaeffer, 1835)*	Loc. 19, 20, 30	Adana, Ağrı, Antalya, Artvin, Aydın, Bartın, Bilecik, Bitlis, Bolu, Bursa, Çanakkale, Çankırı, Çorum, Elazığ, Erzurum, Eskişehir,	Mediterranean

		Gaziantep, Giresun, Gümüşhane, Hatay, İstanbul, İzmir, Karabük, Kars, Kahramanmaraş, Kastamonu, Kayseri, Kırklareli, Kütahya, Mersin, Muğla, Muş, Nevşehir, Osmaniye, Sinop, Sivas, Tokat, Tunceli, Van, Zonguldak (Horváth 1883, 1901, 1905a; Kiritshenko 1918, 1924; Lodos & Önder 1980; Lodos et al. 1998; Dursun & Fent 2010; Fent 2010; Gapon 2018)	
<i>Ochetostethus opacus</i> (Scholtz, 1847)	-	Adana, Ankara, Antalya, Çorum, Edirne, Erzurum, Giresun, Gümüşhane, Hatay, İzmir, Kahramanmaraş, Karaman, Kayseri, Konya, Manisa, Mersin, Niğde, Osmaniye, Sivas, Tekirdağ, Tokat (Puton & Noualhier 1895; Horváth 1901; Hoberlandt 1956; Seidenstücker 1960a; Lodos & Önder 1980; Lodos et al. 1998; Fent & Aktaç 2009; Dursun & Fent 2010; Yazıcı et al. 2015a)	Asiatic-European
<i>Tritomegas delagrangei</i> (Puton, 1888)* (Fig. 14B)	Loc. 17, 22	Diyarbakır, Edirne, Elazığ, Gaziantep, Hatay, İzmir, Kütahya, Mardin, Niğde, Tekirdağ (Puton 1888; Horváth 1901; Lodos & Önder 1980; Önder et al. 1995b, 2006; Lodos et al. 1998; Fent & Aktaç 2009; Matocq et al. 2014)	Southwest Asiatic
PENTATOMIDAE Leach, 1815			
ASOPINAE Amyot & Serville, 1843			
<i>Jalla dumosa</i> (Linnaeus, 1758)*	Loc. 26	Ankara, Bursa, Diyarbakır, Isparta, Kayseri, Kırklareli, Kirikkale, Konya, Manisa, Muş (Horváth 1883, 1897; Hoberlandt 1956; Lodos & Önder 1983; Fent & Aktaç 2007; Matocq et al. 2014; Yazıcı et al. 2014; Çerçi et al. 2022)	Palearctic
PENTATOMINAE Leach, 1815			
AELIINI Douglas & Scott, 1865			

<i>Aelia acuminata</i> (Linnaeus, 1758)	Loc. 8, 13	All regions including Karaman province (Önder et al. 2006; Fent & Dursun 2022)	Palearctic
<i>Aelia albovittata</i> Fieber, 1868 (Fig. 17G)	Loc. 22, 31	Adana, Adiyaman, Amasya, Ankara, Balıkesir, Bursa, Çanakkale, Çorum, Diyarbakır, Edirne, Elazığ, Gaziantep, Hatay, İzmir, Kahramanmaraş, Karaman, Kırıkkale, Konya, Manisa, Mersin, Nevşehir, Sivas, Şanlıurfa, Tokat (Fieber 1868; Horváth 1883, 1901; Escherich 1897; Linnauvori 1953; Awel 1977; Lodos et al. 1978, 1998; Kiyak 1990, 2016; Kiyak et al. 2004a; Derjanschi & Péricart 2005; Önder et al. 2006; Fent & Aktaç 2007; Dursun & Kartal 2008b; Dursun & Fent 2011b; Gözüaçık et al. 2011)	East Mediterranean
<i>Aelia alticola</i> Kiritshenko, 1914	-	Adana, Amasya, Ankara, Antalya, Bursa, Çorum, Elazığ, Erzincan, Gaziantep, İğdir, Isparta, Karaman, Manisa, Niğde, Ordu, Samsun, Sinop, Sivas, Tokat (Kiritshenko 1930; Seidenstücker 1960b; Awel 1977; Lodos et al. 1978, 1998; Dursun & Fent 2010, 2011b; Matocq et al. 2014)	Turanian
<i>Aelia rostrata</i> Boheman, 1852	Loc., 18	All regions including Karaman province (Önder et al. 2006; Fent & Dursun 2022)	European
<i>Aelia virgata</i> (Herrich-Schaeffer, 1841)*	Loc., 22	Afyonkarahisar, Ağrı, Amasya, Ankara, Bilecik, Çanakkale, Diyarbakır, Edirne, Elazığ, Erzurum, Gaziantep, İğdir, İzmir, Kahramanmaraş, Konya, Kırklareli, Malatya, Tekirdağ, Tokat, Tunceli, Uşak (Reuter 1890; Escherich 1897; Hoberlandt 1956; Wagner 1959a; Seidenstücker 1960b; Awel 1977; Lodos et al. 1998, 1978; Önder et al. 1995b; Fent & Aktaç 1999; Derjanschi & Péricart 2005; Dursun & Kartal 2008b; Dursun & Fent 2011b; Yazıcı	East Mediterranean

			et al. 2014; Çerçi et al. 2022; Fent & Dursun 2022)
<i>Neottiglossa leporina</i> (Herrich-Schaeffer, 1830)*	Loc. 20	Ağrı, Ankara, Amasya, Bartın, Bayburt, Bingöl, Bolu, Bursa, Çankırı, Diyarbakır, Elazığ, Erzurum, İğdır, Kahramanmaraş, Karabük, Kars, Kastamonu, Kırklareli, Muğla, Ordu, Samsun, Sinop, Tokat, Van, Zonguldak (Horváth 1883, 1901; Kiritshenko 1918; Önder et al. 1995b; Lodos et al. 1998; Fent & Aktaç 2007; Dursun & Kartal 2008b; Külekçi et al. 2009; Fent 2010; Tezcan et al. 2013; Kemal & Koçak 2014b; Küçükbaşmacı & Kiyak 2015; Çerçi & Özgen 2021; Çerçi et al. 2022)	Asiatic-European
CARPOCORINI Mulsant & Rey, 1866			
<i>Agatharchus</i> (<i>Agatharchus</i>) <i>herrichi</i> (Kolenati, 1846)	-	Adana, Ankara, Diyarbakır, Erzurum, Eskişehir, Kahramanmaraş, Karaman, Kayseri, Konya, Muş, Tokat (Kiritshenko 1924; Seidenstücker 1958; Önder et al. 1995b; Lodos et al. 1998; Belousova 1999; Awad 2000; Gözüaçık et al. 2011)	Caucaso-Anatolian
<i>Agatharchus</i> (<i>Agatharchus</i>) <i>linea</i> (Klug, 1845)* (Fig. 14C)	Loc., 22	Bingöl, Kars, Niğde (Kiritshenko 1938; Seidenstücker 1960b; Özgen & Dioli 2018)	Southwest Asiatic
<i>Antheminia lunulata</i> (Goeze, 1778)*	Loc., 22	Adana, Adiyaman, Afyonkarahisar, Ağrı, Amasya, Ankara, Artvin, Burdur, Bursa, Çanakkale, Çankırı, Denizli, Diyarbakır, Edirne, Elazığ, Erzurum, Eskişehir, Giresun, İğdır, Isparta, İstanbul, Kahramanmaraş, Kayseri, Kırklareli, Kirşehir, Kocaeli, Manisa, Mardin, Muş, Nevşehir, Niğde, Samsun, Sivas, Şanlıurfa, Tekirdağ, Tokat, Van (Horváth 1883; Kiritshenko 1918; Fahringer 1922; Hoberlandt 1956; Linnavuori 1965; Lodos et al. 1978, 1998; Kiyak 1990; Fent & Aktaç 1999; Dursun & Kartal 2008a; Şerban 2010; Dursun & Fent 2011b)	Palearctic

		Fent 2011; Gözüaçık et al. 2011; Yazıcı et al. 2014; Çerçi & Özgen 2021; Fent & Dursun 2022)	
<i>Antheminia pusio pusio</i> (Kolenati, 1846)	-	Afyonkarahisar, Ankara, Çankırı, Çorum, Diyarbakır, Elazığ, Erzincan, Erzurum, Eskişehir, Gaziantep, İğdır, İzmir, Kahramanmaraş, Karaman, Kars, Kastamonu, Kayseri, Konya, Mardin, Nevşehir, Niğde, Sivas (Horváth 1894, 1907; Kiritshenko 1918; Seidenstücker 1960b; Kiyak 1990; Önder et al. 1995b; Lodos et al. 1998; Awad 2000; Külekçi et al. 2009)	Turanian
<i>Brachynema germarii</i> (Kolenati, 1846)*	Loc., 22	Aksaray, Ankara, Aydin, Çorum, İğdır, Kahramanmaraş, Kayseri, Kirikkale, Konya, Nevşehir, Niğde, Şanlıurfa, Van (Linnauvori 1953; Hoberlandt 1956, 1961; Seidenstücker 1960b; Önder et al. 1995b; Lodos et al. 1998; Dursun & Kartal 2008a; Yazıcı et al. 2014; Kemal & Koçak 2018; Çerçi & Gözüaçık 2019; Çerçi et al. 2022)	Turano- Mediterranean
<i>Carpocoris (Carpocoris)</i> <i>fuscispinus</i> (Bohemian, 1851)	Loc., 13	Adana, Adiyaman, Ağrı, Amasya, Ankara, Antalya, Ardahan, Aydin, Bayburt, Bitlis, Burdur, Çanakkale, Çankırı, Çorum, Denizli, Diyarbakır, Elazığ, Erzincan, Erzurum, Eskişehir, Gaziantep, Giresun, Hakkâri, Hatay, İğdır, Isparta, Kahramanmaraş, Karaman, Kars, Kastamonu, Kayseri, Konya, Kirikkale, Kırşehir, Muğla, Muş, Nevşehir, Niğde, Sakarya, Sivas, Şanlıurfa, Tokat, Van, Yozgat (Puton 1892; Horváth 1894, 1905a; Escherich 1897; Kiritshenko 1918; Fahringer 1922; Linnauvori 1965; Lodos et al. 1978, 1998; Kiyak 1990, 2000; Önder et al. 1995b, 2006; Awad 2000; Özsaraç & Kiyak 2001; Atlıhan et al. 2003; Kiyak et al. 2004a; Dursun & Kartal 2008a; Külekçi et al. 2009; Dursun	Palearctic

		& Fent 2011b; Gözüaçık et al. 2011)	
<i>Carpocoris (Carpocoris) mediterraneus mediterraneus</i> Tamanini, 1958	-	Adana, Amasya, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bartın, Bayburt, Bilecik, Bolu, Burdur, Bursa, Çanakkale, Çorum, Denizli, Diyarbakır, Düzce, Edirne, Elazığ, Erzincan, Erzurum, Gaziantep, Giresun, Gümüşhane, Hatay, İğdır, Isparta, İstanbul, İzmir, Kahramanmaraş, Karabük, Karaman, Kars, Kastamonu, Kayseri, Kırklareli, Kırşehir, Konya, Kütahya, Manisa, Mersin, Muğla, Muş, Ordu, Osmaniye, Sakarya, Samsun, Sinop, Sivas, Tekirdağ, Tokat, Trabzon, Yalova, Zonguldak (Linnauvori 1965; Wagner 1966; Tuatay et al. 1972; Lodos et al. 1978, 1998; Kiyak 1990, 2000; Önder et al. 1995b; Awad 2000; Dursun & Kartal 2008a; Külekçi et al. 2009; Fent 2010; Dursun & Fent 2011b; Yazıcı et al. 2014)	Mediterranean
<i>Carpocoris (Carpocoris) pudicus</i> (Poda, 1761)	Loc. 8, 20, 22	All regions including Karaman province (Önder et al. 2006; Fent & Dursun 2022)	Mediterranean
<i>Carpocoris (Carpocoris) purpureipennis</i> (De Geer, 1773)	-	All regions including Karaman province (Önder et al. 2006; Fent & Dursun 2022)	Palaearctic
<i>Chroantha ornatula</i> (Herrich-Schäffer, 1842)** (Fig. 15A)	Loc. 22	Hatay, İğdır, Van (Seidenstücker 1958; Kemal & Koçak 2014a; Çerçi & Gözüaçık 2019)	Turano-Mediterranean
<i>Codophila varia</i> (Fabricius, 1787)	Loc. 22	Adana, Adıyaman, Amasya, Ankara, Antalya, Aydın, Balıkesir, Bilecik, Burdur, Bursa, Çanakkale, Çankırı, Çorum, Denizli, Diyarbakır, Edirne, Elazığ, Erzincan, Erzurum, Eskişehir, Gaziantep, Giresun, Gümüşhane, Hakkâri, Hatay, İğdır, Isparta, İstanbul, İzmir, Kahramanmaraş, Karabük, Karaman, Kars, Kastamonu, Kayseri, Kırklareli, Kırşehir, Kilis, Kocaeli, Konya, Kütahya, Manisa, Mardin,	Turano-Mediterranean

		Mersin, Muğla, Muş, Nevşehir, Osmaniye, Sakarya, Samsun, Siirt, Sinop, Sivas, Şanlıurfa, Tekirdağ, Tokat, Tunceli, Van, Zonguldak (Puton 1892; Kiritshenko 1918; Fahringer 1922; Linnavuori 1953; Hoberlandt 1956; Wagner 1959a; Lodos et al. 1978, 1998; Kiyak 1990; Önder et al. 1995b; Awad 2000; Dursun & Kartal 2008a; Karsavuran et al. 2008; Şerban 2010; Dursun & Fent 2011b; Gözüaçık et al. 2011; Yazıcı et al. 2014; Kemal & Koçak 2014a; Çerçi & Gözüaçık 2019; Fent & Dursun 2022)
<i>Dolycoris baccarum</i> (Linnaeus, 1758)	-	All regions including Karaman province (Önder et al. 2006; Fent & Dursun 2022)
<i>Holcogaster fibulata</i> (Germar, 1831)	-	Adana, Amasya, Antalya, Balıkesir, Burdur, Çanakkale, Çorum, Elazığ, Eskişehir, Hatay, Isparta, İstanbul, İzmir, Kahramanmaraş, Karaman, Kastamonu, Kırklareli, Manisa, Mersin, Muğla, Niğde, Sakarya, Samsun, Sinop, Sivas, Tekirdağ, Tokat (Puton 1892; Horváth 1918; Seidenstücker 1957b; Linnavuori 1965; Lodos et al. 1978, 1998; Önder et al. 1995b; Awad & Pehlivan 2001; Dursun & Kartal 2008a; Karsavuran et al. 2008; Dursun & Fent 2011b; Matocq et al. 2014)
<i>Palomena prasina</i> (Linnaeus, 1761)	-	Adana, Amasya, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bartın, Bilecik, Bolu, Burdur, Bursa, Çanakkale, Çankırı, Çorum, Denizli, Düzce, Edirne, Elazığ, Erzincan, Erzurum, Eskişehir, Gaziantep, Giresun, Gümüşhane, Hakkâri, Hatay, İğdır, Isparta, İstanbul, İzmir, Kahramanmaraş, Karabük, Karaman, Kastamonu, Kayseri, Kırklareli, Kocaeli,

		Konya, Kütahya, Manisa, Mersin, Ordu, Osmaniye, Sakarya, Samsun, Sinop, Sivas, Şırnak, Tokat, Trabzon, Tunceli, Van, Zonguldak (Horváth 1883, 1919; Puton 1892; Fahringer 1922; Tuatay et al. 1972; Lodos et al. 1978, 1998; Önder et al. 1995b; Fent & Aktaç 1999; Awad 2000; Kiyak 2000, 2016; Dursun & Kartal 2008a; Fent 2010; Dursun & Fent 2011b; Fent & Japoshvili 2012; Yazıcı et al. 2014; Kemal & Koçak (2018)	
<i>Peribalus (Peribalus) strictus vernalis</i> (Wolff, 1804)	Loc. 8	All regions including Karaman province (Önder et al. 2006; Fent & Dursun (2022))	Asiatic-European
<i>Rhombocoris regularis</i> (Herrich-Schäffer, 1851)* (Fig. 17H)	Loc. 9	Adana, Afyonkarahisar, Ağrı, Amasya, Ankara, Antalya, Bayburt, Bursa, Erzurum, Gümüşhane, Kahramanmaraş, Kars, Kayseri, Van (Horváth 1883, 1905a; Escherich 1897; Kiritschenko 1918; Seidenstücker 1960b; Lodos et al. 1978, 1998; Awad 2000; Külekçi et al. 2009; Koçak & Kemal 2012; Fent & Dursun 2022)	Southwest Asiatic
<i>Staria lunata</i> (Hahn, 1835)*	Loc. 22	Adana, Adıyaman, Afyonkarahisar, Amasya, Ankara, Antalya, Aydın, Balıkesir, Bartın, Bilecik, Bolu, Bursa, Çanakkale, Çankırı, Çorum, Diyarbakır, Düzce, Edirne, Elazığ, Erzurum, Gaziantep, Giresun, Gümüşhane, Hatay, İstanbul, İzmir, Kahramanmaraş, Kars, Kastamonu, Kırklareli, Manisa, Mardin, Mersin, Muğla, Nevşehir, Ordu, Osmaniye, Samsun, Sinop, Sivas, Şanlıurfa, Tokat, Tunceli, Zonguldak (Horváth 1883, 1919; Puton 1892; Fahringer 1922; Hoberlandt 1956; Wagner 1959a; Linnauori 1965; Önder et al. 1995b, 2006; Lodos et al. 1998; Kiyak 2000; Awad &	Mediterranean

		Pehlivan 2001; Dursun & Kartal 2008a; Dursun & Fent 2011b; Gözüaçık et al. 2011; Yazıcı et al. 2014; Küçükbaşmacı & Kiyak 2015; Fent & Dursun 2022)	
EYSARCORINI Mulsant & Rey, 1866			
<i>Eysarcoris ventralis</i> (Westwood, 1837)	-	All regions including Karaman province (Önder et al. 2006; Fent & Dursun 2022)	Subcosmopolitan
<i>Stagonomus amoenus</i> Brullé, 1832	Loc. 31	Adana, Amasya, Ankara, Antalya, Balıkesir, Bilecik, Bolu, Bursa, Çanakkale, Çorum, Düzce, Edirne, Elazığ, Erzurum, Giresun, Hatay, Isparta, İstanbul, Kahramanmaraş, Karaman, Karabük, Kars, Kastamonu, Kayseri, Kırklareli, Konya, Mersin, Ordu, Osmaniye, Samsun, Sinop, Sivas, Şanlıurfa, Tekirdağ, Tokat, Trabzon, Tunceli, Van, Zonguldak (Horváth 1883, 1905a, 1919; Fahringer 1922; Hoberlandt 1956; Lodos et al. 1978, 1998; Kiyak 1990; Özgen et al. 2005a; Dursun & Kartal 2008b; Karsavuran et al. 2008; Fent 2010; Dursun & Fent 2011b; Koçak & Kemal 2012; Yazıcı et al. 2014; Küçükbaşmacı & Kiyak 2015; Özgen & Dioli 2018; Fent & Dursun 2022)	Turano-Mediterranean
HALYINI Amyot & Serville, 1843			
<i>Apodiphus amygdali</i> (Germar, 1817)*	Loc. 6	Adana, Adıyaman, Antalya, Artvin, Aydın, Balıkesir, Bayburt, Bingöl, Burdur, Bursa, Çanakkale, Çorum, Denizli, Diyarbakır, Edirne, Elazığ, Erzincan, Erzurum, Eskişehir, Gaziantep, Hatay, İğdır, Isparta, İstanbul, İzmir, Kahramanmaraş, Karabük, Kars, Kayseri, Kilis, Konya, Malatya, Manisa, Mardin, Mersin, Muğla, Osmaniye, Rize, Siirt, Şanlıurfa, Tekirdağ, Tokat, Tunceli, Van (Horváth 1883; Puton 1892; Kiritschenko 1918; Fahringer 1922; Hoberlandt 1956; Ghauri 1977; Önder &	Southwest Asiatic

		Adıgüzel 1979; Kiyak 1990; Önder et al. 1995b; Çevik 1996; Lodos et al. 1998; Özgen et al. 2005a; Derjanschi & Péricart 2005; Bolu et al. 2006; Karsavuran et al. 2008; Dursun & Kartal 2008b; Külekçi et al. 2009; Fent et al. 2010; Gözüaçık et al. 2011; Yazıcı et al. 2014; Kemal & Koçak 2018)	
<i>Apodiphus integriceps</i> Horváth, 1888* (Fig. 15B)	Loc. 8	Adana, Amasya, Antalya, Aydın, Diyarbakır, Isparta, İzmir, Kahramanmaraş, Konya (Fent et al. 2010)	Turanian
<i>Mustha spinosula</i> (Lefebvre, 1831)	Loc. 8	Adana, Amasya, Ankara, Antalya, Artvin, Aydın, Ağrı, Balıkesir, Bayburt, Bilecik, Bingöl, Burdur, Bursa, Çanakkale, Çorum, Denizli, Diyarbakır, Edirne, Elazığ, Eskişehir, Gaziantep, Giresun, Gümüşhane, Hakkâri, Hatay, İğdır, Isparta, İstanbul, İzmir, Kahramanmaraş, Karaman, Kastamonu, Kars, Kırklareli, Kilis, Konya, Manisa, Mardin, Mersin, Muğla, Muş, Nevşehir, Osmaniye, Ordu, Rize, Samsun, Sivas, Şanlıurfa, Tekirdağ, Tokat, Uşak, Van (Horváth 1901, 1918, 1919, 1883, 1890; Kiritschenko 1918, 1924; Fahringer 1922; Hoberlandt 1956; Wagner 1966; Lodos et al. 1978, 1998; Kiyak 1990; Önder et al. 1995b; Tezcan & Önder 1999; Derjanschi & Péricart 2005; Dursun & Kartal 2008b; Külekçi et al. 2009; Şerban 2010; Fent et al. 2010; Dursun & Fent 2011b; Koçak & Kemal 2012; Yazıcı et al. 2014; Özgen & Dioli 2018; Çerçi & Gözüaçık 2019; Çerçi et al. 2022)	East Mediterranean
PENTATOMINI Leach, 1815			
<i>Acrosternum heegeri</i> Fieber, 1861*	Loc. 6, 20	Adana, Adıyaman, Antalya, Ardahan, Artvin, Balıkesir, Bursa, Diyarbakır, Edirne, Erzurum, Gaziantep, Hatay, İğdir, Isparta, İstanbul, İzmir, Kahramanmaraş, Kayseri, Kilis, Kocaeli, Manisa,	Turano- Mediterranean

	Mardin, Mersin, Muğla, Sakarya, Sinop, Şanlıurfa, Trabzon (Puton & Noualhier 1895; Hoberlandt 1956; Lodos et al. 1978, 1998; Önder & Adıgüzel 1979; Önder et al. 1981, 1983b, 2006; Özgen et al. 2005b; Fent & Aktaç 2007; Dursun & Kartal 2008c; Karsavuran et al. 2008; Külekçi et al. 2009; Öncül-Abacıgil et al. 2010; Gözüaçık et al. 2011; Yazıcı et al. 2014; Çerçi & Gözüaçık 2019)		
<i>Rhaphigaster nebulosa</i> (Poda, Loc. 8, 22 1761)	Adana, Adiyaman, Afyonkarahisar, Ağrı, Aksaray, Ankara, Antalya, Artvin, Aydin, Balıkesir, Bartın, Bingöl, Bolu, Burdur, Bursa, Çanakkale, Çankırı, Çorum, Denizli, Diyarbakır, Edirne, Erzincan, Erzurum, Gaziantep, Gümüşhane, Hakkâri, Hatay, İğdır, İsparta, İstanbul, İzmir, Kahramanmaraş, Karabük, Karaman, Kastamonu, Kayseri, Kırklareli, Kilis, Kocaeli, Konya, Kütahya, Malatya, Manisa, Mardin, Mersin, Muğla, Nevşehir, Niğde, Ordu, Samsun, Sinop, Şanlıurfa, Tekirdağ, Tokat, Trabzon, Tunceli, Uşak, Van, Yozgat, Zonguldak (Horváth 1883, 1918; Escherich 1897; Kiritschenko 1918; Hoberlandt 1956; Lodos et al. 1978, 1998; Önder et al. 1981, 1995b; Yiğit & Uygun 1982; Çam 1993; Atlıhan et al. 2003; Dursun & Kartal 2008c; Külekçi et al. 2009; Öncül-Abacıgil et al. 2010; Fent 2010; Yazıcı et al. 2014; Fent & Dursun 2022)	West Palearctic	
PIEZODORINI Atkinson, 1888			
<i>Pausias (Pausias) martini</i> (Puton, 1890)	-	Amasya, Ankara, Burdur, Çanakkale, Çorum, Diyarbakır, Edirne, Elazığ, Erzincan, İğdır, İzmir, Kahramanmaraş, Karaman, Konya, Tokat (Wagner 1959a; Lodos 1963; Lodos et al. 1998; Özsaraç & Kiyak 2001; Bolu et al. 2006; Önder et al.	Southwest Asiatic

		2006; Dursun & Kartal 2008c; Yazıcı et al. 2014; Dursun & Fent 2015; Çerçi & Gözüaçık 2019; Fent & Dursun 2022)	
<i>Piezodorus lituratus</i> (Fabricius, 1794)*	Loc. 24	Adana, Adiyaman, Afyonkarahisar, Ağrı, Amasya, Antalya, Ankara, Ardahan, Artvin, Aydin, Balıkesir, Bayburt, Bilecik, Bingöl, Bolu, Burdur, Bursa Çanakkale, Çankırı, Çorum, Diyarbakır, Edirne, Elazığ, Erzurum, Eskişehir, Gaziantep, Hatay, İğdır, Isparta, İstanbul, İzmir, Kahramanmaraş, Karabük, Kars, Kastamonu, Kırklareli, Kütahya, Malatya, Manisa, Mardin, Mersin, Muğla, Nevşehir, Ordu, Samsun, Sinop, Şanlıurfa, Şırnak, Tekirdağ, Tokat, Trabzon, Zonguldak (Horváth 1883, 1901; Puton 1892; Kiritschenko 1918, 1924; Fahringer 1922; Linnauvori 1953; Hoberlandt 1956; Wagner 1959a; Lodos et al. 1978, 1998; Önder et al. 1981, 1995b; Kiyak 1990; Fent & Aktaç 1999; Özsaraç & Kiyak 2001; Bolu et al. 2006; Dursun & Kartal 2008c; Külekçi et al. 2009; Fent 2010; Fent & Japoshvili 2012; Matocq et al. 2014; Yazıcı et al. 2014; Küçükbaşmacı & Kiyak 2015; Çerçi & Gözüaçık 2019; Korkmaz & Yıldırım 2021; Çerçi et al. 2022; Fent & Dursun 2022)	Palearctic
SCIOCORINI Amyot & Serville, 1843			
<i>Dyroderes umbraculatus</i> (Fabricius, 1775)	-	Adana, Adiyaman, Afyonkarahisar, Ağrı, Aksaray, Amasya, Ankara, Antalya, Balıkesir, Bartın, Bilecik, Bolu, Burdur, Bursa, Çanakkale, Çorum, Denizli, Edirne, Elazığ, Gaziantep, Hatay, İstanbul, İzmir, Kahramanmaraş, Karabük, Karaman, Kırklareli, Konya, Kütahya, Manisa, Mardin, Muğla Nevşehir, Niğde, Ordu, Osmaniye, Sinop, Tekirdağ,	Europeo- Mediterranean

		Tokat, Trabzon, Van, Yalova, Zonguldak (Horváth 1883; Puton 1892; Escherich 1897; Hoberlandt 1956; Lodos et al. 1998, 1978; Lodos & Önder 1982; Önder et al. 1995b; Özsaraç & Kiyak 2001; Dursun & Kartal 2008b; Fent 2010; Dursun & Fent 2011a; Matocq et al. 2014; Kemal & Koçak 2018; Çerçi et al. (2022)	
<i>Sciocoris (Aposciocoris) homalonotus</i> Fieber, 1851*	Loc. 22	Ankara, Edirne, Isparta, İzmir, Kastamonu, Kayseri, Kirşehir, Mardin, Tekirdağ (Lodos & Önder 1982; Kiyak 1993; Önder et al. 1995b, 2006; Fent & Aktaç 2007; Fent & Japoshvili 2012)	Europeo-Mediterranean
<i>Sciocoris (Aposciocoris) macrocephalus</i> Fieber, 1851*	Loc. 13	Adiyaman, Ankara, Antalya, Balıkesir, Bayburt, Bilecik, Burdur, Bursa, Çanakkale, Diyarbakır, Edirne, Elazığ, Erzurum, Gaziantep, Gümüşhane, Isparta, İstanbul, İzmir, Kahramanmaraş, Kars, Kayseri, Kırklareli, Kütahya, Mardin, Mersin, Muğla, Nevşehir, Niğde, Siirt, Sinop, Sivas, Tekirdağ, Van (Horváth 1883; Puton 1892; Kiritschenko 1918; Fahringer 1922; Linnavuori 1953; Hoberlandt 1956; Tuatay et al. 1972; Lodos et al. 1978, 1998; Lodos & Önder 1982; Önder et al. 1995b; Fent & Aktaç 1999; Dursun & Kartal 2008b; Şerban 2010; Dursun & Fent 2011a; Fent 2011; Matocq et al. 2014; Yazıcı et al. 2014; Çerçi & Özgen 2021; Fent & Dursun 2022)	West Palearctic
<i>Sciocoris (Neosciocoris) persimilis</i> Wagner, 1965** (Fig. 15C)	Loc. 5	Ankara (Wagner 1965)	Anatolian endemic
<i>Sciocoris (Sciocoris) deltocephalus</i> Fieber, 1861*	Loc. 19	Ankara, Balıkesir, Çanakkale, Diyarbakır, Edirne, Erzincan, İğdir, Isparta, İzmir, Kastamonu, Mardin, Muğla, Niğde, Van (Kiritschenko 1924; Hoberlandt 1956; Tuatay et al. 1972; Lodos et al. 1978; Lodos & Önder 1982;	Turano-Mediterranean

			Derjanschi & Péricart 2005; Matocq et al. 2014; Çerçi et al. 2022; Fent & Dursun (2022)
STRACHIINI Mulsant & Rey, 1866			
<i>Bagrada (Nitilia) abeillei</i> Puton, 1881**	Loc. 30	Adiyaman, Artvin, Batman, Bayburt, Diyarbakır, Elazığ, Erzurum, Gaziantep, Hatay, İğdır, Kahramanmaraş, Kilis, Mersin, Siirt, Şanlıurfa (Horváth 1936; Önder et al. 1995b; Lodos et al. 1998; Gözüaçık et al. 2011; Matocq et al. 2014; Yazıcı et al. 2014)	Turano- Mediterranean
<i>Bagrada (Nitilia) funerea</i> Horváth, 1901* (Fig. 17F)	Loc. 9	Adana (Horváth 1901)	East Mediterranean
<i>Eurydema (Eurydema) ornata</i> (Linnaeus, 1758)	-	All regions including Karaman province (Fent & Dursun 2022)	Palearctic
<i>Eurydema (Eurydema) putoni</i> (Jakovlev, 1877)*	Loc. 30	Bilecik, Bingöl, Diyarbakır, Elazığ, Erzurum, Gaziantep, Giresun, Hatay, Kahramanmaraş, Kütahya, Malatya, Mardin, Niğde, Van (Puton 1895; Horváth 1901, 1917a; Kiritshenko 1918; Seidenstücker 1960b; Lodos et al. 1978; Önder et al. 1995b; Derjanschi & Péricart 2005; Külekçi et al. 2009; Matocq et al. 2014; Kriyak 2016)	Southwest Asiatic
<i>Eurydema (Horvatheurydema) fiebleri</i> Schummel, 1837	Loc. 22, 30	Adana, Adiyaman, Ağrı, Amasya, Ankara, Antalya, Batman, Bayburt, Bingöl, Burdur, Bursa, Diyarbakır, Elazığ, Erzincan, Erzurum, Gaziantep, Giresun, Hakkâri, Hatay, Kahramanmaraş, Karaman, Kars, Kastamonu, Kirşehir, Kilis, Konya, Kütahya, Malatya, Mardin, Mersin, Muş, Nevşehir, Niğde, Osmaniye, Siirt, Sivas, Şanlıurfa, Tokat (Escherich 1897; Horváth 1901; Kiritshenko 1918; Wagner 1959a; Lodos et al. 1998, 1978; Önder et al. 1995b; Yılmaz 1996; Derjanschi & Péricart 2005; Dursun & Kartal 2008c; Kment & Jindra 2008; Dursun & Fent 2011a; Gözüaçık et al. 2011;	Turano- Mediterranean

		Matocq et al. 2014; Yazıcı et al. 2014; Çerçi et al. 2022)	
<i>Eurydema (Horvatheurydema) rugulosa</i> (Dohrn, 1860)	-	Adana, Amasya, Ankara, Antalya, Balıkesir, Bilecik, Bursa, Çanakkale, Diyarbakır, Edirne, Elazığ, Gaziantep, Hatay, İzmir, Kahramanmaraş, Karaman, Kastamonu, Konya, Kütahya, Manisa, Mardin, Mersin, Muğla, Sivas, Tekirdağ, Tokat, Uşak (Reuter 1890; Puton 1892; Escherich 1897; Horváth 1901; Hoberlandt 1956; Lodos et al. 1978, 1998; Önder et al. 1995b, 2006; Yılmaz 1996; Özsaraç & Kiyak 2001; Derjanschi & Péricart 2005; Dursun & Kartal 2008c; Dursun & Fent 2011a; Matocq et al. 2014; Fent & Dursun 2022)	East Mediterranean
<i>Eurydema (Rubrodorsalium) blanda</i> Horváth, 1903	Loc. 22	Adana, Afyonkarahisar, Aksaray, Amasya, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bilecik, Bolu, Burdur, Çanakkale, Çankırı, Çorum, Denizli, Erzurum, Gaziantep, Gümüşhane, Hakkâri, İğdır, Isparta, İstanbul, İzmir, Kahramanmaraş, Karaman, Kars, Kastamonu, Kırıkkale, Kırklareli, Kocaeli, Konya, Kütahya, Manisa, Malatya, Mersin, Muğla, Niğde, Ordu, Samsun, Sivas, Şırnak, Tekirdağ, Tokat, Uşak, Yalova (Horváth 1903; Lodos et al. 1998, 1978; Kiyak 1993; Yılmaz 1996; Önder et al. 2006; Dursun & Kartal 2008c; Karsavuran et al. 2008; Külekçi et al. 2009; Fent 2010; Dursun & Fent 2011a; Çerçi & Gözüaçık 2019; Fent & Dursun 2022)	Caucaso-Anatolian
<i>Eurydema (Rubrodorsalium) spectabilis</i> Horváth, 1882*	Loc. 9	Adana, Antalya, Bartın, Çanakkale, Çorum, Hatay, İzmir, Manisa, Mersin, Muğla, Samsun, Sivas, Şanlıurfa, Tekirdağ, Tokat, Zonguldak (Hoberlandt 1956; Wagner 1966; Lodos et al. 1978; Özsaraç & Kiyak 2001; Dursun & Kartal 2008c;	East Mediterranean

		Dursun & Fent 2011a; Fent & Dursun 2022)	
<i>Eurydema (Rubrodorsalium) ventralis</i> Kolenati, 1846	-	All regions including Karaman province (Fent & Dursun 2022)	Palearctic
<i>Trochiscocoris hemipterus</i> (Jakovlev, 1879)	-	Adana, Diyarbakır, Elazığ, Karaman, Konya, Nevşehir (Horváth 1895; Seidenstücker 1958; Lodos et al. 1998; Çerçi & Özgen 2021)	Caucaso-Anatolian
PODOPINAE Amyot & Serville, 1843			
GRAPHOSOMATINI Mulsant & Rey, 1865			
<i>Ancyrosoma leucogrammes</i> (Gmelin, 1790)	Loc. 11	Adana, Adiyaman, Ankara, Antalya, Artvin, Aydın, Balıkesir, Batman, Bilecik, Burdur, Bursa, Çanakkale, Çorum, Denizli, Diyarbakır, Edirne, Elazığ, Erzurum, Gaziantep, Hatay, Isparta, İstanbul, İzmir, Kahramanmaraş, Karaman, Kayseri, Konya, Kırklareli, Malatya, Manisa, Mardin, Mersin, Muğla, Nevşehir, Osmaniye, Sakarya, Siirt, Sinop, Şanlıurfa, Tekirdağ, Tunceli, Van (Reuter 1883; Puton 1892; Kiritshenko 1918; Horváth 1919; Fahringer 1922; Gadeau de Kerville 1939; Hoberlandt 1956; Wagner 1959a, 1966; Lodos et al. 1978, 1998; Kiyak 1990; Önder et al. 1995b; Kiyak et al. 2004a; Serban 2010; Fent 2010; Yazıcı et al. 2014; Kemal & Koçak 2014b; Özgen & Dioli 2018; Çerçi & Özgen 2021)	Turano-Mediterranean
<i>Graphosoma (Graphosoma) italicum italicum</i> (O. F. Müller, 1766)*	Loc. 8,	Adana, Adiyaman, Ağrı, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bayburt, Burdur, Bilecik, Bolu, Burdur, Bursa, Çanakkale, Çankırı, Çorum, Denizli, Düzce, Edirne, Erzincan, Erzurum, Eskişehir, Gaziantep, Hatay, İğdır, Isparta, İstanbul, İzmir, Kahramanmaraş, Karabük, Kars, Kastamonu, Kayseri, Kırklareli, Konya, Kütahya, Manisa, Mersin, Muğla, Osmaniye, Sakarya, Sinop,	Asiatic-European

		Sivas, Tekirdağ, Tunceli, Yalova, Yozgat, Zonguldak (Horváth 1901, 1919, 1883; Puton & Noualhier 1895; Escherich 1897; Kiritshenko 1918; Fahringer 1922; Gadeau de Kerville 1939; Hoberlandt 1956; Wagner 1966; Lodos et al. 1978, 1998; Önder et al. 1995b; Fent & Aktaç 1999; Külekçi et al. 2009; Dursun & Fent 2010; Şerban 2010; Fent & Japoshvili 2012; Yazıcı et al. 2014; Küçükbaşmacı & Kiyak 2015; Çerçi & Gözüaçık 2019; Fent & Dursun 2022)
<i>Graphosoma (Graphosoma) semipunctatum</i> (Fabricius, 1775)	-	Adana, Adiyaman, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bursa, Çanakkale, Çorum, Denizli, Diyarbakır, Edirne, Elazığ, Erzurum, Gaziantep, Hatay, İğdır, İstanbul, İzmir, Kahramanmaraş, Karaman, Kars, Kastamonu, Kayseri, Kırklareli, Konya, Manisa, Mardin, Muğla, Nevşehir, Osmaniye, Sakarya, Sivas, Sanlıurfa, Tekirdağ, Van, Yozgat (Kiritshenko 1918; Horváth 1919; Fahringer 1922; Hoberlandt 1956; Wagner 1966; Lodos et al. 1978, 1998; Önder et al. 1983b, 1995b; Kiyak 1990; Fent & Aktaç 1999; Özsaraç & Kiyak 2001; Kiyak et al. 2004a; Bolu et al. 2006; Külekçi et al. 2009; Tezcan et al. 2013; Yazıcı et al. 2014; Kemal & Koçak 2014a; Küçükbaşmacı & Kiyak 2015; Çerçi & Gözüaçık 2019)
<i>Tholagmus flavolineatus</i> (Fabricius, 1798)*	Loc. 9	Adana, Adiyaman, Ankara, Antalya, Artvin, Balıkesir, Burdur, Bursa, Çanakkale, Denizli, Diyarbakır, Edirne, Elazığ, Erzurum, Gaziantep, Hatay, İğdır, İstanbul, İzmir, Kahramanmaraş, Kars, Kayseri, Konya, Kırklareli, Mersin, Osmaniye, Sinop, Tekirdağ, Van (Horváth 1905a; Kiritshenko 1918; Gadeau de Kerville 1939;

		Hoberlandt 1956; Linnauvori 1965; Wagner 1966; Lodos et al. 1978, 1998; Önder et al. 1995b, 2006; Fent 2010; Péricart 2010; Şerban 2010; Gözüaçık et al. 2011; Özgen 2012; Yazıcı et al. 2014; Kemal & Koçak 2014b; Çerçi & Gözüaçık 2019; Fent & Dursun 2022)	
<i>Ventocoris (Ventocoris) rusticus</i> (Fabricius, 1781)*	Loc. 17	Adana, Afyonkarahisar, Amasya, Ankara, Artvin, Aydin, Aydın, Balıkesir, Burdur, Bursa, Çanakkale, Edirne, Elazığ, Gaziantep, Hatay, Isparta, Kahramanmaraş, Kayseri, Kırklareli, Konya, Malatya, Nevşehir, Niğde, Sivas, Tekirdağ (Horváth 1889, 1901, 1919; Puton 1892; Escherich 1897; Fahringer 1922; Linnauvori 1953; Hoberlandt 1956; Önder et al. 1995b, 2006; Özsaraç & Kiyak 2001; Kiyak et al. 2004a; Dursun & Fent 2013; Yazıcı et al. 2014; Çerçi et al. 2018; Fent & Dursun 2022)	Turano-Mediterranean
SCUTELLERIDAE Leach, 1815			
EURYGASTERINAE Amyot & Serville, 1843			
<i>Eurygaster austriaca</i> (Schrank, 1776)	Loc. 13	Adana, Adıyaman, Ankara, Antalya, Balıkesir, Bilecik, Bingöl, Çanakkale, Çorum, Edirne, Elazığ, Erzincan, Erzurum, Eskişehir, Giresun, Hatay, İğdır, Isparta, İstanbul, İzmir, Kahramanmaraş, Karabük, Karaman, Kırıkkale, Kırklareli, Konya, Manisa, Mersin, Muğla, Muş, Nevşehir, Niğde, Sakarya, Samsun, Sivas, Tekirdağ, Trabzon, Tunceli, Yozgat (Wagner 1959a; Lodos 1960; Brown & Eralp 1962; Önder et al. 1995b; Lodos et al. 1998; Kiyak et al. 2004a; Karsavuran et al. 2008; Fent & Aktaç 2009; Dursun & Fent 2010; Yıldırım et al. 2014)	Europeo-Mediterranean
<i>Eurygaster integriceps</i> Puton, 1881	Loc. 13	All regions including Karaman province (Zwölfer	Turano-European

		1931; Brown & Eralp 1962; Önder et al. 2006)	
<i>Eurygaster maura</i> (Linnaeus, 1758)	Loc. 31	All regions including Karaman province (Brown & Eralp 1962; Önder et al. 2006)	West Palearctic
<i>Psacasta (Psacasta) exanthematica exanthematica</i> (Scopoli, 1763)*	Loc. 24	Adana, Adiyaman, Antalya, Artvin, Bingöl, Bursa, Çankırı, Çorum, Diyarbakır, Düzce, Edirne, Elazığ, Erzurum, Gaziantep, Gümüşhane, Hatay, Kahramanmaraş, Kars, Kastamonu, Kayseri, Kırklareli, Konya, Mardin, Mersin, Muş, Osmaniye, Sinop, Tekirdağ, Tokat, Tunceli (Horváth 1883, 1901, 1919; Puton 1892; Kiritschenko 1918; Wagner 1959a; Önder et al. 1995a, 2006; Lodos et al. 1998; Carapezza & Kerzhner 2005; Fent & Aktaç 2009; Dursun & Fent 2010; Fent 2010; Gözüaçık & Fent 2012; Matocq et al. 2014; Yazıcı et al. 2014; Çerçi et al. 2022)	Mediterranean
ODONTOSCELINAE Amyot & Serville, 1843			
<i>Odontoscelis (Odontoscelis) byrrhus</i> Seidenstücker, 1972*	Loc. 16	Adana, Ankara, Antalya, Erzurum, İzmir, Kahramanmaraş, Karabük, Kastamonu, Kayseri, Kırıkkale, Mersin, Muğla, Nevşehir, Niğde (Seidenstücker 1972; Lodos et al. 1998; Önder et al. 2006; Fent 2010; Tezcan et al. 2013; Çerçi et al. 2022)	Turano-Mediterranean
<i>Odontoscelis (Odontoscelis) dorsalis</i> (Fabricius, 1798)	-	Adana, Ankara, Antalya, Aydın, Bilecik, Bursa, Çorum, Denizli, Gaziantep, Hatay, İzmir, Kahramanmaraş, Karaman, Konya, Malatya, Mersin, Niğde (Horváth 1883, 1901; Fahringer 1922; Hoberlandt 1956; Seidenstücker 1972; Kiyak 1990; Önder et al. 1995b, 2006; Lodos et al. 1998)	Turano-Mediterranean
<i>Odontoscelis (Odontoscelis) fuliginosa</i> (Linnaeus, 1761)	-	Afyonkarahisar, Ankara, Aydın, Bartın, Bursa, Denizli, Diyarbakır, Edirne, Elazığ, Erzurum, Gaziantep,	Palearctic

		Gümüşhane, Hatay, Isparta, İzmir, Kahramanmaraş, Karaman, Kastamonu, Konya, Kırıkkale, Kırşehir, Malatya, Van, Zonguldak (Horváth 1883, 1901; Linnavuori 1953; Seidenstücker 1972; Lodos et al. 1998; Önder et al. 2006; Dursun & Fent 2010; Fent & Japoshvili 2012; Gözüaçık & Fent 2012; Koçak & Kemal 2012; Yıldırım et al. 2014)	
ODONTOTARSINAE Mulsant & Rey, 1865			
<i>Odontotarsus impictus</i> Jakovlev, 1886*	Loc. 22	Adana, Adiyaman, Ankara, Çankırı, Çorum, Diyarbakır, Elazığ, Erzurum, Hatay, Karabük, Kayseri, Mardin, Siirt, Şanlıurfa, Şırnak, Tunceli, Zonguldak (Horváth 1906a; Hoberlandt 1956; Önder et al. 1995b, 2006; Lodos et al. 1998; Gözüaçık et al. 2011; Matocq et al. 2014; Yıldırım et al. 2014)	Turanian
<i>Odontotarsus robustus</i> Jakovlev, 1884	Loc. 22	Adana, Adiyaman, Afyonkarahisar, Ankara, Antalya, Aydın, Balıkesir, Batman, Bilecik, Bolu, Burdur, Bursa, Çanakkale, Çankırı, Denizli, Diyarbakır, Düzce, Edirne, Elazığ, Gaziantep, Giresun, Hatay, Isparta, İstanbul, İzmir, Karaman, Kars, Kastamonu, Kırıkkale, Kırklareli, Malatya, Mardin, Mersin, Muğla, Osmaniye, Sakarya, Sinop, Sivas, Tekirdağ, Tokat, Uşak, Van (Horváth 1906a; Kiritshenko 1918; Fahringer 1922; Hoberlandt 1956; Wagner 1959a; Lodos et al. 1978, 1998; Önder et al. 1995b; Şerban 2010; Dursun & Fent 2010; Fent 2010; Gözüaçık & Fent 2012; Matocq et al. 2014; Küçükbaşmacı & Kiyak 2015; Çerçi et al. 2018, 2022; Kemal & Koçak 2018)	Mediterranean
<i>Odontotarsus rufescens</i> Fieber, 1861* (Fig. 14I)	Loc. 24	Adana, Adiyaman, Amasya, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bursa, Çanakkale, Çankırı, Denizli, Diyarbakır, Edirne, Elazığ,	East Mediterranean

Erzurum, Gaziantep,
Gümüşhane, Hatay, Isparta,
İstanbul, İzmir,
Kahramanmaraş, Kars,
Kastamonu, Kilis, Konya,
Kırklareli, Kırşehir, Manisa,
Mardin, Mersin, Muğla,
Nevşehir, Osmaniye, Sinop,
Sivas, Şanlıurfa, Tekirdağ,
Tokat (Horváth 1906a;
Hoberlandt 1956; Linnavuori
1965; Lodos et al. 1978,
1998; Önder et al. 2006,
1995b; Fent & Aktaç 2007;
Dursun & Fent 2010; Fent
2010; Gözüçük & Fent 2012;
Yıldırım et al. 2014)

PLATASPIDAE Dallas, 1851

COPTOSOMATINAE Kirkaldy, 1909

<i>Coptosoma scutellatum</i> (Geoffroy, 1785)*	Loc. 26	Adana, Ankara, Artvin, Aydın, Balıkesir, Bartın, Bayburt, Burdur, Bursa, Çanakkale, Çankırı, Çorum, Edirne, Erzincan, Erzurum, Giresun, Gümüşhane, Hatay, İstanbul, Kahramanmaraş, Kastamonu, Kayseri, Mardin, Mersin, Nevşehir, Ordu, Osmaniye, Samsun, Tekirdağ, Tokat, Zonguldak (Horváth 1883, 1901; Hoberlandt 1956; Lodos & Önder 1978; Lodos et al. 1998; Kiyak et al. 2004a; Doğanlar et al. 2007; Fent & Aktaç 2009; Dursun & Fent 2010; Yazıcı et al. 2014)	Palearctic
---	---------	--	------------

First record of *Solenosthedium bilunatum* (Lefèvre, 1827) (Hemiptera: Heteroptera: Scutelleridae) in Bosnia and Herzegovina

Torsten van der Heyden

Immenweide 83, D-22523 Hamburg, Germany.
E-mail: tmvdh@web.de ORCID iD: 0000-0003-4138-7160

ABSTRACT: The first record of *Solenosthedium bilunatum* (Lefèvre, 1827) in Bosnia and Herzegovina is reported. Information on the known distribution of *S. bilunatum* in Europe is summarised.

KEY WORDS: *Solenosthedium bilunatum*, first record, distribution, Bosnia and Herzegovina, Mediterranean Region.

To cite this article: van der Heyden, T., 2023, First record of *Solenosthedium bilunatum* (Lefèvre, 1827) (Hemiptera: Heteroptera: Scutelleridae) in Bosnia and Herzegovina, *J.Het.Turk.*, 5(1): 129-131

DOI: 10.5281/zenodo.8000593

To link to this article: <https://www.j-het.org/wp-content/uploads/2023/05/V51-A4.pdf>

Received: Feb 14, 2023; **Revised:** Mar 3, 2023; **Accepted:** Mar 14, 2023; **Published online:** May 31, 2023

Up to now, the Mediterranean scutellerid Ustica), Malta, Portugal and Spain *Solenosthedium bilunatum* (Lefèvre, 1827) (mainland, Ibiza, Mallorca) (Misja, 1973; (Hemiptera: Heteroptera: Scutelleridae) Josifov, 1986; Matocq & Pluot-Sigwalt, has been reported from the following 2002; Göllner-Scheiding, 2006; Gogala, European countries: Albania, Croatia 2008; Aukema et al., 2013; Dusoulier et (mainland, Korčula), Cyprus, France al., 2016; Ramsay, 2019; Škorput et al., (mainland, Corsica), Greece (mainland, 2019; van der Heyden, 2020, 2021). Crete), Italy (mainland, Sardinia, Sicily, Now, the first record of *S. bilunatum* in



An Open Access article distributed under the Creative Commons 4.0 (CC BY NC SA) International License.

Bosnia and Herzegovina can be reported: On 13.02.2023, a single specimen was photographed by Luka Marić south of Mostar, located in the southern part of the country (Fig. 1). The specimen was found in a house in a residential area situated on grassland in the Mostar valley, surrounded by karst hills (Luka Marić, pers. comm.). Several photographs of the specimen were uploaded to the online database iNaturalist (Marić, 2023).

ACKNOWLEDGEMENTS

I would like to thank Luka Marić for allowing me to use his photo of *S. bilunatum* to illustrate this note and for additional information about his finding.

REFERENCES

- Aukema, B., Rieger, C., Rabitsch, W. (Eds.), 2013, Catalogue of the Heteroptera of the Palaearctic Region, Volume 6, Supplement. The Netherlands Entomological Society, Amsterdam, 629 pp.
- Dusoulier, F., Claerebout, S., Mroczko, C., 2016, Deux espèces nouvelles pour la faune de la France continentale: *Eyprepocnemis plorans* (Charpentier, 1825) et *Solenosthedium bilunatum* (Lefebvre, 1827) (Orthoptera Acridae et Hemiptera Scutelleridae), *L'Entomologiste*, 72 (2): 121-126.
- Göllner-Scheiding, U., 2006, Family SCUTELLERIDAE Leach, 1815 - shield bugs, 190-227 pp. In: Catalogue of the Heteroptera of the Palaearctic Region, Volume 5, Pentatomomorpha II. (Eds. B. Aukema, C. Rieger). The Netherlands Entomological Society, Amsterdam, 550 pp.
- Gogala, A., 2008, First record of *Solenosthedium bilunatum* (Lefebvre) (Heteroptera: Scutelleridae) for Croatia, *Entomologia Croatica*, 12 (1): 81-82.
- Josifov, M., 1986, Verzeichnis der von der Balkanhalbinsel bekannten Heteropterenarten (Insecta, Heteroptera), *Faunistische Abhandlungen Staatliches Museum für Tierkunde Dresden*, 14 (6): 61-93.
- Marić, L., 2023, *Solenosthedium bilunatum*. Photographs to be found on iNaturalist [Online database]. Available from: <https://www.inaturalist.org/observations/148683736>. (Accessed: 13.02.2023).
- Matocq, A., Pluot-Sigwalt, D., 2002, Notes sur *Solenosthedium bilunatum* (Lefebvre, 1827) (Heteroptera, Scutelleridae), *Bulletin mensuel de la Société linnéenne de Lyon*, 71 (7): 277-284.
- Misja, K., 1973, Rezultate të studimit të gjysmëkrahëfortëve (Hemiptera) të vëndit tonë, *Buletin i Shkencave të Natyrës*, 1-2: 131-151.
- Ramsay, A.J., 2019, Pentatomoidea (Hemiptera: Heteroptera) of Greece – An annotated checklist, *Monographs of the Upper Silesian Museum*, 10: 9-27.
- Škorput, J., Novak Morić, A., Martinović, M., van der Heyden, T., Skejo, J., 2019, *Solenosthedium bilunatum* (Heteroptera: Scutelleridae) at the Adriatic Coast of Croatia, *Entomologie heute*, 31: 25-29.
- van der Heyden, T., 2020, Records of *Solenosthedium bilunatum* (Lefebvre, 1827) on the Italian island of Ustica and the Spanish island of Ibiza (Hemiptera: Heteroptera: Scutelleridae), *Arquivos Entomológicos*, 22: 289-291.
- van der Heyden, T., 2021, Confirmation of the presence of *Solenosthedium bilunatum* (Lefebvre 1827) (Hemiptera: Heteroptera: Scutelleridae) in Albania, *Journal of the Heteroptera of Turkey*, 3 (2): 111-113.



Figure 1. Specimen of *Solenosthedium bilunatum* (Lefèvre, 1827), near Mostar, Bosnia and Herzegovina, 13.02.2023. (Photo: Luka Marić).

Hebridae (Hemiptera: Heteroptera) Fauna of the Turkish Thrace Region

Meral Fent^{1*} Ahmet Dursun² Kaan Yence¹

¹ Trakya University, Faculty of Science, Department of Biology, 22030, Edirne Türkiye
E-mail: m_fent@hotmail.com ORCID iD 0000-0001-5787-6714

²Amasya University, Faculty of Arts and Science, Department of Biology, 05100, Amasya/Türkiye
E-mail: ahmetdursun55@hotmail.com ORCID iD: 0000-0002-5114-7470

¹ Trakya University, Faculty of Science, Department of Biology, 22030, Edirne Türkiye
E-mail: kaanyence@trakya.edu.tr ORCID iD 0000-0002-3961-1402.

*Corresponding author e-mail: m_fent@hotmail.com

ABSTRACT: : During the field studies carried out in various freshwater habitats in the Thrace Region between 2019-2020, two species from the Hebridae (Hemiptera: Heteroptera) family were identified. *Hebrus pilipes* Kanyukova, 1997 was recorded for the first time for the Thrace Region, while the presence of *Hebrus pusillus pusillus* (Fallén, 1807) in Turkish Thrace was confirmed with exact locality records.

KEY WORDS: *Hebrus pilipes*, *Hebrus pusillus pusillus*, Turkish Thrace Region, Türkiye.

To cite this article: Fent, M., Dursun, A., Yence, K., 2023, Hebridae (Hemiptera: Heteroptera) Fauna of the Turkish Thrace Region, *J.Het.Turk.*, 5(1):132-137

DOI: 10.5281/zenodo.7986741

To link to this article: <https://www.j-hht.org/wp-content/uploads/2023/05/V51-A5.pdf>

Received: May 10, 2023; **Revised:** May 17, 2023; **Accepted:** May 20, 2023; **Published online:** May 31, 2023

INTRODUCTION

The Hebridae family is represented by 21 species/subspecies (18 species and 3 subspecies) belonging to 2 genera in the Western Palearctic (Kment et al., 2016). 4 species (*Hebrus montanus* Kolenati,

1857, *H. pilipes* Kanyukova, 1997, *H. pusillus pusillus* (Fallén, 1807) and *H. ruficeps* Thomson, 1871) are known to belong to the genus *Hebrus* Curtis, 1833 from this family in Türkiye (Fent et al., 2011; Kment et al., 2016). *H. montanus*, *H. pilipes* and *H. ruficeps* have been



An Open Access article distributed under the Creative Commons 4.0 (CC BY NC SA) International License.

recorded in various localities in the Asian part (Anatolia) of Türkiye (Linnauvori, 1953; Andersen, 1995; Kment & Jindra, 2005; Önder et al., 2006; Fent et al., 2011; Kment et al., 2016, Aukema, 2023). *H. pusillus pusillus* was given from the Thrace Region (European part) without specifying the locality (Oshanin, 1908; Josifov, 1986; Andersen, 1995). It has been reported from different localities by a few researchers from Anatolia (Lindberg, 1922; Hoberlandt, 1952; Linnauvori, 1986; Önder et al., 2006; Kiyak et al., 2008). However, Fent et al. (2011) state that the *H. pusillus pusillus* records given by Hoberlandt (1952) in Türkiye (Anatolia) were misidentification and that these records belong to *H. montanus* and *H. pilipes* species.

According to Kment et al. (2016), all recently revised previous records of *H. pusillus pusillus* from Türkiye, Transcaucasia,

MATERIALS AND METHODS

The research was carried out in all kinds of natural and artificial wetlands such as lakes, ponds, dams, rivers, streams, irrigation canals and their surroundings and marsh areas in the Thrace Region between May and September when Heteroptera species were active between 2019-2020 (Table 1, fig. 1). The research material was collected, from the water surface and the waterside with nets and plankton scoop. The obtained samples were taken into tubes containing 70% alcohol. Kanyukova (1997) was used to identify the species.

Table 1. Localities, coordinates, heights and dates where materials were collected in the summer period of 2019-2020 in the Wetlands of Thrace Region.

Loc. No:	Localities	Altitudes	Coordinates	Collecting dates
1	Kırklareli-Üründü (stream)	115m	41°40'430"N 26°59'478"E	17.05.2019
2	Çanakkale- Gelibolu -Yolağzı Village (Uzunhızır Pond)	48m	40°18'127N 26°23'496E	26.05.2019
3	İstanbul-Eyüpsultan- Ağaçlı Village- roadside (stream)	17m	41°15'885N 28°53'719E	07.07.2019
4	İstanbul-Çatalaca- Ormanlı (stream)	5m	41°23'414N 28°26'999E	09.07.2019
5	İstanbul-Çatalaca- Danamandıra (stream)	232m	41°19'327N 28°15'948E	10.07.2019
6	İstanbul-Çatalaca- Küçüksinekli (swamp)	217m	41°13'787N 28°10'596E	11.07.2019
7	Edirne-Yeniköy (Dobrahi Stream)	57m	41°21'073N 26°44'786E	08.06.2020
8	Edirne-Uzunköprü-Kurtbey (stream)	35m	41°7'410N 26°33'742E	09.06.2020
9	Edirne-Ipsala-İbriktepe (Sultanköy Pond)	46m	41°1'809N 26°29'188E	09.06.2020
10	Kırklareli-between Erikler-Karahamza (stream)	371m	41°53'570N 27°6'220E	17.06.2020
11	Tekirdağ-Naipköy (stream)	27m	40°52'624N 27°24'608E	18.06.2020
12	Edirne-between Hatıköy-Büyükkışmalçé (stream)	53m	41°48'445N 26°31'098E	19.06.2020
13	Tekirdağ-Malkara-Sağlamtaş (Aksakal Stream)	82m	40°46'535N 27°3'986E	17.08.2020
14	Tekirdağ-Şarköy-Yayaköy (puddle)	318m	40°42'390N 27°11'763E	17.08.2020
15	Kırklareli-Vize-Kıyköy Road (stream)	77m	41°37'255N 27°59'249E	18.08.2020



Figure 1. Map showing the localities where *Hebrus pilipes* and *Hebrus pusillus pusillus* are found in the Thrace Region (Google Earth).

RESULTS AND DISCUSSION

HEBRIDAE Amyot & Serville, 1843

Hebrus Curtis, 1833

Hebrus pilipes Kanyukova, 1997

Material examined: EUROPEAN TÜRKİYE: Çanakkale province: Gelibolu-Yolağzı Village (Uzunhızırlı Pond), 28.05.2019, 1♀; Edirne province: İpsala-İbriktepe (Sultanköy Pond), 09.06.2020, 1♀; Uzunköprü-Kurtbey (stream), 09.06.2020, 1♀; İstanbul province: Eyüpşultan-Ağaçlı Village (stream), 02.07.2019, 1♂; Çatalca-Danamandırı (stream), 04.07.2019, 1♂; Silivri-Küçüksinekli (swamp), 04.07.2019, 2♀♀; Kırklareli province: Ürünlü (stream),

07.07.2019, 1♀; Tekirdağ province: Malkara-Sağlamtaş (Aksakal Stream), 17.08.2020, 1♀; Şarköy-Yayaköy (puddle), 17.08.2020, 1♀, 1♂.

First record for the Turkish Thrace.

Distribution in Türkiye: Asian TÜRKİYE: Antalya, Konya, Mersin, Sivas, Tunçeli (Hoberlandt, 1952; Kment & Jindra 2005; Fent et al., 2011).

Distribution in Palaearctic: Europe: Russia (South European Territory), Ukraine (Crimea). **Asia:** Azerbaijan, Afghanistan, Asian Kazakhstan, Asian TÜRKİYE, Armenia, China (Northwestern Territory), Georgia, Iran, Tadzhikistan, Turkmenistan, Uzbekistan (Aukema, 2023).

***Hebrus pusillus pusillus* (Fallén, 1807)**

Material examined: EUROPEAN TÜRKİYE:

Edirne province: Between Hatipköy-

Büyükkışmailçe (stream), 19.06.2020, 1♀; Yeniköy (Dobralı Stream), 08.08.2020, 1♀;

Istanbul province: Çatalca-Ormanlı Village (stream), 03.07.2019, 1♀; **Kırklareli province:**

Between Erikler-Karahamza (stream), 17.06.2019, 2♂♂; Vize-Kiyıköy road (stream), 18.08.2020, 3♀♀, 4♂♂;

Tekirdağ province: Naipköy (stream), 18.06.2020,

1♀.

First exact records from Turkish Thrace Region.

Distribution in Türkiye: European Tür-

kiye: Thrace (Oshanin, 1908; Josifov, 1986; Andersen, 1995, Aukema, 2023).

Asian Türkiye?: Aydın, Bolkar Mountain

(Bulgar Dağı), Hatay, İzmir (Lindberg, 1922; Linnauvori, 1986; Önder et al.,

2006; Kiyak et al., 2008; Aukema, 2023).

Distribution in Palaearctic: Europe:

Albania, Austria, Belgium, Bosnia Hercegovina, Bulgaria, Byelorussia, Croatia, Czech Republic, Denmark, Estonia, European Türkiye, Finland, France, Great Britain, Germany, Greece, Hungary, Italy, Latvia, Luxembourg, Macedonia, Montenegro, Moldavia, Netherlands, Norway, Poland, Portugal, Romania, Russia (Central European Territory, North European Territory, South European Territory), Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine.

North Africa: Algeria? Canary Islands,

Egypt? Libya? Morocco? **Asia:** Asian

Kazakhstan, Asian Türkiye? Iran? Israel?

Lebanon? Russia (East Siberia, Far East, West Siberia), Syria? (Kment et al., 2016; Aukema, 2023).

Two species from the Hebridae family were identified as a result of the identification of samples collected from various aquatic habitats in the Thrace Region between 2019-2020. *Hebrus pilipes* have been recorded from several localities in the south and central part of Anatolia (Fent et al., 2011). In the Palearctic Region, it is known in Europe only from the Southern European part of Russia and Ukraine, and in Asia from Afghanistan, Kazakhstan,

Tajikistan, Turkmenistan, Uzbekistan and the Northwestern part of China, including Georgia, Armenia and Iran, neighboring Anatolia (Aukema, 2023). *Hebrus pusillus pusillus* has a fairly wide distribution in Europe, including Bulgaria and Greece, neighboring the Thrace Region (Aukema, 2023), but records from Iran, Israel, Lebanon and Syria including Anatolia (Asian Türkiye) in Asia and in North Africa need to be confirmed (Fent et al., 2011; Kment et al., 2016).

H. pilipes differs morphologically from other species by its scutellum (more or less raised in apical half) and, in the male, its hind tibiae, which is thickened in the middle and contains a row of long hairs on the upper side and several rows of shorter hairs on the inner sides (Fig. 2b-c). *H. pusillus pusillus* differs from *H. pilipes* and other species by its scutellum structure (more or less rounded at the apex and not incised) and a row of hairs extending from the middle to the apical in the inner part of the hind tibiae in the male (Fig. 3b).

These two similar species are also distinguished by the following additional characteristics: *H. pusillus pusillus* is dark brown and the antennae and dorsal of the legs are reddish brown to dark brown, ventral side of legs pale brown, but not yellow (Fig. 3a), in *H. pilipes* the head scutellum and corium are reddish brown (sometimes the body is dark color), the first and second segments of the antennae and legs yellow, only distal of the femora, proximal of tibiae and first tarsal segments darkened (Fig. 2a) (see Kanyukova, 1997).

ACKNOWLEDGMENTS

This study was supported by Trakya University Scientific Research Projects Unit (TÜBAP Project no: 2018-124), we express our gratitude. We thank Dr. Elena KANYUKOVA (Zoological Museum of Far Eastern Federal University, Russia) for confirming the identification of the species.



Figure 2. a. *Hebrus pilipes*, male (Tekirdağ province: Şarköy-Yayaköy, body length 2 mm),
b-c. Hind tibiae (b.dorsal, c.ventral)

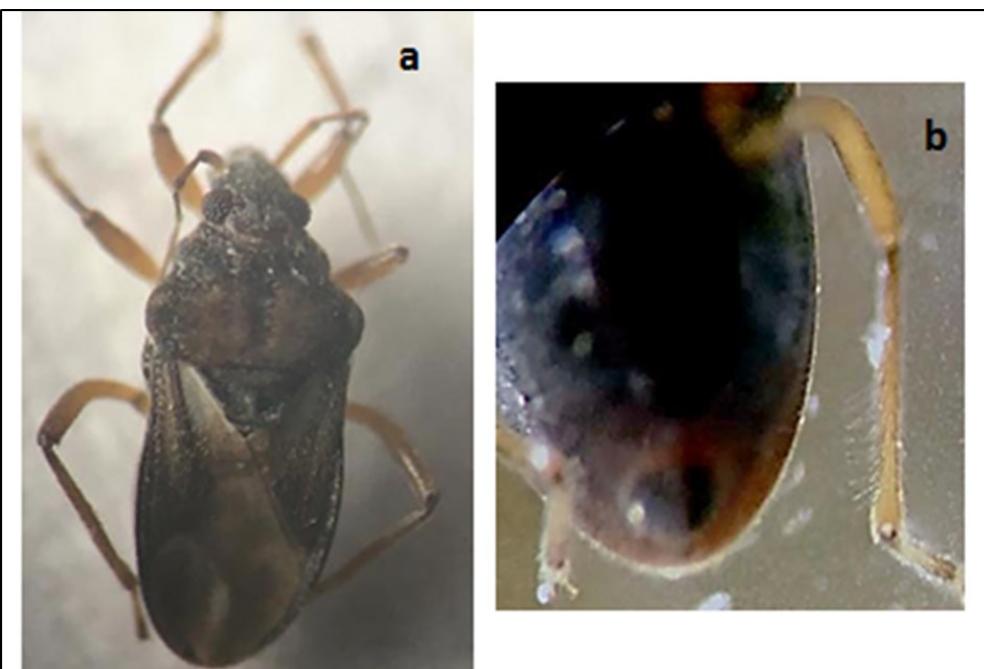


Figure 3. a. *Hebrus pusillus pusillus*, male (Kırklareli province: Between Erikler-Karahamza, body length 1,9 mm) b. Hind tibiae (ventral)

REFERENCES

- Andersen, N.M., 1995, Infraorder Gerromorpha Popov, 1971—semaquatic bugs, pp. 17–114. In: Aukema, B. & Rieger, C. (Eds.), *Catalogue of the Heteroptera of the Palaearctic Region*. Vol. 1. *Enicocephalomorpha, Dipsocoromorpha, Nepomorpha, Gerromorpha and Leptopodomorpha*. The Netherlands Entomological Society, Amsterdam, xxvi + 222 pp.
- Aukema, B., 2023, Catalogue of Palaearctic Heteroptera. Naturalis Biodiversity Center. Available from <https://catpalhet.linnaeus.naturalis.nl/> (Accessed on 30.04.2023)
- Fent, M., Kment, P., Çamur-Elipek, B. & Kırgız, T., 2011, Annotated catalogue of Enicocephalomorpha, Dipsocoromorpha, Nepomorpha, Gerromorpha and Leptopodomorpha (Hemiptera: Heteroptera) of Turkey with new records. *Zootaxa*, 2856: 1–84.
- Hoberlandt, L., 1952, Results of the zoological scientific expedition of the National Museum in Praha to Turkey. 2. Hemiptera -Heteroptera I. The aquatic and semiaquatic Heteroptera of Turkey. *Acta Entomologica Musei Nationalis Pragae*, 26(352) (1948–1950), 1–74 + pls. I–XVII.
- Josifov, M., 1986, Verzeichnis der von der Balkanhalbinsel bekannten Heteropterenarten (Insecta, Heteroptera). *Faunistische Abhandlungen Staatliches Museum für Tierkunde Dresden*, 14: 61–93.
- Kanyukova, E.V., 1997, Hebridae of Russia and adjacent countries (Heteroptera). *Zoosystematica Rossica*, 6: 223–236.
- Kiyak, S., Salur, A. & Canbulat, S., 2008, Gerromorpha and Leptopodomorpha (Insecta; Heteroptera) Fauna of Southwest Anatolia. *Turkish Journal of Zoology*, 32: 309–326.
- Kment, P. & Jindra, Z., 2005, New and interesting records of true bugs (Heteroptera) from Turkey, southeastern Europe, Near and Middle East. *Acta Entomologica Musei Nationalis Pragae*, 45: 3–16.
- Kment, P., Jindra, Z. & Berchi, G.M., 2016, Review of West-Palaearctic Hebridae with description of a new species and re-description of *Hebrus fulvinervis* (Hemiptera: Heteroptera). *Zootaxa*, 4147 (3): 201–239.
- Linnauvori, R., 1953, A Palaearctic Heteropterous material collected by J. Sahlberg and U. Saalas. *Annales Entomologici Fennici*, 19, 147–167.
- Linnauvori, R.E., 1986, Heteroptera of Saudi Arabia. In: Büttiker, W. & Krupp, F. (Eds.), *Fauna of Saudi Arabia*. Vol. 8. Pro Entomologia c/o Natural History Museum, Basel, pp. 31–197.
- Lindberg, H., 1922, Verzeichnis der von John Sahlberg und Unio Saalas in den Mittelmeergebieten gesammelten semiaquatilen und aquatilen Heteropteren. *Notulae Entomologicae*, 2: 15–19, 46–49.
- Oshanin, B., 1908, Verzeichnis des Palaearktischen Hemipteren mit besonderer Berücksichtigung ihrer Verteilung im Russischen Reiche. I. Band. Heteroptera. II. Lieferung. Tingidae–Acanthiidae. *Ezhegodnik Zoologicheskago Muzeya Imperatorskoy Akademii Nauk*, 13 (Prilozhenie): 395–586.
- Önder, F., Karsavuran, Y., Tezcan, S. & Fent, M., 2006, *Türkiye Heteroptera (Insecta) kataloğu. (Heteroptera (Insecta) catalogue of Turkey)*. Ege Üniversitesi Ziraat Fakültesi, İzmir, 164 pp.

The morphological characterization of the sensilla on the antennae and mouthparts of *Camptopus tragacanthae* (Kolenati, 1845) (Hemiptera, Alydidae)

Irmak Polat^{1*} Suat Kiyak² Zekiye Suludere²

¹*Çankırı Karatekin University, Faculty of Science, Department of Biology, Çankırı, 18100, Türkiye

²Gazi University, Faculty of Science, Department of Biology, Ankara, 06500, Türkiye

E-mails: irmakyilmaz@gazi.edu.tr, skiyak@gazi.edu.tr, zekkiye@gazi.edu.tr

ORCID IDs: 0000-0001-7230-4589 (IP), 0000-0001-8167-8283 (SK), 0000-0002-1207-5814 (ZS)

ABSTRACT: *Camptopus tragacanthae* (Kolenati, 1845) (Hemiptera, Alydidae) is a species that belongs to the Alydidae family (Hemiptera) and its host plants are *Hypericum perforatum*, *Astragalus* sp. which are economically important. The sensilla are the main sensory organs of insects with their chemoreceptor, thermohygroreceptor or mechanoreceptor roles. They are located on the integument of antennae, head, mouthparts, legs or other body part of insects. The researchers can use sensilla as a taxonomical character because of the variation of the types, number, position, or distribution of them, so their structures should be enlightened. In accordance with this purpose, the sensilla structures on the mouthparts and antennae of male and female individuals of *C. tragacanthae* were examined with stereomicroscope and scanning electron microscope techniques in detail. This study is the first morphological research on the sensilla of the genus *Camptopus*. The antennae and mouthpart specimens were first photographed with a stereomicroscope, then cleaned for a scanning electron microscope, air-dried, covered with gold and examined. In the manner of our study, 3 major types of sensilla on the antennae (sensilla trichodea, sensilla basiconica, and sensilla coeloconica) and 2 major types of sensilla on the mouthparts (sensilla trichodea and sensilla basiconica) have been identified. While there are more sensilla on the antennae than the mouthparts, it can be said that the predominant sensilla type in both body parts is the sensilla trichodea.

KEY WORDS: Hemiptera, Heteroptera, insect, scanning electron microscopy, sensory organ.

To cite this article: Polat, I., Kiyak, S., Suludere, Z., 2023, The morphological characterization of the sensilla on the antennae and mouthparts of *Camptopus tragacanthae* (Kolenati, 1845) (Hemiptera, Alydidae), *J.Het.Turk.*, 5 (1):138-153

DOI: 10.5281/zenodo.7986776

To link to this article: <https://www.j-het.org/wp-content/uploads/2023/05/V51-A6.pdf>

Received: May 11, 2023; **Revised:** May 15, 2023; **Accepted:** May 21, 2023; **Published online:** May 31, 2023



An Open Access article distributed under the Creative Commons 4.0 (CC BY NC SA) International License.

INTRODUCTION

The Alydidae family consists of species that are widely distributed in the world. The species belonging to this family have been identified by many researchers in various continents of the world, in various countries such as Papua New Guinea, America, Korea and Japan. It has been reported that these species, which have piercing-sucking mouth type, have economic importance especially on rice and soybean because they reduce yield, quality and seed viability (Sands, 1977; Brier & Rogers, 1991; Lee et al., 2004; Jung et al., 2005; Takeuchi, 2007; Hwang et al., 2022; Wilczek, 2022).

The Alydidae family is represented by 8 species in Turkey and one of them is *Camptopus tragacanthae* Kolenati, 1845 (Önder et al. 2006; Dursun et al. 2010; Çerçi and Koçak, 2017). *C. tragacanthae* is a widespread species that is distributed in Afghanistan, Anatolia, Azerbaijan, northwestern China, Georgia, Iran, Kazakhstan, southwestern Russia, Tadzhikistan, Transcaucasia, Turkmenistan, and Uzbekistan (Dolling, 2006; Dursun et al., 2010; Ghahari et al., 2010; Samin and Linnnavuori, 2015). In Turkey, it is reported that it is in Ankara, Bayburt, Bilecik, Bursa, Elazığ, Erzurum, Eskişehir, Gaziantep, İğdir, Isparta, İzmir, Kahramanmaraş, Kars, Kastamonu, Kayseri, Nevşehir, Sivas, and Tokat by several researchers (Kiritshenko, 1924; Pehlivan, 1981, Kiyak, 1990, 1993; Kiyak et al., 2004; Dursun, 2009; Dursun et al., 2010; Fent and Japoshvili, 2012; Çerçi et al., 2018; Yazıcı, 2022).

The host plants of *C. tragacanthae* are *Hypericum perforatum*, *Astragalus* sp. (Dursun et al., 2010). For instance, Kiyak (2019) reported that *Astragalus microcephalus* is the host plant of this insect species. Both *Hypericum perforatum* and *Astragalus* sp are of great economic importance as they are used as medicinal plants and/or ethnopharmacological agent and *C. tragacanthae* individuals on these plants endanger these species and allow yield reduction (Saddiqe et al.,

2010; Süntar et al., 2010; Berezutsky et al., 2023).

Sensilla act as chemo-receptors, thermo-hygroreceptors, and/or mechanoreceptors found on different regions of the body of insects in different densities. They have a great importance on finding mates or food, detecting volatile chemicals of air, physical and mechanical signals and other various functions about living. The distribution, types, sizes and densities of the sensilla show great variation among different insect species (Chapman, 1998; Isidoro et al., 2001; Akent'eva, 2008; Carey & Carlson, 2011; Fu et al., 2012; Brozek & Bourgoin, 2013; Brozek & Zettel, 2014; Parveen et al., 2015; Cao & Huang, 2016; Nowinska & Brozek, 2017; Seada & Hamza, 2018; Taszakowski et al., 2019; Faucheuix et al., 2020; Freitas et al., 2020; Amutkan Mutlu et al., 2021; Giglio et al., 2022; Polat et al., 2021, 2022; Rani et al., 2021; Zhang et al., 2021; Zhu et al., 2023).

The main goal of our research is to reveal the morphological characteristically features of sensilla types on the mouth and antennae of *C. tragacanthae* which has an economical importance due to damage the *Hypericum perforatum* and *Astragalus* sp.

MATERIALS AND METHODS

In this study, the preserved samples of adult male and female *C. tragacanthae* as museum material were used.

The samples were collected in Hazar Lake, Elazığ province in 1985-1998 and were stored in Gazi University. First, the outer surface of the male and female insects was cleaned via ultrasonic cleaner. Then, the samples were air dried, were mounted on the SEM stubs and were coated with gold (Au) with sputter coater (Polaron SC502), observe in SEM (JEOL JSM 6060 LV). All the experiments were applied in Gazi University, Prof. Dr. Zekiye Suludere Electron Microscope Center and photographed (at 10-15 kV accelerating voltage).

RESULTS AND DISCUSSION

SEM and stereomicroscopic observations that we made showed that, the mouth has a labrum and labium and the antennae has 4 segments in *C. tragacanthalae*. The most common sensilla type in all these regions is sensilla trichodea (ST). This result shows parallelism with the study of Nowińska & Brożek (2021) and Polat et al. (2022)'s study. The predominant sensilla type in the examined samples of these species is ST that have many functions such as mechanoreceptors and chemoreceptors. For example, Nowińska & Brożek (2021) reported that the thick STs were olfactory sensilla while thin STs were chemosensilla of the antennae of *Plea minutissima* Leach, 1818 (Hemiptera, Pleidae).

Moreover, 2 other types of sensilla were also identified in different sizes; sensilla basiconica (SB), and sensilla coeloconica (SCo) in *C. tragacanthalae*. When they are compared, it has been observed in studies that the number of sensilla in the antennae is higher than in the mouthparts similarly in *Notonecta viridis* Delcourt, 1909 (Hemiptera, Notonectidae) (Polat et al., 2021).

Sensilla on the antennae

There are two antennae with four segment of *C. tragacanthalae* males and females (Fig. 1). Different types of sensilla was detected on every segment of antennae according to the results of this study. The densest segment in terms of the number of sensilla is the fourth antennal segment in the distal region.

The first antennal segment is close to the head and called proximal part. There are long and thin STs and the bottom parts of sensilla are swollen (Fig. 2). Besides, the SCo was also detected on the first segment of antennae of females (Fig. 2b).

The second, third segment of the antennae have mid-intensity ST. The bottom of the sensilla looks swollen (Fig. 3).

The fourth segment of the antennae has

ST and SCo in similar ways with the first segment. The sensilla type that dominates the images in all three segments is ST. However, the SCo are seen in a single row (Fig. 4).

The fourth segment in the distal region is the segment with the highest density and variety of sensilla compared to other segments. In this segment, in addition to ST and SCo, there is also SB. In SEM images of the fourth segment, it can be seen that there are two different type of SCo (Fig 5). Some researchers reported that the SB is related to perception of volatile plant compounds (Zhu et al., 2023).

Due to the role of male and female in mating, some sensilla structures and types may differ. However, no significant difference was observed in the sensilla types and distribution of female and male individuals of the examined species in this study.

Sensilla on the mouthparts

The insects belong to the order Hemiptera have the labrum (Lm), the labium (Lb), labial groove, and stylet fascicle as their mouthparts. Although the general structures of the insect species in this order are like this, they also have some similarities and differences in terms of sensilla distribution, number, type and/or sizes of sensilla (Wang et al., 2020; Amutkan Mutlu et al., 2021; Polat et al., 2021, 2022).

In male and female *C. tragacanthalae* the mouthparts are consisted of Lm and Lb (Fig 6). The Lm is composed of single piece while the Lb is divided into 4 regions. The sensilla types and distributions on the mouthparts of female and male insects are generally very similar. In terms of parts of the mouthparts, segments of *C. tragacanthalae* are, in general, similar to those of other members of the order Hemiptera such as *Physopelta gutta* (Burmeister, 1834) (Largidae), *Macrocheraia grandis* (Gray, 1832) (Largidae), *N. viridis*, *Aelia rostrata* Boh.

(Pentatomidae), *Dolycoris indicus* Stål, 1876 (Pentatomidae), *Eocanthecona furcellata* (Wolff) (Pentatomidae), *Perillus bioculatus* (F.) (Pentatomidae), *Piezodorus hybneri* (Gmelin, 1790) (Pentatomidae), and *Physopelta quadriguttata* Bergroth, 1894 (Largidae) (Parveen et al., 2015; Wang et al., 2019, 2020; Polat et al., 2021, 2022).

The labrum is located above the Lb-1 and looks like long and thin structure. While there is no sensilla on the surface in the proximal region of the labrum, sparsely arranged ST were detected on the middle and distal sides of the labrum of both males and females (Fig 6).

There are STs has on the surface of the first segment of the labium (Lb-1) in males and females. They are straight and middle size and they are arranged in a single row on both sides of the labrum. (Fig 7).

The predominant sensilla type on the second part of Lb is the medium-sized ST and is seen in very similar numbers and distribution in both males and females (Fig 8). However, there is a small symmetrical SB on the right and left near the region where Lb-2 meets Lb-1.

The third section of the Lb has short and middle size STs on its surface of the female *C. tragacanthalae* (Fig 9). Some STs are straight while others are slightly curved. In males, only middle-sized STs were observed. Sensilla distribution on the Lb-3 is sparse in both sexes.

There are middle-sized STs arranged in two longitudinal rows in Lb-4 in female and male *C. tragacanthalae* (Fig 10). There are some small SBs fused together at the tip of Lb-4 in males. This structure was not observed in females.

The insect sensilla are responsible for the vital activities of insect to survive and continue its lineage. Each types of sensilla in insects has divergent sensory duties as chemoreceptor, thermohygroreceptor, or mechanoreceptor. Insects achieve this, for example, by using their sensilla

trichodea as mechanoreceptors in finding food for nutrition or sensilla basiconica for movement of its mouthparts. The second important aspect in which sensilla function is their duties in finding a mate. They accomplish their task by finding volatiles such as pheromones in the air. The mouthparts of *C. tragacanthalae* have few sensilla, but the majority of these sensilla are ST. For this reason, it can be said that *C. tragacanthalae* mostly uses the mechanoreceptor pathway in finding food (Chapman, 1998; Carey & Carlson, 2011; Brozek & Zettel, 2014; Parveen et al., 2015; Wang et al., 2019; Amutkan Mutlu et al., 2021; Nowińska & Brożek, 2021; Polat et al., 2021; Rani et al., 2021).

Sensilla varieties, their density and distribution in the region of the mouthpart are related to the diet of these species. In other words, their sensilla are diversified and shaped according to their feeding habits.

The only important consideration when identifying sensilla species is their morphological structure. So, it is thought that the dissimilarity in morphological structure, quantity, distribution and etc. among different insect taxa and even the both sexes a species can be used as taxonomical characters due to it distinguishing significance (Ågren, 1978; van Baaren et al., 1999; Brożek, 2008; Nowińska & Brożek, 2021; Polat et al., 2021, 2022). In consequence of our study, two different types of sensilla were found on the mouthparts, mostly ST of three different sizes, while three kinds of sensilla were found on the antennae in *C. tragacanthalae*. It can be thought that the high number and variety of sensilla in the antennae tells us that *C. tragacanthalae* male and females receives a lot of stimuli from the environment.

With the results of this detailed scanning electron microscope study we have done, we hope to contribute to the literature on sensilla structures of insects and to help reveal the similarities and differences in the morphology of different insect species.

REFERENCES

- Ågren, L., 1978, Flagellar sensilla of two species of *Andrena* (Hymenoptera: Andrena), *International Journal of Insect Morphology and Embryology*, 7: 73-79.
- Akent'eva, N. A., 2008, The formation of the antenna sensory apparatus in some bug (Heteroptera) species in the course of their postembryonic development, *Entomological Review*, 88(4): 381-390.
- Amutkan Mutlu, D., Polat, I., Gözüpek, H., Kiyak, S., Suludere, Z., 2021, A scanning electron microscope study of the sensilla on antenna and mouthparts in *Eurygaster testudinaria* (Geoffroy, 1785) (Hemiptera, Heteroptera, Scutelleridae), *Journal of the Heteroptera of Turkey*, 3 (1): 14-30.
- Berezutsky, M. A., Durnova, N. A., Matvienko, U. A., 2023, Neurobiological effects of chemical compounds of species of the genus *Astragalus* L. and prospects for their use in medicine, *Drug Development and Registration*, 12(1): 199-206.
- Brier, H. B., Rogers, D. J., 1991, Susceptibility of soybeans to damage by *Nezara viridula* (L.) (Hemiptera: Pentatomidae) and *Riptortus serripes* (F.) (Hemiptera: Alydidae) during three stages of pod development, *Australian Journal of Entomology*, 30(2): 123-128.
- Brožek, J., 2008, Morphology and arrangement of the labial sensilla of the water bugs, *Bulletin of Insectology*, 61: 67-168.
- Brožek, J., Bourgoin, T., 2013, Morphology and distribution of the external labial sensilla in *Fulgoromorpha* (Insecta: Hemiptera), *Zoomorphology*, 132(1): 33-65.
- Brožek, J., Zettel, H., 2014, A comparison of the external morphology and functions of labial tip sensilla in semiaquatic bugs (Hemiptera: Heteroptera: Gerromorpha), *European Journal of Entomology*, 111(2): 275-297.
- Carey, A. F., Carlson, J. R., 2011, Insect olfaction from model systems to disease control, *Proceedings of the National Academy of Sciences*, 108(32): 12987-12995.
- Cao, Y. K., Huang, M., 2016, A SEM study of the antenna and mouthparts of *Omosita colon* (Linnaeus) (Col.: Nitidulidae), *Microscopy Research and Technique*, 79 (12): 1152- 1164.
- Chapman, R. F., 1998, Mechanoreception. Chemoreception, In: Chapman R. F. (Ed.). *The Insects, Structure and Function*, Cambridge University Press, UK, 610-652 pp.
- Çerçi, B., Koçak, Ö., 2017, Six new Heteroptera (Hemiptera) species for the fauna of Turkey with a new synonymy, *Munis Entomology and Zoology*, 12(2): 532-538.
- Çerçi, B., Özgen, İ., Dioli, P., 2018, Additional faunistic notes on Heteroptera (Hemiptera: Insecta) in East Anatolia (Turkey). *Journal of Entomology and Zoology Studies*, 6(1): 1225-1231.
- Dolling W. R. 2006: Superfamily Coreoidea Leach, 1815. Pp. 1-101. In: AUKEMA B. & RIEGER Ch. (eds.): Catalogue of the Heteroptera of the Palaearctic Region. Vol. 5, Pentatomomorpha II. The Netherlands Entomological Society, Amsterdam, xiii + 550 pp.
- Dursun, A., 2009, Kelkit Vadisi (Türkiye) Alydidae, Rhopalidae ve Stenocephalidae, (Heteroptera: Coreoidea) türleri üzerine araştırmalar, *Türkiye Entomoloji Dergisi*, 33: 205-215.
- Dursun, A., Kaçar, G., Ulusoy, M. R., 2010, The Alydidae (Hemiptera: Heteroptera: Coreoidea) of Turkey: a key to the genera, new records and a species checklist, *Entomological News*, 121(5): 487-497.
- Faucheuex, M. J., Németh, T., Kundrata, R., 2020, Comparative antennal morphology of *Agriotes* (Coleoptera: Elateridae), with special reference to the typology and possible functions of sensilla, *Insects*, 11(2): 137.
- Fent, M., Japoshvili, G., 2012, Heteroptera (Insecta-Hemiptera) fauna of Isparta-Gölcük Natural Park with some rare and peculiar species and new records for Mediterranean Region of Turkey, *Türkiye Entomoloji Bülteni*, 2(3): 149-164.
- Freitas, S. P. C., Santos, L. C., de Souza, A. C., Junqueira, A. C. V., 2020, Morphological aspects of antennal sensilla of the *Rhodnius brethesi* Matta, 1919 (Hemiptera: Reduviidae) from the Negro River, Amazon region of Brazil, *Journal*

- of Parasitology Research, 1-6.
- Fu, B. X., Bellis, G. A., Hong, J., Wang, J. R., Wu, Q., Tang, Q. Y., Cheng, J. A., Zhu, Z. R., 2012, Morphology, distribution, and abundance of antennal sensilla of male and female macropterous and brachypterous small brown planthopper, *Laodelphax striatellus* (Fallén) (Hemiptera: Delphacidae), *Microscopy Research and Technique*, 75(11): 1492-1512.
- Ghahari, H., Carpintero, D. L., Moulet, P., Linnvuori, R. E., Ostovan, H., 2010, Annotated catalogue of the Iranian broad-headed bugs (Hemiptera: Heteroptera: Alydidae), *Acta Entomologica Musei Nationalis Pragae*, 50(2): 425-436
- Giglio, A., Mazzei, A., Vommaro, M.L., Brandmayr, P., 2022, Antennal sensilla in an anophthalmic wood-dwelling species *Clinidium canaliculatum* Costa 1839 (Coleoptera, Rhysodidae), *Microscopy Research and Technique*, 85(3):1005-1015.
- Hwang, J. H., Kim, S. H., Yoon, S., Jung, S., Kim, D. H., Lee, W. H., 2022, Evaluation of spatial distribution of three major *Leptocoris* (Hemiptera: Alydidae) Pests using maxent model, *Insects*, 13 (8): 750.
- Isidoro, N., Romani, R., Bin, F., 2001, Antennal multiporous sensilla: their gustatory features for host recognition in female parasitic wasps (Insecta, Hymenoptera: Platygastroidea), *Microscopy Research and Technique*, 55(5): 350-358.
- Jung, J. K., Youn, J. T., Im, D. J., Park, J. H., Kim, U. H., 2005, Soybean seed injury by the bean bug, *Riptortus clavatus* (Thunberg) (Hemiptera: Alydidae) at reproductive stage of soybean (*Glycine max* Linnaeus), *Korean Journal of Applied Entomology*, 44(4): 299-306.
- Kiyak, S., 1990, Binboğa Dağları (Kahramanmaraş-Kayseri) kara Heteropterlerinin erginlerinin ekofaunistik ve sistematigi üzerine araştırmalar. *Gazi Üniversitesi Fen Bilimler Enstitüsü*, Doktora tezi, 172 s. (In Turkish)
- Kiyak, S., 1993, Über Terrestrische Wanzenarten von Soguksu Nationalpark (prov. Ankara, Türkei), *Priamus Centre for Entomological Studies*, Ankara 6 (3/4): 131-156.
- Kiyak, S., 2019, A list of Heteroptera species reported from *Astragalus* spp. In Turkey, *Munis entomology and Zoology*, 14(2): 565-567.
- Kiyak, S., Özsaraç, Ö., Salur, A., 2004, Additional notes on the Heteroptera fauna of Nevşehir Province (Turkey), *Gazi University Journal of Science*, 17(1): 21-29.
- Kiritschenko, A. N., 1924, Beitrag zur Hemipteren fauna des südlichen Armenien, *Wiener Entomologische Zeitung*, 41: 1-15.
- Lee, G. H., Paik, C. H., Choi, M. Y., Oh, Y. J., Kim, D. H., Na, S. Y., 2004, Seasonal occurrence, soybean damage and control efficacy of bean bug, *Riptortus clavatus* Thunberg (Hemiptera: Alydidae) at soybean field in Honam province, *Korean Journal of Applied Entomology*, 43(3): 249-255.
- Nowińska, A., Brożek, J., 2017, Morphological study of the antennal sensilla in *Gerromorpha* (Insecta: Hemiptera: Heteroptera), *Zoomorphology*, 136: 327-347.
- Nowińska, A., Brożek, J., 2021, Morphology of the antennal sensilla of Notonectoidea and comparison of evolutionary changes in sensilla types and distribution in infraorder Nepomorpha (Insecta: Heteroptera), *Insects*, 12(12), 1121.
- Önder, F., Karsavuran, Y., Tezcan, S., Fent, M., 2006, Heteroptera (Insecta) catalogue of Turkey, *İzmir: Ege Üniversitesi Ziraat Fakültesi*, 164 p.
- Parveen, S., Ahmad, A., Brożek, J., Ramamurthy, V. V., 2015, Morphological diversity of the labial sensilla of phytophagous and predatory Pentatomidae (Hemiptera: Heteroptera), with reference to their possible functions, *Zootaxa*, 4039(2): 359-372.
- Pehlivan, E., 1981, Türkiye Stenocephalidae, Rhopalidae ve Alydidae (Heteroptera: Coreoidea) faunası üzerinde sistematik araştırmalar, *Ege Üniversitesi Ziraat Fakültesi Yayınları No: 410. Ege Üniversitesi Ziraat Fakültesi Ofset Ünitesi. Bornova/Izmir* 189 pp.
- Polat, I., Gözüpek, H., Kiyak, S., Suludere, Z., 2021, The sensilla on head, antenna and mouth parts in *Aelia rostrata* Boh. (Hemiptera, Pentatomidae): A scanning electron microscopical study, *Journal of the Heteroptera of Turkey*, 3(2): 118-139

- Polat, I., Amutkan Mutlu, D., Kiyak, S., Suludere, Z., 2022, The morphological characterization of the sensilla on the antenna and mouth parts of *Notonecta viridis* Delcourt, 1909 (Hemiptera: Notonectidae). *Journal of the Heteroptera of Turkey*, 4(1): 62-84.
- Rani, A. T., Shashank, P. R., Meshram, N. M., Sagar, D., Srivastava, C., Pandey, K. K., Singh, J., 2021, Morphological characterization of antennal sensilla of *Earias vittella* (Fabricius) (Lepidoptera: Nolidae), *Micron*, 140: 102957.
- Saddiqe, Z., Naeem, I., Maimoona, A., 2010, A review of the antibacterial activity of *Hypericum perforatum* L., *Journal of Ethnopharmacology*, 131(3): 511-521.
- Samin, N., Linnauvori, R. E., 2015, A faunistic study on Heteroptera (Insecta) from some regions of Eastern Iran, *Linzer Biologische Beiträge*, 47(2): 1811-1817.
- Sands, D. P. A., 1977, The biology and ecology of Leptocorisa (Hemiptera: Alydidae) in Papua New Guinea, *Department of Primary Industry. Port Moresby. Papua New Guinea Bulletin*, 18: 1-104.
- Seada, M. A., Hamza, A. M., 2018, Differential morphology of the sensory sensilla of antennae, palpi, foretarsi and ovipositor of adult *Tribolium castaneum* (Herbst) (Coleoptera: Tenebrionidae), *Annals of Agricultural Science*, 63: 1-8.
- Süntar, I. P., Akkol, E. K., Yilmazer, D., Baykal, T., Kirmizibekmez, H., Alper, M., Yeşilada, E., 2010, Investigations on the in vivo wound healing potential of *Hypericum perforatum* L., *Journal of Ethnopharmacology*, 127(2): 468-477.
- Takeuchi, H., 2007, Population dynamics of *Leptocorisa chinensis* (Hemiptera: Alydidae) and forecasting of damage occurrence in rice fields, *Bulletin of the National Agricultural Research Center*, 9: 17-74.
- Taszakowski, A., Nowińska, A., Brożek, J., 2019, Morphological study of the labial sensilla in Nabidae (Hemiptera: Heteroptera: Cimicomorpha), *Zoomorphology*, 138(4): 483-492.
- van Baaren, J., Boivin, G., Le Lannic, J., Ne'non, J.P., 1999, Comparison of antennal sensilla of *Anaphes victus* and *A. listronoti* (Hymenoptera, Mymaridae), egg parasitoids of Curculionidae, *Zoomorphology*, 119: 1-8.
- Wang, Y., Brożek, J., Dai, W., 2020, Morphological disparity of the mouth-parts in polyphagous species of Largidae (Heteroptera: Pentatomomorpha: Pyrrhocoroidea) reveals feeding specialization, *Insects*, 11(3): 145.
- Wang, Y., Li, L., Dai, W., 2019, Fine morphology of the mouthparts in *Cheilocapsus nigrescens* (Hemiptera: Heteroptera: Miridae) reflects adaptation for phytophagous habits, *Insects*, 10(5): 143.
- Wilczek, D. K., 2022, The Alydidae (Broad-Headed Bugs) of Virginia and their pest management in Edamame, *Virginia Tech*, Doctoral dissertation.
- Yazici, G., 2022, List of Pentatomomorpha (Hemiptera: Heteroptera) described by foreign scientists in Nazife Tuatay Plant Protection Museum from Turkey. Part I, *Transactions of the American Entomological Society*, 148(2): 253-264.
- Zhang, Y. J., Chen, D. Y., Chao, X. T., Dong, Z. S., Huang, Z. Y., Zheng, X. L., Lu, W., 2021, Ultrastructure of antennal sensilla of *Copidosomopsis nacoleiae* (Eady) (Hymenoptera: Chalcidoidea: Encyrtidae), a parasitoid of *Diaphania angustalis* (Snellen) (Lepidoptera: Crambidae), *Microscopy Research and Technique*, 84(9): 2149- 2165.
- Zhu, W.; Yang, L.; Long, J.; Chang, Z.; Mu, Y.; Zhou, Z.; Chen, X., 2023, Morphology of the antennal sensilla of the nymphal instars and adults in *Notobitus meleagris* (Hemiptera: Heteroptera: Coreidae), *Insects*, 14(4): 351.

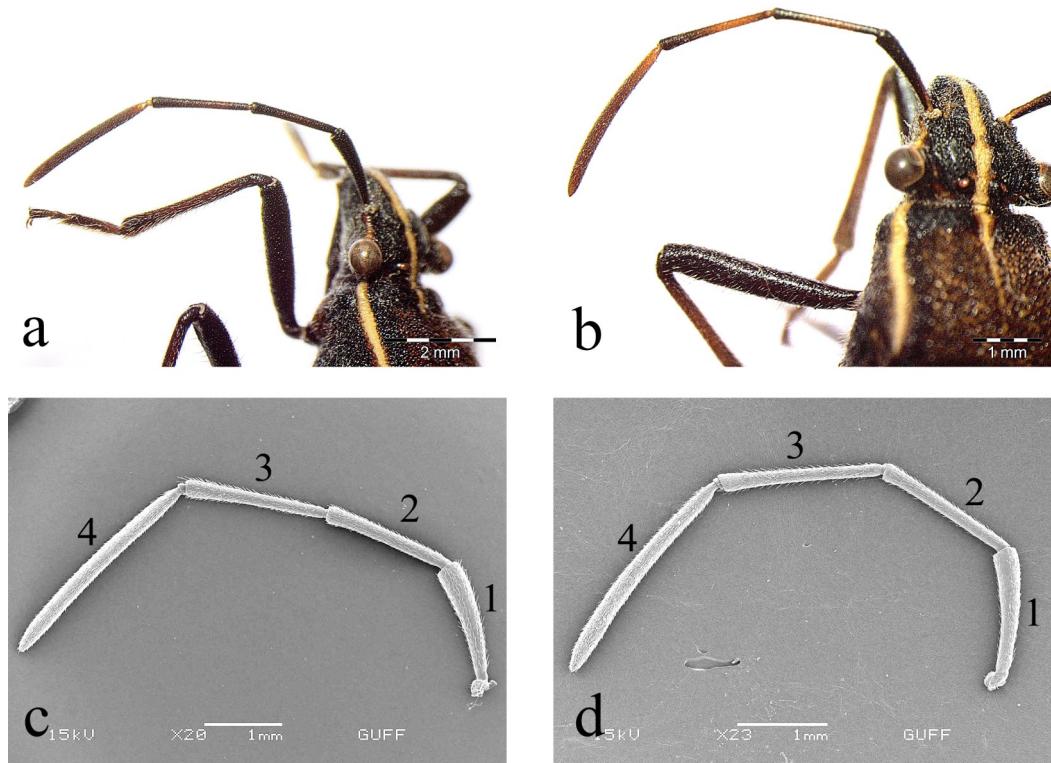


Figure 1. The general view and four segments of antennae of *C. tragacanthae* male and females. a, c: female antennae, b, d: male antennae. [Stereomicroscope images (a and b), SEM images (c and d)]

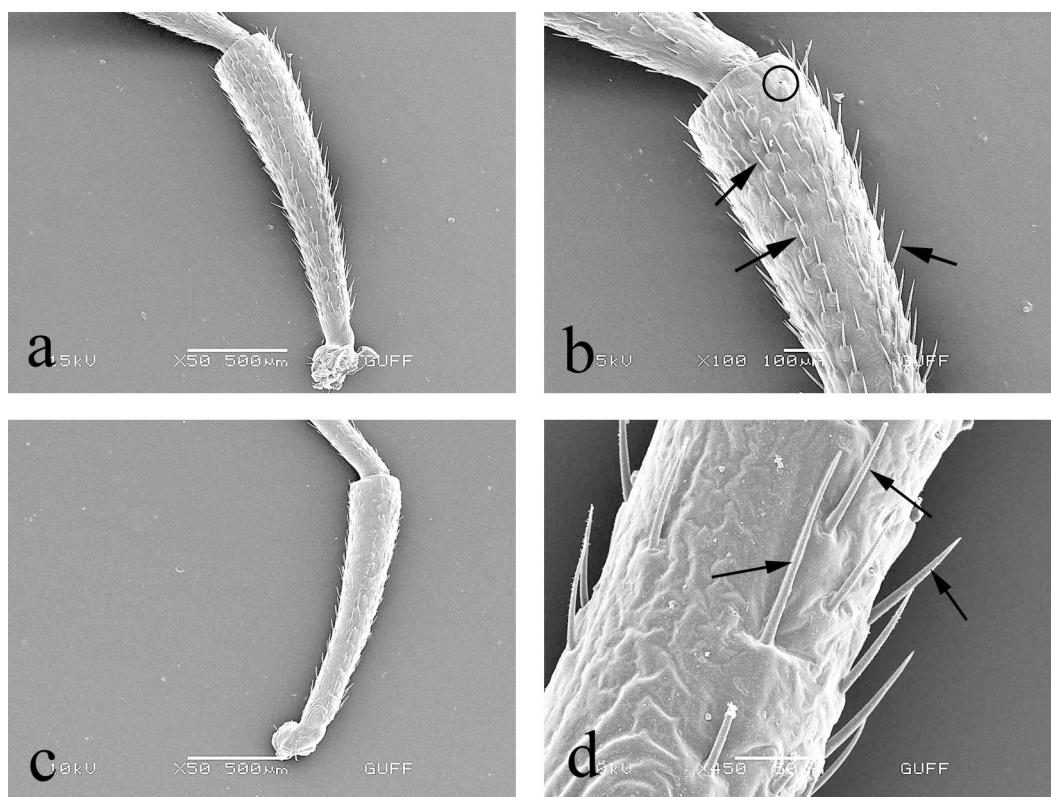


Figure 2. The first segment of the antennae. a, b: female, c, d: male insect. Arrows: St, encircled: SCo (SEM images)

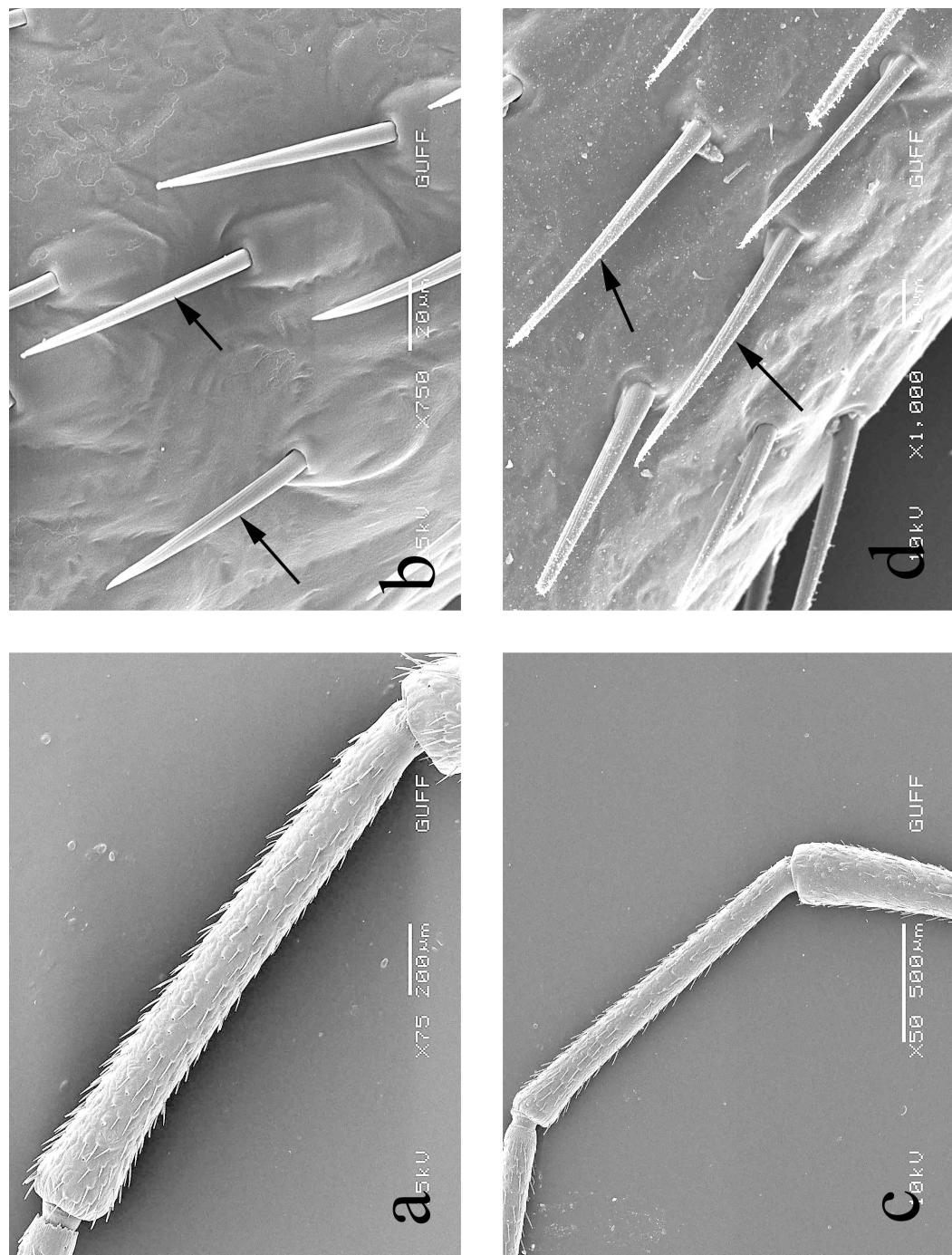


Figure 3. The second segment of the antennae. a, b: female, c, d: male insect. Arrows: St, (SEM images)

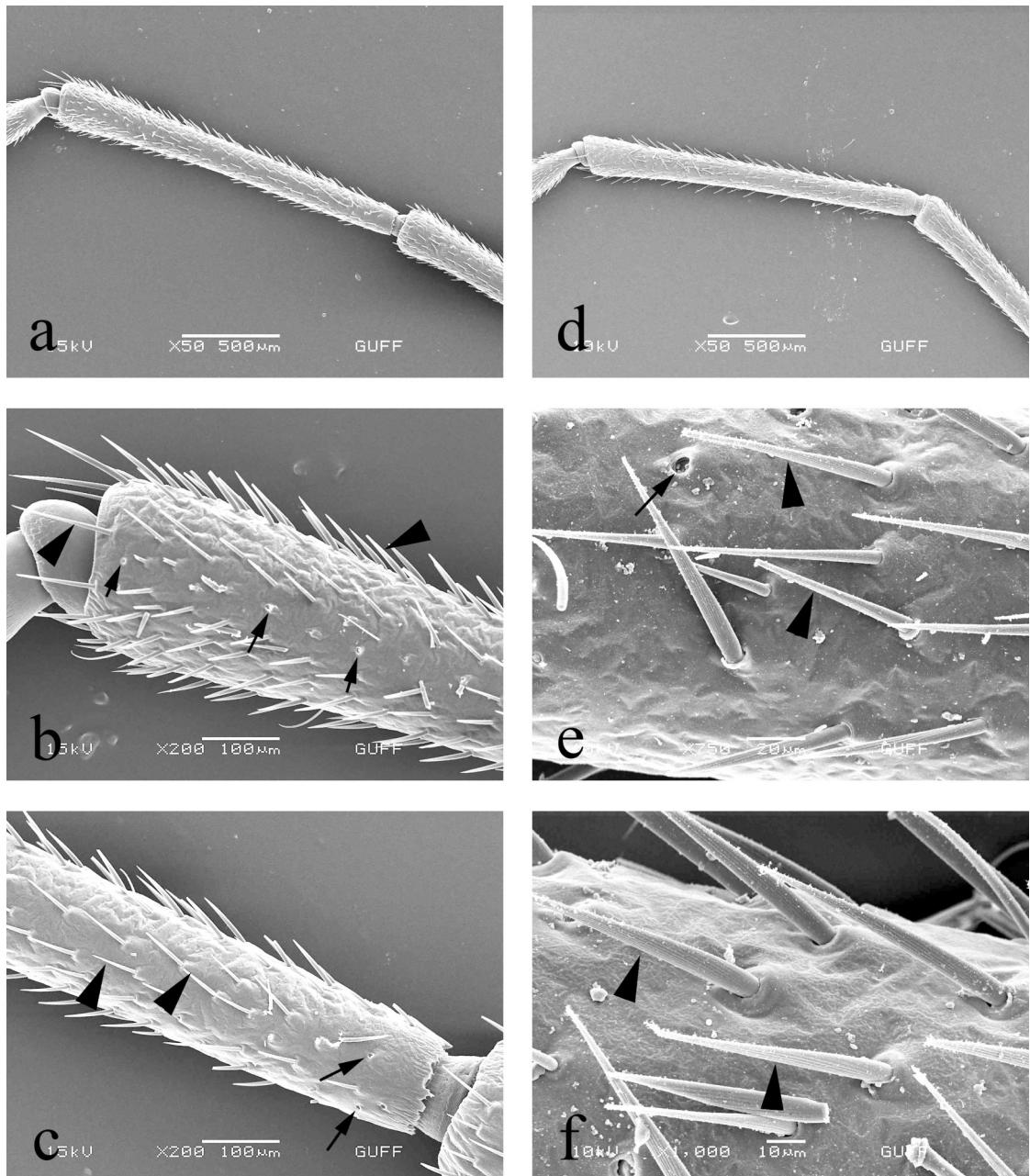


Figure. 4. The third segment of the antennae. a, b, c: female, d, e, f: male insect. Arrows: SCo, arrowheads: St (SEM images)

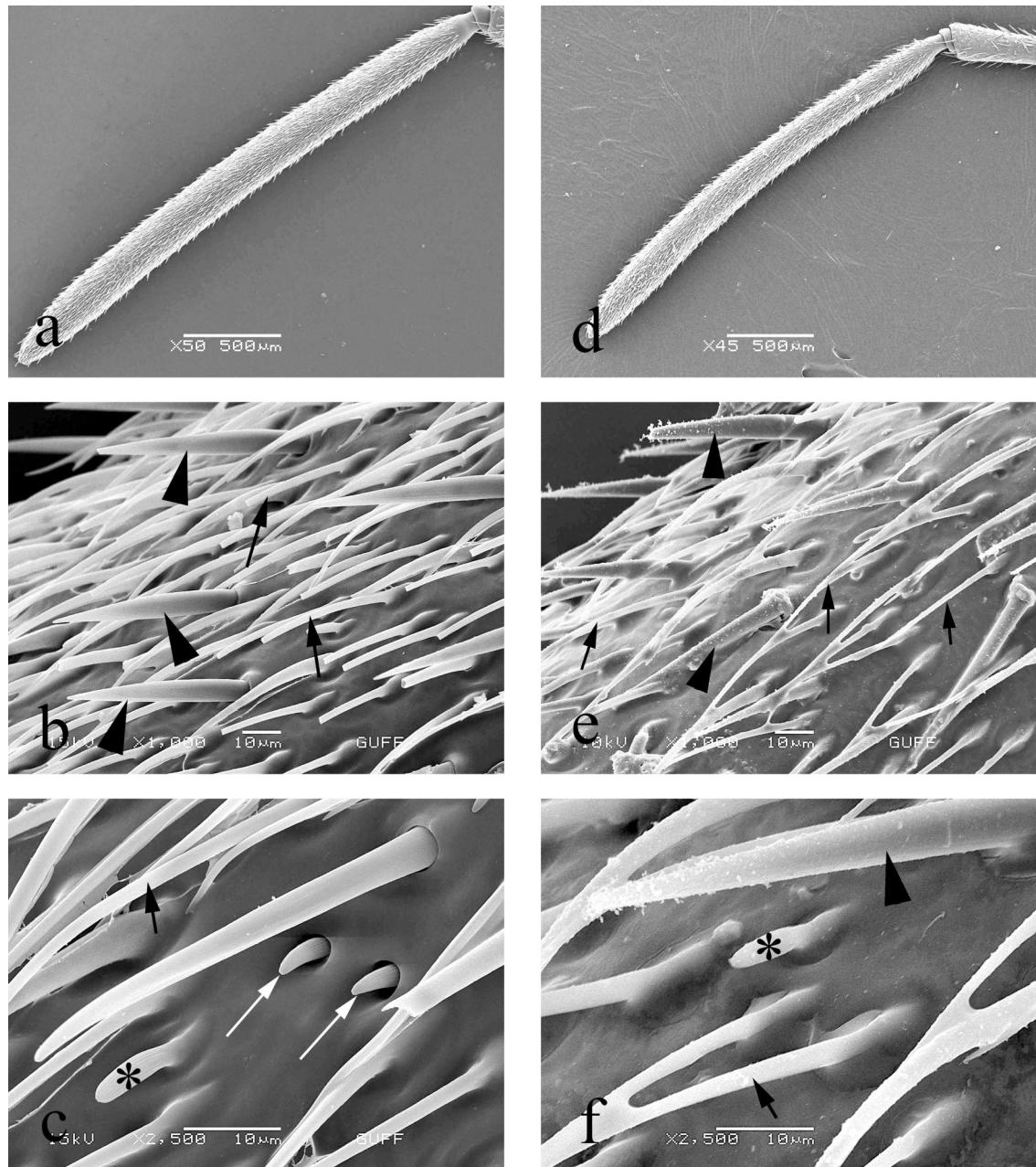


Figure 5. The fourth segment of the antennae. a, b, c: female, d, e, f: male insect. Black arrows: St, white arrows: SCo1, asterisk: SCo2, arrowheads: Sb (SEM images)

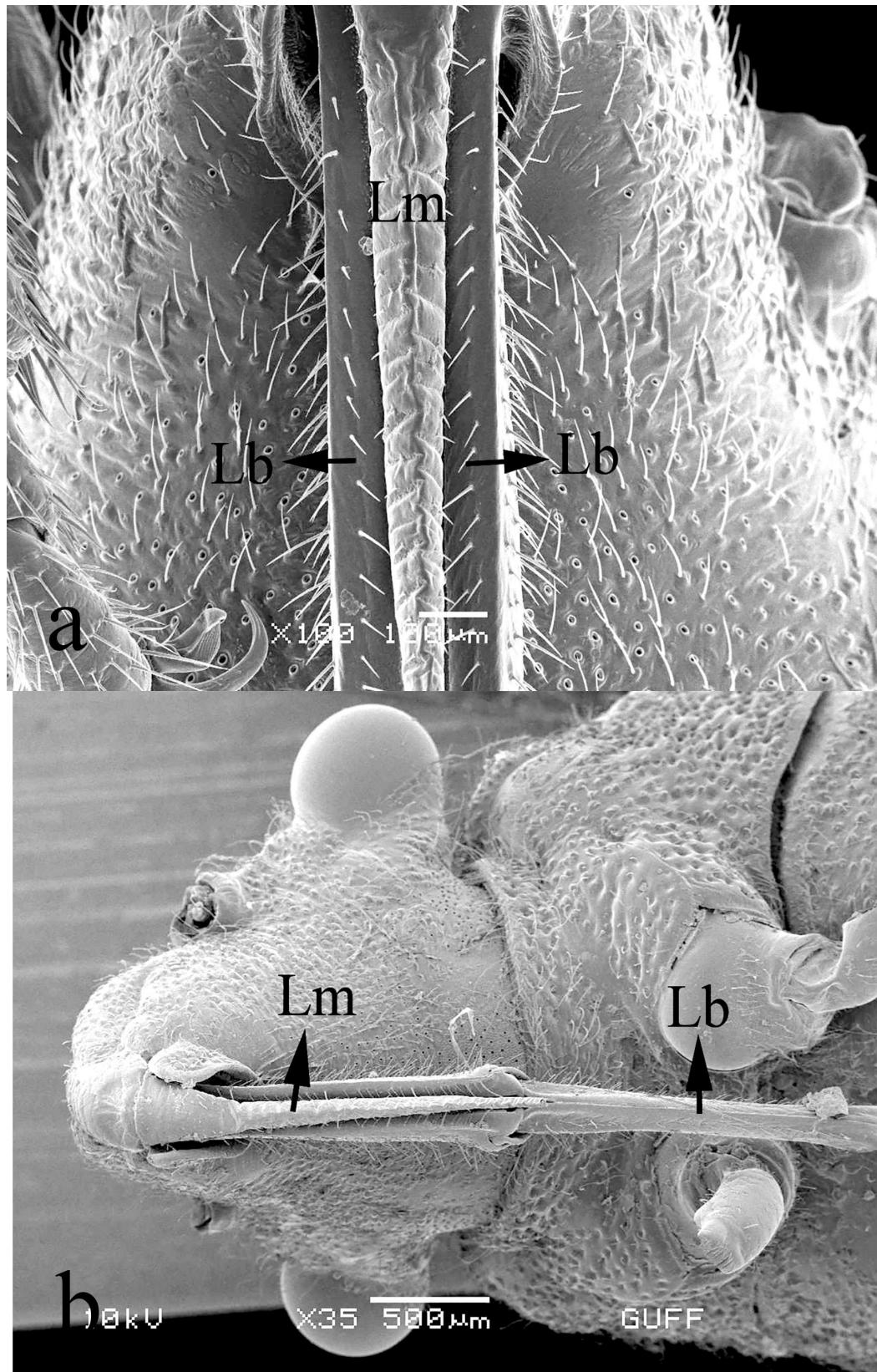


Figure 6. The general view of labrum (Lm) and the first segment of labium (Lb) of female (a) and male (b) (SEM images)

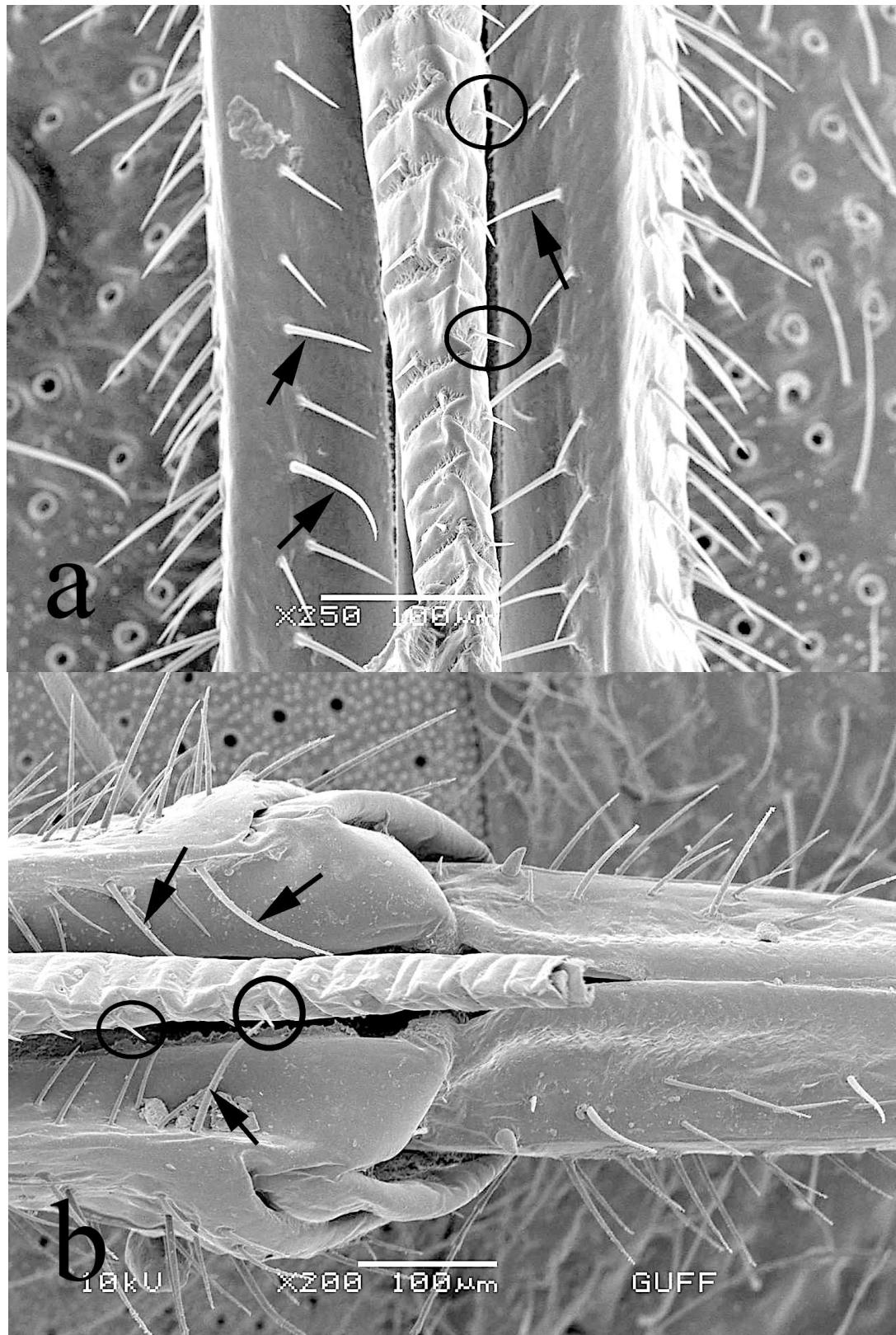


Figure. 7. The Sts on the Lm (encircled) and the first segment of Lb (arrows). a: female, b: male (SEM images)

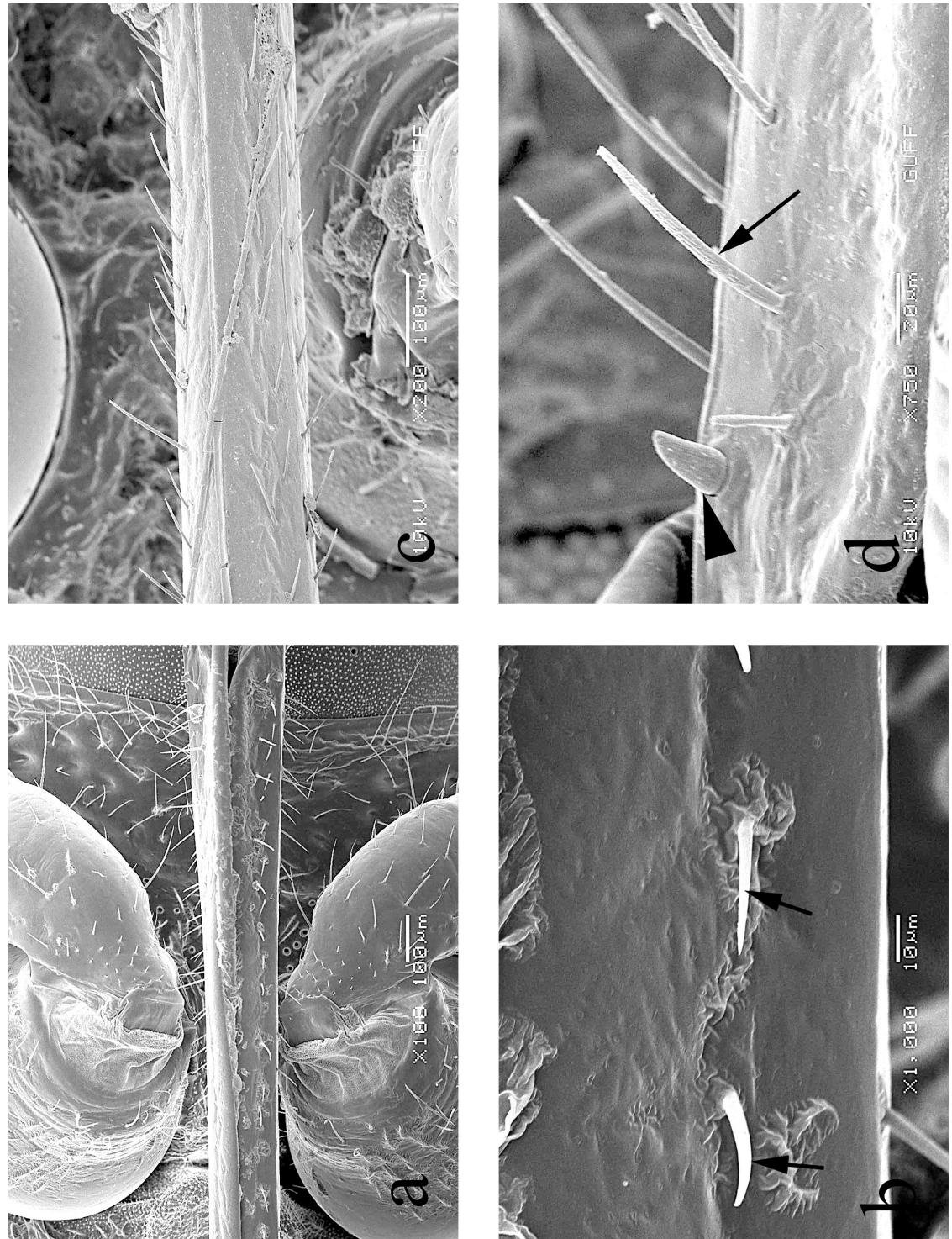


Figure 8. The second segment of Lb with St (arrows) in both sexes and Sb (arrowhead) in males. a, b: female, c, d: male (SEM images)

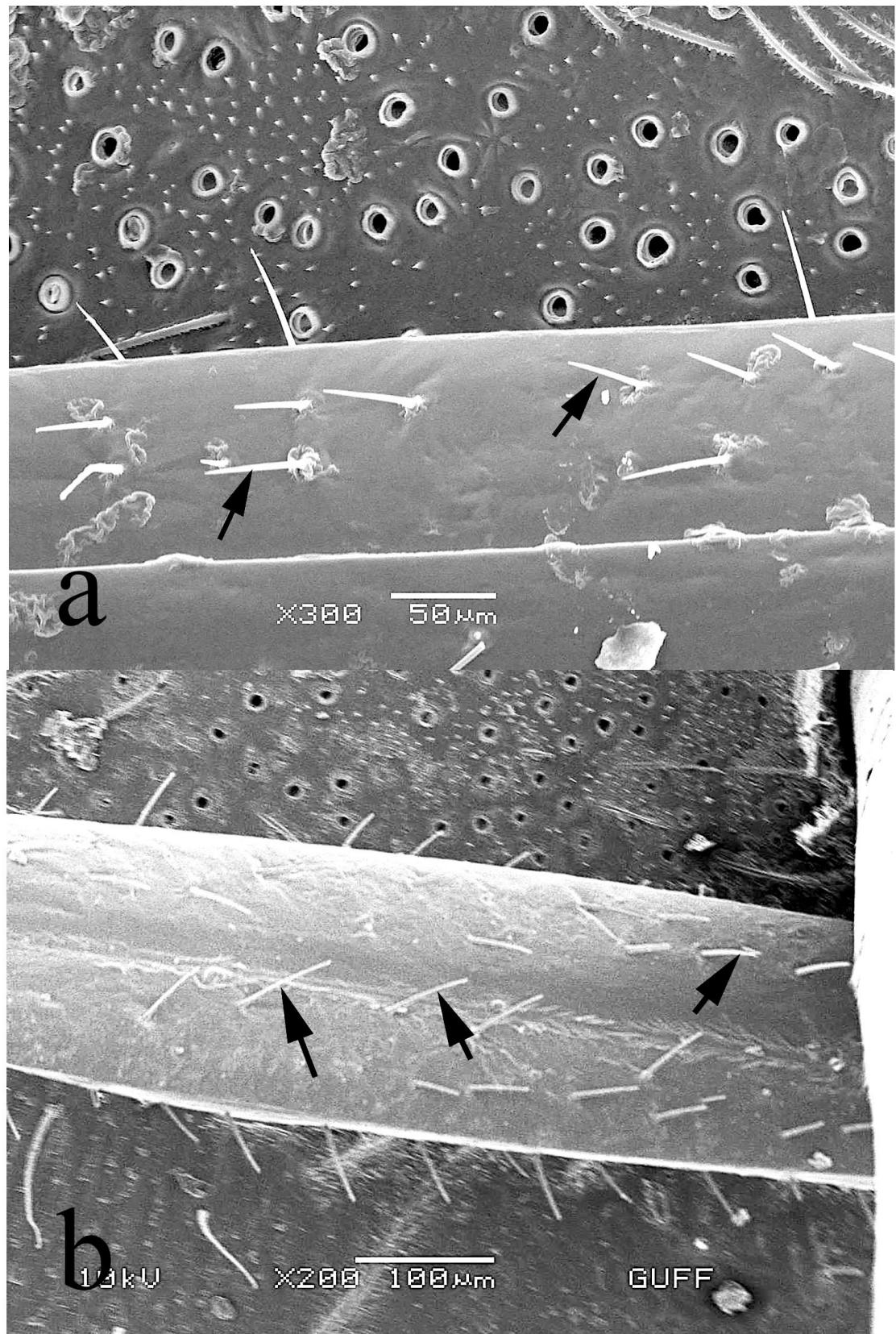


Figure. 9. The third segment of Lb with St (arrows) in both sexes. a: female, b: male (SEM images)

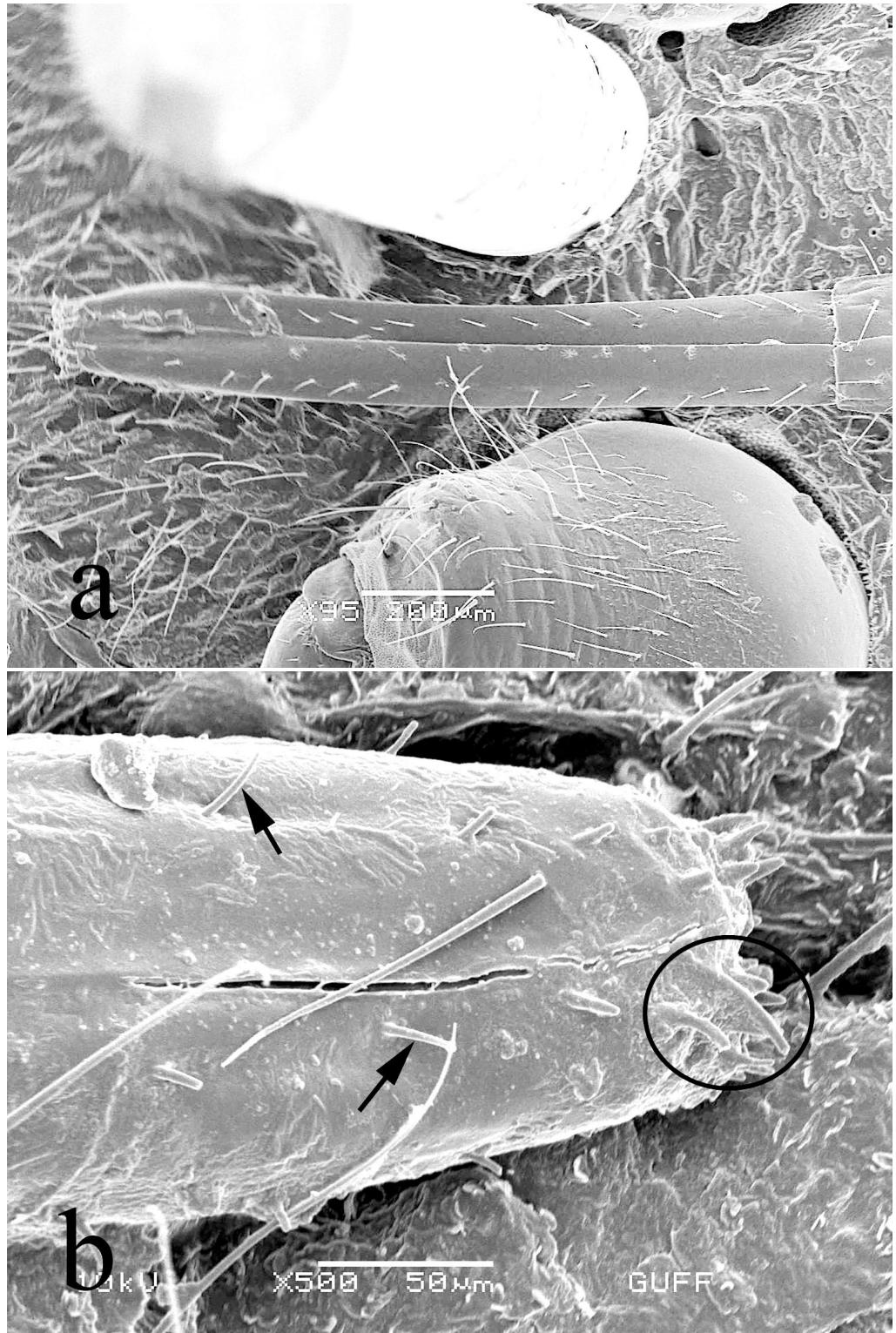


Figure. 10. The fourth segment of Lb with St (arrows) in both sexes and Sb in males (encircled). a: female, b: male (SEM images)

Additional List of the Anthocoridae, Berytidae, Coreidae, Cydnidae, Lygaeidae, Nabidae, Piesmatidae, Reduviidae, Rhopalidae, Scutelleridae, Tingidae (Hemiptera: Heteroptera) of Çankırı Province in Türkiye

Gülten Yazıcı^{1*}, Neslihan Bal², Suat Kiyak²

¹* Directorate of Plant Protection Central Research Institute, 06172, Ankara, Türkiye

E-mail: gultenkulekci@hotmail.com ORCID ID: 0000-0002-4550-5075

² Gazi University, Faculty of Science, Department of Zoology, Ankara, Türkiye

E-mail: neslihansilkin@gmail.com ORCID ID: 0000-0002-8122-7914

² Gazi University, Faculty of Science, Department of Zoology, Ankara, Türkiye

E-mail: skiyak@gazi.edu.tr, ORCID ID: 0000-0001-8167-8283

*Corresponding author email: gultenkulekci@hotmail.com

ABSTRACT: This study was carried out in the Çankırı province between 2013 and 2014. In this study, 48 species from 11 families (Anthocoridae, Berytidae, Coreidae, Cydnidae, Lygaeidae, Nabidae, Piesmatidae, Reduviidae, Rhopalidae, Scutelleridae, Tingidae) were recorded. 38 of these species are reported for the first time Heteroptera fauna of Çankırı.

KEY WORDS: Heteroptera, Fauna, Çankırı, Türkiye.

To cite this article: Yazıcı, G., Bal, N., Kiyak, S., 2023, Additional List of the Anthocoridae, Berytidae, Coreidae, Cydnidae, Lygaeidae, Nabidae, Piesmatidae, Reduviidae, Rhopalidae, Scutelleridae, Tingidae (Hemiptera: Heteroptera) of Çankırı Province in Türkiye, *J.Het.Turk.*, 5(1): 154-174

DOI: 10.5281/zenodo.7986828

To link to this article: <https://www.j-het.org/wp-content/uploads/2023/05/V51-A7.pdf>

Received: May 19, 2023; **Revised:** May 23, 2023; **Accepted:** May 25, 2023; **Published online:** May 31, 2023

INTRODUCTION

The Heteroptera is one of the largest and most diverse groups of insects. The order Hemiptera Linnaeus, 1758 ranks fifth in the world with 104.165 species after the

orders Coleoptera, Diptera, Lepidoptera and Hymenoptera (Zhang, 2011). Heteroptera Latreille, 1810 is a suborder of Hemiptera which contains 42.347 described species. Among these, there are 1.518 genera and



An Open Access article distributed under the Creative Commons 4.0 (CC BY NC SA) International License.

8.350 species in the Palearctic region (Henry, 2009). The number of species listed from the Palaearctic Region increased from 8.571 to 9.365 in the period with the publication of the original six volumes (1995-2013) (Aukema & Rieger, 1995; 1996; 1999; 2001; 2006; Aukem et al., 2013).

Studies on the Heteroptera in Türkiye, more than 1.500 Heteropteran species have been recorded so far which make up about 5% of all of its insect fauna. Among these, revealed are currently represented as Anthocoridae (41); Berytidae (24); Coreidae (50); Cydnidae (41); Lygaeidae (275); Nabidae (24); Piesmatidae (6); Reduviidae (65); Rhopalidae (30); Scutelleridae (40) and Tingidae (89) (Tezcan, 2020).

Türkiye has been known to possess a rich fauna of Heteroptera. Thus, many faunistic and systematic studies about the Heteroptera have been conducted by both foreign and native researchers in Türkiye. Some faunistic studies on this suborder in the Türkiye have been made by Horváth, 1883, 1901; Hoberlandt, 1956; Linnauvori, 1965; Tuatay et al., 1972; Aysev, 1974; Önder et al., 1984; Kiyak, 1990a, 1990b, 2000; Çam, 1993; Lodos et al., 1999; Özsaraç & Kiyak, 2001; Kiyak et al., 2004; Özsaraç, 2004; Önder et al., 2006; Dursun, 2009, 2011a, 2011b; Dursun & Fent, 2009, 2017; Fent & Aktaç, 2009; Abacigil et al., 2010; Kiyak & Akar, 2010; Şerban, 2010; Yıldırım et al., 2010, 2011, 2013a, 2013b, 2014; Atlıhan et al., 2011; Fent,

2011; Fent & Japoshvili, 2012; Küçükbasmacı, 2014; Matocq et al., 2014; Asal, 2015; Küçükbasmacı & Kiyak, 2015; Yazıcı et al., 2015a, 2015b, 2022, 2023; Çerçi & Koçak, 2016; Dursun, 2016; Çerçi et al., 2018, 2021, 2022; Yazıcı, 2015a, 2015b, 2019, 2022a, 2022b, 2022c, 2023; Zengin & Dursun, 2019; Bolu, 2020; Akman & Dursun, 2021; Çerçi & Özgen, 2021; Kiyak & Baş, 2021; Özgen et al., 2021.

Çankırı is a transition region between Central Anatolia and Black Sea Region of Turkey. Therefore, in this transition area the diversity and abundance of insects is more because of is abundant variety of plants. According to initial records from Çankırı, 57 Heteropteran species were collected (Yazıcı et al., 2022). The aim of this study is to present new collection and biological data on Heteroptera in Çankırı. In this paper, 48 species of 41 genera belonging to 11 families from the suborder Heteroptera are recorded.

MATERIALS AND METHODS

The Heteroptera materials were collected from different localities in Çankırı province 2013-2014.

Samples were collected using traps and/or mouth aspirator. Collected samples were taken into pre-prepared kill bottles containing 70% alcohol and killed. The available specimens for the present study are deposited in Gazi University (Türkiye: Ankara).

RESULTS

In this study, 48 species of 41 genera belonging to 11 families from the suborder Heteroptera were recorded from Türkiye.

Family ANTHOCORIDAE Fieber, 1836

Subfamily Anthocorinae Fieber, 1836

Genus *Orius* Wolff, 1811

Subgenus *Heterorius* Wagner, 1952

***Orius (Heterorius) minutus* (Linnaeus, 1758)**

Cimex minutus Linnaeus, 1758.

Material examined: Çankırı prov.: Atkaracalar, Yakalı, 40°53'56"N, 33°8'51"E, 1210 m, 25.VIII.2013, ♀; Center, Doğantepe, 40°35'34"N, 33°36'50"E, 751 m, 23.VII.2013, ♂; Kızılırmak, Cacıklar, 40°23'43"N, 34°04'18"E, 597 m, 24.IV.2014, ♀, Yeniyapan, 40°26'39,8"N, 33°55'43,5"E, 702 m, 11.VIII.2014, ♂; Kurşunlu, Köprülü, 40°50'29"N, 33°15'38"E, 1130 m, 20.V.2014, ♀; Yapraklı, Yakadere, 40°41'25"N, 33°48'56"E, 1030 m, 24.VII.2013, ♂.

Previous records: Adana, Adiyaman, Ankara, Antalya, Artvin, Bartın, Batman, Diyarbakır, Edirne, Erzincan, Erzurum, Gaziantep, İğdır, Karaman, Kars, Kastamonu, Konya, Mardin, Niğde, Siirt, Şanlıurfa, Tokat, Zonguldak (Hoberlandt, 1956; Çam, 1993; Yıldırım et al., 2013a; Yazıcı, 2019; Bolu, 2020; Pehlivan & Atakan, 2020; Yazıcı, 2022c).

Subgenus *Orius* Wolff, 1811

Orius (Orius) niger (Wolff, 1811)

Salda nigra Wolff, 1811; *Rhynarius obscurus* Hahn, 1832; *Anthocoris compressicornis* R.F. Sahlberg, 1848; *Anthocoris crassicornis* Perris, 1857; *Triphleps ullrichi* Fieber, 1860; *Anthocoris neglectus* Garbiglietti, 1869; *Orius* (s. str.) *niger aegyptiacus* Wagner, 1952.

Material examined: Çankırı prov.: Center, Doğantepe, 40°35'34"N, 33°36'50"E, 751 m, 23.VII.2013, ♀; Orta, Dodurga, 40°36'11"N, 33°00'18"E, 1351 m, 22.V.2014, ♂.

Previous records: Adana, Adiyaman, Ankara, Antalya, Artvin, Bayburt, Batman, Diyarbakır, Edirne, Elazığ, Erzincan, Erzurum, Gaziantep, İğdır, Karaman, Kars, Kastamonu, Konya, Mardin, Niğde, Siirt, Şanlıurfa (Hoberlandt, 1956; Önder et al., 1984; Yıldırım et al., 2013a; Kaplan, 2014; Matocq et al., 2014; Yazıcı, 2019; Bolu, 2020; Pehlivan & Atakan, 2020; Yazıcı, 2022c).

Family BERYTIDAE Fieber, 1851

Genus *Metacanthus* A. Costa, 1843

Subgenus *Metacanthus* A. Costa, 1843

Metacanthus (Metacanthus) meridionalis (A. Costa, 1843)

Berytus meridionalis A. Costa, 1843; *Megalomerium pallidum* Fieber, 1859; *Cardopostethus fulvus* Jakovlev, 1875; *Metacanthus pusillus* (non Horváth, 1912): Linnauvori, 1960; *Metacanthus linnauvori* Péricart, 1976; *Metacanthus linnauvori* Štusák, 1977.

Material examined: Çankırı prov.: Orta, Derebayındır, 40°34'56"N, 32°59'50"E, 1389 m, 22.V.2014, ♂.

Previous records: Balıkesir, Mardin (Matocq et al., 2014; Dursun, 2016).

Family COREIDAE Leach, 1815

Subfamily Coreinae Leach, 1815

Genus *Centrocoris* Kolenati, 1845

Centrocoris variegatus Kolenati, 1845

Centrocoris variegata Kolenati, 1845; *Centrocarenus spiniger* var. *nigricans* Fieber, 1861; *Centrocoris variegatus* f. *convergens* Sienkiewicz in Stichel, 1959.

Material examined: Çankırı prov.: Center, between Tuzlu and Dede villages,

40°36'18"N, 33°40'36"E, 874 m, 26.IV.2014, ♀; Eldivan, Eldivan Mountain, 40°30'24,5"N, 33°30'28"E, 1132 m, 11.VII.2014, ♀, ♂; Çerkeş, return of Akbaş and Korakoca, 40°54'55,9"N, 32°53'04,4"E, 912 m, 21.VIII.2014, ♂, Ova, 40°47'27,6"N, 32°57'25,7"E, 1148 m, 20.VIII.2014, ♀.

Previous records: Adana, Artvin, Amasya, Ankara, Antalya, Aydın, Balıkesir, Bayburt, Burdur, Bursa, Çorum, Denizli, Düzce, Elazığ, Erzincan, Erzurum, Giresun, İstanbul, İzmir, Kahramanmaraş, Kayseri, Kırşehir, Konya, Manisa, Muğla, Sinop, Tokat (Tuatay et al., 1972; Özsaraç, 2004; Önder et al., 2006; Dursun & Fent, 2009; Abacigil et al., 2010; Kiyak & Akar, 2010; Şerban, 2010; Yıldırım et al., 2011, 2013b; Dursun, 2016; Fent & Dursun, 2019; Zengin & Dursun, 2019; Akman & Dursun, 2021; Yazıcı, 2022b).

Genus *Enopllops* Amyot & Serville, 1843

Enopllops disciger (Kolenati, 1845)

Coreus (Palethrocoris) disciger Kolenati, 1845.

Material examined: Çankırı prov.: Atkaracalar, Yakalı, 40°53'56"N, 33°8'51"E, 1210 m, 25.VIII.2013, ♀; Center, between Pehlivanlı and Alaçatı villages, 40°34'19" N, 33°52'18"E, 925 m, 26.IV.2014, 3 ♀♀, between Tuzlu and Dede villages, 40°36'18"N, 33°40'36"E, 874 m, 26.IV.2014, 2 ♀♀, ♂; Kızılırmak, Cacıklar, 40°23'43"N, 34°04'18"E, 597 m, 24.IV.2014, ♀; Orta, İnkılap village, 40°34'48"N, 33°03' 41"E, 1290 m, 24.V.2014, ♀, ♂, Yuva village exit, 40°36'57"N, 33°01'36"E, 1306 m, 22.V.2014, ♀, ♂; Tepealagöz village exit, 40°21'49"N, 34°00'56"E, 557 m, 24.IV.2014, ♀.

Previous records: Adana, Ağrı, Amasya, Ankara, Burdur, Çanakkale, Çankırı, Çorum, Erzincan, Erzurum, Giresun, Hatay, İzmir, Kars, Kayseri, Kırşehir, Manisa, Muğla, Muş, Niğde, Sivas, Tunceli (Kiyak, 2000; Özsaraç & Kiyak, 2001; Önder et al., 2006; Dursun & Fent, 2009; Kiyak & Akar, 2010; Yıldırım et al., 2011, 2013b; Zengin & Dursun, 2019; Akman & Dursun, 2021; Yazıcı, 2022b).

Genus *Leptoglossus* Guérin-Méneville, 1831

Leptoglossus occidentalis Heidemann, 1910

Leptoglossus occidentalis Heidemann, 1910

Material examined: Çankırı prov.: Eldivan, Gölezkayı entrance, 40°30'56"N, 33°32'32,7"E, 1022 m, 09.VIII.2014, ♀.

Previous records: Amasya, Ankara, Balıkesir, Çorum, Edirne, İstanbul, İzmir (Yıldırım et al., 2013b; Çerçi & Koçak, 2016; Dursun, 2016; Zengin & Dursun, 2019; Akman & Dursun, 2021).

Genus *Syromastus* Berthold, 1827

Syromastus rhombeus (Linnaeus, 1767)

Cimex rhombeus Linnaeus, 1767; *Cimex quadratus* Fabricius, 1775; *Verlusia sinuata* Fieber, 1861; *Verlusia rhombea* var. *fusca* Vidal, 1936

Material examined: Çankırı prov.: Atkaracalar, Budakpınar, Yakalı, 40°52'41"N, 33°00'30"E, 1265 m, 19.VIII.2014, ♀; Bayramören, Boğazkaya, 40°59'26,7"N, 33°17'13"E, 1019 m, 19.VII.2014, ♀; Center, between Başeğmez and Alanpınar, 40°43'52,4"N, 33°36'37,7"E, 956 m, 09.VIII.2014, ♀, Haydarköy turnoff Alaçatı village, 40°31'25"N, 33°54'55"E, 704 m, 26.IV.2014, ♀; Çerkeş, return of Akbaş and Korakoca, 40°54'55,9"N, 32°53'04,4"E, 912 m, 21.VIII.2014, ♀, between Yörük and Karakoca villages, 40°54'34,7"N, 32°5'40,3"E, 923 m, 20.VII.2014, ♀, ♂; Ilgaz, between Yenide-

mirciler and Süleyman Hancılar, 40°54'48,2"N, 33°30'13,7"E, 983 m, 19.VII.2014, ♀; Korgun, Maruf village exit, 40°38'19,1"N, 33°24'14,5"E, 1193 m, 08.VII.2014, ♀; Orta, Elmalı, 40°32'27,2"N, 33°09'21,6"E, 1267 m, 08.VII.2014, ♀, Doğanlar village exit, 40°39'09"N, 33°10'18"E, 1315 m, 20.V.2014, ♂; Şabanözü, Demirsahan village exit, 40°24'58,7"N, 33°18'58"E, 906 m, 08.VIII.2014, ♂; Yapraklı, Aşağıöz, 40°48'26,1"N, 33°54'41,6"E, 1144 m, 25.VIII.2014, ♀.

Previous records: Adana, Ağrı, Amasya, Ankara, Artvin, Aydın, Balıkesir, Bingöl, Burdur, Bursa, Çankırı, Çorum, Edirne, Elazığ, Erzurum, Gaziantep, Hatay, Isparta, İstanbul, İzmir, Kahramanmaraş, Kars, Kastamonu, Kayseri, Kırşehir, Manisa, Nevşehir, Sivas, Sinop, Tokat, Van (Horváth, 1883, 1901; Hoberlandt, 1956; Linnauvori, 1965; Tuatay et al., 1972; Kiyak, 1990a, b; Gençer et al., 2004; Kiyak et al., 2004; Özsaraç, 2004; Önder et al., 2006; Dursun & Fent, 2009; Kiyak & Akar, 2010; Dursun, 2011b; Yıldırım et al., 2011, 2013b; Küçükbaşmacı & Kiyak, 2015; Çerçi et al., 2018; Fent & Dursun, 2019; Zengin & Dursun, 2019; Akman & Dursun, 2021; Kiyak & Baş, 2021; Çerçi et al., 2022; Yazıcı, 2022c).

Subfamily Pseudophloeinae Stål, 1868

Genus *Coriomeris* Westwood, 1842

Coriomeris alpinus (Horváth, 1895)

Coreus alpinus Horváth, 1895; *Coriomeris alticola* Jakovlev, 1902; *Coriomeris scabicornis* var. *perlatus* Cerutti, 1937.

Material examined: Çankırı prov.: Center, Aşağıçavuş village, 40°41'39,7"N, 33°38'01,7"E, 880 m, 15.VII.2014, ♀; Kızılırmak, Cacıklar, 40°23'43"N, 34°04'18"E, 597 m, 24.IV.2014, ♂; Şabanözü, between Bakırlı and Karakocaş, 40°26'53,1"N, 33°21'33,4"E, 942 m, 08.VIII.2014, ♂.

Previous records: Amasya, Ankara, Isparta (Önder et al., 2006; Fent & Japoshvili, 2012; Zengin & Dursun, 2019).

Coriomeris hirticornis (Fabricius, 1794)

Coreus hirticornis Fabricius, 1794; *Coreus hirsutus* Fieber, 1861; *Dasycoris dorsalis* Mulsant & Rey, 1870; *Coriomeris hirticornis* f. *burlinii* Mancini, 1959.

Material examined: Çankırı prov.: Center, Dereçati village, 40°44'57,0"N, 33°40'12,5"E, 1068 m, 09.VIII.2014, ♂; Çerkeş, Historic bridge, 40°54'16"N, 32°50'7"E, 949 m, 25.VIII.2013, ♀, İncügez village exit, 40°55'9,2"N, 32°58'35,3"E, 1103 m, 20.VII.2014, ♂, Kişi-Beymelik-Taşanlar-Tohumlar villages turnout, 40°54'33"N, 32°48'36"E, 1000 m, 26.VIII.2013, ♂; Şabanözü, Demirsahan village, 40°25'43,6" N, 33°17'38,1"E, 1035 m, 08.VIII.2014, ♂, Mart village entrance, 40°25'16"N, 33°22'00"E, 910 m, 24.V.2014, ♀; Yapraklı, Buluca-İğdir turn left from the Bridge, 40°45'25,4"N, 33°47'7,24"E, 1195 m, 15.VII.2014, ♂.

Previous records: Adana, Ankara, Antalya, Aydın, Balıkesir, Bursa, Çanakkale, Çankırı, Diyarbakır, Düzce, Elazığ, Erzurum, Giresun, Hatay, İstanbul, İzmir, Karabük, Kars, Kastamonu, Konya, Malatya, Mersin, Muğla (Tuatay et al., 1972; Önder et al., 2006; Abacigil et al., 2010; Şerban, 2010; Fent, 2011; Yıldırım et al., 2011, 2013b; Matocq et al., 2014; Küçükbaşmacı & Kiyak, 2015; Çerçi et al., 2018; Fent & Dursun, 2019; Yazıcı, 2022b).

Genus *Strobilotoma* Fieber, 1860

Strobilotoma typhaecornis (Fabricius, 1803)

Coreus typhaecornis Fabricius, 1803; *Coreus clavicornis* Fabricius, 1803; *Atractus*

genei Spinola, 1837; *Pseudophloeus obscurus* Herrich-Schaeffer, 1840.

Material examined: Çankırı prov.: Center, Between Pehlivanlı and Alaçatı villages, 40°34'19" N, 33°52'18"E, 925 m, 26.IV.2014, ♂; Orta, Elmali entrance, 40°32'47,9"N, 33°9'7,9"E, 1280 m, 07.VIII.2014, ♀.

Previous records: Bursa, Hatay, Isparta (Önder et al., 2006; Fent & Japoshvili, 2012).

Family CYDNIDAE Billberg, 1820

Subfamily Cydninae Billberg, 1820

Genus *Macroscytus* Fieber, 1860

Macroscytus brunneus (Fabricius, 1803)

Cydnus brunneus Fabricius, 1803; *Cydnus proximus* Rambur, 1839; *Aethus opacus* Stål, 1854; *Macroscytus scutellaris* Horváth, 1919; *Macroscytus exiguus* Horváth, 1919.

Material examined: Çankırı prov.: Center, between Tuzlu and Dede villages, 40°36'18"N, 33°40'36"E, 874 m, 26.IV.2014, ♀.

Previous records: Adana, Adıyaman, Antalya, Denizli, Diyarbakır, Gaziantep, Hatay, Isparta (Önder et al., 2006; Matocq et al., 2014; Yazıcı et al., 2015b).

Subfamily Sehirinae Amyot & Serville, 1843

Genus *Sehirus* Amyot & Serville, 1843

Sehirus robustus Horváth, 1895

Sehirus robustus Horváth, 1895.

Material examined: Çankırı prov.: Çerkeş, Doğu village, 40°53'15,4"N, 32°55'01,3"E, 1559 m, 19.VIII.2014, ♀.

Previous records: Erzurum, Kars, Kayseri (Önder et al., 2006; Yazıcı, 2015b).

Genus *Tritomegas* Amyot & Serville, 1843

Tritomegas bicolor (Linnaeus, 1758)

Cimex bicolor Linnaeus, 1758; *Cimex nubilosa* Harris, 1780; *Sehirus bicolor* var. *immaculatus* Royer, 1922; *Canthophorus bicolor* var. *kormilevi* Halászfy, 1954.

Material examined: Çankırı prov.: Çerkeş, between Türbaşı and Dağçukurören villages, 40°45'35"N, 32°50'19"E, 1220 m, 27.IV.2014, ♂.

Previous records: Ankara, Antalya, Edirne, Erzincan, Erzurum, İstanbul, Kastamonu, Kocaeli (Hoberlandt, 1956; Önder et al., 2006; Fent & Aktaç, 2009; Kiyak & Akar, 2010; Yazıcı et al., 2015b; Yazıcı, 2022c).

Family LYGAEIDAE Schilling, 1829

Subfamily Cyminae Baerensprung, 1850

Genus *Cymus* Hahn, 1832

Cymus claviculus (Fallén, 1807)

Lygaeus claviculus Fallén, 1807; *Lygaeus caricensis* Zetterstedt, 1828; *Cymus aridellus* Reuter, 1875.

Material examined: Çankırı prov.: Center, between Bayındır and Hasakça,

40°35'16,4"N, 33°49'10,7"E, 1104 m, 13.VIII.2014, 2 ♀♀, ♂; Kurşunlu, Köprülü, 40°50'29"N, 33°15'38"E, 1130 m, 20.05.2014, ♂.

Previous records: Adana, Ankara, Antalya, Bartın, Çanakkale, Gaziantep, Hatay, İzmir, Kahramanmaraş, Konya, Mersin, Muğla, Zonguldak (Aysev, 1974; Lodos et al., 1999; Önder et al., 2006).

Subfamily Geocorinae Dahlbom, 1851

Genus *Geocoris* Fallén, 1814

Subgenus *Geocoris* Fallén, 1814

Geocoris (Geocoris) ater (Fabricius, 1787)

Acanthia atra Fabricius, 1787; *Salda albipennis* Fabricius, 1803; *Ophthalmicus dispar* (non Waga): De Graaf et al., 1860; *Acanthia nigra* Walckenaer, 1802; *Lygaeus unistria* Latreille, 1804; *Salda stevenii* Lepetier & Serville, 1825; *Ophthalmicus albovittatus* A. Costa, 1864; *Ophthalmicus albipennis* var. *costalis* Ferrari, 1874; *Ophthalmicus albipennis* var. *humeralis* Ferrari, 1874; *Ophthalmicus albipennis* var. *pallescens* Ferrari, 1874; *Geocoris albipennis* var. *ataenius* Puton in Puton & Noualhier, 1895; *Geocoris ater* f. *slovenica* Roubal, 1961.

Material examined: Çankırı prov.: Çerkeş, Kışla-Beymelik and Taşanlar-Tohumlar villages turnout, 40°54'33"N, 32°48'36"E, 1000 m, 26.VIII.2013, ♀; Yapraklı, Aşağıöz, 40°48'26,1"N, 33°54'41,6"E, 1144 m, 25.VIII.2014, ♀.

Previous records: Aksaray, Antalya, Çorum, Gaziantep, Hatay, Mersin, Kahramanmaraş, Kastamonu, Kayseri, Konya, Nevşehir, Niğde, Sinop, Yozgat (Lodos et al., 1999).

Subfamily Henestarinae Douglas & Scott, 1865

Genus *Henestaris* Spinola, 1837

Henestaris laticeps laticeps (Curtis, 1836)

Heterogaster laticeps Curtis, 1836; *Lygaeus lineola* Curtis, 1831; *Henestaris genei* Spinola, 1837; *Henestaris spinolae* A. Costa, 1839; *Henestaris hispanus* Rambur, 1839; *Heterogaster oculatus* Motschulsky, 1863; *Henestaris curtulus* Horváth, 1911; *Henestaris cypriacus* Wagner, 1949; *Henestaris oboussiera* Wagner, 1954.

Material examined: Çankırı prov.: Kurşunlu, Köprülü, 40°50'29"N, 33°15'38"E, 1130 m, 20.V.2014, 2 ♀♀, ♂.

Previous records: Antalya, Çanakkale, İzmir, Muğla (Aysev, 1974; Lodos et al., 1999; Önder et al., 2006; Fent, 2011; Yazıcı, 2022b).

Subfamily Heterogastrinae Stål, 1862

Genus *Heterogaster* Schilling, 1829

Heterogaster affinis Herrich-Schaeffer, 1835

Heterogaster affinis Herrich-Schaeffer, 1835; *Phygas semicolon* Fieber, 1837; *Heterogaster affinis* var. *rubicatus* Puton, 1890.

Material examined: Çankırı prov.: Şabanözü, Şabanözü entrance, 40°30'20,4"N, 33°18'33,9"E, 1148 m, 08.VII.2014, ♀, Atkaracalar, Höyük village exit, 40°52'25,9"N, 33°03'36,2"E, 1378 m, 19.VIII.2014, ♀.

Previous records: Ankara, Bursa, Çankırı, Elazığ, Kastamonu, Kayseri, Nevşehir, Zonguldak (Tuatay et al., 1972; Lodos et al., 1999; Kiyak et al., 2004; Önder et al.,

2006; Kiyak & Akar, 2010; Küçükbaşmacı & Kiyak, 2015; Çerçi & Özgen, 2021; Yazıcı, 2022b).

***Heterogaster cathariae* (Geoffroy, 1785)**

Cimex cathariae Geoffroy in Fourcroy, 1785; *Cimex naevius* Gmelin, 1790; *Heterogaster rufescens* Herrich-Schaeffer, 1835; *Phygas nepetae* Fieber, 1837; *Heterogaster bicolor* Kolenati, 1845; *Heterogaster nepetae* var. *cinnamomeus* Horváth, 1882; *Heterogaster xinjiangensis* Zou & Zheng, 1981.

Material examined: Çankırı prov.: Orta, İnkılap village, 40°34'48"N, 33°03' 41"E, 1290 m, 24.V.2014, ♀.

Previous records: Adana, Ankara, Elazığ, Erzurum, Hatay, Gümüşhane, Kars, Mersin (Hoberlandt, 1956; Tuatay et al., 1972; Lodos et al., 1999; Önder et al., 2006; Yazıcı et al., 2015a; Çerçi et al., 2018; Çerçi et al., 2022; Yazıcı, 2022b).

***Heterogaster urticae* (Fabricius, 1775)**

Cimex urticae Fabricius, 1775; *Heterogaster notatipes* Walker, 1872; *Heterogaster longirostris* Wagner, 1949.

Material examined: Çankırı prov.: Orta, Hasanhacı village entrance, 40°35'38,4"N, 33°2'59,9"E, 1291 m, 06.VIII.2014, ♀, ♂; Şabanözü, Demirsahan, 40°25'22"N, 33°17'35"E, 1004 m, 11.VII.2014, ♀.

Previous records: Aksaray, Antalya, Ankara, Artvin, Balıkesir, Bartın, Bayburt, Bolu, Bursa, Erzurum, Gaziantep, Hatay, İzmir, Kahramanmaraş, Karaman, Kars, Kayseri, Kırıkkale, Mersin, Nevşehir, Osmaniye, Trabzon, Zonguldak (Aysev, 1974; Lodos et al., 1999; Abacigil et al., 2010; Yazıcı et al., 2015a; Yazıcı, 2022b).

Subfamily Lygaeinae Schilling, 1829

Genus *Horvathiulus* Josifov, 1965

***Horvathiulus superbus* (Pollich, 1781)**

Cimex superbus Pollich, 1781; *Cimex punctatoguttatus* Fabricius, 1781; *Cimex discolor* Gmelin, 1790; *Lygaeus schummelii* Schilling, 1829; *Lygaeus superbus* var. *melanogaster* Horváth, 1899; *Melanocoryphus confluens* Horváth, 1916; *Melanocoryphus sanctus* Horváth, 1916; *Melanocoryphus superbus* var. *kolenatii* Horváth, 1916; *Melanocoryphus superbus* var. *erythropus* Horváth, 1916; *Spilostethus superbus* var. *conjunctionus* Mancini, 1952.

Material examined: Çankırı prov.: Kızılırmak, Cacıklar, 40°23'43"N, 34°04'18"E, 597 m, 24.IV.2014, 2 ♂♂, Kemalli village entrance, 40°18'6"N, 34°02'37"E, 686 m, 24.IV.2014, ♀;

Previous records: Antalya, Balıkesir, Bolu, Isparta, Karaman, Kırıkkale, Kilis, Konya, Mersin (Lodos et al., 1999; Abacigil et al., 2010; Fent & Japoshvili, 2012; Dursun, 2016).

Genus *Lygaeosoma* Spinola, 1837

***Lygaeosoma anatomicum* Seidenstücker, 1960**

Lygaeosoma anatomicum Seidenstücker, 1960.

Material examined: Çankırı prov.: Kızılırmak, Tepealagöz village exit, 40°21'49"N, 34°00'56"E, 557 m, 24.IV.2014, ♀.

Previous records: Erzurum, Kırıkkale, Konya (Lodos et al., 1999; Önder et al., 2006;

Çerçi et al., 2022).

***Lygaeosoma sardeum sardeum* Spinola, 1837**

Lygaeosoma sardea Spinola, 1837; *Heterogaster reticulatus* Herrich-Schaeffer, 1838; *Pachymerus variabilis* Rambur, 1839; *Lygaeosoma reticulatum* var. *numidicum* Puton, 1887; *Lygaeosoma reticulatum* f. *hungarica* Stichel, 1957.

Material examined: Çankırı prov.: Ilgaz, Kale village, 40°57'12,3"N, 33°39'12,2"E, 980 m, 17.VII.2014, ♂.

Previous records: Bingöl, Çanakkale (Şerban, 2010; Çerçi et al., 2018).

Genus *Melanocoryphus* Stål, 1872

***Melanocoryphus albomaculatus* (Goeze, 1778)**

Material examined: Çankırı prov.: Atkaracalar, İliksu, 40°48'6,8"N, 33°05'48,4"E, 1207 m, 20.VII.2014, ♀; Center, between Karadayı and Külburun, 40°24'41"N, 33°45'27"E, 843 m, 25.IV.2014, ♀, between Tuzlu and Dede villages, 40°36'18"N, 33°40'36"E, 874 m, 26.04.2014, ♀; Orta, Sakaeli exit, 40°40'19"N, 33°09'48"E, 1227 m, 21.V.2014, ♀; Kızılırmak, Cacıklar, 40°23'43"N, 34°04'18"E, 597 m, 24.IV.2014, ♀, 2 ♂♂; Korgun, Karatepe (Şıhlar) village, 40°46'58,8"N, 33°32'4"E, 1019 m, 16.VII.2014, ♂; Kurşunlu, Köprülü, 40°50'29"N, 33°15'38"E, 1130 m, 20.V.2014, ♀.

Previous records: Adana, Ankara, Antalya, Artvin, Bursa, Çankırı, Çorum, Elazığ, Erzincan, Erzurum, Eskişehir, Gaziantep, Isparta, İzmir, Karabük, Kars, Malatya, Zonguldak (Tuatay et al., 1972; Aysev, 1974; Lodos et al., 1999; Önder et al., 2006; Fent & Japoshvili, 2012; Küçükbaşmacı & Kiyak, 2015; Yazıcı et al., 2015a; Özgen et al., 2021; Yazıcı, 2022b).

Subfamily Orsillinae Stål, 1872

Genus *Nysius* Dallas, 1852

***Nysius cymoides* (Spinola, 1837)**

Artheneis cymoides Spinola, 1837; *Nysius albidus* Dallas, 1852; *Heterogaster exilis* A. Costa, 1853; *Nysius fuliginosus* Fieber, 1861; *Nysius thoracicus* Horváth, 1882.

Material examined: Çankırı prov.: Center, Dereçati village, 40°44'57,0" N, 33°40'12,5"E, 1068 m, 09.VIII.2014, ♂, Haydarköy turnoff Alaçat village, 40°31'25"N, 33°54'55"E, 704 m, 26.IV.2014, 4 ♀♀, 2 ♂♂, between Pehlivانlı and Alaçatı villages, 40°34'19" N, 33°52'18"E, 925 m, 26.IV.2014, ♀; Kızılırmak, between Korçullu and Kenallı villages, 40°18'43,0"N, 34°00'38"E, 557 m, 12.VIII.2014, ♂, Kuzeykişla entrance, 40°22'14"N, 34°03'00"E, 600 m, 24.IV.2014, ♂, between Yukarıalagöz and Alaca villages, 40°22'28"N, 33°54'54"E, 619 m, 25.IV.2014, ♀; Şabanözü, Mart village entrance, 40°25'16"N, 33°22'00"E, 910 m, 24.V.2014, ♂; highland road between Maruf and Kamış, 40°34'43,9"N, 33°21'7,2"E, 1431 m, 07.VIII.2014, ♂; Yapraklı, Buluca and İğdir turn left from the bridge, 40°45'25,4"N, 33°47'7,24"E, 1195 m, 15.VII.2014, ♂.

Previous records: Adana, Adıyaman, Ankara, Antalya, Aksaray, Artvin, Aydın, Balıkesir, Bayburt, Burdur, Bursa, Çanakkale, Çorum, Denizli, Diyarbakır, Edirne, Elazığ, Erzincan, Erzurum, Eskişehir, Gaziantep, Hatay, İğdır, Isparta, İstanbul, İzmir, Kahramanmaraş, Karaman, Kars, Kayseri, Kırklareli, Kırşehir, Kilis, Kocaeli, Konya, Nevşehir, Manisa, Mardin, Mersin, Muğla, Niğde, Osmaniye, Sivas, Şanlıurfa, Şırnak, Tekirdağ, Tokat, Yalova, Yozgat, Zonguldak (Aysev, 1974; Lodos et al., 1999; Önder et al., 2006; Abacigil et al., 2010; Matocq et al., 2014; Yazıcı et al., 2015a; Çerçi et al., 2018; Yazıcı, 2022a, b).

Subfamily Oxycareninae Stål, 1862**Genus *Oxycarenus* Fieber, 1837****Subgenus *Euoxyccarenus* Samy, 1969*****Oxycarenus (Euoxyccarenus) pallens* (Herrich-Schaeffer, 1850)**

Stenogaster pallens Herrich-Schaeffer, 1850; *Stenogaster collaris* Mulsant & Rey, 1852; *Oxycarenus luteolus* Hoberlandt, 1943; *Oxycarenus longiceps* Wagner, 1955.

Material examined: Çankırı prov.: Şabanözü, Demirsahan village exit, 40°24'58,7"N, 33°18'58"E, 906 m, 08.VIII.2014, ♂.

Previous records: Adana, Ankara, Antalya, Balıkesir, Bayburt, Bolu, Çorum, Diyarbakır, Edirne, Elazığ, Erzincan, Erzurum, Gaziantep, Hatay, İğdır, Isparta, İzmir, Kahramanmaraş, Karabük, Karaman, Kastamonu, Kayseri, Kırıkkale, Kırşehir, Kilis, Konya, Nevşehir, Mardin, Mersin, Nevşehir, Niğde, Sinop, Sivas, Zonguldak (Tuatay et al., 1972; Aysev, 1974; Lodos et al., 1999; Kiyak et al., 2004; Önder et al., 2006; Abacigil et al., 2010; Matocq et al., 2014; Yazıcı et al., 2015a; Dursun, 2016; Çerçi & Özgen, 2021; Çerçi et al., 2022; Yazıcı, 2022b).

Subgenus *Oxycarenus* Fieber, 1837***Oxycarenus (Oxycarenus) hyalinipennis* (A. Costa, 1843)**

Aphanus tardus var. *hyalinipennis* A. Costa, 1843; *Oxycarenus leucopterus* Fieber, 1851; *Oxycarenus cruralis* Stål, 1856; *Cymus cincticornis* Walker, 1870; *Oxycarenus castaneus* Bergevin, 1932.

Material examined: Çankırı prov.: Center, Haydarköy turnoff alaçat village, 40°31'25"N, 33°54'55"E, 704 m, 26.IV.2014, ♀, 3 ♂♂; Kızılırmak, Karallı village, 40°18'30"N, 33°56'36"E, 606 m, 25.IV.2014, ♂, Kuzyekışla entrance, 40°22'14"N, 34°03'00"E, 600 m, 24.IV.2014, ♀; Kurşunlu, between Sünürlü and Sakaeli, 40°42'01"N, 33°08'53"E, 1415 m, 21.V.2014, ♀, 2 ♂♂.

Previous records: Adana, Ankara, Antalya, Çanakkale, Gaziantep, Hatay, İstanbul, İzmir, Karaman, Kastamonu, Kilis, Konya, Mersin, Muğla, Niğde, Osmaniye, Sinop (Aysev, 1974; Lodos et al., 1999; Şerban, 2010; Yazıcı et al., 2015a; Yazıcı, 2022b).

Subfamily Rhyparochrominae Amyot & Serville, 1843**Genus *Beosus* Amyot & Serville, 1843*****Beosus quadripunctatus* (Müller, 1766)**

Cimex quadripunctatus Müller, 1766; *Aphanus erythropterus* Brullé, 1832; *Pachymerus pulcher* Herrich-Schaeffer, 1835; *Pachymerus ibericus* Kolenati, 1845; *Beosus quadripunctatus* var. *ochraceus* Wagner, 1949.

Material examined: Çankırı prov.: Center, Balıbağı highland, 40°29'50"N, 33°52'42"E, 774 m, 25.IV.2014, ♀, between Bayındır and Hasakça, 40°35'16,4"N, 33°49'10,7"E, 1104 m, 13.VIII.2014, ♂, Dereçati village, 40°44'57,0" N, 33°40'12,5"E, 1068 m, 09.VIII.2014, ♀; between Karadayı and Külbürün, 40°24'41"N, 33°45'27"E, 843 m, 25.IV.2014, ♀; Çerkeş, Return of Akbaş and Korakoca, 40°54'55,9"N, 32°53'04,4"E, 912 m, 21.VIII.2014, ♂; Kurşunlu, Köpürlü exit, 40°46'41,1"N, 33°16'57,9"E, 1068 m, 06.VIII.2014, ♀, 2 ♂♂; Şabanözü, between Bakırlı and Karakoçtaş, 40°26'53,1"N, 33°21'33,4"E, 942 m, 08.VIII.2014, ♀, ♂.

Previous records: Adana, Ağrı, Ankara, Antalya, Artvin, Bartın, Bursa, Çanakkale, Çorum, Diyarbakır, Edirne, Elazığ, Erzurum, Eskişehir, Gaziantep, Hatay, İğdır,

İstanbul, İzmir, Kahramanmaraş, Karabük, Kastamonu, Kayseri, Karaman, Konya, Malatya, Mardin, Muğla, Niğde, Osmaniye, Yalova, Zonguldak (Hoherlandt, 1956; Tuatay et al., 1972; Aysev, 1974; Önder et al., 1984; Lodos et al., 1999; Fent, 2011; Matocq et al., 2014; Yazıcı et al., 2015a; Çerçi et al., 2018; Özgen et al., 2021; Yazıcı, 2022b, c; Çerçi et al., 2022).

Genus *Graptopeltus* Stål, 1872

***Graptopeltus lynceus* (Fabricius, 1775)**

Cimex lynceus Fabricius, 1775; *Cimex collinus* (non Scopoli, 1763): Schrank, 1781.

Material examined: Çankırı prov.: Kızılırmak, Kemalli village entrance, 40°18'6"N, 34°02'37"E, 686 m, 24.IV.2014, ♀.

Previous records: Adana, Isparta, Kahramanmaraş, Tunceli (Lodos et al., 1999; Fent & Japoshvili, 2012; Yazıcı et al., 2015a).

Genus *Raglius* Stål, 1872

***Raglius confusus* (Reuter, 1886)**

Pachymerus confusus Reuter, 1886; *Cimex triguttatus* (non Linnaeus, 1767): Fabricius, 1775; *Rhyparochromus pineti* (non Herrich-Schaeffer, 1835): Fieber, 1861; *Pachymerus confusus* var. *nigripes* Puton in Reuter, 1886.

Material examined: Çankırı prov.: Bayramören, between Çatkase and Başovacık, 40°53'29,1"N, 33°12'14,4"E, 1226 m, 22.VIII.2014, ♂; Eldivan, Eldivan mountain, 40°30'24,5"N, 33°30'28"E, 1132 m, 11.VII.2014, ♀; Kızılırmak, Kuzeykişla entrance, 40°22'14"N, 34°03'00"E, 600 m, 24.IV.2014, 2 ♀♀, between Yukarıalagöz and Alaca villages, 40°22'28"N, 33°54'54"E, 619 m, 25.IV.2014, ♂; Orta, Doğanlar village exit, 40°39'09"N, 33°10'18"E, 1315 m, 20.V.2014, 2 ♀♀, ♂, Elmalı, 40°32'27,2"N, 33°09'21,6"E, 1267 m, 08.VII.2014, ♀.

Previous records: Ankara, Balıkesir, Bursa, Erzincan, Erzurum, Gaziantep, İstanbul, Kars, Muğla, Tunceli (Aysev, 1974; Yazıcı et al., 2015a; Dursun, 2016).

Genus *Rhyparochromus* Hahn, 1826

***Rhyparochromus pini* (Linnaeus, 1758)**

Cimex pini Linnaeus, 1758; *Cimex collinus* Scopoli, 1763; *Cimex circuluspunctatus* Goeze, 1778; *Cimex crucifer* Geoffroy in Fourcroy, 1785; *Cimex circulus* Gmelin, 1790; *Cimex collum* Gmelin, 1790; *Cimex sylvaticus* (non Fabricius, 1775): Cederhjelm, 1798.

Material examined: Çankırı prov.: Center, between Tuzlu and Dede villages, 40°36'18"N, 33°40'36"E, 874 m, 26.IV.2014, 2 ♀♀, 2 ♂♂.

Previous records: Adana, Ankara, Bursa, Erzincan, Erzurum, Kahramanmaraş, Kars, Kastamonu, Mersin (Lodos et al., 1999; Önder et al., 2006; Küçükbaşmacı & Kiyak, 2015; Yazıcı et al., 2015a).

Genus *Scolopostethus* Fieber, 1860

***Scolopostethus affinis* (Schilling, 1829)**

Pachymerus affinis Schilling, 1829; *Lygaeus podagricus* var. β (non Fabricius, 1775): Fallén, 1829; *Pachymerus pictus* (non Schilling, 1829): Herrich-Schaeffer, 1833; *Scolopostethus adjunctus* Douglas & Scott, 1865.

Material examined: Çankırı prov.: Kurşunlu, Dağören village, 40°46'54"N,

33°14'27"E, 1283 m, 21.V.2014, ♀.

Previous records: Antalya, Bolu, Erzurum, Hatay, İzmir, Karaman, Konya, Nevşehir, Sinop, Sivas, Zonguldak (Lodos et al., 1999; Önder et al., 2006; Yazıcı et al., 2015a).

Genus *Xanthochilus* Stål, 1872

Xanthochilus quadratus (Fabricius, 1798)

Lygaeus quadratus Fabricius, 1798; *Aphanus quadratus* var. *immaculatus* Royer, 1919; *Aphanus brevirostris* Ribaut, 1921; *Rhyparochromus (Neoxanthochilus) quadratus interruptus* Wagner, 1956.

Material examined: Çankırı prov.: Eldivan, Gölezkayı entrance, 40°30'56"N, 33°32'32,7"E, 1022 m, 09.VIII.2014, ♀; Korgun, Sanı Highland, 40°37'00"N, 33°24'10"E, 1363 m, 20.V.2014, ♀.

Previous records: Ankara, Antalya, Balıkesir, Bayburt, Bursa, Çanakkale, Çankırı, Elazığ, Erzincan, Erzurum, İğdır, Kars, Kayseri, Mersin (Önder et al., 2006; Abacigil et al., 2010; Fent, 2011; Yazıcı et al., 2015a).

Family NABIDAE A. Costa, 1853

Subfamily Nabinae A. Costa, 1853

Genus *Himacerus* Wolff, 1811

Subgenus *Aptus* Hahn, 1831

Himacerus (Aptus) mirmicoides (O. Costa, 1834)

Nabis mirmicoides O. Costa, 1834; *Aptus apterus* (non Fabricius, 1798); Hahn, 1831; *Nabis subapterus* (non De Geer, 1773); Burmeister, 1835; *Nabis lativentris* Boheman, 1852; *Nabis lativentris* var. *fulvus* Rey, 1893; *Nabis lativentris* var. *femoralis* Rey, 1893.

Material examined: Çankırı prov.: Ilgaz, between Çaltıpınar and Ödemiş, 40°56'46,9"N, 33°33'40,5"E, 996 m, 18.VII.2014, ♀, Yuvasaray exit first km towards Yukarıöz, 40°53'12"N, 33°42'56"E, 894 m, 25.VII.2013, ♀.

Previous records: Ağrı, Ankara, Artvin, Balıkesir, Bayburt, Bursa, Edirne, Elazığ, Erzincan, Erzurum, Giresun, Gümüşhane, Kastamonu, Ordu, Tokat (Linnauori, 1965; Önder et al., 1984; Gençer et al., 2004; Dursun, 2011a; Dursun, 2016; Dursun & Fent, 2016; Yıldırım et al., 2013a; Matocq et al., 2014; Asal, 2015; Çerçi et al., 2022; Yazıcı, 2022c; Yazıcı, 2023).

Genus *Nabis* Latreille, 1802

Subgenus *Nabis* Latreille, 1802

Nabis (Nabis) ferus ferus (Linnaeus, 1758)

Cimex ferus Linnaeus, 1758; *Cimex tripunctatus* Müller, 1776; *Cimex scutellomaculatus* Goeze, 1778; *Cimex marginostriatus* Goeze, 1778; *Cimex sponsalis* Geoffroy in Fourcroy, 1785; *Cimex vagans* Fabricius, 1787; *Cimex triops* Gmelin, 1790; *Cimex sexstriatus* Gmelin, 1790; *Cimex denigratus* Gmelin, 1790; *Cimex heraldicus* Schrank, 1801; *Reduvius pallens* Panzer, 1804; *Cimex cinereus* Olivier, 1811.

Material examined: Çankırı prov.: Center, Balıbağı highland, 40°29'50"N, 33°52'42"E, 774 m, 25.IV.2014, ♂; Kursunlu, Dağören village, 40°46'54"N, 33°14'27"E, 1283 m, 21.V.2014, ♀; Yapraklı, Aşağıöz, 40°48'26,1"N, 33°54'41,6"E, 1144 m, 25.VIII.2014, ♂.

Previous records: Adana, Ağrı, Aksaray, Amasya, Ankara, Antalya, Çanakkale, Diyarbakır, Edirne, Elazığ, Erzincan, Erzurum, Eskişehir, Giresun, İğdır, Isparta, İzmir, Karaman, Kars, Kayseri, Kırklareli, Konya, Mardin, Mersin, Niğde, Şanlıurfa, Tokat, Trabzon (Kiyak, 1990; Önder et al., 2006; Dursun, 2011a; Yıldırım et al., 2013a; Kaplan, 2014; Asal 2015; Yazıcı, 2023).

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

Nabis punctatus A. Costa, 1847; *Nabis agilis* Spinola, 1837; *Nabis feroides* Remane, 1953.

Material examined: Çankırı prov.: Center, Aşağıçavuş village, 40°41'39,7"N, 33°38'01,7"E, 880 m, 15.VII.2014, ♀, ♂, Balıbağı highland, 40°29'50"N, 33°52'42"E, 774 m, 25.IV.2014, ♀, Kızılırmak, Bozkır village exit, 40°26'54,3"N, 33°49'25"E, 1637 m, 11.VIII.2014, ♀, Karallı village, 40°18'30"N, 33°56'36"E, 606 m, 25.IV.2014, ♀, Kuzeykişla entrance, 40°22'14"N, 34°03'00"E, 600 m, 24.IV.2014, 3 ♀♀, ♂; Korgun, Akçavakif, 40°41'35,5"N, 33°34'18,2"E, 824 m, 15.VII.2014, 4 ♀♀, ♂; Orta, between Elmalı and Kayilar, 40°32'14"N, 33°06'35,4"E, 1370 m, 08.VII.2014, ♀, Elmalı entrance, 40°32'47,9"N, 33°9'7,9"E, 1280 m, 07.VIII.2014, ♂; Şabanözü, Çaparkayı, 40°31'22,3"N, 33°21'12,3"E, 1229 m, 11.VII.2014, ♀; Yapraklı, Bugay Village entrance, 40°41'5,6"N, 33°46'32,7"E, 897 m, 15.VII.2014, ♀, Yakadere, 40°41'25"N, 33°48'56"E, 1030 m, 24.VII.2013, ♀.

Previous records: Adiyaman, Afyonkarahisar, Amasya, Ankara, Batman, Burdur, Bursa, Çankırı, Diyarbakır, Edirne, Elazığ, Erzincan, Erzurum, Gaziantep, Giresun, İğdır, Isparta, İzmir, Karaman, Kayseri, Kırşehir, Konya, Malatya, Mardin, Niğde, Şanlıurfa, Siirt, Sivas, Şanlıurfa, Tokat, Van, Yozgat, Zonguldak (Gençer et al., 2004; Dursun, 2011a; Yıldırım et al., 2013; Kaplan, 2014; Matocq et al., 2014; Asal, 2015; Yıldırım et al., 2013a; Bolu, 2020).

Family PIESMATIDAE Amyot and Serville, 1843

Genus *Piesma* Lepeletier & Serville, 1828

***Piesma maculatum* (Laporte, 1833)**

Zosmenu maculatus Laporte, 1833; *Tingis capitatum* (non Wolff, 1804): Fallén, 1807; *Zosmenu laportei* Fieber, 1844; *Zosmenu viridis* Jakovlev, 1871.

Material examined: Çankırı prov.: Korgun, Sanı highland, 40°37'00"N, 33°24'10"E, 1363 m, 20.V.2014, ♀.

Previous records: Balıkesir, Erzurum (Yıldırım & Özbek, 1990; Abacigil et al., 2010; Yıldırım et al., 2013b).

Family REDUVIIDAE Latreille, 1807

Subfamily Harpactorinae Amyot & Serville, 1843

Genus *Coranus* Curtis, 1833

***Coranus (Coranus) kerzhneri* P.V. Putshkov, 1982**

Coranus kerzhneri P.V. Putshkov, 1982; *Coranus tuberculifer* (non Reuter, 1881): Kerzhner in Kerzhner & Jaczewski, 1964; *Coranus subapterus* (non De Geer, 1773): Benedek, 1969; *Coranus subapterus* (non De Geer, 1773): Önder, 1980.

Material examined: Çankırı prov.: Kızılırmak, Halimintepe exit Karamursel village, 40°24'06"N, 34°02'26"E, 550 m, 24.IV.2014, ♀.

Previous records: Amasya, Çanakkale, Edirne, Erzurum, Manisa, Muğla, Tunceli

(Yıldırım et al., 2010, 2013a; Asal, 2015).

Genus *Nagusta* Stål, 1859

***Nagusta goedelii* (Kolenati, 1857)**

Zelus goedelii Kolenati, 1857; *Nagusta rugulosa* Stål, 1859; *Phanerocoris cornutus* Jakovlev, 1876.

Material examined: Çankırı prov.: Bayramören, between Çayircık and Evkadi, 41°2'8"N, 33°9'28"E, 1000 m, 27.VIII.2013, ♂; Center, between Başeğmez and Alanpınar, 40°43'52,4"N, 33°36'37,7"E, 956 m, 09.VIII.2014, ♀; Çerkeş, between Dodurga and Karacahöyük, 40°56'34"N, 33°0'52"E, 1023 m, 26.VIII.2013, ♀.

Previous records: Amasya, Artvin, Balıkesir, Bayburt, Çanakkale, Çankırı, Edirne, Elazığ, Erzincan, Erzurum, İğdır, İstanbul, İzmir, Kars, Malatya, Mardin, Sivas, Tokat (Çam, 1993; Yıldırım et al., 2010, 2013a; Dursun, 2011a; Fent, 2011; Kaplan, 2014; Matocq et al., 2014; Asal, 2015; Küçükbaşmacı & Kiyak, 2015; Dursun, 2016; Çerçi et al., 2018; Çerçi & Özgen, 2021).

Subfamily Phymatinae Laporte, 1832

Genus *Phymata* Latreille, 1802

Subgenus *Phymata* Latreille, 1802

***Phymata (Phymata) crassipes* (Fabricius, 1775)**

Acanthia crassipes Fabricius, 1775; *Cimex chelifer* Geoffroy in Fourcroy, 1785

Material examined: Çankırı prov.: Kızılırmak, Karallı village, 40°18'30"N, 33°56'36"E, 606 m, 25.IV.2014, ♀.

Previous records: Amasya, Ankara, Bilecik, Kocaeli, Sakarya, Sivas, Tokat, Zonguldak (Tuatay et al., 1972; Önder et al., 2006; Dursun, 2011a).

Family RHOPALIDAE Amyot & Serville, 1843

Subfamily Rhopalinae Amyot & Serville, 1843

Genus *Brachycarenus* Fieber, 1860

***Brachycarenus tigrinus* (Schilling, 1829)**

Rhopalus tigrinus Schilling, 1829; *Corisus pudicus* Rambur, 1839; *Corizus laticeps* Boheman, 1851; *Corizus gemmatus* A. Costa, 1853; *Heterogaster punctosus* Walker, 1872.

Material examined: Çankırı prov.: Center, Aşağıçavuş village, 40°41'39,7"N, 33°38'01,7"E, 880 m, 15.VII.2014, ♀, Haydarköy turnoff Alaçat village, 40°31'25"N, 33°54'55"E, 704 m, 26.IV.2014, 2 ♂♂, Balıbağı highland, 40°29'50"N, 33°52'42"E, 774 m, 25.IV.2014, 2 ♂♂, between Karadayı and Külburun, 40°24'41"N, 33°45'27"E, 843 m, 25.IV.2014, ♀; Çerkeş, return of Akbaş and Korakoca, 40°54'55,9"N, 32°53'04,4"E, 912 m, 21.VIII.2014, ♀, Doğu village, 40°53'15,4"N, 32°55'01,3"E, 1559 m, 19.VIII.2014, ♀, Kışla-Beymelik-Taşanlar-Tohumlar villages turnout, 40°54'33"N, 32°48'36"E, 1000 m, 26.VIII.2013, ♂; Ilgaz, Kirişlılar, 40°55'46,1"N, 33°29'22,5"E, 1025 m, 19.VII.2014, ♀, Yuvasaray village exit fourth km from Yukarıöz, 40°52'8"N, 33°46'27"E, 1101 m, 25.VII.2013, ♂; Kızılırmak, between Boyacıoğlu and Karamürsel, 40°25'36"N, 34°02'19"E, 543 m, 24.IV.2014, 3 ♀♀, Cacıklar, 40°23'43"N, 34°04'18"E, 597 m, 24.IV.2014, 3 ♀♀, 3 ♂♂, Center, 40°21'49"N, 34°00'56"E, 557 m, 25.IV.2014, 2 ♂♂, Halimintepe exit Karamürsel village, 40°24'06"N, 34°02'26"E, 550 m, 24.IV.2014, 2 ♂♂, between Pehlivanlı and Alaçatı villages, 40°34'19" N, 33°52'18"E, 925 m,

26.IV.2014, ♀, 3 ♂♂, Karallı village, 40°18'30"N, 33°56'36"E, 606 m, 25.IV.2014, ♀; Kızılırmak, Tepealagöz village exit, 40°21'49"N, 34°00'56"E, 557 m, 24.IV.2014, 3 ♀♀, 10 ♂♂; Kurşunlu, Dumanlı village exit, 40°40'31"N, 33°13'45"E, 1403 m, 20.V.2014, ♀, ♂, Köprülü, 40°50'29"N, 33°15'38"E, 1130 m, 20.V.2014, ♀, between Köprülü and Kapaklı, 40°45'11"N, 33°16'31"E, 1329 m, 20.V.2014, ♂, between Sünürlü and Sakaeli, 40°42'01"N, 33°08'53"E, 1415 m, 21.V.2014, ♂; Orta, Sakaeli exit, 40°40'19"N, 33°09'48"E, 1227 m, 21.V.2014, ♀; Yapraklı, Bugay village entrance, 40°41'5,6"N, 33°46'32,7"E, 897 m, 15.VII.2014, ♀; Kızılırmak, Bozkır village exit, 40°26'54,3"N, 33°49'25"E, 1637 m, 11.VIII.2014, ♂, Buluca-İğdir turn left from the bridge, 40°45'25,4"N, 33°47'7,24"E, 1195 m, 15.VII.2014, 2 ♀♀.

Previous records: Adana, Adiyaman, Amasya, Ankara, Aydın, Balıkesir, Bayburt, Çanakkale, Çorum, Denizli, Diyarbakır, Edirne, Elazığ, Erzincan, Erzurum, İğdır, İstanbul, Karabük, Kars, Kastamonu, Kayseri, Kırşehir, Malatya, Nevşehir, Yozgat (Tuatay et al., 1972; Önder et al., 1984; Kiyak et al., 2004; Abacigil et al., 2010; Şerban, 2010; Yıldırım et al., 2011, 2013b; Matocq et al., 2014; Dursun, 2016; Çerçi et al., 2018; Fent & Dursun, 2019; Zengin & Dursun, 2019; Akman & Dursun, 2021; Kiyak & Baş, 2021; Çerçi & Özgen, 2021; Çerçi et al., 2022; Yazıcı, 2022b).

Genus *Chorosoma* Curtis, 1830

Chorosoma schillingii (Schilling, 1829)

Rhopalus schillingii Schilling, 1829; *Chorosoma arundinis* Curtis, 1830; *Chorosoma punctipes* Fieber, 1870; *Chorosoma schillingii* var. *nigrescens* Cohrs, 1934.

Material examined: Çankırı prov.: Kızılırmak, Tepealagöz village exit, 40°21'49"N, 34°00'56"E, 557 m, 24.IV.2014, ♂.

Previous records: Amasya, Ankara, Çankırı, Diyarbakır, Elazığ, Erzincan, Erzurum, Eskişehir, Isparta, Kayseri, Mardin, Muş, Nevşehir, Sinop (Kiyak et al., 2004; Kiyak & Akar, 2010; Yıldırım et al., 2011; Matocq et al., 2014; Küçükbaşmacı & Kiyak, 2015; Çerçi et al., 2018; Fent & Dursun, 2019; Zengin & Dursun, 2019; Akman & Dursun, 2021; Çerçi & Özgen, 2021; Kiyak & Baş, 2021; Yazıcı, 2022b).

Genus *Maccevethus* Dallas, 1852

Maccevethus caucasicus (Kolenati, 1845)

Corizus caucasicus Kolenati, 1845; *Stictopleurus elongatus* Blöte, 1934; *Maccevethus houskai* Hoberlandt, 1952.

Material examined: Çankırı prov.: Center, between Karadayı and Külburun, 40°24'41"N, 33°45'27"E, 843 m, 25.IV.2014, ♀; Ilgaz, between Yenidemirciler and Süleyman Hancılar, 40°54'48,2"N, 33°30'13,7"E, 983 m, 19.VII.2014, ♀; Kızılırmak, Tepealagöz village exit, 40°21'49"N, 34°00'56"E, 557 m, 24.IV.2014, ♂.

Previous records: Adiyaman, Ankara, Artvin, Çankırı, Elazığ, Erzincan, Erzurum, Eskişehir, İğdır, Kars, Kayseri, Yozgat (Kiyak & Akar, 2010; Yıldırım et al., 2011, 2013b; Küçükbaşmacı & Kiyak, 2015; Çerçi & Özgen, 2021; Kiyak & Baş, 2021).

Genus *Stictopleurus* Stål, 1872

Stictopleurus subtomentosus (Rey, 1888)

Corizus subtomentosus Rey, 1888; *Stictopleurus riveti* Royer, 1923; *Stictopleurus parvus* Lindberg, 1948; *Stictopleurus riveti* f. *flaveola* Tamanini, 1951.

Material examined: Çankırı prov.: Kızılırmak, Cacıklar, 40°23'43"N, 34°04'18"E, 597 m, 24.IV.2014, ♀, Tepealagöz village exit, 40°21'49"N, 34°00'56"E, 557 m,

24.IV.2014, ♂, between Yukarıalagöz and Alaca villages, 40°22'28"N, 33°54'54"E, 619 m, 25.IV.2014, ♂.

Previous records: Diyarbakır, Elazığ, Erzurum, Hakkari, Siirt, Şanlıurfa, Van (Önder et al., 2006; Yıldırım et al., 2013b; Matocq et al., 2014).

***Stictopleurus unicolor* (Jakovlev, 1873)**

Rhopalus unicolor Jakovlev, 1873.

Material examined: Çankırı prov.: Kızılırmak, Kuzeykişla entrance, 40°22'14"N, 34°03'00"E, 600 m, 24.IV.2014, ♂, Tepealagöz village exit, 40°21'49"N, 34°00'56"E, 557 m, 24.IV.2014, ♀, ♂; Orta, Sakaeli exit, 40°40'19"N, 33°09'48"E, 1227 m, 21.V.2014, ♂.

Previous records: Bartın, Erzurum, Kars (Hoberlandt, 1956; Önder et al., 2006; Yıldırım et al., 2013b; Yazıcı, 2022c).

Family SCUTELLERIDAE Leach, 1815

Subfamily Odontotarsinae Mulsant & Rey, 1865

Genus *Odontotarsus* Laporte, 1833

***Odontotarsus purpureolineatus* (Rossi, 1790)**

Cimex purpureolineatus Rossi, 1790; *Odontotarsus grammicus* [var.] *lutescens* Fieber, 1861; *Odontotarsus rugicollis* Jakovlev, 1884; *Odontotarsus insignis* Jakovlev, 1908; *Odontotarsus purpureolineatus* f. *confluens* Hoberlandt, 1944.

Material examined: Çankırı prov.: Center, between Karadayı and Külbürün, 40°24'41"N, 33°45'27"E, 843 m, 25.IV.2014, ♀.

Previous records: Adana, Adıyaman, Ankara, Antalya, Artvin, Balıkesir, Bayburt, Bilecik, Bursa, Çanakkale, Diyarbakır, Edirne, Erzurum, Gaziantep, İğdır, Isparta, İstanbul, İzmir, Kahramanmaraş, Kars, Kayseri, Kırklareli, Konya, Mersin, Muş, Rize, Siirt, Şanlıurfa, Şırnak, Tekirdağ (Tuatay et al., 1972; Önder et al., 2006; Fent & Aktaç, 2009; Şerban, 2010; Yıldırım et al., 2014; Yazıcı, 2022b).

Family TINGIDAE Laporte, 1832

Subfamily Tinginae Laporte, 1832

Genus *Copium* Thunberg, 1822

***Copium clavicornis clavicornis* (Linnaeus, 1758)**

Cimex clavicornis Linnaeus, 1758; *Tingis punctata* Lamarck, 1816; *Copium cornutum* Thunberg, 1822; *Euryicerca nigricornis* Laporte, 1833.

Material examined: Çankırı prov.: Kurşunlu, Dumanlı village exit, 40°40'31"N, 33°13'45"E, 1403 m, 20.V.2014, ♂; Orta, Dodurga, 40°36'11"N, 33°00'18"E, 1351 m, 22.V.2014, ♂.

Previous records: Bartın, Bursa, Çanakkale, Kastamonu, Tekirdağ (Önder et al., 2006; Fent, 2011; Küçükbaşmacı, 2014; Küçükbaşmacı et al., 2016; Dursun & Fent, 2017; Yazıcı, 2022c).

Genus *Corythucha* Stål, 1873

***Corythucha ciliata* (Say, 1832)**

Tingis ciliata Say, 1832; *Tingis hyalina* Herrich-Schaeffer, 1842.

Material examined: Çankırı prov.: Çerkeş, Kışla-Beymelik-Taşanlar-Tohumlar villages turnout, 40°54'33"N, 32°48'36"E, 1000 m, 26.VIII.2013, ♂; Çerkeş, between Dodurga and Çakmak villages, 40°56'54"N, 33°1'42"E, 1232 m, 27.VIII.2013, 2 ♀♀, 4 ♂♂; Çerkeş, between Dodurga and Karacahöyük, 40°56'34"N, 33°0'52"E, 1023 m, 26.VIII.2013, 2 ♀♀, ♂; Orta, between Çerçi and Elmali, 40°32'09,6"N, 33°10'31,3"E, 1227 m, 08.VII.2014, ♀, ♂.

Previous records: Bursa, Kastamonu (Küçükbasmacı, 2014; Küçükbasmacı et al., 2016; Çerçi et al., 2021).

Genus *Physatocheila* Fieber, 1844

Physatocheila dumetorum (Herrich-Schaeffer, 1838)

Monanthia dumetorum Herrich-Schaeffer, 1838; *Tingis oxyacanthae* Curtis, 1839.

Material examined: Çankırı prov.: Çerkeş, Türbaşı village turnout, 40°47'09"N, 34°51'43"E, 626 m, 27.IV.2014, ♂.

Previous records: Ankara, Erzincan, Erzurum, Kars, Tokat, Van (Çam, 1993; Atlıhan et al., 2011; Yıldırım et al., 2013a).

DISCUSSION and CONCLUSION

In this study, the research material consists of samples collected from 108 different localities in around Çankırı province between 2013 and 2014. As a result of the determination of the material collected in Çankırı province, 48 species belonging to 41 genera from 11 families (Anthocoridae, Berytidae, Coreidae, Cydnidae, Lygaeidae, Nabidae, Piesmatidae, Reduviidae, Rhopalidae, Scutelleridae, Tingidae). 38 of these species are reported for the first time Heteroptera fauna of Çankırı.

Species recorded from Çankırı belong to 11 families (Table 1). Majority of them belong to families Lygaeidae (33%, 80 samples), Rhopalidae (26%, 63 samples) and Coreidae (18%, 44 samples). Berytidae (0%, 1 sample), Piesmatidae (0%, 1 sample), Scutelleridae (0%, 1 sample) were underrepresented in the Heteroptera fauna of Çankırı when compared to Turkish fauna. Underrepresentation of these families are probably due to methods that we used to collect specimens.

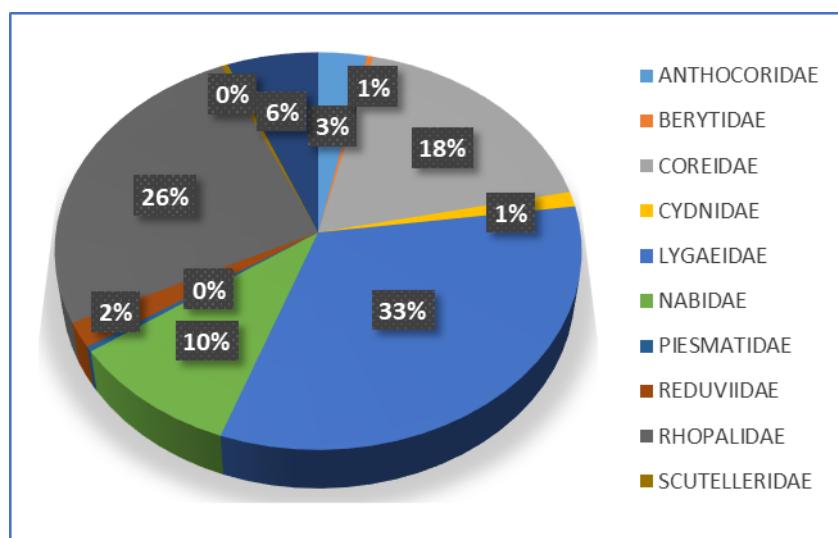


Table 1. Number of species recorded from Çankırı, sorted into families.

Çankırı is a transition region between Central Anatolia and Black Sea Region of Turkey. Therefore, in this transition area the diversity and abundance of insects is more because of is abundant variety of plants. The high number of species obtained from Çankırı is also due to this reason. In addition, the high number of newly recorded species from Çankırı is a result of lack of adequate studies in the past. These findings strongly suggest that Çankırı province possesses a species rich Heteroptera fauna which, even after this study, remains to be fully uncovered.

REFERENCES

- Abacıgil, Ö.T., Varlı, V.S. & Tezcan, S., 2010, Edremit (Balıkesir) Körfezi çevresindeki zeytin bahçelerinde kişlak tuzaklarla saptanın Heteroptera türleri, *Turkish Journal of Entomology*, 34 (1): 105-115.
- Akman, N. & Dursun, A., 2021, A study on the Coreoidea (Hemiptera: Heteroptera) fauna of Çorum Province, *Journal of the Heteroptera of Turkey*, 3 (2):157-170.
- Asal, İ., 2015, *Taxonomic and Faunistic Evaluation of Reduviidae and Nabidae (Hemiptera: Heteroptera) Fauna of Edirne Province* (Masterthesis), Trakya University Institute of Natural Sciences Department of Biology, 71 pp.
- Atlıhan, R., Özgökçe, M.S., Kaydan, M.B., Kasap, İ., Neşet Kılınçer, N., Kiyak, S. & Polat, E., 2011, Vangölü havzası ceviz ağaçlarındaki böcek faunası, *Turkish Journal of Entomology*, 35 (2): 349-360.
- Aukema, B. & Rieger, C., 1995, *Catalogue of the Heteroptera of the Palaearctic Region, Volume 1*, The Netherlands Entomological Society c/o Plantage Middenlaan 64, NL-1018 DH, Amsterdam. 222 pp.
- Aukema, B. & Rieger, C., 1996, *Catalogue of the Heteroptera of the Palaearctic Region, Volume 2*, The Netherlands Entomological Society c/o Plantage Middenlaan 64, NL-1018 DH, Amsterdam. 359 pp.
- Aukema, B. & Rieger, C., 1999, *Catalogue of the Heteroptera of the Palaearctic Region, Volume 3*, The Netherlands Entomological Society c/o Plantage Middenlaan 64, NL-1018 DH, Amsterdam. 577 pp.
- Aukema, B. & Rieger, C., 2001, *Catalogue of the Heteroptera of the Palaearctic Region, Volume 4*, The Netherlands Entomological Society c/o Plantage Middenlaan 64, NL-1018 DH, Amsterdam. 346 pp.
- Aukema, B. & Rieger, C., 2006, *Catalogue of the Heteroptera of the Palaearctic Region, Volume 5*, The Netherlands Entomological Society c/o Plantage Middenlaan 64, NL-1018 DH, Amsterdam. 550 pp.
- Aukema, B., Rieger, C. & Rabitsch, W., 2013, *Catalogue of the Heteroptera of the Palaearctic Region, Volume 6*, The Netherlands Entomological Society c/o Plantage Middenlaan 64, NL-1018 DH, Amsterdam. 629 pp.
- Aysev, N., 1974, *Ege Bölgesi Lygaeidae Familyası Üzerinde Sistemik Araştırmalar*, Gıda, Tarım ve Hayvancılık Bakanlığı, Zirai Mücadele ve Zirai Karantina Genel Müdürlüğü, Araştırma Eserleri Serisi, Ankara, 149 pp.
- Bolu, H., 2020, Southeastern Anatolia region insect fauna II (Order Hemiptera I: Sub-order Heteroptera II: Tingoidae, Reduvioidae, Aradoidea, Coreoidea, Lygaeoidea) of Turkey, *Munis Entomology & Zoology*, 15 (1): 121-139.
- Çam, H., 1993, Tokat ve Çevresinde Kiraz, Vişne ve İdris Ağaçlarında Bulunan Heteroptera Türleri Üzerinde Araştırmalar, *Gaziosmanpaşa University Journal of Agricultural Faculty*, 10: 32-42.
- Çerçi, B. & Koçak, Ö., 2016, Contribution to the knowledge of Heteroptera (Hemiptera) fauna of Turkey, *Journal of Insect Biodiversity*, 4 (15): 1-18, DOI: 10.12976/jib/2016.4.15.
- Çerçi, B., Özgen, İ. & Dioli, P., 2018, Additional Faunistic Notes on Heteroptera (Hemiptera: Insecta) in East Anatolia (Turkey), *Journal of Entomology and Zoology Studies*, 6(1): 1225-1231.
- Çerçi, B., Karataş, A. & Karataş, A., 2021, Insecta non gratae: New Distribution Records of Eight Alien Bug (Hemiptera) Species in Turkey with Contributions of Citizen Science, *Zootaxa*, 5057 (1): 001-028, <https://doi.org/10.11646/zootaxa.5057.1.1>.
- Çerçi, B. & Özgen, İ., 2021, Contribution to the Knowledge of Heteroptera (Hemiptera) Fauna of Elazığ Province with a New Record for the Fauna of Turkey, *J.Het.Turk.*, 3 (1):50-75.

- Çerçi, B., Gültekin, N., Gözüaçık, C., Güdek Güçlü, M. & Doğan, D., 2022. Contributions to the Heteroptera (Hemiptera) fauna of Anatolia with new records for Turkey, *Journal of Insect Biodiversity*, 036 (1): 001–035, <https://doi.org/10.12976/jib/2022.36.1.1>.
- Dursun, A. & Fent, M., 2009, A study on the Coreidae (Insecta: Heteroptera) of the Kelkit Valley, Turkey. *Acta Entomologica Serbica*, 14 (1): 13-25.
- Dursun, A., 2011a, A Study on the Nabidae and Reduviidae (Hemiptera: Heteroptera) of the Kelkit Valley and Amasya, Türkiye, *Acta Entomologica Serbica*, 16 (1/2): 35-43.
- Dursun, A., 2011b, Additional Records of Coreidae (Hemiptera: Heteroptera) from Turkey, with Checklist, *Entomological News*, 122 (2): 135–148. DOI:10.3157/021.122.0205.
- Dursun, A. & Fent, M. 2017, Annotated Checklist of Tingidae (Hemiptera: Heteroptera) in Turkey with new records for the faunas of Europe and Turkish Thrace, *Zootaxa*, 4347 (3), 465–491.
- Dursun, G., 2016, *Balıkesir Kent Ormanı ve Baun Çağış Yerleşkesindeki Heteroptera (Hemiptera) Faunasının Kışlak Tuzaklarla Belirlenmesi Üzerinde Araştırmalar* (Msc Thesis), Balıkesir University Institute of Science Biology, 95 pp.
- Fent, M. & Aktaç, N., 2009, Trakya Bölgesi Acanthosomatidae, Thyreocoridae, Cydnidae, Plataspidae, Scutelleridae (Pentatomoidae: Heteroptera) faunasına katkıları, *Turkish Journal of Entomology*, 33: 193–204.
- Fent, M., 2011, Gökçeada ve Bozcaada Heteroptera (Insecta: Hemiptera) Faunasına Katkıları, *Trakya Univ J Sci.*, 12(1): 35-46.
- Fent, M. & Japoshvili, G., 2012, Heteroptera (Hemiptera) Fauna of Isparta-Gölcük Natural Park with some rare and peculiar species and new records for Mediterranean Region of Turkey, *Turkish Journal of Entomology*, 2 (3): 149-163.
- Fent, M. & Dursun, A., 2019, Contributions to Coreoidea (Hemiptera: Heteroptera) Fauna of Western Black Sea Region, *Munis Ent. & Zoology*, 14 (1): 217-223.
- Gençer, N.S., Kovancı, O.B., Kovancı, B. & Akgül, H.C., 2004, Bursa İli çilek üretim alanlarında bulunan Heteroptera takımı türleri Heteroptera species found in strawberry fields in Bursa province of Turkey, *Turkish Journal of Entomology*, 28 (1).
- Henry, T.J., 2009, *Biodiversity of Heteroptera, in Insect Biodiversity: Science and Society* (eds R. G. Foottit and P. H. Adler), Volume 1, 2nd Edition, Wiley-Blackwell, Oxford, UK.912 pp.
- Hoberlandt, L., 1956, Results of the Zoological Scientific Expedition of the National Museum in Praga to Turkey. 18. Hemiptera IV: Terrestrial Hemiptera- Heteroptera of Turkey, *Acta Entomologica Musei Nationalis Pragae*, suppl.3: 264 pp.
- Horváth, G., 1883, Heteroptera Anatolica in Regione Brussae Collecta. Editio separatae *Termesztrajzi Füzetek*, 7: 21-30.
- Horváth, G., 1901, Hemiptères du voyage de M. Martinez Escalera dans L' Asie-Mineure. *Termesztrajzi Füzetek*, 24: 469-485.
- Kaplan, M., 2014, *Mardin İli Bağ Alanlarındaki Thysanoptera Türleri, Yayılışları, Zarar Oranları, Doğal Düşmanları ve Popülasyon Değişimleri ile Mücadele Olanaklarının Belirlenmesi* (PhD Thesis). Department of Plant Protection, Institute of Natural and Applied Sciences, University of Dicle, Diyarbakır, 137pp.
- Kiyak, S., 1990a. *Studies on the Eco-faunistic and Systematic of the Terrestrial Heteropteran Adults in Binboğa Mountains (Kahramanmaraş-Kayseri)*. PhD Thesis (manuscr.), Gazi University, Science Institute, Ankara, XII, 172 pp. [in Turkish]
- Kiyak, S., 1990b. Systematisch-Ökologische Untersuchungen über die Wanzen (Insecta -Heteroptera) aus dem Gebiet Hazar-See, Maden und Ergani (Prov. Elazığ). *Journal of Biology Faculty of Science and Arts Gazi University*, 1: 43-95.
- Kiyak, S., 2000. Systematisch-Ökologische Untersuchungen über die Wanzen (Insecta -Heteroptera) von Işık Gebirge-II. *Journal Institute Science and Technology, Gazi University*, 13 (2): 347-367.
- Kiyak, S., Özsaraç, Ö. & Salur, A., 2004, Additional Notes on the Heteroptera Fauna of Nevşehir Province (Turkey), *G.U. Journal of Science*, 17 (1): 21-29.
- Kiyak, S. & Akar, E., 2010, Faunistic Study of Terrestrial Heteroptera of Çaldağ (Ankara, Turkey), *Munis Entomol Zool.*, 5: 1104–1118.

- Kiyak, S. & Baş, A., 2021, About Habitat Type Preferences of Some Coreoidea (Hemiptera: Heteroptera) Species of Yahyalı-Kayseri, *Journal of the Heteroptera of Turkey*, 3 (1):46-49.
- Küçükbasmacı, İ., 2014, Two New Invasive Species Recorded in Kastamonu (Turkey): Oak Lace Bug (*Corythucha arcuata* (Say, 1832)) and Sycamore Lace bug (*Corythucha ciliata* (Say, 1832)) (Heteroptera: Tingidae), *Journal of Entomology and Nematology*, 6 (8): 104-111.
- Küçükbasmacı, İ. & Kiyak, S., 2015, A Study on the Fauna of Heteroptera of Ilgaz Mountains (Kastamonu, Çankırı) With a New Record for Turkey, *Nevşehir Bilim ve Teknoloji Dergisi*, 4(1): 1-33. DOI: 10.17100/nevbiltekin.210937.
- Küçükbasmacı, İ., Şahin, S. & Eker, G., 2016, *Corythucha ciliata* (Say, 1832)'nın (Heteroptera, Tingidae) Kastamonu Şehir Merkezinde Bulunan *Platanus orientalis* L. Türü Üzerindeki Yoğunluğunun Araştırılması, *Kastamonu Univ., Journal of Forestry Faculty*, 16 (1): 74-82.
- Linnavuori, R., 1965, Studies on the South and Eastmediterranean Hemipterous Fauna.III. Hemipterological observations from Turkey. *Acta Entomologica Fennica*, 21: 44-61.
- Lodos, N., Önder, F., Pehlivan, E., Atalay, R., Erkin, E., Karsavuran, Y., Tezcan, S. & Aksoy, S., 1999, *Faunistic Studies on Lygaeidae (Heteroptera) of Western Black Sea, Central Anatolia and Mediterranean Region of Turkey*, Ege University Press, Bornova, İzmir, 58 pp.
- Matocq, A., Dominique Pluot-Sigwalt, D. & Özgen, İ., 2014, Terrestrial Hemiptera (Heteroptera) Collected in South-East Anatolia (Diyarbakır, Mardin and Elazığ Provinces) (Turkey): Second List., *Munis Entomology & Zoology*, 9 (2): 884-930.
- Önder, F., Ünal, A. & Ünal, E. 1984, Heteropterous insects collected by light traps in Edirne. *Turkish Journal of Plant Protection*, 8(4): 215-224.
- Önder, F., Karsavuran, Y., Tezcan, S. & Fent, M., 2006, *Heteroptera (Insecta) Catalogue of Türkiye*, Meta Basım Matbaacılık Hizmetleri, İzmir, 164 pp.
- Özgen, İ., Dioli, P. & Çerçi, B., 2021, Additional notes on heteroptera (Hemiptera) of Eastern Turkey, *International Journal of Fauna and Biological Studies*, 8(1): 01-04. DOI: <https://doi.org/10.22271/23940522.2021.v8.i1a.782>.
- Özsaraç, Ö. & Kiyak, S., 2001, A Study on the Heteroptera Fauna of Bozcaada (Çanakkale Province). *Turkish Journal of Zoology*, 25: 313-322
- Özsaraç, Ö., 2004. *The Heteroptera Fauna of Çiçek Mountain*. PhD Thesis (manuscr.), Gazi University, Science Institute, Ankara. 225 pp.
- Pehlivan, S. & Atakan, E., 2020, Distribution and seasonal abundance of predatory bugs, *Orius* spp. (Hemiptera: Anthocoridae) in Adana Province, Turkey, *Türk. Entomol. Derg.*, 44 (1): 57-69. <http://dx.doi.org/10.16970/entoted.622080>.
- Şerban, C., 2010, Faunistic Data on Some True Bugs Species (Insecta: Heteroptera) from West Turkey, *Travaux du Muséum National d'Histoire Naturelle*, LIII: 171-180. DOI: 10.2478/v10191-010-0013-8.
- Tezcan, S., 2020, Analysis of the insect fauna of Turkey and suggestions for future studies, *Munis Entomology & Zoology*, 15 (2): 690-710.
- Tuatay, N., Kalkandelen, A. & Aysev, N., 1972, *Nebat Koruma Müzesi Böcek Kataloğu* (1961-1971). Yenigün Matbaası, Ankara, 119 pp. (In Turkish).
- Yazıcı, G., Yıldırım, E. & Moulet, P., 2015a. Contribution to the knowledge of the Lygaeoidea (Hemiptera, Heteroptera) fauna of Turkey, *Linzer biol. Beitr.*, 47(1): 969-990.
- Yazıcı, G., Avar, Y. & Yıldırım, E., 2015b, Contribution to the knowledge of the Cydnidae, (Hemiptera, Heteroptera, Pentatomoidae) fauna of Turkey, *Turkish Journal of Zoology*, 39 (4): 604-609.
- Yazıcı, G., 2019, Host relationships and Heteropterans as aphid predators in Turkey, *Plant Protection Bulletin*, 59 (4) : 85-92.
- Yazıcı, G., 2022a, New hosts and spread areas of invasive species *Nysius cymoides* (Spinola, 1837) (Hemiptera: Heteroptera: Lygaeidae) in crop plants in Turkey. *KSU J. Agric. Nat.* 25 (2): 000-000. DOI: 10.18016/ksutarimdoga.vi.798617.
- Yazıcı, G., 2022b, List of Pentatomomorpha (Hemiptera: Heteroptera) Described by Foreign Scientists in Nazife Tuatay Plant

- Protection Museum from Tukey. Part I, *Transactions of the American Entomological Society*, 148 (2): 181-199.
- Yazıcı, G., 2022c, Heteroptera (Insecta: Hemiptera) fauna of Kastamonu and Bartın Provinces in Turkey, *J.Het.Turk.*, 4 (1):43-55.
- Yazıcı, G., Bal, N. & Kiyak, S., 2022, Contribution to the Knowledge of the Fauna of the Alydidae, Anthocoridae, Berytidae, Coreidae, Cydnidae, Lygaeidae, Nabidae, Plataspidae, Pyrrhocoridae, Reduviidae, Rhopalidae, Scutelleridae, Stenocephalidae, Tingidae (Hemiptera: Heteroptera) with a new record of Çankırı Province in Türkiye, *J.Het.Turk.*, 4(2):184-204. DOI:10.5281/zenodo.6590226.
- Yazıcı, G., 2023, Checklist of the Turkish Nabidae with a New Record, *Transactions of the American Entomological Society*, 149 (1): 71-103.
- Yıldırım, E. & Özbeş, H., 1990, Oltu (Erzurum) yöresinde sekerpancarı zararlısı *Piesma maculatum* Laporte (Heteroptera, Piesmidae)'un biyolojisi ve zararı üzerinde bazı çalışmalar, *Turkish Journal of Entomology*, 14 (2): 97-108.
- Yıldırım, E., Moulet, P., Yazıcı, G. & Bulak, Y., 2010, Contribution to the Knowledge of Reduviidae (Hemiptera) Fauna of Turkey, *Linzer biol. Beitr.* 42 (1): 825-831.
- Yıldırım, E., Yazıcı, G. & Linnauvori, R., 2011, Contribution to the knowledge of Alydidae, Coreidae, Rhopalidae and Stenocephalidae (Coreoidea: Heteroptera: Hemiptera) fauna of Turkey, *Linzer biol. Beitr.*, 43 (2): 1625-1639.
- Yıldırım, E., Yazıcı, G., Kul, R. & Moulet, P., 2013a, Contribution to the Knowledge of the Anthocoridae, Lyctocoridae, Nabidae, Reduviidae and Tingidae (Hemiptera, Heteroptera) Fauna of Turkey, *Journal of the Entomological Research Society*, 15 (3):53-66.
- Yıldırım, E., Yazıcı, G. & Moulet, P., 2013b, Contribution to the knowledge of the Gerridae, Coreoidea, Piesmatidae, Saldidae, Corixoidea, Nepoidea and Notonectidae (Hemiptera, Heteroptera) fauna of Turkey, *Linzer biol. Beitr.*, 45 (1): 995-1010.
- Yıldırım, E., Yazıcı, G. & Karakurt, N., 2014, Contribution to the knowledge of the Scutelleridae (Hemiptera, Heteroptera) fauna of Turkey, *Turkish Journal of Zoology*, 38: 544-551. DOI:10.3906/zoo-1307-23.
- Zengin, P. & Dursun, A., 2019, A study on the Coreoidea (Hemiptera: Heteroptera) fauna of Amasya Province, Turkey, *Acta Biologica Turcica*, 32(3): 160-167.
- Zhang, Q.Z., 2011, Phylum Arthropoda von Siebold, 1848. In: Zhang, Z.-Q. (Ed.)Animal biodiversity: An outline of higher-level classification and survey of taxonomic richness, *Zootaxa*, 3148 : 99-103.

A study on the Mirinae (Hemiptera: Heteroptera: Miridae) fauna of Amasya Province, Türkiye

Gamze Tepecik¹§Ahmet Dursun^{2*}

^{1* 1} Amasya University, Institute of Sciences, Department of Biology, 05100, Amasya/ Türkiye
E-mail: gamzetepecik008@gmail.com ORCID iD: 0000-0002-1282-8011

§: This study was produced from the MSc thesis.

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

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

ABSTRACT: In this study, the research material consists of samples collected from 54 different localities in around Amasya province between 2020 and 2022. As a result of the determination of the material collected in Amasya province, 29 species belonging to the Mirinae subfamily were revealed. Of them, the rarely species *Polymerus holosericeus* is new record for Anatolia. The species *Adelphocoris detritus*, *Adelphocoris quadripunctatus*, *Capsus ater*, *Closterotomus krueperi*, *Orthops forelli* are also new record for the Miridae faunae of Black Sea Region and the species *Closterotomus fulvomaculatus*, *Phytocoris varipes*, *Polymerus brevicornis*, *Stenodema sericans* and *Notostira erratica* are also a new record for the Miridae faunae of Central Black Sea Region.

KEY WORDS: Heteroptera, Mirinae, the new record, Amasya, Black Sea Region, habitats.

To cite this article: Tepecik, G., Dursun. A., 2023, A study on the Mirinae (Hemiptera: Heteroptera: Miridae) fauna of Amasya Province, Türkiye, *J.Het.Turk.*, 5(1):175-194

DOI: 10.5281/zenodo.7986876

To link to this article: <https://www.j-het.org/wp-content/uploads/2023/05/V51-A8.pdf>

Received: Apr 4, 2023; **Revised:** Apr 25, 2023; **Accepted:** May 11, 2023; **Published online:** May 31, 2023

INTRODUCTION

The suborder Heteroptera (Hemiptera) has a large number of species, the majority of which are found in tropical regions. In the world, 45,000 species are known in

24 superfamilies belonging to seven suborders (Henry, 2017).

Of those 9365 species belonging to 1632 genera are known in the Palaearctic Region (Aukema et al., 2013; Fent &



An Open Access article distributed under the Creative Commons 4.0 (CC BY NC SA) International License.

Dursun, 2022). In Türkiye have been numerous studies of Heteroptera and as a result 1645 species have been listed (Çerçi & Koçak, 2023). Miridae, the largest family of Heteroptera has been listed about 11,500 species belonging to 1400 genera from the Palaearctic Region and distributed in almost all habitats (Kerzhner & Josifov, 1999; Henry, 2017). Therewithal, it is also of great importance as the family with the largest number of representatives (515 species) in Türkiye (Çerçi & Koçak, 2017; Çerçi et al. 2018; 2019; 2020; 2022; Tezcan, 2020).

The family Miridae consists of eight sub-families; the most diverse are Mirinae, Orthotylinae and Phylinae. Mirinae is one of the largest subfamilies of Miridae with about 4000 species and accounts for 75% of the family Miridae in Palaearctic (Cassis et al., 2007).

The subfamily Mirinae is represented by 154 species belonging to 43 genera in Türkiye (Kerzhner & Josifov, 1999; Çerçi & Koçak, 2017; Çerçi et al., 2018; 2019; 2020; 2021; 2022).

Although many faunistic and systematic studies have been carried out so far, there is still a need for further study of the Miridae family in our country and in other countries. Ribes & Goula (1986) reviewed Wagner's entomological notes and published a catalog of 1410 Miridae species. Kerzhner and Josifov made a revision of the Palearctic Region Miridae catalog in 1999.

Türkiye has a rich Miridae fauna. Some of the studies conducted to evaluate the distribution and biogeography of Miridae in Türkiye are as follows: Hoberlandt 1955; Önder, 1976; Bingöl, 1978; Lodos et al., 1978; Altinayar, 1981; Önder et al., 1981; Yayla, 1983; Önder & Lodos, 1986; Özbeğ & Alaoğlu, 1987; Çam, 1988; Lodos et al., 1989; Önder et al., 1990; 1998; Güçlü et al., 1995; Çevik, 1996; Yaşaraklıncı & Hincal, 1997; 2000; Tezcan & Önder, 1999; 2003; Yıldırım et al., 1999; Özsaraç & Kiyak, 2001; Lodos et al., 2003; Kiyak et al., 2004; Önder et

al., 2006; Yazıcı, 2015; Çerçi & Koçak, 2016, 2017; Çerçi & Dursun, 2017; Matocq, 2019a,b; Çerçi et al., 2018; 2019; 2020; 2022; Yazıcı et al. 2019; Kaçar & Dursun, 2022. In parallel with this diversity, many new species of Miridae were described here, and 84 of them have remained endemic to Türkiye to date (Dursun & Fent, 2017). In the last 5 years alone, 13 new Miridae species have been described from the country (Çerçi & Dursun, 2017; Günther & Strauss, 2018; Carapezza & Kment 2018; Sanchez & Cassis, 2018; Matocq, 2019a,b; Pagola-Carte, 2019; Çerçi et al., 2019; 2020; 2021). Çerçi et al., (2022), published Heteroptera species collected from many localities of Anatolia, especially Eastern Anatolia, between 1998 and 2021.

The Amasya province, with such a rich flora, harbors a rich fauna (Dursun, 2011). Until this study, there had been no specific study of the Mirinae sub-family in Amasya province. This study aimed to investigate the Mirinae fauna of the area in detail, and the findings obtained contribute to future studies.

MATERIAL AND METHODS

The study material was obtained from 54 localities with different vegetation and habitat in Amasya province in the years 2020 to 2022 (Fig. 1). The specimens were collected from the trees and under herbaceous vegetation and above ground with a sweep net (Table 1). 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 and were investigated under a stereo microscope (Leica EZ4) and keys of Stichel (1960) and Wagner (1970/71). The material is deposited in the collection of Amasya University, Faculty of Science and Arts, Department

RESULTS

Hemiptera Linnaeus, 1758

Heteroptera Latreille, 1810

Miridae Hahn, 1833

Mirinae Hahn, 1833

Genus: *Adelphocoris* Reuter, 1896

***Adelphocoris detritus* (Fieber, 1861)**

Material examined: Amasya: Amasya Castle, 10.05.2022, 1♀.

Number of localites: 1

Distribution in Türkiye: Diyarbakır, Kütahya (Önder et al., 2006; Maral & Gökçe 2021).

Distribution in Palearctic Region: Europe: Austria, Bulgaria, Croatia, Czech Republic, France, Germany, Great Britain, Italy, Macedonia, Poland, Romania, Serbia, Slovakia, Slovenia, Switzerland, Ukraine. **Asia:** Asian Türkiye (Kerzhner et al., 1999; Aukema et al., 2013; Heckmann et al., 2015).

***Adelphocoris lineolatus* (Goeze, 1778)**

Material examined: Amasya: Uygur, 19.05.2021, 6♂♂; Tatar, 19.05.2021, 1♂, 1♀; Ezinepazar, 19.05.2021, 2♀♀; 22.06.2022, 4♀♀, 33♂♂; Sevincer, 05.07.2021, 1♀; İlyasköy, 05.07.2021, 2♂♂; Sanayi Sitesi, 24.08.2021, 29♀♀, 17♂♂; Gözlek, 03.09.2021, 40♀♀, 18♂♂; Kapıkaya, 09.09.2021, 2♂♂, 13♀♀; Bağlıca, 26.07.2022, 2♀♀. Suluova: Ayrancı, 28.06.2021, 1♂; Yüzbeyi, 28.06.2021, 7♀♀, 1♂; 18.08.2022, 1♂, 1♀; Deveci, 20.08.2021, 1♀; Saygılı, 14.07.2022, 3♀♀. Merzifon: Aktarla, 20.08.2021, 4♀♀, 1♂; Çobanören Yolu, 14.09.2021, 1♀. Göynük: Merkez, 03.09.2021, 1♂; Şarklı, 03.09.2021, 1♀; Kafarlı, 23.08.2022, 2♀♀. Taşova: Yeşilyurt, 27.05.2021, 2♂♂; Kızgülüdüren Village, 10.07.2021, 5♀♀, 3♂♂; Destek Stream, 28.06.2022, 1♂. Hamamözü: 07.09.2021, 4♀♀, 1♂.

Number of localites: 24

Distribution in Türkiye: Adana, Ankara, Antalya, Bartın, Bolu, Çanakkale, Çankırı, Çorum, Edirne, Elâzığ, Erzurum, Eskişehir, Gaziantep, Hatay, Manisa, Mersin, Muğla, Kahramanmaraş, Karabük, Karaman, Kastamonu, Kayseri, Kırşehir, Kilis, Kırıkkale, Konya, Nevşehir, Niğde, Osmaniye, Sinop, Yozgat, Zonguldak (Lodos et al., 2003; Fent, 2011; Önder et al., 2006; Yazıcı, 2015; Kivan & Dirik, 2016; Çerçi et al., 2018; Tolga & Yoldaş, 2019; Çerçi & Özgen, 2021).

Distribution in Palearctic Region: Europe: Albania, Andorra, Austria, Belgium, Bosnia Hercegovina, Bulgaria, Byelorussia, Croatia, Czech Republic, Denmark, Estonia, European Kazakhstan, European Türkiye, Finland, France, Great Britain, Germany, Greece, Hungary, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Moldavia, Montenegro, The Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine.

Asia: Azerbaijan, Afghanistan, Armenia, Asian Kazakhstan, Asian Türkiye, China, Georgia, Iran, Japan, Kirgizia, Korea, Mongolia, Russia, Turkmenistan, Uzbekistan.

North Africa: Algeria, Tunisia. **Extralimital:** Pakistan, Kashmir, North America

(introduced) (Kerzhner et al., 1999; Aukema et al., 2013; Heckmann et al., 2015).

***Adelphocoris quadripunctatus* (Fabricius, 1794)**

Material examined: **Amasya:** Sarıyar, 19.05.2021, 3♂♂, 2♀♀; Uygur, 19.05.2021, 3♂♂, 1♀; Ezinepazar, 19.05.2021, 18♂♂, 5♀♀. **Taşova:** Yeşilyurt, 27.05.2021, 2♂♂, 3♀♀.

Number of localites: 4

Distribution in Türkiye: Aydin, Edirne, Erzurum, İzmir, Tekirdağ (Kıvan & Dirik, 2016; Altın & Özder, 2020; Çerçi & Tezcan, 2021).

Distribution in Palearctic Region: **Europe:** Andorra, Austria, Belgium, Byelorussia, Croatia, Croatia, Czech Republic, Denmark, Estonia, European Türkiye, Finland, France, Germany, Hungary, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Moldavia, The Netherlands, Norway, Poland, Romania, Russia, Serbia, Slovakia, Spain, Sweden, Switzerland, Ukraine. **Asia:** Asian Kazakhstan, Asaian Türkiye, China, Israel?, Japan, Korea, Russia, Mongolia. **North Africa:** Egypt? (Kerzhner et al., 1999; Aukema et al., 2013).

***Adelphocoris vandalicus* (Rossi, 1790)**

Material examined: **Amasya:** Boğazköy, 18.05.2021, 1♀. **Suluova:** Yüzbeyi, 28.06.2021, 1♂.

Number of localites: 2

Distribution in Türkiye: Adana, Ankara, Artvin, Balıkesir, Bilecik, Bolu, Bursa, Çanakkale, Çankırı, Edirne, Erzurum, Elâzığ, İstanbul, İzmir, Kahramanmaraş, Kars, Kastamonu, Kayseri, Konya, Mersin, Muş, Niğde, Sakarya, Samsun, Sinop, Tekirdağ (Önder et al., 2006; Yazıcı, 2015; Küçükbaşmacı & Kiyak, 2015).

Distribution in Palearctic Region: **Europe:** Albania, Austria, Bosnia Hercegovina, Bulgaria Byelorussia, Croatia, Czech Republic, European Türkiye, France, Germany, Greece, Hungary, Italy, Kazakhstan, Lithuania, Macedonia, Montenegro, Moldavia, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Switzerland, Ukraine, Yugoslavia. **Asia:** Azerbaijan, Armenia, Asian Kazakhstan, Asian Türkiye, Georgia, Iran,. **North Africa:** Morocco (Kerzhner et al., 1999; Aukema et al., 2013).

Genus: *Aphanosoma* A. Costa, 1842

***Aphanosoma italicum* A. Costa, 1842**

Material examined: **Amasya:** Sarıyar, 19.05.2021, 1♂. Taşova: Çalkaya, 27.05.2021, 3♂♂, 4♀♀.

Number of localites: 2

Distribution in Türkiye: Adana, Ankara, Bartın, Çankırı, Edirne, Erzurum, Eskişehir, Karabük, Kastamonu Kırklareli, Konya, Kütahya, Sinop, Tekirdağ (Lodos et al., 2003; Küçükbaşmacı & Kiyak, 2015; Önder et al., 2006; Yazıcı, 2015).

Distribution in Palearctic Region: **Europe:** Albania, Bosnia Hercegovina, Bulgaria, European Türkiye, Greece, Italy, Macedonia, Moldavia, Romania, Russia, Switzerland, Türkiye. **Asia:** Armenia, Asian Türkiye, Georgia (Kerzhner et al., 1999; Aukema et al., 2013).

Genus: *Brachycoleus* Fieber, 1858***Brachycoleus decolor* Reuter, 1887****Material examined:** Taşova: Yeşilyurt, 27.05.2021, 1♀.**Number of localites:** 1

Distribution in Türkiye: Adana, Ağrı, Ankara Amasya, Bayburt, Bursa, Bilecik, Bitlis, Çankırı, Diyarbakır, Erzincan, Erzurum, Eskişehir, Hatay, İğdır, Kahramanmaraş, Kastamonu Kars, Kayseri, Kırıkkale, Konya Nevşehir, Uşak, Yozgat (Önder, 1976; Altınayar, 1981; Lodos et al., 2003; Kiyak et al., 2004; Önder et al., 2006; Kiyak & Akar 2010; Matocq et al., 2014; Küçükbaşmacı & Kiyak, 2015; Yazıcı, 2015; Yazıcı & Yıldırım, 2016).

Distribution in Palearctic Region: Europe: Albania, Austria, Bosnia Hercegovina, Bulgaria, Byelorussia, Croatia, Czech, European Kazakhstan, European Türkiye, France, Germany, Greece, Hungary, Italy, Lithuania, Macedonia, Moldavia, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Switzerland, Ukraine. **Asia:** Azerbaijan, China, Georgia, Asian Kazakhstan, Asian Türkiye Kirgizia Russia, Tadzhikistan, Uzbekistan (Kerzhner et al., 1999; Aukema et al., 2013; Luis, 2013).

Genus: *Capsus* Fabricius, 1803***Capsus ater* (Linnaeus, 1758)****Material examined:** Amasya: Ezinepazar, 19.05.2021, 1♂.**Number of localites:** 1

Distribution in Türkiye: Bartın, Bursa, Edirne, Erzurum, Kırklareli, Mersin, Tekirdağ (Lodos et al., 2003; Önder et al., 2006; Yazıcı & Yıldırım, 2016).

Distribution in Palearctic Region: Europe: Albania, Austria, Belgium, Bosnia Hercegovina, Bulgaria, Byelorussia, Croatia, Czech Republic, Denmark, Estonia, European Türkiye, Finland, France, Great Britain, Germany, Greece, Hungary, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Moldavia, Montenegro, The Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine. **Asia:** Asian Türkiye, Georgia, Russia. Extralimital: North America (Kerzhner et al., 1999; Aukema et al., 2013).

Genus: *Closterotomus* Fieber, 1858***Closterotomus fulvomaculatus* (De Geer, 1773)****Material examined:** Amasya: Amasya Castle, 10.05.2022, 7♂♂.**Number of localites:** 1

Distribution in Türkiye: Ankara, Balıkesir, Bartın, Bilecik, Bolu, Bursa, Çankırı, Düzce, Edirne, İstanbul, Kastamonu, Kırklareli, Kocaeli, Kütahya, Sakarya, Uşak, Zonguldak (Önder et al., 2006; Küçükbaşmacı & Kiyak, 2015; Yücel & Kivan, 2018).

Distribution in Palearctic Region: Europe: Albania, Austria, Belgium, Bosnia Hercegovina, Bulgaria, Byelorussia, Croatia, Czech Republic, Denmark, Estonia, Europaen Türkiye, Finland, France, Germany, Great Britain, Greece, Hungary, Italy, Lawia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Moldavia, Montenegro, The Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia,

Sweden, Switzerland, Ukraine. **Asia:** Armenia, Asian Kazakhstan, Asian Türkiye, Azerbaijan, Georgia, Korea. **Extralimital:** North America (Alaska, N Canada) (Kerzhner et al., 1999; Aukema et al., 2013).

***Closterotomus krueperi* (Reuter, 1880)**

Material examined: Amasya: Boğazköy, 18.05.2021, 1♀.

Number of localites: 1

Distribution in Türkiye: Adana, Ankara, Aydin, Balıkesir, Burdur, Diyarbakır, Eskişehir, Gaziantep, Hatay, İzmir, Kahramanmaraş, Karaman, Kütahya, Mersin, Muğla, Osmaniye, Uşak (Önder et al., 2006).

Distribution in Palearctic Region: Europe: European Türkiye, Greece. **Asia:** Asian Türkiye, Cyprus, Lebanon?, (Kerzhner et al., 1999).

***Closterotomus norwegicus* (Gmelin, 1790)**

Material examined: Amasya: Tatar, 19.05.2022, 1♂; Keşlik, 22.06.2022, 1♂; Sarıyar, 22.06.2022, 1♀; Ezinepazar, 22.06.2022, 1♀.

Number of localites: 4

Distribution in Türkiye: Adana, Amasya, Ankara, Antalya, Artvin, Aydin, Balıkesir, Bartın, Bilecik, Bolu, Bursa, Çanakkale, Çankırı, Denizli, Edirne, Elâzığ, Erzurum, Eskişehir, Gaziantep, Hatay, İçel, İzmir, Kahramanmaraş, Karabük, Kastamonu, Kırklareli, Kilis, Kocaeli, Kütahya, Muğla, Osmaniye, Samsun, Sinop, Tekirdağ, Tokat, Trabzon, Zonguldak (Önder, 1976; Önder et al., 2006; Lodos et al., 2003; Yazıcı, 2015; Çerçi et al., 2018).

Distribution in Palearctic Region: Europe: Abania, Andorra, Austria, Belgium, Bosnia Hercegovina, Bulgaria, Byelorussia, Croatia, Czech Republic, Denmark, Estonia, European Türkiye, Faeroe Isles, Finland, France, Great Britain, Germany, Greece, Hungary, Ireland, Italy, Lawia, Liechtenstein, Lithuania, Luxembourg, Malta, Macedonia, Moldavia, Montenegro, The Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine. **Asia:** Asian Türkiye, Cyprus, Israel, Jordan, Syria. North Africa: Algeria, Azores, Cyprus, Egypt, Libya, Morocco, Madeira, Tunisia. **Extralimital:** North America, Australia, New Zealand, Tristan da Cunha (Wagner, 1970-71; Kerzhner et al., 1999; Aukema et al., 2006; Önder et al., 2006; Aukema et al., 2013; Heckmann et al., 2015).

***Closterotomus reuteri* (Horváth, 1882)**

Material examined: Amasya: Amasya Castle, 28.04.2020, 1♀; 10.05.2022, 1♀.

Number of localites: 1

Distribution in Türkiye: Adana, Amasya, Ankara, Bilecik, Bolu, Bursa, Karabük, Kütahya, Sakarya, Sinop, Zonguldak (Kerzhner et al., 1999; Önder et al., 2006).

Distribution in Palearctic Region: Europe: Bulgaria, Macedonia, Serbia. **Asia:** Asian Türkiye (Kerzhner et al., 1999; Aukema et al., 2013).

Genus: *Horistus* Fieber, 1860**Subgenus: *Primihoristus* Chérot, 1997*****Horistus (Primihoristus) orientalis* (Gmelin 1790)**

Material examined: **Amasya:** Boğazköy, 18.05.2021, 6♀; Amasya Castle, 28.04.2022, 1♀; 10.05.2022, 4♀, 14.05.2022, 1♀.

Number of localites: 3

Distribution in Türkiye: Ankara, Antalya, Bursa, Çorum, Diyarbakır, Edirne, Elâzığ, Erzurum, Kahramanmaraş, Kayseri, Kırşehir, Kırıkkale, Mardin, Mersin, Nevşehir, Niğde (Özgen, 2012; Matocq et al. 2014; Yazıcı, 2015; Çerci et al. 2018).

Distribution in Palearctic Region: Europe: Albania, Austria, Belgium, Bosnia Hercegovina, Bulgaria, Croatia, Czech Republic, European Türkiye, France, Germany, Greece, Hungary, Italy, Liechtenstein, Luxembourg, Macedonia, Malta, Serbia, Slovakia, Spain, Switzerland, Poland, Portugal, Romania, Ukraine. **Asia:** Asian Türkiye, Israel. **North Africa:** Algeria, Egypt, Libya, Morocco, Tunisia (Wagner, 1970-71; Kerzhner et al., 1999; Aukema et al., 2013).

Genus: *Liocoris* Fieber, 1858***Liocoris tripustulatus* (Fabricius, 1781)**

Material examined: **Amasya:** Boğazköy, 28.06.2021, 1♂, 3♀; Sarıyar, 22.06.2022, 9♂, 7♀; **Taşova:** Borabay Gölü, 29.08.2021, 1♀.

Number of localites: 3

Distribution in Türkiye: Adana, Aksaray, Amasya, Ankara, Antalya, Artvin, Aydin, Balıkesir, Bilecik, Bitlis, Bolu, Burdur, Bursa, Çorum, Denizli, Diyarbakır, Edirne, Elâzığ, Erzurum, Gaziantep, Hakkâri, Hatay, İçel, İstanbul, İzmir, Kahramanmaraş, Karabük, Konya, Kayseri, Kütahya, Manisa, Mardin, Nevşehir, Niğde, Osmaniye, Sakarya, Trabzon, Yozgat, Zonguldak (Önder, 1970; 1976; Önder et al., 1981; Kiyak, 1990; Lodos et al., 2003; Yazıcı, 2015; Kiyak & Akar, 2010; Tezcan et al., 2010; Matocq et al., 2014; Maral & Gökçe 2021).

Distribution in Palearctic Region: Europe: Albania, Andorra, Austria, Belgium, Bosnia Hercegovina, Bulgaria, Byelorussia, Croatia, Czech Republic, Denmark, Estonia, European Türkiye, Finland, France, Great Britain, Germany, Greece, Hungary, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Macedonia, Montenegro, Moldavia, The Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine. **Asia:** Armenia, Asian Kazakhstan, Asian Türkiye, Azerbaijan, Georgia, Iran, Iraq, Israel, Jordan, Lebanon, Syria, Turkmenistan, Uzbekistan (Kerzhner et al., 1999; Aukema et al., 2013).

Genus: *Lygus* Hahn, 1833***Lygus gemellatus* (Herrich-Schaeffer, 1835)**

Material examined: **Amasya:** Dadi, 21.04.2021, 2♂; Uygur, 19.05.2021, 5♀, 8♂; Sarıyar, 19.05.2021, 3♀, 2♂; 22.06.2022, 3♂, 2♀; Mahmatlar, 05.07.2021, 1♂, 5♀; Karasenir, 09.09.2021, 6♀, 5♂; Ormanbağları, 09.09.2021, 1♀; 18.06.2022, 2♂, 1♀; Koza Mahallesi, 09.09.2021, 6♂, 3♀; 17.09.2022, 1♂; Kapıkaya,

09.09.2021, 2♀♀, 1♂; Tatar, 19.05.2021, 7♀♀; 22.06.2022, 4♀♀, 1♂; Ezinepazar, 22.06.2022, 10♂♂, 4♀♀; Gözlek, 03.09.2021, 13♀♀, 4♂♂; İpekköy, 12.09.2021, 1♂, 1♀; 22.05.2022 2♂♂; 18.06.2022, 7♂♂, 12♀♀; Keşlik, 22.06.2022, 1♂; İlyasköy, 05.07.2021, 16♂♂, 6♀♀; Helvacı Mahallesi, 29.07.2022, 3♂♂, 3♀♀; Şahinkayası, 03.10.2022, 1♀; Ziyaret Kasabası, 25.10.2022, 1♀; Bağlıca, 26.07.2022, 7♀♀, 9♂♂.

Merzifon: Alişar, 20.08.2021, 1♂; Aktarla, 20.08.2021, 7♀♀, 34♂♂. **Taşova:** Kızgülören, 10.07.2021, 1♀, 1♂; Destek Stream, 28.06.2022, 3♂♂; Hacibey Village, 10.07.2021, 1♀, 2♂♂; Sepetli, 27.05.2021, 1♀. **Suluova:** Saygılı, 28.06.2021, 1♂; Deveci, 20.08.2021, 10♂♂, 3♀♀; Erarslan, 28.06.2021, 1♂; Yüzbeysi, 28.06.2021, 1♀.

Göynücek: Merkez, 03.09.2021, 8♂♂; Şarklı, 03.09.2021, 1♂; İlkizyaka, 03.09.2021 15♂♂ 6♀♀; Yeniköy, 03.09.2021, 2♀♀, 18♂♂.

Number of localites: 44

Distribution in Türkiye: Adana, Ağrı, Amasya, Ankara, Antalya, Bayburt, Bitlis, Bolu, Çanakkale, Denizli, Diyarbakır, Düzce, Edirne, Elâzığ, Erzurum, Eskişehir, İğdır, İzmir, Kahramanmaraş, Kars, Kayseri, Kütahya, Konya, Muğla, Muş, Nevşehir, Siirt, Tekirdağ, Uşak, Yozgat (Bingöl, 1978; Altınayar, 1981; Önder et al., 2006; Maral, 2007; Matocq & Özgen, 2010; Fent, 2011; Yazıcı, 2015; Yazıcı & Yıldırım, 2016; Özgen et al., 2020; Kaçar & Dursun, 2022; Kriyak, 2022).

Distribution in Palearctic Region: Europe: Albania, Andorra, Austria, Belgium, Bosnia Hercegovina, Bulgaria, Byelorussia, Croatia, Czech Republic, Denmark, Estonia, European Kazakhstan, European Türkiye, Finland, France, Germany, Greece, Hungary, Italy, Latvia, Liechtenstein, Luxembourg, Macedonia, Moldavia, The Netherlands, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Spain, Switzerland, Ukraine. **Asia:** Afghanistan, Armenia, Asian Kazakhstan, Asian Türkiye, Azerbaijan, China, Cyprus, Georgia, Iran, Kirgizia, Mongolia, Russia, Syria, Tadzhikistan, Turkmenistan, Uzbekistan. **North Africa:** Algeria, Madeira, Morocco, Tunisia. **Extrazonal:** North India, Nepal, Pakistan (Wagner, 1970-71; Kerzhner et al., 1999; Aukema et al., 2013; Luis, 2013; Heckmann et al., 2015).

Lygus pratensis (Linnaeus, 1758)

Material examined: **Amasya:** Dadı, 21.04.2021, 2♀♀; Şahinkayası (Kızılca), 21.04.2021, 1♂; İpekköy, 16.05.2021, 1♀; 12.09.2021, 1♂; 18.06.2022, 3♂♂, 1♀; Keşlik, 19.05.2021, 1♂; Sarıyar, 19.05.2021, 1♀; 22.06.2022, 1♀; Mahmatlar, 05.07.2021, 1♂, 2♀♀; İlyasköy, 05.07.2021, 5♂♂; Sevincer, 05.07.2021, 6♂♂, 2♀♀; Boğazköy, 15.08.2021, 1♂; Gözlek, 03.09.2021, 1♀; Karasenir, 09.09.2021, 1♀; Kapıkaya, 09.09.2021, 10♂, 3♀♀; Ormanbağları, 09.09.2021, 2♂♂, 2♀♀; Amasya Castle, 10.05.2022, 1♀; Ezinepazar, 22.06.2022, 4♂♂. **Taşova:** Hacibey Village, 10.07.2021, 1♀, 2♂♂; Kızgulduren, 10.07.2021, 1♀, 1♂; Boraboy Gölü, 29.08.2021, 3♀♀. **Göynücek:** Merkez, 03.09.2021, 5♂♂; Yeniköy, 03.09.2021, 2♀♀. **Merzifon:** Alişar, 20.08.2021, 2♂♂; Yalnız Village, 20.08.2021, 1♂; Aktarla, 20.08.2021, 22♂♂, 2♀♀; Çobanören Yolu, 14.09.2021, 1♂. **Suluova:** Erarslan, 28.06.2021, 1♂.

Number of localites: 31

Distribution in Türkiye: Adana, Adiyaman, Afyonkarahisar, Ağrı, Amasya, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bartın, Bilecik, Bingöl, Bitlis, Bolu, Burdur, Bursa, Çanakkale, Çankırı, Çorum, Denizli, Diyarbakır, Düzce, Edirne, Elazığ, Erzincan, Erzurum, Eskişehir, Gaziantep, Hakkâri, Hatay, İçel, İstanbul, İzmir, Isparta, Kahramanmaraş, Karabük, Karaman, Kars, Kastamonu, Kayseri, Kırıkkale, Kırklareli, Kırşehir, Kilis, Kocaeli, Konya, Kütahya, Malatya, Manisa, Mardin, Muğla, Muş, Nevşehir, Niğde, Osmaniye, Sakarya, Samsun, Siirt, Sinop, Şanlıurfa, Trabzon, Tunceli,

Uşak, Van, Yozgat, Zonguldak (Önder, 1976; Bingöl, 1978; Giray, 1980; Altunayar, 1981; Önder et al., 1981, 1984; Kiyak, 1990; Güçlü et al., 1995; Tamer et al., 1998; Kaçar, 2019; Beyaz, 2000; Lodos et al., 2003; Atlıhan & Özgökçe, 2003; Matocq et al., 2014; Yazıcı, 2015; Koca & Küttük, 2020; Çerçi & Özgen, 2021; Kaçar & Dursun, 2022).

Distribution in Palearctic Region: Europe: Albania, Andorra, Austria, Belgium, Bosnia Hercegovina, Bulgaria, Byelorussia, Croatia, Czech Republic, Denmark, Estonia, European Kazakhstan, European Türkiye, Finland, France, Great Britain, Germany, Greece, Hungary, Ireland?, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Malta, Moldavia, The Netherlands, Montenegro, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine. **Asia:** Afghanistan, Armenia, Asian Kazakhstan, Asian Türkiye, Azerbaijan, China, Cyprus, Georgia, Iran, Iraq, Israel, Kirgizia, Mongolia, Russia, Syria, Tadzhikistan, Turkmenistan, Uzbekistan. **North Africa:** Algeria, Canary Isles, Morocco. **Extralimital:** India (Kerzhner et al., 1999; Aukema et al., 2013; Heckmann et al., 2015).

Lygus rugulipennis Poppius, 1911

Material examined: **Amasya:** Dadi, 21.04.2021, 2♀; Uygur, 19.05.2021, 4♂♂, 5♀♀; Mahmatlar, 05.07.2021, 1♀; Sevincer, 05.07.2021, 1♀, 2♂♂; İlyasköy, 05.07.2021, 5♀♀; Karasenir, 09.09.2021, 2♂♂, 1♀; Kapıkaya, 09.09.2021, 2♀♀; Koza Mahallesi, 09.09.2021, 1♀; İpekköy, 16.05.2021, 1♀; 12.09.2021, 1♂, 1♀; Merkez, 12.10.2021, 1♀; Sanayi Sitesi, 24.08.2021, 1♂; Tatar, 19.05.2021, 1♀; 22.06.2022, 1♀; Gözlek, 03.09.2021, 1♂, 4♀♀. **Suluova:** Yedikir Baraj, 07.09.2022, 1♂; Yüzbeyi, 28.06.2021, 17♂♂, 7♀♀; Erarslan, 28.06.2021, 1♂; Deveci, 20.08.2021, 4♀♀, 3♂♂. **Merzifon:** Aktarla, 20.08.2021, 8♀♀, 2♂♂; Alişar, 20.08.2021, 1♀; Kara Mustafa Paşa Village, 14.09.2021, 2♀♀. **Taşova:** Kızgıldären Village, 10.07.2021, 9♂♂, 7♀♀; Yeşilyurt, 27.05.2021, 1♀. **Göynük:** İkizyaka, 03.09.2021, 2♀♀, 4♂♂; Yeniköy, 03.09.2021, 1♀.

Number of localites: 26

Distribution in Türkiye: Adana, Adiyaman, Afyonkarahisar, Ağrı, Aksaray, Ankara, Antalya, Artvin, Bartın, Bilecik, Bingöl, Bitlis, Bolu, Burdur, Bursa, Çankırı, Çanakkale, Çorum, Denizli, Düzce, Edirne, Elazığ, Erzincan, Erzurum, Eskişehir, Gaziantep, Giresun, Hakkâri, İstanbul, İzmir, Kahramanmaraş, Karabük, Karaman, Kars, Kastamonu, Kayseri, Kırıkkale, Kırklareli, Kırşehir, Kocaeli, Konya, Kütahya, Malatya, Muş, Nevşehir, Niğde, Sakarya, Samsun, Sinop, Şanlıurfa, Tekirdağ, Tunceli, Uşak, Van, Yozgat, Zonguldak (Önder, 1976; Bingöl, 1978; ; Giray, 1980; Önder et al., 1981; 1984; Özbek & Alaoğlu, 1987; Kiyak, 1990; Tamer et al., 1998; Yıldırım et al., 1999; Atlıhan & Özgökçe 2003; Lodos et al., 2003; Tezcan et al., 2010; Atlıhan et al., 2011; Sert et al., 2013; Yazıcı, 2015; Çerçi et al., 2018; Kaçar, 2019).

Distribution in Palearctic Region: Europe: Albania, Andorra, Austria, Belgium, Bosnia Hercegovina, Bulgaria, Byelorussia, Croatia, Czech Republic, Denmark, Estonia, European Kazakhstan, European Türkiye, Faeroe Isles, Finland, France, Great Britain, Germany, Greece, Hungary, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Montenegro, Moldavia, , The Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine. **Asia:** Armenia, Asian Kazakhstan, Asian Türkiye, Azerbaijan, China, Georgia, Iran, Korea, Mongolia, Russia. **Extralimital:** North America (Kerzhner et al., 1999; Aukema et al., 2013; Luis, 2013; Heckmann et al., 2015).

Genus: *Orthops* Fieber, 1858**Subgenus: *Orthops* Fieber, 1858*****Orthops* (s.str.) *basalis* (A. Costa, 1853)**

Material examined: **Amasya:** Amasya Castle, 28.04.2022, 2♀; Sarıyar, 22.06.2022, 1♀.

Number of localites: 2

Distribution in Türkiye: Ankara, Artvin, Burdur, Erzurum, Samsun (Önder et al., 2006; Yazıcı, 2015; Patlar et al., 2022).

Distribution in Palearctic Region: Europe: Albania, Andorra, Austria, Belgium!, Bulgaria, Byelorussia, Croatia, Czech Republic, Denmark, Estonia, European Türkiye, Finland, France, Great Britain, Germany, Greece, Hungary, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Montenegro, Moldavia, The Netherlands, Norway, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine. **Asia:** Asian Kazakhstan, Georgia, Iran, Russia, Saudi Arabia, Türkiye, Yemen. **North Africa:** Algeria, Canary Isles, Madeira. **Extralimital:** North America (Kerzhner et al., 1999; Aukema et al., 2013).

***Orthops* (s.str.) *campestris* (Linnaeus, 1758)**

Material examined: **Amasya:** Sarıyar, 22.06.2022, 1♀. **Suluova:** Saygılı, 28.06.2021, 1♂, 2♀; Erarslan, 28.06.2022, 1♀, 1♀; Yüzbey, 28.06.2022, 2♀.

Number of localites: 4

Distribution in Türkiye: Adana, Aksaray, Amasya, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bilecik, Bolu, Burdur, Bursa, Çanakkale, Çorum, Denizli, Erzincan, Erzurum, Eskişehir, Giresun, Hatay, İçel, İstanbul, İzmir, Kahramanmaraş, Karabük, Kastamonu, Kayseri, Kocaeli, Konya, Kütahya, Manisa, Nevşehir, Niğde, Sakarya, Samsun, Tokat, Uşak, Yozgat, Zonguldak (Önder, 1970; 1976; Giray, 1980; Önder et al., 1981; Özbek & Alaoğlu 1987; Güçlü et al., 1995; Lodos et al., 2003; Tezcan et al., 2010; Yazıcı, 2015).

Distribution in Palearctic Region: Europe: Albania, Andorra, Austria, Belgium, Bosnia Hercegovina, Bulgaria, Byelorussia, Croatia, Czech Republic, Denmark, Estonia, European Türkiye, Finland, France, Great Britain, Germany, Greece, Hungary, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Moldavia, The Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Spain, Sweden, Switzerland, Ukraine. **Asia:** Armenia, Asian Kazakhstan, Asian Türkiye Azerbaijan, Georgia, Iran, Russia. **North Africa:** Algeria, Morocco, Tunisia (Kerzhner et al., 1999; Aukema et al., 2013).

***Orthops* (s.str.) *kalmii* (Linnaeus, 1758)**

Material examined: **Amasya:** Sarıyar, 22.06.2022, 1♂; Kaşka Village, 26.07.2022, 1♀, 1♂. **Suluova:** Erarslan, 28.06.2021, 2♀; Saygılı, 28.06.2021, 2♀.

Number of localites: 4

Distribution in Türkiye: Adana, Afyonkarahisar, Ankara, Antalya, Aydın, Artvin, Bilecik, Bolu, Burdur, Bursa, Çankırı, Çorum, Denizli, Diyarbakır, Edirne, Erzurum, Eskişehir, İçel, İstanbul, İzmir, Hatay, Gaziantep, Kahramanmaraş, Karabük, Kastamonu,

Kayseri, Kocaeli, Mardin, Nevşehir, Osmaniye, Sakarya, Sinop, Tekirdağ, Trabzon, Uşak Yozgat, Zonguldak (Önder, 1970; 1976; Giray, 1980; Önder et al., 1981; Yıldırım et al., 1999; Lodos et al., 2003; Tezcan et al., 2010; Yazıcı, 2015).

Distribution in Palearctic Region: Europe: Albania, Andorra, Austria, Belgium, Bosnia Hercegovina, Bulgaria, Byelorussia, Croatia, Czech Republic, Denmark, Estonia, European Türkiye, Finland, France, Great Britain, Germany, Greece, Hungary, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Moldavia, The Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine. **Asia:** Armenia, Asian Türkiye, Azerbaijan, Cyprus, Georgia, Iran, Russia, Turkmenistan. **North Africa:** Algeria, Madeira, Morocco, Tunisia (Kerzhner et al., 1999; Aukema et al., 2013).

Subgenus: *Montanorthops* Ghauri, 1978

***Orthops* (*Montanorthops*) *forelii* Fieber, 1858**

Material examined: Amasya: Boğazköy, 28.06.2021, 1♀, 1♂; Keşlik, 22.06.2022, 1♀; Sarıyar, 22.06.2022, 1♀.

Number of localites: 3

Distribution in Türkiye: Erzurum, Kayseri (Önder et al., 2006; Yazıcı, 2015).

Distribution in Palearctic Region: Europe: Albania, Austria, Bosnia Hercegovina, Bulgaria, Czech Republic, France, Germany, Greece, Macedonia, Moldavia, Romania, Russia, Serbia, Slovakia, Spain, Switzerland, Ukraine. **Asia:** Armenia, Asian Türkiye, Azerbaijan, Georgia. (Kerzhner et al., 1999; Aukema et al., 2013; Derjanschi, 2016).

Genus: *Phytocoris* Fallén, 1814

Subgenus: *Ktenocoris* Wagner, 1954

***Phytocoris* (*Ktenocoris*) *varipes* Boheman, 1852**

Material examined: Amasya: İlyasköy, 05.07.2021, 1♀.

Number of localites: 1

Distribution in Türkiye: Artvin, Kırklareli (Önder et al., 1976).

Distribution in Palearctic Region: Europe: Albania, Austria, Belgium, Bosnia Hercegovina, Bulgaria, Byelorussia?, Croatia, Czech Republic, Denmark, European Kazakhstan, European Türkiye, France, Great Britain, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, Macedonia, Moldavia, Montenegro, The Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine. **Asia:** Armenia, Asian Türkiye, Azerbaijan, Georgia, Turkmenistan. Extralimital: North America (Kerzhner et al., 1999; Aukema et al., 2013).

Genus: *Polymerus* Hahn, 1831

Subgenus: *Polymerus* Hahn, 1831

***Polymerus* (s.str.) *holosericeus* Hahn, 1831**

Material examined: Amasya: Helvacı Mahallesi, 29.07.2022, 1♂.

Number of localites: 1

Distribution in Türkiye: Edirne, Kırklareli (Önder et al., 1984; 2006).

Distribution in Palearctic Region: Europe: Albania, Belgium, Bosnia Hercegovina, Bulgaria, Croatia, Czech Republic, European Türkiye, France, Germany, Greece, Hungary, Italy, Latvia?, Lithuania, Liechtenstein, Luxembourg, Moldavia, The Netherlands, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Switzerland, Ukraine. **Asia:** Azerbaijan, Georgia (Kerzhner et al., 1999; Aukema et al., 2013).

Subgenus: *Poeciloscytus* Fieber, 1858

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

Material examined: Taşova: Çaydibi, 27.05.2021, 1♀.

Number of localites: 1

Distribution in Türkiye: Bartın, Konya (Önder et al., 2006).

Distribution in Palearctic Region: Europe: Austria, Bulgaria, Denmark, European Türkiye, France, Germany, Hungary, Italy?, Latvia, Macedonia, Moldavia, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Sweden, Switzerland, Ukraine. **Asia:** Afghanistan, Armenia, Asian Kazakhstan, Asian Türkiye, Azerbaijan, China, Georgia, Iran, Kirgizia, Korea, Russia, Tadzhikistan, Turkmenistan, Uzbekistan (Kerzhner et al., 1999; Aukema et al., 2013).

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

Material examined: Amasya: Gözlek, 03.09.2021, 2♂♂.

Number of localites: 1

Distribution in Türkiye: Adana, Ağrı, Ankara, Antalya, Balıkesir, Bayburt, Burdur, Bursa, Çankırı, Çorum, Düzce, Erzincan, Erzurum, Eskişehir, Gaziantep, İstanbul, İğdır, Kars, Kastamonu, Kayseri, Kırklareli, Kocaeli, Konya, Manisa, Mersin, Nevşehir, Niğde, Sakarya, Yozgat, Zonguldak (Önder et al., 1981; 2006; Yazıcı, 2015).

Distribution in Palearctic Region: Europe: Albania, Austria, Bosnia Hercegovina, Bulgaria, Byelorussia, Croatia, Czech Republic, European Kazakhstan, European Türkiye, Finland, France, Germany, Greece, Hungary, Italy, Latvia?, Lithuania, Macedonia, Malta, Moldavia, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine. **Asia:** Armenia, Asian Kazakhstan, Asian Türkiye, Azerbaijan, China, Georgia, Iran, Israel, Japan, Kirgizia, Korea, Mongolia, Poland, Russia, Tadzhikistan, Turkmenistan, Uzbekistan. **North Africa:** Algeria, Azores, Morocco, Tunisia. **Extralimital:** North America (Kerzhner et al., 1999; Aukema et al., 2013; Carapezza & Mifsud, 2015; Heckmann et al., 2015).

Genus: *Notostira* Fieber, 1858

***Notostira erratica* (Linnaeus, 1758)**

Material examined: Suluova: Ayrancı, 28.06.2021, 1♀.

Number of localites: 1

Distribution in Türkiye: Adana, Ağrı, Ankara, Artvin, Bartın, Bilecik, Bursa, Çankırı, Erzurum, İzmir, Karabük, Kastamonu, Kayseri, Konya, Siirt, Yozgat (Lodos et al., 2003; Önder et al., 2006; Yazıcı, 2015).

Distribution in Palearctic Region: Europe: Albania, Andorra, Austria, Bosnia Hercegovina, Bulgaria, Byelorussia, Croatia, Czech Republic, Denmark, Estonia, European Kazakhstan?, Finland, France, Great Britain?, Germany, Greece, Hungary, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Macedonia, Montenegro, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine. **Asia:** Armenia, Asian Türkiye, Azerbaijan, Georgia, Iran, Russia, Turkmenistan (Kerzhner et al., 1999; Aukema et al., 2013).

Genus: *Stenodema* Laporte, 1833

Subgenus: *Stenodema* Laporte, 1833

Stenodema (s.str.) *sericans* (Fieber, 1861)

Material examined: **Taşova:** Boraboy Gölü, 29.08.2021, 1♀ 1♂; Sepetli, 27.05.2021, 1♀.

Number of localites: 2

Distribution in Türkiye: Bursa, Düzce, İstanbul, Kocaeli, Sakarya (Önder et al., 1981).

Distribution in Palearctic Region: Europe: Albania, Andorra, Austria, Bosnia Hercegovina, Croatia, France, Germany, Greece, Hungary, Italy, Liechtenstein, Macedonia, Poland, Romania, Serbia, Slovakia, Slovenia, Spain, Switzerland, Ukraine. **Asia:** Asian Türkiye (Önder et al., 1981; Kerzhner et al., 1999; Aukema et al., 2013).

Subgenus: *Brachystira* Fieber, 1858

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

Material examined: **Amasya:** Ezinepazar, 22.06.2022, 1♂; Tatar, 22.06.2022, 2♂♂, 1♀. **Merzifon:** Çavundur, 06.09.2022, 1♀. **Taşova:** Arpa Stream, 27.05.2021, 1♀; Kızgülüdürün, 10.07.2021, 3♀♀ 2 ♂♂; Borabay Gölü, 29.08.2021, 2♀♀ 1♂; Destek Stream, 28.06.2022, 1♂.

Number of localites: 7

Distribution in Türkiye: Adana, Afyonkarahisar, Ankara, Antalya, Artvin, Aydın, Balıkesir, Bitlis, Burdur, Bursa, Çanakkale, Diyarbakır, Elâzığ, Erzurum, Gaziantep, Hatay, İçel, İzmir, Kahramanmaraş, Kilis, Kırklareli, Konya, Kütahya, Muğla, Niğde, Rize, Sakarya, Samsun, Sinop, Tekirdağ, Tokat, Trabzon, Uşak, Yozgat, (Önder et al., 1981; Yardım, 1990; Lodos et al., 2003; Önder, 2006; Tezcan et al., 2010; Fent, 2011; Matocq et al., 2014; Yazıcı, 2015).

Distribution in Palearctic Region: Europe: Albania, Andorra, Austria, Belgium, Bosnia Hercegovina, Bulgaria, Byelorussia, Croatia, Czech Republic, Denmark, Estonia, European Kazakhstan, European Türkiye, Finland, France, Germany, Great Britain, Greece, Hungary, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Macedonia, Moldavia, Montenegro, Norway, The Netherlands, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine. **Asia:** Armenia, Asian Kazakhstan, Asian Türkiye, Azerbaijan, China, Georgia, Iran, Iraq, Israel,

Japan, Kirgizia, Korea, Lebanon, Russia, Syria, Tadzhikistan, Uzbekistan. **North Africa:** Algeria, Morocco, Tunisia (Wagner, 1970-71; Kerzhner et al., 1999; Goula & Serra, 2010; Aukema et al., 2013; Luis, 2013).

Genus: *Trigonotylus* Fieber, 1858

***Trigonotylus pulchellus* (Hahn, 1834)**

Material examined: **Amasya:** İlyasköy, 05.07.2021, 2♀♀; Mahmatlar, 05.07.2021, 2♀♀; Kaşka Village, 26.07.2022, 1♀. **Taşova:** Çaydibi, 27.05.2021, 2♀♀; Arpa Stream, 27.05.2021, 1♀; Kızgülüdür, 10.07.2021, 2♀♀, 1♂.

Number of localites: 1

Distribution in Türkiye: Adana, Ağrı, Aksaray, Ankara, Antalya, Artvin, Bartın, Çorum, Diyarbakır, Elazığ, Erzurum, Eskişehir, Gaziantep, Hatay, Kahramanmaraş, Kayseri, Manisa, Mardin, Mersin, Nevşehir, Niğde, Osmaniye, Siirt, Yozgat, Zonguldak (Önder et al., 2006; Matocq & Özgen 2010, Matocq et al., 2014, Yazıcı, 2015; Çerçi et al., 2018).

Distribution in Palearctic Region: Europe: Albania, Austria, Belgium, Bulgaria, Byelorussia, Croatia, Czech Republic, European Türkiye, France, Germany, Greece, Hungary, Italy, Macedonia, Moldavia, Montenegro, The Netherlands, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Ukraine. North Africa: Algeria, Egypt, Morocco, Tunisia. **Asia:** Armenia, Asian Kazakhstan, Asian Türkiye, Azerbaijan, China, Georgia, Iran, Iraq, Israel, Jordan, Kirgizia, Tadzhikistan, Uzbekistan (Wagner, 1970-71; Kerzhner et al., 1999; Goula & Serra, 2010; Aukema et al., 2013; Luis, 2013).

Genus: *Camponotidea* Reuter, 1879

***Camponotidea saundersi* (Puton, 1874)**

Material examined: **Amasya:** Kaleköy, 28.04.2021, 2♀♀, 67♂♂; Sarıyar, 19.05.2021, 2♂♂. **Taşova:** Çalkaya, 27.05.2021, 21♀♀; Çaydibi, 27.05.2021, 6♀♀; Yeşilyurt, 27.05.2021, 8♂♂, 1♀.

Number of localites: 5

Distribution in Türkiye: Ankara, Aydın, Balıkesir, Bursa, Çanakkale, Çankırı, Çorum, Erzincan, Gaziantep, Hatay, İzmir, Muğla, Osmaniye, Siirt, Tekirdağ (Önder et al., 2006).

Distribution in Palearctic Region: Europe: Albania, Croatia, European Türkiye, Greece, Italy, Macedonia, Montenegro, Serbia, Slovenia. **Asia:** Asian Türkiye, Iran, Israel, Syria (Kerzhner et al., 1999; Önder et al., 2006; Aukema et al., 2013; Mohammadi et al., 2018; Dioli & Samaritakis, 2021).

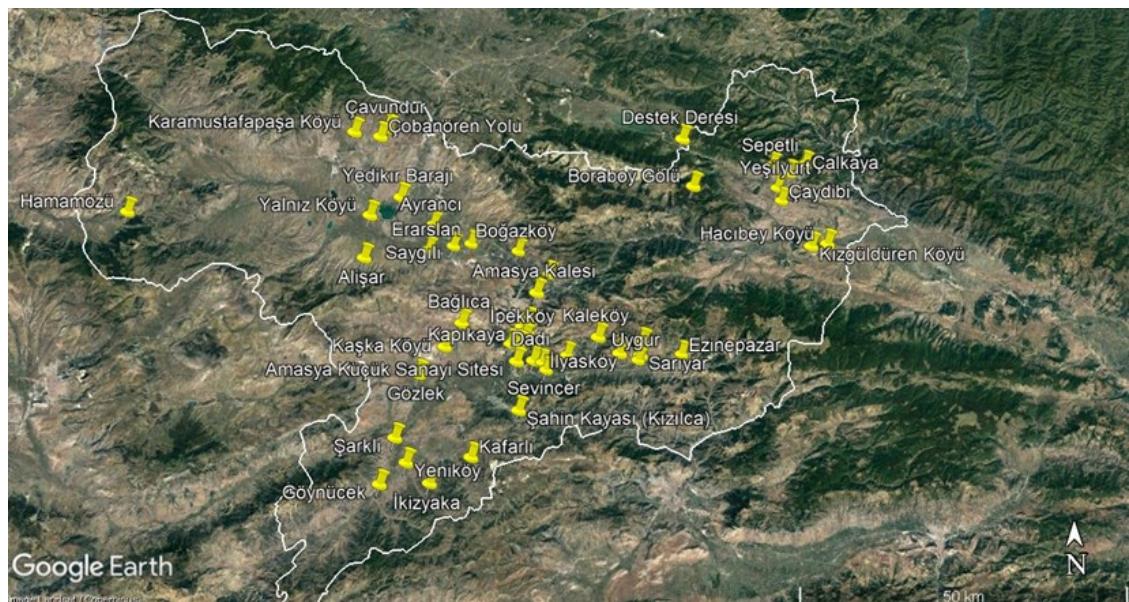


Figure 1. The study field and sampling localities (from google earth)

Table 1. Habitats of the samples collected from the research area

Species	Habitats
<i>Adelphocoris detritus</i>	<i>Trifolium</i> sp.
<i>Adelphocoris lineolatus</i>	<i>Medicago sativa</i> and <i>Rhinanthus angustifolius</i>
<i>Adelphocoris quadripunctatus</i>	<i>Medicago sativa</i> , <i>Achillea millefolium</i> , <i>Hyacinthus</i> sp. and <i>Typha angustifolia</i>
<i>Adelphocoris vandalicus</i>	<i>Medicago sativa</i>
<i>Brachycoleus decolor</i>	<i>Onobrychis viciifolia</i> , <i>Gypsophila bicolor</i> and <i>Rhinanthus angustifolius</i>
<i>Aphanosoma italicum</i>	<i>Urtica dioica</i> , <i>Medicago sativa</i> and <i>Rhinanthus angustifolius</i>
<i>Closterotomus norwegicus</i>	<i>Ammi</i> sp., <i>Medicago sativa</i> , <i>Hordeum vulgare</i> , <i>Malus sylvestris</i> <i>mitis</i> and <i>Cotoneaster nummularia</i>
<i>Closterotomus fulvomaculatus</i>	
<i>Closterotomus krueperi</i>	Single-year herbaceous plants and <i>Rhinanthus angustifolius</i>
<i>Lygus gemellatus</i>	<i>Onobrychis montana</i> , <i>Tanacetum balsamita</i> , <i>Artemisia</i> sp., <i>Achillea millefolium</i> ,
<i>Lygus pratensis</i>	<i>Triticum durum</i> , <i>Artemisia campestris</i> , <i>Mentha</i> sp., <i>Thymus</i> sp. and <i>Urtica dioica</i>
<i>Lygus rugulipennis</i>	<i>Triticum durum</i> , <i>Artemisia campestris</i> , <i>Mentha</i> sp., <i>Thymus</i> sp. and <i>Urtica dioica</i>
<i>Orthops (Montanorthops) forelii</i>	<i>Rhinanthus angustifolius</i> and Single-year herbaceous
<i>Orthops (Orthops) basalis</i>	<i>Medicago sativa</i>
<i>Orthops (Orthops) campestris</i>	<i>Medicago sativa</i> and <i>Urtica dioica</i>
<i>Orthops (Orthops) kalmii</i>	<i>Cupressus</i> sp., <i>Salix</i> sp. and <i>Medicago sativa</i>
<i>Capsus ater</i>	Through the weeds found by the roadside
<i>Polymerus (Poeciloscytus) brevicornis</i>	<i>Quercus ithaburensis</i> and dam edge
<i>Polymerus (Poeciloscytus) cognatus</i>	<i>Medicago sativa</i>
<i>Polymerus (Polymerus) holosericeus</i>	<i>Medicago sativa</i>
<i>Liochoris tripustulatus</i>	<i>Verbascum</i> sp. and <i>Medicago sativa</i>
<i>Notostira erratica</i>	<i>Medicago sativa</i>
<i>Stenodema (Brachystira) calcarata</i>	<i>Medicago sativa</i> , <i>Verbascum</i> sp., <i>Astragalus</i> sp. and <i>Quercus ithaburensis</i>
<i>Stenodema (s.str.) sericans</i>	<i>Verbascum</i> sp., <i>Astragalus</i> sp. and <i>Papaver somniferum</i>
<i>Camponotidea saundersi</i>	<i>Medicago sativa</i> , <i>Verbascum</i> sp. and <i>Quercus ithaburensis</i>

CONCLUSION AND DISCUSSION

In this study, the research material consists of samples collected from 54 different localities around Amasya province between 2020 and 2022. As a result of the determination of the material collected in Amasya province, 29 species belonging to 15 genera of Mirinae subfamily were recorded. Of those, 22 species are new records for the research area of Amasya.

The rare species *Polymerus holosericeus* was known only from Edirne and Kırklareli from the Thrace Region of Türkiye (Önder et al., 1984; 2006). It is widely distributed in Europe and only from Azerbaijan and Georgia in Asia. In this study, it was recorded for the first time from Anatolia of Türkiye. The species *Adelphocoris detritus*, *Adelphocoris quadripunctatus*, *Capsus ater*, *Closterotomus krueperi* and *Orthops forelli* are new records for the Miridae faunae of the Black Sea Region. The species *Closterotomus fulvomaculatus*, *Phytocoris varipes*, *Polymerus brevicornis*, *Notostira erratica* and *Stenodema sericans* are also new records for the Miridae faunae of Central Black Sea Region.

Among the species *Polymerus holosericeus*, *Polymerus brevicornis*, *Adelphocoris detritus*, *Phytocoris varipes* and *Orthops forelli* are rarely distributed and *Adelphocoris lineolatus*, *Lygus gemellatus*, *L. pratensis*, *L. rugulipennis* are widely distributed and frequently found in Türkiye and also in our present study are. The relationship of the samples with the plants is given in table 1.

REFERENCES

- Altınayar, G., 1981, Studies on the detection of insect fauna in grain fields of the Central Anatolian Region. *Plant Protection Bulletin*, 21(2):53-88.
- Atlıhan, R. & Özgökçe, M.S., 2003, Determination of harmful and beneficial species in sugar beet fields of Van province. *Yüzüncü Yıl University, Faculty of Agriculture, Journal of Agricultural Sciences*, 13(1): 9-14.
- Atlıhan, R., Özgökçe, M.S., Kaydan, M.B., Kasap, İ., Kılınçer, N., Kiyak, S., & Akköprü, E.P., 2011., Vangölü havzası ceviz ağaçlarındaki böcek faunası. *Turkish Journal of Entomology*, 35(2): 349-360.
- Aukema, B., Duffels, J.P., & Báez, M., 2006, A checklist of the Heteroptera of the Canary islands (Insecta). *Denisia* 19, zugleich Kataloge der OÖ. Landesmuseen 50(2006): 755-774.
- Aukema, B., Rieger, C. & Rabitsch, W., 2013, Catalogue of the Heteroptera of the Palaearctic Region. VI. Supplement. The Netherlands Entomological Society, Amsterdam.
- Beyaz, G., 2000, Manisa region culture oregano (*Origanum* spp.) research on the determination of insect fauna related to the order Heteroptera in production areas. Ege University, Institute of Natural Sciences, (Master's Thesis), 52 pp.
- Bingöl, C.M., 1978, Research on insect species, their recognition and damages belonging to the Miridae and Curculionidae families that cause damage to cultivated feed plants in the Southeastern Anatolia Region. *Regional Agricultural Struggle Research Institute*, 4: 7, Diyarbakır. 80 pp.
- Carapezza, A., & Mifsud, D. 2015, New records of true bugs (Hemiptera, Heteroptera) from the Maltese Islands. *Bulletin of the Entomological Society of Malta*, 7: 27-50.
- Carapezza, A., & Kment, P. 2018, *Psallus thomashenryi* sp. n. and *Psallus lucanicus* from Turkey (Hemiptera, Heteroptera, Miridae). *ZooKeys*, 796 (1955): 253-265.
- Cassis, G., Wall, M.A., & Schuh, R.T. 2007. Insect biodiversity and industrialising the taxonomic process: the plant bug case study (Insecta: Heteroptera: Miridae). *Systematics Association Special Volume*, 72, 193.
- Çerçi, B. & Koçak, Ö., 2016, Contribution to the knowledge of Heteroptera (Hemiptera) fauna of Türkiye. *Journal of Insect Biodiversity*, 4 (15): 1-18.
- Çerçi, B. & Dursun, A., 2017, Isometopus anlasi sp. nov. (Heteroptera: Miridae) from Türkiye. *Zootaxa*, 4353(2): 378-384.
- Çerçi, B., Özgen, İ., & Dioli, P., 2018, Additional faunistic notes on heteroptera (Hemiptera: Insecta) in East Anatolia (Türkiye).

- Journal of Entomology and Zoology Studies*, 6 (1): 1225-1231.
- Çerçi, B., Koçak Ö. & Tezcan, S. 2019, Two new species and ten new records of Heteroptera from Türkiye, including the first record of the potential alien *Campylomma miyamotoi* in the western Palaearctic. *Acta Entomologica Musei Nationalis Pragae*, 59 (1): 295-306.
- Çerçi, B., Tezcan, S., Koçak, Ö. 2020, Review of Reuteria Puton, 1875 (Heteroptera: Miridae) species present in Lodos Entomological Museum, Türkiye (LEMT). *Zootaxa*, 4878(1): 159-168.
- Çerçi, B., & Özgen, İ., 2021, Contribution to the knowledge of Heteroptera (Hemiptera) fauna of Elâzığ province with a new record for the fauna of Türkiye. *J. Het. Turk.*, 3(1): 50-75.
- Çerçi, B., Gorczyca, J. & Koçak, Ö., 2021, Description of new Miridae and Tingidae species (Hemiptera: Heteroptera) and new records from southern Türkiye. *Zootaxa*, 4949 (2): 312-322.
- Çerçi, B., Gültekin, N., Gözüaçık, C., Güçlü, M.G., & Doğan, D., 2022, Contributions to the Heteroptera (Hemiptera) fauna of Anatolia with new records for Türkiye. *Journal of Insect Biodiversity*, 36(1): 1-35.
- Çevik, T., 1996, Research on the detection of harmful and beneficial fauna in walnut trees of the Central Anatolian Region. *Plant Protection Bulletin*, 36 (1-2): 55-72.
- Derjanschi, V. 2016, *Orthops forelii* Fieber 1858 (Heteroptera, Miridae) -new species in the fauna of the Republic of Moldova. In Sustainable use, protection of animal world and forest management in the context of climate change (122-122).
- Dioili, P., & Samaritakis, F., 2021, *Camponotidea fieberi* Reuter, 1879 (Hemiptera: Miridae), a genus and species new for the Island of Crete. *Heteroptera Poloniae – Acta Faunistica*, 15: 69-70.
- Dursun, A., & Fent, M., 2017, Type Localities of Heteroptera (Insecta: Hemiptera) from Türkiye. *Zootaxa*, 4227(4): 451-494.
- Fent, M., 2011, Contributions to the Heteroptera (Insecta: Hemiptera) Fauna of Gökçeada and Bozcaada. *Trakya Univ J Sci*, 12(1): 35-46.
- Giray, H., 1980, In the Aegean Region, Anise (*Pimpinella anisum* L.) list of pests. *Turkish Journal of Plant Protection*, 4(1): 49-57.
- Goula, M. & Serra, R.J.A., 2010, Checklist of Heteroptera of Catalonia (Insecta, Hemiptera, Heteroptera) Version 1. Centre de recursos de biodiversitat animal, 40 pp.
- Güçlü, Ş., Hayat, R. & Özbek, H., 1995, Olive (*Olea europaea* L.) in Artvin region.) phytophagous and predator insect species found in. *Turkish Journal of Entomology*, 19(3): 231-240.
- Günther, H., & Strauss, G., 2018, *Reuteria winkelmanni* sp. nov., eine neue Weichwanze aus der Türkei (Heteroptera: Miridae). *Entomologische Zeitschrift Schwanfeld*, 128(3): 153-155.
- Heckmann, R. & Strauss, G., Rietschel, S., 2015, Die Heteropterenfauna Kretas. *Carolinea*, 73: 83-130.
- Henry, T.J., 2017, *Biodiversity of Heteroptera*. In: Foottit, R.G. & Adler, P.H. (Eds.), *Insect Biodiversity*. Science and Society. Vol. I. 2nd Edition. Wiley-Blackwell, Oxford, pp. 279-335.
- Hoberlandt, L. 1955, Results of the Zoological Scientific Expedition of the National Museum in Praha to Türkiye: 18. Hemiptera IV, Terrestrial Hemiptera-Heteroptera of Turkey. *Acta Entomologica Musei Nationalis Pragae*, Supplementum, 3 (1955), 1-264 + 12 pls.
- Kaçar, G., 2019, Harmful, beneficial species and their bioecology determined in Seben (Bolu) apple orchards. *International Journal of Agriculture and Wildlife Sciences*, 5(2): 286-291.
- Kaçar, G., & Dursun, A., 2022, Comparative diversity of Heteroptera (Hemiptera) in fruit orchards. *Turkish Journal of Zoology*, 46(3): 289-297.
- Kerzhner, I.M., 1999, Miridae Hahn, 1833.Pp: 1-576. In: Aukema, B. & Rieger, Ch. (eds) *Catalogue of the Heteroptera of the Palearctic Region*, Vol. 3, Cimicomorpha II. The Netherlands Entomological Society, Amsterdam, xiv + 576 pp.
- Kıvan, M. & Dirik, E., 2016, Edirne ili bugday ekiliş alanlarında tespit edilen Heteroptera türleri. *Türkiye Entomoloji Bülteni*, 6(4): 357 – 369.

- Kiyak, S., 1990, Research on the ecofaunistics and systematics of adults of land Heteroptera of the Binboğa mountains (Kahramanmaraş- Kayseri). PhD Thesis, Gazi University, Institute of Science, Ankara, 172 pp.
- Kiyak, S., Özsaraç, Ö. & Salur, A., 2004, Additional notes on the Heteroptera fauna of Nevşehir province (Türkiye). *Gazi University Journal of Science*, 17(1): 21-29.
- Kiyak, S. & Akar, E., 2010, Faunistic study of terrestrial Heteroptera of Çaldağ (Ankara, Türkiye). *Munis Entomology Zoology*, 5: 1104-1118.
- Kiyak, S., 2022, Preliminary list of species Heteroptera (Hemiptera) recorded on *Juglans regia* L. in Türkiye. *J. Het. Turk.*, 4 (1):14-18.
- Koca, A.S., & Kütük, H., 2020, Determination of harmful and beneficial species in pumpkin fields of Düzce province. *International Journal of Agriculture and Wildlife Sciences*, 6 (2): 222-228.
- Küçükbasmacı, İ., & Kiyak, S., 2015, A study on the fauna of Heteroptera of Ilgaz mountains (Kastamonu, Çankırı) with a new record for Türkiye. *Nevşehir Bilim ve Teknoloji Dergisi*, 4(1): 1-33.
- Lodos, N., Önder, F., Pehlivan, E. & Atalay, R., 1978, *Ege ve Marmara Bölgesinin zararlı böcek faunasının tespiti üzerinde çalışmalar [Curculionidae, Scarabaeidae (Coleoptera); Pentatomidae, Lygaeidae, Miridae (Heteroptera)]*. (The study of the harmful insects fauna of Marmara and Aegean regions). T.C. Gıda-Tarım ve Hayvancılık Bakanlığı Zirai Mücadele ve Zirai Karantina Genel Müdürlüğü, Ankara, 301 pp.
- Lodos, N., Önder, F., Pehlivan, E., Atalay, R., Erkin, E., Karsavuran, Y. & Tezcan, S., 1989. *Research on the detection of harmful and beneficial insect fauna of the Mediterranean region in agriculture [Curculionidae, Scarabaeidae (Coleoptera), Plataspidae, Cydnidae, Acathosomatidae, Scutelleridae, Pentatomidae, Lygaeidae, Miridae (Hemiptera)]*. Ege University, Faculty of Agriculture, Department of Plant Protection, Bornova, İzmir, 75 pp.
- Lodos, N., Önder, F., Pehlivan, E., Atalay, R., Erkin, E., Karsavuran, Y., Tezcan, S. & Aksoy, S., 2003, *Faunistic studies on Miridae (Heteroptera) of Western Black Sea, Central Anatolia and Mediterranean regions of Turkey*. Ege University, İzmir, ix + 85 pp.
- Luis, V., 2013, *Heteroptera, Equipo de Heterópteros de insectarium biodiversidad virtual. BV news, Naticias de Biodiversidad y Geodiversidad Para el Naturalista*, 46 pp.
- Maral, H. & Özgökçe, M. S., 2021, Bitlis ve Çevresindeki Yem Bitkileri Ekiliş Alanlarında Bulunan Zararlı ve Yararlı Böcek Türlerinin Saptanması. *Dicle University Journal of the Institute of Natural and Applied Science*, 10(2): 221-234.
- Matocq, A. 2019a, Un nouveau *Psallus* Fieber, 1858 de Turquie et de Jordanie. *Revue de l'Association Roussillonnaise d'Entomologie*, 28(2): 92-96.
- Matocq, A., 2019b, Un nouveau *Psallus* Fieber, 1858 de Turquie. *Revue de l'Association Roussillonnaise d'Entomologie*, 28(4): 223-225.
- Matocq, A. & Özgen, İ., 2010, A preliminary list of Heteroptera collected in Mardin and Siirt provinces from South-Eastern Anatolia of Türkiye (Hemiptera). *Munis Entomology Zoology*, 5: 1011-1019.
- Matocq, A., Pluot-Sigwalt, D. & Özgen, İ., 2014, Terrestrial Hemiptera (Heteroptera) collected in South-East Anatolia (Diyarbakır, Mardin and Elazığ Provinces) (Türkiye): Second List. *Munis Entomology Zoology*, 9(2): 884-930.
- Mohammadi, S., Hosseini, R., & Hajizadeh, J. 2018, First report of *Camponotidea saundersi* (Hemiptera, Heteroptera, Miridae) from Iran. *Journal of Entomological Society of Iran*, 38(2): 247-251.
- Önder, F., 1970, *Research on the recognition of plant pest Mirinae (Hemiptera: Miridae) species in and around Izmir province, the Plants from which they are collected, their distribution and brief biology*. Ege University faculty of agriculture, department of entomology and agricultural zoology, İzmir, 197 pp.
- Önder, F., 1976, Systematic studies on Miridae (Hemiptera) fauna of Turkey. Ege University Faculty of Agriculture, Department of Entomology and Agricultural Zoology, Associate Professor Thesis, İzmir. 506 pp.
- Önder, F., Ünal, A. & Ünal, E., 1981, Hemiptera fauna collected by light traps in some districts of northwestern part of Anatolia. *Türkiye Bitki Koruma Dergisi*, 5(3): 151-169.

- Önder, F., Ünal, E., & Ünal, A., 1984, Heteropterous insects collected by light traps in Edirne (Türkiye). *Turkish Journal of Plant Protection*, 8(4): 215-224.
- Önder, F. & Lodos, N., 1986, *Heteroptera Türkiye ve Palearktik Familiaları Hakkında Genel Bilgi (General Information about Heteroptera Türkiye and Palearctic families)*. Ege Üniversitesi Ziraat Fakültesi Yayınları, Bornova, İzmir, 111 pp.
- Önder, F., Karsavuran, Y. & Tezcan, S., 1990, Research on the Hemiptera fauna of Turkey, which is of potential importance in weed warfare. *Environmental Biology Symposium*, 15 s, Ankara.
- 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, *Türkiye Heteroptera (Insecta) kataloğu. (Heteroptera (Insecta) catalogue of Turkey)*. Ege Üniversitesi Ziraat Fakültesi, İzmir, 164 pp.
- Özbek, H. & Alaoğlu, Ö., 1987. Phytophagous Hemiptera species found on potato plant in and around Erzurum. *Plant Protection Bulletin*, 27(3-4): 227-238.
- Özgen, İ., Matocq, A., & Örgel, S., 2020, The Some Miridae (Hemiptera: Heteroptera) Family Species by Collected by Light Traps in Western Türkiye. *J. Het. Turk.*, 2(2): 140 -143
- Özsaraç, Ö. & Kiyak, S., 2001, A study on the Hemiptera fauna of Bozcaada (Çanakkale Province). *Turkish Journal Zoology*, 25: 313 -322.
- Pagola-Carte, S., 2019, Description of two new species of *Phytocoris* from Türkiye (Hemiptera: Heteroptera: Miridae). *Heteropterus Revista de Entomología*, 19(2): 269-284.
- Patlar, G., Avcı, M., & Oğuzoğlu, Ş., 2022, Burdur kent merkezi peyzaj alanlarında odunsu bitki taksonlarında fitofag böcekler ve avcılar. *Turkish Journal of Forestry*, 23 (3): 203-211.
- Ribes, J., & Goula, M., 1986, *Hamburgisches Zoologisches Museum und Institut, Dr E. Wagner's Entomological Collection: Miridae (Insecta, Heteroptera) Preserved in the Zoological Museum Hamburg (FRG)*.
- Sanchez, J. A. & Cassis, G., 2018, Towards solving the taxonomic impasse of the bio-control plant bug subgenus *Dicyphus* (*Dicyphus*) (Insecta: Heteroptera: Miridae) using molecular, morphometric and morphological partitions. *Zoological Journal of the Linnean Society*, 184(2): 330-406.
- Sert, O., Fırat S., & Şabanoğlu, B., 2013, A Study on Determination of Insect Fauna of Başkomutan Historical National Park Afyonkarahisar, Türkiye. *Hacettepe Journal of Biology and Chemistry*, 41(3): 259-277.
- Tamanini, L., 1981. Gli Eterotteri della Basilicata e della Calabria (Italia Meridionale) (Hemiptera Heteroptera). *Memorie del Museo civico di Storia naturale di Verona*, 3: 1-164.
- Tamer, A., Has, A., Aydemir, M. & Çalışkaner, S., 1998, Faunistic studies on harmful and beneficial insects observed in edible legumes (Lentils, Chickpeas, Beans) in the Central Anatolian Region. *Plant Protection Bulletin*, 38(1-2): 65-90.
- Tezcan, S. & Önder, F., 1999, Heteropterous insects associated with cherry trees in Kemalpaşa district of İzmir, Türkiye. *Journal of Ege University Faculty of Agriculture*, 36 (1-3): 119-124.
- Tezcan, S. & Önder, F., 2003, Researches on the fauna of ecological cherry orchards of Izmir and Manisa provinces: An evaluation on the species belonging to the Hemiptera order. *Anatolia*, 13 (1): 124-131.
- Tezcan, S., 2020, Analysis of the insect fauna of Türkiye and suggestions for future studies. *Munis Entomology & Zoology*, 15(2): 690-710.
- Tezcan, S., Tezcan, F. ve Gülperçin, N., 2010. *4000 Insect Species from Izmir*. Egetan Printing Publishing Promotion Limited Company, İzmir, 250 s.
- Tolga, M. F., & Yoldaş, Z., 2019, Hemiptera species determined in almond orchards in Mugla and Manisa provinces of Türkiye and population fluctuation of *Monosteira unicostata* (Hemiptera: Tingidae). *Academic Journal of Agriculture*, 8(2): 209-216.
- Wagner, E., 1970- 1971, *The Miridae Hahn, 1831, of the Mediterranean and Macaronesian islands (Hemiptera: Miridae)*. Part 1. Ent. Depend. Mus. Tierk. Dresden, 37: 484.
- Yardım, N., E., 1990, Systematic researches on the fauna of Stenodemini (Hemiptera:

- Miridae: Mirinae) of Türkiye. Ege University Institute of Natural Sciences, İzmir (Master's Thesis), 113 pp.
- Yaşarakıncı, N. & Hıncal, P., 1997, Research on harmful and beneficial species found in tomatoes, cucumbers, peppers and lettuce grown under cover in Izmir province and their population densities. *Plant Protection Bulletin*, 37(1-2): 79-89 s.
- Yaşarakıncı, N. & Hıncal, P., 2000, Studies on pests found in eggplants grown under cover in Izmir province, as well as their natural enemies and population developments. *Plant Protection Bulletin*, 40(1-2): 29-48.
- Yayla, A., 1983, *Research on the recognition of beneficial Hemipters found in the olive trees of Antalya and its surroundings, the Plants from which they are collected and their activities*. Biological Struggle Research Institute, Antalya, 58 pp.
- Yazıcı, G., 2015, Faunistic and Systematic Studies on Miridae (Hemiptera: Heteroptera) Species in Erzurum Province (PhD Thesis, Atatürk University, 2015). National Thesis Center, 392068.
- Yazıcı, G., & Yıldırım, E., 2016, Distributional data on Mirini (Hemiptera: Heteroptera: Miridae: Mirinae) fauna of Türkiye. *Linzer Biologische Beiträge*, 48 (1): 859-886.
- Yazıcı, G., Özdemir, M. & Yıldırım, E., 2019, Overview of the Distribution and Biogeography of Miridae (Hemiptera: Heteroptera) in Turkey. *Entomofauna*, 40/2: 487-500.
- Yıldırım, E., Özbek, H. & Önder, F., 1999, A research on Hemiptera species caught in light traps in the campus area of Atatürk University (Erzurum). *Turkish Journal of Entomology*, 23 (3): 225-228.
- Yücel, S.A., & Kivan, M., 2018, Harmful Hemiptera and Hymenoptera species found in the rose garden of Istanbul Goztepe Park. *Tekirdağ Faculty of Agriculture Journal*, 15 (2): 95-100.

About distribution, host plant and habitat preferences of the Alydidae (Hemiptera, Heteroptera) species of Türkiye

Suat Kiyak

Gazi University, Faculty of Sciences, Department of Biology, 06500, Ankara/Türkiye
E-mail: skiyak@gazi.edu.tr ORCID iD: 0000-0001-8167-8283

ABSTRACT: In this study, some habitats, host plants, altitude and distribution information of 8 species belonging to five genera of Türkiye Alydidae (Hemiptera.Heteroptera) species are given.

KEY WORDS: Heteroptera, Alydidae, host plants, altitude, distribution, Türkiye.

To cite this article: Kiyak, S., 2023, About distribution, Host plant and habitat preferences of the Alydidae (Hemiptera, Heteroptera) species of Türkiye, *J.Het.Turk.*, 5(1):195-199

DOI: 10.5281/zenodo.7986901

To link to this article: <https://www.j-het.org/wp-content/uploads/2023/05/V51-A9.pdf>

Received: Apr 28, 2023; **Revised:** May 16, 2023; **Accepted:** May 26, 2023; **Published online:** May 31, 2023

INTRODUCTION

Terrestrial heteropteran species have different habitat and feeding preferences, just as Alydidae (Hemiptera: Heteroptera) species have habitat preferences and phytophagous feeding preferences, and their relationships with plants also vary.

Alydidae is a family belonging to the Heteroptera suborder, which has about 50 genera and 200 species worldwide. In the Palaearctic Region; 69 species

belonging to 26 genera have been identified (Dolling, 2006).

In Turkey, 7 species belonging to five genera have been recorded so far. Since 1864, records of Turkey's Alydidae family have been included in the literature. There are studies on Alydidae family species in Turkey: Fieber, 1864; Horváth, 1901; Fahringer, 1922; Kiritshenko, 1918, 1924; Hoberlandt 1955; Seidenstücker 1957; Linnauori, 1965; Wagner, 1966; Tuatay et al.,



1972; Ural et al., 1973; Altınayar, 1981; Horváth, 1899, *Camptopus lateralis* Pehlivan, 1981; Zümreoglu & Akbulut, 1987; Kiyak, 1990a, b, 1993; Çağlar, 1992; Önder et al., 2006; Dursun, 2009; Dursun, et al., 2010; Çerçi et al., 2016; Çerçi & Koçak, 2017; Fent & Dursun, 2019; Zengin & Dursun, 2019; Akman & Dursun, 2021.

As a result of these studies, *Alydus calcaratus* (Linnaeus, 1758), *Camptopus bifasciatus* Fieber, 1864, *Camptopus illustris*

(Germar, 1817), *Camptopus tragacantheae* (Kolenati, 1845), *Heegeria tangirica* (Saunders, 1877); *Megalotomus ornaticeps* (Stål, 1858), *Namausus sordidatus* (Stål, 1858). These studies on Turkey are reviewed and the habitats, host plant preferences, altitude and distribution information of 8 species belonging to five genera of Turkey Alydidae are given below.

RESULTS

Hemiptera Linnaeus, 1758

Heteroptera Latreille, 1810

Family ALYDIDAE Amyot & Serville, 1843

Subfamily ALYDINAE Amyot & Serville, 1843

***Heegeria* Reuter, 1881**

***Heegeria tangirica* (Saunders, 1877)**

Habitat and hostplant: It is reported to live in Fabaceae (Carapezza & Mifsud, 2015). It was collected on a rock in Turkey. (Çerçi & Koçak, 2017).

Distribution in Turkey: İzmir: Çeşme, İldırı; Muğla: Bodrum, Gümüşlük (Çerçi & Koçak, 2017).

***Alydus* Fabricius, 1803**

***Alydus calcaratus calcaratus* (Linnaeus, 1758)**

Habitat: In the herbaceous steppe, forest, scrub, forest-steppe transition zone, *Quercus* grove and roadside

Hostplants: *Astragalus* sp., *Sarothamnus scoparius*, *Pinus nigra*, *Corylus*, *Sarothamnus scoparius*, *Hordeum* sp.

Phenology and altitude: Juni, July; 885-1500m.

Distribution in Turkey: Adana, Amasya, Ankara (Çubuk, Beynam, Kızılcahamam-Soğuksu national park), Artvin, Çorum, Giresun, Izmir, Kahramanmaraş, Kayseri (Hoberlandt, 1955; Pehlivan, 1981; Kiyak, 1990a; Önder et al., 2006; Dursun, 2009; Dursun, et al., 2010; Fent & Dursun, 2019; Zengin & Dursun, 2019; Akman & Dursun, 2021).

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

***Camptopus bifasciatus* Fb., 1864**

Habitat: In the vegetable field, xerophilic steppe, steppe transition zone and roadside.

Hostplants: *Cardaria draba* and weeds.

Phenology and altitude: July, 1220m

Distribution in Turkey: Amasya, Ankara (Çubuk damlake); Elazığ (Hazar lake), Giresun, Konya (Ereğli), Malatya, Tokat (Fieber, 1864; Hoberlandt, 1955; Pehlivan, 1981; Kiyak, 1990b; Önder et al., 2006; Dursun, 2009; Dursun et al., 2010; Zengin & Dursun, 2019).

***Camptopus illustris* Hv., 1899**

Habitat: In the *Quercus* grove

Hostplant: *Centaurea aggregata aggregata*

Phenology and altitude: July, 1120m

Distribution in Turkey: Ağrı (Ağrı mountain), Diyarbakır, Elazığ (Hazar lake), Hakkari, Konya (Ereğli) (Kiritshenko, 1918; Seidenstücker, 1957; Pehlivan, 1981; Önder et al., 2006; Dursun et al., 2010).

***Camptopus lateralis* (Gm., 1817)**

Habitat: *Quercus* sp. grove, herbaceous steppe, shrub formation, cultivated area

Host plants: *Astragalus* sp., *Chrysanthemum* sp., *Compositae*, *Daucus carota*, *Glycina max*, *Hypericum perforatum*, *Sambucus nigra*, *Rosa* sp., *Rumex* sp., *Scrophularia* sp., *Torilis* sp.

Phenology and altitude: 1120-1900m, April, May, Juni, August

Distribution in Turkey: Amasya, Ankara (Kızılcahamam-Soğuksu national park, Çubuk damlake), Aydın, Bilecik, Burdur, Bursa, Çanakkale, Çankırı (Şabanözü), Çorum, Denizli, Diyarbakır (Karacadağ), Edirne, Elazığ-Hazar lake, Eskişehir, Giresun, Gümüşhane, Hakkari, Hatay, Isparta, İstanbul, İzmir, Kahramanmaraş, Kayseri, Kırklareli, Kocaeli, Konya, Kütahya, Manisa-Alaşehir, Mardin, Mersin, Muğla, Muş, Sakarya, Samsun, Siirt, Sivas, Tekirdağ, Tokat, Tunceli, Şanlıurfa, Uşak, Yozgat (Pehlivan, 1981; Önder et al., 2006; Dursun, 2009; Dursun, et al., 2010; Fent & Dursun, 2019; Zengin & Dursun, 2019; Çerçi et al., 2016; Çerçi & Özgen, 2021; Akman & Dursun, 2021).

***Camptopus tragacanthae* (Klt., 1845)**

Habitat: *Astragalus* sp., *Quercus* sp. grove, herbaceous and tragacanthic steppe.

Host plants: *Dorycnium pentaphyllum*, *Hypericum perforatum*, *Astragalus* sp., *Astragalus microcephalus*, *Pinus nigra*.

Phenology and altitude: April, Juni, 925-1500m.

Distribution in Turkey: Amasya, Ankara (Çubuk damlake, Kızılcahamam-Soğuksu national park, Beynam), Bursa, Çorum, Eskişehir, Elazığ, Elazığ-Hazar lake, İzmir, Kahramanmaraş, Kars, Kayseri, Sivas, Tokat (Pehlivan, 1981; Önder et al., 2006; Dursun, 2009; Dursun, et al., 2010; Fent & Japoshvili, 2013; Kiyak, 2016; Özgen et al., 2018; Fent & Dursun, 2019; Akman & Dursun, 2021).

***Megalotomus* Fieber, 1860**

***Megalotomus ornaticeps* (Stål, 1858)**

Host plants: *Prosopis farcta*

Phenology and altitude: July, 831-895m.

Distribution in Turkey: İğdır (Aralık, Karakoyunlu) (Dursun et al., 2010).

Namausus Stål, 1866

Namausus sordidatus (Stål, 1858)

Host plants: *Olea oleaster*.

Phenology and altitude: May, November, 30-270m.

Distribution in Turkey: Adana (Kozan), Mersin(Erdemli (Dursun et al., 2010).

CONCLUSION

The aim of this study was to evaluate the host plant and habitat preferences in Turkish populations of Alydidae, which are phtophagous.

For Alydidae species, the role of the host plant as a determinant of habitat quality and distribution patterns is not clear enough.

REFERENCES

- Akman, N., Dursun, A., 2021, A study on the Coreoidea (Hemiptera: Heteroptera) fauna of Çorum Province, *J.Het.Turk.*, 3 (2):157-170.
- Altınayar G., 1981, Orta Anadolu Bölgesi tahlîl tarlalarındaki böcek faunasının saptanması üzerinde çalışmalar. *Türkiye Bitki Koruma Dergisi*, 21(2): 53-88.;
- Carapezza A & Mifsud D, 2015, New records of true bugs (Hemiptera, Heteroptera) from the Maltese Islands. - *Bulletin of the entomological Society of Malta*, 7: 27-50.
- Çağlar, S., 1992, Beynam ormanı ve çevresiyle Çubuk ve çevresi Hemiptera komunitesi üzerinde çalışmalar, Doktora Tezi, H. Ü. Fen Bil. Enst.
- Çerçi, B., Özgen, İ., Dioli, P., 2016, Additional Faunistic Notes on Heteroptera (Hemiptera: Insecta) in East Anatolia (Turkey). *Journal of Entomology and Zoology Studies*, 6(1), 1225-1231.
- Çerçi, B. & Koçak, Ö. 2017, Six new Heteroptera (Hemiptera) species for the fauna of Turkey with a new synonymy. *Munis Entomology & Zoology*, 12 (2): 532-538.
- Çerçi, B., Özgen, İ., 2021, Contribution to the Knowledge of Heteroptera (Hemiptera) Fauna of Elazığ Province with a New Record for the Fauna of Turkey. *Journal of the Heteroptera of Turkey*, 3(1), 50-75.
- Dolling, W. R., 2006, *Stenocephalidae Dallas, 1852, Rhopalidae Amyot & Serville, 1843, Alydidae Amyot & Serville, 1843*, 2-42 In : *Catalogue of the Heteroptera of the Palaearctic Region, Pentatomorpha II* (Eds: B. Aukema & Ch. Rieger). The Netherlands Entomological Society, Vol. 5, Amsterdam, xiii + 550 pp
- Dursun, A., 2009, Kelkit Vadisi (Türkiye) Alydidae, Rhopalidae ve Stenocephalidae, (Heteroptera: Coreoidea) türleri üzerine araştırmalar. *Türk. Entomol. Derg.*, 33: 205-215. (In Turkish with English summary)
- Dursun, A., Kaçar, G., Ulusoy, M. R., 2010, The Alydidae (Hemiptera: Heteroptera: Coreoidea) of Turkey: A Key to the Genera, New Records and a Species Checklist, *Entomological News*, 121(5):487-497.
- Fahringer, J., 1922, Eine Rhynchotaeniusbeute aus der Türkei, Kleinasien und benachbarten Gebieten. *Konowia* 1: 137-144.
- Fent, M., Japoshvili, G., 2013, Isparta-Gölcük Tabiat Parkı Heteroptera (Insecta-Hemiptera) Faunası Bazı Nadir ve Özgün Türler ve Türkiye'nin Akdeniz Bölgesi için Yeni Kayıtlar. *Türkiye Entomoloji Bülteni*, 2 (3), 149-164.
- Fent, M., Dursun A., 2019, Contributions to Coreoidea (Hemiptera: Heteroptera) fauna of Western Black Sea Region. *Munis Entomology & Zoology*, 14(1): 217-223.
- Fieber F. X. 1864, Neuere Entdeckungen in

- Europaischen Hemipteren. *Wien. Ent. Mschr.*, 8: 65–86, 205–234.
- Hoberlandt, L., 1955, Results of the zoological scientific expedition of the National Museum in Praha to Turkey. *Acta Entomologica Musei Nationalis Pragae Supplementum* 3: 162–263.
- Horváth, G., 1901, Hemipteres du voyage de M. Martinez Escalera dans L' Asie- Mineure. *Termesztrajzi Füzetek*, 24: 469–485.
- Kiyak, S., 1990a, Binboğa Dağları (Kahramanmaraş-Kayseri) Kara Heteropterlerinin Erginlerinin Eko-Faunistik ve Sistematığı Üzerine Araştırmalar. Gazi Üniversitesi Fen Bilimler Enstitüsü, Yayınlanmamış Doktora tezi, XII, 172 s. (In Turkish).
- Kiyak, S., 1990b, Systematisch-Ökologische Untersuchungen über die Wanzen (Insecta -Heteroptera) aus dem Gebiet Hazar-See, Maden und Ergani (Prov. Elazığ). Gazi Üniversitesi Fen-Edebiyat Fakültesi Biyoloji Dergisi, 1: 43–95.
- Kiyak, S., 1993, Über Terrestrische Wanzenarten von Soguksu Nationalpark (prov. Ankara, Türkei). *Priamus, Centre for Entomological Studies*, Ankara 6 (3/4): 131–156.
- Kiyak, S., 2016, On Heteroptera Fauna of Binboğa Mountains (Turkey, Kahramanmaraş, Kayseri). *Munis Entomology and Zoology*, 11(2), 441–449.
- Kiritschenko, N., 1918, Hemiptera- Heteroptera faunae Caucasiae. Paris I. *Mém. Mus. Caucase, ser. A*, No: 6: 1–177.
- Kiritschenko, N., 1924, Beitrag zur Hemipteren fauna des südlichen Armenien. *Wiener Entomologische Zeitung*, 41: 1–5.
- Linnauvoori, R., 1965, Studies on the South- and Eastmediterranean Hemipterous Fauna. III. Hemipterological observations from Turkey. *Acta Entomologica Fennica*, 21: 44–61.
- Önder, F., Karsavuran, Y., S. Tezcan, Fent, M., 2006, *Türkiye Heteroptera (Insecta) Kataloğu*. Meta Basım Matbaacılık Hizmetleri, Izmir. 164 pp. (In Turkish with English summary).
- Özgen, İ., Çerçi, B., Kaya, C., 2018, Heteroptera (Hemiptera) Species Determined in Pistachio Orchards of Siirt Province with a New Record for Fauna of Turkey: Yotvata nergal Linnauvoori, 1993. *Cercetari Agronomice In Moldova (Agronomic Research In Moldavia)*, 4(176), 87–95.
- Pehlivan, E., 1981, *Türkiye Stenocephalidae, Rhopalidae ve Alydidae (Heteroptera: Coreoidea) Faunası Üzerinde Sistematischer Arastırmalar*. Ege Üniversitesi Ziraat Fakültesi Yayınları No: 410. Ege Üniversitesi Ziraat Fakültesi Ofset Ünitesi. Bornova/Izmir 189 pp. (In Turkish with English summary).
- Seidenstücker, G., 1957, Anadolu'dan Heteropterler I. *Ist. Univ. Fen Fak. Mec. Serie B*, Cilt XXII, (1–2): 179–189.
- Tuatay, N., Kalkandelen, A., Aysev (Çağatay), N., 1972, *Nebat Koruma Müzesi Böcek Kataloğu (1961-1971)*. Tarım Bakanlığı, Zirai Mücadele ve Zirai Karantina Genel Müdürlüğü Yayınları, Mesleki Kitaplar Serisi, 66 pp.
- Ural I., Işık M., Kurt A., 1973, Doğu Karadeniz bölgesi fındık bahçelerinde tespit edilen böcekler üzerinde bazı incelemeler, *Bitki Koruma Bülteni*, 13 (2), 55–66.
- Wagner, E., 1966, Eine Heteropterenausbeute aus der Türkei (Hemiptera, Heteroptera). *Bulletin des Recherches Agronomiques de Gembloux*, 4: 647–654.
- Zengin, P., Dursun, A. 2019, A Study on the Coreoidea (Hemiptera: Heteroptera) Fauna of Amasya Province, Turkey. *Acta Biologica Turcica*, 32(3): 160–167.
- Zümreoglu, S., Akbulut, N., 1987, Ege bölgesi ikinci ürün soya ekim alanlarında görülen zararlilar üzerinde araştırmalar, *Türk. entomol derg.*, 11(4): 215–225

AUTHOR GUIDELINES

Aims & Scope

The *Journal of the Heteroptera of Turkey* is a biannual peer reviewed international journal that publishes original articles, review articles, and short communication on all aspects of Heteroptera.

The *Journal of the Heteroptera of Turkey* publishes qualified research articles on the systematics, taxonomic, faunistic and ecology of heteroptera suborder. The topic of the research may include a wide range of heteropteran fields. Detailed studies on systematics, morphology, ecology, and phenology of heteroptera, and the biological, ecological, and faunistic formation of heteroptera taxons.

In this Journal full-papers and short communications containing original researches on any aspect of heteropteran in palaearctic region and Turkey will be considered as publication.

The *Journal of the Heteroptera of Turkey* welcomes review articles in the field of heteropteran.

The *Journal of the Heteroptera of Turkey* also published short notes on heteropteran topics. Information of the heteropteran specialists and book reviews will also be published.

We would like to make an open invitation to all potential contributors. We have a fast publishing process to process and evaluate.

Taxonomic revisions and descriptions of individual species will be accepted especially if additional information is included on habitat preferences, behavior, phenology etc. Descriptions of single specimens are discouraged.

For submitted article there are restrictions on the subject, author, geographic area, and so on of any submission (palaearctic only). For our journal mission all fields of heteroptera studies are suitable.

All papers being peer-reviewed by two referees, and under rapid publication process.

Preparation of Manuscript

All manuscripts should be written in the Turkish or English languages to be published only in the *Journal of the Heteroptera* and should be prepared with Microsoft Word.

Manuscripts should be written on A4 (21 cm x 29.7 cm) paper with margins of at least 2 cm in width.

All pages should be numbered consecutively. Manuscripts should be organized in the following order: Title, abstract, brief introduction, materials and methods, results, discussion, acknowledgments, references, tables and figure legends.

Parts of the Manuscript should be:

Arrange manuscripts in this order: title; name(s), address(es) and e-mail address(es) of the corresponding author(s) who will receive and approve the page proofs (research articles only); keywords; text; acknowledgments; references; tables and figure legends.

Title: The title of the manuscript should be informative and clear, not exceed 15-20 words. Just under the title full name(s) of author(s); (surname(s) in capital letters; full address(es); e-mail address(es); if available, ORCID numbers for all authors, Corresponding Author contact information should be give (each on a separate line).

Abstract: The abstract should not exceed 250-300 words (maximum), should be one paragraph.

Keywords: For subject indexing, up to 6 topical keywords in English are required (for Turkish articles).

Text: Introduction, Materials and Methods, Results, Conclusion and Discussion, Acknowledgments, References, Figure and table legends.

Use italics for Scientific names of genera, species, and subspecific taxa.

Do not use italics for abbreviations such as "spp.", "sp.", "ssp.", "var.", "gen.nov.", "sp.n.", "ssp.nov.", "stat.n.", "comb.n.", "s.l.", "s. str.", "et al.", and names of taxa of rank higher than genus.

For faunistic research follow this order: Taxon name, Material examined, Habitat, Host plant(s), Distribution. Example:

Miridae Hahn, 1831

Deraeocoris rutilus (Herrich-Schaeffer, 1838)

Habitat: The specimens belonging to *D. rutilus* (H.-S., 1838) were found on *Carduus pycnocephalus* subsp. *albidus* (Bieb) Kazmi.

Materials examined: 1 male, 24.6.1996 (Loc. 1), 1 female, 24.6.1996 (Loc.6).

Distribution in Turkey: The Aegean, the Marmara, and the Anatolia regions (18,10,8,13,29). Distribution in the world: Israel, Sardinia, Syria, Cyprus, Poland, the Balkans, Russia, and Turkey (18,25).

References: References should be prepared according to "The Guidelines to Authors".

The complete reference list should appear alphabetically by name at the end of the paper. A sample of the most common entries in reference lists appears below. Please note that a DOI should be provided for all references where available.

References must be cited in the text as (Dursun, 2013), Fent & Dursun (2005) or Fent et al. (1997), or in a parenthesis (Dursun, 2013; Fent & Dursun, 2005; or Fent et al. ,1997).

Journal article: Abbreviate names of periodicals basically according to the World List of Scientific Periodicals, 4th Edition, Butterworths, London, 1964–1965. (If you are not certain about the correct abbreviation, give the journal's name in full).

Fent, M., Kment, P., Elipek-Çamur, B., Kırızı, T., 2011, Annotated catalogue of Enicocephalomorpha, Dipsocoromorpha, Nepomorpha, Gerromorpha and Leptopodomorpha (Hemiptera: Heteroptera) of Turkey with new records, *Zootaxa*, 2856:1-84.

Books: Alexi Popov, A., Grozeva, S., Simov,N., Tasheva, E., 2013, *Advances in Hemipterology*, PenSoft Publishers Ltd, 377 pp., Sofia, Bulgaria.

Article/Chapter in Book: Kerzhner, I. M., Jaczewski, T. L., 1964, *Order Hemiptera (Heteroptera) 851–1118pp. In: Keys to the insects of the European USSR 1. (Ed. G. Y. Bei-Bienko)*. Nauka, Moskva & Leningrad [in Russian; English translation, Israel Program for Scientific Translations, Jerusalem, 1967]. 1214 pp.

No Author Given: (USDA) U.S. Department of Agriculture. 2001. Title. USDA, Beltsville, MD. (IRRI) International Rice Research Institute. 2001. Title. IRRI, City, State or Country.

Proceedings: Šeć, J., Kaur, H., Gallé, R., Torma, A. 2018, The role of road verges as secoundary linear habitats for Forest steppe Heteroptera, *8th European Hemiptera Congress*, 24-29 Jun 2018, Zawiercie, Poland. Book of Abstracts, 61 p.

Theses/Dissertations: James, H., 2001, Thesis or dissertation title. M.S. thesis or Ph.D. dissertation, University of Pennsylvania, Philadelphia.

Özsaraç, Ö., 2004, Çiçekdağı (Kırşehir) Heteropterleri, Basılmamış Doktora Tezi, Gazi Üniversitesi Fen Bilimleri Enstitüsü, Ankara, 225 s.

Online Citations/ Websites: Rabitsch, W., 2005, Spezialpraktikum aquatische und semiaquatische Heteroptera; (Web page: <http://homepage.univie.ac.at/wolfgang.rabitsch>). (Date accessed: May 2010).

Using the DOI (Digital Object Identifier) Number: Nestel D., Papadopoulos N. T. & Miranda Chueca M. A. (2008). Current advances in the study of the ecology of fruit flies from Europe, Africa and the Middle East. *Journal of Applied Entomology*, DOI: 10.1111/j.1439-0418.2008.01378.x

Please note on the illustrations, figure, table, and photographs legends: Illustrations should be arranged into blocks or plates by the author(s). Figures should be provided electronically in either JPG or TIFF format. JPG images should be the highest resolution possible. TIFF images should be at 300 dpi resolution.

Morphological illustrations (if not schematic) and **photographs/** electron microscope micrographs should include scale bars. Photographs and electron microscope micrographs must be in JPEG file format (300 dpi).

Images pasted into Word become low-resolution and cannot be used in print.

Photographs should be high-contrast, black and white or color. Lettering should be typed and legible. All papers should be accompanied by information on the credited photographer or copyright holder. If the photographer or copyright holder is not an author on the paper, then permission must be granted by the copyright holder.

Tables should be numbered consecutively and include headings and explanations. References in the text to illustrations (schematic, photographs) and tables into parenthesis: e.g.(Fig.1) (Figs.1–4) (Table 1.) (Table 1., Figs.1-4). Morphological illustrations should be provided with scale bars.

Taxonomic papers in JHT must follow the requirements below: Follow all requirements of the current International Code of Zoological Nomenclature (4th edition 1999), and be followed the recommendations of the Code.

A holotype should always be designated for each newly described species-level taxon and at least holotypes should be deposited in public collections that provide long-term care and access for study (note that such deposition is mandatory for neotypes). For this reason, two particular recommendations (73A and 16C) should be observed in JHT.

In the Abstract must be listed new combinations, new status, new taxa, new synonyms, etc. in. The list of synonymized names must indicate their disposition. For newly should be described taxa included for all newly synonymized or combined names. Use "sp. n.", "gen. n." etc.. **Important note:** Descriptions based on single specimens are discouraged.

The standard order of sections for description a species is: "Diagnosis", "Description", "Material", "Type locality", "Etymology", "Distribution", "Biology", and other comments if appropriate. Author(s) of species name must be provided when the scientific name of any animal species is first mentioned. (The year of publication is not compulsory. if you give it, then provide a full reference of this in the reference list.)

It is the *author's responsibility* to know the group, both material and literature, well enough (preferably on a worldwide basis) to be able to ensure that all relevant taxa were taken into account and that any new taxa proposed have not already been described from elsewhere.

Accepted manuscripts are published online and in two issues at the end of May and December.