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A STUDY ON THE COREIDAE (INSECTA: HETEROPTERA) OF THE KELKIT VALLEY, TURKEY

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Abstract

In and around Kelkit Valley, 22 species belonging to 12 genera of the Coreidae family from 44 different localities were determined. All of the determined species were recorded for the first time in the research area. The distributions of these species in Turkey and the Palaearctic region are given.

KEY WORDS: Coreidae, fauna, taxonomy, distribution, Kelkit Valley, Turkey

Introduction

The family Coreidae Leach 1815, which includes 2200 species belonging to 500 genera throughout the world, has a very wide distributional range. Coreidae is represented in the Palearctic region by 344 species belonging to 84 genera (DOLLING, 2006), of which 45 species from 22 genera are known to occur in Turkey (ÖNDER *et al*., 2006; DOLLING, 2006).

There are various studies of the Coreidae family in Turkey performed by both native and foreign researchers, among them HORVÁTH (1891, 1901), PUTON & NOUALHIER (1895), FAHRINGER (1922), KIRITSHENKO (1924), HOBERLANDT (1955), SEIDENSTÜCKER (1957, 1958), WAGNER, (1959; 1966), LINNAVUORI, (1965), KIYAK (1990a, 1990b, 1993, 2000) and ÖNDER *et al.* (2006). Kelkit Valley, the research area, is a valley formed by the Kelkit River which is 246 km long and lies on the northern side of Spikör Mountain and the southern side of Köse Mountain, extending to Kale village of Erbaa town in Tokat province. This valley, located in an area between central Anatolia, the central Black Sea and the eastern Black Sea regions, is a transitional area between Euro-

Siberia and Iran-Turanian floristic regions in terms of plant geography. The valley is under the effects of the moist climate of the Black Sea and the dry climate of central Anatolia. Therefore it shows interesting features in terms of flora, vegetation and plant geography. Moreover, it has a distinctive importance since a Mediterranean climate occurs in Kelkit Valley as a microclimate, and Mediterranean enclaves in the shores and the interior parts of all the Black Sea region have the most widespread area in the valley (KARAER, 1994).

The literature check of the flora of the research area revealed that 132 endemic taxons were present here (KARAER, 1994). Accordingly, it is most likely that Kelkit Valley, with such a rich flora, also harbours a rich fauna.

There has been no specific study on the Coreidae family in Kelkit Valley before now. The aim of this study was to investigate the Coreidae fauna of the valley in detail, and with the findings obtained contribute to future studies.

Material and Methods

The research material consists of 231 adult samples collected from 44 localities (details are given in Tab. I) with different vegetation and habitat properties in Bayburt, Erzincan, Giresun, Gümüşhane, Sivas and Tokat provinces located in and around Kelkit Valley. Between May and September the samples were collected from herbaceous vegetation with a sweep net and from trees and shrubby plants with a Japanese umbrella. Plants on which a sample was captured were recorded. Male genitalia were used to determine some species. For preparation of genitalia, samples were softened in 5% acetic acid (CH_3COOH) and their genitalia were extracted. STICHEL (1960), BEI-BIENKO (1964) and KIYAK (1990b, 1993) were followed in identifications of the collected material.

We followed DOLLING (2006) for the general geographical distributions of the species. The distributional information is listed under four subheadings: Europe (EU), North Africa (NA), Asia (AS) and Extralimital (EL).

Results

Subamily Pseudophloeinae Stål, 1868

Tribe Pseudophloeini Stål, 1868

Genus *Arenocoris* Hahn, 1834

Arenocoris intermedius (Jakovlev, 1883)

General geographical distribution: EU: Great Britain, Malta, Portugal, Spain; NA: Algeria, Canary Isles, Egypt, Libya, Morocco; AS: Cyprus, Iran, Iraq, Israel, Kuwait, Saudi Arabia, Sinai (Egypt), Tajikistan, Turkmenistan, Uzbekistan; EL: N tropical Africa.

Distribution in Turkey: Konya (SEIDENSTÜCKER, 1958)

Material examined: Loc. 10, 24.05.2007, 1♂.

Host plants: The herbaceous plants belonging to Poaceae.

Table I. The localities with geographic coordinates and altitudes where Coreidae species were recorded in Kelkit Valley.

Loc No.	Province	Locality	Geographic coordinates	Altitude (m a.s.l.)
1	Tokat	Erbaa-Kaleköy	40°46'08"N 36°30'19"E	210
2	Tokat	Erbaa-Karayaka	40°44'27"N 36°35'05"E	285
3	Tokat	Erbaa-Değirmenli	40°44'27"N 36°35'05"E	285
4	Tokat	Niksar-Yakınca	40°03'00"N 36°50'08"E	315
5	Sivas	Suşehri-Akçaağıl	40°13'16"N 38°03'21"E	748
6	Tokat	Niksar-Muhtardüzü	40°28'46"N 37°01'11"E	352
7	Tokat	Niksar-Derindere	40°29'34"N 36°54'28"E	342
8	Sivas	Suşehri-Karaağaç	40°18'04"N 37°31'50"E	641
9	Tokat	Reşadiye-Çakmak	40°25'06"N 37°12'03"E	507
10	Sivas	Koyulhisar-Yeşilyurt	40°18'15"N 37°41'08"E	655
11	Sivas	Koyulhisar-Gökdere	40°19'03"N 37°39'04"E	596
12	Tokat	Erbaa-Tepekışla	40°46'08"N 36°30'19"E	210
13	Tokat	Niksar-Mutluca	40°25'42"N 37°06'47"E	401
14	Tokat	Erbaa-Karanlıkdere	40°10'25"N 36°23'18"E	385
15	Tokat	Niksar-Buzköy	40°38'11"N 36°49'35"E	331
16	Tokat	Niksar-Osmaniye	40°26'38"N 37°04'33"E	566
17	Giresun	Alucra-Arda	40°13'38"N 38°50'33"E	1515
18	Giresun	Alucra-Belen	40°16'23"N 38°55'28"E	1688
19	Giresun	Şebinkarahisar-Çamlıbel	40°20'44"N 38°31'24"E	1111
20	Tokat	Reşadiye-Akıncı	40°27'06"N 37°06'10"E	401
21	Tokat	Niksar-Kümbetli	40°38'19"N 36°45'03"E	385
22	Tokat	Niksar-Merkez	40°29'22"N 36°58'52"E	315
23	Sivas	Suşehri- Arpacı	40°15'06"N 38°05'07"E	840
24	Giresun	Şebinkarahisar-Dereköy	40°17'33"N 38°13'22"E	1010
25	Giresun	Şebinkarahisar-Güzelyurt	40°17'22"N 38°20'40"E	1230
26	Tokat	Reşadiye-Cemel	40°24'21"N 37°17'07"E	560
27	Tokat	Erbaa-Yoldere	40°51'09"N 36°28'29"E	280
28	Tokat	Niksar-Karayolları Çeşmesi	40°38'14"N 36°45'01"E	361
29	Giresun	Şebinkarahisar-Merkez	40°17'44"N 38°23'24"E	1465
30	Sivas	Koyulhisar-Dilekli	40°14'51"N 37°57'12"E	707
31	Erzincan	Refahiye-Olgunlar	39°54'17"N 38°48'16"E	1603
32	Erzincan	Iliç-Balkaya	39°58'37"N 39°31'28"E	1609
33	Bayburt	Demirözü-Güneşli	40°11'15"N 39°55'54"E	1669
34	Gümüşhane	Köse-Salyazı	40°14'49"N 39°48'28"E	1678
35	Gümüşhane	Kelkit-Karaçayır	40°08'07"N 39°28'38"E	1421
36	Gümüşhane	Akçahisar	40°22'48"N 39°47'30"E	1636
37	Gümüşhane	Tekkeköy	40°24'55"N 39°33'14"E	1219
38	Gümüşhane	Karamustafapaşa	40°19'12"N 39°17'54"E	1560
39	Tokat	Niksar-Dörtyol	40°32'32"N 36°55'00"E	301
40	Tokat	Reşadiye-Zinav Gölü	40°28'24"N 37°15'28"E	1161
41	Giresun	Alucra-Aktepe	40°19'16"N 38°40'26"E	1457

Loc No.	Province	Locality	Geographic coordinates	Altitude (m a.s.l.)
				(Table I - continued)
42	Sivas	Akıncılar-Yağlıçayır	40°06'50"N 38°17'36"E	859
43	Sivas	Suşehri-Solak	40°10'14"N 38°07'33"E	911
44	Sivas	Gölova-Boğazköy	40°05'02"N 38°31'17"E	1160

Arenocoris waltlii (Herrich-Schaeffer, 1835)

General geographical distribution: EU: Belgium, Bosnia & Herzegovina, Bulgaria, Croatia, France, Great Britain, Germany, Greece, Italy, Malta, Macedonia, The Netherlands, Portugal, Romania, Russia (South European Territory), Spain Switzerland, Ukraine, Yugoslavia (Serbia, Montenegro); NA: Algeria, Canary Isles, Egypt, Libya, Morocco, Madeira, Tunisia; AS: Azerbaijan, Afghanistan, Armenia, Cyprus, Georgia, Iran, Iraq, Israel, Jordan, Kyrgyzstan, Syria, Tajikistan, Turkmenistan, Turkey (Asian parts),Uzbekistan.

Distribution in Turkey: Gaziantep (PUTON & NOUALHIER, 1895); Diyarbakır (WAGNER,1959); Kahramanmaraş, Kayseri (KIYAK, 1990a); Balıkesir, Bursa, Hatay, Izmir, Manisa, Muğla (ÖNDER *et al*., 2006).

Material examined: Loc. 20, 20.06.2006, 1♀; Loc. 27, 25.06.2006, 1♂.

Host plant: *Bromus* sp.

Genus *Bothrostethus* Fieber, 1860

Bothrostethus annulipes (Herrich-Schaeffer, 1835)

General geographical distribution: EU: Austria, Bosnia & Herzegovina, Bulgaria, Croatia, Czech Republic, France, Germany, Greece, Hungary, Italy, Kazakhstan (European and Asian parts), Macedonia, Portugal, Romania, Russia (Central and South European Territory), Slovakia, Slovenia, Spain, Switzerland, Ukraine, Yugoslavia (Serbia, Montegro); NA: Algeria; AS: Azerbaijan, Armenia, Turkey (Asian part), Georgia, Iran, Kyrgyzstan, Tajikistan, Uzbekistan.

Distribution in Turkey: Konya (SEIDENSTÜCKER, 1958)

Material examined: Loc. 36, 23.06.2007, 1♂.

Host plant: *Bromus* sp.

Genus *Ceraleptus* Costa, 1847

Ceraleptus lividus Stein, 1858

General geographical distribution: EU: Austria, Belgium, Bosnia & Herzegovina, Bulgaria, Belarus, Croatia, Czech Republic, Denmark, France, Great Britain, Germany, Greece, Hungary, Italy, Luxembourg, Macedonia, Moldavia, The Netherlands, Poland, Portugal, Romania, Russia (South European Territory), Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine, Yugoslavia (Serbia, Montenegro); AS: Azerbaijan, Armenia, Georgia, Turkey (Asian part)

Distribution in Turkey: Ankara (KIYAK, 1993).

Material examined: Loc. 13, 27.08.2005, 3♂; 20.09.2007, 1♂.

Host plant: *Centaurea* sp.

Ceraleptus obtusus (Brullé, 1839)

General geographical distribution: EU: Albania, Bosnia & Herzegovina, Bulgaria, Croatia, France, Greece, Hungary, Italy, Macedonia, Moldavia, Portugal, Romania, Russia (South European Territory), Slovakia, Slovenia, Spain, Switzerland, Ukraine, Yugoslavia (Serbia, Montenegro); NA: Algeria, Canary Isles, Egypt, Morocco (Spanish possessions incl.); AS: Azerbaijan, Armenia, Cyprus, Georgia, Iran, Iraq, Israel, Kyrgyzstan, Tajikistan, Turkmenistan, Turkey (Asian part), Uzbekistan.

Distribution in Turkey: Ankara, Çankırı (Kıyak, 2000); Kırşehir (Özsaraç, 2004); Hatay (Önder *et al*.,2006).

Material examined: Loc. 13, 27.08.2005, 2♂, 1♀; 20.09.2007, 1♂, 2♀; Loc. 26, 22.06.2006, 5♂, 4♀; Loc. 40, 08.08.2007, 1♀.

Host plant: *Scorzonera* sp.

Genus *Coriomeris* Westwood, 1842

Coriomeris affinis (Herrich-Schaeffer, 1839)

General geographical distribution: EU: Albania, Bosnia & Herzegovina, Bulgaria, Croatia, France, Greece, Hungary, Italy, Macedonia, Portugal, Romania, Spain, Switzerland, Yugoslavia (Serbia, Montenegro); NA: Algeria, Canary Isles, Egypt, Libya, Morocco, Tunisia; AS: Cyprus, Iran, Iraq, Israel, Lebanon, Syria, Turkey (Asian part).

Distribution in Turkey: Ağrı (Kiritshenko, 1924); Adana (Hoberlandt, 1955); Hatay (Linnavuori, 1965); Elazığ (Kıyak, 1990b); Ankara (Kıyak, 1993); Aydın, Bursa, Hatay, Izmir, Mersin, Muğla, Muş (Önder *et al*.,2006).

Material examined: Loc. 3, 25.06.2005, 2♀; Loc. 5, 28.06.2005, 2♂, 1♀; Loc. 6, 28.06.2005, 2♀; 17.05.2006, 1♂, 1♀; 21.06.2006, 1♀; 02.07.2006, 1♂; Loc. 8, 29.06.2005, 1♀; Loc. 10, 30.06.2005, 1♂, 1♀; Loc. 13, 27.08.2005, 1♀; Loc. 14, 27.08.2005, 1♂; Loc. 17, 17.05.2006, 1♂, 2♀; 21.06.2006, 1♀; 02.07.2006, 1♂; Loc. 21, 20.06.2006, 1♂, 1♀; Loc. 37, 23.06.2007, 1♂M; Loc. 41, 09.08.2007, 1♀.

Host plant: *Bromus* sp.

Coriomeris denticulatus (Scopoli, 1763)

General geographical distribution: EU: Albania, Andorra, Austria, Belgium, Bosnia & Herzegovina, Bulgaria, Belarus, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Great Britain, Germany, Greece, Hungary, Italy, Liechtenstein, Lithuania, Luxembourg, Macedonia, Moldavia, The Netherlands, Norway, Poland, Portugal, Romania, Russia (Central and South European Territory), Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine, Yugoslavia (Serbia, Montenegro); NA: Algeria, Morocco; AS: Azerbaijan, Turkey (European and Asian parts), Georgia, Iran, Israel, Syria.

Distribution in Turkey: Kars (Horváth, 1891); Ankara, Edirne (Hoberlandt, 1955); Adana (Linnavuori, 1965); Ağrı, Aydın, Bursa, Denizli, Hatay, Izmir, Konya (Önder *et al.*, 2006).

Material examined: Loc. 2, 25.06.2005, 1♀; Loc. 5, 30.06.2005, 1♀; Loc. 7, 28.06.2005, 1♀; Loc. 8, 28.08.2005, 1♀; Loc. 10, 30.06.2005, 1♂, 4♀; Loc. 14, 27.08.2005, 1♀; Loc. 17, 17.05.2006, 2♂, 3♀; 21.06.2006, 1♀; 02.07.2006, 1♂; Loc. 23, 21.06.2006, 1♀; Loc. 24, 21.06.2006, 1♀; Loc. 40, 08.08.2007, 1♀; Loc. 41, 09.08.2007, 1♀.

Host plants: The herbaceous plants belonging to Poaceae.

Coriomeris hirticornis (Fabricius, 1794)

General geographical distribution: EU: Albania, Austria, Bosnia & Herzegovina, Bulgaria, Croatia, France, Greece, Hungary, Italy, Malta, Macedonia, Moldavia, Portugal, Romania, Russia (Central and South European Territory), Slovakia, Spain, Switzerland, Ukraine, Yugoslavia (Serbia, Montenegro); NA: Algeria, Egypt, Morocco; AS: Azerbaijan, Afghanistan, Armenia, Cyprus, Georgia, Iran, Iraq, Israel, Jordan, Lebanon, Syria, Turkey (Asian part).

Distribution in Turkey: Aydın (HORVÁTH, 1901); Adana, Ankara (HOBERLANDT, 1955); Elazığ (KIYAK, 1990b); Kırşehir (ÖZSARAÇ, 2004); Balıkesir, Bursa, Çanakkale, Hatay, Izmir, Konya (ÖNDER *et al*., 2006).

Material examined: Loc. 8, 29.06.2005, 2♂, 3♀; Loc. 11, 30.06.2005, 1♀; Loc. 18, 09.08.2007, 2♀; Loc. 19, 19.05.2006, 1♀; Loc. 22, 20.06.2006, 1♀; Loc. 24, 21.06.2006, 2♀; Loc. 29, 09.08.2006, 1♀.

Host plant: *Setaria* sp.

Coriomeris pallidus Reuter, 1900

General geographical distribution: EU: Russia (South European Territory); AS: Afghanistan, Kazakhstan (Asian Part), China, (Norwestern Territory), Iran, Kyrgyzstan, Lebanon, Mongolia, Syria, Tajikistan, Turkmenistan, Turkey (Asian part), Uzbekistan.

Distribution in Turkey: Ankara (HOBERLANDT, 1955).

Material examined: Loc. 37, 23.06.2007, 1♂.

Host plants:The herbaceous plants belonging to Poaceae.

Coriomeris scabricornis (Panzer, 1805)

General geographical distribution: EU: Albania, Austria, Belgium, Bulgaria, Belarus, Czech Republic, Denmark, Estonia, France, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Moldavia, The Netherlands, Poland, Portugal, Romania, Russia (Centrat and South European Territory), Slovakia, Spain, Sweden, Switzerland, Ukraine, Yugoslavia (Serbia, Montenegro); AS: Azerbaijan, Afghanistan, Kazakhstan, Armenia, China, Georgia, Israel, Japan, Kyrgyzstan, Korea (North and South), Mongolia, Russia, Tajikistan, Turkey (Asian part), Uzbekistan.

Distribution in Turkey: Ankara (HOBERLANDT, 1955); Kayseri (ÖNDER *et al*., 2006).

Material examined: Loc. 5, 30.06.2005, 1♀.

Host plant: *Phleum* sp.

Subfamily Coreinae Leach, 1815

Tribe Coreini Leach, 1815

Genus *Centrocoris* Kolenati, 1845

Centrocoris spiniger (Fabricius, 1781)

General geographical distribution: EU: Albania, Austria, Bosnia & Herzegovina, Bulgaria, Croatia, Czech Republic, France, Greece, Hungary, Italy, Macedonia, Moldavia, Portugal, Romania, Russia (Centralt and South European Territory), Slovenia, Spain, Switzerland, Ukraine, Yugoslavia (Serbia, Montenegro); NA:

Algeria, Libya, Morocco, Tunisia; AS: Azerbaijan, Armenia, Cyprus, Georgia, Iran, Iraq, Israel, Jordan, Syria, Turkmenistan, Turkey (European and Asian parts).

Distribution in Turkey: Kars (Horváth, 1891); Adana, Ankara, Edirne (Hoberlandt, 1955); Aydın (Wagner, 1966); Kırşehir (Özsaraç, 2004); Artvin, Balıkesir, Bursa, Çanakkale, Hatay, Isparta, Izmir, Kayseri, Konya, Muğla (Önder *et al*., 2006).

Material examined: Loc. 1, 07.08.2007, 1♂; Loc. 2, 25.06.2005, 1♂; Loc. 4, 27.06.2005, 1♀; Loc. 5, 28.06.2005, 2♂, 1♀; Loc. 8, 29.06.2005, 1♀; Loc. 9, 29.06.2005, 1♂, 2♀; Loc. 11, 30.06.2005, 1♀; 08.08.2007, 1♂, 1♀; Loc. 13, 27.08.2005, 2♂, 2♀; 20.09.2005, 1♂, 2♀; Loc. 14, 27.08.2005, 1♀; Loc. 16, 28.08.2005, 1♂, 1♀; Loc. 17, 17.05.2006, 1♂; 21.06.2006, 2♀; 02.07.2006, 2♀; Loc. 20, 20.06.2006, 1♂; Loc. 21, 20.06.2006, 4♂, 2♀; Loc. 22, 20.06.2005, 1♀; Loc. 24, 21.06.2006, 1♂, 1♀; Loc. 25, 21.06.2006, 1♀; 02.07.2006, 1♂; Loc. 26, 22.06.2006, 1♀; Loc. 27, 25.06.2006, 4♀; Loc. 28, 07.08.2006, 2♀; Loc. 30, 24.05.2007, 1♂; Loc. 42, 08.08.2007, 1♀.

Host plants: *Sambucus nigra, Bromus* sp.

Centrocoris variegatus Kolenati, 1845

General geographical distribution: EU: Albania, Bosnia & Herzegovina, Bulgaria, Croatia, France, Greece, Hungary, Italy, Malta, Macedonia, Portugal, Romania, Slovenia, Spain, Switzerland, Yugoslavia (Serbia, Montenegro); NA: Algeria, Canary Isles, Egypt, Libya, Morocco (Spanish Possessions incl.), Madeira, Tunisia; AS: Azerbaijan, Armenia, Cyprus, Georgia, Iran, Israel, Jordan, Turkey (European and Asian parts).

Distribution in Turkey: Kars (Horváth, 1891); Ankara (Hoberlandt, 1955); Kahramanmaraş, Kayseri (Kiyak, 1990a); Elazığ (Kiyak, 1990b); Kırşehir (Özsaraç, 2004); Aydın, Balıkesir, Bursa, Denizli, Izmir, Manisa, Muğla (Önder *et al*., 2006).

Material examined: Loc. 1, 25.08.2005, 1♂; Loc. 12, 20.07.2005, 1♂, 1♀.

Host plant: *Sambucus ebulus*

Genus *Coreus* Fabricius, 1794

Coreus marginatus (Linnaeus, 1758)

Republic, Denmark, Estonia, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Moldavia, The Netherlands, Norway, Poland, Portugal, Romania, Russia, Slovakia, Slovenia, Sweden, Switzerland, Ukraine, Yugoslavia (Serbia, Montenegro); NA: Algeria; AS: Azerbaijan, Kazakhstan, Armenia, China, Georgia, Iran, Iraq, Israel, Kyrgyzstan, Lebanon, Syria, Tajikistan, Turkmenistan, Turkey (Asian part), Uzbekistan.

Distribution in Turkey: Gaziantep (Horváth, 1901); Ağrı (Kiritshenko, 1924); Ankara, Edirne (Hoberlandt, 1955); Elazığ (Kiyak, 1990b); Çankırı (Kiyak, 2000); Çanakkale (Özsaraç & Kiyak, 2001); Kırşehir (Özsaraç, 2004); Adana, Artvin, Aydın, Balıkesir, Bilecik, Bursa, Denizli, Erzurum, Hatay, Istanbul, Izmir, Kocaeli, Muğla, Muş, Kars (Önder *et al*., 2006).

Material examined: Loc. 1, 07.08.2007, 1♂, 1♀; Loc. 9, 29.06.2005, 2♂, 1♀; Loc. 13, 27.08.2005, 3♂, 4♀; 20.09.2007, 2♂, 2♀; Loc. 18, 17.05.2006, 2♂; 21.06.2006, 3♀; 02.07.2006, 4♂, 2♀; 09.08.2007, 2♂, 1♀; Loc. 20, 20.06.2006, 1♂, 1♀; 22.09.2007, 2♂; Loc. 21, 20.06.2006, 1♀; Loc. 22, 20.06.2006, 1♀; Loc. 27, 25.06.2006, 2♂, 3♀; Loc. 31, 21.06.2007, 1♂, 1♀; Loc. 32, 22.06.2007, 1♂, 1♀; Loc. 33, 22.06.2007, 2♂, 1♀; Loc. 34, 22.06.2007, 1♂, 2♀; Loc. 35, 22.06.2007, 1♂, 2♀; Loc. 39, 07.08.2007, 1♀; Loc. 40, 08.08.2007, 1♂; Loc. 42, 21.09.2007, 1♀; Loc. 44, 21.09.2007, 1♂.

Host plants: *Rubus santus, Rubus canascens, Sambucus nigra, Paliurus spina.*

Genus *Enoplops* Amyot & Serville, 1843

Enoplops disciger (Kolenati, 1845)

General geographical distribution: EU: Bulgaria, Greece, Macedonia, Romania; AS: Azerbaijan, Armenia, Georgia, Iran, Iraq, Israel, Jordan, Syria, Turkey (Asian part).

Distribution in Turkey: Gaziantep (HORVÁTH, 1901); Ağrı (KIRITSHENKO, 1924); Ankara (HOBERLANDT, 1955); Niğde (LINNAVUORI, 1965); Çankırı (KIYAK, 2000); Çanakkale (ÖZSARAÇ & KIYAK, 2001); Kırşehir (ÖZSARAÇ, 2004); Adana, Burdur, Hatay, Izmir, Kars, Manisa, Muğla, Muş (ÖNDER *et al*., 2006).

Material examined: Loc. 23, 21.06.2006, 1♀; Loc. 25, 02.07.2006, 1♂.

Host plant: *Sambucus nigra.*

Genus *Haploprocta* Stål, 1872

Haploprocta umbrina Jakovlev, 1883

General geographical distribution: EU: Bulgaria, Greece ; AS: Azerbaijan, Armenia, Turkey (Asian part).

Distribution in Turkey: Kayseri (HOBERLANDT, 1955).

Material examined: Loc. 1, 25.08.2005, 1♂.

Host plant: *Junipeus oxycedrus.*

Genus *Spathocera* Stein, 1860

Spathocera tenuicornis Jakovlev, 1883

General geographical distribution: AS: Azerbaijan, Afghanistan, Kazakhstan, Armenia, Cyprus, Iran, Israel, Tajikistan, Turkmenistan, Uzbekistan, Turkey (Asian part).

Distribution in Turkey: Ankara (HOBERLANDT, 1955); Elazığ (KIYAK, 1990b).

Material examined: Loc. 1, 25.08.2005, 4♂.

Host plants: *Pinus sylvestris*, *Acantholimon* sp.

Spathocera tuberculata Horváth ,1882

General geographical distribution: EU: Bosnia & Herzegovina, Bulgaria, Croatia, Hungary, Romania, Slovakia, Ukraine, Turkey (Asian part).

Distribution in Turkey: Bursa, Konya (SEIDENSTÜCKER, 1960).

Material examined: Loc. 38, 23.06.2007, 1♀.

Host plant: *Pinus* sp.

Genus *Syromastus* Berthold, 1827

Syromastus rhombeus (Linnaeus, 1767)

General geographical distribution: EU: Albania, Andorra, Austria, Belgium, Bosnia & Herzegovina, Bulgaria, Belarus, Croatia, Czech Republic, Denmark, France, Great Britain, Germany, Greece, Hungary, Italy, Liechtenstein, Lithuania, Luxembourg, Macedonia, Moldavia, The Netherlands, Poland, Portugal, Romania, Russia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine, Yugoslavia (Serbia, Montenegro); NA: Algeria, Canary Isles, Morocco, Madeira, Tunisia; AS: Azerbaijan, Afghanistan, Kazakhstan, Armenia, China, Cyprus, Georgia, Iran, Iraq, Israel, Kyrgyzstan, Lebanon, Syria, Tajikistan, Turkmenistan, Turkey (European and Asian parts), Uzbekistan.

Distribution in Turkey: Gaziantep (Horváth, 1901); Ağrı (Kiritshenko, 1924); Ankara (Hoberlandt, 1955); Adana (Linnavuori, 1965); Kahramanmaraş, Kayseri (Kiyak, 1990a); Elazığ (Kiyak, 1990b); Kırşehir (Özsaraç, 2004); Artvin, Aydın, Balıkesir, Bursa, Edirne, Hatay, Isparta, Istanbul, Izmir, Kars, Manisa (Önder *et al*., 2006).

Material examined: Loc. 1, 25.08.2005, 1♀; Loc. 10, 30.06.2005, 1♂; Loc. 11, 20.06.2006, 1♂; Loc. 13, 27.08.2005, 1♂, 1♀; 20.09.2007, 1♂; Loc. 15, 27.08.2005, 1♀.

Host plants: *Rubus canascens, Senecio* sp.

Tribe Gonocerini Mulsant & Rey, 1870

Genus *Gonocerus* Berthold, 1827

Gonocerus acuteangulatus (Goeze, 1778)

General geographical distribution: EU: Albania, Andorra, Austria, Belgium, Bosnia & Herzegovina, Bulgaria, Croatia, Czech Republic, France, Great Britain, Germany, Greece, Hungary, Italy, Luxembourg, Macedonia, Moldavia, The Netherlands, Poland, Portugal, Romania, Russia, Slovakia, Slovenia, Spain, Switzerland, Ukraine, Yugoslavia (Serbia, Montenegro); AS: Azerbaijan, Armenia, Cyprus, Georgia, Iran, Iraq, Jordan, Turkmenistan Turkey (Asian parts).

Distribution in Turkey: Adana (Hoberlandt, 1955); Bolu (Linnavuori, 1965); Izmir (Tezcan & Önder, 1999); Kırşehir (Özsaraç, 2004); Aydın, Balıkesir, Bursa, Çanakkale, Denizli, Hatay, Isparta, Manisa, Muğla (Önder *et al*., 2006).

Material examined: Loc. 1, 25.06.2005, 1♀; Loc. 8, 28.08.2005, 1♀; Loc. 13, 27.08.2005, 1♂; Loc. 15, 27.08.2005, 1♂, 2♀; Loc. 16, 28.08.2005, 1♀; Loc. 21, 20.06.2006, 2♂, 2♀; Loc. 27, 25.06.2006, 1♀; 20.09.2007, 1♀; Loc. 41, 08.08.2007, 1♂; Loc. 43, 20.09.2007, 1♀.

Host plants: *Juniperus communis, Junipeus oxycedrus, Pinus sylvestris, Paliurus spina.*

Gonocerus juniperi Herrich - Schaeffer, 1839

General geographical distribution: EU: Austria, Belgium, Bosnia & Herzegovina, Bulgaria, Croatia, Czech Republic, France, Germany, Greece, Hungary, Italy, Macedonia, The Netherlands, Poland, Portugal, Romania, Russia (South European Territory: Caucasus), Slovakia, Slovenia, Spain, Switzerland, Ukraine, Yugoslavia (Serbia, Montenegro); NA: Algeria, Canary Isles (Spain), Libya, Morocco (Spanish Possessions incl.), Tunisia; AS: Azerbaijan, Armenia, Cyprus, Georgia, Iran, Iraq, Israel, Syria, Tajikistan Turkey (Asian parts).

Distribution in Turkey: Adana (HOBERLANDT, 1955); Ankara (KIYAK, 1993); Burdur, Bursa, Erzurum, Hatay, Isparta, Istanbul, Muğla (ÖNDER *et al*., 2006).

Material examined: Loc. 1, 07.08.2007, 2♂, 4♀; Loc. 8, 28.08.2005, 2♂, 4♀; Loc. 11, 20.06.2006, 1♀; Loc. 16, 28.08.2005, 1♂; Loc. 26, 22.06.2006, 1♂; Loc. 40, 08.08.2007, 1♂.

Host plants: *Juniperus oxycedrus. Juniperus excelsa.*

Tribe Phyllomorphini Mulsant & Rey, 1870

Genus *Phyllomorpha* Laporte, 1833

Phyllomorpha lacerata Herrich-Schaeffer, 1835

General geographical distribution: EU: Albania, Greece, Italy, Yugoslavia (Serbia, Montenegro); NA: Algeria; AS: Azerbaijan, Afghanistan, Armenia, Iran, Iraq, Israel, Jordan, Kazakhstan (Asian part), Kyrgyzstan, Lebanon, Syria, Tajikistan, Turkmenistan, Uzbekistan, Pakistan, Turkey (Asian part).

Distribution in Turkey: Istanbul (FAHRINGER, 1922); Ankara (HOBERLANDT, 1955); Elazığ (KIYAK, 1990b); Çanakkale (ÖZSARAÇ & KIYAK, 2001); Izmir (ÖNDER *et al*., 2006).

Material examined: Loc. 2, 25.06.2005, 1♂.

Note: The species was encountered on soil in the study.

Phyllomorpha laciniata (Villers, 1789)

General geographical distribution: EU: Albania, Bosnia & Herzegovina, Bulgaria, Croatia, France, Greece, Hungary, Italy, Macedonia, Moldavia, Portugal, Romania, Russia (South European Territory), Spain, Ukraine, Yugoslavia (Serbia, Montenegro); NA: Algeria, Canary Isles, Egypt, Libya, Morocco, Tunisia; AS: Azerbaijan, Armenia, Georgia, Iran, Jordan, Oman, Saudi Arabia, Sinai (Egypt), Syria, Turkey (Asian and European parts).

Distribution in Turkey: Adana, Ankara, Edirne (HOBERLANDT, 1955); Kahramanmaraş, Kayseri (KIYAK, 1990a); Elazığ (KIYAK, 1990b); Kırşehir (ÖZSARAÇ, 2004); Afyonkarahisar, Amasya, Izmir, Kars, Konya, Mersin (ÖNDER *et al*., 2006).

Material examined: Loc. 1, 06.05.2007, 1♂.

Note: The species was encountered on stein in the study.

Discussion and Conclusion

The identification of the material collected from 44 different localities in and around Kelkit Valley between 2005 and 2007 revealed 22 species belonging to 12 genera of the Coreidae family. Each species is a first record for the research area.

Among the determined species in the research area, the first records in Turkey of *Arenocoris intermedius* (Jakovlev, 1883) and *Bothrostethus annulipes* (Herrich-Schaeffer, 1835) came from Konya by SEIDENSTÜCKER (1958). The first records of *Coriomeris pallidus* Reuter, 1900 from Ankara and *Haploprocta umbrina* Jakovlev, 1883 and from Kayseri were given by HOBERLANDT (1955). The first record of *Ceraleptus lividus* Stein, 1858

was provided by KIYAK (1993) from Ankara. Except for the present data, no records for these species have so far been reported in the country. The species were also determined in one or two localities in the research area. Although general geographical distributions of these species indicate a common distributional pattern, according to available records they are rarely distributed in Turkey.

The samples of the Pseudophloeinae species were obtained from herbaceous plants. We determined in our present study that they preferred members of Poaceae and Asteraceae. Specimens of the Coreinae species were observed to prefer both trees and shrubby plants such as *Rubus santus, R. canascens, Paliurus spina, Quercus sp. Juniperus oxycedrus, J. communis* and *Pinus sylvestris* and herbaceous plants such as *Sambucus ebulus* and *S. nigra.*

In this study, all species determined in the research area are first records for Kelkit Valley and its surroundings. The previous records were reported from very different geographic regions of Turkey. Taking into consideration: i) the presence of these species in and around Kelkit Valley, which is a transition region between Euro-Siberian and Irano-Turanian Floristic Regions and has a Mediterranean climate as microclimate, ii) the rich flora and geographical location as well as the topographical structure and iii) the unique climate of the Valley, it appears that the study region is an important centrum.

The number of species so far reported from the Coreidae family in Turkey is 43 up (ÖNDER *et al*., 2006; DOLLING, 2006). In the research area 22 species belonging to the family were determined. Considering the entire fauna of Turkey, the number of species determined in the research area is about half of all the fauna of the country. This indicates that the research area is rich in terms of fauna as well as flora.

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СТУДИЈА COREIDAE (INSECTA: HETEROPTERA) ДОЛИНЕ КЕЛКИТ У ТУРСКОЈ

Ахмет Дурсун и Мерал Фент

Извод

На подручју долине Келкит и њеној околини у периоду од 2005. до 2007. године по први пут су истраживане Heteroptera. На 44 локалитета уловљено је 12 родова, односно 22 врсте фамилије Coreidae. Подручје Келкит карактерише разноврсност биљних заједница. Врсте фамилије Coreidae углавном живе на дрвенастим биљкама. Међутим, на истраживаним локалитетима доминирилае су на зељастим биљкама из фамилија Poaceae и Asteraceae. Упоређујући број утврђених врста на истраживаним локалитетима са осталим регионима у Турској костатована је велика разноврсност и заступљеност скоро половине познатих врста целокупне фауне.

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