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Research Article

Heteroptera (Hemiptera) Species Collected by Light Trap in Diyarbakır (Türkiye)

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ABSTRACT: As a result of the evaluation of the material collected by Robinson light trap in Diyarbakır Province, Sur district located in the south-east Türkiye between May−September 2015, 56 species belonging to 13 families of Heteroptera were determined. Among these species, *Camptocera glaberrima* (Walker, 1872), *Nysius cymoides* (Spinola, 1837), *Reduvius ciliatus* Jakovlev, 1879, *Megalonotus colon* Puton, 1874, *Tropistethus lanternae* Linnavuori, 1960, *Sigara lateralis* (Leach, 1817), *Beosus quaripunctatus* (Müller, 1766) and *Geotomus elongatus* (Herrich-Schaeffer, 1840) are common species. In addition, Heteroptera species previously detected in light trap studies in Türkiye are given in a table for comparison purposes. *Mecidea lindbergi* Wagner, 1954 is recorded for the second time from Türkiye.

KEYWORDS: Heteroptera, light trap, Diyarbakır, Türkiye

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INTRODUCTION

Light is attractive to some Heteroptera species as well as to many insect groups. In Türkiye, there are a few studies on Heteroptera obtained by use of light traps. The first of these is the study published by Hoberlandt (1961) in which 37 species were identified and this study is based on the materials collected by F. S. Bodenheimer from Ankara between 1940-1941. Later, Önder & Adıgüzel (1979) identified 87 species belonging to 13 families in the study in Diyarbakır.

Following this, Önder et al. (1981) determined 155 species belonging to 15 families as a result of the evaluation of the material collected with light traps in 5 provinces (İstanbul, Kocaeli, Bursa, Sakarya and Bolu) in northwestern Anatolia. Önder et al. (1984) determined 128 species belonging to 12 families obtained with light traps in Edirne province of Thrace Region, between 1978–1981.Yıldırım et al. (1999) determined 57 heteropteran species belonging to 5 families in the study in Erzurum province, in the eastern Türkiye. And finally, Tezcan et al. (2010) recorded 35 species belonging to 8 families collected by light trap in cherry orchards in İzmir of the western Anatolian province.

Light traps, which are derived from the attractive effect of light on insects, have been used by entomologists as an effective collecting method for long time, especially for some groups or species. In this study, Heteroptera samples collected by light trap in Diyarbakır were identified and also Heteroptera species that were detected with the sampling method by light trap in Türkiye so far were shown on a table. We believe that this study will give an idea to researchers working on Heteroptera that the use of light traps will be beneficial, especially to collect some families or species.

MATERIALS AND METHODS

This study was conducted with Robinson type light trap at Dicle University, Faculty of Agriculture Campus in Diyarbakır, Sur district (667 m, 37°53'20.5"N 40° 16'18.6"E) between May and September of 2015 year. 20 W Philips lamp was used in the light trap. The light trap was placed approximately 90 cm above the ground in the campus area (Figure 1) and was checked until mid-September.

Heteroptera samples caught by this method were preserved in alcohol tubes. When the habitat characteristics of the study area take into consideration, it is seen that there are false acacia, pine, apricot and various fruit trees, vineyards and agricultural lands planted for trial purposes (Figure 2). It is also located in approximately 2 km from the Dicle (Tigris) River.

A list of species, which includes data belonging collection dates and individual numbers, obtained in this study was given in Table 1. Furthermore, the Heteroptera species list, which was detected in previous studies conducted with light traps in Türkiye, was presented in Table 2.

RESAULTS

ANTHOCORIDAE

***Anthocoris visci* Douglas, 1889**

16.07.2015, 1♀.

ARTHENEIDAE

***Holcocranum saturejae* (Kolenati, 1845)**

06.08.2015, 2 ♀♀.

BILISSIDAE

***Ischnodemus caspius* Jakovlev, 1871**

09.07.2015, 3 ♀♀; 24.07.2015, 1 ♀.

CORIXIDAE

***Sigara lateralis* (Leach, 1817)**

02.07.2015, 28 ♀♀, 20 ♂♂; 09.07.2015, 9 ♀♀, 6 ♂♂; 16.07.2015, 5 ♀♀, 8 ♂♂; 24.07.2015, 21 ♀♀, 20 ♂♂; 30.07.2015, 1 ♂; 20.08.2015, 1 ♂; 26.08.2015, 19 ♀♀, 19 ♂♂; 17.09.2015, 5 ♀♀.

CYDNIDAE

***Byrsinus pilosulus* (Klug, 1845)**

20.08.2015, 1♀.

***Geotomus elongatus* (Herrich-Schaeffer, 1840)**

09.07.2015, 6 ♀♀, 5 ♂♂; 16.07.2015, 2 ♀♀, 2 ♂♂; 24.07.2015, 1 ♀, 5 ♂♂; 15.08.2015, 1 ♀; 26.08.2015, 3 ♀♀, 3 ♂♂.

***Macroscytus brunneus* (Fabricius, 1803)**

16.07.2015, 2 ♀♀; 30.07.2015, 2 ♀♀, 1 ♂; 06.08.2015, 1 ♀, 1 ♂; 20.08.2015, 3 ♀♀, 2 ♂♂.

LYGAEIDAE

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

21.05.2015, 7 ♀♀, 3 ♂♂; 02.07.2015, 14 ♀♀, 10 ♂♂; 09.07.2015 numerous; 16.07.2015, numerous; 24.07.2015, numerous; 30.07.2015, numerous; 06.08.2015, numerous; 15.08.2015, 25 ♀♀, 10 ♂; 26.08.2015, 128 ♀♀, 64 ♂♂.

MIRIDAE

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

24.07.2015, 1 ♂.

***Alloeotomus cyprius* (Wagner, 1953)**

02.07.2015, 1 ♀.

***Campylomma diversicorne* Reuter, 1888**

02.07.2015, 1 ♂; 15.08.2015, 5 ♀♀, 3 ♂♂.

***Campylomma verbasci* Poppius, 1914**

28.05.2015, 3 ♀♀, 2 ♂♂.

***Creontiodes pallidus* (Rambur, 1839)**

15.08.2015, 1 ♂.

***Deraeocoris punctulatus* (Fallén, 1807)**

28.05.2015, 1 ♀.

***Deraeocoris rutilus* (Herrich-Schaeffer, 1838)**

20.08.2015, 3 ♀♀, 3 ♂♂.

***Deraeocoris serenus* (Douglas & Scott, 1868)**

28.05.2015, 2 ♀♀, 3 ♂♂; 06.08.2015, 3 ♀♀, 6 ♂♂; 26.08.2015, 1 ♀.

***Dicyphus albonasatus* Wagner, 1951**

02.07.2015, 1 ♀.

***Lygus pratensis* (Linnaeus, 1758)**

21.05.2015, 6 ♀♀, 5 ♂♂; 28.05.2015, 1 ♀; 02.07.2015, 1 ♀; 09.07.2015, 1 ♀; 16.07.2015, 1 ♀; 24.07.2015, 9 ♀♀, 2 ♂♂; 26.08.2015, 1 ♀.

***Lygus gemellatus* (Herrich-Schaeffer, 1835)**

24.07.2015, 6 ♀♀, 3 ♂♂; 26.08.2015, 2 ♀♀, 1 ♂.

***Macrolophus pygmaeus* (Rambur, 1839)**

28.05.2015, 1 ♀, 1 ♂; 02.07.2015, 1 ♂; 06.08.2015 1 ♂.

***Oncotylus anatolicus* Wagner, 1969**

28.05.2015, 2 ♀♀, 3 ♂♂.

***Oncotylus nigricornis* Saunders, 1876**

28.05.2015, 9 ♀♀, 6 ♂♂; 02.07.2015, 3 ♀♀, 2 ♂♂.

***Oncotylus viridiflavus* (Goeze, 1778)**

28.05.2015, 1 ♀, 4 ♂♂.

***Stenodema turanica* Reuter, 1904**

16.07.2015, 1 ♂.

***Stenodema virens* (Linnaeus, 1767)**

30.07.2015, 1 ♀, 06.08.2015, 1 ♂.

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

02.07.2015, 2 ♀♀, 1 ♂; 09.07.2015, 12 ♀♀, 4 ♂♂.

NABIDAE

***Nabis ferus* (Linnaeus, 1758)**

24.07.2015, 3 ♀♀; 30.07.2015, 5 ♀♀, 2♂♂; 06.08.2015, 2♂♂; 26.08.2015, 1 ♂.

***Nabis pseudoferus* Remane, 1949**

16.07.2015, 2♀♀, 3 ♂♂.

***Nabis rugosus* (Linnaeus, 1758)**

24.07.2015, 1 ♂.

NOTONECTIDAE

***Notonecta viridis* Delcourt, 1909**

16.07.2015, 1 ♂.

PENTATOMIDAE

***Acrosternum breviceps* (Jakovlev, 1889)**

30.07.2015, 2 ♀♀; 06.08.2015, 1 ♀.

***Mecidea lindbergi* Wagner, 1954**

02.07.2015, 1 ♀; 20.08.2015, 1 ♂; 26.08.2015, 1 ♀.

***Stagonomus bipunctatus* (Linnaeus, 1758)**

02.07.2015, 1♀.

REDUVIIDAE

***Ectomocoris caucasicus* Linnavuori, 1972**

24.07.2015, 1 ♀; 20.08.2015, 2 ♀♀; 26.08.2015 2 ♂♂, 1 ♀.

***Ectomocoris ululans* (Rossi, 1790)**

24.07.2015 1 ♂.

***Nagusta goedeli* (Kolenati, 1857)**

09.07.2015, 1 ♀.

***Oncocephalus squalidus* (Rossi, 1790)**

21.05.2015, 1 ♀.

***Pasira marinadolina* Putshkov & Moulet, 2003**

21.05.2015, 1 ♀.

***Peirates hybridus* (Scopoli, 1763)**

30.07.2015, 1 ♀.

***Reduvius ciliatus* Jakovlev, 1879**

28.05.2015, 1 ♂; 02.07.2015, 4 ♀♀, 3 ♂♂; 09.07.2015, 2 ♂♂; 16.07.2015, 1 ♀, 5 ♂♂; 24.07.2015, 2 ♀♀, 4 ♂♂; 30.07.2015, 2 ♀♀, 2 ♂♂; 06.08.2015, 1 ♀, 2 ♂♂; 15.08.2015, 6 ♀♀, 5 ♂♂; 26.08.2015, 5 ♀♀, 10 ♂♂, 17.09.2015, 4 ♀♀, 6 ♂♂.

***Reduvius iracundus* (Poda, 1761)**

20.08.2015, 1♀, 1 ♂.

RHOPALIDAE

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

09.07.2015, 1 ♀.

***Rhopalus parampunctatus* Schilling, 1829**

24.07.2015, 1 ♀.

RHYPAROCHROMIDAE

***Beosus quadripunctatus* (Müller, 1766)**

28.05.2015, 3 ♀♀, 2 ♂♂; 02.07.2015, 5 ♀♀, 4 ♂♂; ♂; 09.07.2015, 3 ♀♀, 3 ♂♂; 24.07.2015, 3 ♀♀, 3 ♂♂; 30.07.2015 1 ♂; 06.08.2015, 2 ♀♀, 3 ♂♂; 17.09.2015 1 ♂.

Camptocera glaberrima (Walker, 1872)

02.07.2015, 3 ♀♀; 09.07.2015, numerous; 16.07.2015, 16 ♀♀, 8 ♂♂; 24.07.2015, numerous; 30.07.2015, numerous; 06.08.2015, numerous; 15.08.2015, 1 ♀, 1 ♂; 20.08.2015, 17 ♀♀, 8 ♂♂; 26.08.2015, 4 ♀♀, 2 ♂♂.

***Emblethis verbasci* (Fabricius, 1803)**

24.07.2015, 2 ♂♂.

***Ischnopeza pallipes* Puton, 1892**

30.07.2015, 2 ♂♂.

***Lethaeus cribratissimus* (StåI, 1859)**

24.07.2015, 1 ♀.

***Lethaeus nitidus* (Douglas & Scott, 1868)**

09.07.2015, 1 ♂.

***Megalonotus colon* Puton, 1874**

02.07.2015, 1 ♂; 09.07.2015, 5 ♀♀, 1 ♂; 24.07.2015, 3 ♀♀, 1 ♂; 30.07.2015, 8 ♀♀, 14 ♂♂; 06.08.2015, 1 ♀, 3 ♂♂; 15.08.2015, 1 ♀, 2 ♂♂; 20.08.2015, 2 ♀♀; 26.08.2015, 1 ♀.

***Megalonotus maximus* (Puton, 1895)**

24.07.2015, 1♀; 30.07.2015, 1 ♀.

***Megalonotus sabulicola* (Thomson, 1870)**

06.08.2015, 2 ♀♀, 1 ♂.

***Neurocladus brachiidens* (Dufour, 1851)**

09.07.2015, 3 ♀♀; 4 ♂♂; 16.07.2015, 2 ♀♀; 24.07.2015, 2 ♀♀; 30.07.2015, 2 ♂♂.

***Peritrechus flavicornis* Jakovlev, 1877**

09.07.2015, 1 ♂; 30.07.2015, 3 ♀♀, 5 ♂♂; 06.08.2015, 3 ♂♂.

***Tropistethus lanternae* Linnavuori, 1960**

09.07.2015, 14 ♀♀, 5 ♂♂; 16.07.2015, 1 ♀, 2 ♂♂; 24.07.2015, 1 ♀, 1 ♂; 30.07.2015, 5♀♀, 2 ♂♂; 26.08.2015, 1 ♀, 1 ♂; 17.09.2015, 3 ♀♀.

***Xanthochilus saturnius* (Rossi, 1790)**

24.07.2015 1 ♂; 06.08.2015 2 ♀♀, 1♂; 20.08.2015, 1 ♀.

DISCUSSION

As a result of the evaluation of Heteroptera samples collected with Robinson light trap between May and September 2015 in Diyarbakır, Sur district, a total of 56 species from 13 families were identified. The distribution of determined species in families is as follows: Anthocoridae 1 species, Artheneidae 1 species, Bilissidae 1 species, Corixidae 1 species, Cydnidae 3 species, Lygaeidae 1 species, Miridae 18 species, Nabidae 3 species, Notonectidae 1 species, Pentatomidae 3 species, Reduviidae 8 species, Rhopalidae 2 species and Rhyparochromidae 13 species (Table 1). Considering that the most captured species in the light trap belong to the families Miridae, Rhyparochromidae and Reduviidae, respectively, these numbers coincide with the general species numbers of the families.

Among the detected species, *Reduvius ciliatus* (Reduviidae) is the most sensitive to light, as it was detected in 10 of the 12 collection periods. Similarly, *Camptocera glaberrima* (Rhyparochromidae) and *Nysius cymoides* (Lygaeidae) were found in 9 of 12 collection periods. In addition, these two species have very high numbers of specimens, especially in the period between 9 July and 6 August. Other common species are *Megalonotus colon*, *Tropistethus lanternae* and *Beosus quaripunctatus* (all Rhyparochromidae), *Sigara lateralis* (Corixidae) and *Geotomus elongatus* (Cydnidae).

Considering the results of this study and the other light traps studies conducted on Heteroptera in Türkiye (Hoberlandt, 1961; Önder & Adıgüzel, 1979; Önder et al., 1981, 1984; Yıldırım et al. 1999 and Tezcan et al., 2010) 305 species belonging to 25 families from Heteroptera are listed (Table 2.). When these species take into account, some of them are remarkable in that they come to the light traps.

Considering the results of the present study and 6 studies conducted previously, *Campylomma verbasci, Deraeocoris serenus, Lygus pratensis* and *Macrolophus pygmaeus* species were found in 6 of 7 studies; *Nysius cymoides, N. graminicola graminicola*, *Adelphocoris lineolatus*, *Nanopsallus carduellus*, *Oncotylus setulosus*, *Oncotylus viridiflavus*, *Polymerus cognatus*, *Nabis pseudoferus* and *Peirates hybridus* in 5 studies and *Macroscytus brunneus*, *Campylomma diversicorne*, *Charagochilus gyllenhalii*, *Megalocoleus molliculus*, *Plagiognathus bipunctatus*, *P. fulvipennis*, *Polymerus vulneratus*, *Trigonotylus pulchellus*, *T. ruficornis*, *Tuponia hippophaes*, *Acrosternum millierei*, *Eysarcoris ventralis*, *Beosus quadripunctatus* and *Lamprodema maura* in 4 studies.

Among these common species, *Deraeocoris serenus*, *Lygus pratensis* ve *Macrolophus pygmaeus, Nysius cymoides, Oncotylus viridiflavus*, *Macroscytus brunneus*, *Nabis pseudoferus*, *Peirates hybridus*, *Campylomma diversicorne*, *Trigonotylus pulchellus*, *Eysarcoris ventralis* and *Beosus quadripunctatus* were also identified in the present study.

Unlike other light trap studies in Türkiye, *Anthocoris visci*, *lschnodemus caspius*, *Sigara lateralis*, *Byrsinus pilosulus*, *Adelphocoris quadripunctatus, Alloeotomus cyprius*, *Creontiodes pallidus*, *Oncotylus anatolicus*, *O. nigricornis*, *Nabis ferus*, *Notonecta viridis*, *Mecidea lindbergi*, *Ectomocoris caucasicus*, *E. ululans*, *Nagusta goedeli*, *Pasira marinadolina*, *Rhopalus parampunctatus*, *Ischnopeza pallipes*, *Lethaeus cribratissimus*, *L. nitidus*, *Megalonotus colon*, *M. maximus*, *Neurocladus brachiidens*, *Peritrechus flavicornis*, *Tropistethus lanternae* and *Xanthochilus saturnius* are Heteroptera species caught in light trap for the first time in this study.

In addition, *Mecidea lindbergi* previously recorded from Siirt by Özgen & Çerçi (2018) from Türkiye, was recorded for the second time from Türkiye in this study. Among other recorded species, *Oncotylus anatolicus, Acrosternum breviceps, Pasira marinadolina, Reduvius ciliatus, Lethaeus nitidus, Megalonotus maximus, Tropistethus lanternae* and *Peritrechus flavicornis* are species with rare distribution.

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Figure 1. Satellite image of the research area (Google earth) (yellow star marks the spot where the light trap was placed)

Figure 2. View of the research area from different angles

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Table 1. Heteroptera species list with collection dates and individual numbers obtained in this study. (N:numerous)

Species/Datum	21.05	28.05	02.07	09.07	16.07	24.07	30.07	06.08	15.08	20.08	26.08	17.09
ANTHOCORIDAE												
Anthocoris visci Douglas, 1889					1							
ARTHENEIDAE												
Holcocranum saturejae (Kolenati, 1845)								2				
BILISSIDAE												
lschnodemus caspius Jakovlev, 1871				3		1						
CORIXIDAE												
Sigara lateralis (Leach, 1817)			48	15	13	41	1			1	38	5
CYDNIDAE												
Byrsinus pilosulus (Klug, 1845)										1		
Geotomus elongatus (Herrich-Schaeffer, 1840)				11	4	6			1		6	
Macroscytus brunneus (Fabricius, 1803)					2		3	2		5		
LYGAEIDAE												
Nysius cymoides (Spinola 1834)	10		24	61	N	N	N	N	3		192	
MIRIDAE												
Adelphocoris quadripunctatus (Fabricius, 1794)						1						
Alloeotomus cyprius (Wagner, 1953)			1									
Campylomma diversicorne Reuter, 1878			1						8			
Campylomma verbasci Poppius, 1914		5										
Creontiodes pallidus (Rambur, 1839)									1			

Table 1. Continued

Deraeocoris punctulatus (Fallén 1807)	1											
Deraeocoris rutilus (Herrich-Schaeffer, 1838)										6		
Deraeocoris serenus (Douglas & Scott, 1868)	5							9			1	
Dicyphus albonasatus Wagner, 1951		1										
Lygus pratensis (Linnaeus, 1758)	11	1	1	1	1	11					1	
Lygus gemellatus (Herrich-Schaeffer, 1835)						9					3	
Macrolophus pygmaeus (Rambur, 1839)	2	1						1				
Oncotylus anatolicus Wagner, 1969	5											
Oncotylus nigricornis Saunders, 1876	15	5										
Oncotylus viridiflavus (Goeze, 1778)	5											
Stenodema turanica Reuter, 1904					1							
Stenodema virens (Linnaeus, 1767)							1	1				
Trigonotylus pulchellus (Hahn, 1834)		3	16									
NABIDAE												
Nabis ferus (Linnaeus, 1758)						3	7	2			1	
Nabis pseudoferus Remane, 1949				5								
Nabis rugosus (Linnaeus, 1758)						1						
NOTONECTIDAE												
Notonecta viridis Delcourt, 1909						1						
PENTATOMIDAE												
Acrosternum breviceps (Jakovlev, 1889)							2	1				
Mecidea lindbergi Wagner, 1954		1								1	1	
Stagonomus bipunctatus (Linnaeus, 1758)		1										

Table 1. Continued

REDUVIIDAE													
Ectomocoris caucasicus Linnavuori, 1972						1				2	3		
Ectomocoris ululans (Rossi, 1790)						1							
Nagusta goedeli (Kolenati, 1857)				1									
Oncocephalus squalidus (Rossi, 1790)	1												
Pasira marmadolina Putshkov & Moulet, 2003	1												
Peirates hybridus (Scopoli, 1763)							1						
Reduvius ciliatus Jakovlev, 1879		1	7	2	6	6	4	3	11		15	10	
Reduvius iracundus (Poda, 1761)										2			
RHOPALIDAE													
Liorhyssus hyalinus (Fabricius, 1794)				1									
Rhopalus parampunctatus Schilling, 1829						1							
RHYPAROCHROMIDAE													
Beosus quadripunctatus (Muller, 1766)		5	9	6		6	1	5				1	
Camptocera glaberrima (Walker 1872)			3	N	24	N	N	N	2	25	6		
Emblethis verbasci (Fabricius, 1803)						2							
Ischnopeza pallipes Puton, 1892							2						
Lethaeus cribratissimus (Stål, 1859)						1							
Lethaeus nitidus (Douglas & Scott, 1868)				1									
Megalonotus colon Puton, 1874			1	6		4	22	4	3	2	1		

Table 2. Heteroptera species list obtained in previous light trap studies and this study in Türkiye

Heteroptera species / Studies	Hoberlandt (1961)	Önder & Adı-güzel (1979)	Önder et al. (1981)	Önder et al. (1984)	Yıldı-rım et al. (1999)	Tez-can et al. (2010)	This study
ANTHOCORIDAE							
Anthocoris visci Douglas, 1889							+
Lyctocoris dimidiatus (Spinola, 1837)			+	+			
Orius horvathi (Reuter, 1884)				+			
Orius laevigatus (Fieber, 1860)		+		+			
Orius majusculus (Reuter, 1879)				+			
Orius minutus (Linnaeus, 1758)			+				
Orius niger (Wolff, 1811)		+		+			
Orius laticollis (Reuter, 1884)		+					
ARTHENEIDAE							
Artheneis balcanica (Kormilev, 1938)			+				
Holcocranum saturejae (Kolenati, 1845)			+	+			+
BERYTIDAE							
Gampsocoris punctipes (Germar, 1822)			+				
BILISSIDAE							
Ischnodemus caspius Jakovlev, 1871							+
COREIDAE							
Centrocoris variegatus Kolenati, 1845						+	
Coreus marginatus (Linnaeus, 1758)						+	
Coriomeris hirticornis (Fabricius, 1794)		+					

Table 2. Continued

CORIXIDAE			+									
Corixa affinis Leach, 1817												
Corixa panzeri Fieber, 1848							+					
Corixa punctata (Illiger, 1807)							+					
Heliocorisa vermiculata (Puton, 1874)				+?								
Hesperocorixa linnaei (Fieber, 1848)				+								
Hesperocorixa parallela (Fieber, 1860)				+								
Paracorixa concinna (Fieber, 1848)						+						
Sigara lateralis (Leach, 1817)											+	
Sigara nigrolineata (Fieber, 1848)				+		+						
Sigara striata (Linnaeus, 1758)							+					
CYDNIDAE												
Byrsinus pilosulus (Klug, 1845)										+		
Canthophorus dubius (Scopoli, 1763)							+					
Geotomus elongatus (Herrich-Schaeffer, 1840)			+					+	+	+		
Macroscytus brunneus (Fabricius, 1803)			+	+				+	+	+		
Sehirus morio (Linnaeus, 1761)						+						
CYMIDAE												
Cymus claviculus (Fallén, 1807)				+								
Cymus melanocephalus Fieber, 1861						+						
GEOCORIDAE												
Geocoris arenarius (Jakovlev, 1867)			+									
Geocoris megacephalus (Rossi, 1790)			+									

Table 2. Continued

LEPTOPODIDAE												
Patapius spinosus (Rossi, 1790)			+									
LYGAEIDAE												
Arocatus longiceps Stål, 1872						+						
Horvathiolus superbus (Pollich, 1781)			+									
Kleidocerys ericae (Horváth, 1908)				+								
Kleidocerys resedae resedae (Panzer, 1797)							+					
Nysius cymoides (Spinola 1834)		+	+	+		+					+	
Nysius graminicola graminicola (Kolenati, 1845)			+	+		+	+	+				
Nysius immunis (Walker, 1872)			+									
Nysius helveticus (Herrich-Schaeffer, 1850)			+							+		
Nysius senecionis (Schilling, 1829)			+	+				+				
Nysius thymi thymi (Wolff, 1804)			+					+				
Ortholomus carinatus (Lindberg, 1932)			+									
MICRONECTIDAE												
Micronecta griseola Horváth, 1899						+						
Micronecta scholtzi (Fieber, 1860)				+								
MIRIDAE												
Acrorhinium conspersum Noualhier, 1895	+	+										
Adelphocoris bimaculicollis Lindberg, 1948				+								
Adelphocoris insignis Horváth, 1898						+						
Adelphocoris lineolatus (Goeze, 1778)	+			+		+	+			+		
Adelphocoris seticornis (Fabricius, 1775)				+		+						

Table 2. Continued

Adelphocoris quadripunctatus (Fabricius, 1794)								+
Adelphocois vandalicus (Rossi, 1790)			+	+				
Agnocoris reclairei (Wagner, 1949)				+				
Agnocoris rubicundus (Fallén, 1807)			+					
Alloeotomus cyprius (Wagner, 1953)								+
Alloeotomus gothicus (Fallén, 1807)						+		
Amblytylus concolor Jakovlev 1877	+		+	+				
Amblytylus luridus Hoberlandt, 1961	+							
Amblytylus nasutus (Kirschbaum, 1856)			+	+				
Atomoscelis onusta (Fieber, 1861)	+		+					
Atractotomus kolenatii (Flor, 1860)			+?					
Blepharidopterus angulatus (Fallén, 1807)	+			+				
Blepharidopterus dubius Wagner, 1954			+?					
Brachycoleus decolor Reuter, 1887	+							
Brachycoleus steini Reuter, 1877			+	+				
Brachynotocoris puncticornis Reuter, 1880		+	+			+		
Calocoris nemoralis (Fabricius, 1787)			+					
Campylomma annulicorne (Signoret, 1865)		+		+				
Campylomma diversicorne Reuter, 1878		+	+	+				+
Campylomma verbasci Meyer-Dür, 1843)	+	+		+		+		+
Charagochilus gyllenhalii (Fallén, 1807)			+	+		+	+	
Closteratomus annulus (Brullé, 1832)			+					
Closteratomus norvegicus (Gmelin, 1790)			+	+				

Table 2. Continued

Closterotomus picturatus (Reuter, 1896)			+							
Cyllecoris histrionius (Linnaeus, 1767)			+	+						
Cyphodema instabilis (Lucas, 1849)				+						
Compsidolon pumilum (Jakovlev, 1876)	+		+							
Compsidolon salicellum (Herrich-Schaeffer, 1841)			+							
Creontiodes pallidus (Rambur, 1839)										+
Deraeocoris lutescens (Schilling, 1837)			+	+						
Deraeocoris pallens (Reuter, 1904)		+						+		
Deraeocoris punctulatus (Fallén 1807)	+									+
Deraeocoris rutilus (Herrich-Schaeffer, 1838)		+	+	+						+
Deraeocoris ruber (Limneus, 1758)			+							
Deraeocoris serenus (Douglas & Scott, 1868)		+	+	+		+		+		+
Deraeocorts scutellaris (Fabricius, 1794)							+			
Deraeocoris trifasciatus (Linnaeus, 1767)			+							
Deraeocoris ventralis Reuter, 1904			+	+						
Dicyphus albonasatus Wagner, 1951		+	+							+
Dicyphus cerastii Wagner, 1951				+						
Dicyphus errans (Wolff, 1804)			+							
Ectagela guttala Schmidt, 1939			+							
Globiceps sordidus sordidus Reuter, 1876			+				+			
Globiceps flavomaculatus (Fabricius, 17 94										
Globiceps horvathi Reuter, 1912				+						
Hallodapus nufescens Burmeister, 1835)							+			

Table 2. Continued

Hallodapus suturalis (Herrich-Schaeffer, 1837)				+		+		
Heterocordylus genistae (Scopoli, 1763)				+				
Isometopus intrusus (Herrich-Schaeffer, 1835)			+					
Lepidargyrus ancorifer (Fieber, 1858)		+	+					
Lepidargyrus seidenstueckeri (Wagner, 1956)			+					
Leptopterna dolabrota (Linnaeus, 1758)						+		
Leptopterna ferrugata (Fallén, 1807)				+				
Liocoris tripustulatus (Fabricius, 1781)			+	+				
Lopus decolor decolor (Fallén, 1807)				+?				
Lygus gemellatus (Herrich-Schaffer, 1835)	+			+				+
Lygus pratensis (Linnaeus, 1758)		+	+	+		+	+	+
Lygus rugulipennis Poppius, 1911			+	+		+		
Macrolophus costalis Fieber, 1858			+	+		+		
Macrolophus glaucescens Fieber, 1858			+?					
Macrolophus melanotoma (A. Costa, 1853)	+		+					
Macrolophus pygmaeus (Rambur, 1839)	+	+	+	+		+	+	+
Macrotylus herrichi (Reuter, 1873)						+		
Macrotylus horvathi Reuter, 1876)			+	+				
Macrotylus paykullii (Fallén, 1807)				+				
Macrotylus solilartus Meyer-Dür, 1843)			+					
Malacocoris chlorizans (Panzer, 1794)			+					
Maurodactylus albidus (Kolenati, 1845)		+?						
Megalocoleus dissimilis (Reuter, 1876)	+							

Table 2. Continued

Megalocoleus exsanguis (Herrich-Schaeffer, 1835)	+							
Megalocoleus molliculus (Fallén, 1807)		+	+	+	+			
Megalocoleus tanaceti (Fallén, 1807)				+				
Mimocoris rugicollis (A. Costa, 1853)			+	+				
Miridius quadrivirgatus (A. Costa, 1853)			+	+				
Nanopsallus carduellus (Horváth, 1888)	+	+	+	+	+			
Oncotylus anatolicus Wagner, 1969								+
Oncotylus nigricornis Saunders, 1876								+
Oncotylus pyrethri (Becker, 1864)					+			
Oncotylus setulosus (Herrich-Schaffer, 1839)	+	+	+	+	+			
Oncotylus viridiflavus (Goeze, 1778)		+	+	+	+			+
Oncotylus viridiflavus longipes Wagner, 1954	+							
Opisthotaenia fulvipes Reuter, 1901				+	+			
Orthocephalus saltator (Hahn, 1835)			+	+				
Orthops basalis (A. Costa, 1852)	+			+				
Orthops campestris (Linnaeus, 1758)			+	+				
Orthops kalmii (Linnaeus, 1758)		+	+	+	+			
Orthotylus beieri Wagner, 1942			+					
Orthotylus concolor (Kirschbaum, 1856)				+?				
Orthoglus cupressi Reuter, 1883				+				
Orthotylus flavosparsus (C.R. Sahlberg, 1841)		+	+	+	+			
Orthotylus marginalis Reuter, 1883			+	+				
Orthotylus minutus Jakovlev, 1877	+							

Table 2. Continued

Orthotylus moncreaffi (Douglas & Scott, 1874)			+	+						
Orthotylus obscurus Reuter, 1875					+?					
Orthotylus nassatus (Fabricius, 1787)	+		+	+	+					
Orthotillus prasinus (Fallén, 1826)				+						
Orthotylus tenellus (Fallén, 1807)			+?	+						
Orthotylus virescens Douglas & Scott, 1865)	+		+							
Orthotylus viridinervis (Kirschbaum, 1856)			+	+						
Pilophorus cinnamopterus (Kirschbaum, 1856)			+		+					
Pilophorus clavatus (Linnaeus, 1767)					+					
Pilophorus perplexus Douglas & Scott, 1875			+	+						
Phylus coryli (Linnaeus, 1758)			+							
Phylus melanocephalus (Linnaeus, 1767)			+	+						
Phytocoris austriacus Wagner, 1954			+							
Phytocoris chardoni Puton, 1887			+	+						
Phytocoris insignis Reuter, 1876						+				
Phytocoris loralis Wagner, 1976		+								
Phytocoris obliquoides Wagner, 1959					+					
Phytocoris parvulus Reuter, 1880			+							
Phytocoris pinihalepensis Lindberg,1948						+				
Phytocoris seidenstueckeri Wagner, 1955			+	+						
Phytocorts tiliae (Fabricius, 1777)					+					
Phytocoris ulmi (Linnaeus, 1758)			+							

Table 2. Continued

Plagiognathus bipunctatus Reuter, 1883		+	+	+	+	+				
Plagiognathus chrysanthemi (Wotff, 1804)			+			+				
Plagiognathus flavipes Reuter, 1875					+					
Plagiognathus fulvipennis (Kirschbaum, 1856)		+	+	+	+	+				
Plagiognathus raphani Wagner, 1963		+								
Polymerus aspenulae (Fieber, 1861)			+?							
Polymerus cognatus (Fieber 1858)	+	+	+	+	+	+				
Polymerus holosericeus Hahn, 1831					+					
Polymerus palustris Reuter, 1907					+					
Polymerus unifasciatus (Fabricius, 1794)			+	+	+	+				
Polymerus vulneratus (Panzer, 1806)	+		+	+	+	+				
Psallus collaris (Wagner, 1975)			+							
Psallus lepidus Fieber, 1858		+								
Psallus ocularis (Mulsant & Rey, 1852)			+							
Psallus pardalis Seidenstücker, 1966					+					
Psallus perrisi (Mulsant & Rey, 1852)					+					
Psallus pinicola Reuter, 1875						+?				
Psallus quercicola (Reuter, 1904)					+					
Psallus quercus (Kirschbaum, 1856)			+							
Psallus variabilis (Fallén, 1807)			+							
Psallus varians varians (Herrich-Schaeffer, 1841)			+							
Pseudoloxops coccineus (Meyer-Dür, 1843)		+	+							
Reuteria marqueti Puton, 1875						+?				

Table 2. Continued

Rhabdomiris striatellus (Fabricius, 1794)			+								
Salicaras roseri (Herrich-Schaeffer, 1838)			+		+						
Saundersiella moerens Reuter, 1870			+								
Stenodema calcarata (Fallén, 1807)		+	+		+						
Stenodema laevigata (Linnaeus, 1758)			+								
Stenodema sericans (Fieber, 1861)			+								
Stenodema trispinosa Reuter, 1904	+					+					
Stenodema turanica Reuter, 1904		+				+			+		
Stenodema virens (Linnaeus, 1767)			+		+				+		
Stenotus binotatus (Fabricius, 1794)			+		+	+					
Stenoparia putoni Fieber, 1870	+										
Stethoconus pyri (Mella, 1869)			+								
Sthenarus rotermundi (Scholtz, 1847)					+						
Systellonotus triguttatus (Linnaeus, 1767)					+						
Taylorilygus apicalis (Fieber, 1861)		+			+	+					
Trigonotylus pulchellus (Hahn, 1834)		+	+		+	+			+		
Trigonotylus ruficornis (Geoffroy, 1785)		+	+		+	+					
Trigonotylus tenuis Reuter, 1893	+				+						
Tuponia arcuifera Reuter, 1879	+										
Tuponia brevirostris Reuter, 1883					+						
Tuponia dalmatina Wagner, 1955			+								
Tuponia hippophaes (Fieber, 1861)	+	+	+		+						
Tuponia mixticolor (A. Costa, 1862)			+								

Table 2. Continued

Tuponia montandoni Reuter, 1899					+					
Utopnia torquata (Puton, 1881)	+		+							
Zanchius alatanus Hoberlandt, 1956			+							
NABIDAE										
Himacenus mirmicoides (O. Costa, 1834)					+					
Nabis capsiformis Germar, 1838								+		
Nabis ferus (Linnaeus, 1758)										+
Nabis palifer Seidenstücker, 1954	+									
Nabis pseudoferus Remane, 1949			+	+	+			+	+	
Nabis punctatus punctatus A. Costa, 1847							+			
Nabis rugosus (Linnaeus, 1758)			+	+						+
Nabis sareptanus Dohrn, 1862			+							
NOTONECTIDAE										
Notonecta viridis Delcourt, 1909										+
OXICARENIDAE										
Metopoplax origani (Kolenati, 1845)			+		+					
Oxycarenus pallens (Herrich-Schaeffer, 1850)			+							
PENTATOMIDAE										
Acrosternum breviceps (Jakovlev, 1889)			+							+
Acrosternum heegeri Fieber, 1861			+	+				+		
Acrosternum millierei (Mulsant & Rey, 1866)			+	+	+			+		
Apodiphus amygdali (Germar, 1817)			+						+	
Brachynema germanii (Kolenati, 1846)	+									

Table 2. Continued

Dolycoris baccarum (Linnaeus, 1758)			+				+	
Eurydema ornata (Linnaeus, 1758)				+				
Eysarcoris ventralis (Westwood, 1837)		+	+	+			+	
Mecidea lindbergi Wagner, 1954								+
Nezara viridula (Linnaeus, 1758)			+				+	
Peribalus strictus strictus (Fabricius, 1803)			+	+				
Piezodorus lituratus (Fabricius, 1794)			+					
Rhaphigaster nebulosa (Poda, 1761)			+				+	
Stagonomus bipunctatus (Linnaeus, 1758)								+
PYRRHOCORIDAE								
Scantius aegyptius aegyptius (Linnaeus, 1758)			+					
REDUVIIDAE								
Ectomocoris caucasicus Linnavuori, 1972								+
Ectomocoris ululans (Rossi, 1790)								+
Nagusta goedeli (Kolenati, 1857)								+
Oncocephalus acutangulus Reuter, 1882			+	+				
Oncocephalus squalidus (Rossi, 1790)			+	+				+
Oncocephalus thoracicus Fieber, 1861		+						
Pasira marinadolina Putshkov & Moulet, 2003								+
Peirates hybridus (Scopoli, 1763)		+	+	+			+	+
Pygolampis bidentata (Goeze, 1778)			+					
Reduvius ciliatus Jakovlev, 1879								+
Reduvius pallipes Klug, 1830		+					+	

Table 2. Continued

Reduvius personatus (Linnaeus, 1758)				+	+					
Rhynocoris iracundus (Poda, 1761)										+
RHOPALIDAE										
Brachycarenus tigrinus (Schilling, 1829)			+	+	+					
Chorosoma schillingii (Schilling, 1829)			+							
Liorhyssus hyalinus (Fabricius, 1794)			+	+						+
Rhopalus parumpunctatus Schilling, 1829										+
Stictopleurus subtomentosus (Rey, 1888)			+							
RHYPAROCHROMIDAE										
Beosus maritimus (Scopoli, 1763)			+							
Beosus quadripunctatus (Muller, 1766)			+		+			+		+
Camptocera glaberrima (Walker 1872)	+		+	+						+
Emblethis denticollis Horváth, 1878					+					
Emblethis verbasci (Fabricius, 1803)			+							+
Eremocoris fenestratus (Herrich-Schaeffer, 1839				+				+		
Graptopeltus validus (Horváth, 1875)					+					
Graptostethus servus (Fabricius 1787)								+		
Icus angularis Fieber, 1861								+		
Ischnopeza pallipes Puton, 1892										+
Lamprodema maura (Fabricius, 1803)			+	+	+			+		
Lethaeus cribratissimus (Stål, 1859)										+
Lethaeus lethierryi (Puton, 1869)			+							
Lethaeus nitidus (Douglas & Scott, 1868)										+

Table 2. Continued

Lethaeus picipes (Herrich-Schaeffer, 1850)		+							
Megalonotus colon Puton, 1874									+
Megalonotus longipilis (Puton, 1884)		+?							
Megalonotus maximus (Puton, 1895)									+
Megalonotus sabulicola (Thomson, 1870)				+					+
Megalonotus setosus Puton, 1874		+							
Melanocoryphus albomaculatus (Goeze, 1778)			+						
Neurocladus brachitidens (Dufour, 1851)									+
Pachybrachius capitatus (Horváth, 1882)			+						
Pachybrachius fracticollis (Schilling, 1829)		+							
Paromius gracilis (Rambur, 1839)							+		
Peritrechus angusticollis (R.F. Sahlberg, 1848)				+					
Peritrechus flavicornis Jakovlev, 1877									+
Peritrechus gracilicornis Puton, 1877		+	+	+					
Peritrechus meridionalis Puton, 1877			+	+					
Plinthisus ptilioides Puton, 1874			+	+					
Raglius alboacuminatus (Goeze, 1778)			+						
Remaudiereana annulipes (Baerensprung, 1859)			+				+		
Scolopostethus pictus (Schilling, 1829)			+				+		
Thaumastopus marginicollis (Lucas, 1849)				+					
Tropistethus fasciatus Ferrari 1874	+	+	+						
Tropistethus holosericus (Scholtz, 1846)		+							
Tropistethus lantemae Linnavuori, 1960									+
Xanthochilus minuscalus (Reuter, 1885)		+							

Table 2. Continued

Xanthochilus saturnius (Rossi, 1790)									+
SALDIDAE									
Chartoscirta cincta (Herrich-Schaeffer, 1841)			+	+					
Macrosaldula variabilis (Herrich-Schaeffer, 1835)				+					
Saldula arenicola arenicola (Scholtz, 1847)			+						
Saldula opacula (Zetterstedt, 1838			+						
STENOCEPHALIDAE									
Dicranocephalus setulosus (Ferrari, 1874)		+	+						
TINGIDAE									
Acalypta marginata (Wolff, 1804)				+					
Campylosteira bosnica Horváth, 1892		+							
Dictyla echii (Schrank, 1782)			+						
Dictyla nassata (Puton, 1874)			+						
Monosteira unicostata (Mulsant & Rey, 1852)		+							
Stephanitis pyri (Fabricius, 1775)		+						+	
VELIIDAE									
Microvelia pygmaea (Dufour, 1833)			+	+					