

Linzer biol. Beitr.	39/2	929-953	18.12.2007
---------------------	------	---------	------------

## Data on the Geographic Distribution of Sesiidae (Lepidoptera) in Turkey

T. GARREVOET, W. GARREVOET & H. ÖZBEK

**Abstract:** Detailed distributional data based on material collected and observations made on Sesiidae predominantly in eastern Turkey from 2001 to 2006, are presented. Special attention is paid to species that are endangered and should get the "Red List" status. In particular two species, *Pyropteron cirgisa* (BARTEL 1912) and *Chamaesphexia palustris* KAUTZ 1927 were found to be critically endangered and urgent measures to protect their habitats are proposed. Where suitable, the agro-economical importance of some species is discussed. Two species, *Pyropteron atypica* KALLIES & ŠPATENKA 2003 and *Dipchasphecia consobrina* (LE CERF 1938), are recorded for the Turkish fauna for the first time. *Synanthedon armeniaca* GORBUNOV 1991 is here introduced as a new synonym of *Synanthedon myopaeformis* (BORKHAUSEN 1789). *Bembecia mira* GORBUNOV & ŠPATENKA 2001 as a new synonym of *Bembecia scopigera* (SCOPOLI 1763) and *Bembecia zuvandica* GORBUNOV 1987 as a new synonym of *Bembecia apyra* (LE CERF 1937). Finally, the taxon *transcaucasica* (STAUDINGER 1891) is here regarded a subspecies of *Bembecia sanguinolenta* (LEDERER 1853) (stat.nov.) while *turcmena* (BARTEL 1912) is considered a subspecies of *Bembecia pontica* (STAUDINGER 1891) (stat. rev.).

**Key words:** Lepidoptera, Sesiidae, distribution, new records, new synonyms, Turkey.

### Introduction

The Sesiidae (clearwings) are a large family of Lepidoptera, with almost 1400 valid species described worldwide (LAŠTŮVKA & LAŠTŮVKA 2001, PÜHRINGER & KALLIES 2004). Although they prefer warm climates and are well represented in semi-arid to arid environments, they occur on all continents except Antarctica. The adults mimic other insects like wasps and bees in order to gain a reduction in predation (Batesian mimicry). Almost all species are solely day-active and often even need sunshine and higher temperatures to become active.

The larvae live, without exception, inside the foodplants, i.e. inside a tree, branch, root or rootstock. In areas with major temperature differences during the day versus the night and/or winter versus summer, the majority lives in roots or rootstocks. This probably allows them to regulate more easily the desired temperature and humidity.

In our first contribution, besides the faunistic and agro-economical point of view, we took into account the pheromone responses of the recorded species (GARREVOET et al.

2005). Present data are the results of the annual expeditions (2001-2006) of the authors predominantly to eastern Turkey and give distributional records of all Sesiidae species observed. In agreement with the research proposal, approved by the High Education Council and the relevant Turkish authorities, the investigation of the Sesiid fauna of the eastern part of Turkey was the aim of this study. All expeditions were made in July and the first decade of August, leaving a gap in the data on species having a flight period outside this period. For many species, the six year period of research proved to be insufficient to generate a complete and exhaustive overview of their distribution pattern. The authors hope this paper will stimulate Turkish and foreign researchers to continue these kind of studies to establish a profound knowledge of the diversity of the flora and fauna in eastern Turkey. This should be the foundation for the adequate protection of the ecosystems of the country. Preservation of a species habitat but not protection of the individual species is the only way to preserve the natural richness of Turkey. By provisionally assigning a "Red List" status to some species the authors hope action will be taken by the Turkish authorities to preserve the natural environment for these species for the future.

From taxonomic point of view Turkey is a very important and interesting region. In particular, the study of the north-eastern and south-eastern part is essential to achieve an understanding of the evolution of the Turkish Sesiidae in general as in these areas the influences and interactions with the Caucasian and Iranian fauna dominate.

### **Material and Methods**

It is not the aim of this publication to give a complete overview of the Turkish Sesiidae fauna since mainly the eastern part of the country was studied. This is in agreement with the original project filed to obtain the necessary permissions of the "High Education Council" and the responsible Turkish authorities. Furthermore, the studied area is so huge that 6 years of research are certainly insufficient to result in a complete and detailed distribution record. As virtually all observations were performed in July and August species having their flight period outside these two months are underrepresented in the samples. All species observed during the trips are mentioned as well as some observations by other entomologists. Species collected as larvae are indicated as such and the date cited refers to the observation of the larvae.

Unless mentioned otherwise the observations were carried out by:

2001: Garrevoet T. & W.

2002: Garrevoet T. & W. & Vandorpe N.

2003: Garrevoet T. & W. & J. & Vandorpe N.

2004: Garrevoet T. & J. & Özbek H.

2005: Garrevoet T. & W. & J. & Vandorpe N.

2006: Garrevoet T. & W. & J. & Özbek H.

Attention is paid also to the possible agro-economical importance of some species and also to the species that are endangered and therefore should acquire the status of "Red List" species.

## Results

The result of the present study is a distribution list of 74 species (and 3 subspecies) in 12 genera. 2 species are new for the Turkish fauna.

Distribution is based on ŠPATENKA et al. (1999) unless more recent data are available.

### List of the species

#### *Tinthia brosisformis* (HÜBNER [1813])

**Material:** **Adıyaman:** Çelikan, N38°01'13.7" E38°12'45.5", 12-07-2002. **Ağrı:** Tutak, N39°32'09.8" E42°50'06.0", 13-07-2001; Doğubayazıt, N39°39'14.2" E44°02'22.1", 11-07-2001. **Ankara:** Bezihrane, N39°32'24.2" E32°51'33.2", 08-07-2002; Bala, N39°35'45.0" E33°12'32.8", 08-07-2002. **Artvin:** Demirdöven, N40°54'39.6" E41°20'44.5", 03-08-2003; Demirdöven, N40°55'16.5" E41°21'09.0", 03-08-2003; Kaplıca, N40°56'03.0" E41°30'21.5", 29-07-2004; Kocabey, N41°14'39.8" E42°25'21.3", 29-07-2004; Salkımlı, N41°11'39.3" E41°52'55.7", 29-07-2004. **Bingöl:** Kırkağıl, N38°55'11.0" E40°20'08.2", 12-07-2003; Bozkanat, N38°55'03.0" E40°55'10.4", 19-07-2002. **Bitlis:** Kuskunkiran Geçidi, N38°23'01.4" E42°46'30.9", 13-07-2002; Tatvan, N38°30'54.0" E42°14'39.7", 13-07-2002. **Bolu:** Yenigüney, N40°44'44.6" E31°51'29.9", 30-07-2002. **Erzurum:** Bozburun, N39°59'24.8" E20°33'52.8", 25-07-2004; Erzurum, N39°48'50.3" E41°09'51.1", 17-07-2001; Gölyurt Geçidi, N40°20'56.0" E40°47'35.6", 11-07-2006, 21-07-2006; Güzelyurt, N39°45'46.5" E41°01'25.0", 14-07-2006; Hoşköy, N40°39'03.5" E42°18'50.8", 28-07-2004; Kaledibi, N40°19'35.0" E41°33'01.5", 27-07-2004; Nişantaşı, N40°40'56.2" E42°24'18.7", 28-07-2004; Rizekent, N40°10'56.1" E40°59'19.7", 30-07-2005; Şehitler, N40°19'27.1" E41°44'51.1", 27-07-2004; Yukarı Sivri, N40°20'40.1" E41°38'02.1", 27-07-2004; Yumaklı, N40°14'21.0" E41°31'09.3", 12-07-2003, 13-07-2003, 14-07-2003, 17-07-2003, 13-07-2004, 27-07-2003, 02-08-2003, 18-07-2003, 29-07-2003, 29-07-2003, 31-07-2003, 17-07-2002, 04-08-2004, 02-08-2004. **Hakkari:** Süvarihalil Geçidi, N37°29'53.6" E43°20'59.0", 15-07-2005. **İçel:** Bardat, N36°25'41.0" E33°09'33.0", 21-07-2000 (Dils J. & Faes J.); Çömelek, N36°42'48.5" E33°42'21.0", 10-07-2002, 22-07-2000 (Dils J. & Faes J.); Geçimli, N36°47'08.0" E33°20'54.1", 09-07-2002; Hacıametli, N36°40'36.3" E33°36'08.6", 10-07-2002; Karabeşli, N36°41'58.2" E34°09'56.6", 11-07-2002; Sertavul Geçidi, N36°51'21.1" E33°17'06.9", 09-07-2002. **Karaman:** Uçbölük, N36°31'00.0" E33°00'20.0", 21-07-2000 (Dils J. & Faes J.). **Kars:** Duranlı, N40°02'59.6" E43°17'27.6", 20-07-2003, 21-07-2003; Karakurt, N40°09'13.4" E42°37'33.5", 10-07-2001, 20-07-2003; Kötek, N40°13'39.2" E42°59'38.2", 20-07-2001; Sarıkamış, N40°15'45.9" E42°39'31.6", 15-07-2003, 26-07-2003; Taşlıgüney, N40°06'34.9" E42°25'08.9", 13-07-2004. **Kayseri:** Sarız, N38°28'23.0" E36°33'13.0", 27-07-2000 (Dils J. & Faes J.); Uçkuyu, N39°51'10.0" E37°53'13.5", 27-07-2002. **Kırşehir:** Mucur, N39°03'49.5" E34°19'54.2", 08-07-2002. **Konya:** Taşkent, N36°52'52.0" E32°31'14.0", 20-07-2000 (Dils J. & Faes J.). **Malatya:** Yaygın, N38°15'30.8" E38°33'32.3", 10-07-2006. **Neşehir:** Avanos, N38°42'47.8" E34°54'45.4", 28-07-2002, 10-07-2003; Göreme, N38°40'52.1" E34°51'55.7", 09-07-2002; Ürgüp, N38°40'35.2" E34°53'25.9", 10-07-2003. **Sivas:** Bahceci, N38°42'14.1" E37°24'24.6", 09-07-2004; Kartalca, N39°33'33.4" E36°37'55.6", 26-07-2002; Tepeköy, N39°51'10.0" E37°53'13.5", 26-07-2002; Zara, N39°51'10.0" E37°53'13.5", 08-07-2001, 21-07-2001. **Van:** Çolpan, N38°51'52.5" E43°28'53.0", 11-07-2001; Erciş, 13-07-2001; Gevaş, N38°16'30.7" E43°03'52.4", 12-07-2001, 14-07-2002, 19-07-2002; Güzeldere Geçidi, N38°09'05.6" E44°01'01.0", 21-07-2002; Yukarınarlıca, N38°07'31.4" E43°04'28.4", 17-07-2004, 18-07-2004.

**Distribution:** Slovakia, Hungary, Croatia, Montenegro, southern Serbia, Romania, Albania, Bosnia-Herzegovina, Bulgaria, Greece, southern Russia, Turkey, Iran, Turkmenistan, Uzbekistan, Kazakhstan, Kyrgyzstan

**Remarks:** a very common species throughout Turkey.

***Negotinthia myrmosaeformis* (HERRICH-SCHÄFFER 1846)**

**Material:** **Adana:** Aḥçıbekirli, N37°36'24.0" E34°58'09.0", 14-06-1999 (Dils J. & Faes J.). **Erzurum:** Gölyurt Geçidi, N40°20'56.0" E40°47'35.6", 11-07-2006; Kop Geçidi, N40°01'20.6" E40°30'35.3", 21-07-2005. **İçel:** Güzeloluk, N36°44'34.0" E34°08'12.0", 15-06-1999 (Dils J. & Faes J.). **Kars:** Sarıkamış, N40°15'22.3" E42°38'47.3", 10-07-2001, 18-07-2001, 19-07-2001, 15-07-2002, 15-07-2003, 16-07-2003, 17-07-2003, 19-07-2003, 26-07-2003, 26-07-2005 (Garrevoet W. & Vandrope N.). **Konya:** Beyşehir, N37°33'25.0" E31°27'11.0", 12-06-1999 (Dils J. & Faes J.). Sivas: Karataş, N39°51'11.2" E38°17'56.6", 10-07-2004

**Distribution:** Bulgaria, Greece, Macedonia, Montenegro, eastern Romania, Serbia, northern Turkey, Ukraine (Krym).

**Remarks:** a common but local species in Turkey.

***Negotinthia hoplisiformis* (MANN 1864)**

**Material:** **Adıyaman:** Çelikan, N38°01'13.7" E38°12'45.5", 12-07-2002. **Erzurum:** Gölyurt Geçidi, N40°23'51.6" E40°47'41.9", 12-07-2004; Rizekent, N40°09'32.4" E41°00'51.3", 25-07-2005. **Hakkari:** Süvarihalil Geçidi, N37°29'53.6" E43°20'59.0", 15-07-2005; Süvarihalil Geçidi, N37°29'59.4" E43°24'44.6", 16-07-2005. **İçel:** Hacıametli, N36°41'40.4" E33°37'09.0", 10-07-2002. **Kayseri:** Yahyalı, N38°04'20.7" E35°19'10.3", 07-06-2005 (Dils J. & Faes J.). **Malatya:** Reşadiye, N37°58'10.8" E37°59'53.8", 13-07-2002; Yaygın, N38°15'30.8" E38°33'32.3", 10-07-2006; Yazıköy, N38°41'18.1" E37°25'13.1", 09-07-2004. **Nevşehir:** Göreme, N38°40'52.1" E34°51'55.7", 09-07-2002. **Van:** Gevaş, N38°16'30.7" E43°03'52.4", 12-07-2001, 14-07-2002, 19-07-2002, 20-07-2002, 23-07-2003, 16-07-2004; Güzeldere Geçidi, N38°09'01.8" E43°59'04.0", 21-07-2002.

**Distribution:** northern Greece, Turkey, Armenia, Azerbaijan (Nakhichevan).

**Remarks:** a locally common species especially in eastern Turkey.

***Pennisetia hylaeiformis hylaeiformis* (LASPEYRES 1801)**

**Material:** **Artvin:** Kaşbaşı, N40°51'54.3" E41°20'13.4", 03-08-2003; Kaşbaşı, N40°52'10.7" E41°18'40.7", 03-08-2003; Oğunlar, N40°51'37.3" E41°14'40.5", 30-07-2004; Yaylalar, N40°51'51.5" E41°15'03.4", 03-08-2003. **Erzurum:** Değirmenlidere, N40°45'14.6" E42°32'47.7", 28-07-2004.

**Distribution:** Europe (except on the Mediterranean islands and the British Isles), northern Turkey, European part of Russia, Caucasus, south-western and southern Siberia, Russian Far East (Amour region, Primorye, Sakhalin); north-eastern China (Manchuria).

**Remarks:** in eastern Turkey a not so common and very local species. Where it occurs it is usually abundant.

***Eusphacia pimplaeformis* (OBERTHÜR 1872)**

**Material:** **Erzurum:** Pasinler, N39°59'20.2" E41°43'45.4", 13-07-2001 (adult and pupae); Atatürk University Campus, 14.07.2006, (adult) (C. Güclü).

**Distribution:** eastern Macedonia, north-eastern Greece, southern Bulgaria, Turkey, Iraq, Iran KALLIES & ŠPATENKA (2003a), Russia (Caucasus, Krasnodar, Mak-hachkala), Georgia, Armenia, Azerbaijan (Nakhichevan).

**Remarks:** a rare and very local species throughout Turkey because suitable biotopes are scarce. This species needs very old *Populus alba* trees (or *Salix* sp.). These

trees are becoming increasingly rare since poplar trees are mostly cut when they are still rather young. Most of the older trees were standing along main roads between cities but these were cut in numbers recently to broaden the roads. However, we are pleased that this species was recorded on the Campus of the Atatürk University in Erzurum where big poplar trees, particularly *P. alba*, are abundant. Attention should be paid to this species although it does (not yet) deserve the "Red List" status.

***Sazonia fenusaeformis* (HERRICH-SCHÄFFER 1852)**

**Material:** **İçel:** Çamalan, N37°11'33.1" E34°48'33.9", 05-06-2005 (Dils J. & Faes J.)

**Distribution:** Greece (Crete), Turkey, northern Iraq.

**Remarks:** there are too little data – mainly due to the early flight period of this species – to draw conclusions about the status of this species. The occurrence in Greece (Crete) needs confirmation (BARTSCH & PÜHRINGER 2005).

***Paranthrene tabaniformis tabaniformis* (ROTTEMBERG 1775)**

**Material:** **Erzurum:** Yeşilyurt, N40°33'31.4" E41°04'05.3", 22-07-2006; Yukari Sivri, N40°21'09.1" E41°40'58.3", 01-08-2005. **Karaman:** Bucakkişla, N36°53'31.0" E33°00'34.0", 18-06-1999 (Dils J. & Faes J.); Ihsaniye, N36°51'37.0" E31°56'54.0", 18-06-1999 (Dils J. & Faes J.). **Kars:** Kağızman, N40°07'59.5" E42°44'04.8", 10-07-2001; Sarıkamış, N40°15'46.6" E42°39'29.8", 18-07-2001; Taşlıgüney, N40°06'34.4" E42°25'09.2", 21-07-2004. **Kayseri:** Eşelik, N38°12'32.9" E35°52'26.1", 10-07-2003. **Konya:** Bozkır, N37°05'31.0" E32°18'34.0", 19-06-1999 (Dils J. & Faes J.)

**Distribution:** Holarctic species. In the Palaearctic region through Europe, northern Africa and Asia to north-western India and China, also Japan.

**Remarks:** this species infests all species of *Populus* and can cause severe damage not only in poplar nurseries and plantations, but also in urban systems. However, it seems that in Turkey the population densities are much lower than in Europe.

***Paranthrene diaphana* DALLA TORRE & STRAND 1925**

**Material:** **Erzurum:** Çamlıca, N40°19'34.7" E41°35'53.3", 19-07-2005 (Garrevoet W. & Vanderpe N.); Gelinkaya, N40°01'48.3" E40°54'56.0", 20-07-2006; Gökdağ, N40°21'08.3" E41°49'58.8", 27-07-2004; Rizekent, N40°09'32.4" E41°00'51.3", 12-07-2004; Yoncalık, N40°02'51.9" E40°55'28.0", 12-07-2004; Yukari Sivri, N40°21'08.5" E41°40'59.4", 18-07-2005 (Garrevoet W. & Vanderpe N.). **Hakkari:** Süvarihalil Geçidi, N37°29'53.6" E43°20'59.0", 15-07-2005, 16-07-2005. **Kars:** Taşlıgüney, N40°06'34.9" E42°25'08.9", 13-07-2004, 21-07-2004, 05-08-2004. **Kayseri:** Eşelik, N38°12'32.9" E35°52'26.1", 10-07-2003. **Malatya:** Karakışık, N38°53'30.3" E37°53'19.6", 09-07-2004; Tepehan, N38°05'44.3" E38°44'25.7", 08-07-2006. **Van:** Gevaş, N38°17'19.4" E43°04'33.2", 19-07-2002

**Distribution:** Bosnia-Herzegovina, Serbia, Macedonia, Bulgaria, southern and north-eastern Turkey, Azerbaijan (Talysh Mts), Israel, Syria.

**Remarks:** locally common in big stony riverbeds where *Salix* species grow on the riverbanks. It is more common in the eastern part of Turkey.

***Paranthrene insolita insolita* LE CERF 1914**

**Material:** **Karaman:** Bucakkişla, N36°53'31.0" E33°00'34.0", 18-06-1999 (Dils J. & Faes J).  
**Konya:** Beyşehir, N37°33'25.0" E31°27'11.0", 12-06-1999 (Dils J. & Faes J.)

**Distribution:** Turkey (Anatolia, Taurus Mts, Amanus Mts), Syria.

**Remarks:** a common species where *Quercus* trees are present. This species flies early in the season (May-June) and is therefore under sampled resulting in an incomplete distribution pattern.

***Euhagena palariformis palariformis* (LEDERER 1858)**

**Material:** **Adıyaman:** Nemrut Dağı, N38°00'35.1" E38°45'50.4", 12-06-2005 (Dils J. & Faes J.). **Hakkari:** Süvarihalil Geçidi, N37°29'54.2" E43°19'43.4", 16-07-2005. **İçel:** Çatak, N38°16'59.2" E43°14'44.7", 23-06-2005 (Dils J. & Faes J.); Çömelek, N36°42'36.5" E33°39'35.0", 24-05-2005 (Dils J. & Faes J.); Çükürbağ, N36°41'38.4" E33°37'20.3", 24-05-2005 (Dils J. & Faes J.). **Isparta:** Göктаş, N37°50'43.9" E30°54'10.7", 31-05-2005 (Dils J. & Faes J.). **Karaman:** Yelibeli Geçidi, N36°42'58.9" E32°56'05.3", 05-07-2005 (Dils J. & Faes J.). **Kayseri:** Sarız, N38°28'23.3" E36°33'12.9", 11-06-2005 (Dils J. & Faes J.). Sivas: Zara, N39°50'12.1" E37°53'14.7", 21-07-2001

**Distribution:** eastern Turkey (Siirt, Hakkari), Iran (Fars).

**Remarks:** the food plant of this species is still unknown. The top of the flight period of this moth lies mainly earlier in the season. The number of observed specimens is therefore too low to draw significant conclusions about both distribution and frequency.

***Synanthedon pamphyla* KALLIES 2003**

**Material:** **Antalya:** Demirtaş, N36°27'04.9" E32°14'01.5", 29-10-2003 (larva) (Garrevoet T. C. & Rylant G.); Kuzyaka, N36°33'19.5" E32°10'59.9", 29-10-2003 (larva) (Garrevoet T. C. & Rylant G.); Payallar, N36°37'51.1" E31°52'30.5", 30-10-2003 (larva) (Garrevoet T. C. & Rylant G.); Ulugüney, N36°41'41.0" E31°43'38.3", 28-10-2003 (larva) (Garrevoet T. C. & Rylant G.)

**Distribution:** southern and western Turkey, provinces Antalya and Izmir (KALLIES 2003).

**Remarks:** a species restricted to the riverbeds with *Alnus* trees on the southern slopes of the Taurus Mountains. Locally common and very early in the season.

***Synanthedon stomoxiformis amasina* (STAUDINGER 1856)**

**Material:** **Artvin:** Altıparmak, N40°56'46.0" E41°22'03.3", 31-07-2004, 01-08-2004; Altıparmak, 40°57'29.9" E41°22'41.3", 26-07-2005; Demirdöven, N40°55'16.8" E41°21'08.7", 30-07-2004, 31-07-2004. **Hakkari:** Süvarihalil Geçidi, N37°29'54.2" E43°19'43.4", 16-07-2005. **Isparta:** Keçiborlu, N38°00'39.0" E30°18'52.0", 11-06-1999 (Dils J. & Faes J.). **Kars:** Karakurt, 13-06-1996 (v. Oorschot H. & v.d. Brink H.); Sarıkamış, N40°15'45.6" E42°39'32.2", 14-07-2004, 19-07-2001; Sarıkamış, N40°16'01.3" E42°39'31.7", 26-07-2005 (Garrevoet W. & Vandrope N.). **Konya:** Bozkır, N37°05'31.0" E32°18'34.0", 19-06-1999 (Dils J. & Faes J.).

**Distribution:** Greece, Turkey (except north-western part); northern Iran, Armenia, Georgia, Azerbaijan, Lebanon.

**Remarks:** locally common on xerothermic places where *Frangula* sp. or *Rhamnus* sp. bushes grow.

***Synanthedon formicaeformis* (ESPER 1783)**

**Material:** **Artvin:** Altıparmak, N40°56'00.6" E41°21'45.5", 27-07-2005

**Distribution:** Europe (north to the Arctic Circle, south to the mountainous areas of southern Spain; also Portugal and central Italy), Balkans, Ukraine, northern and eastern Turkey, European Russia, northern Kazakhstan. Occurs also in China and Japan originally was described by ŠPATENKA & GORBUNOV (1992) as *Synanthedon herzi*.

**Remarks:** this species inhabiting *Salix* sp. seems to be rather rare in eastern Turkey although there is plenty of food plant present.

***Synanthedon andrenaeformis tenuicingulata* ŠPATENKA 1997**

**Material:** **Ağrı:** Hayrangöl, N39°46'45.0" E42°27'45.4", 25-07-2003. **Erzurum:** Kop Geçidi, N40°01'25.0" E40°30'38.1", 11-07-2004, 04-08-2004, 21-07-2005. **Kars:** Sarıkamış, N40°15'46.6" E42°39'29.8", 18-07-2001

**Distribution:** occurs only in eastern Turkey and Armenia

**Remarks:** Very local species strictly related to its food plant *Viburnum lantana*.

***Synanthedon rubiana* KALLIES, PETERSEN & RIEFENSTAHL 1998**

**Material:** **Isparta:** Keçiörü, N38°00'39.0" E30°18'52.0", 11-06-1999 (Dils J. & Faes J.).

**Distribution:** known only from a few specimens: Turkey (Ankara, Bolu, Nevşehir, Niğde and Isparta), Greece (western Peloponnesus) (GARREVOET & GARREVOET 2002).

**Remarks:** as already stated by the authors of this species (KALLIES et al. 1998) the exact relation to *Synanthedon spatenkai* GORBUNOV 1991 is not yet clear. Additional material and research is needed to solve this question.

***Synanthedon spatenkai* GORBUNOV 1991**

**Material:** **Erzurum:** Akbulut, 23-06-2002 (Gelbrecht J. & Schwabe E.)

**Distribution:** eastern Turkey (Erzurum, Kars), Armenia, Georgia.

**Remarks:** Apparently a rare and local species. Female and hostplant are still unknown. See also the remark with the previous species.

***Synanthedon vespiformis* (LINNAEUS 1761)**

**Material:** **Adıyaman:** Nemrut Dağı, N38°00'35.2" E38°45'50.0", 08-07-2006. **Artvin:** Altıparmak, N40°56'46.0" E41°22'03.3", 31-07-2004; Altıparmak, N40°57'29.7" E41°22'41.3", 31-07-2004, 01-08-2004, 26-07-2005, 27-07-2005; Demirdöven, N40°55'16.4" E41°21'08.9", 04-08-2003; Demirdöven, N40°55'49.0" E41°21'31.2", 31-07-2004. **Bingöl:** Kırkağıl, N38°55'12.0" E40°20'08.9", 18-07-2002. **Bitlis:** Yuvacık, N38°16'38.9" E42°17'00.5", 18-07-2002. **Erzurum:** Bozburun, N39°59'24.8" E20°33'52.8", 25-07-2004; Kop Geçidi, N40°01'20.3" E40°30'42.0", 13-07-2003, 27-07-2003. **Gümüşhane:** Oduncular, N40°35'17.1" E39°18'57.4", 03-08-2004.

**Distribution:** throughout Europe (to 60° N), European Russia (north to St. Petersburg), Turkey, Lebanon, Transcaucasia.

**Remarks:** common and widely distributed species living mainly in *Quercus* sp.

***Synanthedon myopaeformis myopaeformis* (BORKHAUSEN 1789)**= *Synanthedon armeniaca* GORBUNOV 1991 syn.nov.**Material:** **Bolu:** Yeniçağa, N40°44'44.1" E31°51'30.1", 06-07-2004. **Van:** Gevaş, N38°17'13.8" E43°04'06.1", 12-07-2001.**Distribution:** throughout Europe (to southern Scandinavia), European Russia (north to St. Petersburg), Spain, northern Italy, Turkey, Cyprus as *Synanthedon myopaeformis luctuosa* (LEDERER 1853) (BARTSCH 2004), northern Egypt, Transcaucasia, Kyrgyzstan (ŠPATENKA & KALLIES 2006).**Remarks:** a rather rare species in Turkey, probably due to the absence of suitable food plants (fruit trees, mainly *Malus* sp.) in many regions. However, one of us (H. Özbek) found many larvae in an apple orchard in Çamlıbel Oltu (Erzurum Province). Apparently, all Turkish specimens show a larger distal spot on the hind wing, a character becoming gradually more prominent towards eastern Turkey. This, together with a less extensive white ventral side of the males was thought to be the main distinguishing feature of *S. armeniaca* (GORBUNOV 1991) Considering the Turkish specimens as intermediates, we conclude *S. armeniaca* is a form of *S. myopaeformis* and therefore synonymise it with the latter.***Synanthedon colchidensis* ŠPATENKA & GORBUNOV 1992****Material:** **Artvin:** Altıparmak, N40°56'14.3" E41°21'54.8", 31-07-2004; Altıparmak, N40°57'13.5" E41°22'24.5", 31-07-2004; Altıparmak, N40°56'47.2" E41°22'05.5", 01-08-2004; Altıparmak, N40°57'12.7" E41°22'24.4", 01-08-2004; Altıparmak, N40°57'29.9" E41°22'41.3", 26-07-2005; Altıparmak, N40°56'32.5" E41°21'59.4", 27-07-2005; Demirdöven, N40°55'16.5" E41°21'09.0", 03-08-2003; Demirdöven, N40°55'49.0" E41°21'31.2", 31-07-2004; Kaşbaşı, N40°52'10.7" E41°18'40.7", 03-08-2003**Distribution:** Georgia, north-eastern Turkey. Following the distribution of the food plant (*Abies nordmanniana*).**Remarks:** this is a local species closely related to *Synanthedon cephiiformis* (OCHSENHEIMER 1808) but differs in the females by lacking the yellow anal tuft. The relation to *Synanthedon spuleri* (FUCHS 1908) needs further investigation.***Bembecia ichneumoniformis* ([DENIS & SCHIFFERMÜLLER] 1775)****Material:** **Artvin:** Altıparmak, N40°57'30.2" E41°22'40.8", 03-08-2003, 26-07-2005; Altıparmak, N40°56'14.3" E41°21'54.5", 30-07-2004; Demirdöven, N40°55'16.8" E41°21'08.7", 30-07-2004; Kocabey, N41°14'39.8" E42°25'21.3", 29-07-2004. **Bolu:** Yeniçağa, N40°44'44.1" E31°51'30.1", 06-07-2004; Yenigüney, N40°44'44.3" E31°51'29.7", 30-07-2002, 06-07-2003. **Erzurum:** Kireçli Geçidi, N40°19'43.2" E41°41'53.6", 27-07-2004. **Kars:** Duranlı, N40°02'49.8" E43°17'45.2", 21-07-2003, 22-07-2003; Sankamış, N40°15'22.5" E42°38'46.9", 18-07-2001. **Sivas:** Kümbet Köyü, N39°48'12.7" E37°48'29.8", 26-07-2002.**Distribution:** England, Europe (except the northern part), Cyprus, Ukraine, European Russia, Caucasus, Transcaucasia, Turkey, northern Iran.**Remarks:** this species lives in a lot of different species of Fabaceae and prefers open, dry and warm biotopes.



***Bembecia albanensis albanensis* (REBEL 1918)**

**Material:** **İçel:** Sertavul Geçidi, N36°54'52.8" E33°15'03.0", 09-07-2005. **Sivas:** Güllüce, N39°37'49.0" E37°00'50.7", 03-08-2005; Kızıldağ geçidi, N39°51'12.6" E38°24'41.6", 02-08-2005 (larva).

**Distribution:** western, central, eastern and southern Europe, the Balkans to Albania and Greece, southern Russia, Turkey.

**Remarks:** the larva of this species is less polyphagous than the previous one. The food plants are *Ononis* spp. and *Psoralea bituminosa*. It is a widespread species in Turkey.

***Bembecia lomatiaeformis* (LEDERER 1853)**

**Material:** **İçel:** Sertavul Geçidi, N36°54'52.8" E33°15'03.4", 07-07-2003, 08-07-2003, 09-07-2003, 07-07-2005, 08-07-2005. **Karaman:** Uçbölük, N36°31'00.0" E33°00'20.0", 21-07-2000 (Dils J. & Faes J.); Yellibeli Geçidi, N36°42'58.9" E32°56'05.3", 05-07-2005 (Dils J. & Faes J.). **Kayseri:** Erciyes Dağı, N38°30'35.8" E35°31'00.3", 08-07-2004 (larva)

**Distribution:** Greece (Pindos Mts, Taygetos Mts), Turkey.

**Remarks:** a local species that is apparently rare in eastern Turkey. The larvae live in spiny *Astragalus* species (*A. angustifolius* and a yet unidentified *Astragalus* sp. of the *Tragacanthus*-group) (ŠPATENKA et al. 1999)

***Bembecia stiziformis stiziformis* (HERRICH-SCHÄFFER 1851)**

**Material:** **Antalya:** Güzelsu, N36°53'22.0" E31°52'05.0", 20-06-1999 (Dils J. & Faes J.). **Artvin:** Altıparmak, N40°56'14.3" E41°21'54.5", 30-07-2004; Altıparmak, N40°57'29.1" E41°22'41.3", 01-08-2004; Altıparmak, N40°56'00.6" E41°21'45.5", 27-07-2005; Demirdöven, N40°55'16.5" E41°21'09.0", 03-08-2003. **Bitlis:** Kuskunkiran Geçidi, N38°23'01.4" E42°46'30.9", 13-07-2002. **Erzurum:** Bozburun, N39°59'24.8" E20°33'52.8", 23-07-2004, 25-07-2004; Çirışli Geçidi, N39°27'43.9" E41°03'01.8", 19-07-2006; Yumaklı, N40°14'21.5" E41°31'07.9", 17-07-2002, 14-07-2003, 18-07-2003, 27-07-2003, 29-07-2003, 13-07-2004, 02-08-2004, 19-07-2005, 31-07-2005. **İçel:** Çömelek, N36°43'27.0" E33°39'50.0", 22-07-2000 (Dils J. & Faes J.); Sertavul Geçidi, N36°54'52.8" E33°15'03.0", 08-07-2005. **Kars:** Duranlı, N40°02'49.8" E43°17'45.2", 21-07-2003, 22-07-2003. **Konya:** Taşkent, N36°52'52.0" E32°31'14.0", 20-07-2000 (Dils J. & Faes J.). **Malatya:** Nemrut Dağı, N38°00'35.3" E38°45'50.4", 11-07-2005; Reşadiye Geçidi, N37°58'10.8" E37°59'53.8", 13-07-2002, 10-07-2005. **Neveşehir:** Göreme, N38°40'36.0" E34°53'25.3", 09-07-2002. **Van:** Erciş, N38°07'26.9" E43°08'31.1", 13-07-2001; Gevaş, N38°17'19.3" E43°04'34.7", 12-07-2001, 19-07-2002; Gevaş, N38°16'30.8" E43°03'52.3", 23-07-2003, 16-07-2004, 17-07-2004; Gevaş, N38°15'48.1" E43°04'03.3", 12-07-2005; Güzeldere Geçidi, N38°09'05.6" E44°01'01.0", 21-07-2002; Kuskunkiran Geçidi, N38°22'36.4" E42°47'07.8", 15-07-2004 (Dils J. & Faes J.); Yukarınarlıca, N38°07'31.3" E43°04'28.0", 18-07-2004.

**Distribution:** Turkey, Georgia, Armenia, Azerbaijan, northern Iran, Transcaucasia.

**Remarks:** this is a very common and wide-spread species, especially in eastern Turkey. It lives in spiny *Astragalus* species.

***Bembecia syzjevii syzjevii* GORBUNOV 1989**

**Material:** **Erzurum:** Karagöbek, N40°08'27.2" E41°25'51.5", 13-07-2004 (larvae); Karakale, N40°12'31.6" E40°58'01.0", 30-07-2005 (larvae); Yumaklı, N40°14'21.1" E41°31'09.3", 13-07-2003, 05-08-2004, 19-07-2005 (larvae).

**Distribution:** Georgia, north-eastern Turkey.

**Remarks:** a local species associated with *Astragalus ponticus*. The root of an infested food plant usually houses only one larva.

***Bembecia syzjovi kappadocica* ŠPATENKA 1997**

**Material:** **Neveşehir:** Avanos, N38°41'15.6" E34°52'05.8", 09-07-2003 (larvae); Göreme, N38°40'32.7" E34°52'59.4", 28-07-2002, 06-08-2003, 08-08-2004 (larvae); Göreme, N38°40'47.4" E34°52'48.9", 05-08-2005 (larvae); Üçhisar, N38°36'31.6" E34°48'50.8", 05-08-2005 (larvae).

**Distribution:** Turkey (Cappadocia).

**Remarks:** this subspecies can be very common but is restricted to Cappadocia. We found several larvae in one root (up to ten or more). The food plant is the same as for *B. syzjovi syzjovi*. Only minor differences with the nominotypical subspecies can be found in the male and none at all in the female.

***Bembecia scopigera* (SCOPOLI 1763)**

= *Bembecia mira* GORBUNOV & ŠPATENKA, 2001 syn.nov.

**Material:** **İçel:** Geçimli, N36°47'08.0" E33°20'54.1", 09-07-2002. **Karaman:** Uçbölük, N36°31'00.0" E33°00'20.0", 21-07-2000 (Dils J. & Faes J.). **Neveşehir:** Göreme, N38°40'32.9" E34°52'59.0", 28-07-2002. **Sivas:** Kartalça, N39°33'33.4" E36°37'55.6", 26-07-2002.

**Distribution:** from central Spain over most of south-western and central Europe, Balkans, Greece, southern Russia, Ukraine, northern Turkey.

**Remarks:** the main food plant of this species is *Onobrychis viciifolia*. It is an important pest in the root of this fodder crop particularly in Central Anatolia (TAMER & ÖZER 1990). It also occurs in Erzurum Province and gave damage in this plant particularly in nonirrigated growing areas (GÜLTEKİN & GÜÇLÜ 1997). The authors consider *Bembecia mira* GORBUNOV & ŠPATENKA 2001 as a new synonym of *Bembecia scopigera* because no specific discriminating characters could be found.

***Bembecia apyra* (LE CERF 1937)**

= *Bembecia zuvandica* GORBUNOV 1987 syn. nov.

**Material:** **Erzurum:** Çayırbaşı, N40°19'25.4" E40°50'27.9", 30-07-2005; Gelinkaya, N40°01'48.3" E40°54'56.0", 23-07-2006; Kaledibi, N40°19'29.6" E41°31'09.7", 01-08-2005; Kaledibi, N40°19'35.0" E41°33'01.5", 27-07-2004; Kireçli Geçidi, N40°19'43.2" E41°41'53.6", 27-07-2004; Yukari Sivri, N40°21'02.3" E41°39'40.9", 27-07-2004, 01-08-2005. **Van:** Gevaş, N38°17'20.3" E43°04'36.9", 14-07-2002; Gevaş, N38°16'31.3" E43°04'09.4", 20-07-2002.

**Distribution:** Iran, Eastern Turkey, Armenia, Azerbaijan (Nakhichevan).

**Remarks:** as already mentioned by KALLIES & ŠPATENKA (2003a) *Bembecia zuvandica* GORBUNOV 1987 fits in the variation of *Bembecia apyra* populations and is therefore here considered conspecific. The subspecies *Bembecia zuvandica johannesi* GORBUNOV 1995 from Turkmenistan is considered as a subspecies of *Bembecia apyra* (stat. nov.).

***Bembecia priesneri* KALLIES, PETERSEN & RIEFENSTAHL 1998**

**Material:** **Neveşehir:** Göreme, N38°40'32.7" E34°52'59.4", 06-08-2003, 08-08-2004 (larvae); Göreme, N38°40'47.4" E34°52'48.9", 05-08-2005 (larvae).

**Distribution:** Turkey (Cappadocia and Taurus Mts.) (KALLIES et al. 1998).

**Remarks:** this species does not seem to occur in eastern Turkey. The larvae live in the roots of *Ononis spinosa* or an *Ononis* species that resembles this plant strongly, and in the roots of *Psoralea bituminosa* (KALLIES in litt.).

***Bembecia peterseni* ŠPATENKA 1997**

**Material:** **Adyaman:** Çelikan, N38°01'13.7" E38°12'45.5", 12-07-2002. **Ağrı:** Sağırtaş, N39°56'26.7" E43°13'45.8", 19-07-2004. **Bingöl:** Kırkağıl, N38°55'11.0" E40°20'08.2", 12-07-2003. **Erzurum:** Bozburun, N39°59'24.8" E20°33'52.8", 25-07-2004; Çayırbaşı, N40°19'25.4" E40°50'27.9", 30-07-2005; Erzurum, 09-08-1995 (Kautt H. & P.); Gelinkaya, N40°01'48.3" E40°54'56.0", 23-07-2006; Gölyurt Geçidi, N40°20'56.0" E40°47'35.6", 24-07-2005, 21-07-2006; Güzelyurt, N39°45'46.5" E41°01'25.0", 14-07-2006; Karakale, N40°12'31.8" E40°58'01.0", 30-07-2005; Rizekent, N40°09'32.4" E41°00'51.3", 22-07-2005, 25-07-2005; Rizekent, N40°10'17.7" E40°59'37.0", 22-07-2005, 25-07-2005, 30-07-2005; Şehitler, N40°19'27.1" E41°44'51.1", 27-07-2004; Yukari Sivri, N40°21'02.4" E41°39'39.0", 27-07-2004, 01-08-2005; Yukari Sivri, N40°21'09.1" E41°40'58.3", 27-07-2004; Yumaklı, N40°14'21.3" E41°31'09.3", 18-07-2003, 31-07-2005. **Hakkari:** Süvarihalil Geçidi, N37°29'53.6" E43°20'59.0", 15-07-2005; Süvarihalil Geçidi, N37°29'48.0" E43°22'42.7", 16-07-2005; Süvarihalil Geçidi, N37°29'59.4" E43°24'44.6", 16-07-2005. **İçel:** Çatak, N36°41'07.0" E33°45'41.0", 22-07-2000 (Dils J. & Faes J.); Çömelek, N36°43'27.0" E33°39'50.0", 22-07-2000 (Dils J. & Faes J.). **Karaman:** Uçbölük, N36°31'00.0" E33°00'20.0", 21-07-2000 (Dils J. & Faes J.). **Kars:** Duranlı, N40°02'53.5" E43°17'02.1", 21-07-2003; Kuloğlu, N40°15'32.9" E42°57'53.8", 20-07-2001; Sankamış, N40°15'22.5" E42°38'46.9", 18-07-2001. **Kayseri:** Eşelik, N38°12'32.9" E35°52'26.1", 10-07-2003; Sarz, N38°28'23.0" E36°33'13.0", 27-07-2000 (Dils J. & Faes J.). **Malatya:** Reşadiye, N37°58'10.8" E37°59'53.8", 13-07-2002. **Sivas:** Bahceci, N38°42'14.1" E37°24'24.6", 09-07-2004; Kartalça, N39°33'33.4" E36°37'55.6", 26-07-2002; Tepeköy, N39°51'10.0" E37°53'13.5", 26-07-2002, 03-08-2005; Zara, N39°51'10.0" E37°53'13.5", 21-07-2001. **Van:** Erciş, 13-07-2001; Gevaş, N38°16'17.9" E43°04'03.6", 12-07-2001, 19-07-2002, 20-07-2002; Gevaş, N38°17'19.3" E43°04'34.7", 12-07-2001, 14-07-2002, 19-07-2002; Güzeldere Geçidi, N38°09'01.8" E43°59'04.0", 21-07-2002; Güzeldere Geçidi, N38°09'05.6" E44°01'01.0", 21-07-2002.

**Distribution:** Turkey (southern and eastern Anatolia).

**Remarks:** a common and widespread species, which probably lives in a *Lotus* species (ovipositing females were observed). ŠPATENKA (1997) mentioning *Ononis* as foodplant refer to *Bembecia priesneri* KALLIES, PETERSEN & RIEFENSTAHL 1998.

***Bembecia uroceriformis* (TREITSCHKE 1834)**

**Material:** **Artvin:** Altıparmak, N40°56'14.3" E41°21'54.5", 30-07-2004. **İçel:** Çatak, N36°41'07.0" E33°46'41.0", 22-07-2000 (Dils J. & Faes J.); Sertavul Geçidi, N36°51'21.1" E33°17'06.9", 09-07-2002; Sertavul Geçidi, N36°54'52.8" E33°15'03.0", 07-07-2005.

**Distribution:** Morocco, southern Europe (from Portugal to Greece), Turkey, Georgia, Jordan.

**Remarks:** in eastern Turkey, this species seems to be rather rare. The larvae live in several Fabaceae (e.g. *Cytisus procumbens*, *Chamaecytisus* spp., *Ulex* sp., *Spartium* sp., *Coronilla* sp.) (ŠPATENKA et al. 1999).

***Bembecia staryi* ŠPATENKA & GORBUNOV 1992**

**Material:** **Artvin:** Demirdöven, N40°54'39.6" E41°20'44.5", 03-08-2003; Demirdöven, N40°55'16.4" E41°21'08.9", 03-08-2003, 04-08-2003; Yaylalar, N40°52'26.5" E41°16'39.1", 03-08-2003.

**Distribution:** Georgia, north-eastern Turkey.

**Remarks:** this species was only found in the Yusufeli–Altıparmak region. Probably this species will disappear if this valley will be flooded if the plans to construct a dam will be executed. The host plant is still unknown and therefore, it is difficult to suggest measurements to protect this species, except from protecting its habitat. A "Red List" status seems to be justified. The female was described only recently by SOBCZYK et al. (2007).

***Bembecia puella* LAŠTŮVKA 1989**

**Material:** **Adıyaman:** Çelikan, N38°01'13.7" E38°12'45.5", 12-07-2002. **Ağrı:** Sağırtaş, N39°56'26.7" E43°13'45.8", 19-07-2004. **Erzincan:** Yaylacık, N39°47'49.1" E40°29'28.5", 20-07-2001. **Erzurum:** Bozburun, N39°59'24.8" E20°33'52.8", 23-07-2004, 25-07-2004. **İçel:** Çatak, N36°41'07.0" E33°46'41.0", 22-07-2000 (Dils J. & Faes J.); Sertavul Geçidi, N36°54'52.8" E33°15'03.0", 09-07-2005. **Karaman:** Bucakkişla, N36°53'31.0" E33°00'34.0", 18-06-1999 (Dils J. & Faes J.); Yelibeli Geçidi, N36°42'11.3" E32°57'13.5", 05-07-2005 (Dils J. & Faes J.). **Kayseri:** Sarız, N38°28'23.0" E36°33'13.0", 27-07-2000 (Dils J. & Faes J.); Uçkuyu, N39°51'10.0" E37°53'13.5", 27-07-2002. **Malatya:** Yazıköy, N38°41'18.1" E37°25'13.1", 09-07-2004. **Nevşehir:** Akköy, N38°34'17.0" E35°04'08.3", 11-07-2002; Avanos, N38°42'47.8" E34°54'45.4", 28-07-2002. **Sivas:** Kartalça, N39°33'33.4" E36°37'55.6", 26-07-2002; Tepeköy, N39°51'10.0" E37°53'13.5", 26-07-2002; Zara, N39°51'10.0" E37°53'13.5", 21-07-2001. **Van:** Erciş, N39°07'26.9" E43°08'31.1", 13-07-2001.

**Distribution:** southern Slovakia, Hungary, Romania, northern Bulgaria, Ukraine, Turkey (western Anatolia).

**Remarks:** all specimens are here mentioned as *B. puella* but this is a group of closely related species. Further examination is necessary to clarify these relationships.

***Bembecia gegamica* GORBUNOV 1992**

**Material:** **Erzurum:** Güzelyurt, N39°45'46.5" E41°01'25.0", 14-07-2006, Yumaklı, 40°14'19.2" E41°31'08.6", 24-07-2004; Yumaklı, N40°14'21.1" E41°31'09.4", 13-07-2003, 18-07-2003, 29-07-2003; Yumaklı, N40°14'24.1" E41°31'09.9", 16-07-2001, 19-07-2005, 26-07-2005, 31-07-2005. **Kars:** Handere, 01-08-1983 (Lucas J.A.W.)

**Distribution:** Armenia, north-eastern Turkey.

**Remarks:** This is a local and rare species in north-eastern Turkey.

***Bembecia pontica pontica* (STAUDINGER 1891)**

**Material:** **Erzurum:** Kaledibi, N40°19'35.0" E41°33'01.5", 27-07-2004; Kaledibi, N40°19'35.0" E41°33'01.5", 27-07-2004; Taşbaşı, N40°15'05.5" E41°31'33.2", 20-07-2005; Yumaklı, N40°14'14.3" E41°31'06.6", 14-07-2001, 16-07-2001, 17-07-2002, 12-07-2003, 13-07-2003, 14-07-2003, 18-07-2003, 27-07-2003, 29-07-2003, 30-07-2003, 13-07-2004, 02-08-2004, 22-07-2004, 24-07-2004, 27-07-2004; Yumaklı, N40°14'24.3" E41°31'08.9", 19-07-2005, 31-07-2005. **Karaman:** Bucakkişla, N36°53'31.0" E33°00'34.0", 18-06-1999 (Dils J. & Faes J.). **Konya:** Bozkır, N37°05'31.0" E32°18'34.0", 19-06-1999 (Dils J. & Faes J.)

**Palaeartic distribution:** Turkey, Syria.

**Remarks:** in eastern Turkey, this subspecies occurs north of Van.

***Bembecia pontica turcmena* (BARTEL 1912) stat. nov.**

**Material:** **Hakkari:** Süvarihalil Geçidi, N37°29'40.6" E43°19'20.3", 15-07-2005, 16-07-2005; Süvarihalil Geçidi, N37°29'59.4" E43°24'44.6", 16-07-2005.

**Distribution:** Turkmenistan, south-eastern Turkey.

**Remarks:** the authors regard this as a subspecies of *Bembecia pontica* and not of *Bembecia transcaucasica*. The latter taxon is here considered a subspecies of *Bembecia sanguinolenta*. Both *B. sanguinolenta transcaucasica* stat. nov. and *B. pontica turcmena* stat. rev. were sampled on the same locality. *B. pontica turcmena* was only observed south of Van.

***Bembecia sanguinolenta sanguinolenta* (LEDERER 1853)**

**Material:** **Antalya:** Güzelsu, N36°53'22.0" E31°52'05.0", 20-06-1999 (Dils J. & Faes J.); Saklikent, 06-07-1996 (Lingenhöle A.). **Erzurum:** Taşbaşı, N40°15'05.5" E41°31'33.2", 20-07-2005; Yukarı Sivri, N40°21'02.3" E41°39'40.9", 01-08-2005; Yumaklı, N40°14'14.3" E41°31'06.6", 14-07-2001, 16-07-2001, 17-07-2002, 13-07-2003, 14-07-2003, 18-07-2003, 27-07-2003, 30-07-2003, 31-07-2003, 02-08-2003, 12-07-2004, 13-07-2004, 22-07-2004, 24-07-2004, 27-07-2004, 02-08-2004, 05-08-2004, 19-07-2005, 26-07-2005, 31-07-2005. **İçel:** Karabeşli, N36°41'58.2" E34°09'56.6", 11-07-2002. **Karaman:** Bucakkişla, N36°53'31.0" E33°00'34.0", 18-06-1999 (Dils J. & Faes J.). **Neveşehir:** Avanos, N38°41'15.6" E34°52'06.0", 10-07-2003; Göreme, N38°40'36.0" E34°53'25.3", 09-07-2002; Zelve, N38°40'33.0" E34°52'59.0", 09-07-2002. **Van:** Gevaş, N38°16'47.4" E43°04'16.2", 14-07-2002; Gevaş, N38°16'30.8" E43°03'52.3", 24-07-2003; Yukarınarlıca, N38°07'31.3" E43°04'28.0", 18-07-2004.

**Distribution:** south-western Bulgaria, Greece (Macedonia), Turkey, Armenia, Syria (Anti-Lebanon Mts.).

**Remarks:** in eastern Turkey, this subspecies occurs north of Van.

***Bembecia sanguinolenta transcaucasica* (STAUDINGER 1891) stat. nov.**

**Material:** **Hakkari:** Süvarihalil Geçidi, N37°29'59.4" E43°24'44.6", 16-07-2005. **Van:** Güzeldere Geçidi, N38°09'05.6" E44°01'01.0", 21-07-2002; Yukarınarlıca, N38°07'31.3" E43°04'27.2", 17-07-2004, 18-07-2004, 13-07-2005, 14-07-2005, 16-07-2006.

**Distribution:** Armenia, Azerbaijan (Nakhichevan), south-eastern Turkey, Iran.

**Remarks:** the authors regard this taxon as a subspecies of *Bembecia sanguinolenta*. This subspecies was only observed south of Van.

***Bembecia hofmanni* KALLIES & ŠPATENKA 2003**

**Material:** **Malatya:** Nemrut Dağı, N38°00'35.3" E38°45'50.4", 11-07-2005. **Van:** Yukarınarlıca, N38°07'31.4" E43°04'28.4", 14-07-2005, 17-07-2004, 18-07-2004, 13-07-2005, 16-07-2006

**Distribution:** Iran, eastern Turkey (KALLIES & ŠPATENKA (2003a)).

**Remarks:** this peculiar species was in Turkey only known from one specimen in the surroundings of Van. It appears to be very local but can be common on a suitable biotope. The species was also discovered on the north side of Nemrut Dağı (Prov. Malatya) which is almost 500 km to the west.

***Pyropteron minianiformis destitutum* (STAUDINGER 1894)**

**Material:** **İçel:** Çamalan, N37°11'33.1" E34°48'33.9", 05-06-2005 (Dils J. & Faes J.). **Isparta:** Göktaş, N37°50'43.9" E30°54'10.7", 31-05-2005 (Dils J. & Faes J.).

**Distribution:** southern Turkey (Taurus Mts.), south-western Turkmenistan.

**Remarks:** lack of sufficient data does not allow drawing any conclusions about the distributional status of this species in Turkey.

***Pyropteron triannuliformis* (FREYER 1845)**

**Material:** **Ağrı:** Hayrangöl, N39°47'22.0" E42°29'19.2", 31-07-2003. **Aksaray:** Güzelyurt, N38°15'13.0" E38°04'16.0", 13-06-1999 (Dils J. & Faes J.). **Artvin:** Altıparmak, N40°56'14.3" E41°21'54.5", 30-07-2004, 31-07-2004, 01-08-2004, 27-07-2005; Altıparmak, N40°57'29.9" E41°22'41.3", 26-07-2005; Demirdöven, N40°55'49.0" E41°21'31.2", 31-07-2004. **Bingöl:** Kırkağıl, N38°55'11.3" E40°20'08.4", 13-07-2002. **Bitlis:** Yuvacık, N38°16'38.9" E42°17'00.5", 18-07-2002. **Bolu:** Yeniçağa, N40°44'44.1" E31°51'30.1", 06-07-2004; Yeniçağa, N40°46'25.0" E32°00'36.6", 04-07-2005. **Erzincan:** Mustafabey, N39°49'26.3" E40°32'27.0", 10-07-2004; Yaylacık, N39°47'49.1" E40°29'28.5", 20-07-2001. **Erzurum:** Bozburun, N39°59'32.4" E40°33'50.7", 28-07-2005; Bozburun, N39°59'36.5" E40°33'34.2", 23-07-2004; Erzurum, N39°50'05.2" E41°16'37.7", 20-07-2006; Gölyurt Geçidi, N40°20'56.0" E40°47'35.6", 11-07-2006; Güzelyurt, N39°45'46.5" E41°01'25.0", 14-07-2006; Kireçli Geçidi, N40°19'43.2" E41°41'53.6", 27-07-2004; Kop Geçidi, N40°01'20.3" E40°30'42.0", 13-07-2003, 27-07-2003, 02-08-2004, 22-07-2005; Palandöken, N39°50'02.8" E41°16'37.0", 30-07-2005, 31-07-2005, 01-08-2005 (Garrevoet W. & Vanderpe N.); Rizekent, N40°09'32.4" E41°00'51.3", 22-07-2005; Rizekent, N40°10'59.5" E40°58'25.1", 11-07-2006; Yumaklı, N40°14'21.0" E41°31'09.3", 12-07-2003, 13-07-2003, 17-07-2003, 12-07-2004, 24-07-2004; Yumaklı, N40°14'24.1" E41°31'09.9", 26-07-2005 (Garrevoet W. & Vanderpe N.). **Hakkari:** Süvarihalil Geçidi, N37°28'54.5" E43°19'44.3", 15-07-2005. **İçel:** Güzeloluk, N36°44'34.0" E34°08'12.0", 15-06-1999 (Dils J. & Faes J.); Sertavul Geçidi, N36°54'52.8" E33°15'03.4", 07-07-2003. **Kahramanmaraş:** Püren Geçidi, N37°56'19.8" E36°29'44.7", 02-07-2004 (Dils J. & Faes J.). **Karaman:** Ermenek, N36°38'29.4" E32°52'01.1", 23-05-2005 (Dils J. & Faes J.). **Kars:** Duranlı, N40°02'53.5" E43°17'02.1", 20-07-2003, 21-07-2003; Sarıkamış, N40°15'46.5" E42°39'29.7", 19-07-2001, 15-07-2002, 23-07-2002, 15-07-2003, 16-07-2003, 19-07-2003, 14-07-2004; Sarıkamış, N40°16'01.3" E42°39'31.7", 26-07-2005 (Garrevoet W. & Vanderpe N.). **Konya:** Bayağşar, N37°33'29.2" E31°47'46.6", 28-05-2005 (Dils J. & Faes J.). **Van:** Gevaş, N38°16'30.7" E43°03'52.4", 12-07-2001, 19-07-2002.

**Distribution:** south-eastern and central Europe, Belarus, southern and central European part of Russia, Ukraine, Transcaucasia, Turkey, northern Iran, northern Syria, Lebanon.

**Remarks:** widespread and common where *Rumex* sp. grows. It occurs even at high altitudes (up to 2800 m).

***Pyropteron cirgisa* (BARTEL 1912)**

**Material:** **Kayseri:** Develi Ovası, N38°27'10.8" E35°12'31.8", 10-07-2003; Develi Ovası, N38°28' E35°15', 17-06-1998 (Bartsch D. & Berg J.); Dörtöyl, N38°27'09.8" E35°12'31.3", 09-07-2002.

**Distribution:** Romania, Moldavia, southern Russia, northern Caucasus, Ukraine (Crimea), Azerbaijan Turkey (central Anatolia), Kazakhstan (Uralsk), south-western Turkmenistan.

**Remarks:** This species lives in *Limonium gmelini*, a halophyte plant only occurring on salt-planes. These habitats are decreasing both in number and surface. Partly they are

taken into culture by farmers or they lack water during springtime due to irrigation measurements. For all this reasons this species (and also the typical flora of these biotopes) are in urgent need for protection. The status as a "Red List"-species is exigent!

***Pyropteron atypica* KALLIES & ŠPATENKA 2003**

**M a t e r i a l :** **Hakkari:** Süvarihalil Geçidi, N37°29'59.4" E43°24'44.6", 16-07-2005

**D i s t r i b u t i o n :** Iran, Turkey (KALLIES & ŠPATENKA ( 2003b).

**R e m a r k s :** this is a new species for the Turkish fauna. It occurs only in the extreme south-eastern part of Turkey. Female and host plant are still unknown.

***Pyropteron leucomelaena* (ZELLER 1847)**

**M a t e r i a l :** **Adıyaman:** Çelikan, N38°01'13.7" E38°12'45.5", 12-07-2002. **Antalya:** Güzelsu, N36°53'22.0" E31°52'05.0", 20-06-1999 (Dils J. & Faes J.). **İçel:** Bardat, N36°25'41.0" E33°09'33.0", 21-07-2000 (Dils J. & Faes J.); Hacıametli, N36°41'13.7" E33°38'39.7", 10-07-2002; Sertavul Geçidi, N36°54'52.8" E33°15'03.0", 09-07-2005. **Kahramanmaraş:** Püren Geçidi, N37°56'19.8" E36°29'44.7", 02-07-2004 (Dils J. & Faes J.). **Karaman:** Ihsaniye, N36°51'37.0" E31°56'54.0", 18-06-1999 (Dils J. & Faes J.); Uçbölük, N36°31'00.0" E33°00'20.0", 21-07-2000 (Dils J. & Faes J.); Yelibeli Geçidi, N36°42'11.3" E32°57'13.5", 05-07-2005 (Dils J. & Faes J.). **Konya:** Taşkent, N36°52'52.0" E32°31'14.0", 20-07-2000 (Dils J. & Faes J.). **Malatya:** Nemrut Dağı, N38°00'35.3" E38°45'50.4", 10-07-2005, 11-07-2005. **Neveşehir:** Göreme, N38°40'33.2" E34°52'59.6", 09-07-2002. **Sivas:** Bahceci, N38°42'14.1" E37°24'24.6", 09-07-2004.

**D i s t r i b u t i o n :** North-Africa, Mediterranean Europe, Balkan, Ukraine, Cyprus, Turkey

**R e m a r k s :** a locally common species.

***Pyropteron mannii* (LEDERER 1853)**

**M a t e r i a l :** **Bolu:** Yeniçağa, N40°44'44.1" E31°51'30.1", 06-07-2004; Yeniçağa, N40°46'05.6" E31°59'27.3", 06-07-2004, 04-07-2005; Yenigüney, N40°44'44.5" E31°51'29.9", 08-07-2002, 07-07-2006

**P a l a e a r c t i c d i s t r i b u t i o n :** Bulgaria (Black See coast), European and north-western Asiatic Turkey.

**R e m a r k s :** apparently, this species is absent in the eastern part of Turkey. The larva lives in *Geranium rotundifolium* (ŠPATENKA et al. 1999).

***Pyropteron hera* (ŠPATENKA 1997)**

**M a t e r i a l :** **Kahramanmaraş:** Püren Geçidi, N37°56'19.8" E36°29'44.7", 02-07-2004 (Dils J. & Faes J.). **Karaman:** Bucakkişla, N36°53'31.0" E33°00'34.0", 18-06-1999 (Dils J. & Faes J.).

**D i s t r i b u t i o n :** Turkey (southern Anatolia).

**R e m a r k s :** there are insufficient data to make any valid conclusions about the status of this species in Turkey. The bionomics is still unknown but is probably very similar to this of *Pyropteron mannii*. The suspected food plant is a *Geranium* species.

***Dipchasphecia intermedia* ŠPATENKA 1997**

**Material:** **Bingöl:** Kırkağıl, N38°55'11.3" E40°20'08.4", 13-07-2002. **Kırşehir:** Mucur, N39°03'49.5" E34°19'54.2", 08-07-2002. **Malatya:** Reşadiye, N37°58'10.8" E37°59'53.8", 13-07-2002.

**Distribution:** Turkey (Pontus Mts. and Taurus Mts.).

**Remarks:** locally not rare. The larva lives in *Acantholimon* sp.

***Dipchasphecia sertavula* BARTSCH & ŠPATENKA 2002**

**Material:** **İçel:** Sertavul Geçidi, N36°54'54.6" E33°16'12.4", 08-07-2003

**Distribution:** Turkey: only known so far from Sertavul Geçidi (İçel) (BARTSCH & ŠPATENKA 2002).

**Remarks:** only known from Turkey. This species lives in *Acantholimon* sp.

***Dipchasphecia kopica* GORBUNOV & ŠPATENKA 2001**

**Material:** **Erzurum:** Bozburun, N39°59'36.1" E40°33'35.1", 23-07-2004, 20-07-2005, 21-07-2005, 22-07-2005; Kop Geçidi, N40°01'13.6" E40°30'36.6", 11-07-2004, 21-07-2005, 22-07-2005, 27-07-2005, 12-07-2006, 23-07-2006.

**Distribution:** Turkey: only known so far from Kop Geçidi (Erzurum) (GORBUNOV & ŠPATENKA 2001, GARREVOET et al. 2005)

**Remarks:** a very local species, only known from the region of Kop Geçidi, north-west of Erzurum. The larva lives in the roots of an *Acantholimon* species. The exact relation to *Dipchasphecia consobrina* (LE CERF 1938 this reference is partially in Bold) needs more detailed investigation.

***Dipchasphecia consobrina* (LE CERF 1938)**

**Material:** **Hakkari:** Süvarihalil Geçidi, N37°28'54.5" E43°19'44.3", 15-07-2005, 16-07-2005.

**Distribution:** southern Iran (KALLIES & ŠPATENKA 2003a), south-eastern Turkey.

**Remarks:** this is a new species for the Turkish fauna. It occurs only in the extreme south-eastern part of Turkey. The larva lives in *Acantholimon* sp..

***Chamaesphecia tenthrediniformis* ([DENIS & SCHIFFERMÜLLER] 1775)**

**Material:** **Erzurum:** Çirişli Geçidi, N39°27'43.9" E41°03'01.8", 13-07-2006. **Kars:** Sarıkamış, N40°15'46.5" E42°39'29.7", 19-07-2001.

**Distribution:** Spain, France, northern Italy, central and eastern Europe, Balkans, Ukraine, southern Russia, eastern Turkey, Kyrgyzstan, Kazakhstan.

**Remarks:** a local and rare species in eastern Turkey.

***Chamaesphecia turbida* LE CERF 1937**

**Material:** **Ağrı:** Hayrangöl, N39°47'16.8" E42°28'57.1", 28-07-2003; Hayrangöl, N39°47'22.1" E42°29'19.1", 28-07-2003, 01-08-2003. **Artvin:** Altıparmak, N40°57'29.9" E41°22'41.3", 26-07-2005; Demirdöven, N40°55'16.4" E41°21'08.9", 04-08-2003; Olgunlar, N40°51'37.3"



E41°14'40.5", 30-07-2004; Yaylalar, N40°51'51.5" E41°15'03.4", 03-08-2003; Yaylalar, N40°52'26.5" E41°16'39.1", 03-08-2003. **Erzurum:** Bozburun, N39°59'36.5" E40°33'34.2", 23-07-2004; Çirşli Geçidi, N39°27'43.9" E41°03'01.8", 15-07-2006, 19-07-2006; Erzurum, N39°48'00.6" E41°11'34.4", 17-07-2001; Erzurum, N39°50'05.2" E41°16'37.7", 20-07-2006; Gelinkaya, N40°01'48.3" E40°54'56.0", 23-07-2006; Gölyurt Geçidi, N40°20'56.0" E40°47'35.6", 23-07-2005, 24-07-2005, 21-07-2006; Karakale, N40°12'31.8" E40°58'01.0", 30-07-2005; Kop Geçidi, N40°01'12.8" E40°30'34.2", 27-07-2005, 01-08-2005 (Garrovoet W. & Vanderpe N.); Kop Geçidi, N40°01'20.3" E40°30'42.0", 13-07-2003, 27-07-2003, 02-08-2004, 22-07-2005; Kop Geçidi, N40°01'17.3" E40°30'35.5", 12-07-2006, 23-07-2006; Palandöken, N39°50'02.8" E41°16'37.0", 01-08-2005 (Garrovoet W. & Vanderpe N.); Palandöken, N39°50'05.2" E41°16'39.7", 31-07-2005; Rizekent, N40°09'32.4" E41°00'51.3", 12-07-2004, 22-07-2005, 25-07-2005, 30-07-2005; Yukari Sivri, N40°21'09.1" E41°40'58.3", 27-07-2004; Yumaklı, N40°14'21.3" E41°31'09.3", 02-08-2003, 04-08-2004; Yumaklı, N40°14'24.1" E41°31'09.9", 26-07-2005 (Garrovoet W. & Vanderpe N.). **Hakkari:** Süvarihalil Geçidi, N37°29'53.6" E43°20'59.0", 15-07-2005. **Kars:** Çayarası, N40°07'38.5" E42°44'08.7", 20-07-2001; Duranlı, N40°02'49.8" E43°17'45.2", 21-07-2003, 22-07-2003; Karakurt, N40°09'04.2" E42°37'59.5", 10-07-2001, 20-07-2003; Sarıkamış, N40°15'46.5" E42°39'29.7", 19-07-2001; Sarıkamış, N40°15'22.5" E42°38'46.9", 18-07-2001, 15-07-2002, 15-07-2003. **Sivas:** Zara, N39°51'10.0" E37°53'13.5", 21-07-2001. **Van:** Erciş, 13-07-2001; Gevaş, N38°16'30.8" E43°03'52.3", 20-07-2002, 23-07-2003; Gevaş, N38°17'19.3" E43°04'34.7", 12-07-2001, 14-07-2002; Güzeldere Geçidi, N38°09'01.8" E43°59'04.0", 21-07-2002; Güzeldere Geçidi, N38°10'29.5" E43°56'54.6", 21-07-2002, 17-07-2006; Yukarımarlıca, N38°07'31.3" E43°04'27.2", 17-07-2004, 18-07-2004, 16-07-2006

**Distribution:** Armenia, southern Azerbaijan (Nakhichevan), eastern Turkey, Iran (Elburs Mts.).

**Remarks:** common and widespread where *Euphorbia* spp. grows.

### ***Chamaesphelia palustris* KAUTZ 1927**

**Material:** **Bolu:** Yeniçağa, N40°46'25.0" E32°00'36.2", 06-07-2004.

**Distribution:** scattered and local in central and eastern Europe, northern Turkey, eastern Kazakhstan.

**Remarks:** very local on marches with *Euphorbia palustris*. Many of these localities are vanished already due to draining of the swamps and the use of flood lands for agricultural purposes. Also in this case, destruction of suitable habitats endangers both typical flora and fauna of these unique ecosystems. Urgent measurements are necessary not to lose these valuable biotopes. *Chamaesphelia palustris* must get the status of "Red List"-species.

### ***Chamaesphelia bibioniformis* (ESPER 1800)**

**Material:** **Adıyaman:** Nemrut Dağı, N38°00'35.2" E38°45'50.0", 08-07-2006. **Bolu:** Yenigüney, N40°44'44.1" E31°51'29.2", 05-07-2005, 07-07-2006. **Erzurum:** Gölyurt Geçidi, N40°20'56.0" E40°47'35.6", 11-07-2006; Kop Geçidi, N40°01'12.8" E40°30'34.2", 27-07-2005, 01-08-2005 (Garrovoet W. & Vanderpe N.); Kop Geçidi, N40°01'17.3" E40°30'35.5", 13-07-2003, 21-07-2005, 12-07-2006, 23-07-2006. **Hakkari:** Süvarihalil Geçidi, N37°29'52.4" E43°25'56.1", 16-07-2005. **İçel:** Sertavul Geçidi, N36°54'52.7" E33°15'03.2", 07-07-2003, 06-07-2005. **İzmir:** Yenibağarası, N38°40'08.0" E26°52'59.0", 30-04-2001 (Dils J. & Faes J.). **Kars:** Taşlıgüney, N40°06'34.9" E42°25'08.9", 13-07-2004. **Neveşehir:** Göreme, N38°40'33.2" E34°52'59.6", 09-07-2002; Göreme, N38°40'52.1" E34°51'55.7", 09-07-2002; Karain, N38°35'09.6" E34°59'35.4", 10-07-2002. **Van:** Gevaş, N38°16'29.5" E43°03'53.2", 19-07-2002.

**Distribution:** from Spain and southern France through central Europe, northern Italy, Balkans, southern Russia and Ukraine to western Kazakhstan and from southern Europe through Turkey to Transcaucasia.

**Remarks:** a widespread species living in *Euphorbia* sp.

***Chamaesphecia kautti* ŠPATENKA 1997**

**Material:** **İçel:** Silifke, 15-06-1999 (Dils J. & Faes J.)

**Distribution:** southern central Turkey.

**Remarks:** a local species bound to the occurrence of its food plant (*Euphorbia kotschyana*) (ŠPATENKA et al. 1999). There are insufficient data available to make conclusions about the status of this species.

***Chamaesphecia haberhaueri* (STAUDINGER 1879)**

**Material:** **İçel:** Karabeşli, N36°41'58.2" E34°09'56.6", 11-07-2002.

**Distribution:** Turkey (Taurus Mts.), northern Syria.

**Remarks:** the bionomics is still unknown. More research is necessary.

***Chamaesphecia schmidtiformis* (FREYER 1836)**

**Material:** **Kayseri:** Saraycık, N38°11'22.0" E35°54'46.8", 10-06-2005 (Dils J. & Faes J.)

**Distribution:** southern and south-eastern Europe, southern Ukraine, Transcaucasia, Turkey, Israel, Syria, Turkmenistan (Kopet Dag Mts.).

**Remarks:** insufficient data to draw conclusions. The larvae live in *Salvia* sp..

***Chamaesphecia chalciformis* (ESPER [1804])**

**Material:** **Hakkari:** Süvarihalil Geçidi, N37°28'54.5" E43°19'44.3", 15-07-2005.

**Distribution:** south-eastern Europe, southern Russia, southern Ukraine, Transcaucasia, Turkey, Israel, Syria, Lebanon, Iran, Turkmenistan (Kopet Dag Mts.), Uzbekistan (Mt. Chimgan).

**Remarks:** insufficient data to draw conclusions. The larvae live in *Origanum* sp.

***Chamaesphecia elampiformis* (HERRICH-SCHÄFFER 1851)**

**Material:** **Ağrı:** Hayrangöl, N39°46'45.0" E42°27'45.4", 25-07-2003; Sağırtaş, N39°56'26.7" E43°13'45.8", 19-07-2004. **Erzurum:** Bozburun, N39°59'36.1" E40°33'35.1", 22-07-2005; Gölyurt Geçidi, N40°20'55.8" E40°47'35.8", 03-08-2004 (Dils J. & Faes J.); Gölyurt Geçidi, N40°20'56.0" E40°47'35.6", 11-07-2006; Kop Geçidi, N40°01'20.6" E40°30'35.3", 21-07-2005. **Kahramanmaraş:** Püren Geçidi, N37°56'19.8" E36°29'44.7", 02-07-2004 (Dils J. & Faes J.). **Kars:** Sarıkamış, N40°15'46.9" E42°39'32.7", 17-07-2003, 19-07-2003.

**Distribution:** central and eastern Turkey, southern Transcaucasia, northern and south-western Iran.

**Remarks:** a rare and local species. According to ŠPATENKA et al. (1999) the larva lives in *Stachys inflata*.

***Chamaesphecia colpiformis* (STAUDINGER 1856)**

**Material:** **Ankara:** Tatlak, N40°28'03.2" E32°21'38.3", 05-07-2005 (larva). **Erzincan:** Yaylacık, N39°47'49.1" E40°29'28.5", 20-07-2001.

**Distribution:** south-eastern parts of central Europe (eastern Austria, south-eastern Czech Republic, southern Slovakia, Hungary, Balkans), southern Russia, Ukraine, western and central Turkey.

**Remarks:** insufficient data to draw conclusions. This species infests mainly *Salvia nemorosa* but occasionally accepts also other *Salvia* species.

***Chamaesphecia doryceraeformis* (LEDERER 1853)**

**Material:** **Adyaman:** Nemrut Dağı, N37°58'55.3" E38°44'42.3", 09-07-2006. **Ağrı:** Taypınarı, N39°52'08.2" E43°08'56.8", 19-07-2004. **Bingöl:** Kırkağıl, N38°55'11.0" E40°20'08.2", 13-07-2002, 14-07-2002, 18-07-2002, 12-07-2003. **Erzurum:** Bozburun, N39°59'36.1" E40°33'35.1", 21-07-2005, 22-07-2005; Çirişli Geçidi, N39°27'43.9" E41°03'01.8", 10-07-2006, 15-07-2006, 19-07-2006, 24-07-2006; Kop Geçidi, N40°01'13.6" E40°30'36.6", 27-07-2005 (Garrovoet W. & Vanderpe N.); Kop Geçidi, N40°01'20.6" E40°30'35.3", 21-07-2005; Yumaklı, N40°14'21.1" E41°31'09.4", 14-07-2003, 05-08-2004. **İçel:** Sertavul Geçidi, N36°54'52.7" E33°15'03.2", 06-07-2005, 07-07-2005, 08-07-2005, 09-07-2005. **Malatya:** Kubbe Geçidi, N38°15'36.7" E38°35'37.5", 10-07-2005; Nemrut Dağı, N38°00'35.3" E38°45'50.4", 10-07-2005, 11-07-2005; Reşadiye Geçidi, N37°58'07.1" E37°59'37.3", 10-07-2005. **Van:** Gevaş, N38°15'48.1" E43°04'03.3", 17-07-2005; Gevaş, N38°16'30.7" E43°03'52.6", 16-07-2006, 18-07-2006; Yukarınarlıca, N38°07'31.3" E43°04'27.2", 14-07-2005, 16-07-2006.

**Distribution:** Turkey, southern Transcaucasia, northern Iran.

**Remarks:** a locally common species. The authors observed ovipositing behaviour on *Phlomis capitata*.

***Chamaesphecia sefid* LE CERF 1938**

**Material:** **Van:** Gevaş, N38°16'30.8" E43°03'52.3", 23-07-2003, 16-07-2004, 17-07-2004; Yukarınarlıca, N38°07'31.4" E43°04'28.4", 17-07-2004, 18-07-2004.

**Distribution:** southern Turkey, northern Syria, south-western Iran.

**Remarks:** at least in Turkey this species lives, as in the previous one, in *Phlomis capitata*.

***Chamaesphecia aurifera* (ROMANOFF 1885)**

**Material:** **Erzurum:** Çirişli Geçidi, N39°27'43.9" E41°03'01.8", 10-07-2006, 13-07-2006, 15-07-2006, 19-07-2006, 24-07-2006. **Van:** Yukarınarlıca, N38°07'31.3" E43°04'27.2", 16-07-2006. **Hakkari:** Varegös (Sat Mts.), 05-08-1983 (Lucas J.A.W.).

**Distribution:** eastern Turkey, Armenia, Azerbaijan (Nakhichevan).

**Remarks:** a very rare and local species.

***Chamaesphecia anatolica* SCHWINGENSCHUSS 1938**

**Material:** **Erzurum:** Gölyurt Geçidi, N40°20'56.0" E40°47'35.6", 22-07-2005, 23-07-2005, 24-07-2005, 21-07-2006; Kop Geçidi, N40°01'12.8" E40°30'34.2", 27-07-2005, 01-08-2005 (Garrovoet W. & Vanderpe N.); Kop Geçidi, N40°01'20.6" E40°30'35.3", 21-07-2005; Yumaklı, N40°14'21.0" E41°31'09.3", 12-07-2003, 14-07-2003, 17-07-2003, 18-07-2003, 27-07-2003, 28-07-2003, 29-07-2003, 30-07-2003, 31-07-2003, 02-08-2003, 02-08-2004, 04-08-2004, 19-07-2005,

31-07-2005; Yumaklı, N40°14'24.1" E41°31'09.9", 26-07-2005 (Garrevoet W. & Vandorpe N.).  
**Kars:** Duranlı, N40°02'53.5" E43°17'02.1", 21-07-2003; Sankamış, N40°15'46.6" E42°39'29.8",  
 18-07-2001, 19-07-2001, 26-07-2003.

**Distribution:** Hungary (Matra Mts.), south-western Romania, eastern Serbia, Bosnia-Herzegovina, Greece, Turkey (southern Anatolia and north-eastern Anatolia).

**Remarks:** locally a rather common species. Oviposition was observed on *Nepeta nuda*.

### ***Chamaesphacia blandita* GORBUNOV & ŠPATENKA 2001**

**Material:** **Adıyaman:** Nemrut Dağı, N38°00'35.1" E38°45'50.4", 12-06-2005 (Dils J. & Faes J.). **Erzurum:** Yukarı Sivri, N40°21'09.1" E41°40'58.3", 27-07-2004. **Malatya:** Nemrut Dağı, N38°00'35.3" E38°45'50.4", 10-07-2005.

**Distribution:** eastern and central Turkey (GORBUNOV & ŠPATENKA 2001).

**Remarks:** A very rare species with until now a very scattered distribution pattern. Female and hostplant are still unknown. Additional research is necessary. The taxonomic position suggested in the original description (GORBUNOV & ŠPATENKA 2001) should be redefined. The species is closely related to *Chamaesphacia mirza* LE CERF 1938 from Iran.

### ***Chamaesphacia masariformis* (OCHSENHEIMER 1808)**

**Material:** **Erzurum:** Çirışlı Geçidi, N39°27'43.9" E41°03'01.8", 10-07-2006, 15-07-2006; Gölyurt Geçidi, N40°20'56.0" E40°47'35.6", 23-07-2005. **İçel:** Karakütük, N37°08'28.7" E34°50'20.1", 03-06-2005 (Dils J. & Faes J.).

**Distribution:** south-eastern Europe, Balkan, southern Russia, southern Ukraine, Cyprus, Turkey (Transcaucasia), Lebanon, Syria, Israel, northern Iran, Uzbekistan, Tajikistan, Kazakhstan.

**Remarks:** there are not enough data available to determine the status of this species in Turkey. The larvae live in various *Verbascum* and also some *Scrophularia* species.

### ***Chamaesphacia proximata* (STAUDINGER 1891)**

**Material:** **Erzurum:** Çirışlı Geçidi, N39°27'43.9" E41°03'01.8", 24-07-2006. **Hakkari:** Süvarihalil Geçidi, N37°29'40.6" E43°19'20.3", 15-07-2005; Süvarihalil Geçidi, N37°29'54.2" E43°19'43.4", 16-07-2005; Süvarihalil Geçidi, N37°29'59.4" E43°24'44.6", 16-07-2005. **Karaman:** Uçbölük, N36°31'00.0" E33°00'20.0", 21-07-2000 (Dils J. & Faes J.). **Kayseri:** Sarız, N38°28'23.0" E36°33'13.0", 27-07-2000 (Dils J. & Faes J.). **Malatya:** Nemrut Dağı, N38°00'35.3" E38°45'50.4", 11-07-2005.

**Distribution:** Macedonia, southern Bulgaria, Greece, Cyprus, Turkey.

**Remarks:** in eastern Turkey local and rather rare. The larvae live in *Salvia sclarea* and other *Salvia* spp..

### ***Chamaesphacia diabarensis* GORBUNOV 1987**

**Material:** **Erzurum:** Gölyurt Geçidi, N40°20'56.0" E40°47'35.6", 22-07-2005, 23-07-2005, 21-07-2006; Yumaklı, N40°14'21.0" E41°31'09.3", 12-07-2003, 14-07-2003, 17-07-2003, 28-07-2003, 30-07-2003, 31-07-2003, 02-08-2003, 12-07-2004, 02-08-2004, 04-08-2004, 19-07-2005, 31-07-2005; Yumaklı, N40°14'24.1" E41°31'09.9", 26-07-2005. **Hakkari:** Süvarihalil Geçidi, N37°29'40.6" E43°19'20.3", 15-07-2005. **Van:** Gevaş, N38°16'30.7" E43°03'52.6", 16-07-2004.

**Distribution:** Armenia, Azerbaijan, eastern Turkey.

**Remarks:** locally not rare. This species infests *Marrubium persicum*.

***Chamaesphecia albida* ŠPATENKA 1998**

**Material:** **İçel:** Sertavul Geçidi, N36°54'52.7" E33°15'03.2", 06-07-2005, 07-07-2005, 08-07-2005, 09-07-2005.

**Distribution:** southern Turkey (Taurus Mts.).

**Remarks:** this species is known only from the type-locality and lives in *Sideritis syriaca*.

***Chamaesphecia dumonti* LE CERF 1922**

**Material:** **Erzurum:** Yumaklı, N40°14'21.0" E41°31'09.3", 12-07-2003, 14-07-2003, 18-07-2003, 02-08-2003, 22-07-2004, 19-07-2005, 31-07-2005. **İçel:** Çömelek, N36°42'36.5" E33°39'35.0", 24-05-2005 (Dils J. & Faes J.). **Kars:** Sankamış, N40°15'45.9" E42°39'31.6", 19-07-2001, 15-07-2003, 17-07-2003.

**Distribution:** south-eastern France, south-western Germany, southern Switzerland, northern Italy, eastern Austria, Czech Republic, Slovakia, Hungary, Serbia, Macedonia, Bulgaria, southern Russia, southern Ukraine, Transcaucasia; south-western and north-eastern Turkey.

**Remarks:** a local and not so common species infesting *Stachys* sp.

***Chamaesphecia tahira* KALLIES & PETERSEN 1995**

**Material:** **Erzurum:** Erzurum, N39°48'00.6" E41°11'34.4", 17-07-2001; Erzurum, N39°50'05.2" E41°16'37.7", 20-07-2006; Gölyurt Geçidi, N40°20'56.0" E40°47'35.6", 23-07-2005, 24-07-2005; Karakale, N40°12'31.8" E40°58'01.0", 30-07-2005; Kop Geçidi, N40°01'20.6" E40°30'35.3", 22-07-2005; Palandöken, N39°50'05.2" E41°16'39.7", 31-07-2005; Palandöken, N39°50'02.8" E41°16'37.0", 01-08-2005; Rizekent, N40°10'17.7" E40°59'37.0", 22-07-2005, 25-07-2005; Yukari Sivri, N40°21'09.1" E41°40'58.3", 01-08-2005; Yumaklı, N40°14'21.3" E41°31'09.3", 17-07-2002, 18-07-2003, 31-07-2003, 22-07-2004, 24-07-2004, 02-08-2004, 26-07-2005, 31-07-2005.

**Distribution:** Turkey (eastern Anatolia) KALLIES & PETERSEN (1995).

**Remarks:** locally, this species can be very common. The larva lives in the roots of *Nepeta betonicifolia* (ŠPATENKA et al. 1999).

***Chamaesphecia alysoniformis* (HERRICH-SCHÄFFER 1846)**

**Material:** **Bingöl:** Kırkağıl, N38°55'11.3" E40°20'08.4", 13-07-2002, 18-07-2002. **İçel:** Çömelek, N36°42'26.9" E33°40'35.8", 10-07-2002; Çömelek, N36°42'48.5" E33°42'21.0", 10-07-2002. **Kırşehir:** Mucur, N39°03'49.5" E34°19'54.2", 08-07-2002. **Neveşehir:** Göreme, N38°40'33.2" E34°52'59.6", 09-07-2002; Göreme, N38°40'52.1" E34°51'55.7", 09-07-2002; Karain, N38°35'09.6" E34°59'35.4", 10-07-2002.

**Distribution:** southern Serbia, Macedonia, Bulgaria, Albania, south-western Romania, Greece, Crete, Cyprus, western Turkey to Cappadocia and Pozanti, Syria.

**Remarks:** this species, infesting *Mentha* sp., occurs in the western and central part of Turkey. The niche in the eastern part is taken by the next species that has the same foodplant and biotope preferences.

***Chamaesphecia schwingenschussi* LE CERF 1937**

**M a t e r i a l :** **Adyaman:** Nemrut Dağı, N38°00'35.2" E38°45'50.0", 08-07-2006. **Ağrı:** Hayrangöl, N39°47'22.3" E42°29'19.3", 28-07-2003, 31-07-2003. **Artvin:** Altıparmak, N40°56'32.5" E41°21'59.4", 27-07-2005. **Erzurum:** Bozburun, N39°59'36.5" E40°33'34.2", 23-07-2004; Gölyurt Geçidi, N40°20'56.0" E40°47'35.6", 22-07-2005, 23-07-2005, 11-07-2006, 21-07-2006; Kop Geçidi, N40°01'12.8" E40°30'34.2", 01-08-2005 (Garrovet W. & Vandrope N.); Kop Geçidi, N40°01'20.6" E40°30'35.3", 21-07-2005, 12-07-2006, 23-07-2006; Palandöken, N39°50'05.2" E41°16'39.7", 31-07-2005; Rizekent, N40°10'26.5" E40°59'32.9", 25-07-2005; Yukari Sivri, N40°21'09.1" E41°40'58.3", 27-07-2004; Yukari Sivri, N40°21'08.5" E41°40'59.4", 18-07-2005 (Garrovet W. & Vandrope N.); Yumaklı, N40°14'21.0" E41°31'09.3", 12-07-2003, 04-08-2004, 19-07-2005; Yumaklı, N40°14'24.1" E41°31'09.9", 26-07-2005 (Garrovet W. & Vandrope N.). **Hakkari:** Süvarihalil Geçidi, N37°29'52.4" E43°25'56.1", 16-07-2005. **Kars:** Duranlı, N40°02'53.5" E43°17'02.1", 21-07-2003. **Malatya:** Karakışık, N38°53'30.3" E37°53'19.6", 09-07-2004. **Van:** Gevaş, N38°15'48.1" E43°04'03.3", 17-07-2005; Güzeldere Geçidi, N38°10'33.8" E43°56'43.5", 17-07-2006

**D i s t r i b u t i o n :** central, north-eastern and eastern Turkey, southern Transcaucasia, northern Iran.

**R e m a r k s :** see *Chamaesphecia alysoniformis*. Common and widespread in eastern Turkey in humid places where *Mentha* species occurs but also on dryer places with *Thymus* sp.

***Chamaesphecia christophi* GORBUNOV & ŠPATENKA 2001**

**M a t e r i a l :** **Ağrı:** Taypınar, N39°52'08.2" E43°08'56.8", 19-07-2004

**D i s t r i b u t i o n :** eastern Turkey (only known from the type-locality).

**R e m a r k s :** insufficient data available.

***Chamaesphecia gorbunovi* ŠPATENKA 1992**

**M a t e r i a l :** **Ağrı:** Hayrangöl, N39°47'22.3" E42°29'19.3", 28-07-2003. **Ardahan:** Yiğitkonağı, N40°56'06.2" E42°35'13.0", 28-07-2004. **Artvin:** Altıparmak, N40°56'32.5" E41°21'59.4", 27-07-2005; Yaylalar, N40°52'26.5" E41°16'39.1", 03-08-2003. **Erzurum:** Bozburun, N39°59'24.8" E20°33'52.8", 25-07-2004; Gölyurt Geçidi, N40°20'56.0" E40°47'35.6", 22-07-2005, 23-07-2005, 11-07-2006; Kop Geçidi, N40°01'25.1" E40°30'41.6", 13-07-2003, 02-08-2004; Kop Geçidi, N40°01'13.6" E40°30'36.6", 27-07-2005 (Garrovet W. & Vandrope N.); Yukari Sivri, N40°21'08.5" E41°40'59.4", 18-07-2005 (Garrovet W. & Vandrope N.); Yumaklı, N40°14'21.0" E41°31'09.3", 12-07-2003, 17-07-2003, 30-07-2003, 12-07-2004; Yumaklı, N40°14'24.1" E41°31'09.9", 26-07-2005 (Garrovet W. & Vandrope N.). **İçel:** Sertavul Geçidi, N36°54'54.6" E33°16'12.4", 08-07-2003. **Kars:** Karakurt, 26-07-1992 (Riefenstahl H.); Karakurt, N40°09'09.3" E42°37'41.7", 18-07-2003; Sarıkamış, N40°15'22.5" E42°38'46.9", 18-07-2001, 19-07-2001. **Malatya:** Nemrut Dağı, N38°00'35.3" E38°45'50.4", 10-07-2005. **Nevşehir:** Göreme, N38°40'52.1" E34°51'55.7", 09-07-2002. **Van:** Gevaş, N38°16'29.5" E43°03'53.2", 19-07-2002, 22-07-2003, 17-07-2005, 16-07-2006, 18-07-2006.

**D i s t r i b u t i o n :** Greece, Turkey (southern and eastern Anatolia), Armenia, Azerbaijan (Nakhichevan).

**R e m a r k s :** a common and widespread species in eastern Turkey where *Scutellaria orientalis* is the food plant. Recently, this species was published from Greece as new to Europe (BARTSCH et al. 2005).

***Chamaesphecia albiventris* (LEDERER 1853)**

**M a t e r i a l :** **İçel:** Güzeloluk, N36°44'33.4" E34°08'10.2", 22-06-2004 (Dils J. & Faes J.).

**D i s t r i b u t i o n :** North-western and southern Turkey, Israel.

**R e m a r k s :** a rare species. Also for this species there are not enough data available. The hostplant is still unknown.

***Chamaesphecia nigrifrons* (LE CERF 1911)**

**M a t e r i a l :** **Konya:** Bayağşar, N37°33'29.2" E31°47'46.6", 28-05-2005 (Dils J. & Faes J.)

**D i s t r i b u t i o n :** from central and south-eastern France through central Europe to Bulgaria and northern Greece, southern Ukraine (Crimea), Transcaucasia, north-western and southern Turkey, north-western Syria.

**R e m a r k s :** so far we have not encountered this species in eastern Turkey. The host-plant is *Hypericum* sp.

***Chamaesphecia ruficoronata* KALLIES, PETERSEN & RIEFENSTAHL 1998**

**M a t e r i a l :** **Ağrı:** Hayrangöl, N39°46'45.0" E42°27'45.4", 25-07-2003; Hayrangöl, N39°47'22.3" E42°29'19.3", 28-07-2003; Sağırtaş, N39°56'26.7" E43°13'45.8", 19-07-2004. **Erzurum:** Rizekent, N40°09'32.4" E41°00'51.3", 25-07-2005. **Hakkari:** Süvarihalil Geçidi, N37°29'53.6" E43°20'59.0", 15-07-2005; Süvarihalil Geçidi, N37°29'54.2" E43°19'43.4", 16-07-2005. **Kars:** Duranlı, N40°02'53.5" E43°17'02.1", 21-07-2003; Karakurt, N40°09'01.4" E42°37'33.5", 10-07-2001; Karasu-Aras Mountains, N40°03'02.0" E43°17'04.0", 12-07-1996 (Gorbunov O.); Sarıkamış, N40°15'46.5" E42°39'29.7", 19-07-2001, 15-07-2002, 15-07-2003, 17-07-2003, 19-07-2003, 14-07-2004. **Van:** Gevaş, N38°17'20.3" E43°04'36.9", 14-07-2002; Yukarınarlıca, N38°07'31.4" E43°04'28.4", 17-07-2004.

**D i s t r i b u t i o n :** only known from eastern Turkey (KALLIES et al.1998). It would not be a surprise if the species occurs also in Western Iran and Northern Iraq.

**R e m a r k s :** locally common in eastern Turkey. An ovipositing female was observed on a purple flowering *Salvia* species confirming the assumption stated in the original description (KALLIES et al. 1998).

**Acknowledgements**

We wish to express our gratitude to the Turkish authorities, i.e. the Higher Education Council and the Ministry of Foreign Affairs, who granted the permissions for our research. The expeditions were made possible through the fruitful collaboration with the Atatürk University Erzurum (Atatürk Üniversitesi, Ziraat Fakültesi, Bitki Koruma Bölümü). We also want to thank the vice-consuls Mr. Ertan Yalçın and Mr. Emre Öziğci of the Turkish Consulate in Belgium for their valuable and indispensable support.

We also wish to thank J. Dils (Hoevenen, Belgium) and his wife Jeannine, both of them excellent dipterologists, not only for their support and wonderful companionship during many days in Turkey but also for the many observations of Sesiidae they provided. A. Lingenhöle (Biberach, Germany) and his wife were very fine companions during two of the expeditions. The help and support of the Rector of the Atatürk University, Prof. Dr. Yaşar Sütbeyaz, was very valuable in obtaining the necessary permissions for our research.

We also want to thank D. Bartsch (Stuttgart, Germany) and J. Gelbrecht (König-Wusterhausen, Germany) for additional data and information.

Last but not least we want to thank A. Kallies (Melbourne, Australia) for his useful comments during the preparation of this paper.

### Zusammenfassung

Verbreitungsangaben von zwischen 2001 und 2006 vorwiegend in der Osttürkei gesammelten und beobachteten Sesiidae wurden vorgestellt. Insbesondere gefährdete und im Status Roter Listen zugeordnete Arten werden berücksichtigt. Für die besonders bedrohten Arten *Pyropteron cirgisa* (BARTEL 1912) und *Chamaesphecia palustris* KAUTZ 1927 wurden Schutzmaßnahmen vorgeschlagen. *Pyropteron atypica* KALLIES & ŠPATENKA 2003 und *Dipchasphecia consobrina* (LE CERF 1938) sind Neunachweise für die Türkei. *Synanthedon armeniaca* GORBUNOV 1991 wird als neues Synonym von *Synanthedon myopaeformis* (BORKHAUSEN 1789) vorgestellt, *Bembecia mira* GORBUNOV & ŠPATENKA 2001 als neues Synonym von *Bembecia scopigera* (SCOPOLI 1763) und *Bembecia zuvandica* GORBUNOV 1987 als jenes von *Bembecia apyra* (LE CERF 1937). Schließlich wird das Taxon *transcaucasica* (STAUDINGER 1891) als Unterart von *Bembecia sanguinolenta* (LEDERER 1853) eingereiht (stat.nov.) und *turcmena* (BARTEL 1912) als Unterart von *Bembecia pontica* (STAUDINGER 1891) (stat. rev.).

### References

- BARTSCH D. (2004): Die Sesiidenfauna Zyperns - eine kommentierte Übersicht (Lepidoptera: Sesiidae). — Entomologische Zeitschrift **114** (2): 80-86.
- BARTSCH D. & F. PÜHRINGER (2005): Die Glasflügler Kretas (Lepidoptera: Sesiidae). — Entomologische Zeitschrift **115** (3): 131-139.
- BARTSCH D., PÜHRINGER F., BETTAG E. & E. BLUM (2005): *Chamaesphecia gorbunovi* ŠPATENKA, 1992 – eine bisher für die europäische Fauna verkannte Sesiidenart (Lepidoptera: Sesiidae). — Entomologische Zeitschrift **115** (4): 177-180.
- BARTSCH D. & K. ŠPATENKA (2002): *Dipchasphecia sertavula* sp. nov. aus der Südtürkei (Lepidoptera: Sesiidae). — Entomologische Zeitschrift **112** (3): 78-80.
- GARREVOET T. & W. GARREVOET (2002): *Synanthedon rubiana*, a new species to the European fauna (Lepidoptera: Sesiidae). — Phegea **30** (3): 103.
- GARREVOET T., GARREVOET W. & H. ÖZBEK (2005): A Contribution to the Knowledge of the Sesiidae of Turkey (Lepidoptera). — Turkish Journal of Zoology **29**: 27-38.
- GORBUNOV O. & K. ŠPATENKA (2001): New clearwing moths (Lepidoptera, Sesiidae) from Turkey. — Melittia, a lepidopterological almanac **1**: 61-91.
- GÜLTEKIN L. & S. GÜÇLÜ (1997): Bio-ecology of *Bembecia scopigera* (SCOPOLI) (Lepidoptera, Sesiidae) making damage in sainfoin in Erzurum. — Plant Protection Bulletin, Ankara **37**: 101-107.
- KALLIES A. (2003): *Synanthedon pamphyla* sp.n. from southern Turkey with a comparative analysis of mitochondrial DNA of related species (Sesiidae). — Nota Lepidopterologica **26** (1/2): 35-46.
- KALLIES A. & M. PETERSEN (1995): *Chamaesphecia tahira* sp.n. – eine neue Glasflüglerart aus Ostanatolien (Lepidoptera: Sesiidae). — Nachrichten des entomologischen Vereins Apollo, N.F. **16** (1): 75-80.
- KALLIES A., PETERSEN M. & H. RIEFENSTAHL (1998): Drei neue Glasflüglerarten aus Anatolien (Lepidoptera, Sesiidae). — Esperiana **6**: 56-62, 848-849.
- KALLIES A. & K. ŠPATENKA (2003a): The Clearwing Moths of Iran (Lepidoptera, Sesiidae) (1<sup>st</sup> part). — Linneana Belgica, Pars **XIX** (2): 81-94.



- KALLIES A. & K. ŠPATENKA (2003b): The Clearwing Moths of Iran (Lepidoptera, Sesiidae) (2<sup>nd</sup> part). — *Linneana Belgica, Pars XIX* (3): 119-126.
- LAŠTŮVKA Z. & A. LAŠTŮVKA (2001): The Sesiidae of Europe, 1-245. — Stenstrup.
- PÜHRINGER F. & A. KALLIES (2004): Provisional check list of the Sesiidae of the world (Lepidoptera: Ditrysia). — *Mitteilungen der Entomologischen Arbeitsgemeinschaft Salzkammergut* 4: 1-85.
- SOBCZYK A., KALLIES A. & H. RIEFENSTAHL (2007): Die Arten der *Bembecia megillaeformis*-Gruppe (HÜBNER 1813) aus der Türkei mit der Beschreibung von *Bembecia stuebingeri* sp.nov. (Lepidoptera: Sesiidae). — *Entomologische Zeitschrift* 117 (1): 17-26.
- ŠPATENKA K. (1997[1996]): Neue Glasflügler-Arten und Unterarten aus Europa und der Türkei (Sesiidae, Lepidoptera). — *Bonner zoologische Beiträge* 47 (1-2): 43-57.
- ŠPATENKA K. & O. GORBUNOV (1992): Vier neue paläarktische Glasflügler (Sesiidae, Lepidoptera). — *Entomofauna* 13 (23): 377-396.
- ŠPATENKA K., GORBUNOV Z., LAŠTŮVKA I., TOSEVSKI & Y. ARITA (1999): Sesiidae, Clearwing Moths. — In: NAUMANN C. (Ed.), *Handbook of Palaearctic Macrolepidoptera*, Wallingford, England (Gem Publishing Company): 1-569.
- ŠPATENKA K. & Z. KALLIES (2006): Zwei neue Glasflüglerarten sowie eine kommentierte Checkliste der Glasflügler Kyrghyzstans (Lepidoptera: Sesiidae). — *Entomologische Zeitschrift* 116 (4): 163-168.
- TAMER A. & M. ÖZER (1990): Investigations on the bio-ecology and control of *Bembecia scopigera* (SCOPOLI) (Lepidoptera: Sesiidae) that damages sainfoin in Ankara Province. — *Turkish J. Agriculture and Forestry* 14: 149-180.

Author's addresses:

Dr. Theo GARREVOET  
Kampioenstraat 14  
B-2020 Antwerpen, Belgium  
E-mail: [theo.garrevoet@telenet.be](mailto:theo.garrevoet@telenet.be)

Walter GARREVOET  
Kampioenstraat 14  
B-2020 Antwerpen, Belgium  
E-mail: [walter.garrevoet@telenet.be](mailto:walter.garrevoet@telenet.be)

Dr. Hikmet ÖZBEK  
Atatürk University, Collage of Agriculture,  
Department of Plant Protection  
TR-25240 Erzurum, Turkey  
E-mail: [hozbek@atauni.edu.tr](mailto:hozbek@atauni.edu.tr)