

Contribution to the knowledge of the Pompilidae (Hymenoptera, Aculeata) fauna of Turkey with the checklist of species

Erol YILDIRIM^{1*}, Raymond WAHIS²

¹Atatürk University, Faculty of Agriculture, Department of Plant Protection, 25240, Erzurum - TURKEY

²Gembloux Agri-Bio Tech, Université de Liege, Entomologie fonctionnelle et évolutive, Passage des Déportés 2, B.
5030 Gembloux - BELGIUM

Received: 10.03.2010

Abstract: This study is based upon material of family Pompilidae collected from different localities in Turkey between 2000 and 2009; the other related studies on the Pompilidae in Turkey were reviewed. *Dicyrtomellus kizilkumii* (Radoszkowski, 1877) is a new record for Turkish fauna. The authors present also an updated checklist of the Pompilidae fauna of Turkey. Including the new taxon determined in this study a total of 200 species and 5 subspecies from 35 genera of the family Pompilidae were recorded from Turkey to date. Among them, the type localities of 23 species and 1 subspecies from Pompilidae are situated in Turkey. Separately, 19 species are considered endemic. In addition, new localities were found for some species and subspecies that have already been reported in Turkey.

Key words: Hymenoptera, Pompilidae, fauna, checklist, Turkey

Türkiye'nin Pompilidae (Hymenoptera, Aculeata) faunasına katkılar ve tür listesi

Özet: Bu çalışmada, Türkiye'nin değişik yörelerinden 2000-2009 yıllarında toplanan Pompilidae örnekleri ile bu konuda bugüne kadar Türkiye'de yapılan çalışmalar değerlendirilmiştir. Saptanan türlerden, *Dicyrtomellus kizilkumii* (Radoszkowski, 1877) Türkiye faunası için yeni kayıttır. Türkiye'nin Pompilidae faunasına ait tür listesi hazırlanmıştır. Bu çalışmada tespit edilen Türkiye faunası için yeni kayıt olan türle birlikte 35 cinse bağlı 200 tür ve 5 alttürün Türkiye'de bulunduğu tespit edilmiştir. Bunlardan 23 tür ve 1 alttürün tip lokalitelerinin Türkiye olduğu belirlenmiştir. Yine, 19 türün endemik olduğu görülmüştür. Ayrıca, daha önce Türkiye'de bulunduğu belirtilen bazı tür ve alttürler için yeni lokaliteler tespit edilmiştir.

Anahtar sözcükler: Hymenoptera, Pompilidae, fauna, tür listesi, Türkiye

* E-mail: eyildi@atauni.edu.tr

Introduction

Pompilidae (spider wasps) is a cosmopolitan but predominantly tropical family containing about 4200 species in 3 subfamilies: Ceropalinae, Pepsinae, and Pompilinae. All species are solitary. Usually each larva develops on a single paralyzed spider (Araneae), very rarely another order of Arachnida, in a cell constructed and provisioned by the female, although a preexisting cavity may sometimes be used; the larva is rarely an ectoparasitoid of an active spider or a cleptoparasite in a cell provisioned by another pompilid (Goulet and Huber, 1993).

Turkey is one of the most interesting countries located in the West Palaearctic region, where most of the insect families including Pompilidae are known to survive. Thus, some faunistic studies about the family Pompilidae have been conducted by some foreign and native researchers in Turkey. However, there has been no attempt to prepare a checklist for Turkish Pompilidae fauna. It is essential to have such a checklist of Pompilidae from Turkey for the researchers who are interested in working with Pompilidae in the West Palaearctic region, including Turkey.

Faunal studies on the pompilid wasps of Turkey have been conducted by Moczar (1978, 1986a, 1986b, 1987, 1988, 1989, 1991), Priesner (1955, 1966, 1967, 1973), Wolf (1960, 1966a, 1966b, 1970, 1986, 1987, 1990, 1999), Madl (1997), Özbek et al. (1999, 2000), Zonstein (2000), Smitsen (2003), Anlaş et al. (2005), Kırpık (2005, 2009), Kırpık and Tüzün (2005), Yıldırım (2008), and Wahis (1986, 1997, 1998, 2002, 2006, 2009), who recorded and described several new species and subspecies from Turkey. As a result, a total of 199 species and 5 subspecies from 35 genera belonging to 3 subfamilies, i.e. Ceropalinae, Pepsinae, and Pompilinae, from Pompilidae were recorded from Turkey. Among them, the type localities of 23 species and 1 subspecies in Pompilidae are situated in Turkey. Separately, 19 species are considered endemic.

In our study, the present situation of Pompilidae species and subspecies in Turkey was evaluated. As a result, a total of 200 species and 5 subspecies belonging to 35 genera from the family Pompilidae have been recorded from Turkey to date. The authors present also an updated checklist of the Pompilidae fauna of Turkey.

Materials and methods

The material of the Pompilidae was collected from different localities in Turkey in 2000-2009. Provinces where the specimens were collected are given in alphabetical order in the list below. The material is deposited in the Entomology Museum, Erzurum, Turkey (EMET), and Faculté universitaire des Sciences agronomiques, Entomologie fonctionnelle et évolutive, Gembloux, Belgium (rec. R. Wahis; FSAGx). The type localities in Turkey of species and subspecies are marked with an asterisk in front of the name in checklist.

Results

A total of 200 species and 5 subspecies belonging to 35 genera from the family Pompilidae have been recorded from Turkey to date.

Subfamily Ceropalinae

Ceropales cribrata Costa, 1881

Material examined: **Erzurum**: Oltu, Vocational Training School fields, 1345 m, 24.VII.2008, ♀.

Ceropales maculata (Fabricius, 1775)

Material examined: **Erzurum**: Olur, 1600 m, 20.VII.2007, ♂, Tortum, Çataldere, 1800 m, 12.VII.2001, ♀; **Rize**: Ovit, 2300 m, 29.VII.2000, ♂.

Ceropales ruficornis Gussakovskij, 1931

Material examined: **Mersin**: Aydıncık, 27.VII.2005, ♀.

Subfamily Pepsinae

Caliadurgus fasciatellus (Spinola, 1808)

Material examined: **Erzurum**: Oltu, Çamlıbel, 1700 m, 19.VI.2003, ♀.

Cryptocheilus alternatus (Lepelletier, 1845)

Material examined: **Konya**: Güneysınır, Gurağaç, 1020 m, 3.IX.2000, ♂.

Cryptocheilus discolor (Fabricius, 1793)

Material examined: **Erzurum**: Karayazı, Söylemez, 1750 m, 26.VI.2005, ♀; **Kars**: 1475 m, 2.VI.2000, ♀.

Cryptocheilus exiguus Suster, 1924

Material examined: **Balıkesir**: 9.IX.2004, ♀.

Cryptocheilus fabricii (Vander Linden, 1827)

Material examined: **Erzurum:** Güzelyayla, 2000 m, 19.VIII.2009, ♀, Konaklı, 2400 m, 22.VII.2000, ♀, 2 ♂♂, İlica, 1900 m, 4.VIII.2009, ♀, Oltu, Vocational Training School fields, 1345 m, 24.VII.2008, ♀; **Iğdır:** Tuzluca, 870 m, 16.VI.2009, ♂; **Kars:** Sarıkamış, Karakurt, 1500 m, 13.VIII.2009, ♀.

Cryptocheilus freygessneri (Kohl, 1883)

Material examined: **Erzurum:** Horasan, Yukarı Horom, 2000 m, 13.VIII.2000, ♀.

Cryptocheilus notatus (Rossius, 1792)

Material examined: **Erzurum:** Oltu, Vocational Training School fields, 1345 m, 28.VI.2006, ♀.

Cryptocheilus variabilis (Rossius, 1790)

Material examined: **Bayburt:** Kopdağı, 2400 m, 21.VIII.2008, ♀; **Erzurum:** Konaklı, 2400 m, 22.VII.2000, ♀, İspir, Çapans, 2150 m, 20.VIII.2009, ♀, Oltu, Sarısaz, 1400 m, 20.VIII.2007, 3 ♀♀, 4 ♂♂; **Iğdır:** Tuzluca, 870 m, 16.VI.2009, ♀.

Priocnemis exaltata (Fabricius, 1775)

Material examined: **Erzurum:** Tortum, Uzunkonak, 1350 m, 12.VII.2001, ♂.

Priocnemis fahringeri Wolf, 1963

Material examined: **Bitlis:** Güroymak, Nemrut Mountain, 38°32'11.1"N-42°09.33.6"E, 1748 m, 30.V.2001, 5 ♀♀, **Mersin:** Tarsus, 2 km SW Gülek, N.37°13'43.5"-E.34°44'56.4", 1132 m, 21.V.2001, ♀.

Priocnemis sulci Balthasar, 1943

Material examined: **Bingöl:** Ilıcalar, İçpınar, Derik Mezrası, Paşa Çeşmesi, 1100 m, 28.V.2006, ♀; **Bitlis:** Güroymak, Nemrut Mountain, 38°32'11.1"N-42°09.33.6"E, 1748 m, 30.V.2001, 5 ♀♀; **Mersin:** Tarsus, 2 km SW Gülek, N.37°13'43.5"-E.34°44'56.4", 1132 m, 21.V.2001, ♀.

Priocnemis vulgaris (Dufour, 1841)

Material examined: **Bayburt:** Kopdağı, Şehitler Çeşmesi, 2400 m, 21.VIII.2008, ♂; **Bingöl:** Ilıcalar, İçpınar, Derik Mezrası, Paşa Çeşmesi, 1100 m, 28.V.2006, ♀; **Bitlis:** Güroymak, Nemrut Mountain, 38°32'11.1"N-42°09.33.6"E, 1748 m, 30.V.2001, 6 ♀♀.

Auplopus albifrons (Dalman, 1823)

Material examined: **Adana:** Ceyhan, Narlık, N.36°54'52.1"-E.35°50'46.5", 56 m, 25.V.2001,

♂; **Erzurum:** Arıbahçe, 2400 m, 20.VII.2001, ♀, GÜNGÖRMEZ, 2000 m, 19.VIII.2009, ♀, Narman, Kireçli, 2000 m, 2.VII.2000, ♂, Oltu, Vocational Training School fields, 1345 m, 24.VII.2008, ♀; **Kars:** Sarıkamış, Karakurt, 1500 m, 13.VIII.2009, ♀.

Auplopus carbonarius (Scopoli, 1763)

Material examined: **Kars:** Sarıkamış, Karakurt, 1500 m, 23.VI.2005, ♀.

Auplopus rectus rectus (Haupt, 1927)

Material examined: **Adana:** Ceyhan, Botaş, 13.VII.2007, ♂; **Erzurum:** Arıbahçe, 2400 m, 20.VII.2001, ♀, Çiftlik, 1850 m, 15.VII.2009, ♂, Karayazı, Söylemez, 1750 m, 12.VII.2001, ♀, Oltu, Vocational Training School fields, 1345 m, 15.VIII.2008, ♀, Sarısaz, 1400 m, 20.VIII.2007, 2 ♀♀, Tortum, Çataldere, 1800 m, 12.VII.2001, ♂; **Konya:** Cumra, Dinlendik, 1015 m, 18.VIII.2005, 2 ♀♀.

Subfamily Pompilinae

Agenioideus ciliatus (Lepeleiter, 1845)

Material examined: **Erzurum:** Oltu, Vocational Training School fields, 1345 m, 15.VIII.2008, ♂, Sarısaz, 1400, 25.VII.2007, ♀.

Agenioideus excisus (Morawitz, 1890)

Material examined: **Erzurum:** Oltu, Vocational Training School fields, 1345 m, 15.VIII.2008, ♀, Sarısaz, 1400, 25.VII.2007, ♂; **Kahramanmaraş:** Tömek, 1450 m, 19.VIII.2001, ♂.

Agenioideus nubecula (Costa, 1874)

Material examined: **Konya:** Güneysınır, Gurağaç, 1020 m, 3.IX.2000, ♂.

Agenioideus ruficeps (Eversmann, 1886)

Material examined: **Erzurum:** Karayazı, Söylemez, 1750 m, 26.VI.2005, ♀, Oltu, Vocational Training School fields, 1345 m, 15.VIII.2005, ♂; **Iğdır:** Tuzluca, 870 m, 16.VI.2009, ♀.

Agenioideus rytiphorus (Kohl, 1886)

Material examined: **Kahramanmaraş:** Tömek, 1450 m, 19.VIII.2001, ♂.

Agenioideus sericeus (Vander Linden, 1827)

Material examined: **Kars:** Sarıkamış, Karakurt, 1500 m, 13.VIII.2009, ♀.

Amblyellus hasdrubal (Kohl, 1884)

Material examined: **Kars:** Sarıkamış, Karakurt, 1500 m, 23.VI.2005, ♀; **Konya:** Güneysınır, Gurağaç, 1020 m, 8.VII.2000, ♀.

Anoplius concinnus (Dahlbom, 1843)

Material examined: **Şanlıurfa:** Birecik, N.36°58'04.4-E.37°59'59.1, 28.V.2001, ♀.

Anoplius infuscatus (Vander Linden, 1827)

Material examined: **Adana:** Narlık, N.36°54'22.3"-E.35°56'26.2", 150 m, 25.V.2001, ♂; **Erzurum:** Konaklı, 2400 m, 22.VII.2000, 3 ♀♀, İspir, Çapans, 2150 m, 20.VIII.2009, ♀ Oltu, Vocational Training School fields, 1345 m, 24.VII.2008, ♀, Sarısaz, 1400 m, 20.VIII.2007, 3 ♀♀, 3 ♂♂, Olur, 1600 m, 20.VII.2007, ♂; **Konya:** Bozkır, Belören, 1017 m, 22.VII.2000, ♀; **Şanlıurfa:** Birecik, 349 m, 28.V.2001, ♀, ♂, N.36°58'04.4-E.37°59'59.1, 28.V.2001, ♂.

Anoplius nigerrimus (Scopoli, 1763)

Material examined: **Kars:** Sarıkamış, Karakurt, 1500 m, 13.VIII.2009, 2 ♀♀.

Anoplius samariensis (Pallas, 1771)

Material examined: **Erzurum:** Konaklı, 2400 m, 22.VII.2000, ♀, 2 ♂♂; **Kars:** Sarıkamış, Karakurt, 1500 m, 23.VI.2005, ♂.

Anoplius schlettereri (Radoszkowski, 1888)

Material examined: **Erzincan:** Refahiye, 1500 m, 20.VI.2009, 2 ♂♂; **Erzurum:** Güngörmez, 2000 m, 19.VIII.2009, 2 ♂♂, Konaklı, 2400 m, 22.VII.2000, 7 ♂♂, İspir, Çapans, 2150 m, 20.VIII.2009, ♂.

Anoplius viaticus (Linnaeus, 1758)

Material examined: **Bayburt:** Kopdağı, Şehitler Çeşmesi, 2400 m, 21.VIII.2008, ♀; **Erzincan:** Refahiye, 1500 m, 20.VI.2009, 2 ♂♂; **Erzurum:** Konaklı, 2400 m, 22.VII.2000, ♀, İspir, Çapans, 2150 m, 20.VIII.2009, ♂, Oltu, Vocational Training School fields, 1345 m, 24.VII.2008, ♀, Sarısaz, 1400 m, 20.VIII.2007, 2 ♀♀, Şenkaya, Akşar, 1350 m, 2.VIII.2008, ♀; **İğdir:** 850 m, 18.VI.2009, ♀, Tuzluca, 870 m, 16.VI.2009, 2 ♀♀; **İstanbul:** Küçükçekmece, Halkalı Ziraat Okulu, 10.VIII.2009, 2 ♂♂; **Muğla:** Köyceğiz, Hamitköy, 39°28'38.5"N-33°54'08.5"E, 1074 m, 7.VI.2001, 4 ♂♂.

Aporinellus moestus (Klug, 1834)

Material examined: **Erzurum:** Oltu, Sarısaz, 1400 m, 20.VIII.2007, ♀; **Muğla:** Köyceğiz, Hamitköy, 39°28'38.5"N-33°54'08.5"E, 1074 m, 7.VI.2001, 2 ♂♂.

Aporinellus sexmaculatus (Spinola, 1805)

Material examined: **Aksaray:** Ortaköy, Tuzgözü, N.38°35'12"-E.33°46'23", 21.V.2001, 3 ♂♂; **Kars:** Sarıkamış, Karakurt, 1500 m, 13.VIII.2009, ♀.

Arachnospila clericalis (Morawitz, 1889)

Material examined: **Erzurum:** Güngörmez, 2000 m, 19.VIII.2009, ♀.

Arachnospila colpostoma (Kohl, 1886)

Material examined: **Kars:** Sarıkamış, Karakurt, 1500 m, 13.VIII.2009, ♀.

Arachnospila consobrina (Dahlbom, 1843)

Material examined: **Aksaray:** N.40°40'13.5"-E.42°22'45.7", 1300 m, 2.VI.2001, ♀.

Arachnospila esau (Kohl, 1886)

Material examined: **Adıyaman:** Nemrut, 1650 m, 2.VII.2008, ♀.

Arachnospila fumipennis (Zetterstedt, 1938)

Material examined: **Kars:** Sarıkamış, Karakurt, 1500 m, 9.VIII.2000, ♀.

Arachnospila fuscomarginata (Thomson, 1870)

Material examined: **Erzurum:** Konaklı, 2400 m, 22.VII.2000, ♀, Oltu, Vocational Training School fields, 1345 m, 15.VIII.2008, ♂, Tortum, Çataldere, 1800 m, 12.VII.2001, 2 ♂♂.

Arachnospila hedickei (Haupt, 1929)

Material examined: **Erzurum:** Yeşildere, 2000 m, 19.VIII.2009, ♂.

Arachnospila gibbomima (Haupt, 1929)

Material examined: **Erzurum:** Pazaryolu, 1400 m, 15.VII.2000, ♀.

Arachnospila ionica Wolf, 1964

Material examined: **Kars:** Sarıkamış, Karakurt, 1500 m, 23.VI.2005, ♀.

Arachnospila minutula (Dahlbom, 1843)

Material examined: **Erzincan:** Refahiye, 1500 m, 20.VI.2009, ♂; **Kars:** Sarıkamış, Karakurt, 1500 m, 13.VIII.2009, ♂.

Arachnospila rufa (Haupt, 1927)

Material examined: **Erzurum:** Konaklı, 2400 m, 22.VII.2000, 3 ♀♀.

Batozonellus lacerticida (Pallas, 1771)

Material examined: **Muğla:** Köyceğiz, Hamitköy, 39°28'38.5"N-33°54'08.5"E, 1074 m, 7.VI.2001, ♂.

Dicyrtomellus kizilkumii (Radoszkowski, 1877)

Material examined: **Iğdır:** Tuzluca, N.40°02'09.6"-E. 43°49'31.6", 992 m, 1.VII.2001, 21 ♂♂.

New for the Turkish fauna.***Dicyrtomellus tingitanus*** (Wolf, 1966)

Material examined: **Aksaray:** 8.VIII.2008, ♀; **Erzurum:** Tortum, Çataldere, 1800 m, 12.VII.2001, ♂; **Iğdır:** Tuzluca, N.40°02'09.6"-E. 43°49'31.6", 992 m, 1.VII.2001, ♀.

Eoferreola anatolica Priesner, 1972

Material examined: **Erzincan:** Refahiye, 1500 m, 20.VI.2009, 2 ♀♀; **Erzurum:** Pazaryolu, 1400 m, 15.VII.2000, ♂.

Eoferreola manticata (Pallas, 1771)

Material examined: **Adana:** Ceyhan, Botaş, 13.VII.2007, ♀; **Erzurum:** Olur, 1600 m, 20.VII.2007, ♀, Pazaryolu, 1400 m, 15.VII.2000, ♀.

Episyron albonotatum (Vander Linden, 1827)

Material examined: **Bayburt:** Kopdağı, Şehitler Çeşmesi, 2400 m, 21.VIII.2008, ♂; **Erzurum:** Arıbağçe, 2400 m, 20.VII.2001, ♂, Konaklı, 2400 m, 22.VII.2000, ♀, Güzelyayla, 2000 m, 19.VIII.2009, ♂, Oltu, Vocational Training School fields, 1345 m, 15.VIII.2008, ♀; **Kars:** Sarıkamış, Karakurt, 1500 m, 13.VIII.2009, ♂.

Episyron candiotum Wahis, 1966

Material examined: **Adana:** Karataş, N.36°35'28.1"-E.35°25'29.1", 24.V.2001, ♀; **Aksaray:** Ortaköy, Tuzgölü, N.38°35'12"-E.33°46'23",

21.V.2001, ♂; **Erzurum:** Oltu, Vocational Training School fields, 1345 m, 25.V.2006, ♀, Sarısaz, 1400 m, 25.V.2007, 2 ♂♂; **Konya:** Çumra, 13.VIII.2000, ♀.

Episyron gallicum (Tournier, 1889)

Material examined: **Erzincan:** Refahiye, 1500 m, 20.VI.2009, 3 ♂♂; **Erzurum:** Güngörmez, 2000 m, 19.VIII.2009, 3 ♂♂, İspir, Çapans, 2150 m, 20.VIII.2009, 2 ♀♀, ♂, Karayazı, Söylemez, 1750 m, 12.VII.2001, 2 ♂♂, Köprüköy, Yağan, 1600 m, 28.VI.2005, ♀, Oltu, Vocational Training School fields, 1345 m, 24.VII.2008, 2 ♂♂, Olur, 1600 m, 20.VII.2009, ♀, Şenkaya, Akşar, 1350 m, 2.VIII.2008, 2 ♂♂; **Kars:** Sarıkamış, Karakurt, 1500 m, 13.VIII.2009, ♂.

Episyron rufipes (Linnaeus, 1758)

Material examined: **Erzurum:** Oltu, Vocational Training School fields, 1345 m, 24.VII.2008, 2 ♂♂.

Evaetes anatolicus van der Smitten, 2003

Material examined: **Erzurum:** Oltu, Vocational Training School fields, 1345 m, 15.VIII.2008, 2 ♂♂; **Kars:** Digor, Bostankale, 1770 m, 17.VII.2005, ♀.

Evaetes dubius (Vander Linden, 1827)

Material examined: **Erzurum:** Güngörmez, 2000 m, 19.VIII.2009, ♀, Oltu, Vocational Training School fields, 1345 m, 24.VII.2008, ♀.

Evaetes elongatus (Lepeletier, 1845)

Material examined: **Erzurum:** Tortum, Çataldere, 1800 m, 12.VII.2001, ♂.

Evaetes iconionus Wolf, 1970

Material examined: **Kars:** Sarıkamış, Karakurt, 1500 m, 23.VI.2005, ♂.

Evaetes proximus (Dahlbom, 1845)

Material examined: **Erzurum:** Arıbağçe, 2400 m, 20.VII.2001, ♀, Konaklı, 2400 m, 22.VII.2000, ♂.

Evaetes siculus (Lepeletier, 1945)

Material examined: **Erzurum:** Oltu, Vocational Training School fields, 1345 m, 24.VII.2008, ♀.

Microphadnus insperatus Priesner, 1967

Material examined: **Balıkesir:** 9.IX.2004, ♀.

Microphadnus pumilus (Costa, 1882)

Material examined: **Aksaray**: Ortaköy, Tuzgözü, N.38°35'12"-E.33°46'23", 21.V.2001, ♂.

Pedinpompilus wolffi (Priesner, 1965)

Material examined: **Balıkesir**: 9.IX.2004, ♀; **Kahramanmaraş**: Tömek, 1450 m, 19.VIII.2001, ♂.

Pompilus cinereus (Fabricius, 1775)

Material examined: **Artvin**: Borçka, N.41°19'44"-E.41°42'24", 145 m, 4.VI.2001, ♀.

Tachyagetes aegyptiacus (Priesner, 1955)

Material examined: **Aksaray**: Ortaköy, Tuzgözü, N.38°35'12"-E.33°46'23", 21.V.2001, ♀.

Tachyagetes filicornis (Tournier, 1889)

Material examined: **Erzurum**: Oltu, Vocational Training School fields, 1345 m, 15.VIII.2008, ♀; **Şanlıurfa**: Birecik, 349 m, 28.V.2001, ♀.

Tachyagetes furvescens Wahis, 1970

Material examined: **Erzurum**: Oltu, Vocational Training School fields, 1345 m, 28.VI.2006, ♀.

Tachyagetes leucocnemis Haupt, 1930

Material examined: **Erzincan**: Refahiye, 1500 m, 20.VI.2009, ♀.

Telostegus inermis (Brullé, 1832)

Material examined: **Aksaray**: N.40°40'13.5"-E.42°22'45.7", 1300 m, 2.VI.2001, ♀; **Ankara**: Tuzgözü, N.38°47'59.1"-E.33°37'09.2", 21.V.2001, 3 ♀♀, 3 ♂♂; **Erzurum**: Oltu, Vocational Training School fields, 1345 m, 24.VII.2008, 2 ♀♀; **Kars**: Sarıkamış, Karakurt, 1500 m, 13.VIII.2009, ♀; **Konya**: Güneysınır, Gurağaç, 1020 m, 8.VIII.2000, ♀; **Malatya**: Kale, 1150, 23.VII.2005, ♀.

Checklist of Pompilidae (Hymenoptera) present in Turkey.

(35 genera, 200 species, and 5 subspecies)

SUBFAMILY **Ceropalinae**

Genus **CEROPALES** Latreille, 1796 (9 spp. and 3 subsp.).

Ceropales albicincta (Rossius, 1790)

Ceropales albicincta seraxensis Radoszkowski, 1893

**Ceropales albicincta wolffi* Moczar, 1978

Ceropales bipartita Haupt, 1962

Ceropales bipartita flava Moczar, 1987

Ceropales cribrata Costa, 1881

Ceropales helvetica Tournier, 1889

Ceropales maculata (Fabricius, 1775)

Ceropales maroccana De Beaumont, 1947

Ceropales ruficornis Gussakovskij, 1931 (= *gilva* Haupt, 1962)

**Ceropales tectigera* Moczar, 1987

Ceropales variegata (Fabricius, 1798)

Subfamily **PEPSINAE**

Tribe **PEPSINI**

Genus **CALIADURGUS** Pate, 1946 (1 sp.)

Caliadurgus fasciatellus (Spinola, 1808)

Genus **CRYPTOCHEILUS** Panzer, 1806 (30 spp. and 1 subsp.)

Cryptocheilus albosignatus Suster, 1924

Cryptocheilus alternatus (Lepeletier, 1845) (= *annulatus* Richards, 1935)

Cryptocheilus alternatus caspius Gussakovskij, 1952

Cryptocheilus bequaerti Suster, 1924

Cryptocheilus discolor (Fabricius, 1793)

Cryptocheilus egregius (Lepeletier, 1845)

f. *dahlbomii* (Sichel, 1860)

Cryptocheilus elegans (Spinola, 1806)

Cryptocheilus exiguus Suster, 1924

Cryptocheilus fabricii (Vander Linden, 1827)

f. *meridionalis* Junco, 1943

Cryptocheilus fischeri (Spinola, 1855) (= *confinis* Haupt, 1927, *fallax* Priesner, 1965)

Cryptocheilus freygessneri (Kohl, 1883)

f. *differens* Priesner, 1967

Cryptocheilus gazella Haupt, 1962

Cryptocheilus guttulatus (Costa, 1887)

- Cryptocheilus hebraeus* Susterer, 1924
Cryptocheilus ichneumonoides (Costa, 1874)
Cryptocheilus infumatus (Palma, 1869)
Cryptocheilus nigroferrugineus (Susterer, 1924)
Cryptocheilus notatus (Rossius, 1792)
 f. *affinis* (Vander Linden, 1827)
 f. *melanius* (Lepeletier, 1845)
Cryptocheilus octomaculatus (Rossius, 1790)
**Cryptocheilus propodeonitens* Wolf, 1999
Cryptocheilus pseudonotatus Susterer, 1913
Cryptocheilus richardsi Moczar, 1953
Cryptocheilus rubellus (Eversmann, 1846)
**Cryptocheilus rufatus* Priesner, 1967
**Cryptocheilus setiger* Wolf, 1999
Cryptocheilus sustererai Haupt, 1962
**Cryptocheilus stygium* Priesner, 1967
Cryptocheilus tredecimmaculatus Haupt, 1962
Cryptocheilus variabilis (Rossius, 1790)
 f. *nigripes* auct. nec Costa, 1887
Cryptocheilus variipennis Susterer, 1924
Cryptocheilus versicolor (Scopoli, 1763)
- Genus **CYPHONONYX** Dahlbom, 1845 (1 sp.)
Cyphononyx bretoni (Guérin, 1843)
- Genus **DIPOGON** Fox, 1897 (2 spp.)
**Dipogon sinan* Wolf, 1999
Dipogon variegatus (Linné, 1758)
 f. *erythropus* (Kohl, 1888)
- Genus **HEMIPEPSIS** Dahlbom, 1844 (2 spp.)
Hemipepsis brunnea (Klug, 1834)
Hemipepsis mauritanica (Linné, 1767) (= *barbara* Lepeletier, 1845)
- Genus **PRIOCNEMIS** Schioedte, 1837 (24 spp.)
Priocnemis agilis (Shuckard, 1837)
Priocnemis confusor Wahis, 2006 (= *gracilis* Haupt, 1927 nec Gussakovskij)
Priocnemis coriacea Dahlbom, 1843
Priocnemis costai Costa, 1887
Priocnemis diversa Junco, 1946
Priocnemis exaltata (Fabricius, 1775)
Priocnemis fahringeri Wolf, 1963
Priocnemis fallax Verhoeff, 1922
Priocnemis fastigiata Haupt, 1934
Priocnemis fennica Haupt, 1927
Priocnemis hankoi Moczar, 1944
Priocnemis hyalinata Fabricius, 1793
Priocnemis massaliensis Soyer, 1945 (= *costata* Wolf, 1963)
Priocnemis minuta (Vander Linden, 1827)
 f. *italica* Haupt, 1934 (= *nigritula* Wolf, 1962)
Priocnemis parvula Dahlbom, 1845
Priocnemis perturbator (Harris, 1776)
 f. *galatica* Wolf, 1963
Priocnemis pillichii Priesner, 1960
 f. *maura* Wolf & Diniz, 1970
Priocnemis propinqua (Lepeletier, 1847)
Priocnemis pusilla (Schioedte, 1837)
Priocnemis rufozonata Costa, 1887
Priocnemis rugosa Susterer, 1922
Priocnemis schioedtei Haupt, 1927
Priocnemis sulci Balthasar, 1943
 f. *cirrata* Haupt, 1962
Priocnemis vulgaris (Dufour, 1841)
- Tribe **AGENIELLINI**
Genus **AUPLOPUS** Spinola, 1841 (3 spp.)
Auplopus albifrons (Dalman, 1823)
 f. *obscurus* Priesner, 1967
Auplopus carbonarius (Scopoli, 1763)
Auplopus rectus (Haupt, 1927)
 f. *ater* (Haupt, 1930)

Genus **POECILAGENIA** Haupt, 1927 (= *Podagenia* Priesner, 1973 syn. nov.) (2 spp.)

Poecilagenia sculpturata (Kohl, 1898)

Poecilagenia crassipes Priesner, 1973

Subfamily **POMPILINAE**

Genus **AGENIOIDEUS** Ashmead, 1902 (12 spp.)

Agenioideus apicalis (Vander Linden, 1827)

f. *haematopus* (Lepeletier, 1845)

Agenioideus ciliatus (Lepeletier, 1845)

f. *acrobates* (Ferton, 1911) (= *ciliatus thoracicus* Priesner, 1967)

Agenioideus cinctellus (Spinola, 1808)

Agenioideus excisus (Morawitz, 1890)

Agenioideus nubecula (Costa, 1874)

f. *nubecula tristis* Priesner, 1965

Agenioideus oasis (Haupt, 1962)

Agenioideus rhodosoma (Kohl, 1886)

Agenioideus ruficeps (Eversmann, 1886)
(= *dichrous* Brullé, sensu auct. nec Brullé, 1840)

Agenioideus rytiphorus (Kohl, 1886)

Agenioideus sericeus (Vander Linden, 1827)

Agenioideus usurarius (Tournier, 1889)

Agenioideus vesanus (Kohl, 1870)

Genus **AMBLYELLUS** Day, 1981 (1 sp.)

Amblyellus hasdrubal (Kohl, 1884)

Genus **ANOPLIUS** Dufour, 1834 (8 spp.)

Anoplius caviventris (Aurivillius, 1907)

Anoplius concinnus (Dahlbom, 1843)

Anoplius infuscatus (Vander Linden, 1827) (= *meticulosus* (Costa, 1882), *aeruginosus* (Tournier, 1890))

Anoplius nigerrimus (Scopoli, 1763)

Anoplius piliventris (Morawitz, 1889)

Anoplius samariensis (Pallas, 1771)

Anoplius schlettereri (Radoszkowski, 1888)

f. *niger* Priesner, 1967

Anoplius viaticus (Linné, 1758)

f. *nigripennis* (Tournier, 1890)

f. *paganus* (Dahlbom, 1843)

Genus **ANOSPILUS** Haupt, 1929 (1 sp.)

Anospilus orbitalis (Costa, 1863)

Genus **APORINELLUS** Banks, 1911 (2 spp.)

Aporinellus moestus (Klug, 1834)

f. *sericeomaculatus* (Kohl, 1888)

Aporinellus sexmaculatus (Spinola, 1805)

f. *asiaticus* (Gussakovskij, 1935)

Genus **APORUS** Spinola, 1808 (2 spp.)

Aporus bicolor Spinola 1808

Aporus pollux (Kohl, 1888)

Genus **ARACHNOSPILA** Kincaid, 1900 (23 spp.)

Arachnospila anceps (Wesmael, 1851)

f. *peninsulana* (Wolf, 1966)

**Arachnospila angorana* (Wolf, 1990)

Arachnospila ausa (Tournier, 1890)

Arachnospila clericalis (Morawitz, 1889)

Arachnospila colpostoma (Kohl, 1886)

Arachnospila conjungens (Kohl, 1898)

Arachnospila consobrina (Wolf, 1966)

f. *continentalis* Wolf, 1966

Arachnospila esau (Kohl, 1886)

f. *rufocincta* (Haupt, 1933)

f. *vaucheri* Tournier, 1890

Arachnospila fumipennis (Zetterstedt, 1838)

Arachnospila fuscomarginata (Thomson, 1870)

Arachnospila gibbomima (Haupt, 1929)

Arachnospila hedickei (Haupt, 1929) (=

pseudabnormis (Wolf, 1965)

Arachnospila holomelas (Costa, 1882)

f. *dissona* Wahis, 1974

f. *gymnesiae* (Dalla Torre, 1897)

Arachnospila ionica (Wolf, 1964)

Arachnospila minutula (Dahlbom, 1842)

f. *apenninusurata* Wolf, 1970

**Arachnospila osmana* (Wolf, 1999)

Arachnospila pamira (Haupt, 1930)

Arachnospila rufa (Haupt, 1927)

Arachnospila silvana (Kohl, 1886)

Arachnospila sogdianoides (Wolf, 1964) (= *sogdiana* auct. nec Morawitz, 1893)

f. *anatolica* Wolf, 1966

Arachnospila spissa (Schioedte, 1837)

Arachnospila trivialis (Dahlbom, 1843)

f. *insubrica* (Wolf, 1965)

Arachnospila valesabnormis (Wolf, 1965)

f. *anatolica* Wolf, 1966

Genus **ARACHNOTHEUTES** Haupt, 1927 (5 spp.)

Arachnotheutes leucurus (Morawitz, 1891) (= *europaeus* (Priesner, 1965))

Arachnotheutes minor (Priesner, 1955)

Arachnotheutes rufithorax (Costa, 1887)

Arachnotheutes signatipennis (Klug, 1834)

Arachnotheutes squalidus (Haupt, 1962)

Genus **BATOZONELLUS** Arnold, 1937 (1 sp.)

Batozonellus lacerticida (Pallas, 1771)

Genus **CTENAGENIA** Saussure, 1892 (2 spp.)

**Ctenagenia ozbeki* Wahis 2002

Ctenagenia vespiformis (Klug, 1834)

Genus **DICYRTOMELLUS** Gussakovskij, 1935 (4 spp.)

Dicyrtomellus dubitabilis (Saunders, 1901)

Dicyrtomellus kizilkumii (Radoszkowski, 1877)

Dicyrtomellus tingitanus (Wolf, 1966)

f. *argenteus* Wahis, 1982

Dicyrtomellus tomentosus (Priesner, 1955)

Genus **ENTOMOBORA** Gistel, 1857 (3 spp.)

Entomobora crassitarsis (Costa, 1887)

Entomobora fuscipennis (Vander Linden, 1827)

Entomobora vomeriventrifera (Costa, 1861)

Genus **EOPFERREOLA** Arnold, 1935 (7 spp.)

**Eoferreola anatolica* Priesner, 1973

Eoferreola anomala Haupt, 1955

Eoferreola erythraea (Pallas, 1773)

Eoferreola manticata (Pallas, 1771)

f. *lichtensteini* (Tournier, 1967)

Eoferreola rhombica (Christ, 1791)

Eoferreola syraensis (Radoszkowski, 1888)

Eoferreola thoracica (Rossius, 1794)

Genus **EPISYRON** Schioedte, 1832 (7 spp.)

Episyron albonotatum (Vander Linden, 1827)

Episyron arrogans (Smith, 1783)

Episyron candiotum Wahis, 1966

Episyron coccineipes (Saunders, 1904)

Episyron funerarium (Tournier, 1889)

Episyron gallicum (Tournier, 1889)

f. *intermedium* Haupt, 1930

Episyron rufipes (Linné, 1758)

Genus **EVAGETES** Lepeletier, 1845 (12 spp. and 1 subsp.)

**Evagetes anatolicus* Smitsen, 2003

Evagetes crassicornis (Shuckard, 1837)

Evagetes dubius (Vander Linden, 1827)

- Evagetes elongatus* (Lepeletier, 1845)
 f. *infernalis* Wolf, 1970
Evagetes gibbulus (Lepeletier, 1845)
 **Evagetes gusenleitneri* Wolf, 1988
 **Evagetes iconionus* Wolf, 1970
Evagetes pectinipes (Linné, 1758)
Evagetes pectinipes trispinosus (Kohl, 1886)
Evagetes pontomoravicus (Sustera, 1838)
Evagetes proximus (Dahlbom, 1845)
Evagetes siculus (Lepeletier, 1845)
Evagetes tumidosus (Tournier, 1890)
- Genus *FERREOLA* Lepeletier, 1845 (2 spp.)
Ferreola diffinis (Lepeletier, 1845)
Ferreola sagax (Kohl, 1886)
- Genus *HOMONOTUS* Dahlbom, 1843 (1 sp.)
Homonotus sanguinolentus (Fabricius, 1793) (= *balcanicus* Haupt, 1927)
- Genus *MICROPHADNUS* Cameron, 1904 (2 spp.)
Microphadnus insperatus Priesner, 1967
Microphadnus pumilus (Costa, 1882)
- Genus *NANOCLAVELIA* Priesner, 1955 (1 sp.)
Nanoclavelia leucoptera (Dahlbom, 1845)
- Genus *PEDINPOMPILUS* Wolf, 1961 (5 spp.) (= *Arctoclavelia* Haupt, 1962)
 **Pedinpompilus atatuerki* (Wolf, 1970)
Pedinpompilus obscurus (Haupt, 1962)
Pedinpompilus orbitalis (Haupt, 1962) (= *soikai* Wolf, 1966)
 **Pedinpompilus paulinus* (Wolf, 1970)
Pedinpompilus wolffi (Priesner, 1965)
- Genus *POMPILUS* FABRICIUS, 1798 (1 sp.)
Pompilus cinereus (Fabricius, 1775)
- Genus *PSEUDOPOMPILUS* Costa, 1887 (1 sp.)
Pseudopompilus humboldti (Dahlbom, 1845)
- Genus *SCHISTONYX* Saussure, 1890 (2 spp.)
 **Schistonyx modestus* Priesner, 1967
Schistonyx perezi (Tournier, 1895) (= *Ferreola dimidiata* Fabricius, 1793, in Vander Linden, 1827)
- Genus *TACHYAGETES* Haupt, 1930 (16 spp.)
Tachyagetes aegyptiacus (Priesner, 1955)
Tachyagetes alicantus Wolf, 1987
Tachyagetes bytinskii Haupt, 1962
 **Tachyagetes exortivus* Wolf, 1987
Tachyagetes filicornis (Tournier, 1890)
 f. *funebri* Priesner, 1965
 f. *graecus* Priesner, 1965
 f. *rubescens* (Haupt, 1929)
Tachyagetes furvescens Wahis, 1970
Tachyagetes gratiosus (Radoszkowski, 1893) (= *T. kasakstanus* Wolf, 1987)
 **Tachyagetes gusenleitneri* (Priesner, 1973)
Tachyagetes gussakovskiji Wolf, 1988
Tachyagetes kebdanus Wolf, 1987
 **Tachyagetes konyanus* Wolf, 1987
Tachyagetes kUSDasi Priesner, 1965
Tachyagetes leucocnemis Haupt, 1930
Tachyagetes navalperalus Wolf, 1987
 **Tachyagetes nomadaschwarzi* Wolf, 1987
 **Tachyagetes turcoturanicus* Wolf, 1986
- Genus *TELOSTEGUS* Costa, 1887 (= *Elaphrosyron* Haupt, 1929) (4 spp.)
Telostegus excisus (Haupt, 1930)
Telostegus fumigatus (Klug, 1834)
Telostegus heinrichi Haupt, 1930
Telostegus inermis (Brullé, 1832)
 f. *ater* Haupt, 1930
- Genus *XENAPORUS* Ashmead, 1902 (1 sp.)
 **Xenaporus schmidti* Priesner, 1967

Remarks: Many taxa previously considered like subspecies (trinomial name) by certain authors are in fact based on color variations of the body or legs (rufinism or melanism) correlated with climatic factors like temperature conditions (dry or humid) during larval development and consequently only

considered like variable forms (status nov.) without nomenclatural importance. For a similar situation, refer to Harris (1987, New Zealand species), Smissen (2003, European *Evagetes*), and Vardy (2000, 2002, 2005, the New World genus *Pepsis*).

References

- Anlaş, S. Wahis, R. and Tezcan, S. 2005. Some additional notes on Pompilidae (Hymenoptera) fauna of Turkey. *Türkiye Entomoloji Dergisi* 29: 255-258.
- Goulet, H. and Huber, J.T. 1993. Hymenoptera of the world: An identification guide to families. Research Branch Agriculture Canada Publication 1894/E, 668 pp, Ottawa.
- Harris, A.C. 1987. Pompilidae (Insecta Hymenoptera). Fauna of New Zealand, Number 12: 154 pp.
- Kırpık, M.A. 2005. Ankara Kırıkkale, Çankırı İlleri Pepsinae ve Ceropalinae (Insecta: Hymenoptera: Pompilidae) Türleri Üzerine Faunistik Araştırmalar. Çankaya Üniversitesi Fen-Edebiyat Fakültesi, Journal of Arts and Sciences 4: 71-78.
- Kırpık, M.A. 2009. Faunistic study on Pompilidae (Insecta: Hymenoptera) family in Ankara, Kırıkkale, and Cankiri provinces. *African Journal of Biotechnology* 8: 316-318.
- Kırpık, M.A. and Tüzün, A. 2005. Ankara, Kırıkkale, Çankırı İlleri Pompilinae (Insecta:Hymenoptera: Pompilidae) türleri üzerine faunistik bir araştırma. Gazi Üniversitesi Gazi Eğitim Fakültesi Dergisi 25: 307-324.
- Madl, M. 1997. Über Vespidae, Pompilidae, Scoliidae und Tiphiidae der Türkei (Hymenoptera). *Linzer biologische Beiträge* 29: 823-827.
- Moczar, L. 1978. New species and some remarks on the genus *Ceropales* Latreille (Hymenoptera: Ceropalidae). *Acta Biologica Szeged* 24:115-137.
- Moczar, L. 1986a. Revision of the genus *Hemiceropales* Priesner, 1969 (Hymenoptera: Ceropalidae). *Acta Zoologica Hungarica* 32: 317-342.
- Moczar, L. 1986b. Revision of the *fulvipes*-, *fulvicornis* and *variegata* groups of the genus *Ceropales* Latreille (Hym.: Ceropalidae). *Acta Biologica Szeged* 32:121-136.
- Moczar, L. 1987. Revision of the *maculata* and *albicincta* groups of the genus *Ceropales* Latreille (Hymenoptera: Ceropalidae). *Acta Zoologica Hungarica* 33: 121-156.
- Moczar, L. 1988. Revision on the subgenus *Priesnerius* Moczar (Hymenoptera, Ceropalidae). *Linzer biologische Beiträge* 20: 119-160.
- Moczar, L. 1989. Revision of the *helvetica* groups of the genus *Ceropales* Latreille (Hymenoptera: Ceropalidae). *Beiträge zur Entomologie* 39: 9-61.
- Moczar, L. 1991. Supplement to the revision of the genus *Ceropales* Latreille, I (Hymenoptera, Ceropalidae). *Acta Zoologica Hungarica* 37: 67-74.
- Özbek, H., Yıldırım, E., Wolf, H. and Wahis, R. 1999. The Pompilidae (Hymenoptera, Aculeata) fauna of Turkey. Part I: Ceropalinae and Pepsinae. *Zoology in the Middle East* 18: 91-105.
- Özbek H., Yıldırım E., Wolf, H. and Wahis, R. 2000. The Pompilidae (Hymenoptera, Aculeata) fauna of Turkey: Part II. Pompilinae. *Zoology in the Middle East* 21: 109-128.
- Priesner, H. 1955. A revision of the Pompilidae of Egypt (Hymenoptera). *Bulletin. Société Entomologique d'Égypte*, 39: 1-215.
- Priesner, H. 1966. Zur Kenntnis der gattung *Episyron* (Hymenoptera, Pompilidae). *Bolletino dell' Instituto di Entomologia della Università di Bologna* 28: 29-55.
- Priesner, H. 1967. Zur Kenntnis der Pompiliden (Hymenoptera) der Türkei. *Sitzungsberichten der Österreichischen Akademie der Wissenschaften. Mathematisch-Naturwissenschaftliche Klasse* 176: 45-60.
- Priesner, H. 1973. Neue Pompiliden aus der Türkei (Hym.). *Nachrichtenblatt der Bayerischen Entomologen* 22: 106-110.
- Smissen, J. v. d. 2003. Revision der europäischen und türkischen Arten der Gattung *Evagetes* Lepeletier 1845 unter Berücksichtigung der Geäderabweichungen. Mit zweisprachigem Schlüssel zur Determination (Hymenoptera: Pompilidae). *Verh. Ver. Naturw. Heimatforsch. Hamburg Band* 42: 1-253.
- Wahis, R. 1986. Catalogue systématique et codage des Hyménoptères Pompilides de la région ouest-européenne. *Notes fauniques de Gembloux* 12: 1-91.
- Wahis, R. 1997. Sur les Hyménoptères Pompilides de la région française de l'Europe. Genre *Cryptocheilus* Panzer (Hymenoptera: Pompilidae, Pepsinae). *Notes fauniques de Gembloux* 33: 1-66.
- Wahis, R. 1998. Contribution à la connaissance des Hyménoptères Pompilides de la Turquie (Hymenoptera: Pompilidae). *Bulletin et Annales de la Société royale belge d'Entomologie* 134: 147-158.
- Wahis, R. 2002. *Ctenagenia ozbeki* sp.n., Pompilide nouveau de Turquie et d'Asie mineure. (Hymenoptera: Pompilidae, Pompilinae). *Notes fauniques de Gembloux* 49: 115-123.

- Wahis, R. 2006. Mise à jour du Catalogue systématique des Hyménoptères Pompilides de la région ouesteuropéenne. Additions et Corrections. Notes fauniques de Gembloux 59: 31-36.
- Wahis, R. 2009. Fauna Europaea: Pompilidae. Fauna Europaea Version 2.1, <http://www.faunaeur.org>
- Wolf, H. 1960(1963). Monografie der Westpalaearktischen *Priocnemis*-Arten (Hym., Pompilidae). Bolletino del Museo Civico di Storia Naturale di Venezia 13: 21-181.
- Wolf, H. 1966a. Pompiliden aus der Sammlung A. Giordani Soika (Hym., Pompiloidea) II. Bolletino del Museo Civico di Storia Naturale di Venezia 17: 47-56.
- Wolf, H. 1966b. Die westmediterranen Arten der Gattung *Anospilus* Haupt, 1929 (Hymenoptera, Pompilidae). Mitteilungen der Schweizerischen Entomologischen Gesellschaft 39: 1-32.
- Wolf, H. 1970. Zur Kenntnis der Gattung *Evagetes* Lepeletier, 1845 (Hymenoptera: Pompilidae). Beiträge zur Entomologie 20: 51-82.
- Wolf, H. 1986. Zur Kenntnis der Gattung *Tachyagetes* Haupt, 1930 (Hymenoptera, Pompilidae). Entomofauna 7: 225-250.
- Wolf, H. 1987. Zur Kenntnis der Gattung *Tachyagetes* Haupt, 1930 (Hymenoptera, Pompilidae) III. Linzer biologische Beiträge 19: 415-459.
- Wolf, H. 1990. Zur Kenntnis der Wegwespen- Gattung *Gonaporus* Ashmead, 1902 und verwandter Gattungen (Hym., Pompilidae). Linzer biologische Beiträge 22: 619-716.
- Wolf, H. 1999. Bemerkungen zu einigen Wegwespen-Arten (Hymenoptera: Pompilidae) (VI.). Linzer biologische Beiträge 31: 167-181.
- Vardy, C.R. 2000. The New World tarentula-hawk genus *Pepsis* Fabricius (Hymenoptera Pompilidae). Part 1. Introduction and the *P. rubra* species-group. Zoologische Verhandlungen, 332: 86 pp.
- Vardy, C.R. 2002. The New World tarentula-hawk genus *Pepsis* Fabricius (Hymenoptera Pompilidae). Part 2. The *P. grossa*- to *P. deaurata*-groups. Zoologische Verhandlungen, 338: 135 pp.
- Vardy, C.R. 2005. The New World tarentula-hawk genus *Pepsis* Fabricius (Hymenoptera Pompilidae). Part 3. The *P. inclytata*- to *P. auriguttata*- groups. Zoologische Verhandlungen, 79-5: 305 pp.
- Yıldırım, E. 2008. The present situation of some families of Hymenoptera in Turkey. Linzer Biologische Beiträge 40: 973-978.
- Zonstein, S.L. 2000. New data on Middle Asian representatives of the spider wasp genera *Hemipepsis* Dahlbom, 1843, *Dipogon* Fox, 1897, *Tachyagetes* Haupt, 1930, *Pareiocurgus* Haupt, 1962 and *Pamirospila* Wolf, 1970 stat.n. (Hymenoptera, Pompilidae). TETHYS Entomological Research, II: 167-186.