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Tiphiidae (Hymenoptera, Aculeata) of Turkey

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A b s t r a c t : This study is based upon material collected from different localities of Turkey between 1981 and 2008, and the other related studies on the Tiphiidae in Turkey were reviewed. Including the new taxa determined in this study a total of 18 species from eight genera belonged to three subfamilies of the family Tiphiidae were recorded from Turkey up to now. Ten species are recorded new for the Turkish fauna. Two new taxa from Turkey are described: *Tiphia bahattini* nov.sp. and *Tiphia bituberculata* nov.sp. In addition, new localities were found for some species which have already been reported in Turkey.

K e y w o r d s : Hymenoptera, Tiphiidae, fauna, Turkey.

Introduction

Tiphiidae is a varied, cosmopolitan, but predominantly tropical family containing about 1500 species in seven subfamilies. All species are solitary. The larvae are usually ectoparasitoids of the larvae of soil-dwelling Coleoptera, pupation occurring within the substrate occupied by the host (GOULET & HUBNER 1993).

Some faunal studies on this family in the Turkey have been made by ARGAMAN & ÖZBEK (1992, 1996) and BONI BARTALUCCI (2004).

The material of the family Tiphiidae was collected from different localities of Turkey in 1981-2008. Provinces of the collected specimens are given in alphabetical order in the following list. The material is deposited in the Entomology Museum, Erzurum, Turkey (EMET), Biologiezentrum/Oberösterreichische Landesmuseen (Johann-Wilhelm-Klein-Straße 73, 4040 Linz-Dornach/ Austria, www.biologiezentrum.at) and in the collection of Museo Zoologico "La Specola" dell'Università, Firenze, Italy. In the figures most of punctuation and hair has been overlooked.

Results

In this study, 18 species of eight genera belonged to three subfamilies of Tiphiidae were reported in Turkey. About the taxonomical groups here dealt with the ARGAMAN's opinion (1992, 1994) to raise them to the rank of family is rejected according to the most authoritative works on Aculeate Hymenoptera (BROTHERS 1975, GOULET & HUBER 1993). Therefore his subfamilies Silifkinae and Tiphinae have been named here tribe Silifkina and Tiphina within Tiphinae.

Subfamily Methochinae

Methocha articulata LATREILLE 1803

Material examined: Erzincan: 1250 m, 13.VI.1994, ♂; Erzurum: University field, 1850 m, 15.VIII.1997, ♂; Osmaniye: Nur Mountains, 24.V.1992, ♂; Muğla: 7.VI.1981, ♂, leg. R. Rausch.

Distribution in Turkey: New for the Turkish fauna.

Distribution in the world: Palearctic Region.

Subfamily Myzinae

Meria anatolica BONI BARTALUCCI 2004

Meria anatolica BONI BARTALUCCI 2004: 399-402.

Distribution in Turkey: Tekke (BONI BARTALUCCI 2004).

Distribution in the world: Endemic to Turkey.

Meria askhabadensis (RADOSZKOWSKI 1886)

Meria askhabadensis RADOSZKOWSKI 1886: 38.

Meria askhabadensis: GORBATOVSKYI (1981: 38).

Meria askhabadensis: BONI BARTALUCCI (2004: 391).

Material examined: Ankara: Beytepe, 20.VII.1994, 3♂♂; Antalya: Alimimpınarı, 1000 m, 5.VIII.1994, 2♂♂; Balıkesir: Ayvalık, 8.VIII.1998, 2♂♂; Burdur: 940 m, 7.VII.2006, 14♂♂, leg. J. & M. Halada; Erzincan: 1250 m, 13.VI.1994, 2♂♂, Uzümlü, 1300 m, 16.VI.1994, ♂; Kars: Sarıkamış, Karakurt, 1600 m, 25.VIII.1997, ♂.

Distribution in Turkey: New for the Turkish fauna.

Distribution in the world: Central Asia.

Meria aurantiaca (GUERIN 1837)

Material examined: Antalya: Alimimpınarı, 1000 m, 5.VIII.1994, 2♂♂; Burdur: 940 m, 7.VII.2006, 122♂♂, leg. J. & M. Halada; Çanakkale: Ezine, 27.VI.2006, ♂, leg. J. Halada; Denizli: 290 m, 4.VII.2006, 2♂♂, leg. J. Halada; Manisa: Salihli, 2.VII.2006, 4♂♂, leg. J. & M. Halada.

Distribution in Turkey: New for the Turkish fauna.

Distribution in the world: Palearctic Region.

Meria dorsalis (FABRICIUS 1804)

Bethylus dorsalis FABRICIUS 1804: 238.

Meria dorsalis: GORBATOVSKYI (1981: 35, 38).

Material examined: Ağrı: Patnos, 7.VII.2003, ♀; Adana: Karaisalı, Kızıldağ, Akpınar, 1650 m, 22.VII.2007, 11♀♀; Ankara: 15.VIII.1994, ♀; Artvin: Ardanuç, Ferhatlı, 7.VII.1994, ♀, Yusufeli, Demirkent, 24.VIII.1991, ♀; Balıkesir: Ayvalık, 8.VIII.1998, 2♂♂; Bayburt: Kop Mountain, 2400 m, 9.VIII.1994, 3♀♀, ♂, Şehitler Çeşmesi, 2400 m, 21.VIII.2008, 9♀♀; Çanakkale: 5.X.2002, ♂; Bilecik: 600 m, 15.VIII.1995, 2♂♂; Bitlis: Nemrut Mountain, 2300 m, 15.VIII.1991, ♀, leg. M. Halada; Burdur: 940 m, 7-8.VII.2006, 19♀♀, 266♂♂, Yeşilova, 1060 m, 6.VII.2006, 123♀♀ 103♂♂, leg. J. & M. Halada, M. Kadlec; Çanakkale: 27.VI.2006, ♂, leg. J.

Halada; Denizli: 970 m, 5.VII.2006, 5♀♀ 12♂♂, leg. J. & M. Halada; Erzincan: 1250 m, 14.VI.1994, 4♂♂, Uzümlü, 1300 m, 16.VI.1994, ♂; Erzurum: 1900 m, 26.VIII.1993, 10♂♂, Dereboğazı, 2070 m, 11.VIII.1994, 3♂♂, Konaklı, 2400 m, 22.VII.2000, 6♂♂, Palandöken, 2400 m, 1.VII.1992, ♂♂, 9.VII.1996, 2♂♂, 25.VII.1996, ♀, 28.VII.1992, ♀, 23.VIII.1996, 2♂♂, University field, 1850 m, 12.VI.1994, ♂, 15.VI.1996, ♂, 20.VI.1994, ♂, 21.VI.1994, ♂, 8.VII.1996, 6♂♂, 8.VII.1997, 4♂♂, 18.VII.1996, ♂, 19.VII.1994, 2♀♀, 2♂♂, 29.VII.1992, 2♀♀, 7♂♂, 4.VIII.1998, 3♂♂, 6.VIII.1992, 4♂♂, 10.VIII.1992, 15♂♂, 10.VIII.1995, 2♂♂, 14.VIII.1997, 4♂♂, 14.VIII.1992, ♀, 15.VIII.1997, 3♀♀, 25♂♂, 17.VIII.1992, ♂, 21.VIII.1996, 24♀♀, 3♂♂, 24.VIII.1992, ♀, 14♂♂, 28.VIII.1992, ♀, 8♂♂, Aşkale, 1800 m, 16.VII.1999, 6♂♂, Hıms, 1700 m, 25.VII.1997, ♂, İlica, Rizekent, 1900 m, 30.VII.1998, ♀, ♂, Sorkunlu, 1850 m, 30.VII.1998, 4♂♂, İspir, Madenköprübaşı, 1100 m, 7.VII.1996, ♂, Narman, 1600 m, 12.VII.1996, ♂, Göllü, 29.VIII.1991, 3♀♀, Oltu, 1300 m, 15.VII.2004, ♀, ♂, Vocational Training School fields, 1345 m, 24.VII.2008, 8♂♂, 30.VII.2006, 2♂♂, 15.VIII.2008, 2♂♂, 5♀♀, 20.VIII.2006, 7♂♂, Çamlıbel, 1750 m, 2.VII.1997, ♂, 14.VII.1996, ♀, 28♂♂, 25.VIII.1998, ♂, Güryaprak, 30.VIII.1996, ♀, 5♂♂, Sütkans, 25.VI.1996, 2♂♂, Olur, 1000 m, 15.VII.1992, 6♂♂, 20.VII.2007, ♀, 2♂♂, 23.VII.1992, 3♀♀, 5♂♂, Gündoğdu, 21.VIII.1992, ♀, Pasinler, 1600 m, 13.VI.1996, ♀, 13.VII.1992, 6♀♀, 17♂♂, 11.VIII.1992, 2♀♀, 13.VIII.1992, 2♀♀, Büyükdere, 1940 m, 10.VIII.1994, ♀, ♂, Pazaryolu, 1150 m, 7.VII.1996, ♂, 27.VIII.1992, ♀, ♂, Şenkaya, Akşar, 1300 m, 14.VII.1998, 2♀♀, 7♂♂, 22.VII.1997, ♀, 7♂♂, 26.VII.1994, 4♀♀, 10♂♂, Gezenek, 1600 m, 14.VIII.1998, 5♀♀, ♂, Sarıkayalar, 1750 m, 21.VIII.1997, 4♀♀, 2♂♂, Timurkışla, 1400 m, 14.VIII.1998, 2♀♀, 14♂♂, Turnalı, 1750 m, 28.VII.1994, 2♂♂; 8.VIII.1997, 53♀♀, 25♂♂, 10.VIII.1997, 8♀♀, 22♂♂, 14.VIII.1998, ♀, 22.VIII.1999, 5♀♀, 2♂♂, 8.IX.1994, Tortum, 1650 m, 16.VII.1999, ♂, 22.VII.1998, 2♀♀, Aksu, 1750 m, 12.VIII.1998, 4♀♀, 6♂♂, Arılı, 1600 m, 7.VIII.1996, ♀; Eskişehir: İnönü, 800 m, 1.VIII.1991, ♀, M. Halada; İğdir: 850 m, 16.VII.1997, ♂, 23.VIII.1997, ♂, Küllük, 850 m, 24.VIII.1997, ♀, ♂, Tuzluca, 850 m, 24.VIII.1997, ♀; Isparta: 1020 m, 9.VII.2006, ♀, Karakuş Mountain, 1460 m, 11.VII.2006, 2♀♀, 26♂♂, Eğirdir Lake, 920 m, 10.VII.2006, 3♂♂, leg. J. Halada, M. Kadlec; İzmir: Ödemiş, 3.VII.2006, ♂, M. Halada; Kars: Digor, Karaköy, 1700 m, 22.VIII.1997, ♂, Sarıkamış, Akkurt, 1650 m, 8.VII.1997, ♀, 25.VII.1997, 10♀♀, Kalebaş, 1750 m, 18.VII.1997, 6♂♂, 17.VIII.1998, 6♂♂, 25.VIII.1997, ♀, 5♂♂, Karakurt, 1600 m, 25.VIII.1997, 3♀♀, ♂; Konya: Sille, 1300 m, 10.VIII.1999, 2♂♂; Kütahya: 13.VII.2006, ♀, 4♂♂, leg. M. Halada; Manisa: 20.VI.2006, ♀, leg. J. Halada, Turgutlu, 14.X.2003, ♀, 12.IX.2003, ♂, Salihli, 430 m, 29.VI.2006, 2♀♀, ♂, 2.VII.2006, 60♂♂, leg. J. & M. Halada; Mersin: Aydıncık, 10 m, 6.VIII.2006, ♂, Çamlıyayla (Namrun), 20.VII.1997, ♂, leg. D. Hauack; Niğde: Ulukışla, Çiftahan, 850 m, 8.VIII.1998, ♀, 4♂♂; Tokat: 900 m, 17.VII.1992, 3♂♂, 19.VIII.1992, 4♂♂.

Distribution in Turkey: New for the Turkish fauna.

Distribution in the world: Northern Mediterranean areas (from Iberian peninsula to Turkey), South Eastern Europe till Central Asia.

***Meria geniculata* (BRULLÉ 1832)**

Myzine geniculata BRULLÉ 1832: 370.

Meria geniculata: GORBATOVSKYI (1981: 35).

Meria geniculata: BONI BARTALUCCI (2001: 7-8).

Material examined: Ağrı: Patnos, 7.VII.2003, ♂; Ankara: 15.VIII.1994, ♂; Balıkesir: Ayvalık, 8.VIII.1998, 4♂♂; Burdur: 940 m, 7.VII.2006, 25♂♂, leg. J. Halada, M. Halada; Çanakkale: Ezine, 27.VI.2006, ♂, leg. J. Halada; Erzincan: 1250 m, 23.VI.1994, ♂, 11.VII.1994, ♂, Üzümlü, Bayırbağ, 1300m, 5.VII.1995, ♂; Erzurum: Dumlu, 1900 m, 10.VI.1994, ♂, University field, 1850 m, 29.VII.1992, ♂, 10.VIII.1995, 2♂♂, Hıms, 1700 m, 25.VII.1997, ♂, Horasan, Yukarı Horom, 1700 m, 11.VIII.1996, 2♂♂, 13.VIII.1998, ♂, İspir, Madenköprübaşı, 1100 m, 7.VII.1996, ♂, Pasinler, 11.VII.1992, ♂, Şenkaya, Turnalı, 1750 m, 28.VII.1994, ♂; Isparta: Eğirdir Lake, 10.VII.2006, 2♂♂, leg. J. Halada; İzmir: Menemen, 22.VII.1992, ♂, Ödemiş, 2.VII.2006, 3♂♂, leg. M. Halada; Kars: Digor, Karaköy, 1700 m, 22.VIII.1997, 4♂♂, Kağızman, 1100 m, 16.VI.1999, ♂, Sarıkamış, Akkurt, 1650 m, 18.VII.1992, 3♂♂, Karakurt, 1600 m, 25.VIII.1997, 4♂♂; Manisa: Salihli, 2.VII.2006, 4♂♂, leg. M. Halada; Niğde: Ulukışla, Çiftahan, 850 m, 8.VIII.1998, ♂.

Distribution in Turkey: New for the Turkish fauna.

Distribution in the world: South Eastern Europe to Caucasus.

***Meria nitidula* KLUG 1810**

Material examined: Isparta: Karakuş Mountain, 1460 m, 11.VII.2006, ♀, ♂, leg. J. Halada; Eğirdir Lake, 10.VII.2006, ♂, leg. J. Halada; Izmir: Ödemiş, 2.VII.2006, ♂, leg. M. Halada; Kars: Sarıkamış, Karakurt, Şeytangeçmez, 1550 m, 23.VI.2005, ♂.

Distribution in Turkey: New for the Turkish fauna.

Distribution in the world: Europe and Central Asia.

***Mesa palestinella* GUIGLIA 1963**

Mesa palestinella GUIGLIA 1963: 242-243.

Taywola palestinella: ARGAMAN (1996:245-250).

Mesa palestinella: BONI BARTALUCCI 2004: 371-373).

Material examined: Bitlis: Nemrut Mountain, 2300 m, 15.VIII.1991, ♂, leg. J. Halada; Erzurum: University field, 1850 m, 21.VII.1997, ♂, 20.VIII.1997, ♂, 24.VIII.1992, ♂, Oltu, Vocational Training School fields, 1345, 20.VIII.2006, 2♂♂, 25.VI.2006, ♂, 15.VIII.2008, ♂, Pazaryolu, 1150 m, 27.VIII.1992, ♂, Şenkaya, Turnalı, 1750 m, 14.VIII.1998, 4♂♂.

Distribution in Turkey: Erzurum (Tortum, Pehlivanlı) (ARGAMAN & ÖZBEK 1996).

Distribution in the world: Rhodes, Turkey and Middle East.

***Poecilotiphia parvula* (SMITH 1855)**

Meria parvula F. SMITH 1855: 70.

Poecilotiphia parvula: GORBATOVSKY (1981: 384-385, 386 lectotype designation)

Material examined: Burdur: 940 m, 7.VII.2006, ♀; Kars: Digor, Karaköy, 1700 m, 22.VIII.1997, 4♂♂, Sarıkamış, Karakurt, 1600 m, 25.VII.1992, 19♂♂; Konya: Çumra, Dinlendik, 1015 m, 18.VIII.2005, 10♂♂, Güneysınır, Gurağaç, 1017 m, 23.VII.1999, ♂; Manisa: Salihli, 2.VII.2006, 4♂♂, leg. J. Halada.

Distribution in Turkey: New for the Turkish fauna.

Distribution in the world: South Eastern Europe and Turkey till Central Asia.

Subfamily Tiphinae

Tribe Silifkini

***Silifka fatima* ARGAMAN & ÖZBEK 1992**

Silifka fatima ARGAMAN & ÖZBEK 1992: 6.

Material examined: Antalya: Alanya, Dingaly, 14-19.VI.1995, 2♀♀, ♂ (MZUF).

Distribution in Turkey: Mersin (Silifke) (ARGAMAN & ÖZBEK 1992).

Distribution in the world: Turkey.

Note. This is the first record of the insofar undescribed male, whose description will be performed in a next paper.

Tribe Tiphini

After examination of types of many palaearctic taxa one of the authors well deems that there is no grounds to consider *Icronatha* and *Ludita* ARGAMAN 1967 distinct genera. Nevertheless the relative discussion and consequent statements are beyond the theme of the present paper and will be treated closely, therefore the choice to maintain here the Argaman's names has been made.

Icronatha caucasica (MOCSARY 1883)

Tiphia caucasica MOCSARY 1883: 21.

Icronatha caucasica: NAGY (1975: 15-17).

Material examined: Adana: Feke, 12.VI.1998, ♀, leg. M. Halada; Bingöl: Ilıcalar, İcınar, Derik Mezrası, Paşa Çeşmesi, 1100 m, 28.V.2006, 2♀♀, Yenibaşlar, 1400 m, 5.VIII.2003, ♂, Erzurum: University field, 1850 m, 2.VII.1992, ♀, Aşkale, 1800 m, 15.VII.1996, ♀, Hıms, Söylemez, 1600 m, 26.VIII.1995, 7♀♀, Oltu, 1300 m, 15.VII.2004, ♂, Başaklı, 15.VII.1994, ♀, Çamlıbel, 1750 m, 2.VII.1997, ♀, Sütkans, 1600 m, 25.VII.1996, 8♀♀, Tortum, 1600 m, 9.VI.1996, ♀, Pehlivanlı, 1100 m, 12.VII.1992, 3♀♀, Uzundere, Şelale, 1000 m 9.VII.1999, 2♀♀; İzmir: 21.VI.1998, ♀, leg. J. Halada; Kars: Paslı, 1.VII.1997, 3♀♀, leg. M. Halada; Manisa: 20.VI.1998, ♀, leg. J. Halada; Samsun: 545 m, 5.VI.2006, 4♀♀, leg. M. Kadlec; Sivas: Gürün, 1.VI.2001, ♂, Mazıkıran Pass, 10.VII.1997, 8♀♀, leg. M. Halada, K. Deneš; Van: 28.VI.1993, 6♀♀, Alacabük Mountain, 26.VI.1997, Gevaş, Van Lake, 29.VI.1993, 24♀♀, Muradiye, 2000 m, 5.VI.2001, 20♀♀, Tatvan, 30.VI.1993, 4♀♀, leg. K. Deneš, M. Halada, Jirousek, D. Hauck; Yozgat: Saraykent, 1300 m, 12.VI.2001, ♂, leg. K. Deneš.

Distribution in Turkey: New for the Turkish fauna.

Distribution in the world: South Eastern Europe and Turkey.

Ludita fulvipennis (SMITH 1879)

Tiphia fulvipennis SMITH 1879: 184.

Ludita fulvipennis: NAGY (1967: 198).

Material examined: Adana: Feke, 12.VI.1998, ♂, leg. M. Halada; Adıyaman: Kuyucak, 8.VI.1998, 2♂♂, Kahta, Nemrut Mountain, 14.VI.1996, ♀, leg. P. Jelinek, M. Halada; Ağrı: 27.VI.1993, 2♀♀, leg. K. Deneš; Ankara: 22.VI.1993, ♀, leg. K. Deneš; Artvin: Şavşat, Bahçeli, 800 m, 27.V.1997, ♀; Denizli: 970 m, 5.VII.2006, ♀, leg. M. Halada; Erzurum: 2000 m, 8.VII.2006, ♀, Aşkale, 1800 m, 15.VII.1997, ♀, Oltu, 1300 m, 23.VII.1992, ♀, Başaklı, 15.VI.1994, 6♂♂, Sütkans, 1600 m, 25.VII.1996, ♀, Olur, 22.VII.1992, 2♀♀, Süngübayır, 23.VII.1992, 6♀♀, Şenkaya, Turnalı, 1750 m, 25.V.1994, 12♂♂, 12.VI.1992, 11♂♂, Tortum, 1600 m, 16.VII.1999, ♀; Kastamonu: Yarıalgöz Pass, 1392 m, 21.VI.2006, 2♀♀, leg. M. Kadlec; Kırklareli: 8.VI.2001, ♂, leg. R. Rausch; Konya: Akşehir, 24.VI.1998, 3♀♀, leg. M. Halada; Kütahya: 1100 m, ♀, 12.VII.2006, Porsuk Barajı, 15.VI.1997, ♀, leg. M. Halada; Isparta: Karakuş Mountain, 1450 m, 11.VII.2006, 2♀♀, M. Halada; İzmir: 21.VI.1998, ♀, leg. M. Halada, Dikili, 30.VI.1998, 3♀♀, J. Halada; Mersin: Mut, Cornelek, 29.V.1996, 2♀♀, leg. M. Halada; Samsun: 545 m, 5.VI.2006, ♀, leg. M. Kadlec; Sivas: 8.VII.2000, ♀, Gürün, Mazıkıran Pass, 10.VII.1997, 5♀♀, leg. M. Halada, K. Deneš; Van: Alacabük Mountain, 28.VI.1997, 3♀♀, ♂, 28.VI.1993, ♀, Gevaş, Van Lake, 29.VI.1993, 12♀♀, Muradiye, 2000 m, 5.VI.2001, 22♀♀, Tatvan, 30.VI.1993, 2♀♀, leg. K. Deneš, M. Halada, Jirousek; Yozgat: Saraykent, 1300 m, 12.VI.2001, 2♀♀, leg. K. Deneš.

Distribution in Turkey: Bitlis, Hakkari, İstanbul, Mardin, Van (MADL 1997).

Distribution in the world: South Eastern Europe and Turkey.

***Ludita villosa* (FABRICIUS 1793)**

Tiphia villosa FABRICIUS 1793: 227.

Ludita morio: NAGY (1967: 199-202).

Ludita villosa: van ACHTERBERG (1983: 74).

Material examined: **Bingöl**: Ilıcalar, İçpınar, Derik Mezrası, Paşa Çeşmesi, 1100 m, 5.VI.2003, ♀; **Erzurum**: Pasinler, 1600 m, 13.VII.1992, ♀, Rabat, 2400 m, 13.VI.1996, 2 ♀ ♀; **Mersin**: Mut, Cornelek, 29.V.1996, 2 ♀ ♀, leg. M. Halada; **Sivas**: Zara, 5.VI.2000, ♀, leg. M. Halada; **Van**: Muradiye, 2000 m, 5.VI.2001, 18 ♀ ♀.

Distribution in Turkey: Bitlis (MADL 1997).

Distribution in the world: Western Palaearctic Region, from NW Africa and Europe to Turkey.

***Tiphia bahattini* nov.sp.**

Holotype: ♀, Turkey, Diyarbakır, Silvan, 825 m, 17.IV.1995, leg. E. Yıldırım (deposed at EMET).

Paratypes: ♀, 3 ♂ ♂, Turkey, Diyarbakır, Silvan, 825 m, 17.IV.1995, ♀, 2 ♂ ♂, 15.IV.1995, ♂, leg. E. Yıldırım (3 deposed at EMET) (1 deposed at MZUF).

In the following descriptions the content within brackets refers to *T. persica*.

Female (Holotype): Figs 1-4. Measurements: body length = 11 mm. Black, brown and light brown. Wings hyaline.

Brown: mandibles, scape and pedicel, LaSt₂, semitransparent tegula, legs, 1st metamerus, distal areas of 2nd to 5th metameri. Light brown are flagellum, palpi, veins and pterostigma, apical half of 6th tergum.

Genal bridge sunken relatively to the lower genal areas (at the same level). Ratio between length of last three final maxillary palpomeres and basal three ones about 1.4 (1.5). Pronotal disk without any carinated keel along its fore border; blunt keel just near its anteroventral corner. Scutellum with ratio width/height about 2.3 (1.8). Postscutellum: ratio anterior width/median height about 2.5 (2.2). Metepimeron finely shagreened. Metasternum without prominent apical ventral lobes (prominent). Propodeal disk with a sub rectangular areola, laterally delimited by flattened ribs and with only basally expressed median one (complete); lateral areas finely wrinkled. Pterostigma very small. Sensorial area on the hind femur gutta-like. The strong groove on the hind basitarsus is just a bit longer than half the element, the ratio length of the element/length of the groove is 1.9 (1.4). Ratio apical width/longitudinal length of the 1st metamerus is about 1.65 (1.50).

Punctuation and sculptures are less marked than in *T. persica* giving it a mat appearance. Punctuation very fine and dense around toruli and median clypeus, sparser with interspaces much wider than their diameter on the remainder of the head. Variable on the anterior half of pronotal disk. Irregular and sparse punctuation on Scutum, Scutellum and postscutellum. Mesepisternum with bipunctate outer surface (simple). Propodeal disk: smooth areola surface; smooth lateral area with very fine and sparse pits only along areola. Very fine sparse pits on metameri. 6th tergum with rough punctuation on its basal half, with few sparse pits and without any sculpture on its apical half (sculptured with microreticulation). Whitish hair throughout.

Variability. The female paratype show an almost completely brown coloured body.

M a l e : Figs 6-12. Measurements: body length = 8,5.

Black, brown.

Brown: shadows on mandibles and clypeus, veins, most of the legs.

Distinctly prominent fore profile of the head in dorsal aspect (almost straight). Last flagellomeres 1.6 times longer than penultimate (1.4). None median ridge between toruli and median ocellus (present). Apical edge of the pronotal disk regularly arched (backward receding in the middle) and the ratio width/median length about 3 (3.4) in dorsal aspect. Ventral surface of metasternum completely roughly punctured (smooth and channelled basally); its lobes sub triangular (well prominent parallel sided lobes, Fig. 13). Sensorial area on hind femur elongated with a very narrow tip (ellipsoid). 1st metamerus with a ratio basal width/median length about 1.25 (1.05) in ventral aspect. Process on lateral 5th sternum very close to the apical border and mostly straight (regularly rounded, Fig. 14).

General habitus, punctuation and hair like in the males of *T. persica*, apart the much less punctuated propodeal disk.

Variability. Not detectable.

N o t e : The female differs from *T. persica* also in different shape of clypeus and temple extension in frontal aspect. The male differs from male *T. persica* also in the more prominent temple in frontal aspect and different shape of the genitalia, especially about gonostylus.

D e r i v a t i o n o m i n i s : This species is dedicated to Bahattin Yıldırım who is father of Dr. Erol Yıldırım.

Tiphia bituberculata nov.sp.

H o l o t y p e : ♂, Turkey, Iğdır, 850 m, 17.VI.1992, leg. E. Yıldırım (deposed at EMET).

P a r a t y p e s : 2♂♂, Turkey, Iğdır, 850 m, 17.VI.1999, leg. E. Yıldırım (1 Ex. deposed at EMET) (1 Ex. deposed at MZUF).

M a l e (Holotype): Figs 15-24. Measurements: body length 6.5 mm.

Black, brown, light brown.

Brown: underside of 5th to 10th flagellomeres, tip of mandible, femurs, most of mid and hind tibia, pterostigma, tegula. Underside of 11th flagellomeres, fore tibia, apex of mid and hind tibiae, all the tarsi and veins are light brown.

General habitus and punctuation are like in the dark forms of *T. femorata*.

Pronotal disk with a lamellar keel along its fore border, buttressed with moderate ridges; laterally it shows strong wrinkles on its posteroventral corner. Metepisternum with irregular fine wrinkles. Areola on the propodeum tightening backward, delimited by strong prominent ribs, the median one less marked and broadly enlarging posteriorly; horizontal surface with strong transversal irregular wrinkles everywhere; the posterior lamellar keel buttressed by long ridges; lateral areas with 10-13 strong waving wrinkles; its posterior area with irregular ribs converging toward propodeal cavity. Marginal cell slightly over-coming apex of 2nd submarginal cell. Sensorial area on hind femur very long and narrow. 1st tergum with a high gradulus along the fore edge of the disk. 1st sternum with rough punctuation and strong median longitudinal bifurcated rib.

In one form of *T. femorata* males a gradulus on 1st tergum also exists, but it is very rough and less high than in *T. bituberculata*.

Female: unknown

Derivatio nominis: The name is derived from its unique feature among Palaearctic taxa, the processes on 4th sternum too.

Tiphia femorata FABRICIUS 1775

Tiphia femorata FABRICIUS 1775: 353.

Tiphia femorata: COSTA (1887: 113-114).

Tiphia femorata: BERLAND (1925: 291-293).

Tiphia femorata: DUSMET & ALONSO (1930: 54-57).

Tiphia femorata: GUIGLIA (1956: 98-103).

Tiphia femorata: NAGY (1967: 192).

Tiphia femorata: VAN ACHTERBERG (1983: 73, Lectotype designation).

M a t e r i a l e x a m i n e d : Adana: Feke, 12.VI.1998, 3♂♂, Tufanbeyli, 16.VI.1983, 2♂♂, leg. M. Halada, R. Rausch; Ađıyaman: Kuyucak, 8.VI.1998, ♂, Kahta, Nemrut Mountain, 14.VI.1996, ♂, leg. P. Jelinek, M. Halada; Ankara: Ayaş, 26.VI.1998, ♀, leg. J. Halada; Antalya: Beldibi, 5.V.1988, 9♂♂, leg. H. Wolf; Artvin: Ardanuç, Akarsu, 900 m, 7.VII.1994, ♀, Yusufeli, İřhan, 15.VIII.1991, 5♀♀, Sarıgöl, 700 m, 5.VII.1994, 2♀♀; Aydın: Hallaçlar, 17.V.1981, ♂, leg. R. Rausch; Balıkesir: Ayvalık, 8.VIII.1998, 2♂♂; Bayburt: Kop Mountain, 2400 m, 9.VIII.1994, 2♀♀, 2♂♂, Şehitler Çeşmesi, 2400 m, 21.VIII.2008, 4♀♀, Demirözü, 13.VI.1992, ♀♀; Bilecik: 600 m, 15.VIII.1995, 20♀♀, 3♂♂; Bitlis: Nemrut Mountain, 16.VIII.1991, 13♀♀, 4♂♂, leg. M. Halada; Burdur: 940 m, 7.VII.2008, ♂, Bucak, 900 m, 22.V.1983, ♂, leg. M. Halada, R. Rausch; Bursa: 23.VII.1998, ♂, Kurşunlu, 15.VII.1997, ♂; leg. M. Riha; Canakkale: 22.V.1981, 3♂♂, leg. R. Rausch; Denizli: 22.VI.1998, ♂, 4.VII.2006, ♂, leg. M. Halada; Erzincan: 1250 m, 14.VI.1994, ♂, 11.VII.1994, ♀, Üzümlü, 1300 m, 16.VI.1994, ♀, Refahiye, 1800 m, 23.VIII.1991, 3♀♀, 12♂♂, leg. M. Halada; Erzurum: Dereboğazi, 2070 m, 11.VIII.1994, ♀, Dumlu, 28.VII.1994, 40♀♀, Dutçu, Komyolu, 2200 m, 11.VIII.1992, 2♀♀, Güzelova, 1900 m, 12.VIII.1992, 4♀♀, Güzelyayla, 2000 m, 29.VII.1992, 95♀♀, 4♂♂, Kırkgözeler, 1900 m, 12.VIII.1992, 16♀♀, Konaklı, 2400 m, 22.VII.2000, 25♀♀, Palandöken, 2400 m, 6.VIII.1996, 35♀♀, 13.VIII.1995, ♀, 19.VIII.1993, ♀, Şenyurt, 2300 m, 22.VIII.1992, 15♀♀, University field, 1850 m, 6.VII.1992, ♀, ♂, 16.VII.1996, 35♀♀, 23.VII.1992, ♀, 29.VII.1992, 2♀♀, 25♂♂, 4.VIII.1998, 2♀♀, 5.VIII.1992, 2♀♀, 10.VIII.1992, 10♀♀, 40♂♂, 12.VIII.1992, 5♀♀, 15.VIII.1997, 10♀♀, 5♂♂, 24.VIII.1992, 30♀♀, 14♂♂, 28.VIII.1992, 5♀♀, 5♂♂, 30.VIII.1992, 14♀♀, 10♂♂, 5.IX.1991, 5♀♀, 20.IX.1992, 12♀♀, 8♂♂, Aşkale, 1800 m, 16.VII.1999, 2♀♀, Ortabahçe, 1840 m, 9.VIII.1994, 4♀♀, 5♂♂, Prnakapan, 1700 m, 9.VIII.1994, 13♀♀, 5♂♂, Çat, 11.VIII.1994, 12♀♀, Bozyazi, 11.VIII.1994, ♀, Horasan, Delibaba, 3.VII.1997, 3♂♂, Yukarı Horom, 2000 m, 13.VIII.1998, 2♀♀, 2♂♂, Ilıca, 12.VII.2000, 3♀♀, Rizekent, 1900 m, 30.VII.1998, 2♀♀, Sorkunlu, 1850 m, 30.VII.1998, 15♀♀, 4♂♂, İspir, 2.IX.1997, 4♂♂, Demirbilek, 28.VIII.1992, ♀, 2♂♂, Madenköprübaşı, 28.VIII.1992, 2♀♀, 4♂♂, Narman, 1600 m, 12.VII.1996, ♂, Şehitler, 30.VIII.1992, 4♀♀, 2♂♂, Oltu, 1300 m, I.VIII.1992, ♂, Başaklı, 30.VIII.1992, 26♀♀, 20♂♂, Çamlıbel, 1750 m, 2.VII.1997, 4♂♂, Sütkans, 25.VI.1996, 2♀♀, Olur, 1000 m, 23.VII.1992, 166♀♀, 185♂♂, Güngöründü, 21.VII.1992, 5♀♀, Olgun, 24.VIII.1992, 40♀♀, 45♂♂, Sarbaşak, 24.VIII.1992, 25♀♀, 40♂♂, Stüğübayır, 20.VIII.1992, 14♀♀, 35♂♂, Pasinler, 1600 m, 13.VII.1992, 44♀♀, 6♂♂, 17.VII.1994, 2♀♀, 17.VII.1996, 4♀♀, 10.VIII.2007, 15♀♀, 11.VIII.1996, 2♀♀, Büyükdere, 1940 m, 10.VIII.1994, 6♀♀, 6♂♂, Pelitli, 2000 m, 14.VII.1998, 2♀♀, Pazaryolu, 1150 m, 27.VIII.1992, 25♀♀, 8♂♂, Öltü, Vocational Training School fields, 1345 m, 15.VIII.2008, 2♂♂, 3♀♀, Şenkaya, Akşar, 1300 m, 14.VII.1998, 2♀♀, 2♂♂, 26.VII.1994, 3♀♀, 6♂♂, Gaziler, Soğanlı Mountain, Çakırbaba, 2450 m, 13.VIII.1998, 14♀♀, 2♂♂, Gezenek, 1600 m, 14.VIII.1998, 5♀♀, 5♂♂, Turmalı, 1750 m, 8.VIII.1995, 2♂♂, Timurkışla, 1400 m, 14.VIII.1998, 12♀♀, 2♂♂, Tortum, 1650 m, 16.VII.1999, 2♀♀, 4♂♂, Aksu, 1750 m, 12.VIII.1998, 5♀♀, Pehlivanlı, 1100 m, 13.VIII.1992, 7♀♀, 3♂♂, Uzundere, Dıkyar, 4.IX.1994, ♀, 2♂♂; Eskişehir: İnönü, 1.VIII.1991, ♀, leg. M. Halada; Hatay: 28.III.1998, ♂, leg. M. Halada; Gümüşhane: 10.VII.1994, 40♀♀; İğdır: Küllük, 850 m, 24.VIII.1997, ♀; İsparta: Karakuş

Mountain, 1450 m, 11.VII.2006, 2♂♂, leg. M. Halada; İzmir: 20.VI.1998, ♂, Dikili, 14.VI.1998, ♂, leg. J. Halada; Kahramanmaraş: Elbistan, 5.VI.1983, ♂, H. & U. Aspöck; Kars: Digor, Karaköy, 1700 m, 22.VIII.1997, ♀, ♂, Hanak, 27.VIII.1991, 20♀♀, Sarıkamış, Akkurt, 1650 m, 18.VII.1997, 2♀♀, Kalebaş, 1750 m, 15.VII.1997, 10♀♀, Karakurt, 1600 m, 15.VIII.1997, 8♀♀, Yeniköy, 1950 m, 17.VIII.1998, 8♀♀, 3♂♂; Kırklareli: Tekederesi, 18.VI.2001, ♀, leg. R. R. Rausch; Konya: Akşehir, 2.VIII.1991, 9♀♀, 14.VIII.2000, ♂, leg. M. Halada, Çumra, Dınlendik, 1015 m, 18.VIII.2005, 3♂♂, 3♂♂, Sille, 1300 m, 10.VIII.1999, ♂; Kütahya: Pursuk Barajı, 20.V.2001, ♂, leg. M. Snizek; Manisa: Salihli, 2.VII.2006, ♂, Turgutlu, 27.VIII.2003, 4♀♀, 14.IX.2003, 2♀♀, ♂; Mardin: Hasankeyf, 9.V.2002, ♂, leg. Fr. Kartner; Mersin: Mut, Cornelek, 29.V.1996, ♂, leg. M. Halada, Silifke, Uzuncaburç, 28.V.1996, ♂, leg. M. Halada; Muğla: Yatağan, 21.V.1981, ♂, leg. R. Rausch; Nevşehir: Avanos, 10.VII.1983, ♀, Ürgüp, 1400 m, 25.VI.1998, 2♂♂, 30.V.2001, ♂, leg. J. & M. Halada, K. Deneş; Ordu: Turnasuyu, 23.VIII.1992, ♂; Samsun: Çarşamba, 22.VIII.1992, 8♀♀, Karaköy, TIGEM, 22.VIII.1992, 20♀♀; Sivas: Gürün, Mazıkıran, Pass, 10.VII.1997, ♂, leg. M. Halada; Tokat: 900 m, 19.VIII.1992, 15♀♀; Van: Muradiye, 2000 m, 3.VII.2000, 2♀♀, Tatvan, 9.VII.1997, ♀, ♂, leg. M. Halada.

Distribution in Turkey: New for the Turkish fauna.

Distribution in the world: most of the palaearctic Region.

Tiphia minuta LINDEN 1827

Tiphia minuta LINDEN 1927: 282.

Tiphia minuta COSTA (1887: 41-42).

Tiphia minuta var *unicubitalis* KISS (1915: 79).

Tiphia minuta BERLAND (1925: 294).

Tiphia minuta DUSMET & ALONSO (1930: 54-57).

Tiphia (Sierocolpa) minuta: NAGY (1967: 177-180).

M a t e r i a l e x a m i n e d : Adıyaman: Kuyucak, 8.VI.1998, ♂, leg. M. Halada; Ağrı: Zor Mountain, Solucan, 25.VI.1993, 21♀♀, 7♂♂, leg. K. Deneş; Bingöl: Bilaloğlu, 1250 m, 26.V.2003, ♀; Burdur: 7.VII.2006, ♀, leg. M. Kadeç; Denizli: 4.VII.2006, ♀, leg. M. Halada; Erzincan: 1250 m, 14.VI.1994, ♀; Erzurum: Palandöken, 2400 m, 23.VII.1997, ♀, University field, 1850 m, 9.VI.1994, ♀, 10.VI.1994, ♀, 10.VI.2000, ♂, 25.VI.1993, 23♀♀, 2♂♂, 29.VI.1992, 12♀♀, 21♂♂, 30.VI.1992, 16♀♀, 4♂♂, 2.VII.1992, 6♀♀, 2♂♂, 6.VII.1992, 3♀♀, 21.VIII.1996, ♂, Ilica, 1900 m, 12.VI.2000, ♂, Oltu, 1300 m, 15.VII.2004, ♀, Horasan, Delibaba, 25.VI.1993, ♀, 2♂♂, leg. M. Halada, Pasinler, 1600 m, 13.VII.1992, 6♀♀, Uzundere, Şelale, 1000 m, 19.VII.1996, ♀, 2♂♂; Hatay: 30.IV.1994, ♂, leg. M. Halada; İzmir: 21.VI.1998, ♂, Dikili, 19.VI.1998, 2♂♂, Ödemiş, 22.V.1981 leg. J. & M. Halada, R. Rausch; Kahramanmaraş: Elbistan, 5.VI.1983, 2♀♀, 2♂♂, Göksu, 8.VI.2001, ♂, leg. R. Rausch, M. Snizek; Karabük: 27.VI.1993, ♀, leg. K. Deneş; Kars: Paslı, 1.VII.1997, 5♀♀, leg. M. Halada; Konya: Akşehir, 24.VI.1998, ♀, ♂, leg. J. Halada; Manisa: Salihli, 2.VII.2006, ♀, 2♂♂, leg. M. Halada; Mardin: Hasankeyf, 9.V.2002, ♀, leg. Fr. Kartner; Nevşehir: Avanos, Zelve, 12.VII.1997, 2♂♂, 18.VII.1984, ♂, Ürgüp, Göreme, 23.VI.1993, ♂, leg. A. W. Ebmer, M. Halada, Jirousek; Sivas: Gürün, 11.VI.2001, ♂, Mazıkıran Pass, 10.VII.1997, 5♀♀, Zara, Tuzlagözü, 4.VI.1998, ♂, leg. K. Deneş, M. Halada; Sanlıurfa: Halfeti, 30.V.1998, 4♂♂, leg. M. Snizek; Van: Gevaş, Van Lake, 29.VI.1993, 2♀♀, ♂, Muradiye, 2000 m, 5.VI.2001, 3♀♀, ♂, leg. M. Halada.

Note: Among the Turkish material there are few specimens, both females and males, with one CSM, therefore *T. unicubitalis* has to be considered only individual variations without any taxonomical meaning.

Distribution in Turkey: Bitlis (MADL 1997).

Distribution in the world: Europe and Turkey.

***Tiphia persica* TURNER 1908**

Tiphia persica TURNER 1908: 120 (Lectotypus ♀: /SW Persia Escalera 1900-61/ /K.Sepid/ /*Tiphia persica* Turner Type/ (auographic) /Lectotype/ (rounded with blue outer ring) /BM TypeHym. 15.1443/ /Lectotype *Tiphia Persica* Turner H.W. Allen/ (red), BMNH! (Fig. 5).

Tiphia persica: ALLEN (1969: 414- 415, lectotype designation).

M a t e r i a l e x a m i n e d : Adana: Feke, 12.VI.1998, ♀, leg. M. Halada; Adıyaman: Karadut, Nemrut Mountain, 1.VIII.2001, 3 ♀♀, Kuyucak, 8.VI.1998, ♀, Gölbaşı, 7.VI.1998, ♀, leg. M. Halada, K. Deneš; Ağrı: 27.VI.1993, ♀, leg. K. Deneš; Zor Mountain, Solucan, 25.VI.1993, ♂, Doğubeyazıt, Tendürek Pass, 2644 m, 6.VI.2001, ♀, M. Halada, Ankara: Ayaş, 26.VI.1998, ♀, Soğuksu 1300 m, 8.V.1994, ♀, Gölbaşı, 7.VI.1998, ♀, Kızılcahamam, 30.V.1992, ♀, leg. J. & M. Halada, K. Deneš, S. Doclec; Antalya: Beldibi, 5.V.1988, 3 ♀♀, leg. H. Wolf; Bingöl: Ilıcalar, Içpınar, Derik Mezrası, Paşa Çeşmesi, 1100 m, 5.VI.2003, ♀; Diyarbakır: Silvan, 900 m, 17.IV.1995, ♂; Erzurum: Dumlulu, 1900 m, 28.VII.1994, University field, 1850 m, 1.VII.1995, ♀, 29.VII.1992, 3 ♀♀, 10.VIII.1992, 15 ♀♀, Aşkale, 1800 m, 16.VII.1999, 3 ♀♀, ♂, Hınıs, 1700 m, 25.VII.1997, ♂, Ilıca, 1900 m, 12.VII.200, 2 ♀♀, 3 ♂♂, Atlıkönak, 11.VI.2000, 10 ♀♀, 2 ♂♂, Hınıs, Söylemez, 1750 m, 28.VI.2005, 2 ♀♀, Horasan, 11.VII.1995, 3 ♀♀, Delibaba, 25.VI.1993, ♀, leg. M. Halada, İspir, Çayırözü, 4.VII.1997, ♀, Madenköprübaşı, 1100 m, 18.VI.1994, 8 ♀♀, ♂, Köprüköy, Yağan, 1600 m, 28.VI.2005, ♂, Oltu, Başaklı, 15.VI.1994, ♀, Çamlıbel, 2.VII.1997, ♂, Sütkans, 10.VI.1997, ♀, 18.VI.1996, 2 ♀♀, Olur, Sarbaşak, 24.VIII.1992, ♂, Süngübayır, 1750 m, 20.VIII.1992, ♂, Pasinler, 1600 m, 13.VII.1992, ♀, ♂, 13.VIII.1995, 2 ♀♀, Şenkaya, Turnalı, 25.V.1994, ♂, 12.VI.1992, ♂, Tortum, 1650 m, 16.VII.1999, ♂; Hatay: 30.IV.1994, ♂, leg. K. Deneš, 27.V.1996, ♀, leg. M. Halada; Gaziantep: 30.V.1998, 2 ♀♀, leg. M. Halada; Gümüşhane: 10.VII.1999, ♀; Isparta: Davraz Mountain, 25.V.2001, ♀, leg. M. Snizek, Yalvaç, Sultan Mountain, 5.VII.1993, ♀; Kahramanmaraş: 10.VI.1998, 2 ♀♀, Göksu, 1400 m, 5.VI.1983, ♀, leg. M. Halada, R. Rausch; Kars: Sarıkamış, Akkurt, 1650 m, 18.VII.1997, ♀, 25.VII.1997, 10 ♀♀, Isısu, 7.VII.1991, ♀, Kalebaşı, 1750 m, 18.VII.1997, 6 ♂♂, 17.VIII.1998, 6 ♂♂, 25.VIII.1997, ♀; Konya: Bozkır, 26.V.1998, ♂, leg. M. Halada; Kütahya: Porsuk Barajı, 22.V.1998, 2 ♀♀, 2 ♂♂, leg. M. Halada, Mardin: 9.V.2002, ♂, Hasankeyf, Hop Pass 6.VI.1998, ♂, Gerçüş, 5.VI.1998, ♀, leg. M. Halada, Fr. Kartner; Mersin: Ovacık, Büyük Geçit, 1.VII.1998, ♀, Erdemli, 20.VI.1996, 52 ♀♀, 2 ♂♂, Mut, Cornelek, 29.V.1996, 3 ♀♀, leg. M. Halada, Silifke, Uzuncaburç, 28.V.1996, leg. M. Halada, P. Jelinek, Bezdek; Nevşehir: Ürgüp, 15.VI.1998, ♀, leg. M. Halada; Capadocia, 13.VI.1993, ♀, 15.VI.1998, ♀, leg. M. Halada; Osmaniye: Nur Mountains, 24.V.1992, 2 ♂♂, Hasanbeyli, 10.VI.1998, 3 ♀♀, leg. M. Halada; Samsun: 545 m, 5.VI.2006, 2 ♀♀, leg. M. Kadlec; Sivas: 1350 m, 7.VI.1999, ♀, Türkkeşlik, 1700 m, 10.VI.1999, 5 ♀♀, Gürün, Mazkırın Pass, 10.VII.1997, ♀, Zara, Kozluk, 3.VI.1998, ♂, Tuzlagözü, 4.VI.1998, 2 ♀♀, leg. M. Halada; Sanlıurfa: Kabahaydar, 2.VI.1998, ♀, Halfeti, 3.V.1994, 4 ♀♀, leg. M. Halada, K. Deneš; Van: Alacabük Mountain, 28.VI.1997, ♀, Gevaş, 2000 m, 3.VI.2001, ♀, 2 ♂♂; Van Lake, 29.VI.1993, 11 ♀♀, ♂, Muradiye, 2000 m, 5.VI.2001, ♀, ♂, Tatvan, 30.VI.1993, 7 ♀♀, leg. K. Deneš, M. Halada; Yozgat: Saraykent, 12.VI.2002, ♂, leg. K. Deneš; Van: 28.VI.1993, 8 ♀♀, Alacabük Mountain, 26.VI.1997, Gevaş, Van Lake, 29.VI.1993, 56 ♀♀, Muradiye, 2000 m, 5.VI.2001, 12 ♀♀, Tatvan, 30.VI.1993, 11 ♀♀, leg. K. Deneš, M. Halada, Jirousek.

Distribution in Turkey: New for the Turkish fauna.

Distribution in the world: Persia and Turkey.

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We are grateful for the loan of the material by Fritz Gusenleitner (Biologiezentrum, Johann-Wilhelm-Klein-Straße 73, 4040 Linz-Dornach/ Austria).

Zusammenfassung

Vorliegende Arbeit behandelt Tiphiden-Material, das im Zeitraum 1981 bis 2008 an verschiedenen

Orten der Türkei aufgesammelt wurde. Einschließlich zwei für die Wissenschaft neuer Arten, *Tiphia bahattini* nov.sp. und *Tiphia bituberculata* nov.sp., sind somit für das Untersuchungsgebiet 18 Arten aus acht Gattungen und drei Unterfamilien bekannt. 10 Arten wurden erstmals für die Türkei nachgewiesen. Für schon bekannte Arten gelang der Nachweis an neuen Fundorten.

In addition, new localities were found for some species which have already been reported in Turkey.

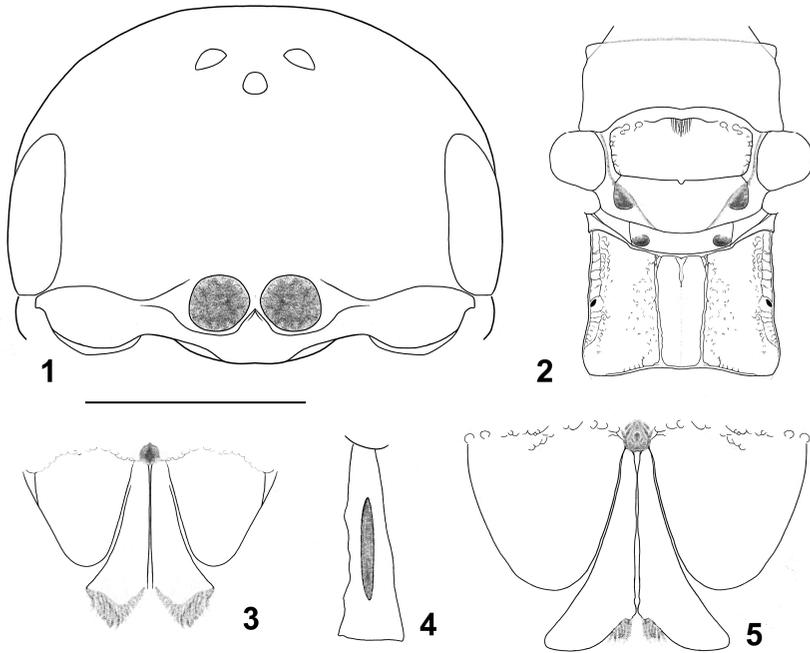
References

- ALLEN H. W. (1969): Redescriptions of Types of the genus *Tiphia* from Asia Africa, Oceania in the British Museum (NH) and at Oxford Museum. — Trans.Amer. ent. Soc. **95**: 353-438.
- ARGAMAN Q. & H. ÖZBEK (1992): Reclassification of Tiphidae (Hymenoptera, Aculeata) with description of a new subfamily from Turkey. — Türk. Entomol. Derg. **16** (1): 3-12.
- ARGAMAN Q. & H. ÖZBEK (1996): A contribution to the knowledge of the eastern mediterranean Myzinidae I. Subfamily Mesinae (Hymenoptera: Aculeata). — Türk. Entomol. Derg. **20** (4): 245-250.
- BERLAND L. (1925): Hymenoptères vespiformes I. — Faune de France **8**: 1-364.
- BONI BARTALUCCI M. (2001): 2nd contribution to the knowledge of the Old World Myzininae (Hymenoptera, Tiphidae). — Annali Mus. civ. Stor. nat. Genova. **93** [1999]: 1-56.
- BONI BARTALUCCI M. (2004): 3rd contribution to the knowledge of the world Myzininae (Hymenoptera: Tiphidae). — Annali Mus. Civ.Stor. nat. Genova. **96**: 363-428.
- BRULLÉ M.(1832): Expédition scientifique de Morée. — Séction de Sciences physiques **3** (1): 404 pp.
- COSTA A. (1887): Prospetto degli Imenotteri Italiani. Pars 2. — Napoli 1-170.
- DUSMET J.M. & M. ALONSO (1930): Los Escolidos de la penisola Iberica. — EOS **6**: 5-82.
- FABRICIUS J.C. (1775): Systema Entomologiae. — Kortii, Flensburgi et Lipsiae, XXVIII+832 pp.
- FABRICIUS J.C. (1793): Entomologia Systematica emendata et aucta secundum Classes, ordines, genera, Species adjectis synonymis, locis, observationibus, descriptionibus. II. — Hafniae, Proft, 519 pp.
- FABRICIUS J.C. (1804): Systema Piezatorum secundum Ordines, Genera, Species adjectis Synonymis, locis, observationibus, descriptionibus — Brunsvigae, Reichard, 439 pp.
- GORBATOVSKY V.V. (1979): Palaearctic species of diurnal myzinine wasps of the genus *Dermasoths* Menozzi. — Ent. Obozr. **58** (3): 609-621. (in Russian).
- GORBATOVSKY V.V. (1981): On the taxonomy of the palaearctic Myzinine wasps (Hymenoptera, Tiphidae, Myzininae. — Ent. Obozr. **60** (2): 380-394 (in Russian).
- GOULET H. & J.T. HUBNER (ed.) (1993): Hymenoptera of the world: An identification guide to families. — Research Branch Agriculture Canada Publication 1894/E, 668 pp.
- GUIGLIA D. (1956): Le specie del genere *Tiphia* descritte da H. Tournier. — Memorie Soc. ent. Ital. **35**: 92-103.
- GUIGLIA D. (1963): Contributo alla conoscenza delle Myzininae paleartiche (Hym.) Myzininae della Palestina. — Mitt. Schweiz. ent. Ges. **35**: 233-244.
- VAN DEN LINDEN (1827): Observations sur les Hyménoptères de la famille des fousseurs, 1^{er} c. — Nouv. Mém. Acad. R. Sci, Bruxelles **4**: 1-97, 271-367.
- MADL M. (1997): Über Vespidae, Pompilidae und Tiphidae der Türkei (Hymenoptera). — Linzer biol. Beitr. **29** (2): 823-827.
- MOCSARY A. (1883): Hymenoptera nova europea et exotica. — Értekezések a természettudományok köreiből kiadja a Magyar Tudományos Akadémia. **13**: 1-72.

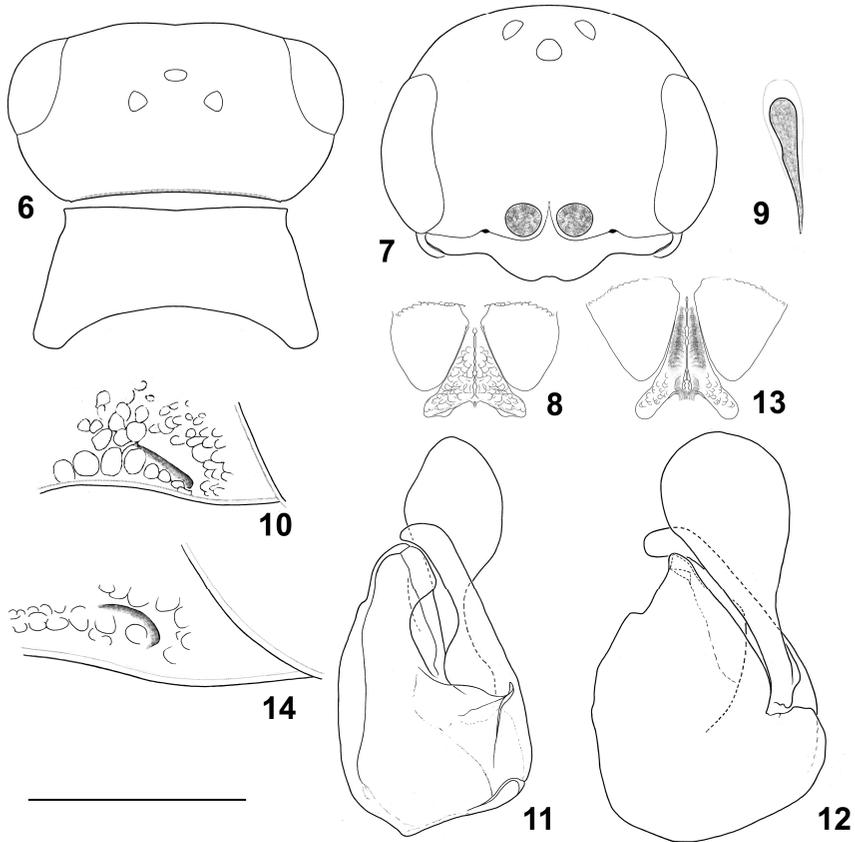
- NAGY C. (1969): Systematisches Studium der Tiphinae Rumäniens. — *Reichenbachia* **8** (24): 175-204.
- NAGY C. (1975): Taxonomical studies on species of the genus *Icronatha*. — *Biologia gallo-hellen.* **6** (1): 9-19.
- RADOSZKOWSKI O. (1886): Faune Hyménoptérologique Transcaspienne. — *Horae Societatis entomologicae Rossicae* **20**: 3-56.
- SMITH F. (1855): Catalogue of Hymenopterous insects in the collection of the British Museum, London, part III (Mutillidae and Pompilidae). — *Trans. Ent. Soc. London*.
- SMITH F. (1879): Descriptions of new species of fossorial Hymenoptera in the collection of British Museum — *London* **8** (Vo): XXI+240.
- TURNER R.E. (1908): Remarks on the Hymenopterous Genus *Tiphia*. — *Ann. Mag. nat. Hist. London* (8) **2**: 116-131.
- VAN ACHTERBERG C. (1983): Notes on the Fabrician types of Palaearctic Tiphinae. — *Steenstrupia* **9** (3): 73-74.

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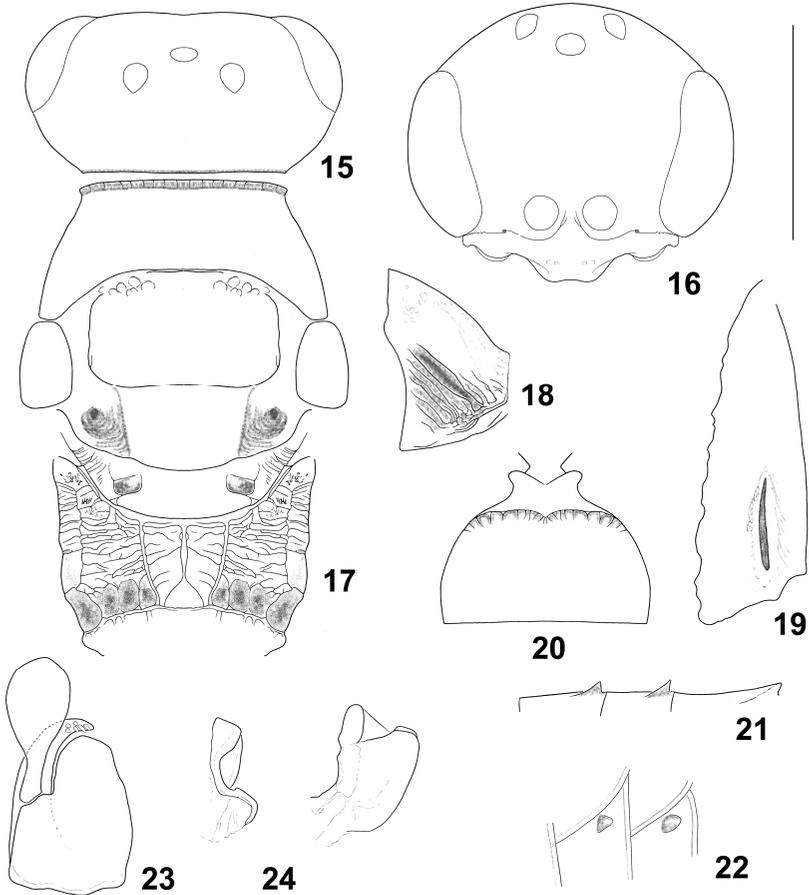
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Figs 1-5: *Tiphia bahattini* nov.sp. Holotypus ♀: (1) head, frontal aspect; (2) mesosoma, dorsal aspect; (3) metasternum; (4) hindfemur. *Tiphia persica* Lectotypus ♀: (5) metasternum. (1, 3, 4, 5: scale bar = 1mm; 2: Scale bar = 2mm).



Figs 6-14: *Tiphia bahattini* nov.sp. Paratypus ♂: (6) head and pronotum, dorsal aspect; (7) head, frontal spect; (8) metasternum; (9) sensorial area of hindfemur; (10) 5th sternum, particular; (11) gonostylus and volsella, $\frac{3}{4}$ inner lateral aspect; (12) Gonostylus and volsella, inner lateral aspect. *Tiphia persica* ♂: (13) metasternum5th; (14) sternum, particular. (6, 7, 8, 13: scale bar = 1 mm) (9, 10, 11, 12, 14: scale bar = 0.5 mm).



Figs 15-25: *Tiphia bituberculata* nov.sp. Holotypus ♂: (15) head, dorsal aspect; (16) head, frontal aspect; (17) mesosoma, dorsal aspect; (18) pronotum, lateral aspect; (19) hindfemur, inner aspect; (20) 1st tergum, dorsal aspect; (21) 4th, 5th, 6th sterna, lateral profile; (22) 4th & 5th sterna, ventral aspect; (23-24) Gonostylus and volsella, outer lateral aspect; (25) aedeagus ventral and lateral aspect. (15, 16, 17, 18, 20, 21, 22: scale bar = 1 mm) (19, 23, 24: scale bar = 0.5mm).

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