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A study of the Cremastinae (Hymenoptera: Ichneumonidae) from Turkey

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Abstract: Faunistic data of the 16 Cremastinae species from Turkey were obtained. Four species of them are new records for the Turkish fauna. The males of *Temelucha turcata* Kolarov and Beyarslan were described for the first time. Zoogeographical characterizations of each individual species were summarized.

Key words: Cremastinae, Ichneumonidae, Turkey, new records, zoogeographical characterization

Türkiye'den Cremastinae (Hymenoptera: Ichneumonidae) üzerine bir çalışma

Özet: Türkiye'den 16 Cremastinae türü ile ilgili faunistik veriler elde edilmiştir. Bunlardan dört tür Türkiye faunası için yeni kayıttır. Yakında tanımlanmış olan *Temelucha turcata* Kolarov and Beyarslan'ın erkeği bu çalışmada ilk kez tanımlanmıştır. Her bir türün kısaca zoocoğrafik tanımlaması verilmiştir.

Anahtar sözcükler: Cremastinae, Ichneumonidae, Türkiye, yeni kayıt, zoocoğrafik tanımlama

Cremastinae is a small subfamily consisting about 35 genera in the world (Yu et al., 2006). The species in this subfamily are koinobiont endoparasitoids of usually lepidopterous but sometimes coleopterous larvae in tunnels, galls, leaf rolls, and buds or other hide (Townes, 1971). A key for identification of Western Palearctic genera has been given by Kolarov (1997).

The Cremastinae fauna of Turkey has not been well studied. The first data on Turkish Cremastinae were published by Kohl (1905). In the catalogue of Kolarov (1995), only 11 species were listed. Recently, more species were have been added to the Turkish Cremastinae list (Kolarov et al., 1997, Kolarov and Beyarslan, 1999; Pekel and Özbek, 2000; Kolarov et al., 2002a, 2002b; Çoruh et al., 2005; Beyarslan et al., 2006). To date, 46 Cremastinae species have been reported from Turkey.

In the present paper, the faunistic data of the 16 Cremastinae species from Turkey were listed. Of these, 4 species are new records for the Turkish fauna (in the text they are marked by an asterisk). The newly

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discovered males of *Temelucha turcata* Kolarov and Beyarslan were described for the first time. Zoogeographical characterizations of each species were summarized.

The Ichneumonidae samples were collected from the different parts of Turkey, between the years of 1999 and 2007. The materials were obtained from grass type plants using a standard insect sweeping-net. The samples are preserved in the collection of the Zoological Museum of Biology Department of Trakya University, Edirne, Turkey.

List of the species:

**Cremastus puberulus* Szépligeti, 1899

Material: Elazığ: Baskil, Topakent, 03.06.2007, 9♀♀.

Distribution: Europe.

Cremastus pungens Gravenhorst, 1829

Material: Yozgat: Kabaktepe, 29.05.2007, 1♀; Elazığ: Baskil, Topakent, 03.06.2007, 1♂, 5♀♀; Malatya: Çiftlik, 03.06.2007, 2♂♂; Eskişehir: Anadolu Üniversitesi Hatıra Ormanı, 10.07.2007, 1♀; Kaymaz, 10.07.2007, 1♀; Kayseri: Pınarbaşı, Aşağıkızılçevlik, 13.07.2007, 1♀;

Distribution: Europe, Turkey, Mongolia and Siberia.

Eucremastus collaris Narolsky, 1990

Material: Malatya: Akçadağ, Darıca, 05.06.2007, 1♀.

Distribution: Greece, Turkey, Georgia, Azerbaijan and Armenia.

Pristomerus armatus (Lucas, 1849)

Material: Sivas: Zara, 31.05.2007, 1♂; Elazığ: Baskil, Topakent, 03.06.2007, 1♀; Keban, Altınyaka, 04.06.2007, 1♀; Sağdıçlar, 04.06.2007, 1♀; Malatya: Akçadağ, Sarıhacı, 05.06.2007, 1♀; Sivas: Gürün, Gökpınar, 13.07.2007, 1 ♀.

Distribution: Algeria, Morocco, Europe, Turkey, Armenia, Turkmenistan, Uzbekistan, Kyrgyzstan and Kazakhstan.

**Pristomerus mesopotamicus* Horstmann, 1990

Material: Eskişehir: Anadolu Üniversitesi Hatıra Ormanı, 10.07.2007, 1♀.

Distribution: Iraq.

Remarks: *Pristomerus mesopotamicus* was recently described by Horstmann (1990) in Iraq. Eskişehir (Turkey) is the second locality for this species and Eskişehir is the northernmost distribution point of it.

** Temelucha albipennis* (Zetterstedt, 1838)

Material: Elazığ: Baskil, 03.06.2007, 1♀; Topakent, 03.06.2007, 1♀.

Distribution: Europe.

Temelucha caudata (Szépligeti, 1899)

Material: Elazığ: Baskil, Canbeyler, 03.06.2007, 1♀; Topakent, 03.06.2007, 1♀.

Distribution: Middle and South Europe and Turkey.

Temelucha confluens (Gravenhorst, 1829)

Material: Kayseri: Talas, Başakpınar, 06.06.2007, 1♀.

Distribution: Europe, Turkey and Israel.

Temelucha decorata (Gravenhorst, 1829)

Material: Kayseri: Merkez, 03.06.2003, 1♀.

Distribution: Madeira and Canary Islands, North Africa, Europe, Azerbaijan, Turkey, Cyprus, Israel, Uzbekistan, Afghanistan and USA.

Temelucha discoidalis (Szépligeti, 1899)

Material: Ankara: Temelli, 27.04.2002, 1♂.

Distribution: Europe and Turkey.

Temelucha interruptor (Gravenhorst, 1829)

Material: Malatya: Akçadağ, Sarıhacı, 05.06.2007, 1♀; Kayseri: Talas, Başakpınar, 06.06.2007, 1♀; Elazığ: Baskil, Hacımustafa, 16.07.2007, 1♀.

Distribution: Europe and Mongolia, introduced into North America.

Temelucha lucida (Szépligeti, 1899)

Material: Çankırı-İndağı Mevkii, 28.05.2007, 1♀.

Distribution: Italy, Czechoslovakia, Hungary, Bulgaria, Romania, Moldova, Russia (Altayskiy Kray and Dagestanskaya Respublika) and Turkey.

**Temelucha signata* (Holmgren,1860)

Material: Kayseri: Bağpınar, 14.09.2006, 1♀; Gömeç, 14.09.2006, 1♀.

Distribution: Europe and Mongolia.

Temelucha tricolorata Sedivy, 1968

Material: Sivas: Ulaş, Yağdonduran, 01.06.2007, 1♀; Eskişehir: Anadolu Üniversitesi Hatıra Ormanı, 10.07.2007, 1♀; Niğde: Bor, Çukurkuyu, 19.07.2007, 1♀.

Distribution: Canary Islands, Turkey and Afghanistan.

Temelucha turcata Kolarov and Beyarslan, 1999 ♂ nov.

Temelucha turcata was described by Kolarov and Beyarslan (1999) only on female. Among the materials from Central Anatolia male specimens were found, too. Short description of the male is given below:

Similar to female, except as follows: diameter of ocellus as long as distance between lateral ocellus and eye. Postannellus 0.33× as long as wide. Flagellum 24-28 segmented. Gena shorter than basal width of mandible (5:7). Frons not punctured, mat.

Notauli distinct, scutellum carinated laterally, almost to the apex. Hind femora 4.4× as long as wide. Correlation between hind tarsal segments as 25:14:9:6:7. Propodeum not curved in lateral view. Basal area triangular, area superomedia pentagonal, convergent behind (Figure).

Body black, excepts inner area and upper half of outer eye orbita, clypeus, basal half of mandible, tegula, second trochanters, femora apically, tibiae in the middle, metatarsi except apical and second and third sterna yellow colourised.

Material: Ankara: Kalecik, Elmapınarı, 28.05.2007, 1♂; Sivas: Yıldızeli, 30.05.2007, 1♀; Zara, 31.05.2007, 1♀; Elazığ: Baskil, Topakent, 03.06.2007, 3♂♂, 11♀♀; Malatya: Çiftlik, 03.06.2007, 6♂♂; Eskişehir: Anadolu Üniversitesi Hatıra Ormanı, 10.07.2007, 1♂, 1♀; Kaymaz, 10.07.2007, 2♀♀; Kayseri: Pınarbaşı, Aşağıkızılçevlik, 13.07.2007, 9♀♀.

Distribution: Turkey.

Trathala hierochontica (Schmiedeknecht, 1910)

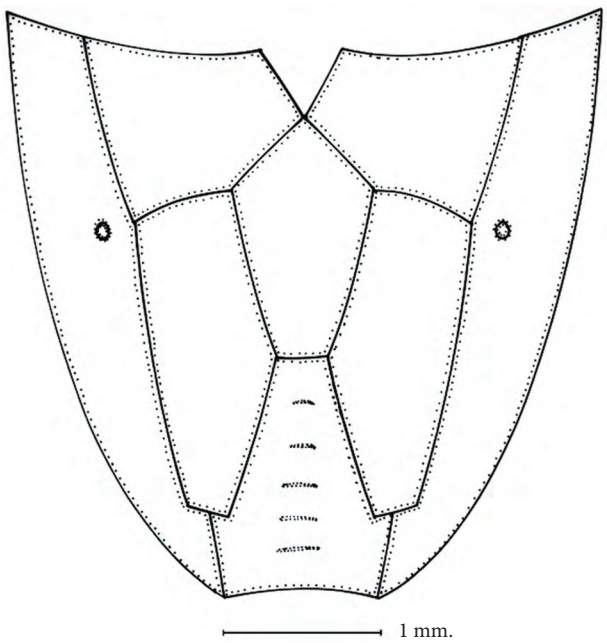

Figure. *Temelucha turcata* Kolarov and Beyarslan ♂ – propodeum.

Material: Tekirdağ:Işıklar, 09.09.1999, 1♂, 1♀; Elazığ: Baskil, Hacımustafa, 04.06.2007, 9♀♀; 16.07.2007, 4♀♀; Malatya: Darende, 13.07.2007, 1♀;

Distribution: Morocco, Egypt, France, Bulgaria, Romania, Turkey, Israel and Russia-Dagestanskaya Respublika.

Zoogeographical characterization

The zoogeographic characterization follows the chorotype classification of the Near East fauna, proposed by Taglianti et al. (1999). After investigation of the recent geographical distribution of the species, mentioned above, they can be divided into the following groups:

1. Species with Holarctic ranges (but missing in Eastern Palearctic region) – here they only belong to *Temelucha decorata*.
2. With Sibero-European range is *Cremastus pungens*.
3. European chorotypes have *Cremastus puberulus, Temelucha albipennis, T. caudata, T. discoidalis* and *T. lucida.*
4. South Western-Asiatic range has *Eucremastus*

collaris.

5. Turano-Mediterranean chorotypes have the species of *Temelucha tricolorata* and *Trathala hierochontica*.
6. Turano-Europeo-Mediterranean chorotype is *Pristomerus armatus*.
7. Species with Central Asiatic-European chorotype are *Temelucha interruptor* and *T. signata*.
8. Europeo-Eastern Mediterranean chorotype has *Temelucha confluens*.
9. One species – *Pristomerus mesopotamicus* – is Anatolo-Mesopotamian subenemic.
10. One species - *Temelucha turcata* - now is Anatolian endemic.

This insufficient study of the Cremastinae shows that the zoogeographical notes given above are of preliminary character.

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