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Tersilochinae (Hymenoptera, Ichneumonidae) from Balkan Peninsula and Turkey

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Abstract

Faunistic data for 35 ichneumonids from Balkan Peninsula and Turkey are presented. Of them 7 species are new records from Bulgaria, 8 species are new records from Greece, 1 species is new record from Macedonia and 8 species are new records from Turkey (in the text marked by an asterisk). For every species short zoogeographic characterization is given.

Zusammenfassung

Vorliegende Arbeit behandelt 35 Schlupfwespenarten (Hymenoptera, Ichneumonidae) von der Balkanhalbinsel und aus der Türkei. Davon zeigten sich 7 Arten als neu für Bulgarien, 8 für Griechenland, eine für Mazedonien sowie 8 als Erstnachweise für die Türkei. Für jede Art wurden zoogeografische Angaben vermerkt.

Introduction

Tersilochinae is moderately sized subfamily with cosmopolitan distribution. They are koinobiont endoparasitoids into beetle, mainly Curculionidae, Chrysomelidae, Cissidae and Nitidulidae larvae. Some species were reared from Xyelidae (Hymenoptera) and Eriocraniidae (Lepidoptera). Oviposition is into the larva in plant tissue and pupation in the soil (TOWNES 1971).

The members of the subfamily can be easily distinguished by following: male flagellum without tyloids; maxillary palps with 4 segments, labial palps with 3 segments (usually 5- and 4- in other subfamilies); front wing with wide pterostigma, without areolet, an angle of 90° or less between first and second parts of radial vein, second recurrent vein (2m-cu) with single bulla; nervellus not intercepted, discoidella absent; epipleura of second and following terga very wide, not separated by crease; metasoma usually compressed; ovipositor up curved, its dorsal valve with a subapical dorsal notch.

Tersilochinae are among ichneumonids with the most small-sized body. They occur usually in spring season but some flight to the late autumn. A key for genera was given by TOWNES (1971). European fauna was revised by HORSTMANN (1971, 1981). Lately a key for European genera was proposed by KHALAIM & YURTCAN (2001).

The fauna of investigated territory is not well studied. There are 31 species known from late Yugoslavia (KOLAROV 2008), 67 species from Bulgaria (KOLAROV, personal data), 5 species from Greece (KOLAROV 2007) and 35 species from Turkey (KHALAIM & YURTCAN 2011). In the present paper 35 species are reported. Of them 7 species are new records from Bulgaria, 8 species are new records from Greece, 1 species is new record from Macedonia and 8 species are new records from Turkey (in the text marked by an "*"). General distribution is given mainly after YU et al. (2012). Every species is shortly characterized zoogeographically.

Material and Methods

The ichneumonid samples were collected by swiping net and Malaise trap. The identification was made in University of Plovdiv. Materials are preserved in author's collection.

List of the species

Aneucelis anterior HORSTMANN, 1971

Material examined: Turkey – Adana, Karaisali, 8.09.1979, 1 ♀; Antalya, Çakırlar, 8.08.1983, 3 ♀ ♀; Antalya, Elmalı, 9.08.1983, 1 ♀; Denizli, Buldan, Kadirköy, 19.09.1996, 1 ♀.

Distribution: Germany, Poland, Austria, Bulgaria, Moldova, European Russia, Turkey and Kazakhstan.

Aneucelis incidens (THOMSON, 1889)

Material examined: Turkey – Adana, Beledik, 3.08.1979, 3 ♀ ♀; Adana, Feke, 2.10.1979, 1 ♂; Adana, Karaisali, 9.08.1979, 5 ♀ ♀; 8.09.1979, 1 ♀; Adana, Osmaniye, 21.07.1980, 1 ♀; 29.07.1983, 18 ♀ ♀; Adana, Tufanbeyli 3.10.1979, 1 ♀; Adana, Pozanti, 3.8.1979, 1 ♀; Adana, Yumurtalık, 15.08.1979, 1 ♂; Adana, Balcali, 1.05.1984, 1 ♀; Antalya, 3.08.1980, 1 ♀; Antalya, Elmalı, 9.08.1983, 2 ♂ ♂ 3 ♀ ♀; 16.07.1982, 3 ♀ ♀; 9.08.1983, 2 ♀ ♀; Van, Edremit, July, 1990, 6 ♀ ♀; Ineirdere, Bayırbucak, 14.07.1987, 1 ♂; Adıyaman, 19.07.1985, 1 ♂; Adıyaman, Kocakköyü, 17.07.1985, 1 ♀; Elazığ, 3.08.1987, 1 ♀; İçel, Erdemli, 9.05.1980, 2 ♀ ♀; 17.06.1983, 1 ♀; Kadınhanı, Dört Yol, Antakya, 30.07.1987, 1 ♀; Edirne, 4.06.1982, 1 ♀; İçel Tarsus, 19.08.1980, 1 ♀; Wassa, Araşt., 6.05.1985, 1 ♀; Burdur, 7.08.1980, 1 ♀.

Distribution: Palaearctic region.

***Aneucelis melanaria* (HOLMGREN, 1860)**

Material examined: Turkey – Adana, Feke, 4.10.1979, 1♂ 1♀.

Distribution: Tunisia, Europe, Georgia, Turkey, Kazakhstan, Tajikistan, Turkmenistan, Afghanistan and Mongolia.

***Barycnemis blediator* (AUBERT, 1970)**

Material examined: *Turkey – Van, Edremit, July, 1980, 1♀; İçel Erdemli, Güzeloluk, 23.05.1984, 1♀.

Distribution: Europe, Kazakhstan and Mongolia.

***Barycnemis dissimilis* (GRAVENHORST, 1829)**

Material examined: *Turkey – Artvin, Işhan, 26.10.2004, 1♀.

Distribution: Holarctic region.

***Barycnemis exhaustator* (FABRICIUS, 1798)**

Material examined: *Turkey – Sinop, Dranaz, 1300 m, 7.09.2001, 2♂♂; Edirne, 5.06.1988, 1♂. *Bulgaria – Strandja Mt., Ahtopol, 7.06.1997, 2♂♂; Strandja, Vitanovo, 15.07.1999, 3♂♂.

Distribution: Europe and Kazakhstan.

***Barycnemis harpura* (SCHRANK, 1802)**

Material examined: Bulgaria – Stara planina Mt., Botev, 2370 m, 5.08.2000, 1♀; Strandja Mt., Vitanovo, 17.07.2000, 1♂ 18♀♀; 27.07.2000, 11♂♂ 51♀♀♀; 27.10.2000, 1♂; 7.08.2000, 12♂♂ 11♀♀; 12.09.1999, 6♂♂ 27♀♀; 19.08.2000, 4♂♂ 6♀♀; Sredna gora Mt., Bogdan, 6.08.1997, 1♂; Rhodopi Mt., Pamporovo, 1600 m, 1♂; Vitosha Mt., 1280 m, 20.08.1992, 1♂; Vitosha Mt., Ribni dol, 1240 m, 15-31.07.2000, 1♀; Vitosha Mt., Bosnek vill., 940 m, 15.06.1999, 1♀. Turkey – Ovit Mt., İkizdere, Rize, 2300 m, 27.07.2000, 1♂ 1♀; Inanmış, Oltu, 1600 m, 26.07.2000, 1♀; Sinop, Ayancık, Bascirlezavie, 6.09.2001, 1♂; Sinop, Dranaz, 1200 m, 7.09.2001, 1♀; Rize, Çamlıhemşin, 250 m, 30.07.2000, 1♂. Macedonia – Galicica Mt., May, 1991, 1♂. Greece – Falakro, 22.08.1993, 6♀♀.

Distribution: Holarctic region.

***Diaparsis (Diaparsis) carinifer* (THOMSON, 1889)**

Material examined: Turkey – Tekirdağ, Malkara, 24.05.1992, 1♂; Tekirdağ, Saray-K. Sinekli, 25.08.1992, 1♀; Edirne, Wacumür, 13.06.1987, 1♀. *Greece – Stavros, 26.04.1994, 1♂; Doirani, 27.04.1994, 1♂; Lagina, 18.04.1994, 1♀. Bulgaria – Stara planina Mt., Maglish, 28.06.1995, 1♀; Rhodopi Mt., Pamporovo, 1600 m, 30.08.1992, 1♀; Vitosha Mt., Ribni dil, 1240 m, 1♀.

Distribution: Holarctic region.

***Diaparsis (Diaparsis) jucunda* (HOLMGREN, 1860)**

Material examined: Bulgaria – Vitosha Mt., Kopitoto, 1350 m, 5-12.06.1998, 1♀; 19-26.06.1998, 1♂ 1♀.

Distribution: Palearctic region.

***Diaparsis (Diaparsis) multiplicator* AUBERT, 1969**

Material examined: *Greece – Gravia, 21.04.1994, 1 ♀. *Macedonia – Galicica Mt., May, 1991, 1 ♂. Bulgaria – Kresna, 24.05.1995, 1 ♀.

Distribution: Europe and China-Liaoning.

***Diaparsis (Diaparsis) nitida* HORSTMANN, 1981**

Material examined: *Greece – Olympos Mt., Prionia, 1100 m, 26.08.1993, 1 ♀.

Distribution: Hungary, Ukraine, Turkey, Kazakhstan and Pacific coast of Russia.

***Diaparsis (Diaparsis) punctipleuris* HORSTMANN, 1981**

Material examined: Bulgaria – Rhodopi Mt., Madjarovo, 200 m, 10.11.2000, 1 ♂.

Distribution: Europe and Georgia.

***Diaparsis (Diaparsis) rara* (HORSTMANN, 1971)**

Material examined: *Bulgaria – Stara planina Mt., Maglish, 3.06.1995, 1 ♀.

Distribution: Palaearctic region.

***Diaparsis (Diaparsis) temporalis* HORSTMANN, 1979**

Material examined: Turkey – Tekirdağ, 8.08.1988, 1 ♀; Denizli, Çardak, 28.06.1998, 1 ♀; Denizli, 19.09.1996, 1 ♀; Içel, 24.05.1984, 1 ♀. *Greece – Doirani, 27.04.1994, 1 ♀. Bulgaria – Ludogorsko plato, Beli Lom Riverside, 1 ♂.

Distribution: Europe, Georgia, Azerbaijan, Turkey, Kazakhstan and North America.

***Diaparsis (Diaparsis) truncata* (GRAVENHORST, 1829)**

Material examined: *Bulgaria – Strandja Mt., 25.08.1988, 1 ♂.

Distribution: Europe and Kazakhstan.

***Diaparsis (Diaparsis) ? ultimator* KHALAIM, 2005**

Material examined: *Bulgaria – Rhodopi Mt., Madjarovo, 200 m, 10.11.2000, 1 ♂.

Distribution: Russia (Perm Oblast) and Kazakhstan.

***Heterocola (Heterocola) longipalpis* KOLAROV & BEYARSLAN, 1994**

Material examined: Turkey – Afyon, Bolvadin, Kalpaklı mv., 24.06.1998, 1 ♀; Içel, Namrun, 24.05.1994, 1 ♀. *Greece – Lithohoro, Ag. Dionosius, 19.04.1994, 1 ♀.

Distribution: Turkey.

***Heterocola (Heterocola) nigrotibialis* HORSTMANN & KOLAROV, 1988**

Material examined: Turkey – Edirne, Kovankaya, 3.05.1988, 1 ♀.

Distribution: Bulgaria and Turkey.

***Heterocola (Heterocola) pappi* KOLAROV, 1989**

Material examined: Greece – Ioanina, 24.04.1994, 60 ♂♂ 43 ♀♀; Gravia, 21.04.1994, 7 ♂♂ 28 ♀♀; Stavros, 26.04.1994, 2 ♂♂; Drossohon, 21.04.1994, 2 ♂♂ 1 ♀; Lithohoro, 18.04.1994, 5 ♂♂ 5 ♀♀; Kalamata, 25.04.1994, 1 ♀. *Turkey – Aydın-Çine Hallaçlar, 30.04.1997, 1 ♀.

Distribution: Greece.

***Heterocola (Heterocola) proboscidalis* (THOMSON, 1889)**

Material examined: *Bulgaria – Vitosha Mt., Bosnek vill., 940 m, 30.04–15.05.1999, 1 ♀.

Distribution: Palaearctic region.

***Heterocola (Heterocoloides) linguaria* (HALIDAY, 1838)**

Material examined: Turkey – Erzurum, 19.07.1990, 1 ♀; Isparta, Eğirdir, Kasnak meşesi, 1350 m, 15.06.2004, 1 ♂ 3 ♀ ♀; Isparta, Güneykent, 1032 m, 12.05.2004, 9 ♂ ♂ 3 ♀ ♀; Isparta, Yukarı Gökdere, 1200 m, 7.05.2004, 1 ♀; Antalya, Karaman beli, 29.05.2004, 2 ♂ ♂ 5 ♀ ♀; Antalya, Kızılkaya, 750 m, 29.05.2004, 4 ♀ ♀; Kars, Sarıkamış-Horasan Yolu, 27.06.2012, 1 ♀.

Distribution: Europe and Turkey.

***Phradis brevis* (BRISCHKE, 1880)**

Material examined: *Greece – Olympus Mt., Prionia, 1100 m, 26.08.1993, 1 ♀; Lithoro, Ag. Dionisius, 19.04.1994, 1 ♂.

Distribution: Palaearctic region.

***Phradis minutus* (BRIDGMAN, 1889)**

Material examined: Turkey – Isparta, 13.07.1982, 1 ♀.

Distribution: Europe, Georgia, Turkey and Armenia.

***Phradis monticola* SZÉPLIGETI, 1899**

Material examined: *Greece – Olympus Mt., Prionia, 1100 m, 26.08.1993, 1 ♀.

Distribution: Europe.

***Phradis morionellus* (HOLMGREN, 1860)**

Material examined: Turkey – Aydın, Erbeyli, 30.04.1997, 1 ♀. Bulgaria – Vitosha Mt., Aleko, 20.06.1995, 1 ♀.

Distribution: Palaearctic region.

***Phradis punctipleuris* HORSTMANN, 1971**

Material examined: *Turkey – Afyon, Bolvadin, Kapaklı, mv., 29.06.1998, 1 ♂.

Distribution: Europe, Georgia, Armenia, Kazakhstan and Tajikistan.

***Phradis thyridialis* HORSTMANN, 1981**

Material examined: *Turkey – İzmir, Karaburun, 23.06.1998, 1 ♀.

Distribution: Europe, Georgia and Kazakhstan.

***Probles (Microdiaparsis) anatolicus* HORSTMANN, 1981**

Material examined: Turkey – Rize, İkizdere, Çamlık, 1600 m, 27.07.2000, 4 ♂ ♂.

Distribution: Turkey.

***Probles (Microdiaparsis) microcephalus* (GRAVENHORST, 1829)**

Material examined: *Bulgaria – Vitosha Mt., 1200 m, 9.10.1998, 1 ♂.

Distribution: Europe.

Probes (Microdiaparsis) neoversutus (HORSTMANN, 1967)

Material examined: Turkey – Antalya, Korkuteli Avlanbeli, 1120 m, 29.05.2004, 1♀; Kastamonu, Azdavay, Egneoglu, 950 m, 5.09.2001, 1♂ 1♀; Kastamonu, Mehmet Çelebi, Azdavay, 5.09.2001, 1♂; Sinop, Dranaz, Ayancık, 6.09.2001, 2♂♂. Bulgaria – Vitosha Mt., Bosnek vill, 940 m, 4-11.09.1998, 5♂♂ 4 ♀♀; 25.09-2.10.1998, 1♀; 28.08-4.09.1998, 1♀; Skakavitsa, 30.09.1999, 1♀.

Distribution: Europe, Turkey and Pacific coast of Russia.

Probes (Microdiaparsis) versutus (HOLMGREN, 1860)

Material examined: Bulgaria – Strandja Mt., Vitanovo, 7.08.2000, 1♀; 27.07.2000, 1♀; Skakavitsa, 2.03.1988, 1♂; Rila Mt., Parangalitsa, 23.09.1997, 1♂.

Distribution: Europe, Turkey and Sakhalin oblast of Russia.

Probes (Probes) brevalvalvis HORSTMANN, 1971

Material examined: *Turkey – Sinop, Dranaz, 1300 m, 7.09.2001, 1♀. *Bulgaria – Strandja Mt., Vitanovo, 15.07.1999, 1♀; 27.07.2000, 1♀.

Distribution: Germany and Poland.

Probes (Probes) erythrostomus (GRAVENHORST, 1829)

Material examined: Bulgaria – Rhodopi Mt., Madjarovo, 200 m, 2.03.2001, 1♀; 19.03.2001, 1♀.

Distribution: Europe and Turkey.

Probes (Rhynchoprobes) longisetosus (HEDWIG, 1956)

Material examined: Bulgaria – Stara planina Mt., Botev peak, 2370 m, 5.08.2000, 9♂♂ 22♀♀.

Distribution: Spain, Germany, Switzerland, Austria, Montenegro, Bulgaria, Mongolia and Siberia.

Sathropterus pumilus (HOLMGREN, 1860)

Material examined: *Turkey – Zonguldag, Ereğli, 3.09.2001, 2♀♀; Isparta, 12.07.1982, 1♀; Adana, Feka, 2.10.1979, 6♀♀; Adıyaman, Gölbaşı, 14.07.1985, 1♀; Ardahan, Tezeköy, 15.09.2012, 1♀. Bulgaria – Vitosha Mt., Bosnek vill., 940 m, 4-11.09.1998, 1♀; Razgradski heights, Trubatch vill., 30.05-6.06.1999, 1♀; Stara planina Mt., Maglish, 20.07.1995, 1♀.

Distribution: Holarctic, Afrotropical and Australasian region.

Zoogeographical characterisation

The zoogeographical characterization follows mainly the chorotype classification of the Near East fauna, proposed by TAGLIANTI et al. (1999). After investigation of the recent geographic distribution of the species, listed above, they can be divided into the following groups:

1. Multiregional distribution has the species *Sathropterus pumilus*.

2. With Holarctic ranges are the species *Barycnemis dissimilis*, *B. harpura*, *Diaparsis (Diaparsis) carinifer*, and *D. (D.) temporalis*.
3. Most numerous are the species with Palaearctic distribution. Here belong *Aneucelis incidens*, *Diaparsis (Diaparsis) jucunda*, *D. (D.) nitida*, *D. (D.) rara*, *Heterocola (Heterocola) proboscidalis*, *Phradis brevis*, *Ph. morionellus*, *Probles (Microdiaparsis) neoversutus*, and *P. (M.) versutus*.
4. Asiatic-European ranges have the species *Aneucelis melanaria*, *Diaparsis (Diaparsis) multiplicator*, and *Probles (Rhynchoproble) longisetosus*.
5. With Centralasiatic-European distribution are the species *Aneucelis anterior*, *Barycnemis blediator*, *B. exhaustator*, *Diaparsis (Diaparsis) truncata*, *D. (D.) ultimator*, *Phradis punctipleuris*, and *Ph. thyridialis*.
6. European ranges have the species *Diaparsis (Diaparsis) punctipleuris*, *Heterocola (Heterocoloides) linguaria*, *Phradis minutus*, *Ph. monticola*, *Probles (Microdiaparsis) microcephalus*, *Probles (Probles) brevisvalvis*, and *P. (P.) erythrostomus*.
7. East-Mediterranean distribution have the species *Heterocola (Heterocola) nigrotibialis*, and *H. (H.) pappi*.
8. Anatolian endemic species at now are *Heterocola (Heterocola) longipalpis*, and *Probles (Microdiaparsis) anatolicus*.

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