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A Faunistic study on Ichneumonidae (Hymenoptera) in Isparta, Turkey

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Abstract: We have investigated Ichneumonidae fauna of Isparta province between 2001-2007 in Turkey. Totally, 46 species, 36 genera, 12 subfamilies were found; 4 species from Anomaloninae, 6 species from Banchinae, 3 species from Campoplaginae, 4 species from Cryptinae, 14 species from Ctenopelmatinae, 4 species from Pimplinae, 2 species from Ophioninae, 5 species from Typhoninae, 1 species from Cremastinae, Metopiinae, Collyriinae and Diplazontinae. 1 genera and six species, noted in the text by asterisk, are new records for Turkey. The synonyms, general and Turkish distribution and as well as known host of all species were given.

Key words: Hymenoptera, Ichneumonidae, Fauna, Turkey.

Introduction

In Turkey, the past studies about Ichneumonidae were inadequate to make precise estimations about the existence of species. On the other hand, it is known that Turkey with its high diverse biota is expected to provide a very rich fauna of Ichneumonidae as well as other insects (ÖZBEK et al. 2003). Isparta is one of the most important refugias of Turkey, possessing different topographic conditions and various kind of climates (GRUEV 2002). In the catalogue of Turkey KOLAROV (1995) listed only 383 species. Lately some new records have been added to this fauna and received 501 species.

The number of Ichneumonoidea in Western Palearctic is 10.942 (YU & HORSTMANN 1999). In the catalogue of Turkey KOLAROV (1995) only 383 species were listed. There are several studies about Ichneumonidae in Isparta. KOLAROV & GÜRBÜZ (2004) listed 26 species for Pimplinae, GÜRBÜZ & AKSOYLAR (2005) listed 6 species for Isparta, GÜRBÜZ (2005) listed 37 species in Isparta province. Faunistic data of 21 Tryphoninae were added from Isparta (GÜRBÜZ & KOLAROV 2006b). KOLAROV & GÜRBÜZ (2006) listed 16 species for Anomaloninae, Banchinae, Ophioninae and Xoridinae also KOLAROV & GÜRBÜZ (2007) added 26 species for Cryptinae. Lately, new records have been added by GÜRBÜZ & KOLAROV (2005, 2006a), GÜRBÜZ & KOLAOV (2008) listed 39 species for Cryptinae.

1970

Material and methods

The Ichneumonidae samples have been collected between 2001-2007 in Isparta's different areas by using a standard sweeping-net. Work stations were Ayazmana, Sav, Çünür, Eğirdir Yolu, Kirazlıdere, Gölcük, Aksu, Gelendost, Sütçüler Güneykent, Gökçay. Ayazmana has *Castanea dentata* (MARSH.), grass and shrub and this area is natural; Sav has *Malus domestica* (BORKH.) and *Vitis vinifera* L. and contains pesticide. Çünür, where is natural area, has *Prunus amygdalus* (BATSCH), grass and shrub. Eğirdir Yolu has *Malus domestica* (BORKH.) and *Prunus avium* L. and this area contains pesticide; Kirazlıdere rarely orchards and this area is cultured and has no pesticide; Gölcük has natural *Pinus nigra* (ARNOLD.), Aksu and Gelendost are orchards and agricultural areas, Sütçüler has *Pinus nigra* (ARNOLD.), Gökçay has *Castanea dentata* (MARSH.), grass and shrub. The samples are preserved in the collection of the Biology Department at Süleyman Demirel University, Isparta, Turkey.

Results

List of the species

The species 46 of the Ichneumonidae were recorded in Isparta. A list of the species is given below along with dates of collection, some their host.

Subfam. *A n o m a l o n i n a e*

Anomalon cruentatum (GEOFFRAY 1785)

Ichneumon cruentatus GEOFFRAY 1785 - Entm. Paris.544 pp.

M a t e r i a l e x a m i n e d : Kirazlıdere, 1100m, 17.V.2007, 1♀; Sav, 1100m, 24.V.2007, 11♂♂; Gölcük, 1200m, 26.V.2007, ♀♀; Kirazlıdere, 1100m, 21.VI.2007, 1♀; Çünür-Kampüs, 1150m, 28.VI.2007, 2♀♀, 19.VII.2007, 1♀.

H o s t : *Agrotis ipsilon* (HUFNAGEL 1766), *Gonocephalum rusticum* (OLIVIER 1811), *Ptilodon capucina* (LINNAEUS 1758) (YU & HORSTMANN 1997).

G e n e r a l D i s t r i b u t i o n : Palaearctic, Europe, Oriental (YU & HORSTMANN 1997).

D i s t r i b u t i o n i n T u r k e y : Isparta-Merkez-Kirazlıdere-Gönen (GÜRBÜZ 2004); Adıyaman-Merkez, Batman-Hasankeyf, Diyarbakır-Çermik-Merkez, Elazığ-Yemişlik, Malatya-Yeşilyurt-Doğanyurt, Mardin-Savur (AKKAYA 2005).

Barylypa uniguttata (GRAVENHORST 1829)

Anomalon uniguttatum GRAVENHORST 1829- Ich. Euro. Pars III.1097 pp.

M a t e r i a l e x a m i n e d : Sav, 1100m, 24.V.2007, 1♀ 2♂♂; Çünür-Kampüs, 1050m, 28.VI.2007, 3♂♂.

G e n e r a l D i s t r i b u t i o n : Eastern Palaearctic, Europe, Western Palaearctic (YU & HORSTMANN 1997).

D i s t r i b u t i o n i n T u r k e y : Çanakkale-Lapseki-Anzak Mezarlığı (KOLAROV et al. 1994), Antalya-Karamanbeli (KOLAROV & GÜRBÜZ 2006).

1971

***Erigorgus fibulator* (GRAVENHORST 1829)**

Anomalon fibulator GRAVENHORST 1829 - Ich. Euro. Pars III. 1097pp.

Material examined: Gölcük, 1200m, 27.V.2007, 1♂; Çünür-Kampüs, 1050m, 25.VI.2007, 1♂; Gelendost 1050m, 26.VI.2007, 2♀♀; Çünür-Kampüs, 1050m, 08.VI.2007, 2♀♀.

Host: *Autographa gamma* (LINNAEUS 1758), *Diloba caeruleocephala* (LINNAEUS 1758), *Malacosoma castrense* (LINNAEUS 1758), *Smerinthus ocellatus* (LINNAEUS 1758), *Zygaena filipendulae* (LINNAEUS 1758) (YU & HORSTMANN 1997).

General Distribution: Palaearctic, Europe (YU & HORSTMANN 1997).

Distribution in Turkey: Adana-Yumurtalık [Tübitak Project TBAG-U/168 (106T189)].

***Nepiesta* sp. FORSTER 1869**

Material examined: Sav, 1100m, 24.V.2007, 1♀.

Host: *Colaphellus sophiae* (SCHALLER 1783) (YU & HORSTMANN 1997).

General Distribution: Palaearctic, Europe (YU & HORSTMANN 1997).

Subfam. B a n c h i n a e

***Lissonata* sp. GRAVENHORST 1829**

Material examined: Kirazlıdere, 1150m, 17.V.2007, 1♀.

General Distribution: Australasian, Palaearctic, Europe, Nearctic, Neotropical, Oriental, Ethiopian, Oceanic (YU & HORSTMANN 1997).

***Banchopsis* sp. (RUDOW 1886)**

Material examined: Gelendost, 24.VI.2007, 1♀.

Host: *Helicoverpa armigera* (HÜBNER 1805) (YU & HORSTMANN 1997).

General Distribution: Western Palaearctic, Europe, Oriental, Neotropical (YU & HORSTMANN 1997).

***Lissonota (Lissonata) fundator* (THUNBERG 1824)**

Ichneumon fundator THUNBERG 1824 - Ich. Insect. Hym. Illus. 9: 285-368.

Material examined: Ayazmana, 1150m, 21.VI.2007, 1♀, Sütçüler, 1150m, 29.IV.2007, 1♀.

Host: *Agonopterix kaekeritziana* (LINNÉ 1767), *Chamaesphecia leucopsiformis* (ESPER 1800), *Chortodes elymi* (TREITSCHKE 1825), *Epirrita autumnata* (BORKHAUSEN 1794), *Mesoligia literosa* (HAWORTH 1809), *Noctua fimbriata* (SCHREBER 1759), *Ochsenheimeria taurella* (DENIS & SCHIFFERMÜLLER 1775), *Synanthedon formicaeformis* (ESPER 1783), *S. scoliaeformis* (BORKHAUSEN 1789), *S. spheciformis* (BORKHAUSEN 1789), *S. tipuliformis* (CLERCK 1759)(YU & HORSTMANN 1997).

General Distribution: Palaearctic, Europe, Nearctic (YU & HORSTMANN 1997).

Distribution in Turkey: Isparta-Gökçay-Kasnakmeşesi-Sav, Burdur-Dirmil (KOLAROV & GÜRBÜZ 2006).

1972

***Lissonota histrio* (FABRICIUS 1798)**

Banchus histrio FABRICIUS 1798 - Supp.ent.syst. 572 pp.

M a t e r i a l e x a m i n e d : Ayazmana, 1150m, 14.VII.2007, 1♂, 17.VII.2007, 4♀ ♀.

H o s t : *Agriphila inquinatella* (DENIS & SCHIFFERMÜLLER 1775), *Calophasia lunula* (HUFNAGEL 1766), *Chionodes tragicella* (HEYDEN 1865), *Cryptorhynchus lapathi* (LINNAEUS 1758), *Grapholita molesta* (BUSCK 1916), *Loxostege sticticalis* (LINNAEUS 1761), *Pediasia luteella* (DENIS & SCHIFFERMÜLLER 1775), *Saperda scalaris* (LINNAEUS 1758), *Zygaena carniolica* (SCOPOLI 1763) (YU & HORSTMANN 1997).

G e n e r a l D i s t r i b u t i o n : Palaearctic, Europe, Nearctic (YU & HORSTMANN 1997).

D i s t r i b u t i o n i n T u r k e y : Erzurum (PEKEL et al. 2000); Diyarbakır-Merkez, Elazığ-Hazar, Mardin-Savur (AKKAYA 2005).

***Lissonota clypeator* (GRAVENHORST 1820)**

Ichneumon clypeator GRAVENHORST 1820 - Mono. Ich. Ped. Reg. 24: 275-388.

M a t e r i a l e x a m i n e d : Gölcük, 1200m, 26.VI.2007, 1♀.

H o s t : *Apamea devastator* (BRACE 1819), *A. obscuroides* POOLE 1989, *Chortodes elymi* (TREITSCHKE 1825), *Ochsenheimeria urella* FISCHER VON RÖSLERSTAMM 1842, *Photodes minima* (HAWORTH 1809), *Scotopteryx chenopodiata* (LINNAEUS 1758), *Synanthedon culiciformis* (LINNAEUS 1758), *Thaumetopoea processionea* (LINNAEUS 1758) (YU & HORSTMANN 1997).

G e n e r a l D i s t r i b u t i o n : Palaearctic, Europe, Nearctic (YU & HORSTMANN 1997).

D i s t r i b u t i o n i n T u r k e y : İstanbul- Belgrad Ormanı (KOLAROV 1995).

****Lissonota versicolor* HOLMGREN 1860**

Lissonota versicolor HOLMGREN 1860 - Tred. Seri. Fam. Kong. Svens. Vetens. Handl. (B) 3 (10): 1-76.

M a t e r i a l e x a m i n e d : Ayazmana, 1150m, 21.VI.2007, 1♀.

H o s t : *Aporia crataegi* (LINNAEUS 1758), *Enarmonia formosana* (SCOPOLI 1763), *Eudonia lineola* (CURTIS 1827), *Zobida bipuncta* (HÜBNER 1824) (YU & HORSTMANN 1997).

G e n e r a l D i s t r i b u t i o n : Europe, Western Palaearctic (YU & HORSTMANN 1997).

D i s t r i b u t i o n i n T u r k e y : Adana-Halep Çamlığı (Tübitak Project TBAG-U/168 (106T189).

Subfam. C a m p o p l a g i n a e

***Venturia canescens* (GRAVENHORST 1829)**

Campoplex canescens GRAVENHORST 1829 - Ich. Euro. Pars III. Vratislaviae. 1097 pp.

M a t e r i a l e x a m i n e d : Kirazlıdere, 1100m, 15.V.2007, 1♀.

H o s t : *Apomyelois ceratoniae* (ZELLER 1839), *Cadra cautella* (WALKER 1863), C.

1973

figulilella (GREGSON 1871), *Catocala nymphaea* (ESPER 1787), *C. nymphagoga* (ESPER 1787), *Cydia funebrana* (TREITSCHKE 1835), *Ephestia elutella* (HÜBNER 1796), *E. kuehniella* (ZELLER 1879), *Galleria mellonella* (LINNAEUS 1758), *Gelechia operculella* (ZELLER 1873), *Haritalodes derogata* (FABRICIUS 1775), *Helicoverpa zea* (BODDIE 1850), *Homoeosoma nebulella* (DENIS & SCHIFFERMÜLLER 1775), *Lobesia botrana* (DENIS & SCHIFFERMÜLLER 1775), *Mythimna*, *Nemapogon granella* (LINNAEUS 1758), *Ostrinia nubilalis* (HÜBNER 1796), *Pammene fasciana* (LINNAEUS 1761), *Plodia interpunctella* (HÜBNER 1813), *Prays citri* (MILLIÈRE 1873), *Pyralis farinalis* (LINNAEUS 1758), *Vitula edmandsii* (PACKARD 1865) (YU & HORSTMANN 1997).

General Distribution: Palaearctic (YU & HORSTMANN 1997).

Distribution in Turkey: Adana-Balcalı, Erzurum-Üniversite kampüsü (ÖZBEK et al. 2000).

***Diadegma claripenne* (THOMSON 1887)**

Angitia claripennis THOMSON 1887 - Opuscula Ent. Lund. XI: 1043-1182.

Material examined: Kirazlıdere, 1100m, 15.V.2007, 1♀.

Host: *Aethes francillana* (FABRICIUS 1794), *Anacamptis timidella* (WOCKE 1887), *Choreutis pariana* (CLERCK 1759), *Cochylys posterana* (ZELLER 1847) (YU & HORSTMANN 1997).

General Distribution: Europe, Western Palaearctic (YU & HORSTMANN 1997).

Distribution in Turkey: Ankara (ÖZDEMİR & KILINÇER 1990).

****Lathrostizus lugens* (GRAVENHORST 1829)**

Campoplex lugens GRAVENHORST 1829 - Ich. Euro. Pars III. Vratislaviae. 1097 pp.

Material examined: Çünür-Kampüsü, 1150m, 28.VI.2007, 1♀.

Host: *Pontania proxima* (KOPEKLE 1999).

General Distribution: Europe, Palaearctic (YU & HORSTMANN 1997).

Subfam. Cremastinae

***Cremastinae* sp. FORSTER 1869**

Material examined: Ayazmana, 1150m, 21.VI.2007, 1♂.

General Distribution: Australasian, Palaearctic, Etiyopya, Europe, Neotropik, Oriental (YU & HORSTMANN 1997).

Subfam. Cryptinae

***Cryptus* sp. FABRICIUS 1804**

Material examined: Çünür-Kampüsü, 1050m, 30.IV.2007, 1♀; Kirazlıdere, 1100m, 21.VI.2007, 1♀ 1♂; Eğirdir Yolu, 1100m, 21.VI.2007, 1♂; Gölcük, 1200m, 26.VI.2007, 1♀.

Parasitoid: *Isadelphus inimicus* (GRAVENHORST 1829) (YU & HORSTMANN 1997).

1974

General Distribution: Palaearctic, Ethiopian, Neotropical, Europe, Nearctic, Oriental (YU & HORSTMANN 1997).

***Pycnocryptus director* (THUNBERG 1824)**

Ichneumon director THUNBERG 1824 - Ichneumonidae, Ins. Hym. Illus. 9: 285-368.

Material examined: Çünür-Kampüs, 1150m, 3.V.2007, 1♂; Ayazmana, 1150m, 26.VI.2007, 1♂; Gölcük, 1200m, 26.VI.2007, 1♂; Çünür-Kampüs, 1150m, 30.IV.2007, 1♂.

Host: *Lasiocampa quercus* (LINNAEUS 1758), *Leucoma salicis* (LINNAEUS 1758), *Phlyctaenia coronata* (HUFNAGEL 1767), *Zygaena carniolica* (SCOPOLI 1763) (YU & HORSTMANN 1997).

General Distribution: Palaearctic, Nearctic (YU & HORSTMANN 1997).

Distribution in Turkey: Edirne-Süleçik Köyü, Kırklareli-Limanköy-Demirköy, Tekirdağ-Işıklar (BEYARSLAN & KOLAROV 1994).

****Pycnocryptus longicauda* (KRIECHBAUMER 1873)**

Cryptus longicauda KRIECHBAUMER 1873 - Hym. Beitrage. III. 23: 49-68.

Material examined: Gölcük, 1200m, 27.V.2007, 1♀.

General Distribution: Europe, Western Palaearctic (YU & HORSTMANN 1997).

***Myrmeleonostenus italicus* (GRAVENHORST 1829)**

Cryptus italicus GRAVENHORST 1829 - Ich. Europe. Pars II. 989 pp.

Material examined: Sav, 1100m, 21.IV.2007, 1♀, 24.V.2007, 1♀.

Host: *Myrmeleon formicarius* (LINNÉ 1767) (YU & HORSTMANN 1997).

General Distribution: Palaearctic, Europe (YU & HORSTMANN 1997).

Distribution in Turkey: Isparta-Eğirdir-Sav-Kasnakmeşesi-Uluborlu-Gölcük-Gökçay-Keçiborlu, Antalya-Avlan belü (GÜRBÜZ & KOLAROV 2008).

Subfam. Collyriinae

Collyria isparta

Material examined: Kirazlıdere, 1100m, 17.06.2007, 1♀.

Distribution in Turkey: Isparta-Dere Mahallesi (GÜRBÜZ & KOLAROV 2006a).

Subfam. Ctenopelmatinae

***Labrossyta scotoptera* (GRAVENHORST 1820)**

Ichneumon scotopterus GRAVENHORST 1820 - Monographia Ichneumonum Pedemontanae Regionis. Mem. Real. Acad. dell Scienze di Torino 24: 275-388.

Material examined: Çünür-Kampüs, 1050m, 25.VI.2007, 1♂.

General Distribution: Eastern Palaearctic, Europe, Western Palaearctic (YU & HORSTMANN 1997).

1975

Distribution in Turkey : Bozcaada-Merkez (KOLAROV et al. 1997b).

***Perilissus rufoniger* (GRAVENHORST 1820)**

Ichneumon rufoniger GRAVENHORST 1820 - Mem. Acad. Sc. Torino **24**: 275-388.

Material examined : Isparta, Çünür, 1100 m, 06.V.2004, 2♀♀; 1200 m, 05.V.2005, 1♀.

General Distribution : Eastern Palaearctic, Europe, Western Palaearctic (YU & HORSTMANN 1997).

Distribution in Turkey : Van-Başkale (KOLAROV 1995).

***Priopoda* sp. HOLMGREN 1856**

Material examined : Isparta, Çünür, 1150 m, 05.VI.2003, 2♂♂; 30.V.2006, 2♂♂; 03.V.2007, 4♂♂; 27.V.2007, 1♂; Kirazlıdere, 1200 m, 02.VI.2006, 2♂♂.

General Distribution : Eastern Palaearctic, Europe, Western Palaearctic (YU & HORSTMANN 1997).

****Synodites* sp. FORSTER 1869**

Material examined : Isparta, Sütçüler, 1300 m, 09.V.2007, 1♂.

General Distribution : Eastern Palaearctic, Europe, Nearctic, Western Palaearctic (YU & HORSTMANN 1997).

***Pion fortipes* (GRAVENHORST 1829)**

Mesoleptus fortipes GRAVENHORST 1829 - Ichneumonologia Europaea. Pars II. Bratislaviae: 989 pp.

Material examined : Güneykent, 1135 m, 12.V.2007, 2♂♂.

Host : *Arge rustica* (LINNAEUS 1758), *Tenthredopsis excisa* (SERVILLE 1823), *Tenthredopsis litterata* (GEOFFROY 1785).

General Distribution : Palaearctic, Europe (YU & HORSTMANN 1997).

Distribution in Turkey : İstanbul (KOLAROV 1995), Erzurum (ÖZBEK et al. 2000).

***Phobetres leptocerus* (GRAVENHORST 1820)**

Ichneumon leptocerus GRAVENHORST 1820 - Monographia Ichneumonum Pedemontanae Regionis. Mem. Real. Acad. dell Scienze di Torino **24**: 275-388.

Material examined : Kirazlıdere, 1200 m, 02.VI.2006, 1♂; Kasnak Meşesi, 1550 m, 02.VII.2004, 1♂; 09.VI.2007, 1♂; 23.VI.2007, 2♂♂.

Host : *Aglaostigma fulvipes* (SCOPOLI 1763) (YU & HORSTMANN 1997).

General Distribution : Western Palaearctic, Europe (YU & HORSTMANN 1997).

Distribution in Turkey : Türkiye (AUBERT 2000).

1976

***Perilissus rufoniger* (GRAVENHORST 1820)**

Ichneumon rufoniger GRAVENHORST 1820 - Monog. Ich. Pedemontanae Regionis. Mem. Real. Aca. dell Scienze di Torino. **24**: 275-388.

M a t e r i a l e x a m i n e d : Çünür-Kampüs, 1100 m, 06.V.2004, 2♂♂; 1200 m, 05.V.2005, 1♂.

H o s t : *Arge berberidis* SCHRANK 1802, *Pachynematus albipennis* (HARTIG 1837), *Pristiphora ağabeyetina* (CHRIST 1791), *Tenthredo temula* SCOPOLI 1763 (YU & HORSTMANN 1997).

G e n e r a l D i s t r i b u t i o n : Palaearctic, Europe (YU & HORSTMANN 1997).

D i s t r i b u t i o n i n T u r k e y : Türkiye (KOLAROV 1995).

***Opheltes glaucopterus* (LINNAEUS 1758)**

Ichneumon glaucopterus LINNAEUS 1758 - Systema naturae per regna tria naturae, secundum classes, ordines, genera, species cum characteribus, differentiis, synonymis locis. Tomus I. Editio decima, reformata. Laurnetii Salvii, Holmiae. 824 pp.

M a t e r i a l e x a m i n e d : Kirazlıdere, 1010 m, 19.VI.2004, 1♂.

H o s t : *Cimbex americana*; *Cimbex connata* SCHRANK, *Cimbex femorata* LINNAEUS 1758, *Cimbex humeralis* ANDRÉ 1879, *Cimbex lutea* (LINNAEUS 1761), *Cimbex taukushi* MARLATT 1898, *Deilephila elpenor* (LINNAEUS 1758), *Dendrolimus albolineatus* (THOMPSON & SIMMONDS 1965), *Dendrolimus sibiricus* TCHETVERIKOV, 1904, *Dendrolimus superans* (BUTLER 1877), *Lymantria dispar* LINNAEUS 1758, *Mimas tiliae* LINNAEUS 1758, *Palaeocimbex quadrimaculata* MÜLLER 1766.

G e n e r a l D i s t r i b u t i o n : Palaearctic, Europe, Eastern Palaearctic, Nearctic, Western Palaearctic (YU & HORSTMANN 1997).

D i s t r i b u t i o n i n T u r k e y : Türkiye (FAHRINGER & FRIESE 1921).

***Hadrodactylus cf. tiphae* (GEOFFROY 1785)**

Ichneumon tiphae FOURCROY 1785 - Entomologia Parisiensis, sive catalogus insectorum quae in agro Parisiensi reperiuntur: 544 pp.

M a t e r i a l e x a m i n e d : Gökçay, 1150 m, 26.V.2004, 1♂.

G e n e r a l D i s t r i b u t i o n : Eastern Palaearctic, Europe, Western Palaearctic (YU & HORSTMANN 1997).

D i s t r i b u t i o n i n T u r k e y : Türkiye (KOLAROV 1995).

****Hypamblyx albopictus* (GRAVENHORST 1829)**

Tryphon albopictus GRAVENHORST 1829 - Ich. Euro. Pars II: 989 pp.

M a t e r i a l e x a m i n e d : Sav, 1150 m, 21.V.2004, 1♂.

H o s t : *Ametastegia glabrata* (FALLÉN 1808), *Anoplonyx laricivorus* (ROHWER & MIDDLETON 1932), *Caliroa cerasi* (LINNAEUS 1758), *Croesus latipes* (VILLARET 1832), *Croesus septentrionalis* (LINNAEUS 1758), *Hemichroa australis* (LEPELETIER 1823), *Hemichroa crocea* (GEOFFROY 1785), *Nematus capreae* (LINNAEUS 1758), *Nematus melanaspis* HARTIG 1840, *Nematus pavidus* LEPELETIER 1823, *Platycampus luridiventris* (FALLÉN 1808), *Pontania viminalis* (LINNAEUS 1758), *Pristiphora abbreviata* HARTIG

1977

1837, *Pristiphora erichsonii* HARTIG 1837, *Pristiphora testacea* (JURINE 1807) (YU & HORSTMANN 1997).

General Distribution: Austria; Belgium; Bulgaria; Canada; Canada-Manitoba; Czechoslovakia; Finland; France; France-main; Germany; Greenland; Hungary; Iceland; Latvia; Lithuania; Netherlands; Norway; Norway-main; Poland; Romania; Russia; Russia-Krasnodar Kray; Russia-Moscow Oblast; Russia-Murmansk Oblast; Russia-St. Petersburg; Sweden; Switzerland; U.S.A.; U.S.A.-Alaska; U.S.A.-Washington; United Kingdom (YU & HORSTMANN 1997).

****Glyptorhaestus periclistor* HINZ 1975**

Glyptorhaestus periclistor HINZ 1975 - Zeit. der Arb. Öster. Ento. 27: 39-46.

Material examined: Aksu, 1250 m, 22.05.2004, 1♂.

Host: *Periclista albida*. (KLUG 1816) (YU & HORSTMANN 1997).

General distribution: Europe, Western Palaearctic (YU & HORSTMANN 1997).

***Rhorus longicornis* (HOLMGREN 1858)**

Monoblastus longicornis HOLMGREN 1858 - Försök till uppställning och beskrifning af de i sverige funna Tryphonider. Kongliga Svenska Vetenskapsakademiens Handlingar N.F. 1 (2) (1856): 305-394.

Material examined: Sav, 1050 m, 18.VI.2004, 1♂.

General distribution: Europe, Western Palaearctic (YU & HORSTMANN 1997).

Distribution in Turkey: Türkiye (AUBERT 2000).

****Xenoschesis resplendens* (HOLMGREN 1857)**

Notopygus resplendens HOLMGREN 1857: Försök till uppställning och beskrifning af de i sverige funna Tryphonider. Kongliga Svenska Vetenskapsakademiens Handlingar N.F. 1 (1) (1855): 93-246.

Material examined: Gökçay, 1050 m, 29.VI.2004, 1♂.

Host: *Pamphilius depressus* (SCHRANK 1781), *P. hortorum* (KLUG 1808) (YU & HORSTMANN 1997).

General distribution: Austria; Belarus; Belgium; Bulgaria; Czechoslovakia; Estonia; Finland; France; France-main; Germany; Hungary; Latvia; Lithuania; Netherlands; Norway; Norway-main; Poland; Romania; Russia; Russia-Kamchatka Oblast; Russia-St. Petersburg; Sweden; Switzerland; Ukraine; United Kingdom (YU & HORSTMANN 1997).

***Perilissus lutescens* HOLMGREN 1857**

Perilissus lutescens Holmgren 1857 - Försök till uppställning och beskrifning af de i sverige funna Tryphonider (Monographia Tryphonidum Sueciae). Kongliga Svenska Vetenskapsakademiens Handlingar. N.F. 1 (1) (1855): 93-246.

Material examined: Güneykent, 1135m, 12.05.04, 1♂.

Host: *Athalia rosae* (LINNAEUS 1758), *Pristiphora erichsonii* (HARTIG 1837) (YU & HORSTMANN 1997).

1978

General distribution: Eastern Palaearctic, Europe, Western Palaearctic (YU & HORSTMANN 1997).

Distribution in Turkey: İstanbul (KOLAROV 1989).

Subfam. Diplazoninae

***Diplazon laetatorius* (FABRICIUS 1781)**

Ichneumon laetatorius FABRICIUS 1781 - Spec. Ins. Tom. I: 552pp.

Material examined: Ayazmana, 1150m, 21.VI.2007, 1♂.

Host: *Galeruca pomonae* (SCOPOLI 1763), *Anthonomus pomorum* (LINNAEUS 1758), *Cydia pomonella* (LINNAEUS 1758) (YU & HORSTMANN 1997).

General distribution: Kozmopolit (KOLAROV 1998).

Distribution in Turkey: Isparta-Şarkikaraağaç-Gelinci-Sav-Gönen (GÜRBÜZ 2005).

Subfam. Metopiinae

***Hypsicera femoralis* (GEOFFROY 1785)**

Ichneumon femoralis GEOFFROY 1785 - Ent. Paris: 396.

Material examined: Çünür-Kampüs, 1150m, 30.IV.2007, 1♂.

Host: *Anobium pertinax* (LINNAEUS 1758), *Choristoneura murinana* (HÜBNER 1799) (YU & HORSTMANN 1997).

General distribution: Australasian, Palaearctic, Ethiopian, Europe, Oceanic, Oriental, Nearctic, Neotropical (YU & HORSTMANN 1997).

Distribution in Turkey: Antalya-Elmalı (KOLAROV 1995), Isparta-Çünür (GÜRBÜZ 2004).

Subfam. Ophioninae

***Ophion* sp. FABRICIUS 1798**

Material examined: Kirazlıdere, 1150m, 17.V.2007, 1♀.

General distribution: Australasian, Palaearctic, Europe, Nearctic, Neotropical, Oriental (YU & HORSTMANN 1997).

***Ophion mocsaryi* BRAUNS 1889**

Ophion mocsaryi BRAUNS 1889 - Die Ophionoiden Mecklenburgs 43: 73-100.

Material examined: Çünür-Kampüs, 1050m, 02.V.2007, 1♂.

Host: *Agrochola lota* (CLERCK 1759), *Atethmia ambusta* (DENIS & SCHIFFERMÜLLER 1775), *Noctua fimbriata* (SCHREBER 1759) (YU & HORSTMANN 1997).

General distribution: Palaearctic, Europe (YU & HORSTMANN 1997).

Distribution in Turkey: Isparya-Güneykent (KOLAROV & GÜRBÜZ 2006).

1979

Subfam. Pimplinae

Itopectis alternans (GRAVENHORST 1829)

Pimpla alternans GRAVENHORST 1829 - Ich. Euro. Vratislaviae 1097 pp.

Material examined: Kirazhdere, 1100m, 15.V.2007, 1♀.

Host: *Archips rosana* (LINNAEUS 1758) (ÇORUH 2005), *Dibrachys cavus* WALKER 1835, *Gelis proximus* (FORSTER 1850), *Mesochorus fulgurans* CURTIS 1833, *Theroscopius pedestris* (FABRICIUS 1775) (YU & HORSTMANN 1997), *Tortrix viridana* (FRASER et al. 2008) *Cameraria ohridella* DESCHKA & DIMIC 1986 (TOTH & LUKÁŠ 2005; LUPI 2005) *Nycteola asiatica* (KRUL), *Eriborus terebrator* AUBERT 1960 (GEORGIEV & KOLAROV 1999)

General distribution: Eastern Palaearctic, Europe, Oriental, Western Palaearctic (YU & HORSTMANN 1997).

Distribution in Turkey: Edirne-Tavuk Ormanı, Lalapaşa-Hacıdanışment, İstanbul-Sarıyer-Bilezikçi Çiftliği, Kısır Mandıra, Kırklareli-Demirköy, İğneada (YURTCAN 2004); Ordu (TUATAY et al. 1972); Doğu Karadeniz (IŞIK et al. 1987); Ankara-Bala (ÖZDEMİR & KILINÇER 1990); Isparta-Eğirdir (GÜRBÜZ 2004); Bingöl-Yenibaşlar, Erzurum-Üniversite Arazisi (ÇORUH 2005).

Agrothereutes sp. FORSTER 1850

Material examined: Çünür-Kampüs, 1150m, 13.VII.2007, 1♀.

General distribution: Palaearctic, Europe, Nearctic, Oriental (YU & HORSTMANN 1997).

Pimpla turionellae (LINNAEUS 1758)

Ichneumon turionella LINNAEUS 1758 - Systema Naturae, Ed. 10: 564.

Material examined: Kirazhdere, 1100m, 17.V.2007, 1♂.

Host: *Tortrix viridana* LINNAEUS 1758 (FRASER et al. 2008), *Pieris* spp. (FRASER et al. 2008), *Coleophora laricella* (HÜBNER 1817), *Aegeria scoliaforme* (BKH.), *A. Typhia fomes* (BKH.) (ÇORUH 2005).

General Distribution: Palaearctic, Europe, Nearctic, Oriental (YU & HORSTMANN 1997).

Distribution in Turkey: Bursa-Uludağ, İstanbul-Belgrad Ormanları (FAHRINGER 1922); Kırklareli-Koçaz-Ahmetler (YURTCAN 2004); Erzurum-İlica, Oltu-Sarisaz, Tortum-Aksu (ÇORUH 2005); Ankara-Beyazırma-Çubuk-Kalecik-Kozanlı-Polatlı, Eskişehir-Yassıhöyük-Kargeyikli, Konya-Lalebahçe, Nevşehir-Avanos (ÖZDEMİR & KILINÇER 1990); Isparta-Merkez (GÜRBÜZ 2004).

Endromopoda arundinator (FABRICIUS 1804)

Pimpla arundinator FABRICIUS 1804 - Syst. Piez.: 916.

Material examined: Kirazhdere, 1150m, 21.VI.2007, 1♀.

Host: *Agonopterix heracliana* (LINNAEUS 1758), *Alsophila aescularia* (DENIS & SCHIFFERMÜLLER 1775), *Anthonomus pomorum* (LINNAEUS 1758), *Cydia discretana*

1980

(WOCKE 1861), *C. pactolana* ZELLER 1840, *Dioryctria simplicella* HEINEMANN 1863, *Lycia hirtaria* (CLERCK 1759), *Noeeta pupillata* (FALLÉN 1814), *Phigalia pilosaria* (DENIS & SCHIFFERMÜLLER 1775), *Platycephala planifrons* (FABRICIUS 1798) (YU & HORSTMANN 1997), *Lipara lucens* (MEIGEN 1830), *Platycephala* sp. (YURTCAN 2004)

General Distribution: Palaearctic, Europe (YU & HORSTMANN 1997).

Distribution in Turkey: Çanakkale-Gelibolu, Ecebat-Ilgardere, Edirne-İpsala, Uzunköprü-Balabankoru, Tekirdağ-Muratlı (YURTCAN 2004); Çanakkale-Gökçeada-Kale (KOLAROV et al. 1997a); İzmir-Oğlananası, Manisa-Kula (KOLAROV et al. 2002).

Subfam. Tryphoninae

***Netelia fuscicornis* (HOLMGREN 1860)**

Paniscus fuscicornis HOLMGREN 1860 - Svenska Vetensk. Akad. Hendl. (N.F.) 2 (8): 32.

Material examined: Gölcük, 1200m, 27.V.2007, 1♂.

Host: *Acronicta megacephala* (DENIS & SCHIFFERMÜLLER 1775), *A. psi* (LINNAEUS 1758), *Agrotis exclamationis* (LINNAEUS 1758), *A. segetum* (DENIS & SCHIFFERMÜLLER 1775), *Anarta myrtilli* (LINNAEUS 1761), *Cerura vinula* (LINNAEUS 1758), *Cucullia asteris* (DENIS & SCHIFFERMÜLLER 1775), *Leucania obsoleta* (HÜBNER 1803), *Lithostege farinata* (HUFNAGEL 1767) (YU & HORSTMANN 1997).

General Distribution: Palaearctic, Europe, Oriental (YU & HORSTMANN 1997).

Distribution in Turkey: Kayseri-Erciyes, Konya-Meram, Van, (KOLAROV 1995), Nevşehir-Ürgüp-Göreme-Karain (KOLAROV 1994), Edirne, Elazığ, Kahramanmaraş, Kırklareli, Tekirdağ (KOLAROV & Beyarslan, 1994). Balıkesir, Bursa (KOLAROV et al. 1997a).

***Tryphon atriceps* STEPHENS 1835**

Tryphon atriceps STEPHENS 1835 - III. Of. Brit. Ent., Mandibulata 7: 262.

Material examined: Kirazhdere, 1100m, 17.V.2007, 2♂♂, Gölcük, 1200m, 26.VI.2007, 2♂♂.

Host: *Athalia bicolor* (LEPELETIER 1823), *A. spinarum* (FABRICIUS 1793), *Ostrinia nubilalis* (HÜBNER 1796) (YU & HORSTMANN 1997).

General Distribution: Eastern Palaearctic, Europe, Western Palaearctic (YU & HORSTMANN 1997).

Distribution in Turkey: Edirne, İçel (YURTCAN et al. 2002). Erzurum-İstanbul (KOLAROV 1994), Isparta-Merkez (GÜRBÜZ 2004).

***Tryphon rutilator* (LINNAEUS 1761)**

Ichneumon rutilator LINNAEUS 1761 - Fauna Svecica. Ed. altera: 578pp.

Material examined: Çünür-Kampüs, 1150m, 28.VI.2007, 1♂.

General distribution: Palaearctic, Europe (YU & HORSTMANN 1997).

Distribution in Turkey: Isparta-Güneykent, Antalya-Karamanbeli (GÜRBÜZ & KOLAROV 2006b).

***Tryphon zavreli* GREGOR 1939**

Tryphon zavreli GREGOR 1939 - *Tryphon zavreli*, sp.n. Entomologické Listy 2: 21-23.

Material examined: Gölcük, 1200m, 26.VI.2007, 1♀.

General distribution: Palaearctic, Europe (YU & HORSTMANN 1997).

Distribution in Turkey: Isparta-Güneykent-Uluborlu-Merkez-Kirazlıdere (KOLAROV & GÜRBÜZ 2006b).

***Tryphon thomsoni* ROMAN 1939**

Tryphon thomsoni ROMAN 1939 - Nordische Ichneumoniden und iniege 60: 176-205.

Material examined: Gölcük, 1200m, 26.VI.2007, 1♂.

General distribution: Palaearctic, Europe (YU & HORSTMANN 1997).

Distribution in Turkey: Erzurum-Çamlıbeli-Turnalı-Uzundere (KOLAROV et al. 1999), Kırklareli-Kofçaz (YURTCAN et al. 2002), Bayburt-Maden, Erzurum-Aşkale-Ilica-Oltu (ÇORUH et al. 2005), Isparta-Yukarı Gökdere, Merkez (KOLAROV & GÜRBÜZ 2006b).

Discussion

In this study, 46 species belong to 36 genera were collected. The dominant species is *Anomalon cruentatum*, because it is cosmopolitan species. Cryptinae, Campoplaginae and Ctenopelmatinae are most difficult subfamilies to identify in Ichneumonidae. There are only 2 studies for Cryptinae in this region. KOLAROV & GÜRBÜZ (2007) listed 26 species and among them fifteen species were new records for Turkey, GÜRBÜZ & KOLAROV (2008) listed 39 species belong to the tribe Cryptini From Cryptinae, among them 9 species were new records for Turkey. We found *Pycnocryptus longicauda* as a new record for Turkey. There is only one study about Banchinae. (KOLAROV & GÜRBÜZ 2006) listed two species for Turkish fauna. We added *Lissonora versicolor*. In Campoplaginae, only one species was listed for this region. we added 4 species for this region and among them 1 species, *Lathrostizus lugens*, is a new record for Turkey. KOLAROV (1995) listed 26 species of Ctenopalmetinae. Until now, 9 species were added. In Ctenopelmatinae only 2 species were listed in Isparta. These were *Ichneumon scotopterus* and *Pion crassipes* (GÜRBÜZ 2005; GÜRBÜZ & AKSOYLAR 2005). We added 14 species for this region and among them 3 species and 1 genus – *Synodites* sp., *Hypamblys albopictus*, *Glyptorhaestus periclistor*, *Xenoschesis resplendens* – are new records for Turkey.

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Zusammenfassung

Die Ichneumoniden-Fauna der türkischen Region Isparta wurde im Zeitraum 2001-2007 untersucht. Insgesamt 46 Arten aus 36 Gattungen und 12 Unterfamilien, die sich folgend aufteilen: 4 Arten Anomaloninae, 6 Arten Banchinae, 3 Arten Campoplaginae, 4 Arten Cryptinae, 14 Arten Ctenopelmatinae, 4 Arten Pimplinae, 2 Arten Ophioninae, 5 Arten Typhoninae sowie je 1 Art aus Cremastinae, Metopiinae, Collyriinae und Diplazontinae. Eine Gattung und sechs Arten, im Text markiert mit "*", sind Neunachweise für die Türkei. Angaben zur Synonymie und Verbreitung ergänzen die Arbeit.

References

- AKKAYA A. (2005): Güneydoğu ve Doğu Anadolu Bölgesi'nde Anomaloninae, Banchinae, Collyriinae, Ophioninae ve Pimplinae (Hymenoptera: Ichneumonidae) türlerinin sistematik yönden incelenmesi. — Dicle Üniversitesi Fen Bilimleri Enstitüsü, Doktora Tezi, Diyarbakır, 98pp.
- AUBERT J.F. (2000): [The West Palearctic ichneumonids and their hosts. 3. Scolobatinae (=Ctenopelmatinae) and supplements to preceding volumes.] Les ichneumonides oeust-palearctiques et leurs hotes. 3. Scolobatinae (=Ctenopelmatinae) et suppl. aux volumes precedents. — *Litterae Zoologicae* **5**: 1-310.
- BEYARSLAN A. & J. KOLAROV (1994): Investigations on Ichneumonidae (Hymenoptera) Fauna of Turkey. II. Cryptinae. — *Turkey Journal of Zoology* **18**: 227-231.
- ÇORUH S. (2005): Erzurum ve çevre illerdeki Pimplinae (Hymenoptera: Ichneumonidae) türleri üzerinde faunistik, sistematik ve ekolojik çalışmalar. — Atatürk Üniversitesi Fen Bilimleri Enstitüsü, Doktora tezi. 211pp, Erzurum.
- ÇORUH S., ÖZBEK H. & J. KOLAROV (2005): A contribution to the knowledge of Tryphoninae (Hymenoptera, Ichneumonidae) from Turkey. — *Zoology in Middle East* **35**: 93-98.
- FAHRINGER J. (1922): Hymenopterologische Ergebnisse einer wissenschaftlichen Studienreise nach der Türkei und Kleinasien (mit Ausschluß des Amanusgebirges). — *Archiv für Naturgeschichte*, Berlin **88** (9): 149-222.
- FAHRINGER J. & H. FRIESE (1921): Eine Hymenopteren-Ausbeute aus dem Amanusgebirge. (Kleinasien und Nord-Syrien, Südl. Armenien). — *Archiv für Naturgeschichte*, Berlin **A 87** (3): 150-17.
- GEORGIEV G. & J. KOLAROV (1999): New Ichneumonidae (Hymenoptera) parasitoids of forest insect pests in Bulgaria. — *J. Pest Science* **72**: 57-61.
- GRUEV B.A. (2002): A Comparative Study on Halticinae (Coleoptera, Chrysomelidae) in the Balkan Peninsula and Asiatic Turkey. Causes of the similarities and the differences of the Fauna. — *Trav. Sci. Univ. Plovdiv, Animalia* **38** (6): 49-79.
- GÜRBÜZ M.F. (2004): Isparta İli Ichneumonidae (Hymenoptera) familyası türleri üzerine faunistik ve sistematik araştırmalar. — Süleyman Demirel Üniversitesi Fen Bilimleri Enstitüsü, Doktora Tezi, 68pp, Isparta.
- GÜRBÜZ M.F. (2005): A survey of the Ichneumonidae (Hymenoptera) of Isparta in Turkey. — *Linzer. biol. Beitr.* **37** (2): 1809-1817.
- GÜRBÜZ M.F. & M.Y. AKSOYLAR (2005): New records of Ichneumonidae (Hymenoptera) species from Turkey. — *Phytoparasitica* **33** (2): 121-122.
- GÜRBÜZ M.F. & J. KOLAROV (2005): *Parablastus anatolicus* sp.n. (Hymenoptera, Ichneumonidae, Tryphoninae) a new Ichneumon-fly species from Turkey. — *Biologia, Bratislava* **60** (5): 495-497.
- GÜRBÜZ M.F. & J. KOLAROV (2006a): A review of The Collyriinae (Hymenoptera: Ichneumonidae). — *Entomologica Fennica* **17**: 118-122.

- GÜRBÜZ M.F. & J. KOLAROV (2006b): A study of the Turkish Ichneumonidae (Hymenoptera). II. Tryphoninae. — *Journal of the Entomological Research Society* **8** (1): 21-25.
- GÜRBÜZ M.F. & J. KOLAROV (2009): A study of the Ichneumonidae (Hymenoptera). IV. Cryptinae, Cryptini. *Turkey Journal of Zoology*. (in print).
- GÜRBÜZ M.F., LJUBOMIROV T., KOLAROV J., YURTCAN M., TABUR M.A., ÇORUH S. & A. BUNCUKÇU (2008): Investigation of the Ichneumonidae, Ampulicidae, Crabronidae and Sphecidae (Hymenoptera, Insect) Fauna in Natural Protection Zones of East Mediterranean Region in Turkey. — Project of Tübitak TBAG-U/168(106T189).
- IŞIK M., ECEVİT O., KURT A. & T. YÜCETİN (1987): Doğu Karadeniz Bölgesi fındık bahçelerinde entegre savaş olanakları üzerinde araştırmalar. — *Ondokuz Mayıs Üniversitesi Yayınları* No. **20**: 95, Samsun.
- KOLAROV J. (1989): Ichneumonidae (Hymenoptera) from Balkan peninsula and some adjacent regions. II. Lissonotinae, Ctenopelmatinae, Tersilochinae, Cremastinae and Campopleginae. — *Turk. Entomol. Der.* **13** (2): 67-84.
- KOLAROV J. (1994): Nocturnal Ichneumonidae from Bulgaria and Turkey with description of a new species. — *Entomofauna* **15**: 93-97.
- KOLAROV J. (1995): A catalogue of the Turkish Ichneumonidae (Hymenoptera). — *Entomofauna* **7**: 137-188.
- KOLAROV J. (1998): New and Rare Ichneumonidae (Hymenoptera) from Greece and Bulgaria. — *Acta Zoologica Bulgarica* **3-4**: 10-12.
- KOLAROV J. & A. BEYARSLAN (1994): Investigations on the Ichneumonidae (Hym.) Fauna of Turkey. I. Pimplinae and Tryphoninae. — *Türkiye Entomoloji Dergisi* **18** (3): 133-140.
- KOLAROV J. & M.F. GÜRBÜZ (2004): A study of the Turkish Ichneumonidae (Hymenoptera) I. Pimplinae. — *Linzer biol. Beitr.* **36** (2): 841-845
- KOLAROV J. & M.F. GÜRBÜZ (2006): A study of the Turkish Ichneumonidae (Hymenoptera). III. Anomaloninae, Banchinae, Ophioninae and Xoridinae. — *Acta Entomologica Serbica* **11** (1-2): 91-94.
- KOLAROV J., BEYARSLAN A. & M. YURTCAN (1994): Yeni ve az bilinen Türkiye Anomaloninae türleri (Hymenoptera-Ichneumonidae). — XII. Ulusal Biyoloji Kongresi, Edirne.
- KOLAROV J., BEYARSLAN A. & M. YURTCAN (1997a): New and Rare Ichneumonidae (Hymenoptera) from Turkey. I. Pimplinae, Tryphoninae, Phydeuontinae, Banchinae and Ctenopelmatinae. — *Acta Zoologica Bulgarica* **3-4**: 10-12.
- KOLAROV J., BEYARSLAN A. & M. YURTCAN (1997b): Ichneumonidae (Hymenoptera) from the Gökçeada and Bozcaada Islands-Turkey. — *Acta Entomologica Bulgarica* **3-4**: 13-15.
- KOLAROV J., ÖZBEK H. & E. YILDIRIM (1999): New distributional data of the Turkish Ichneumonidae (Hymenoptera). I. Pimplinae and Tryphoninae. — *J. Ent. Soc. Res.* **1** (2): 9-15.
- KOLAROV J., YURTCAN M. & A. BEYARSLAN (2002): Ichneumonidae species of the Turkish Aegean Region. Parasitic Wasps: evolution, systematics, biodiversity and biological control. — In: MELİKA G. & C. THUROCYZ (eds), *International symposium 14-17. May 2001: 299-305, Köszeg- Hungary*.
- KOPEKLE J.P. (1999): Gallenbildende Blattwespen Europas – Taxonomische Grundlagen, Biologie und Ökologie (Tenthredinidae: Nematinae: *Euura*, *Phyllocolpa*, *Pontania*). *Cour. Forsch. — Inst. Senckenberg* **212**: 1-183.
- ÖZBEK H., ÇORUH S. & J. KOLAROV (2003): A contribution to the Ichneumonidae fauna of Turkey. Subfamily Ichneumoninae. — *Entomofauna*. **24** (10): 157-164.
- ÖZBEK H., PEKEL S. & J. KOLAROV (2000): New distributional data of the Turkish Ichneumonidae (Hymenoptera) II. Ctenopelmatinae and Campopleginae. — *Journal of the Entomological Research Society* **2** (1): 17-24.

- ÖZDEMİR Y. & N. KILINÇER (1990): İç Anadolu Bölge'sinde saptanan Pimplinae ve Ophioninae (Hym: Ich) Türleri. — Türkiye II. Biyolojik Mücadele Kongresi: 26.-29. Eylül: 309-318.
- PEKEL S., KOLAROV J. & H. ÖZBEK (2000). New records of the subfamily Bachinae (Hymenoptera, Ichneumonidae) from Turkey. — Journal of the Entomological Research Society **2** (3): 1-4.
- TUATAY N., KALKANDELEN A. & Ç.N. AYSEV (1972): Nebat koruma müzesi böcek kataloğu, (1961-1971). — Zırai Mücadele ve Zırai Karantina Genel Müdürlüğü Yayınları Mesleki Kitapları Serisi, 119.
- YU D. & K. HORSTMANN (1997): Catalogue of World Ichneumonidae (Hymenoptera). — The American Entomological Institute, Part 1, 2: 1-1.
- YURTCAN M. (2004): Trakya Bölgesi Pimplinae (Hymenoptera: Ichneumonidae) faunasının taksonomik ve faunistik yönden araştırılması. — Trakya Üniversitesi Fen Bilimleri Enstitüsü, Doktora Tezi, 110s, Edirne.
- YURTCAN M. & A. BEYARSLAN (2002): The species of Tryphoninae (Hymenoptera: Ichneumonidae) in Turkish Thrace. — Turk. J. Zool. **26**: 77-95.
- YURTCAN M., BEYARSLAN A. & J. KOLAROV (2002): The Species of Tryphoninae (Hymenoptera: Ichneumonidae) in Turkish Thrace. — Turk. J. Zool. **26**: 77-95.

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