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## Some New Records of Iranian Ichneumoninae (Hymenoptera: Ichneumonidae)

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**Abstract:** The subfamily Ichneumoninae is the largest subfamily (after Cryptinae) in the Ichneumonidae family and they are endoparasitoids of Lepidoptera. This paper presents new information on the subfamily Ichneumoninae from Iran. Totally, nine species from nine genera (*Amblyjoppa*, *Coelichneumon*, *Crytea*, *Cyclolabus*, *Diadromus*, *Ichneumon*, *Platylabus*, *Rhexidermus* and *Virgichneumon*) were collected from different regions of Iran. Host records and distributional data are given in this paper too.

**Key words:** Ichneumoninae, Fauna, New record, Iran.

### Introduction

Ichneumoninae is the second largest subfamily of the family Ichneumonidae (Hymenoptera). All individuals of this subfamily are internal parasites (endoparasitic idiobionts) of Lepidoptera. Although females oviposit one egg into either larvae or pupae, the offspring always emerge from the pupa (BURKS & HURD 1979, ALIYEV 1999). The idiobiont has a wide range of hosts and it eats, kills, or paralyzes the host immediately after the oviposition. The endoparasite feeds internally on its host whereas the ectoparasite feeds externally (TOWNES 1972, TURNOCK et al. 1976). Female Ichneumoninae look for hosts on the ground and have short ovipositors, possibly as a result of their host usually being the naked larvae (WAHL 1993, GODFRAY 1994). Adults feed on honey dew of aphids and on certain plant foliage. They have a general dislike of intense amounts of heat and sunlight and therefore are not usually found during the middle of the day. It is easy to recognize the members of the subfamily by its pentagonal areolet of the front wing, the straight M+Cu vein of the hind wing, the short sternaulus and ovipositor sheath and deep gastrocoeli (CONSTANTINEANU 1959, HEINRICH 1977, LOCKARD 1995).

The fauna of Iranian Ichneumoninae was studied rather well and totally 139 species were recorded so far (KOLAROV & GHAHARI 2008). But since this subfamily is a large taxon and also Iran is a large country incorporating various geographical regions and climates, therefore it is expected that a large number of species remain to be discovered. The objective of this paper is determining of some ichneumonine new records toward to completing the fauna of Iranian Ichneumonidae.

## Materials and Methods

Specimens were collected by sweeping nets and malaise traps during 2006-2008 from different regions of the country in order to determine the fauna of Iranian Ichneumoninae. Also, some materials were obtained from the insect collection of Islamic Azad University (Tehran Science and Research Campus). The collected specimens were killed with ethyl acetate and mounted on triangular labels and were examined with a stereoscopic binocular microscope. Classification, nomenclature and distributional data of the subfamily suggested by KASPARYAN (1981), GUPTA (1988), ALIYEV (1999) and YU et al. (2005) have been followed.

## Results

A total of 9 species from 9 genera of Ichneumoninae were collected from different regions of Iran as the new records. The list of species is given below together with host and distributional data.

### Subfamily *I c h n e u m o n i n a e*

#### Genus *Amblyjoppa* CAMERON 1902

##### *Amblyjoppa fuscipennis* WESMAEL 1893

**M a t e r i a l** : East Azarbayjan province: Tabriz, 1 ♀, 1 ♂, 14 August 2006.

**H o s t** : *Deilephila elpenor* LINNAEUS, *Deilephila procellus* LINNAEUS, *Sphinx ligustri* LINNAEUS, *Herse convolvuli* LINNAEUS, *Macroglossum stellatarum* LINNAEUS, *Hemarius fuciformis* LINNAEUS (ALIYEV 1999).

**G e n e r a l D i s t r i b u t i o n** : Caucasus, Central Asia, Kazakhstan, Siberia as far as Sakhalin, Western Europe.

#### Genus *Coelichneumon* THOMSON 1893

##### *Coelichneumon fasciatus* GMELIN 1824

**M a t e r i a l** : Mazandaran province: Ramsar (citrus orchard), 1 ♀, 26 September 2007.

**H o s t** : *Panolis flammea* DENIS & SCHIFFERMÜLLER, *Plusia* spp. (Noctuidae), *Fagivorina arenaria* HUFNAGEL, *Bupalus piniarius* LINNAEUS, *Abraxas grossulariata* LINNAEUS (Geometridae) (ALIYEV 1999).

**G e n e r a l D i s t r i b u t i o n** : Caucasus, Western Europe.

#### Genus *Crytea* CAMERON 1906

##### *Crytea sanguinator* ROSSI 1903

**M a t e r i a l** : West Azarbayjan province: Piranshahr, 1 ♂, 3 June 2008.

**H o s t** : *Agonopterix umbellana* STEPHENS (Oecophoridae) (ALIYEV 1999).

**G e n e r a l D i s t r i b u t i o n** : Western Europe.

**Genus *Cyclolabus* HEINRICH 1935**

***Cyclolabus nigricollis* WESMAEL 1844**

**M a t e r i a l** : Gilan province: Bandar-Anzali, 1 ♀, 9 October 2007.

**H o s t** : *Lucita pentadaetyla* LINNAEUS (Pterophoridae) (ALIYEV 1999).

**G e n e r a l D i s t r i b u t i o n** : Western Europe, Caucasus.

**Genus *Diadromus* WESMAEL 1845**

***Diadromus quadriguttatus* GRAVENHORST 1889**

**M a t e r i a l** : Ardabil province: Meshkinshahr, 2 ♀ ♀, 1 ♂, 12 July 2008.

**H o s t** : *Yponomeuta cognatellus* HÜBNER (Yponomeutidae) (ALIYEV 1999).

**G e n e r a l D i s t r i b u t i o n** : Khabarovsk territory, Kamchatka, Northern and Central Europe, Romania.

**Genus *Ichneumon* LINNAEUS 1758**

***Ichneumon albicollis* WESMAEL 1857**

**M a t e r i a l** : West Azarbayjan province: Oshnavieh, 2 ♀ ♀, 22 June 2008.

**G e n e r a l D i s t r i b u t i o n** : Caucasus, Central Asia, Kazakhstan, Siberia, Western Europe, Iran.

**Genus *Platylabus* WESMAEL 1845**

***Platylabus pedatorius* FABRICIUS 1844**

**M a t e r i a l** : East Azarbayjan province: Tabriz, 1 ♂, 14 August 2006.

**H o s t** : *Erannis defolaria* CLERCK, *Eupithecia* spp. (Geometridae) (ALIYEV 1999).

**G e n e r a l D i s t r i b u t i o n** : Caucasus, Eastern and Western Europe.

**Genus *Rhexidermus* FÖRSTER 1869**

***Rhexidermus truncator* FÖRSTER 1889**

**M a t e r i a l** : Golestan province: Agh-ghala (cotton field), 2 ♀ ♀, 1 ♂, 10 September 2007.

**H o s t** : *Laspeyresiya strobiliella* LINNAEUS (Tortricidae), *Hyphantidium terebrellum* ZINCKEN (Phycitidae), *Erigaster fanestris* LINNAEUS (Lasiocampidae), *Leucoma salicis* LINNAEUS (Lymantridae) (ALIYEV 1999).

**G e n e r a l D i s t r i b u t i o n** : Middle Asia, Western Europe, the Canary Islands.

**Genus *Virgichneumon* HEINRICH 1977**

***Virgichneumon monostagon* GRAVENHORST 1893**

**M a t e r i a l :** Mazandaran province: Sari (colza field), 1 ♀, 29 May 2006.

**H o s t :** *Archanara sparganii* ESPER, *Archanara gemini-puncta* HAWORTH (Noctuidae), *Spilosoma lubricipeda* LINNAEUS (Arctiidae) (ALIYEV 1999).

**G e n e r a l D i s t r i b u t i o n :** Southern Caucasus, Western Europe.

**Discussion**

The fauna of Iranian Ichneumoninae is very diverse and with attention to the paper KOLAROV & GHAHARI (2008) and this paper, the total of species reaches to 148 so far. Upon the several samplings by the senior author and his colleagues and also visiting some museums and insect collections in Iran and other countries, numerous ichneumonid specimens were collected from different regions of Iran or observed in museums. The sampled materials were determined step by step by the Ichneumonidae specialists during the recent years. Although the total identified species of Iranian Ichneumonidae reaches about 300 species so far, but the hosts of almost species are unknown. Therefore, we suggest to the researchers who are interested in this taxon that collect the immature stages of different insect pests especially lepidopteran larvae and pupae for exact determining the hosts of Iranian Ichneumonidae, especially Ichneumoninae. Iran is a large country with various geographical regions and climates and included four seasons, and on the other hand its insect fauna is very diverse but unknown perfectly. We estimate that there is about 20.000 insect species in Iran which this estimation for the superfamily Ichneumonoidea (Ichneumonidae + Braconidae) is at least 950-1.000 species. E.g. in Finland there are now over 2.500 Ichneumonid species (R. Jussila, personal data). Therefore, we will have long way for determining and completing the fauna of Iranian Ichneumonidae. Surely, upon the honest scientific cooperation between different Iranian researchers, this huge project will be resulted to an impressive and eternal work.

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**Zusammenfassung**

Ichneumoninae ist nach den Cryptinae die größte Unterfamilie innerhalb der Ichneumonidae. Die Larven entwickeln sich endoparasitisch in Lepidopteren. Vorliegende Arbeit widmet sich Arten aus neun Gattungen dieser Unterfamilie, gesammelt an unterschiedlichen Stellen im Iran (*Amblyjoppa*, *Coelichneumon*, *Crytea*, *Cyclolabus*, *Diadromus*, *Ichneumon*, *Platylabus*, *Rhexidermus* und *Virgichneumon*).

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