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# A contribution to the study of Ichneumonidae (Hymenoptera: Ichneumonoidea) of Iran

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**Abstract:**

This paper deals with ichneumonid species (Hymenoptera: Ichneumonidae) which were collected from different regions of Iran and are preserved in insect collections and museums. In total of 81 species within 17 subfamilies are represented in this paper which nine species are new records for the fauna of Iran: *Alexeter segmentarius* (Fabricius, 1787), *Sympherta splendens* (Strobl, 1903), *Syntactus minor* (Holmgren, 1857) (Ctenopelmatinae), *Asyncrita designatus* (Förster, 1876), *Asyncrita exilis* Haliday, 1838 (Cryptinae), *Diphyus monitorius* (Panzer, 1801), *Diphyus trifasciatus* (Gravenhorst, 1829) (Ichneumoninae), *Lissonota maculata* Brischke, 1865 (Banchinae), and *Macrus parvulus* (Gravenhorst, 1829) (Campopleginae).

## Introduction

Ichneumonidae (Hymenoptera: Ichneumonoidea) is the biggest hymenopteran family with some 42 generally recognized subfamilies and more than 25,000 described species (Yu *et al*., 2016). The real number of species was estimated by Townes (1969) to be far higher, with probably up to 60 000 species (Gauld, 1991). The distribution of Ichneumonidae is one of the most notable exceptions to the common latitudinal gradient in species diversity because it shows greater speciation at high latitudes than at low latitudes (Sime and Brower, 1998). The most common groups as the hosts of Ichneumonidae are Lepidoptera, Coleoptera and Diptera to a less extend spiders and the egg sacs of spiders and pseudoscorpions. The biology of ichneumonids is very variable, and all forms of parasitism are represented (Gupta, 1991; Laurenne, 2008 and Çoruh and Özbek, 2011).

The purpose of this paper is to record the species of Ichneumonidae collected from different regions of Iran as part of ongoing faunistic studies of Ichneumonidae in Iran.

## Materials and methods

The materials of this faunistic research were collected by Malaise traps and sweeping net from different regions of Iran. Additionally, several specimens of insect collections of some universities, and museums were studied. Some specimens were reared in optimum conditions at laboratory conditions or incubator (25±2 ºC, 65±5% RH. and 14: 10 L: D). The specimens are preserved in the private collections of the authors and Zoological Museum of Turku University. Resources used to identify the specimens included Townes (1969), Broad (2011), and Rousse and Villemant (2012) on the subfamily level; Townes (1969, 1970a, b, 1971); Bennett (2015) on the generic level; Van Rossem (1966), Delrio (1975), Horstmann (1968, 1990), Kasparyan (1981), Schwarz (2002, 2007), Humala (2002), Çoruh and Özbek (2008), Jussila *et al.* (2010), Rousse and Villemant (2012) and Vas (2016) on the specific level. Here we follow Yu *et al.* (2016) for nomenclature, classification and distributional data. The provinces of Iran are represented in Figure (1).


**Figure (1): Map of Iran with boundaries of provinces.**

## Results and discussion

This faunistic paper on Iranian Ichneumonidae comprises 81 species within 59 genera and 17 subfamilies: Adelognathinae (3 species, 2 genera), Anomaloninae (5 species, 3 genera), Banchinae (7 species, 4 genera), Campopleginae (14 species, 11 genera), Cryptinae (12 species, 8 genera), Ctenopelmatinae (9 species, 6 genera), Diacritinae (one species), Diplazontinae (4 species, 4 genera), Ichneumoninae (12 species, 9 genera), Mesochorinae (3 species, one genus), Ophioninae (one species), Orthocentrinae (one species), Pimplinae (one species), Stilbopinae (one species), Tersilochinae (3 species, 2 genera), Tryphoninae (3 species, 3 genera) and Xoridinae (One species). Totally nine species are newly recorded from Iran. The list of species within subfamilies and genera are given below alphabetically together with distributional data.

### Subfamily Adelognathinae Thomson, 1888

### Genus *Aethecerus* Wesmael, 1845

***Aethecerus discolor* Wesmael, 1845**

**Material examined:** Golestan province, Gorgan (Naharkhoran), 1♀, August 2011.

**General distribution:** Austria, Belgium, former Czechoslovakia, Finland, France, Germany, Latvia, Lebanon, Lithuania, Netherlands, Norway, Poland, Romania, Russia, Spain, Sweden, Switzerland and United Kingdom.

### Genus *Adelognathus* Holmgren, 1855

***Adelognathus laevicollis* Thomson, 1883**

**Material examined:** Mazandaran province, Savadkooh, 2♀, October 2015.

**General distribution:** Azerbaijan, Bulgaria, former Czechoslovakia, France, Germany, Poland, Russia, Sweden, Ukraine and United Kingdom.

***Adelognathus pallipes* (Gravenhorst, 1829)**

**Material examined:** West Azarbayjan province, Ourmieh (Nazloo), August 2014.

**General distribution:** Armenia, Austria, Belarus, Bulgaria, Canada, China, former Czechoslovakia, Finland, France, Georgia, Germany, Hungary, Ireland, Japan, Norway, Poland, Russia, Spain, Sweden, USA and United Kingdom.

### Subfamily Anomaloninae Viereck, 1918

### Genus *Agrypon* Förster, 1860

***Agrypon anomelas* (Gravenhorst, 1829)**

**Material examined:** Semnan province, Shahrood (Jangal-e Abr), 1♀, 1♂, 23.vii.2012.

General distribution: Austria, Bulgaria, former Czechoslovakia, France, Germany, Hungary, Italy, Kazakhstan, Korea, Moldova, Netherlands, Pakistan, Poland, Romania, Spain, Sweden, Ukraine, United Kingdom **(Yu *et al*., 2016)** and Finland (R. Jussila).

***Agrypon anxium* (Wesmael, 1849)**

**Material examined:** Guilan province, Lahijan, 3♀, 1♂, June 2016, ex *Yponomeuta malinellus* (Zeller, 1838) (Lepidoptera: Yponomeutidae).

**General distribution:** Belgium, Bulgaria, China, Czech Republic, Finland, France, Germany, Hungary, Italy, Japan, Kazakhstan, Korea, Latvia, Lithuania, Moldova, Netherlands, Norway, Poland, Romania, Serbia, Sweden, Turkmenistan, United Kingdom and former Yugoslavia.

***Agrypon gracilipes* (Curtis, 1839)**

**Material examined:** Mazandaran province, Fereydonkenar, 1♀, May 2015.

**General distribution:** Austria, Belarus, Belgium, Bulgaria, Czech Republic, Estonia, Finland, France, Germany, Hungary, Korea, Latvia, Moldova, Poland, Romania, Russia, Spain, Turkey, Ukraine and United Kingdom.

**Genus *Barylypa* Förster, 1869**

***Barylypa rubricator* (Szépligeti, 1899)**

**Material examined:** West Azarbayjan province, Salmas, 2♀, 11.viii.2014.

**General distribution:** Austria, Bulgaria, former Czechoslovakia, France, Germany, Hungary, Kyrgyzstan, Lithuania, Russia, Turkey **(Yu *et al.*, 2016)** and Finland (R. Jussila).

**Genus *Habronyx* Förster, 1869**

***Habronyx biguttatus* (Gravenhorst, 1829)**

**Material examined:** Golestan province, Minoodasht, 31 m, 1♀, July 2009.

**General distribution:** Belgium, Canada, Czech Republic, Finland, France, Germany, Latvia, Netherlands, Poland, Russia, Spain, Sweden, USA and United Kingdom.

**Subfamily Banchinae Wesmael, 1845**

**Genus *Apophua* Morley, 1913**

***Apophua genalis* (Möller, 1883)**

**Material examined:** Hamedan province, Toyserkan, 1♀, 1♂, September 2012.

**General distribution:** Belgium, Bulgaria, former Czechoslovakia, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Lithuania, Poland, Romania, Russia, Spain, Sweden, Switzerland, Ukraine and United Kingdom.

**Genus *Banchus* Fabricius, 1798**

***Banchus volutatorius* (Linnaeus, 1758)**

**Material examined:** Chaharmahal-Bakhtiari province, Farsan, 2♀, 2♂, 21.vii.2013.

**General distribution:** Eastern Palaearctic, Nearctic, Oriental, and Western Palaearctic regions.

**Genus *Exetastes* Gravenhorst, 1829**

***Exetastes nigripes* Gravenhorst, 1829**

**Material examined:** Mazandaran province, Kiakola, 2♀, 2♂, May 2011, ex *Pieris brassicae* (Linnaeus, 1758) (Lepidoptera: Pieridae).

**General distribution:** Austria, Belgium, Bulgaria, China, former Czechoslovakia, Denmark, Finland, France, Germany, Hungary, India, Kazakhstan, Latvia, Lithuania, Mongolia, Netherlands, Poland, Portugal, Romania, Russia, Spain, Sweden, Switzerland, Turkey, Ukraine and United Kingdom.

**Genus *Lissonota* Gravenhorst, 1829**

***Lissonota culiciformis* Gravenhorst, 1829**

**Material examined:** Mazandaran province, Savadkooh, 3♀, 1♂, October 2015, ex *Malacosoma neustria* (Linnaeus, 1758) (Lepidoptera: Lasiocampidae).

**General distribution:** Austria, Azerbaijan, Belgium, Bulgaria, Canada, former Czechoslovakia, Denmark, Finland, France, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Netherlands, Norway, Poland, Romania, Russia, Sweden, Switzerland and United Kingdom.

***Lissonota maculata* Brischke, 1865**

**Material examined:** West Azarbayjan province, Mahabad, 1♀, 11.viii.2014. New record for Iran.

**General distribution:** Belgium, former Czechoslovakia, Finland, France, Germany, Hungary, Lithuania, Netherlands, Poland, Russia, Spain, Sweden, Switzerland and United Kingdom.

***Lissonota saturator* (Thunberg, 1824)**
**Material examined:** Lorestan province, Azna, 2♀, 7.viii.2010.
**General distribution:** Austria, Belgium, Bulgaria, Czech Republic, Finland, France, Germany, Hungary, Ireland, Italy, Japan, Lithuania, Moldova, Poland, Romania, Russia, Sweden, Switzerland, Turkey, United Kingdom and former Yugoslavia.

***Lissonota subaciculata* Bridgman, 1886**
**Material examined:** Guilan province, Talesh, 1♀, June 2008.
**General distribution:** Bulgaria, former Czechoslovakia, France, Germany, Ireland, Latvia, Mongolia, Poland, Romania, Russia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

**Subfamily Campopleginae Förster, 1869**

**Genus *Campoletis* Förster, 1869**

***Campoletis cognata* (Tschek, 1871)**
**Material examined:** Razavi Khorasan province, Sabzevar (Roodab), 3♀, 1♂, May 2012, ex *Agrotis segetum* (Denis & Schiffermüller, 1775) (Lepidoptera: Noctuidae).
**General distribution:** Afghanistan, Austria, Belgium, Bulgaria, former Czechoslovakia, France, France-Corsica, Germany, Greece, Hungary, Moldova, Netherlands, Poland, Portugal, Romania, Russia, Spain, Switzerland, Ukraine, United Kingdom, Uzbekistan **(Yu *et al*., 2016)** and Finland (R. Jussila).

***Campoletis latrator* (Gravenhorst, 1829)**
**Material examined:** Hamedan province, Malayer, 1776 m, 1♀, September 2014.
**General distribution:** Austria, Belgium, Bulgaria, former Czechoslovakia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Norway, Poland, Romania, Russia, Sweden, Ukraine and United Kingdom.

**Genus *Campoplex* Gravenhorst, 1829**

***Campoplex borealis* (Zetterstedt, 1838)**
**Material examined:** Golestan province, Gorgan (Jafar-Abad), 2♀, 1♂, June 2017, ex *Archips rosana* (Linnaeus, 1758) (Lepidoptera: Tortricidae).
**General distribution:** Austria, Belgium, Bulgaria, Czech Republic, Finland, France, Germany, Hungary, Ireland, Italy, Norway, Poland, Romania, Russia, Slovakia, Spain, Sweden, Switzerland, United Kingdom and former Yugoslavia.

**Genus *Charops* Holmgren, 1859**

***Charops cantator* (DeGeer, 1778)**
**Material examined:** Isfahan province, Golpayegan, 3♀, 2♂, July 2016, ex *Zygaena dorycnii* Ochsenheimer, 1808 (Lepidoptera: Zygaenidae).
**General distribution:** Austria, Belgium, Bulgaria, Czech Republic, Finland, France, Georgia, Germany, Hungary, Israel, Italy, Kazakhstan, Latvia, Moldova, Norway, Poland, Romania, Russia, South Africa, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom and former Yugoslavia.

**Genus *Diadegma* Förster, 1869**

***Diadegma rufatum* (Bridgman, 1884)**
**Material examined:** Kurdistan province, Baneh (Vali-Abad), 1♀, September 2015.
**General distribution:** Azerbaijan, Bulgaria, Germany, Hungary, Poland, Romania, Spain, Sweden and United Kingdom.

**Genus *Dusona* Cameron, 1900**

***Dusona cultrator* (Gravenhorst, 1829)**

**Material examined:** Northern Khorasan province, Safi-Abad, 2♀, 1♂, October 2017, ex *Cydia pomonella* (Linnaeus, 1758) (Lepidoptera: Tortricidae).
**General distribution:** Austria, Belarus, Belgium, Bulgaria, former Czechoslovakia, Finland, France, Germany, Hungary, Italy, Japan, Kazakhstan, Kyrgyzstan, Latvia, Moldova, Netherlands, Poland, Romania, Russia, Spain, Sweden, Switzerland and United Kingdom.

***Dusona tenuis* (Förster, 1868)**
**Material examined:** Markazi province, Tafresh (Sarabadan), 1♀, 1♂, May 2018.
**General distribution:** Austria, Azerbaijan, Belgium, Bulgaria, China, former Czechoslovakia, Finland, France, Germany, Hungary, India, Kazakhstan, Kyrgyzstan, Moldova, Mongolia, Netherlands, Norway, Poland, Romania, Russia, Sweden, Switzerland and United Kingdom.

**Genus *Eriborus* Förster, 1869**
***Eriborus braccatus* (Gmelin, 1790)**
**Material examined:** East Azarbayjan province, Mianeh, 2♀, 16.ix.2010.
**General distribution:** Austria, Belgium, Finland, France, Germany, Greece, Hungary, Italy, Latvia, Netherlands, Poland, Romania, Spain, United Kingdom and former Yugoslavia.

**Genus *Diadegma* Förster, 1869**
***Diadegma laterale* (Gravenhorst, 1829)**
**Material examined:** West Azarbayjan province, Takab (Ghoshkhaneh), 1♀, September 2003.
**General distribution:** Austria, Azerbaijan, Finland, France, Germany, Hungary, Italy, Latvia, New Zealand, Poland, Sweden and United Kingdom.

**Genus *Hyposoter* Förster, 1869**
***Hyposoter caedator* (Gravenhorst, 1829)**
**Material examined:** West Azarbayjan province, Ourmieh (km 12 Seroo Road), 1♀, July 2014.
**General distribution:** Austria, Finland, France, Germany, Hungary, Italy, Netherlands, Norway, Poland, Romania, Russia and United Kingdom.

***Hyposoter neglectus* (Holmgren, 1860)**
**Material examined:** West Azarbayjan province, Oshnavieh, 1♀, August 2014.
**General distribution:** Austria, former Czechoslovakia, Finland, Germany, Latvia, Norway, Poland, Romania, Russia, Sweden, Switzerland and United Kingdom.

**Genus *Macrus* Gravenhorst, 1829**
***Macrus parvulus* (Gravenhorst, 1829)**
**Material examined:** Zanjan province, Abhar, 1540 m, 1♀, June 2011. *New record for Iran*.
**General distribution:** Austria, Bulgaria, former Czechoslovakia, Finland, France, Germany, Greece, Hungary, Poland, Romania, Russia, Sweden, USA, Ukraine and United Kingdom.

**Genus *Meloboris* Holmgren, 1859**
***Meloboris alternans* (Gravenhorst, 1829)**
**Material examined:** Mazandaran province, Tonekabon (Asal Mahalleh), 1♀, April 2013.
**General distribution:** Austria, Belgium, Cyprus, former Czechoslovakia, Denmark, Finland, France, Germany, Hungary, Lithuania, Moldova, Mongolia, Norway, Poland, Romania, Russia, Sweden and United Kingdom.

**Genus *Sinophorus* Förster, 1869**
***Sinophorus juniperinus* (Holmgren, 1856)**

**Material examined:** Golestan province, Minoodasht, 1♀, 1♂, April 2009.
**General distribution:** Bulgaria, Czech Republic, Denmark, Finland, France, Germany, Hungary, Ireland, Latvia, Mongolia, Netherlands, Poland, Romania, Russia, Sweden, Switzerland and United Kingdom.

**Subfamily Cryptinae Kirby, 1837**
**Genus *Acroricnus* Ratzeburg, 1852**
***Acroricnus seductorius* (Fabricius, 1793)**
**Material examined:** Isfahan province, Chadegan, 1♀, 10.v.2011.
**General distribution:** Algeria, France, Germany, Greece, Hungary, Italy, Russia, Spain, Switzerland, Syria and Turkey.

**Genus *Aptesis* Förster, 1850**
***Aptesis cretata* (Gravenhorst, 1829)**
**Material examined:** Kermanshah province, Javanrood, 1340 m, 2♀, April 2009.
**General distribution:** Austria, Azerbaijan, Bulgaria, Finland, France, Germany, Hungary, Latvia, Moldova, Netherlands, Norway, Poland, Spain, Sweden, Switzerland, Turkey and United Kingdom.

***Aptesis jejunator* (Gravenhorst, 1807)**
**Material examined:** Mazandaran province, Qaemshahr (Ghadikola), 2♀, 2♂, July 2014, ex *Ostrinia nubilalis* (Hübner, 1796) (Lepidoptera: Crambidae).
**General distribution:** Austria, Azerbaijan, Belgium, Bulgaria, Czech Republic, Denmark, Finland, France, Georgia, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, Moldova, Netherlands, Norway, Poland, Romania, Russia, Spain, Sweden, Switzerland and United Kingdom.

**Genus *Asyncrita* Förster, 1876**
***Asyncrita acuminator* Roman, 1909**
**Material examined:** West Azarbayjan province, Ourmieh (km 12 Seroo Road), 1♀, July 2014.
**General distribution:** Austria, Denmark, Finland, Germany, Italy, Moldova, Norway, Poland, Russia, Sweden, Ukraine and United Kingdom.

***Asyncrita exilis* Haliday, 1838**
**Material examined:** Isfahan province, Golpaygan (Saeid-Abad), 2♂, 2♀, May 2015. *New record for Iran*.
**General distribution:** Armenia, Austria, Belgium, Bulgaria, Czech Republic, Finland, France, Germany, Greenland, Hungary, Ireland, Italy, Latvia, Montenegro, Netherlands, Norway, Poland, Russia, Spain, Sweden, Switzerland, Ukraine, United Kingdom and former Yugoslavia.

***Asyncrita croceicornis* Haliday, 1838**
**Material examined:** Golestan province, Golestan National Park, 2♀, 1♂, June 2010, ex *Lymantria dispar* (Linnaeus, 1758) (Lepidoptera: Erebidae).
**General distribution:** Austria, Belarus, Belgium, Bulgaria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Japan, Mongolia, Netherlands, Norway, Poland, Russia, Spain, Sweden, Switzerland, United Kingdom and former Yugoslavia.

**Genus *Atractodes* Gravenhorst, 1829**
***Atractodes designatus* Förster, 1876**
**Material examined:** West Azarbayjan province, Khoy, 1153 m, 1♀, July 2013. New record for Iran.
**General distribution:** Austria, Finland, France, Germany, Italy, Mongolia, Norway, Poland, Russia, Sweden, Switzerland, Ukraine.

**Genus *Cubocephalus* Ratzeburg, 1848**
***Cubocephalus anatorius* (Gravenhorst, 1829)**

**Material examined:** Mazandaran province, Savadkooh (Zirab), 2♀, June 2009.
**General distribution:** Austria, Belgium, Bulgaria, former Czechoslovakia, Denmark, Finland, France, Georgia, Germany, Hungary, Italy, Japan, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Romania, Russia, Spain, Sweden and United Kingdom.

***Cubocephalus associator* (Thunberg, 1824)**
**Material examined:** Guilan province, Gisum forest, 1♀, September 2016.
**General distribution:** Austria, Belgium, Bulgaria, former Czechoslovakia, Finland, France, Germany, Hungary, Latvia, Netherlands, Norway, Poland, Sweden, Switzerland and United Kingdom.

**Genus *Diaglyptidea* Viereck, 1913**
***Diaglyptidea conformis* (Gmelin, 1790)**
**Material examined:** Mazandaran province, Behshahr (Zaghemarz), 2♀, 1♂, September 2008.
**General distribution:** Austria, Bulgaria, former Czechoslovakia, Finland, France, Germany, Hungary, Ireland, Latvia, Moldova, Netherlands, Norway, Poland, Romania, Russia, Sweden and United Kingdom.

**Genus *Gambrus* Förster, 1869**
***Gambrus tricolor* (Gravenhorst, 1829)**
**Material examined:** West Azarbayjan province, Shahin-Dezh, 1422 m, 1♀, August 2008.
**General distribution:** Austria, Bulgaria, former Czechoslovakia, Finland, France, Germany, Hungary, Italy, Latvia, Lithuania, Norway, Poland, Romania, Russia, Spain, Sweden, United Kingdom and former Yugoslavia.

**Genus *Gelis* Thunberg, 1827**
***Gelis mangeri* (Gravenhorst, 1815)**
**Material examined:** Mazandaran province, Chalus, 1♀, September 2009.
**General distribution:** Austria, former Czechoslovakia, Finland, France, Germany, Latvia, Netherlands, Poland, Romania, Russia, Sweden and United Kingdom.

**Subfamily Ctenopelmatinae Förster, 1869**
**Genus *Alexeter* Foester, 1869**
***Alexeter niger* (Gravenhorst, 1829)**
**Material examined:** Isfahan province, Golpaygan (Saeid-Abad), 1♀, May 2015.
**General distribution:** Austria, Belgium, Bulgaria, former Czechoslovakia, Finland, France, Germany, Greece, Hungary, Latvia, Lithuania, Netherlands, Norway, Poland, Russia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

***Alexeter segmentarius* (Fabricius, 1787)**
**Material examined:** Isfahan province, Khansar (Mehr-Abad), 2♂, 2♀, May 2015. New record for Iran.
**General distribution:** Austria, Belarus, Belgium, Bulgaria, China, former Czechoslovakia, Estonia, Finland, France, Georgia, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, Mongolia, Montenegro, Netherlands, Norway, Poland, Romania, Russia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom and former Yugoslavia.

**Genus *Campodorus* Förster, 1869**
***Campodorus variegatus* (Jurine, 1807)**
Material examined: Mazandaran province, Sari (Dasht-e Naz), 2♂, June 2017.
General distribution: Austria, Belgium, Bulgaria, China, Czech Republic,

former Czechoslovakia, Finland, France, Germany, Hungary, Latvia, Lithuania, Luxembourg, Mongolia, Netherlands, Norway, Poland, Russia, Sweden, Ukraine, United Kingdom.

**Genus *Ctenopelma* Holmgren, 1855**

***Ctenopelma nigripenne* (Gravenhorst, 1829)**

**Material examined:** Guilan province, Amlash, 2♀, May 2009.

**General distribution:** Armenia, Austria, former Czechoslovakia, France, Germany, Hungary, Kazakhstan, Korea, Poland, Russia, Switzerland, Turkey, Ukraine and former Yugoslavia.

***Ctenopelma nigrum* Holmgren, 1857**

**Material examined:** East Azarbayjan province, Maragheh (Qarehnaz), 1♀, 12.viii.2012.

**General distribution:** Austria, Belgium, Czech Republic, Finland, Germany, Hungary, Kazakhstan, Latvia, Netherlands, Poland, Russia, Sweden, Switzerland and Ukraine.

**Genus *Sympherta* Förster, 1869**

***Sympherta splendens* (Strobl, 1903)**

**Material examined:** Mazandaran province, Tonekabon (Asal-Mahalleh), 2♀, April 2013. New record for Iran.

**General distribution:** Austria, Azerbaijan, Finland, Germany, Hungary, Lithuania, Russia, Switzerland and United Kingdom.

**Genus *Syntactus* Förster, 1869**

***Syntactus delusor* (Linnaeus, 1758)**

**Material examined:** Isfahan province, Khansar (Mehr-Abad), 3♀, 1♂, May 2015.

**General distribution :** Austria, Belarus, Belgium, Bulgaria, China, former Czechoslovakia, Finland, France, Germany, Hungary, Latvia, Lithuania, Norway, Poland, Russia, Sweden, Switzerland, Turkey and United Kingdom.

***Syntactus minor* (Holmgren, 1857)**

**Material examined:** Guilan province, Astara, 1♀, 1♂, September 2017. *New record for Iran*.

**General distribution:** Austria, Bulgaria, Finland, Germany, Lithuania, Netherlands, Norway, Poland, Russia, Sweden, Switzerland and United Kingdom.

**Genus *Zemiophora* Förster, 1869**

***Zemiophora scutulata* (Hartig, 1838)**

**Material examined:** Kermanshah province, Sonqor, 1632 m, 2♀, June 2004.

**General distribution:** Austria, Czech Republic, Finland, France, Germany, Latvia, Lithuania, Netherlands, Norway, Poland, Russia, Sweden, Switzerland and United Kingdom.

**Subfamily Diacritinae Townes, 1965**

**Genus *Diacritus* Förster, 1869**

***Diacritus aciculatus* (Vollenhoven, 1878)**

**Material examined:** Kurdistan province, Baneh, 2♀, September 2015.

**General distribution:** Austria, Belarus, Bulgaria, Finland, France, Georgia, Germany, Japan, Netherlands, Poland, Romania, Russia, Slovakia and United Kingdom.

**Subfamily Diplazontinae Viereck, 1918**

**Genus *Diplazon* Nees ab Esenbeck, 1819**

***Diplazon varicoxa* (Thomson, 1890)**

**Material examined:** Zanjan province, Abhar, 2♀, 1♂, May 2016.

**General distribution:** Afghanistan, Austria, Belgium, China, former Czechoslovakia, Finland, France, Germany, Hungary, India, Ireland, Italy, Japan, Mongolia, Norway, Poland, Russia, Spain, Sweden, Switzerland and United Kingdom.

**Genus *Syrphoctonus* Förster, 1869**

***Syrphoctonus elegans* (Gravenhorst, 1829)**
**Material examined:** Isfahan province, Chadegan, 1♀, 10.v.2011.
**General distribution:** Afghanistan, Austria, Azerbaijan, Belgium, Canada, former Czechoslovakia, Finland, France, Germany, Greenland, Hungary, Ireland, Lithuania, Moldova, Mongolia, Netherlands, Norway, Poland, Romania, Russia, Spain, Sweden, Turkey and United Kingdom.

**Genus *Woldstedtius* Carlson, 1979**
***Woldstedtius flavolineatus* (Gravenhorst, 1829)**
**Material examined:** Golestan province, Salikandeh, 2♀, 2♂, July 2014, ex *Ostrinia nubilalis* (Hübner, 1796) (Lepidoptera: Crambidae).
**General distribution:** Eastern Palaearctic, Nearctic, Neotropical, Oriental, and Western Palaearctic regions,

**Genus *Xestopelta* Dasch, 1964**
***Xestopelta gracillima* (Schmiedeknecht, 1926)**
**Material examined:** Guilan province, Amlash (Rankooh), 1♀, July 2004.
**General distribution:** Armenia, Azerbaijan, Belgium, former Czechoslovakia, Germany, Italy, Kyrgyzstan, Poland and Russia.

**Subfamily Ichneumoninae Latreille, 1802**
**Genus *Alomya* Panzer, 1806**
***Alomya debellator* (Fabricius, 1775)**
**Material examined:** Mazandaran province, Tonekabon (Jangal-e 2000), 1♀, July 2013, ex *Hepialus humuli* (Linnaeus, 1758) (Lepidoptera: Hepialidae).
**General distribution:** Austria, Belgium, Bulgaria, Czech Republic, Denmark, Finland, France, Georgia, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Romania, Russia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

***Alomya punctalata* (Schellenberg, 1802)**
**Material examined:** West Azarbayjan province, Makoo, 1♀, September 2010.
**General distribution:** Belarus, Bulgaria, Germany, Greece, Spain and Switzerland.

**Genus *Callajoppa* Cameron, 1903**
***Callajoppa exaltatoria* (Panzer, 1804)**
**Material examined:** Chaharmahal-Bakhtiari province, Lordegan (Khalil-Abad), 1♀, 1♂, 15.vii.2013.
**General distribution:** Austria, Belgium, Bulgaria, China, former Czechoslovakia, Estonia, Finland, France, Germany, Hungary, Italy, Japan, Kazakhstan, Latvia, Netherlands, Poland, Romania, Russia, Spain, Sweden, Switzerland, Turkey, United Kingdom and former Yugoslavia.

**Genus *Cratichneumon* Thomson, 1893**
***Cratichneumon sicarius* (Gravenhorst, 1829)**
**Material examined:** Isfahan province, Chadegan, 1♀, 10.v.2011.
**General distribution:** Austria, Belarus, Belgium, former Czechoslovakia, Denmark, Finland, France, Germany, Hungary, Ireland, Italy, Latvia, Netherlands, Poland, Romania, Russia, Sweden, Switzerland, Ukraine and United Kingdom.

**Genus *Diphyus* Kriechbaumer, 1890**
***Diphyus monitorius* (Panzer, 1801)**
**Material examined:** West Azarbayjan province, Ourmieh (km 12 Seroo Road), 1♀, July 2014. New record for Iran.
**General distribution:** Austria, Belgium, Bulgaria, former

Czechoslovakia, France, Germany, Hungary, Italy, Netherlands, Poland, Romania, Russia, Spain and United Kingdom.

***Diphyus quinquecinctus* (Kriechbaumer, 1882)**

**Material examined:** Isfahan province, Khansar (Mehr-Abad), 2♀, May 2015.

**General distribution:** Afghanistan, Bulgaria, Germany, Kazakhstan, Romania, Russia, Spain, Turkey and Turkmenistan.

***Diphyus trifasciatus* (Gravenhorst, 1829)**

**Material examined:** Guilan province, Fooman, 1♀, April 2009. *New record for Iran*.

**General distribution:** Belgium, China, former Czechoslovakia, France, Germany, Japan, Korea, Netherlands, Norway, Poland, Russia, Spain and United Kingdom.

**Genus *Ichneumon* Linneaus, 1758**

***Ichneumon primatorius* Forster, 1771**

**Material examined:** Chaharmahal-Bakhtiari province, Koohrang, 2288 m, 1♀, September 2010.

**General distribution:** Austria, Belarus, Belgium, former Czechoslovakia, Denmark, Finland, France, Germany, Hungary, Ireland, Italy, Japan, Kazakhstan, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Romania, Russia, Spain, Sweden, Switzerland, Ukraine and United Kingdom.

**Genus *Pristicerops* Heinrich, 1962**

***Pristicerops infractorius* (Linnaeus, 1761)**

**Material examined:** Hamedan province, Gol Tappeh, 2♀, September 2015.

**General distribution:** Austria, Belarus, Belgium, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Moldova, Netherlands, Poland, Romania, Russia, Spain, Sweden, Switzerland, Tajikistan, Ukraine and United Kingdom.

**Genus *Stenichneumon* Thomson, 1893**

***Stenichneumon militarius* (Thunberg, 1824)**

**Material examined:** Northern Khorasan province, Shirvan (Ulashloo), 1♀, 1♂, April 2011.

**General distribution:** Austria, Belarus, Belgium, Canada, former Czechoslovakia, Finland, France, Germany, Hungary, Italy, Japan, Kazakhstan, Korea, Luxembourg, Netherlands, Poland, Romania, Russia, Spain, Sweden, Switzerland, USA, Ukraine, United Kingdom, Uzbekistan and former Yugoslavia.

**Genus *Thyrateles* Perkins, 1953**

***Thyrateles haereticus* (Wesmael, 1854)**

**Material examined:** Semnan province, Damghan, 1♀, 25.vii.2012.

**General distribution:** Austria, Belarus, former Czechoslovakia, Estonia, Finland, France, Germany, Hungary, Italy, Japan, Korea, Latvia, Netherlands, Norway, Poland, Romania, Russia, Spain, Sweden, Switzerland, Ukraine and United Kingdom.

**Genus *Virgichneumon* Heinrich, 1977**

***Virgichneumon faunus* (Gravenhorst, 1829)**

**Material examined:** Mazandaran province, Babol (Nakhkola), 2♀, 1♂, September 2002.

**General distribution:** Austria, Belarus, Belgium, former Czechoslovakia, Finland, France, Germany, Hungary, Latvia, Netherlands, Norway, Poland, Romania, Russia, Spain, Ukraine and United Kingdom.

**Subfamily Mesochorinae Foerster, 1869**

**Genus *Astiphromma* Förster, 1869**

***Astiphromma dorsale* (Holmgren, 1860)**

**Material examined:** Guilan province, Siahkal, 2♀, June 2015, ex *Pieris brassicae* (Linnaeus, 1758) (Lepidoptera: Pieridae).

**General distribution:** Austria, Bulgaria, China, Finland, France, Germany, Hungary, Italy, Japan, Korea, Latvia, Lithuania, Norway, Poland, Romania, Russia, Sweden, Taiwan and United Kingdom.

***Astiphromma leucogrammum* (Holmgren, 1860)**

**Material examined:** Mazandaran province, Tonekabon (Jangal-e 2000), 1♀, July 2013.

**General distribution:** Austria, Belgium, Bulgaria, Canada, Finland, France, Germany, Hungary, Norway, Poland, Romania, Russia, Sweden and USA.

***Astiphromma varipes* (Holmgren, 1860)**

**Material examined:** West Azarbayjan province, Makoo, 1♀, September 2010.

**General distribution:** Austria, Azerbaijan, Finland, Germany, Hungary, Italy, Poland, Romania and Sweden.

**Subfamily Ophioninae Shuckard, 1840**

**Genus *Enicospilus* Stephens, 1835**

***Enicospilus undulatus* (Gravenhorst, 1829)**

**Material examined:** Kurdistan province, Deh Golan, 1837 m, 1♂, July 2010.

**General distribution:** Armenia, Austria, Azerbaijan, Belarus, Belgium, China, former Czechoslovakia, Egypt, Finland, France, Georgia, Germany, Hungary, Israel, Italy, Latvia, Libya, Morocco, Netherlands, Paraguay, Poland, Romania, Russia, Spain, Sweden, Tajikistan, Tunisia, Turkmenistan, Ukraine and United Kingdom.

**Subfamily Orthocentrinae Forster, 1869**

**Genus *Plectiscus* Gravenhorst, 1829**

***Plectiscus impurator* Gravenhorst, 1829**

**Material examined:** Mazandaran province, Tonekabon (Jangal-e 2000), 1♂, July 2013.

**General distribution:** Austria, Belgium, Bulgaria, former Czechoslovakia, Finland, France, Germany, Hungary, Ireland, Lithuania, Netherlands, Norway, Poland, Russia, Sweden and United Kingdom.

**Subfamily Pimplinae Wesmael, 1845**

**Genus *Acrodactyla* Haliday, 1838**

***Acrodactyla carinator* (Aubert, 1965)**

**Material examined:** Qazvin province, Moalem Kelayeh, 1517 m, 2♀, September 2011.

**General distribution:** Austria, Azerbaijan, Belarus, Bulgaria, France, Germany, Lithuania, Mongolia, Netherlands, Russia, Spain, Sweden, Switzerland **(Yu *et al.*, 2016)** and Finland (R. Jussila).

**Subfamily Stilbopinae Förster, 1869**

**Genus *Stilbops* Förster, 1869**

***Stilbops ruficornis* (Gravenhorst, 1829)**

**Material examined:** Guilan province, Siahkal, 2♀, June 2015.

**General distribution:** Austria, Belgium, Bulgaria, Czech Republic, Finland, France, Germany, Hungary, Italy, Latvia, Lithuania, Luxembourg, Moldova, Poland, Romania, Russia, Spain, Sweden, Ukraine and United Kingdom.

**Subfamily Tersilochinae Schmiedeknecht, 1910**

**Genus *Barycnemis* Förster, 1869**

***Barycnemis exhaustator* (Fabricius, 1798)**

**Material examined:** Kurdistan province, Qorveh, 1323 m, 1♀, September 2013.

**General distribution:** Austria, Belgium, Denmark, Finland, France, Germany, Hungary, Kazakhstan, Moldova, Netherlands, Poland, Romania, Russia, Switzerland and United Kingdom.

***Barycnemis punctifrons* Horstmann, 1981**

**Material examined:** Mazandaran province, Sari (Pahnehkola), 1♀, September 2014.

**General distribution:** Austria, Bulgaria, Czech Republic, Denmark, Georgia, Germany, Hungary, Kazakhstan, Latvia, Poland, Romania, Russia, Ukraine, United Kingdom **(Yu *et al*., 2016)** and Finland (R. Jussila).

**Genus *Probles* Förster, 1869**

***Probles* (*Euporizon*) *exilis* (Holmgren, 1860)**

**Material examined:** Guilan province, Astara (Qarehsu), 1♀, September 2004.

**General distribution:** Austria, Belgium, former Czechoslovakia, Finland, France, Germany, Norway, Poland, Russia, Sweden and Turkey.

**Subfamily Tryphoninae Shuckard, 1840**

**Genus *Cycasis* Townes, 1965**

***Cycasis rubiginosa* (Gravenhorst, 1829)**

**Material examined:** Razavi Khorasan, Neyshabour (Khajeh-Abad), 3♀, 2♂, August 2011, ex *Cydia pomonella* (Linnaeus, 1758) (Lepidoptera: Tortricidae).

**General distribution:** Albania, Austria, Azerbaijan, Belarus, Belgium, Bulgaria, former Czechoslovakia, Finland, France, Germany, Hungary, Italy, Kazakhstan, Kyrgyzstan, Latvia, Moldova, Mongolia, Netherlands, Norway, Poland, Romania, Russia, Spain, Sweden, Switzerland, Turkmenistan, Ukraine and United Kingdom.

**Genus *Eridolius* Förster, 1869**

***Eridolius alacer* (Gravenhorst, 1829)**

**Material examined:** Khuzestan province, Izeh, 897 m, 1♀, 1♂, April 2009.

**General distribution:** Austria, Azerbaijan, Belgium, former Czechoslovakia, Finland, France, Georgia, Germany, Hungary, Italy, Lithuania, Mongolia, Netherlands, Norway, Poland, Romania, Russia, Sweden and United Kingdom.

**Genus *Polyblastus* Hartig, 1837**

***Polyblastus varitarsus* (Gravenhorst, 1829)**

**Material examined:** Kurdistan province, Qorveh (Shoorab-Haji), 2♀, 2♂, September 2011.

**General distribution:** Eastern Palaearctic, Europe, Nearctic, and Western Palaearctic regions.

**Subfamily Xoridinae Shuckard, 1840**

**Genus *Odontocolon* Cushman, 1942**

***Odontocolon appendiculatum* (Gravenhorst, 1829)**

**Material examined:** Qazvin province, Moalem Kelayeh, 1♀, September 2011.

**General distribution:** Austria, former Czechoslovakia, Finland, France, Georgia, Germany, Greece, Hungary, Italy, Moldova, Poland, Romania, Russia, Sweden and Switzerland.

The results of the present research with nine new country records indicate that the fauna of Iranian Ichneumonidae is very diverse and also has poorly been studied. Faunistic surveys on Iranian Ichneumonidae have not been conducted in all areas and there are several regions where have not been sampled systematically so far, especially eastern and southern areas.

Continue to faunistic surveys in these areas surely will result to finding of new data (New country records, new distributional data, new host records, and probably new species). Regarding to ichneumonids' importance in biological control of several agricultural and forest pests, conservation of these powerful parasitoids will result to suppression of pests' populations **(Godfray, 1994; Gurr and Wratten, 2000 and Quicke, 2015).**

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