

**A contribution to ichneumonid wasps of Iran (Hym.:
Ichneumonidae): Anomaloninae, Cremastinae, Ctenopelmatinae,
Mesochorinae, Metopiinae and Orthopelmatinae)**

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Abstract

This checklist provides faunistic data for 19 species belonging to 6 ichneumonid wasps: Anomaloninae, Cremastinae, Ctenopelmatinae, Mesochorinae, Metopiinae, and Orthopelmatinae, of which, 3 species from Anomaloninae, 4 species and 2 genera (*Cremastus* and *Trathala*) from Cremastinae, 1 species and 1 genus (*Mesoleius*) from Ctenopelmatinae, 2 species from Metopiinae and 1 species from Orthopelmatinae are newly recorded for the Iranian fauna. A brief check list of the previously recorded species of these subfamilies from Iran is provided. The present work increases the number of the Iranian species of Anomaloninae, Cremastinae, Ctenopelmatinae, Metopiinae, Orthopelmatinae, and Mesochorinae to 9, 7, 2, 5, 2, and 1 respectively.

Key words: Iran, fauna, Ichneumonidae, Anomaloninae, Cremastinae, Ctenopelmatinae, Mesochorinae, Metopiinae and Orthopelmatinae.

چکیده

این مقاله اطلاعات فونستیک مربوط به ۱۹ گونه از زنبورهای خانواده Ichneumonidae متعلق به ۶ زیر خانواده Anomaloninae، Cremastinae، Ctenopelmatinae، Mesochorinae، Metopiinae و Orthopelmatinae را ارائه داده است، که از این تعداد ۳ گونه از Anomaloninae، ۴ گونه و ۲ جنس *Cremastus* و *Trathala* از Cremastinae، ۱ گونه و ۱ جنس

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Orthopelmatinae از ۱ گونه و Metopiinae از ۲ گونه، Ctenopelmatinae از *Mesoleius* گزارش‌های جدیدی برای فون ایران می‌باشند. به علاوه نام تمام گونه‌هایی که تا کنون از ایران گزارش شده‌اند به همراه مناطق پراکنش آن‌ها ذکر شده است. بر اساس این مطالعه گونه‌های شناخته شده از ایران به ترتیب برای زیرخانواده‌های Anomaloninae، Cremastinae، Ctenopelmatinae، Metopiinae و Orthopelmatinae به تعداد ۹، ۷، ۲، ۵ و ۲ گونه افزایش یافته و تنها یک گونه از زیرخانواده Mesochorinae از ایران شناخته شده است*.

واژه‌های کلیدی: ایران، فون، Ichneumonidae، Anomaloninae، Cremastinae، Ctenopelmatinae، Mesochorinae، Metopiinae و Orthopelmatinae.

Introduction

Ichneumonidae is the largest hymenopterous family. It is known as one of the largest in the Insecta with more than 60000 species. This cosmopolitan family usually occurs in all kinds of climates, though humid habitats are more favourite. The eastern Palaearctic and eastern Nearctic regions are particularly rich in ichneumonid species. Ichneumonids are parasitoids of immature holometabolous insects from orders such as Coleoptera, Diptera, Hymenoptera, Lepidoptera, Raphidioptera, Trichoptera and also non-insect Chelicerata (Araneae) (Townes 1969 and 1970, Goulet & Huber, 1993). The highly diverse family of Ichneumonidae, with 39 subfamilies, has been poorly represented in Iran.

The Anomaloninae contains 760 species worldwide, of which 210 species occur in the Palaearctic region (Yu *et al.*, 2005). From this subfamily 6 species have previously been recorded from Iran (Townes *et al.*, 1965, Kasparyan 1981, Kolarov 1986, Shojaei 1996, Mojeni & Šedivý, 2001, Kolarov & Ghahari, 2005). This subfamily is named Anomalinae and Theriinae by Townes and Dash, respectively.

The Cremastinae consists of 650 known species, of which 130 species occur in the Palaearctic region (Yu *et al.*, 2005). From this subfamily 3 species have previously been recorded from Iran (Radjab 1986, Yu *et al.*, 2005, Anento *et al.*, 2002, Kolarov & Ghahari, 2005).

The Ctenopelmatinae with 1200 regional species contains 800 species in the Palaearctic

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region (Yu *et al.*, 2005). Only one species belonging to this subfamily has previously been recorded from Iran (Masnadi-Yazdinejad 2008).

The Mesochorinae consists of 660 known species, of which 160 species occur in the Palaearctic region (Yu *et al.*, 2005). From this subfamily 1 species has previously been recorded from Iran (Masnadi-Yazdinejad & Riedel, 2008).

The Metopiinae consists of 70 known species, of which 320 species occur in the Palaearctic region (Yu *et al.*, 2005). From this subfamily 3 species have previously been recorded from Iran (Kasparyan 1981, Tolkanitz 1987, Kolarov 1995, Yu *et al.*, 2005, Kolarov & Ghahari, 2005).

The Orthopelmatinae consists of 9 known species, of which 5 species occur in the Palaearctic region (Yu *et al.*, 2005). From this subfamily 1 species have previously been recorded from Iran (Talebi *et al.*, 2004).

This article provides additional records of these subfamilies from Iran along with their distribution in the country.

Material and methods

The material for this study was made possible by the extensive collections of ichneumonids during 1998-2007 in addition to the available specimens at the Hayk Mirzayans Insect Museum (HMIM) from 1970 till 2007. Sweeping insect nets, Malaise and light traps were used for collecting the specimens. To increase the efficiency in net sampling, the sweeping nets with a moderately long handle (120 cm) and wide ring diameter (of 45 cm) were used. The collected ichneumonid specimens were preserved in ethanol 76%. Samplings were done without any regularity or time table. The collected specimens by Malaise trap were gathered after 24 or 48 hours and for light trap after a night. Collected specimens after preserving in Ethyl alcohol 76% or Ditrix solution carried to laboratory and mounted into the collection boxes. Some identification and confirmation have been done by M. Riedel (Klinik Fallingbostel, Bad Fallingbostel, Germany) and the second author.

The entire examined materials are deposited at the Hayk Mirzayans Insect Museum (HMIM), Insect Taxonomy Research Department, Iranian Research Institute of Plant Protection.

Result

The total species known from Iran belong to the six subfamilies Anomaloninae,

Cremastinae, Ctenopelmatinae, Mesochorinae, Metopiinae and Orthopelmatinae including the new records are presented for the Iranian fauna. The newly recorded species are marked with one asterisk and the new genera with two asterisks. According to the results, the newly recorded species/genera for these subfamilies are Anomaloninae 3 species, Cremastinae 4 species, 2 genera, Ctenopelmatinae 1 species, 1 genus, Mesochorinae 1 species, Metopiinae 2 species and, Orthopelmatinae 1 species. The list of all known species from the six subfamilies is given in tables 1-6. The list is based on both the material examined by the authors and the literature review. The related references and the distribution area of each species are mentioned in the tables. The exact collecting localities and dates given too. A short comment is presented for each examined species.

1- Subfamily Anomaloninae

Body small to large, slender; clypeus often not separated from face by groove, its apical margin often with a median point; ventroposterior corner of propleuron with strongly produced lobe that touches or overlaps pronotum; tarsal claws simple or pectinate; metasomal segment 1 long and usually slender, without glymma and with no trace of tergal-sternal suture and with spiracle near apex. The Anomaloninae are koinobiont endoparasitoids of Lepidoptera or Coleoptera. They put their egg into the larvae while the emergence always occurs in the pupa. The adults often found in drier habitats than the other ichneumonid subfamilies (Goulet and Huber, 1993).

Seven species from two tribes have been previously recorded from this subfamily. (Šedivý 1968; Kasparyan 1981, Mojeni & Šedivý, 2001, Yu *et al.*, 2005; Kolarov & Ghahari, 2005). This subfamily consist of 2 tribes: Anomalonini and Gravenhorstini.

Tribe Anomalonini

**Anomalon amseli* (Hedwig, 1961)

Microcremastus amseli Hedwig, 1961

Material examined: Khorasane Razavi, 1 ♂, Mashhad, 10.V.1999, A. Masnadi-Yazdinejad.

Distribution: Palearctic.

Remarks: The species *A. amseli* is newly recorded from Iran.

Anomalon cruentatum (Geoffroy 1785)

Ichneumon petiolatus Geoffroy, 1785

Ophion foliator Fabricius, 1798

Nototrachys rufoorbitale Cameron, 1906

Nototrachys flavoorbitale Cameron, 1907

Anomalon epiphanii Izquierdo, 1977

Material examined: Ardabil: 1 ♀, Jeiran, 11.VI.2006, A. Masnadi-Yazdinejad.

Distribution: Eastern and western Palaearctic; Oriental.

Remark: The major host species are *Gonocephalum rusticum* (Col.: Tenebrionidae), *Agrotis ipsilon* (Lep.: Noctuidae) and *Ptilodon capucina* (Lep.: Notodontidae) (Yu *et al.*, 2005).

Tribe Gravenhorstini

**Barylypa delictor* (Thunberg, 1824)

Material examined: Gilan, 1 ♂, Rasht, 12.V.2006, A. Masnadi-Yazdinejad.

Distribution: Eastern and western Palaearctic.

Remark: This is the first record of this species from Iran. Its hosts species are *Acronictamenyanthidis*, *Actinotia hyperici*, *Calophasia lunula*, *Eutricha capensis*, *Lymantria dispar* (Lep.: Lymantriidae) and *Malacosoma castrense*, *Malacosoma neustria* (Lep.:Lasiocampida) (Yu *et al.*, 2005).

**Barylypa helleni* Schnee, 1989

Material examined: Ghom, 1 ♀, Ghom, 3.XI.1974, Farz.

Distribution: Europe and western Palaearctic.

Remark: This is the new record for the Iranian fauna. Its host species is *Zygaena ephialtes* (Lep.: Zygaenidae) (Yu *et al.*, 2005).

Anomalon pallidum (Gravenhorst, 1829)

Anomalon rufum Provancher, 1874

Anomalon melanocneme Vollenhoven, 1878

Laphyctes insidiator Forster, 1878

Anomalon laticeps Rudow, 1883

Anomalon discrepans Brauns, 1895

Anomalon renidens Tosquinet, 1896

Anomalon humerale Brulle, 1932

Barylypa persicator Aubert, 1966

Material examined: Hormozgan, 1 ♂, Geno, 1550 m., 18.IV.1994, E. Ebrahimi and M. Parchami-Araghi.

Distribution: Eastern and western Palaearctic.

Remarks: The major noctuid host species are *Agrotis ipsilon*; *Agrotis segetum*; *Helicoverpa armigera*; *Helicoverpa zea*, *Spodoptera exigua* and *Spodoptera litura*. The other hosts are *Lymantria dispar* (Lep.: Lymantriidae) and *Malacosoma neustria* (Lep.: Lasiocampidae) (Yu *et al.*, 2005).

2- Subfamily Cremastinae

Body not very large, slender; clypeus small to moderately large, separated from face by groove; ventroposterior corner of propleuron with strongly produced lobe, the lobe touching or overlapping pronotum. Many species are well known as endoparasitoids of Lepidoptera; known as koinobionts and, less commonly, attack the Coleoptera larvae in tunnels, buds, galls, leaf rolls and other concealed situations (Goulet & Huber, 1993). From this subfamily 3 species have been previously recorded for the Iranian fauna. (Radjabi, 1986, Narolsky, 1990, Anento *et al.*, 2002, Yu *et al.*, 2005, Kolarov & Ghahari, 2005). We totally examined 6 species, of which, 5 species and 3 genera are new records for the Iranian fauna.

***Cremastus gigas* Heinrich, 1953

Material examined: Fars, 1 ♂, Marvdasht, 19.V.2000. A. Masndi-Yazdinejad.

Distribution: Europe and western Palaearctic.

Remark: The newly recorded species *C. gigas* is a parasitoid of *Lymantria dispar* (Lep.: Lymantriidae) (Yu *et al.*, 2005).

**Pristomerus luridus* Kokujev, 1905

Pristomerus pallidus Kriechbaumer, 1884

Material examined: Khorasan Razavi, 1 ♀, Astan-e Ghods farm, Unite, 2280 m, 18.IV.1997, M. Badii, H. Barari and A. Sarafrazi.

Distribution: Eastern and western Palaearctic.

Remark: This is the first record for the species *P. luridus* from Iran.

Pristomerus vulnerator Panzer, 1799

Pristomerus schreineri Ashmead, 1904

Pristomerus marginalis Habermehl, 1923

Cremastus stigmaticus Hellen, 1949

Material examined: Azarbayegan-e Gharbi, 3 ♀♀, Kahriz, 16.X.2003, Akbarzade.

Distribution: Eastern and western Palaearctic, Nearctic, Oceanic; Oriental.

Remark: This species is used as a biocontrol agent of lepidopterous tortricid species *Cydia nigricana*, *Cydia pomonella* and *Grapholita molesta* (Radjabi, 1986, Yu *et al.*, 2005).

Temelucha persicator (Horstmann and Yu, 1999)

Material examined: Gilan, 1 ♂, Rudbar, Arbenaf, Dorfak, 2400-2700 m. 30.VIII.1999, E. Ebrahimi, M. Badii and M. Mofidi-Neyestanak.

Distribution: Eastern and western Palaearctic, Ethiopian.

**Temelucha schoenobia* (Thomson, 1980)

Material examined: Golestan, 1 ♀, P. M. Golestan, Golzar, 840 m., 25.IX.2000, R. Ghaiofar.

Distribution: Eastern and western Palaearctic.

Remark: The species *T. schoenobia* is newly recorded from Iran.

***Trathala hierochontica* Schmiedeknecht, 1910

Material examined: Mazandaran, 1 ♀, Golestan Forest, Tang-e Gol, 700 m., 17.V.1993, A. Pazoki and M. Badii.

Distribution: Eastern and western Palaearctic.

Remark: The species *T. hierochontica* is newly recorded from Iran.

3- Subfamily Ctenopelmatinae

This subfamily has been mentioned by Townes as Scolobatinae (Townes, 1969; Goulet & Huber, 1993). The Ctenopelmatinae is easily recognized by the following characters: Body small to large; fore wing 2.9 to 22 mm long; clypeus fairly flat, usually wide and short; it is separated from face by groove and its apical margin often blunt or rounded; apex of protibia with tooth on dorsal margin; ovipositor barely extending beyond metasomal apex, its tip with subapical dorsal notch unless the ovipositor is very slender, the tip of lower valve without teeth. In point of biology the species of this subfamily are koinobiont endoparasitoids of Symphyta and, rarely, Lepidoptera. The oviposition is into the egg or larva, with emergence

after the host cocoon is spun. Ctenopelmatinae is a worldwide subfamily with 7 tribe, 95 genera and 1200 species, of which most species occurs in the Holarctic region. One newly recorded species and genus is presented as follow.

Tribe Mesoleini

***Mesoleius aulicus* Gravenhorst, 1829

Mesoleius pusio Holmgren, 1857

Mesoleius tenthredinis Morley, 1912

Material examined: Tehran, 1 ♂, Dizin, Velayatrud, 2500 m, 15.VII.1993, E. Ebrahimi and M. Parchami Araghi.

Distribution: Western Palaearctic.

Remark: The newly recorded species *M. aulicus* gets attracted to the light and known as a biological agent for *Pristiphora erichsonii*. The other major tenthredinid host species are *Hoplocampa crataegi*, *Hoplocampa fulvicornis*, *Nematus fuscipennis*, *Nematus miliaris*, *Nematus rumicis*, *Pontania viminalis*, *Pristiphora abietina*, *Pristiphora erichsonii*, *Trichiocampus viminalis* (Yu *et al.*, 2005).

Tribe Perilissini

Priopoda apicaria (Geoffroy, 1785)

Ichneumon luteolus Gmelin, 1790

Ichneumon sticticus Fabricius, 1798

Ichneumon glabrator Thunberg, 1822

Material examined: Tehran, 1 ♂, Firuzkuh, 12 km, N Firuzkuh, Vash village, 2200 m, 4.VI.2005, Berg.

Distribution: Western Palaearctic.

Remark: Its host species is *Arge ustulata* (Lep.: Argidae) (Yu *et al.*, 2005).

4- Subfamily Mesochorinae

Body small to large (fore wing 3-25 mm long); Clypeus not separated from face by groove, its apical margin without median notch or tooth; labrum sometimes prominently exposed; fore wing with areolet large and usually rhombic (diamond-shaped); postpectal carina never complete; propodeum usually completely carinate; tarsal claws simple or pectinate; first tergite more or less long; ovipositor very slender, without dorsal subapical

notch. They are mostly koinobiont hyperparasitoids of ectoparasitic or endoparasitic Braconidae and Ichneumonidae and less frequently, of Tachinidae (Diptera). There is a report of a mesochorine reared as a primary endoparasitoid of Lepidoptera. This subfamily consist of 7 genera, of which most species belong to the genus *Mesochorus* Gravenhorst, 1829. The species *Cidaphus alarius* (Gravenhorst, 1829) has been previously recorded from Iran (Masnadi-Yazdinejad & Riedel, 2008). 2 species including one newly recorded species and genus of this subfamily are recorded for the Iranian fauna.

Cidaphus alarius (Gravenhorst, 1829)

Paniscus areolatus Boie, 1850

Cidaphus thuringiacus Brauns, 1889

Mesochorus gigas Kriechbaumer, 1897

Plesiophthalmus brischkei Szepliget, 1911

Material examined: Ghilan, 1 ♀, Loshan, Amarloo- Damash, 1750 m. 12. VI. 2006, Masnadi-Yazdinejad.

Distribution: Eastern and western Palaearctic; Oriental.

Remark: This species gets attracted to the light and attacks to ichneumonid species such as *Banchus hastator*, *Dusona cultrator* and *Ichneumon mixtus*. The other known host species are *Ancylis achatana* (Lep.: Tortricidae), *Biston betularia* (Lep.: Geometridae), *Ernestia rudis* (Dip.: Tachinidae), *Furcula bicuspis* (Lep.: Notodontidae), *Melanchra persicariae* (Lep.: Noctuidae) (Yu *et al.*, 2005).

Table 1- The Iranian species of Anomaloniinae

Tribe	Species	Distribution in Iran	References
Anomalonini	<i>Anomalon anseli</i> (Hedwig, 1961)	Khoroasane razavi (Mashhad)	New record
	<i>Anomalon cruentatum</i> (Geoffroy, 1785)	Ardabil (Jeiran)	Morley 1912; Šedivý 1968, Townes & al. 1965, Kolarova & Ghahari 2005
Gravenhorstini	<i>Barylypa amabilis</i> (Tosquinet, 1900)	Gorgan, Gonbad, Kermanshah, Minodasht, Kordkoy, Zabol.	Meyer 1935; Townes & al. 1965; Kasparyan 1981; Yu & Horstmann 1997; Kolarova & Ghahari, 2005.
	<i>Barylypa delictor</i> (Thunberg, 1824)	Gilan (Rasht)	New record
	<i>Barylypa helleni</i> Schnee, 1989	Ghom (Ghom)	New record
	<i>Barylypa pallida</i> (Gravenhorst, 1829)	Hormozgan (Geno) Gorgan, Gonbad, Minodasht	Yu and Horstmann, 1997, Kolarov and Ghahari, 2005
	<i>Barylypa transcaspica</i> Kokujev, 1903	Shanku,	Townes & al. 1965; Kolarov & Ghahari 2005
	<i>Barylypa uniguttata</i> (Gravenhorst, 1829)	Ramsar	Kasparyan 1981; Kolarov 1986; Kolarov & Ghahari 2005.
	<i>Kokujewiella ibera</i> (Ceballos, 1957)	Hamedan	Aubert & al. 1984; Kolarov & Ghahari 2005.

Table 2- The Iranian species of *Cre mastinae*

Species	Distribution in Iran	References
<i>Cre mastus gigas</i> Heinrich, 1953	Fars (Marvdasht)	New record
<i>Pristomerus luridus</i> Kokujev, 1905	Khorasan (Astan-e ghods farm)	New record
<i>Pristomerus vulnerator</i> Panzer, 1799	Azarbayejan-e Gharbi (Kahriz)	Radjabi 1986
<i>Temelucha dorsonigra</i> (Hedwig, 1957)	————	Yu & Horstmann, 1997; Anento & al. 2002, Kolarov & Ghahari 2005 (no locality is mentioned).
<i>Temelucha persicator</i> (Horstmann and Yu, 1999	Gïkan (rudbar, Arbenaf, dorfak)	Yu & Horstmann 1997
<i>Temelucha schoenobia</i> (Thomson, 1980)	Golestan (P. M. Golestan)	New record
<i>Trathala hierochontica</i> Schmiedeknecht, 1910	Mazandaran (Golestan Forest, Tang-e Gol)	New record

Table 3- The Iranian known species of subfamily **Ctenopelmatinae**.

Tribe	Species	Distribution in Iran	References
Mesolini	<i>Mesoleius aulicus</i> Gravenhorst, 1829	Tehran (Dizin, Velayatrud)	New record
Perilissini	<i>Priopoda apicaria</i> (Geoffroy, 1785)	Tehran (Firuzkuh, Markazi district, 12km, N Firuzkuh, Vash village)	Masnadi-Yazdinejad 2008

Table 4- The Iranian species of **Mesochorinae**.

Species	Distribution in Iran	References
<i>Cidaphus alarius</i> (Gravenhorst, 1829)	Ghilan (Loshan, Amarloo- Damash)	Masnadi-Yazdinejad & Riedel, 2008

Table 5- The Iranian species of **Metopinae**.

Species	Distribution in Iran	References
<i>Exochus castaniventris</i> Brauns, 1896	Esfahan (Ardestan, Mahabad)	New record
<i>Exochus gravipes</i> (Gravenhorst, 1829)	————	Kasparyan, 1981; Kolarov & Ghahari, 2005 (No locality is mentioned)
<i>Exochus mitratus</i> Gravenhorst, 1829	Tehran, 1 ♀, Robat Karim, Yagheh	New record
<i>Metopius croceicornis</i> Thomson, 1887	————	Tolkanitz 1987; Kolarov 1995, Kolarov & Ghahari, 2005.
<i>Metopius vespulator</i> Aubert, 1979	————	Yu & Horstmann, 1997, Kolarov & Ghahari, 2005.

Table 6- The Iranian species of **Orthopelmatinae**.

Species	Distribution in Iran	References
<i>Orthopelma mediator</i> Thunberg, 1822	Tehran, Tabariz, Oromieeh	Talebi <i>et al.</i> , 2004
<i>Orthopelma pavoniae</i> (Gravenhorst, 1829)	Zanjan (Khorramdarreh, Hidaj)	New record

5- Subfamily Metopininae

Body small to large (fore wing 3 to 11 mm long); clypeus not separated from face by groove, both forming an evenly convex surface except in *Metopius*, where face has a flat or concave shield-shaped area bounded into triangular process extending between or over toruli; sternaulus of mesopleuron absent or short; ovipositor short, not extending beyond metasomal apex and sometimes with weak dorsal notch some distance from apex.

The species of this cosmopolitan subfamily are koinobiont endoparasitoids of Lepidoptera larvae, usually those in leaf rolls or folds. The oviposition is into the larva and emergence is from the pupa. Metopiinae includes 26 genera and 704 species. Three species from two genera have been previously recorded from Iran. (Kasparyan, 1981, Tolkanitz, 1987, Kolarov, 1995, Yu *et al.*, 2005, Kolarov & Ghahari, 2005). This result consists of three examined specimens including two new reports for the Iranian fauna.

**Exochus castaniventris* Brauns, 1896

Exochus meridionalis Seyrig, 1927

Material examined: Esfahan, 1 ♂, Ardestan, Mahabad, 950 m, E. Ebrahimi and M. Parchami-Araghi.

Distribution: Eastern and western Palearctic.

Remark: It is the first record of the species *E. castaniventris* from Iran.

**Exochus mitratus* Gravenhorst, 1829

Exochus affinis Holmgren, 1858

Exochus australis Thomson, 1894

Exochus paradoxus Schmiedeknecht, 1900

Exochus pseudaffinis Strobl, 1903

Exochus britannicus Morley, 1911

Exochus punctifer Schmiedeknecht, 1924

Material examined: Tehran, 1 ♀, Robotkarim, Yagheh, 1000 m, 19.V.1992, E. Ebrahimi and M. Badii.

Distribution: Eastern and western Palaearctic, Nearctic.

Remark: It is a newly recorded endoparasitoid species for the Iranian fauna and known as solitary species that emerges from the pupal stage of *Eudemis porphyrana* (Lep.: Tortricidae), *Phycita roborella* (Lep.: Pyralidae), *Yponomeuta malinella* and *Yponomeuta padella* (Lep.: Yponomeutidae) (Yu *et al.*, 2005).

Metopius croceicornis Thomson, 1887

Ichneumon chrysopus Lewing, 1797, (homonym)

Material examined: Tehran, 2 ♂♂, Dizin, Velayatrud, 2500 m, 15.VIII.1993, E. Ebrahimi and M. Parchami-Araghi.

Distribution: Eastern and western Palaearctic.

Remark: This species emerges from pupal stage of *Cerura vinula* (Lep.: Notodontidae), *Lasiocampa terreni* and *Lasiocampa trifolii* (Lep.: Lasiocampidae) (Yu *et al.*, 2005).

6- Subfamily Orthopelmatinae

Body small (fore wing between 3 to 4 mm long); clypeus small and weakly convex, separated from face by groove, apical margin concave and exposing a semicircular labrum; sternaulus of mesopleuron absent or short; fore wing with areolet open, hind wing without vein *2m-cu*; ovipositor 0.3 – 1.6 times as long as metatibia, its dorsal subapical notch absent. The species of this subfamily are endoparasitoids in galls of Cynipidae on *Rubus* and *Rosa*. Orthopelmatinae consists of one genus (*Orthopelma* Taschenberg, 1865) and 9 species. The species *Orthopelma mediator* Thunberg, 1822 has been previously recorded from Iran (Talebi *et al.*, 2004). The following result includes two examined materials, of which one species is newly recorded for the fauna of Iran. Two species were examined including one species that is newly recorded for the Iranian fauna.

Orthopelma mediator Thunberg, 1822

Ichneumon bedeguaris Geoffroy, 1785, (homonym)

Hemiteles luteolator Gravenhorst, 1829

Hemiteles pavoniae Rondani, 1877

Orthopelma minutum Ashmead, 1890

Orthopelma rosaecola Ashmead, 1890

Material examined: Fars, 1 ♂, Shiraz, Maharlou Lake, 1500 m., 23.IV.1992, M. Badii and H. Mirzayans.

Distribution: Western Palaearctic; Nearctic.

Remark: This species emerges from the cocoon; or larva/nymph. The host species are *Leucania obsoleta* (Lep.: Noctuidae), *Pristiphora abietina* (Hym.: Tenthredinidae), *Rabdophaga saliciperda* (Dip.: Cecidomyiidae) and *Saturnia pyri* (Lep.: Saturnidae) (Yu *et al.*, 2005).

**Orthopelma pavoniae* (Gravenhorst, 1829)

Material examined: Zanjan, 1 ♀, Khorramdarreh, Hidaj, 1750 m, 29.VII.1992, M. Parchami-Araghi and M. Badii.

Distribution: Western Palaearctic.

Remark: The species *O. pavoniae* is a new record for the Iranian fauna. The known host species is *Saturnia pyri* (Lep.: Saturnidae) (Yu *et al.*, 2005).

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