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(Hymenoptera: Chalcidoidea)**



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Abstract

Parasitic wasps of the family Pteromalidae (Hymenoptera: Chalcidoidea) are one of the numerous and economically important groups of parasitoids. The species diversity of these beneficial insects in Iran is summarized in this paper. In total, 227 species from 114 genera and 16 subfamilies, Asaphinae (2 genera, 3 species), Cerocephalinae (2 genera, 4 species), Cleonyminae (7 genera, 8 species), Colotrechninae (1 genus, 1 species), Cratominae (1 genus, 1 species), Diparinae (1 genus, 1 species), Eunotinae (5 genera, 8 species), Macromesinae (1 genus, 1 species), Miscogasterinae (5 genera, 14 species), Ormocerinae (2 genera, 6 species), Panstenoninae (1 genus, 1 species), Pireninae (2 genus, 2 species), Pteromalinae (79 genera, 165 species), Spalangiinae (1 genus, 8 species), Sycophaginae (2 genera, 2 species), and Sycoryctinae (2 genera, 2 species) are listed in the fauna of Iran.

K e y w o r d s : Hymenoptera, Chalcidoidea, Pteromalidae, Catalogue, Distribution, Iran.

Zusammenfassung

Die parasitischen Wespen der Familie Pteromalidae (Hymenoptera: Chalcidoidea) gehören zu den artenreichsten und wirtschaftlich bedeutendsten Parasitoiden. Vorliegende Arbeit behandelt das Vorkommen dieser Familie im Iran. Insgesamt gelang der Nachweis von 227 Arten aus 114 Gattungen und 16 Unterfamilien in folgender Zusammensetzung: Asaphinae (2 Gattungen, 3 Arten), Cerocephalinae (2 Gattungen, 4 Arten), Cleonyminae (7 Gattungen, 8 Arten), Colotrechninae (1 Gattung, 1 Art), Cratomininae (1 Gattung, 1 Art), Diparinae (1 Gattung, 1 Art), Eunotinae (5 Gattungen, 8 Arten), Macromesinae (1 Gattung, 1 Art), Miscogasterinae (5 Gattungen, 14 Arten), Ormocerinae (2 Gattungen, 6 Arten), Panstenoninae (1 Gattung, 1 Art), Pireninae (2 Gattung, 2 Art), Pteromalinae (79 Gattungen, 165 Arten), Spalangiinae (1 Gattung, 8 Arten), Sycophaginae (2 Gattungen, 2 Arten), und Sycoryctinae (2 Gattungen, 2 Arten).

Introduction

Chalcidoidea (approximately 22,000 described species) is the most ecologically diverse superfamily of parasitic Hymenoptera which plays a major role in the biological control of insect pests (GRISSELL & SCHAUFF 1997; DESJARDINS et al. 2007). Pteromalidae is one of the largest and most difficult families of Chalcidoidea (Hymenoptera). The family is distributed in all biogeographical areas of the world and shows great diversity in morphology and biology (GRAHAM 1969; BOUČEK & HEYDON 1997; BOUČEK 1988; SURESHAN & NARENDRAN 2003). It contains more than 600 valid genera and more than 3500 valid species (NOYES 2015). Thirty-one subfamilies are currently recognized within Pteromalidae (NOYES 2015), although inclusion and exclusion of many subfamilies is still highly uncertain (DESJARDINS 2007; HERATY et al. 2013). The great majority of Pteromalidae are parasitoids (usually primary parasitoids, but hyperparasitism also occurs frequently) and some of them have an efficient role in biological control of pests of agricultural importance. Their hosts are usually larvae and pupae of Lepidoptera, Coleoptera and Diptera. However, different families of the Hemiptera are also frequent hosts of Pteromalidae (BURKS 1979; BOUČEK & RASPLUS 1991; BOUČEK & HEYDON 1997). Although there are few reliable records of their successful utilization in biological control programmes, they play a major role in agriculture, forestry and nature in general (HEYDON 1997; GIBSON 2003; DESJARDINS 2007). A few pteromalids are phytophagous. Some of them develop in seeds of plants, others are gall makers and still others develop as inquiline in insect galls (SURESHAN & NARENDRAN 2003).

The family Pteromalidae is defined only by plesiomorphic characters and is thus paraphyletic or even polyphyletic with respect to other Chalcidoidea. The placement of various subfamilies of Pteromalinae is still uncertain (GIBSON et al. 1999; KROGMANN & VILHELMSSEN 2006; DESJARDINS 2007; HERATY et al. 2013).

Regarding the pteromalid fauna of Iran, it seems highly diverse and it was extensively studied (DAVATCHI & CHODJAI 1968; GHAHARI 2004, 2012, 2014; ABD-RABOU & GHAHARI 2005; ABD-RABOU et al. 2005; GHAHARI et al. 2010a, b; HASANI & MADJIZADEH 2011a, b, 2012; HASANI et al. 2011; LOTFALIZADEH & GHARALI 2008; MITROIU et al. 2011; SAKENIN et al. 2011; GHAHARI & HUANG 2012; FERRER-SUAY et al.

2013; DEHDAR & MADJDZADEH 2013; LOTFALIZADEH 2015; MAHDAVI et al. 2015; HASSAN-PASHAI-MEHR & LOTFALIZADEH 2015). However since an impressive list on Iranian Pteromalidae is absolutely necessary, the aim of this paper is to publish a catalogue with all data on Iranian Pteromalidae.

Materials and Methods

The published data on the family Pteromalidae (Hymenoptera) from Iran are summarized. Additionally, some specimens which were collected by Malaise traps and sweeping nets from different regions of Iran and identified by T.C. Narendran (Zoological Survey of India) are listed in this paper. Also, in order to obtain the parasitoids or hyperparasitoids, infested plant parts were placed in plastic bags under laboratory conditions (25 ± 2 °C, 75 ± 5 RH%, 16: 8 L: D) and adult emergence was monitored. Classification of different taxa follows NOYES (2015). Names of valid genera are listed alphabetically within subfamilies, and valid species names are listed alphabetically within genera. The following data are included: valid taxa names, synonyms, host records, published records with provincial distribution (see Fig. 1), or when this information is not available – "Iran (no locality cited)" is given. The distributional data from outside Iran is extracted directly from the UCD (Universal Chalcidoidea Database, NOYES 2015).

Acronyms of museums and depositories used in the catalogue

ANIC	Australian Capital Territory, Canberra City, CSIRO, Australian National Insect Collection, Australia.
BAUC (=CAU).....	China Agricultural University, Beijing, China.
BMNH	The Natural History Museum [formerly British Museum (Natural History)], London, England.
BRNG	Biologische Reichs. Für Land- und Forstwirtschaft, Naumburg, Germany.
CUTT.....	Plant Protection Department, Cumhuriyet Universitesi, Tokat Ziraat Fakültesi, Tokat, Turkey.
DEL.....	Deutsches Entomologisches Institut im ZALF, Müncheberg, Germany.
DEZP	Departimento di Entomologia e Zoologia Agraria, Università di Napoli, Portici, Italy.
DOCO	D.C. Darling Collection, Canada.
ETHZ	Erdgenössische Technische Hochschule-Zentrum, Zurich, Switzerland.
GTRC.....	G. T. Rudd coll., Yorkshire Museum, York, England.
HDOU	Hope Department, Oxford University, Oxford, England.
HMIM.....	The Hayk Mirzayans Insect Museum, Tehran, Iran.
HNHM	Hungarian Natural History Museum, Budapest, Hungary.
IARI.....	Indian Agricultural Research Institute, Delhi, India.
INHS	Champaign, Illinois Natural History Survey, Illinois, USA.
IZAS (=IZCAS).....	Beijing, Chinese Academy of Sciences, Institute of Zoology, China.

LCLS	Linnaeus Collection, Linnean Society, London, England.
LUZN.....	Lincoln University, Lincoln, New Zealand.
MCSN.....	Museo Civico di Storia Naturale "Giacomo Doria", Genova, Italy.
MECO.....	N.F. Meyer Collection, (Leningrad or Moscow), Russia.
MHNB	Grigore Antipa Museum, Romania.
MHNG	Muséum d'Histoire Naturelle, Geneva, Switzerland.
MICO.....	Mitroiu Collection, Faculty of Biology, Alexandru Ioan Cuza University, Iasi, Romania.
MIZT	Università di Torino, Torino, Italy.
MKUT	Insect Museum of Plant Protection Department, Agriculture Faculty, Mustafa Kemal University, 31034 Antakaya, Hatay, Turkey.
MLSF.....	Museum "La Specola", Florence, Italy.
MNCN	Museo Nacional de Ciencias Naturales, Madrid, Spain.
MNHG	Museum of Natural History, Gothenberg, Sweden.
MNHN	Muséum National d'Histoire Naturelle, Paris, France.
MRSN	Museo Regionale di Scienze Naturali, Torino, Italy.
NHMV	Naturhistorisches Museum, Vienna, Austria.
NHRM	Naturhistoriska Riksmuseet, Stockholm, Sweden.
NMID.....	National Museum of Ireland, Dublin, Ireland.
NMP (=NMPC).....	National Museum (Natural History), Prague, Czech Republic.
QMB (=QM).....	Queensland, South Brisbane, Queensland Museum, Australia.
RNHL	Rijksmuseum Natuurlijke, Leiden, Netherlands.
SJCA	Uttar Pradesh, Agra, St. John's College, India.
UCR.....	Riverside, University of California, California, USA.
USNM.....	National Museum of Natural History, [formerly, United States National Museum], Washington D.C., USA.
ZIKU.....	Zoological Institute, Ukrainian Academy of Sciences, Kiev, Ukraine.
ZISP (=ZIN).....	Russian Academy of Sciences, Zoological Institute, St. Petersburg, Russia.
ZMHH	Zoologisches Museum Hamburg, Hamburg, Germany.
ZMUC.....	København [= Copenhagen], University of Copenhagen, Zoological Museum, Denmark.
ZMUH	Universität von Hamburg, Zoologisches Institut und Zoologisches Museum, Hamburg, Germany.
ZSMM (=ZSM).....	Zoologische Staatssammlung, München [= Munich] Germany.

Results

The catalogue includes 227 species from 114 genera under 16 subfamilies. Eighteen species, *Acrocormus semifasciatus* THOMSON, 1878, *Dinotiscus eupterus* (WALKER, 1836), *Mesopolobus aequus* (WALKER, 1834), *Mesopolobus diffinis* (WALKER, 1834), *Mesopolobus incultus* (WALKER, 1834), *Mesopolobus laticornis* (WALKER, 1834), *Mesopolobus nobilis* (WALKER, 1834), *Mesopolobus teliformis* (WALKER, 1834), *Mesopolobus typographi* (RUSCHKA, 1924), *Psilocera obscura* WALKER, 1833,

Rhopalicus quadratus (RATZBURG, 1844), *Rhopalicus tutela* (WALKER, 1836), *Spalangia cameroni* PERKINS, 1910, *Spalangia erythromera* FÖRSTER, 1850, *Spalangia fuscipes* NEES, 1834, *Spalangia nigra* LATREILLE, 1805, *Spalangia nigripes* CURTIS, 1839 and *Stenetra ligustica* MASI, 1931 are new records for the fauna of Iran.

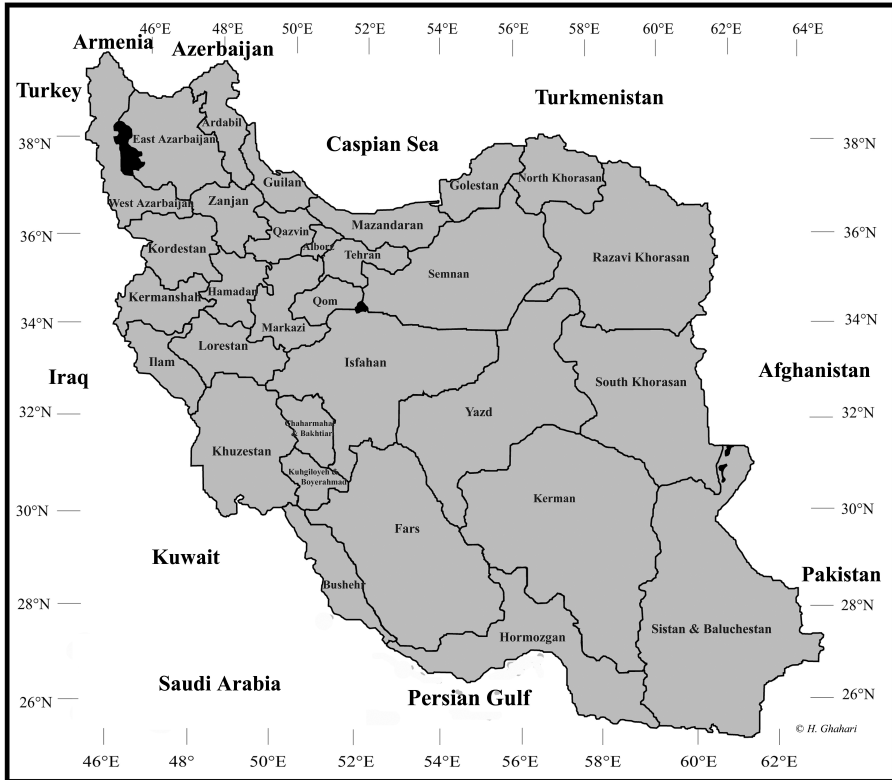


Fig. 1: Map of Iran with boundaries of Provinces.

Subfamily A s a p h i n a e ASHMEAD, 1904

Genus *A s a p h e s* WALKER, 1834

Asaphes WALKER, 1834: 151. Type species: *Asaphes vulgaris* WALKER by monotypy.

***Asaphes suspensus* (NEES, 1834)**

Chrysolampus suspensus NEES, 1834: 127. Lectotype Female, Germany (HDOU), designated and transferred to *Asaphes* by GRAHAM (1969).

Distribution in Iran: Ardabil (GHAFOURI-MOGHADDAM et al. 2014), East Azarbaijan (LOTFALIZADEH & GHARALI 2008), Kerman (MITROIU et al. 2011), Kordestan (DEHDAR & MADJDZADEH 2013).

Distribution outside Iran: Argentina, Belgium, Brazil, Canada, Canary Islands, Chile, China, Croatia, Czech Republic, France, Germany, India, Israel, Italy, Japan, Kazakhstan, Kirgizia, South Korea, Mexico, Morocco, Nepal, the Netherlands, Norway, Pakistan, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Spain, Sweden, Switzerland, Turkey, Ukraine, UK, USA, former Yugoslavia.

Comments: Hyperparasitoid of *Pemphigus spyrothecae* PASSERINI (Hemiptera: Aphididae) (GHAFOURI-MOGHADDAM et al. 2014). Morphology of different life stages of *Asaphes suspensus* was studied by MIRKARIMI (1998).

***Asaphes vulgaris* WALKER, 1834**

Asaphes vulgaris WALKER, 1834: 152. Lectotype Female, United Kingdom-England (BMNH), designated by GRAHAM (1969): 81.

Distribution in Iran: Kordestan (alfalfa field, apple orchard) (NAZEMI-RAFI et al. 2011), Razavi Khorasan (wheat field) (FERRER-SUAY et al. 2013).

Distribution outside Iran: Algeria, Argentina, Armenia, Australia, Austria, Belgium, Brazil, Canada, Chile, China, Croatia, Czech Republic, Europe, Finland, France, Germany, Greece, Greenland, Hungary, Iceland, India, Italy, Kazakhstan, Kirgizia, Korea, Lithuania, Macedonia, Moldova, Morocco, Nepal, the Netherlands, Norway, Pakistan, Poland, Portugal, Romania, Russia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Turkmenistan, Ukraine, UK, USA, Uzbekistan, former Yugoslavia.

Genus *Hyperimerus* GIRAULT, 1917

Hyperimerus GIRAULT, 1917: 5. Type species: *Hyperimerus corvus* GIRAULT, original designation.

***Hyperimerus pusillus* (WALKER, 1833)**

Cyrtogaster pusilla WALKER, 1833: 383. Lectotype (selected by GRAHAM 1969). Female, England (BMNH). GRAHAM (1969) transferred to *Hyperimerus*.

Distribution in Iran: Mazandaran (GHAHARI et al. 2010a), Tehran (ABD-RABOU et al. 2005).

Distribution outside Iran: Canada, China, Czech Republic, Germany, Italy, Montenegro, Romania, Russia, Sweden, UK, former Yugoslavia.

Comments: Reared from *Psylla pyricola* (FOERSTER) (Hemiptera: Psyllidae) on pear tree (ABD-RABOU et al. 2005; GHAHARI et al. 2010a).

Subfamily *Cerocephalinae* GAHAN, 1946

Genus *Cerocephala* WESTWOOD, 1832

Cerocephala WESTWOOD, 1832: IX. Plate 4 Paris. Type species: *Cerocephala cornigera* WESTWOOD, by monotypy.

***Cerocephala cornigera* WESTWOOD, 1832**

Cerocephala cornigera WESTWOOD, 1832: IX, 4 Paris. Holotype Male, United Kingdom (BMNH).

Distribution in Iran: Isfahan (ABD-RABOU et al. 2005; GHAHARI et al. 2010a).

Distribution outside Iran: Armenia, Belgium, Caucasus, Czech Republic, Denmark, Egypt, France, Germany, Israel, Italy, Macedonia, Moldova, the Netherlands, Norway, Philippines, Poland, Romania, Russia and adjacent countries, Slovakia, Sweden, Switzerland, Tunisia, UK.

Comments: Parasitoid of *Scolytus amygdali* (LINNAEUS) (Coleoptera: Scolytidae) on almond tree (ABD-RABOU et al. 2005), and *Scolytus* sp. (GHAHARI et al. 2010a).

***Cerocephala rufa* (WALKER, 1833)**

Cerocephala rufa WALKER, 1833: 36-370. Lectotype (probably holotype) Female, United Kingdom (GTRC).

Distribution in Iran: Guilan (SAKENIN et al. 2008a).

Distribution outside Iran: Belgium, Croatia, Czech Republic, Germany, Kazakhstan, the Netherlands, Norway, Poland, Romania, Serbia, Sweden, UK, USA, former Yugoslavia.

Genus *Theocolax* WESTWOOD, 1832

Theocolax WESTWOOD, 1832: 127. Type species: *Theocolax formiciformis* WESTWOOD, by monotypy.

***Theocolax elegans* (WESTWOOD, 1874)**

Choetospila elegans WESTWOOD, 1834: 137. Lectotype Europe (HDOU), designated by GRAHAM (1969). BOUČEK (1988) transferred to *Theocolax*.

Distribution in Iran: Razavi Khorasan (AKBARI ASL et al. 2009), Khuzestan (HABIBPOUR et al. 2002), Mazandaran (ABD-RABOU et al. 2005).

Distribution outside Iran: Argentina, Australia, Belgium, Belize, Brazil, Canada, China, Congo, French Guiana, Germany, Greece, Guam, Guyana, Hawaii, Honduras, India, Indonesia, Israel, Kirgizia, Madagascar, Malaysia, Mexico, Morocco, the Netherlands, Nigeria, Pakistan, Panama, Peru, Puerto Rico, Senegal, South Africa, Surinam, Sweden, Thailand, Togo, Turkey, UK, USA.

Comments: Parasitoid of *Sitophilus oryzae* (LINNAEUS) (Coleoptera: Curculionidae) (ABD-RABOU et al. 2005).

***Theocalax formiciformis* WESTWOOD, 1832**

Theocalax formiciformis WESTWOOD, 1832: 127. Lectotype Female, England (HDOU), designated by GRAHAM (1969).

Distribution in Iran: Golestan (ABD-RABOU et al. 2005), Mazandaran (ASEMI & SHOJAI 2004).

Distribution outside Iran: Australia, Belgium, Canary Islands, Caucasus, Czech Republic, Germany, the Netherlands, New Zealand, Poland, Russia, Sweden, UK.

Comments: Parasitoid of *Anobium punctatum* (DEGEER) (Coleoptera: Anobiidae) (ABD-RABOU et al. 2005), rice weevil, *Sitophilus oryzae* (LINNAEUS) (Coleoptera: Curculionidae) (ASEMI & SHOJAI 2004).

Subfamily Cleoniminae WALKER, 1837

Genus *Agrilocida* STEFFAN, 1964

Agrilocida STEFFAN, 1964: 104. Type species: *Agrilocida ferrieri* STEFFAN, original designation and monotypy.

***Agrilocida ferrieri* STEFFAN, 1964**

Agrilocida ferrieri STEFFAN, 1964: 104. Holotype Male, France (MHNG).

Distribution in Iran: Ardabil (GHAHARI & HUANG 2012), Guilan (ABD-RABOU et al. 2005).

Distribution outside Iran: Algeria, Central Asia, France, Israel, Russia and adjacent countries.

Comments: Parasitoid of *Sphenoptera* sp. (Coleoptera: Buprestidae) on poplar (ABD-RABOU et al. 2005; GHAHARI & HUANG 2012).

Genus *Callocleonymus* MASI, 1940

Callocleonymus MASI, 1940: 289. Type-species: *Callocleonymus pulcher* MASI, by monotypy.

***Callocleonymus pulcher* MASI, 1940**

Callocleonymus pulcher MASI, 1940: 289. Syntypes, Somalia (DEZP).

Distribution in Iran: East Azarbaijan (LOTFALIZADEH & KHALGHANI 2008), West Azarbaijan (ABD-RABOU et al. 2005).

Distribution outside Iran: Afrotropical, Kazakhstan, Somalia, Tadjikistan, Turkmenistan.

Comments: Parasitoid of *Trachys minuta* (LINNEAUS) (Coleoptera: Buprestidae) on apple tree (ABD-RABOU et al. 2005).

Genus *Chalcedectus* WALKER, 1852

Chalcedectus WALKER, 1852: Type species: *Chalcedectus maculicornis* WALKER, by monotypy.

***Chalcedectus balachowskyi* STEFFAN, 1968**

Chalcedectus balachowskyi STEFFAN, 1968: 210. Holotype Female, Iran (MHNG).

Distribution in Iran: Iran (no locality cited) (STEFFAN 1968; SHARIFI & JAVADI 1971; LOTFALIZADEH & KHALGHANI 2008).

Distribution outside Iran: Endemic to Iran.

Comments: Parasitoid of *Osphranteria coerulescens* REDTENBACHER (Coleoptera: Cerambycidae) on *Rosa* sp. (Rosaceae) (STEFFAN 1968; SHARIFI & JAVADI 1971; LOTFALIZADEH & KHALGHANI 2008).

Genus *Cleonimus* LATREILLE, 1809

Cleonimus LATREILLE, 1809: 29. Type-species: *Ichneumon depressus* Fabricius, 1804, by designation of Latreille, 1810: 305.

***Cleonimus laticornis* WALKER, 1837**

Cleonimus laticornis WALKER, 1837: 351. Holotype Male, Ireland (NMID).

Distribution in Iran: Mazandaran (DAMAVANDIAN & FELI KOHIKHEILI 2015).

Distribution outside Iran: Belgium, China, Croatia, Czech Republic, Europe, France, Germany, Italy, Morocco, Netherlands, Slovakia, Spain, Sweden, Switzerland, UK, USA, former Yugoslavia.

Genus *Heydenia* FÖRSTER, 1856

Heydenia FÖRSTER, 1856: 1-46. Type species: *Heydenia pretiosa* FÖRSTER, by monotypy.

***Heydenia pretiosa* FÖRSTER, 1856**

Heydenia pretiosa FÖRSTER, 1856: 1-46. Syntypes, Germany (NHMV).

Distribution in Iran: Alborz (DAVATCHI & CHODJAI 1968), East Azarbaijan (LOTFALIZADEH & KHALGHANI 2008; LOTFALIZADEH & GHARALI 2008), Hamadan, Kordestan, Markazi, Tehran, Zanzan (SHOJAI 1968, 1998; RADJABI 1991; MODARRES AWAL 1997), Mazandaran (SAKENIN et al. 2008a), Iran (no locality cited) (HERTING 1973).

Distribution outside Iran: Austria, Czech Republic, Finland, France, Germany, Hungary, Israel, Italy, Moldova, Norway, Romania, Russia and adjacent countries, Slovakia, Spain, Sweden.

Comments: Parasitoid of xylophagous beetles (Buprestidae, Cerambycidae Curculionidae, Scolytidae) (HERTING 1973). Parasitoid of *Phloeosinus bicolor* (BRULLÉ) (Coleoptera: Scolytidae) (DAVATCHI & CHODJAI 1968; RADJABI 1991; MODARRES AWAL 1997), *Sphenoptera davatchii* DESCARPENTRIES (Coleoptera: Buprestidae) (SHOJAI 1968, 1998; RADJABI 1991; MODARRES AWAL 1997), *Scolytus mediterraneus* (EGGERS) (Coleoptera: Scolytidae) (DAVATCHI & CHODJAI 1968; RADJABI 1991; MODARRES AWAL 1997; LOTFALIZADEH & GHARALI 2008), *Xylopertha reflexicauda* (LESNE) (Coleoptera: Bostrichidae) (LOTFALIZADEH & GHARALI 2008).

Genus *Notanisus* WALKER, 1837

Notanisus WALKER, 1837: 352. Type species: *Notanisus versicolor* WALKER, by monotypy.

***Notanisus oulmesiensis* (DELUCCHI, 1962)**

Amarisca oulmesiensis DELUCCHI, 1962: 12. Holotype Female, Morocco (ETHZ). BOUČEK (1991) transferred to *Notanisus*.

Distribution in Iran: Kermanshah (ABD-RABOU et al. 2005), West Azarbaijan (GHAHARI & HUANG 2012).

Distribution outside Iran: Croatia, Cyprus, Greece, Montenegro, Morocco, Romania, former Yugoslavia.

Comments: Reared from *Sphenoptera* sp. (Coleoptera: Buprestidae) (ABD-RABOU et al. 2005; GHAHARI & HUANG 2012).

Genus *Oodera* WESTWOOD, 1874

Oodera WESTWOOD, 1874: 145. Type species: *Oodera gracilis* WESTWOOD, by subsequent designation of, ASHMEAD, W.H. (1904).

***Oodera formosa* (GIRAULT, 1863)**

Heydenia formosa GIRAUD, 1863: 21. Syntype Female, Italy (MNHN), original designation. BOUČEK (1958) transferred to *Oodera*.

Distribution in Iran: Mazandaran (ABD-RABOU et al. 2005), West Azarbaijan (GHAHARI & HUANG 2012).

Distribution outside Iran: Austria, Bulgaria, Caucasus, Croatia, France, Italy, Romania, Russia and adjacent countries, Serbia, Ukraine, former Yugoslavia.

Comments: Reared from *Capnodis* sp. (Coleoptera: Buprestidae) on the apricot (ABD-RABOU et al. 2005; GHAHARI & HUANG 2012).

***Oodera monstrum* NIKOL'SKAYA, 1952**

Oodera monstrum NIKOL'SKAYA, 1952: 474. Syntypes Female, Russia-Rostov Oblast (ZISP).

Distribution in Iran: Kordestan (NAZEMI-RAFI & LOTFALIZADEH 2010; NAZEMI-RAFI et al. 2011; ALIPANAH et al. 2013).

Distribution outside Iran: Russia.

Subfamily Colotrechninae THOMSON, 1876

Genus *Colotrechnus* THOMSON, 1878

Colotrechnus THOMSON, 1878: 46. Type species: *Colotrechnus subcoeruleus* THOMSON, by monotypy.

***Colotrechnus viridis* (MASI, 1921)**

Zanonia viridis MASI, 1921: 187. Holotype Female, Libya (DEZP?). GRAHAM (1969) transferred to *Colotrechnus*.

Distribution in Iran: Chaharmahal & Bakhtiari, East Azarbaijan (LOTFALIZADEH & GHARALI 2014), Ilam (LOTFALIZADEH & GHARALI 2008, 2014).

Distribution outside Iran: Azerbaijan, Canary Islands, Croatia, Czech Republic, Hungary, Kazakhstan, Libya, Lithuania, Moldova, North Africa, Romania, Slovakia, Spain, Transcaucasus, Turkey.

Comments: Parasitoid of fruit flies (Diptera: Tephritidae) on safflower (*Carthamus oxycantha*) (LOTFALIZADEH & GHARALI 2008, 2014).

Also an unknown species, *Colotrechnus* sp. was collected by GHARALI (2004) from Ilam as the parasitoid of safflower shoot flies (Diptera: Tephritidae) which probably it is *C. viridis*.

Subfamily Cratominae ASHMEAD, 1904

Genus *Cratomus* DALMAN, 1820

Cratomus DALMAN, 1820: 403. Type species: *Cynips megacephala* FABRICIUS, by monotypy.

***Cratomus megacephalus* (FABRICIUS, 1793)**

Cynips megacephala FABRICIUS, 1793. Syntype, Denmark (ZMUC?). DALMAN (1822) transferred to *Cratomus*.

Distribution in Iran: East Azarbaijan (GHAHARI & HUANG 2012), Mazandaran (ABD-RABOU et al. 2005).

Distribution outside Iran: Austria, Belgium, Czech Republic, Denmark, France, Germany, Hungary, the Netherlands, Poland, Romania, Spain, Sweden, England, USA.

Comments: Parasitoid of *Sphex lividocinctus* KOHL (Hymenoptera: Sphecidae) in the stem of oak (ABD-RABOU et al. 2005; GHAHARI & HUANG 2012).

Subfamily Diparinae THOMSON, 1876

Genus *Dipara* WALKER, 1833

Dipara WALKER, 1833: 371, 373. Type species: *Dipara petiolata* WALKER, by monotypy.

***Dipara petiolata* WALKER, 1833**

Dipara petiolata WALKER, 1833: 373. Lectotype, Male, England (BMNH), designated by GRAHAM (1969).

Distribution in Iran: East Azarbaijan (GHAHARI & HUANG 2012), Mazandaran (ABD-RABOU et al. 2005).

Distribution outside Iran: Belgium, Croatia, Czech Republic, Germany, Hungary, Moldova, the Netherlands, Romania, Slovakia, Spain, Sweden, UK, USA.

Comments: Parasitoid of *Anthonomus gemmicola* MINACIAN (Coleoptera: Curculionidae) (ABD-RABOU et al. 2005; GHAHARI & HUANG 2012). The genus *Dipara* exhibits strong sexual dimorphism (LÁSZLÓ 2005). The females of the genus *Dipara* usually are brachypterous, rarely macropterous, whereas males of all species are fully winged. At least one species, *D. hyalinipennis* (GIRAULT, 1915), is known with both fully winged and brachypterous females species (BOUČEK 1988). Currently fifteen species are known from North America, Europe, Asia, Africa, and Indo-Australia (LÁSZLÓ 2005), and so far only *D. petiolata* is known from the Palaearctic region. The single Palaearctic species has brachypterous females. Fully winged species were described from the Indo-Australian region (GIRAULT 1915, 1927; YOSHIMOTO & ISHII 1965; NARENDRAN & SURESHAN 2001; LÁSZLÓ 2005).

Subfamily Eunotinae ASHMEAD, 1904

Genus *Aphobetus* HOWARD, 1896

Aphobetus HOWARD, 1896: 166. Type species: *Aphobetus maskelli* HOWARD, by monotypy.

***Aphobetus moundi* (BOUČEK, 1988)**

Strionila moundi BOUČEK, 1988: 365-366. Holotype Female (BMNH). BERRY (1995) transferred to *Aphobetus*.

Distribution in Iran: Isfahan (ABD-RABOU & GHAHARI 2005).

Distribution outside Iran: Australasian and Oriental regions.

Comments: Hyperparasitoid of *Encarsia azimi* HAYAT (Hymenoptera: Aphelinidae) on *Aleurolobus moundsi* DAVID & SUBRAMANIAM (Hemiptera: Aleyrodidae) (ABD-RABOU & GHAHARI 2005).

Genus *Eunotus* WALKER, 1834

Eunotus WALKER, 1834: 297. Type species: *Eunotus cretaceus* WALKER, by monotypy.

***Eunotus acutus* KURDJUMOV, 1912**

Eunotus acutus KURDJUMOV, 1912: 330. Holotype Female, Ukraine (ZIKU?).

Distribution in Iran: East Azarbaijan (GHAHARI et al. 2010b).

Distribution outside Iran: China, Czech Republic, Germany, Poland, Romania, Russia, Slovakia, Spain, Ukraine, UK.

***Eunotus nigriclavis* (FÖRSTER, 1856)**

Megapelte nigriclavis FÖRSTER, 1856: 66. Holotype Male, Germany. DALLA TORRE (1898) transferred to *Eunotus*.

Distribution in Iran: Northwestern Iran (no locality cited) (HAESELBARTH 1989).

Distribution outside Iran: Croatia, Czech Republic, Germany, Italy, Spain, UK, Ukraine, former Yugoslavia.

Comments: Parasitoid of *Acantholecanium haloxyloni* HALL (Hemiptera: Coccidae) (HAESELBARTH 1989).

Genus *Mesopeltita* GHESQUIÈRE, 1946

Mesopeltita GHESQUIÈRE, 1946: 370. Type species: *Mesopeltis atrocyanea* MASI, by monotypy.

***Mesopeltita truncatipennis* (WATERSTON, 1917)**

Eunotus truncatipennis WATERSTON, 1917: 252. Holotype Female, Ghana (BMNH). BOUČEK (1976) transferred to *Mesopeltita*.

Distribution in Iran: Ardabil (GHAHARI & HUANG 2012), Guilan (ABD-RABOU et al. 2005).

Distribution outside Iran: Antilles, Caribbean, Central America, Ghana, Mexico, Sierra Leone, USA (NOYES 2015), India (P.M. Sureshan).

Comments: Reared from *Saissetia olea* (OLIVIER) (Hemiptera: Coccidae) (ABD-RABOU et al. 2005), *Saissetia* sp. (GHAHARI & HUANG 2012).

Genus *Moranila* CAMERON, 1883

Moranila CAMERON, 1883: 188. Type species: *Moranila testaceipes* CAMERON, by monotypy.

***Moranila californica* (HOWARD, 1881)**

Tomocera californica HOWARD 1881: 368. Type (No. 2617 USNM) Female, California (USA).

Distribution in Iran: Guilan (DAVOODI et al. 2004b; EBRAHIMI 2014), Kermanshah (JALILVAND et al. 2013), Mazandaran (ABD-RABOU et al. 2005; BAUR 2005; GHAHARI et al. 2010a), Tehran (DAVOODI et al. 2004a).

Distribution outside Iran: Afrotropical, Australia, Canary Islands, China, Fiji, France, Greece, Guam, Hawaii, India, Israel, Italy, Madeira, Mexico, Micronesia, the Netherlands, New Caledonia, New Zealand, Papua New Guinea, Spain, USA, Western Samoa.

Comments: Parasitoid of *Saissetia olea* (OLIVIER) (Hemiptera: Coccidae) (DAVOODI et al. 2004a, b; EBRAHIMI 2014), and *Ceroplastes floeoidensis* COMSTOCK (Hemiptera: Diaspididae) (DAVOODI et al. 2004a, b). Reared from *Pulvinaria vitis* (LINNAEUS) (Hemiptera: Coccidae) on *Vitis vinifera* (ABD-RABOU et al. 2005; GHAHARI et al. 2010a), and *Parthenolecanium* sp. (Hemiptera: Coccidae) on *Prunus persica* (JALILVAND et al. 2013).

***Moranila comperei* (ASHMEAD, 1904)**

Aphobetoideus comperei ASHMEAD, 1904: 328. Holotype Female, Australia-Western Australia (USNM). BOUČEK (1988) transferred to *Moranila*.

Distribution in Iran: Mazandaran (ABD-RABOU & GHAHARI 2005).

Distribution outside Iran: Australasian and Oriental regions.

Comments: Hyperparasitoid of *Euderomphale chelidonii* ERDÖS (Hymenoptera: Eulophidae) on *Aleyrodes lonicerae* WALKER (Hemiptera: Aleyrodidae) (ABD-RABOU & GHAHARI 2005).

Genus *Scutellista* MOTSCHULSKY, 1859

Scutellista MOTSCHULSKY, 1859: 172. Type species: *Scutellista cyanea* MOTSCHULSKY, by monotypy.

***Scutellista caerulea* (FONSCOLOMBE, 1832)**

Encyrtus caeruleus FONSCOLOMBE, 1832. Neotype Female (HDOU), France, designated by GRAHAM (1992). BOUČEK (1988) transferred to *Scutellista*.

Distribution in Iran: Fars (HESAMI et al. 2008).

Distribution outside Iran: Afrotropical, Albania, Algeria, Argentina, Australia, Azerbaijan, Bolivia, Brazil, Canary Islands, Cayman Islands, Chile, China, Colombia, Croatia, Cuba, Cyprus, Czech Republic, Dominican Republic, Egypt, El Salvador, Eritrea, Ethiopia, France, Georgia, Greece, Hawaii, India, Israel, Italy, Ivory Coast, Japan, Kenya, Lebanon, Malta, Mexico, Morocco, the Netherlands, New Zealand, North Africa, Oman, Peru, Puerto Rico, Senegal, South Africa, Spain, Sri Lanka, Trinidad & Tobago, Tunisia, Turkey, Uganda, USA, Venezuela.

Comments: Parasitoid of *Eulecanium* sp. (Hemiptera: Coccidae) (HESAMI et al. 2008).

***Scutellista obscura* (FÖRSTER, 1878)**

Enargopelte obscura FÖRSTER, 1878: 63. Holotype Female, France (NHMV?). BOUČEK (1965) transferred to *Scutellista*.

Distribution in Iran: Isfahan (AFIUNIZADEH et al. 2013), Razavi Khorasan (GHAHARI et al. 2010a as *Enargopelte obscura* FÖRSTER, 1878).

Distribution outside Iran: Croatia, Czech Republic, Denmark, France, Georgia, Germany, Italy, Kazakhstan, Moldova, Romania, Russia and adjacent countries, Slovakia, Spain, Transcaucasus, Ukraine.

Comments: Hyperparasitoid of *Cotesia plutellae* (KURDJUMOV) (Hymenoptera: Braconidae) reared from *Plutella xylostella* (LINNAEUS) (Lepidoptera: Plutellidae) (AFIUNIZADEH et al. 2013).

Subfamily Macromesinae GRAHAM, 1959

Genus *Macromesus* WALKER, 1848

Macromesus WALKER, 1848: 161. Type species: *Macromesus amphiretus* WALKER, by monotypy.

***Macromesus amphiretus* WALKER, 1848**

Macromesus amphiretus WALKER, 1848: 161. Lectotype Female, United Kingdom-England (BMNH), designated by GRAHAM (1969).

Distribution in Iran: Kermanshah (GHAHARI & HUANG 2012), Markazi (ABD-RABOU et al. 2005).

Distribution outside Iran: Croatia, Czech Republic, Denmark, Finland, France, Italy, Poland, Serbia, Slovakia, Sweden, UK, former Yugoslavia.

Comments: Larval parasitoid of *Scolytus orientalis* (EGGERS) (Coleoptera: Scolytidae) on elm (ABD-RABOU et al. 2005), *Scolytus* sp. on *Pinus nigra* (GHAHARI & HUANG 2012).

Subfamily Miscogasterinae WALKER, 1833

Genus *Halticoptera* SPINOLA, 1811

Halticoptera SPINOLA, 1811: 148. Type species: *Diplolepis flavicornis* SPINOLA, by subsequent designation of, ASHMEAD (1904).

Comment: The species of the genus *Halticoptera* are known as parasitoids of mining Diptera (Agromyzidae, Drosophilidae, Tephritidae) associated with herbaceous plants or ferns (BOUČEK & RASPLUS 1991; DOĞANLAR 2006).

***Halticoptera aenea* (WALKER, 1833)**

Dicyclus aeneus WALKER, 1833: 456. Lectotype, United Kingdom-England (BMNH), designated by GRAHAM (1969). GAHAN (1933) transferred to *Halticoptera*.

Distribution in Iran: Golestan (SHOJAI 1968, 1998; MODARRES AWAL 1997), Kerman (MODARRES AWAL 1997), Kordestan (DEHDAR & MADJIZADEH 2013), Iran (no locality cited) (OILB 1971; TODOROV et al. 2014).

Distribution outside Iran: Azerbaijan, Belgium, Canary Islands, Czech Republic, France, Germany, Hungary, Italy, Kazakhstan, Mexico, Moldova, the Netherlands, Puerto Rico, Romania, Russia and adjacent countries, Siberia, Spain, Sweden, Switzerland, Turkey, Ukraine, UK, USA.

Comments: Parasitoid of *Oscinella frit* (LINNAEUS) (Diptera: Chloropidae) in wheat fields (SHOJAI 1968, 1998; MODARRES AWAL 1997), Agromyzidae (Diptera) (OILB 1971).

***Halticoptera circulus* (WALKER, 1833)**

Dicyclus circulus WALKER, 1833: 456. Lectotype, United Kingdom-England (BMNH), designated by GRAHAM (1969).

Distribution in Iran: East Azarbaijan (LOTFALIZADEH & GHARALI 2008, in *Medicago sativa* field), Kerman (MITROIU et al. 2011, in *Triticum aestivum* field).

Distribution outside Iran: Armenia, Austria, Azerbaijan, Belgium, Canada, Canary Islands, Chile, Czech Republic, Dominican Republic, Ethiopia, Europe, France, Germany, Hawaii, Honduras, Hungary, Iraq, Italy, Japan, Jordan, Kazakhstan, South Korea, Mexico, Moldova, Nearctic, the Netherlands, Norway, China, Puerto Rico, Romania, Serbia, Slovakia, Spain, Sweden, Taiwan, Turkey, UK, USA, former Yugoslavia (NOYES 2015), India (P.M. Sureshan).

***Halticoptera crius* (WALKER, 1839)**

Miscogaster crius WALKER, 1839: 201. Lectotype, United Kingdom (BMNH), designated by GRAHAM (1969). BOUČEK (1974) treated as *Halticoptera crius*.

Distribution in Iran: East Azarbaijan (GHAHARI & HUANG 2012; GHAHARI 2014).

Distribution outside Iran: Czech Republic, Germany, Hungary, Italy, the Netherlands, China, Romania, Sweden, Turkey, UK.

***Halticoptera flavicornis* (SPINOLA, 1808)**

Diplolepis flavicornis SPINOLA, 1808: 219-220. Holotype Female, France (MNHN). SPINOLA (1811) transferred to *Halticoptera*.

Distribution in Iran: Ardabil (GHAHARI & HUANG 2012), Golestan (GHAHARI 2004), Mazandaran (SAKENIN et al. 2008a).

Distribution outside Iran: Belgium, Croatia, Czech Republic, France, Germany, Hungary, the Netherlands, Romania, Slovakia, Sweden, UK.

Comments: Larval parasitoid of *Agromyza alni-betula* HENDEL (Diptera: Agromyzidae) on poplar (GHAHARI 2004), and *Agromyza* sp. (GHAHARI & HUANG 2012).

***Halticoptera moczari* (ERDÖS, 1954)**

Halticopterina moczari ERDÖS, 1954: 153. Holotype Female, Hungary (HNHM).

Distribution in Iran: East Azarbaijan (LOTFALIZADEH & MEHRVAR 2006; LOTFALIZADEH & GHARALI 2008 as *Halticopterina moczari* ERDÖS, 1954; in *Medicago sativa* field).

Distribution outside Iran: Hungary, Kazakhstan, Romania, Slovakia, Turkey.

***Halticoptera patellana* (DALMAN, 1818)**

Diplolepis patellana DALMAN, 1818: 80. Type Male? Sweden (NHRM).

Distribution in Iran: East Azarbaijan (LOTFALIZADEH & GHARALI 2008 as *Halticoptera* near *patellana*, in *Medicago sativa* field), Guilan province, Rudsar, 2// April 2012 (present study).

Distribution outside Iran: Belgium, Brazil, Canada, Canary Islands, Chile, China, Czech Republic, France, Germany, Hawaii, Italy, Japan, Mexico, Montenegro, the Netherlands, Peru, Romania, Russia, Sweden, Switzerland, Taiwan, Trinidad & Tobago, Turkey, UK, USA, former Yugoslavia.

***Halticoptera polita* WALKER, 1834**

Eutelus politus WALKER, 1834: 369. Lectotype, United Kingdom (BMNH), designated and transferred to *Halticoptera* by GRAHAM (1969).

Distribution in Iran: Qazvin (ZARNEGAR et al. 2012), West Azarbaijan (SADEGHI et al. 2012; SADEGHI & LOTFALIZADEH 2013).

Distribution outside Iran: Belgium, China, Czech Republic, Germany, Hungary, the Netherlands, Romania, Sweden, Turkey, UK.

Comments: Parasitoid of poplar leaf-miner moth, *Phyllonorycter populifoliella* (TREITSCHKE) (Lepidoptera: Gracillariidae) (SADEGHI et al. 2012; SADEGHI & LOTFALIZADEH 2013), *Rhagoletis flavigenualis* HERTING (Diptera: Tephritidae) on *Juniperus excels* (ZARNEGAR et al. 2012).

***Halticoptera violacea* ASKEW, 1972**

Halticoptera violacea ASKEW, 1972: 49-50. Male, Female figs., Holotype Female, United Kingdom-England (HDOU).

Distribution in Iran: Hormozgan (LOTFALIZADEH & GHARALI 2008).

Distribution outside Iran: the Netherlands, Sweden, UK.

***Halticoptera* cf. *yoncacus* DOĞANLAR, 2006**

Halticoptera yoncacus DOĞANLAR, 2006: 175-176. Holotype Female, Turkey (ZSMM).

Distribution in Iran: Razavi Khorasan (HASANI & MADJIZADEH 2011a; HASANI et al. 2011; HASANI & MADJIZADEH 2012, swept on Gramineae).

Distribution outside Iran: Turkey.

Genus *Miscogaster* WALKER, 1833

Miscogaster WALKER, 1833: 371. Type species: *Miscogaster hortensis* WALKER, by subsequent designation of, ASHMEAD (1904).

***Miscogaster elegans* WALKER, 1833**

Miscogaster elegans WALKER, 1833: 459. Lectotype Female, United Kingdom (BMNH). designated by GRAHAM (1969).

Distribution in Iran: Ilam (LOTFALIZADEH & GHARALI 2008).

Distribution outside Iran: Belgium, Czech Republic, Europe, Germany, Hungary, Italy, the Netherlands, Poland, Sweden.

***Miscogaster rufipes* WALKER, 1833**

Miscogaster rufipes WALKER, 1833: 459. Lectotype Female, United Kingdom-England (BMNH), designated by GRAHAM (1969).

Distribution in Iran: Ilam (LOTFALIZADEH & GHARALI 2008).

Distribution outside Iran: Belgium, Croatia, Czech Republic, France, Germany, Ireland (north and south), Kazakhstan, Moldova, the Netherlands, Spain, Sweden, Turkey, UK.

Genus *Thektogaster* DELUCCHI, 1955

Thektogaster DELUCCHI, 1955: 59. Type species: *Lamprotatus abdominalis* DELUCCHI, original designation.

***Thektogaster aberlenci* DELVARE, 1986**

Thektogaster aberlenci DELVARE, 1986: 117-120. Holotype Female, France (MNHN).

Distribution in Iran: Mazandaran (ABD-RABOU et al. 2005).

Distribution outside Iran: Europe.

Comments: Parasitoid of *Hylemyia cilicrura* (RONDANI) (Diptera: Anthomyiidae) (ABD-RABOU et al. 2005).

Genus *Thinodytes* GRAHAM, 1956

Thinodytes GRAHAM, 1956: 262. Type species: *Miscogaster cyzicus* WALKER, original designation.

***Thinodytes cyzicus* (WALKER, 1839)**

Miscogaster cyzicus WALKER, 1839: 200. Lectotype Female, United Kingdom-England (BMNH).

Distribution in Iran: Isfahan (ABD-RABOU et al. 2005).

Distribution outside Iran: China, Croatia, Czech Republic, Germany, Hungary, India, Iraq, Ireland (north and south), Japan, Kazakhstan, Moldova, Montenegro, the Netherlands, Romania, Slovakia, Serbia, Slovenia, Spain, Sweden, Transcaucasus, Turkey, UK, former Yugoslavia.

Comments: Parasitoid of *Liromyza conesta* (BECKER) (Diptera: Agromyzidae) on celery (ABD-RABOU et al. 2005).

Genus *Xestomnaster* DELUCCHI, 1955

Xestomnaster DELUCCHI, 1955: 30. Type species: *Lamprotatus mirificus* DELUCCHI, original designation.

***Xestomnaster chrysochlorus* (WALKER, 1846)**

Lamprotatus chrysochlorus WALKER, 1846: 90. Lectotype Female, United Kingdom-England (BMNH), designated and transferred to *Xestomnaster* by GRAHAM (1969).

Distribution in Iran: East Azarbaijan (SAKENIN et al. 2008b), Guilan (SAKENIN et al. 2008a).

Distribution outside Iran: Belgium, France, Germany, Ireland (north and south), the Netherlands, Romania, Russia, Sweden, UK.

Subfamily *Ormocerinae* WALKER, 1833

Genus *Ormocerus* WALKER, 1834

Ormocerus WALKER, 1834: 168. Type species: *Ormocerus vernalis* WALKER, by subsequent designation of, WESTWOOD (1839).

***Ormocerus vernalis* WALKER, 1834**

Ormocerus vemalis WALKER, 1834: 169. Lectotype Female, United Kingdom-England (BMNH), designated by GRAHAM (1969).

Distribution in Iran: Kermanshah (ABD-RABOU et al. 2005; GHAHARI et al. 2010a).

Distribution outside Iran: Europe.

Comments: Reared from *Neuroterus tricolor* (HARTIG) (Hymenoptera: Cynipidae) (ABD-RABOU et al. 2005; GHAHARI et al. 2010a).

Genus *Systasis* WALKER, 1834

Systasis WALKER, 1834: 288, 196. Type species: *Systasis encyrtoides* WALKER, by subsequent designation of, WESTWOOD (1839).

***Systasis angustula* GRAHAM, 1969**

Systasis angustula GRAHAM 1969: 262-263. Holotype Female, United Kingdom-England (HDOU).

Distribution in Iran: Ardabil (LOTFALIZADEH & GHARALI 2008, in *Medicago sativa* field).

Distribution outside Iran: Canary Islands, China, Hungary, the Netherlands, Romania, Spain, Sweden, UK.

***Systasis annulipes* (WALKER, 1834)**

Gastrancistrus annulipes WALKER, 1834: 176. Lectotype Female, United Kingdom (BMNH), designated and transferred to *Systasis* by GRAHAM (1969).

Distribution in Iran: East Azarbaijan (LOTFALIZADEH & GHARALI 2008 as *Systasis* near *annulipes*).

Distribution outside Iran: Armenia, Czech Republic, Hungary, Moldova, Montenegro, the Netherlands, Romania, Slovakia, Sweden, Ukraine, UK, former Yugoslavia.

***Systasis encyrtoides* WALKER, 1854**

Systasis encyrtoides WALKER, 1854: 296. Lectotype Female, United Kingdom-England (BMNH), designated by GRAHAM (1969).

Distribution in Iran: East Azarbaijan, Fars, Guilan, Mazandaran, West Azarbaijan (GHAHARI 2014), Golestan (GHAHARI et al. 2010b), Kerman (MITROIU et al. 2011), Kordestan (DEHDAR & MADJDZADEH 2013), Razavi Khorasan (HASANI & MADJDZADEH 2012).

Distribution outside Iran: Austria, Azerbaijan, Belgium, Canary Islands, China, Croatia, Czech Republic, France, Germany, Greece, Hungary, Israel, Italy, Kazakhstan, Moldova, Montenegro, Morocco, the Netherlands, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Transcaucasus, Turkey, Ukraine, UK, USA, former Yugoslavia.

Comments: Parasitoid of Cecidomyiidae (Diptera) (GHAHARI et al. 2010b). Collected on *Mentha longifolia* (Lamiaceae) (MITROIU et al. 2011).

***Systasis parvula* THOMSON, 1876**

Systasis parvula THOMSON, 1876: 205. Lectotype Female, Sweden (LUZN), designated by GRAHAM (1969).

Distribution in Iran: Golestan (GHAHARI et al. 2010a), Razavi Khorasan (HASANI & MADJDZADEH 2012).

Distribution outside Iran: Belgium, Canary Islands, China, Czech Republic, Hungary, Ireland (north and south), Kazakhstan, the Netherland, Romania, Spain, Sweden, UK (NOYES 2015), India (P.M. Sureshan).

***Systasis tenuicornis* WALKER, 1834**

Systasis tenuicornis WALKER, 1834: 297. Lectotype Female, United Kingdom (BMNH), designated by GRAHAM (1969).

Distribution in Iran: Mazandaran (GHAHARI et al. 2010a).

Distribution outside Iran: Belgium, China, Germany, Hungary, Kazakhstan, Romania, Spain, Sweden, UK.

Subfamily Panstenoninae ERDÖS, 1955

Genus *Panstenon* (WALKER, 1839)

Panstenon WALKER, 1846: 20. Type species: *Miscogaster oxylus* WALKER, by monotypy.

***Panstenon oxylus* (WALKER, 1839)**

Miscogaster oxylus WALKER, 1839: 196. Lectotype Female, United Kingdom, designated by GRAHAM (1969). WALKER (1846) transferred to *Panstenon*.

Distribution in Iran: East Azarbaijan (BAHRI-MOTLAGH et al. 2012a), Tehran (GHAHARI et al. 2010a).

Distribution outside Iran: Belgium, China, Croatia, Czech Republic, Finland, Germany, Hungary, Japan, Kazakhstan, South Korea, Moldova, the Netherlands, Romania, Serbia, Slovakia, Sweden, UK, former Yugoslavia.

Comments: Parasitoid of *Trachelus tabidus* (FABRICIUS) (Hymenoptera: Cephidae) in wheat field (*Triticum vulgare*) (GHAHARI et al. 2010a).

Subfamily Pireninae HALIDAY, 1844

Genus *Gastrancistrus* WESTWOOD, 1833

Gastrancistrus WESTWOOD, 1833: IX. Plate 4 Paris. Type species: *Gastrancistrus vagans* WESTWOOD, by monotypy.

***Gastrancistrus ephedrae* DZHANOKMEN, 1994**

Gastrancistrus ephedrae Dzhankmen, 1994: 73(2): 379-381: Holotype Female, Kazakhstan (ZISP).

Distribution in Iran: Kerman (MAHDAVI et al. 2015).

Distribution outside Iran: Kazakhstan.

Comments: Associated with plant galls, *Ephedra major* Host (Ephedraceae) (MAHDAVI et al. 2015).

Genus *Spathopus* ASHMEAD, 1904

Spathopus ASHMEAD, 1904: 272. Type species: *Spathopus anomalipes* ASHMEAD, original designation and monotypy.

***Spathopus hofferi* BOUČEK, 1964**

Spathopus hofferi BOUČEK, 1964: 257. Holotype Female, Czechoslovakia (NMP).

Distribution in Iran: Ardabil (GHAHARI & HUANG 2012), Mazandaran (ABD-RABOU et al. 2005).

Distribution outside Iran: Central Asia, Czech Republic, Kazakhstan, Russia and adjacent countries, Slovakia, Sweden.

Subfamily *Pteromalinae* DALMAN, 1820

Genus *Ablaxia* DELUCCHI, 1957

Ablaxia DELUCCHI, 1957: 257: 141. Type species: *Etroxys planiscuta* THOMSON, original designation.

***Ablaxia anaxenor* (WALKER, 1845)**

Pteromalus anaxenor WALKER, 1845: Lectotype Female, United Kingdom-England, designated and transferred to *Ablaxia* by GRAHAM (1969).

Distribution in Iran: Golestan (GHAHARI et al. 2010b), Mazandaran (SAKENIN et al. 2008a).

Distribution outside Iran: Croatia, Czech Republic, Slovakia, Sweden, UK, former Yugoslavia.

Comments: Reared from *Scolytus eichhoffi* REITTER, 1894 (Coleoptera: Scolytidae) (GHAHARI et al. 2010b).

***Ablaxia parviclava* (THOMSON, 1878)**

Etroxys (Caenaxis) parviclava THOMSON, 1878: 99. Lectotype Female, Sweden (LUZN), designated and transferred to *Ablaxia* by DELUCCHI (1957).

Distribution in Iran: Northern Khorasan (GHAHARI et al. 2010a).

Distribution outside Iran: Czech Republic, France, Hungary, the Netherlands, Romania, Russia, Slovakia, Sweden, UK.

Genus *Acrocormus* FÖRSTER, 1856

Acrocormus FÖRSTER, 1856: 66. Type species: *Acrocormus semifasciatus* THOMSON, by subsequent monotypy.

***Acrocormus semifasciatus* THOMSON, 1878**

Acrocormus semifasciatus THOMSON, 1878: 34. Lectotype Female, Sweden (LUZN).

Material examined: Golestan province, Golestan National Park, Dasht-e-Mirzabaylu, 1575 m, 1♀, July 2010. New record for Iran.

Distribution outside Iran: Czech Republic, Kazakhstan, Moldova, the Netherlands, Poland, Serbia, Slovakia, Spain, Sweden, Switzerland, UK, former Yugoslavia.

Genus *Anisopteromalus* RUSCHKA, 1912

Anisopteromalus RUSCHKA, 1912: 243. Type species: *Anisopteromalus mollis* RUSCHKA, by monotypy.

***Anisopteromalus calandrae* (HOWARD, 1881)**

Pteromalus calandrae HOWARD (in COMSTOCK), 1881: 273. Type lost (NOYES 2015). PECK (1951) transferred to *Anisopteromalus*.

Distribution in Iran: Alborz (DAVATCHI & CHODJAI 1968 as *Anisopteromalus mollis* RUSCHKA, 1912; SHOJAI 1998), Bushehr (MODARRES AWAL 1997), East Azarbaijan (GHAHARI 2012), Golestan (SHOJAI 1968, 1998, MODARRES AWAL 1997 as *A. mollis*; EYIDOZEHI et al. 2013), Kermanshah (MODARRES AWAL 1997 as *A. mollis*), Khorasan (MODARRES AWAL 1997; AKBARI ASL et al. 2009), Tehran (MODARRES AWAL 1997; GHAHARI 2014).

Distribution outside Iran: Argentina, Australia, Austria, Bangladesh, Belgium, Bermuda, Bolivia, Botswana, Brazil, Colombia, Cuba, Czech Republic, Egypt, France, Germany, Greece, Guyana, Hawaii, Hungary, India, Indonesia, Iraq, Israel, Italy, Jamaica, Japan, Kazakhstan, Kenya, Madeira, Malawi, Malaysia, Mauritius, Mexico, Moldova, Morocco, Myanmar (Burma), New Zealand, Nigeria, Pakistan, Papua New Guinea, Peru, Portugal, Puerto Rico, Romania, Russia, Saudi Arabia, Serbia, Seychelles, Slovakia, Solomon Islands, South Korea, Sweden, Switzerland, Syria, Taiwan, Tanzania, Thailand, Togo, Turkey, UK, USA, Venezuela, former Yugoslavia.

Comments: Parasitoid of *Callosobruchus maculatus* (FABRICIUS) (Coleoptera: Bruchidae) (DAVATCHI & CHODJAI 1968 as *A. mollis*; HAESELBARTH 1989; MODARRES AWAL 1997 as *A. mollis*; BOUČEK & RASPLUS 1994; SHOJAI 1998 as *A. mollis*; KAZEMI et al. 2004, 2008), *Callosobruchus quadrimaculatus* on *Phaseolus vulgaris* (SHOJAI 1998), and *Sitophilus granarius* (LINNAEUS) (Coleoptera: Curculionidae) on *Triticum vulgare* (MODARRES AWAL 1997; SHOJAI 1998), *Scolytus mediterraneus* (EGGERS) (Coleoptera: Scolytidae) (MODARRES AWAL 1997 as *A. mollis*), pupa of *Callosobruchus chinensis* LINNAEUS (Bruchidae), *Rhyzopertha dominica* (FABRICIUS) (Coleoptera: Bostrichidae), *Trogoderma granarium* EVERTS (Coleoptera: Dermestidae), *Sitophilus oryzae* (LINNAEUS) (Coleoptera: Curculionidae), larva of *Callosobruchus quadrimaculatus* (FABRICIUS) (EYIDOZEHI et al. 2013).

Genus *Anogmus* FORSTER, 1856

Anogmus FÖRSTER, 1856: 59. Type species: *Roptrocerus strobilorum* THOMSON, by subsequent monotypy, THOMSON (1878).

***Anogmus laricis* (BOUČEK, 1966)**

Anogmus laricis BOUČEK, 1966: 55. Female, Italy (DOCO?).

Distribution in Iran: East Azarbaijan (BAHRI-MOTLAGH et al. 2012b, in alfalfa field).

Distribution outside Iran: Austria, Italy, the Netherlands, Poland.

Genus *Apsilocera* BOUČEK, 1956

Apsilocera BOUČEK, 1956: 319. Type species: *Apsilocera verticillata* BOUČEK, by monotypy *Apsilocera bramleyi* GRAHAM, 1966.

***Apsilocera bramleyi* GRAHAM, 1966**

Apsilocera bramleyi GRAHAM, 1966: 301-304. Holotype Female, United Kingdom-England (HDOU).

Distribution in Iran: Kordestan (GHAHARI & HUANG 2012).

Distribution outside Iran: France, Germany, Serbia, Sweden, UK, former Yugoslavia.

Comments: Reared from galls of *Cecidomyia* sp. (Diptera: Cecidomyiidae) (GHAHARI & HUANG 2012).

Genus *Arthrolytus* THOMSON, 1878

Arthrolytus THOMSON, 1878: 158. Type species: *Pteromalus punctatus* THOMSON, by subsequent designation of, ASHMEAD (1904).

***Arthrolytus ocellus* (WALKER, 1834)**

Eutelus ocellus WALKER, 1834: 359. Lectotype Female?, United Kingdom (BMNH), designated and transferred to *Arthrolytus* by GRAHAM (1956).

Distribution in Iran: Ilam (LOTFALIZADEH & GHARALI 2008).

Distribution outside Iran: Belgium, Croatia, Czech Republic, Germany, Hungary, Moldova, the Netherlands, Spain, Sweden, UK.

Comments: Reared from gall of *Chilaspis israeli* MAYR (Hymenoptera: Cynipidae) (LOTFALIZADEH & GHARALI 2008).

Genus *Bairamlia* WATERSTON, 1929

Bairamlia WATERSTON, 1929: 103. Type species: *Bairamlia fuscipes* WATERSTON, by monotypy.

***Bairamlia fuscipes* WATERSTON, 1929**

Bairamlia fuscipes WATERSTON, 1929: 104. Lectotype Female, United Kingdom-England (BMNH), designated by GRAHAM (1969).

Distribution in Iran: Golestan (SAKENIN et al. 2008a), Northern Khorasan (SAKENIN et al. 2008b).

Distribution outside Iran: Czech Republic, France.

Genus *Caenacis* FÖRSTER, 1856

Caenacis FÖRSTER, 1856: 64. *Etroxys grandiclava* THOMSON, by subsequent designation of, ASHMEAD (1904).

***Caenacis inflexa* (RATZEBURG, 1848)**

Pteromalus inflexus RATZEBURG, 1848: 196. Male, Female, Berlin, Germany (DEI?). DELUCCHI (1957) transferred to *Caenacis*.

Distribution in Iran: East Azarbaijan (LOTFALIZADEH et al. 2006, 2012; LOTFALIZADEH & GHARALI 2008), Hamadan (GHAHARI et al. 2010a), Kerman (MAHDAVI et al. 2015), Iran (no locality cited) (ASKEW et al. 2006; TODOROV 2011).

Distribution outside Iran: Andorra, Austria, Belgium, Croatia, Czech Republic, Finland, France, Germany, Hungary, the Netherlands, Romania, Serbia, Slovakia, Spain, Sweden, Switzerland, UK, former Yugoslavia.

Comments: Reared from rose leaf gall, *Diplolepis ?nervosa* (CURTIS) (Hymenoptera: Cynipidae) on *Rosa damascena* (LOTFALIZADEH et al. 2006), *Diplolepis mayri* (SCHLECHTENDAL) (Hymenoptera: Cynipidae) (ASKEW et al. 2006), galls of *Rhodites rosae* (LINNAEUS) (Hymenoptera: Cynipidae) on *Rosa beggeriana* (Rosaceae) (GHAHARI et al. 2010a), galls of *Diplolepis fructuum* RÜBSAAMEN (LOTFALIZADEH et al. 2012; MAHDAVI et al. 2015).

***Caenacis lauta* (WALKER, 1835)**

Pteromalus lautus WALKER, 1835: 186. Lectotype Female, United Kingdom-England (BMNH), designated and transferred to *Caenacis* by GRAHAM (1969).

Distribution in Iran: Guilan (SAKENIN et al. 2008b), Kermanshah (GHAHARI & HUANG 2012).

Distribution outside Iran: Belgium, Croatia, Czech Republic, Germany, Hungary, Moldova, the Netherlands, Romania, Serbia, Slovakia, Spain, Sweden, UK, former Yugoslavia.

Comments: Reared from galls of *Cynips panteli* (KIEFFER) (Hymenoptera: Cynipidae) on *Quercus* sp. (GHAHARI & HUANG 2012).

Genus *Caenocrepis* THOMSON, 1878

Caenocrepis THOMSON, 1878: 51. Type species: *Dimachus arenicola* THOMSON, by monotypy.

***Caenocrepis ?bothynoderi* GROMAKOV, 1940**

Caenocrepis bothynoderi GROMAKOV, 1940: 11-12. Male, Female, Ukraine (ZIKU).

Distribution in Iran: Qazvin (HUBER & VAYSSIERES 1990).

Distribution outside Iran: Azerbaijan, Kazakhstan, Kirgizia, Russia and adjacent countries, Turkey, Turkmenistan, Ukraine.

Comments: Egg parasitoid of heliotrope weevil, *Pachycerus cordiger* (GERMAR) (Coleoptera: Curculionidae) (HUBER & VAYSSIERES 1990).

Genus *Callitula* SPINOLA, 1811

Callitula SPINOLA, 1811: 151. Type species: *Callitula bicolor* SPINOLA, by monotypy.

***Callitula angioneuræ* BOUČEK, 1970**

Callitula angioneuræ BOUČEK, 1970: 70-72. Holotype Female, Czechoslovakia (MIZT).

Distribution in Iran: Mazandaran (GHAHARI et al. 2010a).

Distribution outside Iran: Czech Republic, Sweden.

***Callitula bicolor* SPINOLA, 1811**

Callitula bicolor SPINOLA, 1811: 151. Location of types not known.

Distribution in Iran: Kordestan (DEHDAR & MADJZADEH 2013).

Distribution outside Iran: Azerbaijan, Belgium, Bulgaria, Canada, Canary Islands, China, Croatia, Czech Republic, France, Germany, Hungary, Kazakhstan, Macedonia, Madeira, Moldova, the Netherlands, Romania, Russia, Serbia, Slovakia, Spain, Sweden, Switzerland, Ukraine, UK, USA, former Yugoslavia.

***Callitula ferrierei* (BOUČEK, 1964)**

Callitula ferrierei BOUČEK, 1964: 11. Holotype Female, Czechoslovakia (NMP).

Distribution in Iran: Guilan (BAYEGAN et al. 2014).

Distribution outside Iran: Bulgaria, China, Czech Republic, Germany, Moldova, the Netherlands, Romania, Slovakia, Sweden, UK, former Yugoslavia.

Genus *Capellia* DELUCCHI, 1958

Capellia DELUCCHI, 1958: 59. Type species: *Eurydinota rufiventris* GIRAULT, original designation.

***Capellia cecidomyiae* (RATZEBURG, 1844)**

Pteromalus cecidomyiae RATZEBURG, 1844: 192. Lectotype Male, Germany (DEI?). BOUČEK (1965) designated Lectotype and transferred to *Capellia*.

Distribution in Iran: East Azarbaijan (SAKENIN et al. 2008b), West Azarbaijan (GHAHARI & HUANG 2012).

Distribution outside Iran: Croatia, Czech Republic, Germany, Japan, Montenegro, the Netherlands, Norway, Poland, Russia and adjacent countries, Sweden, UK, former Yugoslavia.

Comments: Reared from galls of *Cecidomyia pini* (DE GEER) (Diptera: Cecidomyiidae) on *Pinus* sp. (GHAHARI & HUANG 2012).

***Capellia stigma* BOUČEK, 1970**

Capellia stigma BOUČEK, 1970: 65-66. Holotype Female, Russia-St. Petersburg (Leningrad) (in the Institute of Entomology in Turin?).

Distribution in Iran: Razavi Khorasan (GHAHARI et al. 2010b).

Distribution outside Iran: Europe, Russia and adjacent countries.

Comments: Reared from galls of *Cecidomyia testacea* WALKER (Diptera: Cecidomyiidae) (GHAHARI et al. 2010b).

Genus *Catolaccus* THOMSON, 1878

Pteromalus (Catolaccus) THOMSON, 1878: 152. Type species: *Pteromalus cavigena* THOMSON, by monotypy.

***Catolaccus ater* (RATZEBURG, 1852)**

Pteromalus ater RATZEBURG, 1852: 233. Male, Female, Berlin (Germany) (DEI?). KURDJUMOV (1912: 232-233) transferred to *Catalaccus*.

Distribution in Iran: Ilam (LOTFALIZADEH & GHARALI 2008, collected from wild safflower (*Carthamus oxycantha*)), Mazandaran (GHAHARI 2012).

Distribution outside Iran: Armenia, Austria, Canary Islands, Central Asia, Croatia, Czech Republic, France, Germany, Hungary, Italy, Kazakhstan, Kirgizia, Moldova, Poland, Romania, Russia, Serbia, Siberia, Slovakia, Spain, Sweden, Transcaucasus, Turkey, Turkmenistan, Ukraine, UK, former Yugoslavia.

***Catolaccus crassiceps* (MASI, 1911)**

Merisoides crassiceps MASI, 1911: 141-145, Female, Italy (DEZP?). GRAHAM (1969) used as *Catolaccus*.

Distribution in Iran: Ardabil (LOTFALIZADEH & GHARALI 2008), East Azarbaijan (LOTFALIZADEH & GHARALI 2008; GHAHARI 2014), Fars (LOTFALIZADEH 2000; LOTFALIZADEH & AHMADI 2000; LOTFALIZADEH & GHARALI 2008; GHAHARI 2014), Kordestan (DEHDAR & MADJDZADEH 2013), Razavi Khorasan (HASANI & MADJDZADEH 2012).

Distribution outside Iran: Croatia, Hungary, India, Italy, Kazakhstan, Macedonia, Morocco, Pakistan, Romania, Slovakia, Spain, Sweden, Uzbekistan.

Comments: Parasitoid of *Chrysoperla carnea* (STEPHANS) and *Suarius fedschenkoi* (MCLACHLAN) (Neuroptera: Chrysopidae) (LOTFALIZADEH 2000; LOTFALIZADEH & AHMADI 2000; LOTFALIZADEH & GHARALI 2008). Reared from galls of *Diplolepis fructuum* (RUBSAAMEN) (Hymenoptera: Cynipidae) on *Rosa canina* (LOTFALIZADEH & GHARALI 2008).

Genus *Cecidostiba* THOMSON, 1878

Etroxys (*Cecidostiba* THOMSON), 1878: 92. Type species: *Etroxys rugifrons* THOMSON, by subsequent designation of, ASHMEAD (1904) (new status by DALLA TORRE 1898).

***Cecidostiba fungosa* (GEOFFROY, 1785)**

Cynips fungosus GEOFFROY, 1785: 380. Neotype Male, France (BMNH), designated and transferred to *Cecidostiba* by GRAHAM (1994).

Distribution in Iran: Kordestan (NAZEMI-RAFIE et al. 2007), Lorestan (LOTFALIZADEH & GHARALI 2008).

Distribution outside Iran: Andorra, Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, France, Germany, Greece, Hungary, Israel, Italy, Jordan, Kazakhstan, the Netherlands, Poland, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Turkey, UK, Ukraine, former Yugoslavia.

Comments: Reared from galls of *Andricus tomentosus* (TROTTER) (Hymenoptera: Cynipidae) on *Quercus infectoria*, *Andricus cecconii* KIEFFER on *Q. brantii*, *Andricus grossulariae* GIRAUD on *Q. brantii* and *Q. infectoria*, *Andricus caputmedusae* (HARTIG) on *Q. infectoria*, *Andricus megalucidus* MELIKA on *Q. infectoria*, *Andricus multiplicatus* Giraud on *Q. brantii*, *Andricus lucidus* (HARTIG) on *Q. infectoria* (NAZEMI-RAFIE et al. 2007), *Chilaspis israeli* (STERNLICHT) (Hymenoptera: Cynipidae) on *Q. brantii* (NAZEMI-RAFIE et al. 2007; LOTFALIZADEH & GHARALI 2008).

Genus *Cheiropachus* WESTWOOD, 1829

Cheiropachus WESTWOOD, 1829: 25. Type species: *Ichneumon quadrum* FABRICIUS, original designation.

***Cheiropachus quadrum* (FABRICIUS, 1787)**

Ichneumon quadrum FABRICIUS, 1787: 270. Lectotype Male, Germany (ZMUC), designated by GRAHAM (1969). WESTWOOD (1829) transferred to *Cheiropachus*.

Distribution in Iran: East Azarbaijan (LOTFALIZADEH & KHALGHANI 2008; LOTFALIZADEH & GHARALI 2008, on dead wood of apple tree), Kerman (MITROIU et al. 2011, in *Triticum aestivum* field), Kordestan (GHAHARI & HUANG 2012), Mazandaran (GHAHARI 2004), Western and northwestern Iran (no locality cited) (SAKENIN et al. 2011).

Distribution outside Iran: Argentina, Armenia, Austria (NOYES 2015), India (P.M. Sureshan).

Comments: Parasitoid of *Rugoloscolytus mediterraneus* EGGERS (Coleoptera: Scolytidae) on peach (GHAHARI 2004), and on *Persica vulgaris* (GHAHARI & HUANG 2012).

Genus *Chlorocytus* GRAHAM, 1956

Chlorocytus GRAHAM, 1956: 92. Type species: *Pteromalus pulchripes* WALKER, original designation.

***Chlorocytus breviscapus* GRAHAM, 1965**

Chlorocytus breviscapus GRAHAM, 1965: 307. Holotype Female, United Kingdom-England (HDOU).

Distribution in Iran: Guilan (GHAHARI 2014).

Distribution outside Iran: Czech Republic, Germany, Hungary, the Netherlands, Sweden, Turkey, UK.

***Chlorocytus diversus* (WALKER, 1836)**

Pteromalus diversus WALKER, 1836: 483. Lectotype Female, United Kingdom-England (BMNH), designated by GRAHAM & CLARIDGE (1965). GRAHAM (1956) transferred to *Chlorocytus*.

Distribution in Iran: Ardabil, Tehran (GHAHARI 2014), Kerman (MEHRNEJAD 2009; MEHRNEJAD & BASIRAT 2009).

Distribution outside Iran: Croatia, Czech Republic, France, Germany, Ireland (north and south), Kazakhstan, Kirgizia, the Netherlands, Serbia, Slovakia, Spain, Sweden, Turkey, UK, Uzbekistan, former Yugoslavia.

Comments: Larval parasitoid of the pistachio twig borer moth, *Kermania pistaciella* AMSEL (Lepidoptera: Tineidae) (MEHRNEJAD 2008; MEHRNEJAD & BASIRAT 2009).

***Chlorocytus spicatus* (WALKER, 1835)**

Pteromalus filicornis WALKER, 1835: 83. Lectotype Female, United Kingdom-England (BMNH), designated by GRAHAM & CLARIDGE (1965). GRAHAM (1956) transferred to *Chlorocytus*.

Distribution in Iran: Ilam (LOTFALIZADEH & GHARALI 2008, in safflower field (*Carthamus tinctorius*)), West Azarbaijan (GHAHARI 2014).

Distribution outside Iran: Canary Islands, Czech Republic, Germany, Hungary, the Netherlands, China, Serbia, Slovenia, Spain, Sweden, UK, former Yugoslavia.

Genus *Coelopisthia* FÖRSTER, 1856

Coelopisthia FÖRSTER, 1856: 65. Type species: *Pteromalus extentus* WALKER, by subsequent designation of, BAUR & BOUČEK (2000).

***Coelopisthia extenta* (WALKER, 1835)**

Pteromalus catillus WALKER, 1835: 480. New species, Lectotype, Female? United Kingdom-England (BMNH), designated by GRAHAM (1956).

Distribution in Iran: Khuzestan (FARAHBAKHS 1961, MONAJEMI 1975, MODARRES AWAL 1997 as *Dibrachoides druso* WALKER, 1839), Tehran (GHAHARI et al. 2010b).

Distribution outside Iran: Azerbaijan, Belgium, Czech Republic, France, Germany, Hungary, Italy, Kazakhstan, Kirgizia, Moldova, Montenegro, the Netherlands, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Transcaucasus, Ukraine, England, Scotland, USA, Uzbekistan, former Yugoslavia.

Comments: Parasitoid of *Hypera postica* (GYLLENHAL) (Coleoptera: Curculionidae) (FARAHBAKHS 1961, MONAJEMI 1975, MODARRES AWAL 1997, KHANJANI 2006 as *Dibrachoides druso* WALKER), *Pandemis chondrillana* (HERRICH-SCHAEFFER) (Lepidoptera: Tortricidae) (GHAHARI et al. 2010b).

***Coelopisthia pachycera* MASI, 1924**

Coelopisthia pachycera MASI, 1924: 220. Syntype Female, Italy (MCSN).

Distribution in Iran: West Azarbaijan (AKBARZADEH SHOUKAT et al. 2015).

Distribution outside Iran: Albania, Belgium, Croatia, Hungary, Italy, Netherlands, Romania, Spain, Sweden, Switzerland, Transcaucasus, UK, former Yugoslavia.

Comments: Parasitoid of grape berry moth, *Lobesia botrana* (DENIS & SCHIFFERMÜLLER) (Lepidoptera: Tortricidae) (AKBARZADEH SHOUKAT et al. 2015).

Genus *Conomorium* MASI, 1924

Conomorium MASI, 1924: 215. Type species: *Pteromalus eremita* FÖRSTER, by monotypy.

***Conomorium amplum* (WALKER, 1835)**

Pteromalus amplus WALKER, 1835: 480. Lectotype, United Kingdom-England (BMNH), designated by GRAHAM (1956). GRAHAM (1992) transferred to *Conomorium*.

Distribution in Iran: Kordestan (alfalfa field) (NAZEMI-RAFI et al. 2011; ALIPANAH et al. 2013).

Distribution outside Iran: Belgium, Canary Islands, China, Europe, France, Germany, Greece, Hungary, Italy, Kazakhstan, Madeira, the Netherlands, Romania, Spain, Sweden, Switzerland, UK, Uzbekistan.

***Conomorium patulum* (WALKER, 1835)**

Pteromalus patulus WALKER, 1835: Lectotype, United Kingdom-England (BMNH), designated and transferred to *Conomorium* by GRAHAM (1956).

Distribution in Iran: East Azarbaijan (NIKDEL et al. 2004, 2007), Isfahan, Kerman (GHAHARI et al. 2010a), northern Iran (no locality cited) (HAESELBARTH 1989).

Distribution outside Iran: Armenia, Canary Islands, Caucasus, Croatia, Czech Republic, Egypt, Finland, France, Germany, Greece, Hungary, Iran, Italy, Japan, Kazakhstan, Macedonia, Moldova, Morocco, Romania, Russia and adjacent countries, Serbia, Slovakia, South Korea, Spain, Sweden, Switzerland, Transcaucasus, Turkey, Turkmenistan, Ukraine, UK, former Yugoslavia.

Comments: Pupal parasitoid of *Euproctis* sp. (Lepidoptera: Lymantriidae) (HAESELBARTH 1989), brown-tail moth, *Euproctis chrysorrhoea* (LINNAEUS) (NIKDEL et al. 2007), *Thaumetopoea* sp. and *Thaumetopoea solitaria iranica* (Lepidoptera: Thaumetopoeidae) on pistachio tree (*Pistacia vera*) (GHAHARI et al. 2010a).

Genus *Coruna* WALKER, 1833

Coruna WALKER, 1833: 379. Type species: *Coruna clavata* WALKER, by monotypy.

***Coruna clavata* WALKER, 1833**

Coruna clavata WALKER, 1833: 380. Lectotype Female, United Kingdom (BMNH), designated by GRAHAM (1969).

Distribution in Iran: Mazandaran (ABD-RABOU et al. 2005).

Distribution outside Iran: Belgium, Canada, Croatia, Czech Republic, Finland, France, Germany, Hungary, India, Italy, Japan, Kazakhstan, Lithuania, Moldova, the Netherlands, Poland, Romania, Russia and adjacent countries, Serbia, Slovakia, South Korea, Sweden, Scotland, USA, former Yugoslavia.

Comments: Hyperparasitoid of *Diaeretiella rapae* (MCINTOSH) (Hymenoptera: Aphidiidae) as the parasitoid of *Brevicoryne brassicae* (LINNAEUS) (Hemiptera: Aphididae) (ABD-RABOU et al. 2005).

Genus *Cyrtogaster* WALKER, 1833

Cyrtogaster WALKER, 1833: 381. Type species: *Cyrtogaster rufipes* WALKER, by subsequent designation of, WESTWOOD (1839).

***Cyrtogaster clavicornis* WALKER, 1833**

Cyrtogaster clavicornis WALKER, 1833: 383. Lectotype Female, United Kingdom (BMNH), designated by GRAHAM (1956).

Distribution in Iran: Mazandaran (GHAHARI 2004).

Distribution outside Iran: Algeria, Belgium, Czech Republic, Denmark, England, Germany, India, Kazakhstan, Moldova, the Netherlands, China, Romania, Slovakia, Spain, Sweden, UK.

Comments: Pupal parasitoid of cherry fruit fly, *Ragoletis cerasi* (LINNAEUS) (Diptera: Tephritidae) on cherry (GHAHARI 2004).

***Cyrtogaster vulgaris* WALKER, 1833**

Cyrtogaster vulgaris WALKER, 1833: 382. Lectotype Male, United Kingdom (BMNH), designated by GRAHAM (1969).

Distribution in Iran: Ardabil, East Azarbaijan (LOTFALIZADEH & GHARALI 2008, in alfalfa field), Golestan (MODARRES AWAL 1997; SHOJAI 1998), Kordestan (DEHDAR & MADJDZADEH 2013), Razavi Khorasan (HASANI & MADJDZADEH 2012), Semnan (SAKENIN et al. 2008a), Iran (no locality cited) (OILB 1971).

Distribution outside Iran: Austria, Azerbaijan, Azores, Belgium, Canada, Canary Islands Croatia, Czech Republic, France, Germany, Hungary, Iceland, Italy, Kazakhstan, Latvia, Lithuania, Madeira, Moldova, Morocco, the Netherlands, North Africa, Norway, Romania, Russia, Slovakia, Spain, Sweden, Switzerland, Transcaucasus, Turkey, UK.

Comments: Parasitoid of *Oscinella frit* (LINNAEUS) (Diptera: Chloropidae) in *Triticum vulgare* (MODARRES AWAL 1997; SHOJAI 1998). Parasitoid of two crucifer leaf miners including, *Chromatomyia horticola* (GOUREAU) and *Liriomyza sativae* (BLANCHARD) (Diptera: Agromyzidae) (LOTFALIZADEH & GHARALI 2008).

Genus *Cyrtoptyx* DELUCCHI, 1956

Cyrtoptyx DELUCCHI, 1956: 242, 252. Type species: *Dinarmus robustus* MASI, original designation.

***Cyrtoptyx latipes* (RONDANI, 1874)**

Pteromalus latipes RONDANI, 1874: 131. Type? Italy (MLSF?). BOUČEK (1974) transferred to *Cyrtoptyx*.

Distribution in Iran: Golestan (GHAHARI 2004; SAKENIN et al. 2008a; GHAHARI et al. 2010b), Kerman (MEHRNEJAD 2008; MEHRNEJAD & BASIRAT 2009; MITROIU et al. 2011), Qazvin (KEYHANIAN 2013), Razavi Khorasan (HASANI & MADJDZADEH 2012).

Distribution outside Iran: Azerbaijan, China, Croatia, Cyprus, Egypt, Eritrea, Greece, India, Italy, Kazakhstan, Lebanon, Libya, Pakistan, Spain, Syria, Transcaucasus, Turkey, former Yugoslavia.

Comments: Parasitoid of *Dacus ciliatus* LOEW (Diptera: Tephritidae) on pumpkin (GHAHARI 2004), *Dacus zonatus* (SAUNDERS) (GHAHARI et al. 2010b), *Bactrocera oleae* (ROSSI) (Diptera: Tephritidae) (KEYHANIAN 2013), larval parasitoid of the pistachio twig borer moth, *Kermania pistaciella* AMSEL (Lepidoptera: Tineidae) (MEHRNEJAD 2008; MEHRNEJAD & BASIRAT 2009).

***Cyrtoptyx lichtensteini* (MASI, 1922)**

Dinarmus lichtensteini MASI, 1922: 77. Syntypes, France (MNHN).

Distribution in Iran: East Azarbaijan (LOTFALIZADEH & HOSSEINI 2014), South Khorasan (AMINI et al. 2014).

Distribution outside Iran: China, France, Kazakhstan, Morocco, North Africa, Puerto Rico, USA.

Comments: Parasitoid of *Etiella zinckenella* (TREITSCHKE) (Lepidoptera: Pyralidae) on *Sophora alopecuroides* LINNAEUS (Fabaceae) (LOTFALIZADEH & HOSSEINI 2014), *Carpomya vesuviana* COSTA (Diptera: Tephritidae) (AMINI et al. 2014).

***Cyrtotypx pistaciae* (NIKOL'SKAYA, 1935)**

Dinarmus pistaciae NIKOL'SKAYA, 1935: 86. Holotype Female? USSR (MECO?).

Distribution in Iran: East Azarbaijan, Fars, Khorasan, Markazi, Semnan, Teharn, Zanjan (MODARRES AWAL 1997), Kerman (FARAHBAKHS 1961; MODARRES AWAL 1997), Lorestan (LOTFALIZADEH & GHARALI 2008), Qazvin (FarahBAKHS 1961; LOTFALIZADEH & GHARALI 2008), Iran (no locality cited) (JALILVAND & GHOLIPOUR 2002).

Distribution outside Iran: Armenia, Kirgizia, Russia and adjacent countries, Turkmenistan, Ukraine.

Comments: Pupal and prepupal parasitoid of *Megastigmus pistaciae* WALKER (Hymenoptera: Torymidae) on pistachio (FARAHBAKHS 1961; MODARRES AWAL 1997). This species was collected on *Pistacia vera* and *Pistacia khinjuk* by LOTFALIZADEH & GHARALI (2008).

***Cyrtotypx robustus* (MASI, 1907)**

Dinarmus robustus MASI, 1907: 288. Holotype Female, Italy (DEZP?). DELUCCHI (1956) transferred to *Cyrtotypx*.

Distribution in Iran: Fars (GHAHARI et al. 2010a), Golestan (GHAHARI 2004).

Distribution outside Iran: Croatia, Italy, Spain, Turkey.

Comments: Reared from *Adleria caputmedusae* ROHWER & FAGAN (Hymenoptera: Cynipidae) on oak (GHAHARI 2004), and *Adleria* sp. on oak tree (*Quercus* sp.) (GHAHARI et al. 2010a).

Genus *Dibrachoides* KURDJUMOV, 1913

Dibrachoides KURDJUMOV, 1913: 3, 12. Type species: *Pteromalus dynastes* FÖRSTER, original designation.

***Dibrachoides dynastes* (FÖRSTER, 1841)**

Pteromalus transversus FÖRSTER, 1841: 18. Holotype Female, Germany (HDOU?).

Distribution in Iran: East Azarbaijan (GHAHARI & HUANG 2012), Kordestan (DEHDAR & MADJDZADEH 2013), Mazandaran (GHAHARI 2004; ABD-RABOU et al. 2005; SAKENIN et al. 2008a).

Distribution outside Iran: Belgium, Canada, Caucasus, Croatia, Czech Republic, France, Germany, Hungary, Italy, Kazakhstan, Kirgizia, Macedonia, Moldova, Morocco, the Netherlands, North Africa, Romania, Russia, Serbia, Slovakia, Spain, Sweden, Transcaucasus, Turkey, UK, USA, former Yugoslavia.

Comments: Pupal parasitoid of *Hypera variabilis* HERBST (Coleoptera: Curculionidae) on lucerne (GHAHARI 2004), *Hypera* sp. (GHAHARI & HUANG 2012).

Genus *Dibrachys* FÖRSTER, 1856

Dibrachys FÖRSTER, 1856: 65. Type species: *Pteromalus boucheanus* RATZEBURG, by subsequent designation of, THOMSON (1878).

***Dibrachys affinis* MASI, 1907**

Dibrachys affinis MASI, 1907: 250. Holotype Female, Italy (MLSF?).

Distribution in Iran: Isfahan (ABD-RABOU et al. 2005), Tehran (GHAHARI et al. 2010a).

Distribution outside Iran: Algeria, Austria, Bulgaria, Czech Republic, France, Germany, Greece, Hungary, Italy, Montenegro, Morocco, the Netherlands, North Africa, Portugal, Romania, Serbia, Spain, Switzerland, Turkey, Ukraine, UK, former Yugoslavia.

Comments: Parasitoid of *Cydia pomonella* (LINNAEUS) (Lepidoptera: Olethreutidae) on apple tree (*Malus orientalis*) (ABD-RABOU et al. 2005; GHAHARI et al. 2010a).

An unknown species, *Dibrachys* sp. was reared from cereal leaf miner, *Syringopais temperatella* (LEDERER) (Lepidoptera: Elachistidae) from Lorestan province by PIRHADI et al. (2008).

***Dibrachys lignicola* GRAHAM, 1969**

Dibrachys (Dibrachys) lignicola GRAHAM, 1969: 810. Holotype, Ireland (Eire) (HDOU).

Distribution in Iran: Kerman (ZIAADDINI et al. 2014).

Distribution outside Iran: Algeria, France, Germany, Italy, Morocco, Netherlands, Spain, Sweden, Switzerland, UK, USA, former Yugoslavia.

***Dibrachys microgastri* (BOUCHÉ, 1834)**

Diplolepis microgastri BOUCHÉ, 1834: 168. Neotype Female, Germany (ZMHH), designated by PETERS & BAUR (2011). VIDAL (2001) used as *Dibrachys*.

Distribution in Iran: Alborz (SHOJAI 1998 as *Dibrachys boarmiae* (WALKER, 1863)), East Azarbaijan (ROWSHANDEL et al. 1998, MASHHADI-JAFARLOO & TALEBI-CHAICHI 2002 as *D. boarmiae*; GHAHARI et al. 2010c as *Dibrachys cavus* (WALKER, 1835)), Fars (HAESSELBARTH 1989 as *D. cavus*), Guilan (MODARRES AWAL 1997 as *D. boarmiae*; PETERS & BAUR 2011), Kerman (JAFARI NODOOSHAN & SHAIGAN 1993, JAFARI NODOOSHAN et al. 1995, MODARRES AWAL 1997 as *D. cavus*; MEHRNEJAD 2002, 2003, MEHRNEJAD & BASIRAT 2009, MITROIU et al. 2011 as *D. boarmiae*; PETERS & BAUR 2011), Razavi Khorasan (HASANI & MADJDZADEH 2011b, HASANI & MADJDZADEH 2012 as *D. boarmiae*), Sistan & Baluchestan (PETERS & BAUR 2011), Teharn (MODARRES AWAL 1997 as *D. boarmiae*), Yazd (JAFARI NODOOSHAN et al. 2012 as *D. cavus*), Iran (no locality cited) (GOLDANSAZ et al. 1996 as *D. boarmiae*).

Distribution outside Iran: Algeria, Argentina, Australia, Austria, Belarus, Belgium, Bosnia Hercegovina, Brazil, Bulgaria, Canada, Chile, Cyprus, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, India, Italy, Japan, Kazakhstan, Kirgizia, Mexico, Moldova, Morocco, the Netherlands, North Africa, Pakistan, China, Peru, Poland, Portugal, Romania, Russia and adjacent countries, Serbia, Slovakia, South Africa, South Korea, Spain, Sudan, Sweden, Switzerland, Tadjikistan, Turkey, Turkmenistan, Ukraine, UK, USA, Uruguay, Uzbekistan, former Yugoslavia.

Comments: Parasitoid of *Leucoma wiltshirei* COLLEN (Lepidoptera: Lymanteriidae) on *Quercus persica* (HAESSELBARTH 1989 as *D. cavus*), lesser wax moth, *Achroia grisella* (FABRICIUS) (Lepidoptera: Pyralidae) (GOLDANSAZ et al. 1996 as *D.*

boarmiae), *Achroia grisella* (FABRICIUS), *Euzophera bigella* (ZELLER) (Lepidoptera: Pyralidae) (MODARRES AWAL 1997 as *D. boarmiae*), *Hyponomeuta padellus* (LINNAEUS) (Lepidoptera: Yponomeutidae) (MODARRES AWAL 1997, SHOJAI 1998 as *D. boarmiae*), larval parasitoid of codling moth, *Laspeyresia pomonella* (LINNAEUS) (Lepidoptera: Olethreutidae) (MODARRES AWAL 1997, SHOJAI 1998, ROWSHANDEL et al. 1998, MASHHADI-JAFARLOO & TALEBI-CHAICHI 2002 as *D. boarmiae*), pistachio twig borer moth, *Kermania pistaciella* AMSEL (Lepidoptera: Tineidae) (JAFARI NODOOSHAN & SHAIGAN 1993, JAFARI NODOOSHAN et al. 1995, JAFARI NODOOSHAN et al. 2012 as *D. cavus*; MEHRNEJAD 2002, 2003, MEHRNEJAD & BASIRAT 2009 as *D. boarmiae*; PETERS & BAUR 2011), *Galleria mellonella* (LINNAEUS) (Lepidoptera: Pyralidae) and *Cacoecia* sp. (Lepidoptera: Tortricidae) (PETERS & BAUR 2011).

An unknown species, *Dibrachys* sp. prob. *cavus* WALKER was reported from East Azarbaijan as the parasitoid of *Didesmococcus unifasciata* ARCHANGELSKAJA (Hemiptera: Coccidae) by MODARRES AWAL (1997).

***Dibrachys* sp.**

Distribution in Iran: Alborz (SHOJAI 1998).

Comments: Parasitoid of *Carpocapsa pomonella* (LINNAEUS) (Lepidoptera: Olethreutidae) on apple tree (*Malus communis*) (SHOJAI 1998).

Genus *Diglochis* FÖRSTER, 1856

Diglochis FÖRSTER, 1856: 65. *Pteromalus complanatus* RATZBURG, by subsequent monotypy, MAYR (1904).

***Diglochis sylvicola* (WALKER, 1835)**

Pteromalus sylvicola WALKER, 1835: 481. Lectotype Female, United Kingdom-England (BMNH), designated and transferred to *Diglochis* by GRAHAM (1956).

Distribution in Iran: Isfahan (SAKENIN et al. 2008b), Kordestan (GHAHARI & HUANG 2012).

Distribution outside Iran: Belgium, Bosnia Hercegovina, Czech Republic, Germany, Hungary, Ireland (north and south), Kazakhstan, the Netherlands, Russia.

Comments: Pupal parasitoid of *Tabanus* sp. (Diptera: Tabanidae) (GHAHARI & HUANG 2012).

Genus *Dinarmus* THOMSON, 1878

Dinarmus THOMSON, 1878: 56. Type species: *Dimachus acutus* THOMSON, by subsequent designation of, ASHMEAD (1904).

***Dinarmus acutus* (THOMSON, 1878)**

Dimachus (*Dinarmus*) *acutus* THOMSON, 1878: 57. Holotype Female, Sweden (LUZN).

Distribution in Iran: Kerman (MITROIU et al. 2011, in *Amygdalus communis* garden), Razavi Khorasan (GHAHARI et al. 2010a).

Distribution outside Iran: Afrotropical, Algeria, Austria, Belgium, Bulgaria, Canada, Caucasus, Central Asia, Croatia, Czech Republic, France, Gambia,

Germany, Greece, Hungary, India, Iraq, Israel, Italy, Ivory Coast, Kazakhstan, Macedonia, Malta, Moldova, Montenegro, Morocco, the Netherlands, North Africa, Romania, Russia and adjacent countries, Senegal, Slovakia, Spain, Sri Lanka, Sweden, Switzerland, Transcaucasus, Turkey, UK, USA, former Yugoslavia.

C o m m e n t s : Parasitoid of *Bruchus* sp. (Coleoptera: Bruchidae) on pea (*Pisum sativum*) (GHAHARI et al. 2010a).

***Dinarmus basalis* (RONDANI, 1877)**

Entedon basalis RONDANI, 1877: Lectotype Male, Italy (MLSF), designated and transferred to *Dinarmus* by BOUČEK (1974).

D i s t r i b u t i o n i n I r a n : Khuzestan (MODARRES AWAL 1997 as *Bruchobius lateiceps* ASHMEAD, 1904), Razavi Khorasan (HASANI & MADJIZADEH 2011a; HASANI et al. 2011; HASANI & MADJIZADEH 2012).

D i s t r i b u t i o n o u t s i d e I r a n : Algeria, Bangladesh, Brazil, Burkina Faso, Caucasus, Colombia, Egypt, Europe, Fiji, France, India, Israel, Italy, Kazakhstan, Madagascar, Mauritius, Niger, Nigeria, Pakistan, Peru, Russia and adjacent countries, Senegal, South, Africa, Sri Lanka, Sudan, Thailand, Togo, Ukraine, USA, Venezuela, West Africa.

C o m m e n t s : Parasitoid of some beetles (MODARRES AWAL 1997).

***Dinarmus italicus* (MASI, 1922)**

Oedaule italica MASI, 1922: 162. Types unknown, Italy.

D i s t r i b u t i o n i n I r a n : Golestan (GHAHARI 2014).

D i s t r i b u t i o n o u t s i d e I r a n : Algeria, Croatia, France, Italy, Kazakhstan, Spain, Turkey, Turkmenistan, Uzbekistan.

***Dinarmus vagabundus* (TIMBERLAKE, 1926)**

Bruchobius vagabundus TIMBERLAKE, 1926: 305. Female, Male (UCR). BOUČEK et al. (1979) transferred to *Dinarmus*.

D i s t r i b u t i o n i n I r a n : Hamadan (ESLAMI 1998).

D i s t r i b u t i o n o u t s i d e I r a n : Barbados, France, Hawaii, India, Jamaica, Madagascar, Pakistan, Puerto Rico, Sri Lanka, Vietnam.

C o m m e n t s : Larval parasitoid of *Callosobruchus maculatus* (FABRICIUS), *C. chinensis* (FABRICIUS) and *C. analis* (FABRICIUS) (Coleoptera: Bruchidae) (ESLAMI 1998).

Genus *D i n o t i s c u s* GHESQUIÈRE, 1946

Dinotus FÖRSTER, 1856: 66. Type species: *Dinotus bidentulus* THOMSON, by subsequent designation of, ASHMEAD (1904).

Dinotiscus GHESQUIÈRE 1946: 370. [Replacement name for *Dinotus* FÖRSTER 1856 nec GUETTARD 1770].

***Dinotiscus colon* (LINNAEUS 1758)**

Sphex colon LINNAEUS, 1758: 571. Lectotype Male (LCLS). GRAHAM (1969) transferred to *Dinotiscus*.

Distribution in Iran: Alborz (SHOJAI 1998 as *Cheiopachus colon* L.), Ardabil (DAVATCHI & CHODJAI 1968, RADJABI 1991, SHOJAI 1998 as *C. colon*; LOTFALIZADEH & KHALGHANI 2008), East Azarbaijan (MODARRES AWAL 1997 as *C. colon*), Fars, Hamadan, Isfahan, Lorestan, Markazi, Tehran, Zanjan (DAVATCHI & CHODJAI 1968, RADJABI 1991, MODARRES AWAL 1997 as *C. colon*; LOTFALIZADEH & KHALGHANI 2008), Kermanshah, Kordestan (DAVATCHI & CHODJAI 1968 as *C. colon*; RADJABI 1991; LOTFALIZADEH & KHALGHANI 2008).

Distribution outside Iran: Argentina, Belarus, Bulgaria, Canada, China, Czech Republic, Finland, France, Germany, Hungary, Italy, Lithuania, Moldova, North Africa, Norway, Poland, Romania, Russia, Slovakia, Spain, Sweden, Transcaucasus, Tunisia, Turkmenistan, UK, USA, former Yugoslavia.

Comments: Parasitoid of *Scolytus mediterraneus* (EGGERS) and *Phloeosinus bicolor* BRULLÉ (Coleoptera: Scolytidae) (DAVATCHI & CHODJAI 1968, MODARRES AWAL 1997, SHOJAI 1998 as *Cheiopachus colon* L.). On apple, apricot, cherry, peach, plum (MODARRES AWAL 1997 as *C. colon*).

***Dinotiscus eupterus* (WALKER, 1836)**

Pteromalus eupterus WALKER, 1836: 482. Syntypes, 2 Females. Lectotype, the second specimen, bearing a Waterhouse label, United Kingdom-England (BMNH).

Material examined: Guilan province, Astara, -15 m, 2♀ ex *Scolytus scolytus* (Fabricius) (Coleoptera: Scolytidae), September 2011. New record for Iran.

Distribution outside Iran: Armenia, Austria, Belarus, Belgium, Bosnia Hercegovina, Canada, China, Czech Republic, Finland, France, Germany, Hungary, Japan, Kazakhstan, Lithuania, Montenegro, Nearctic, Norway, New Zealand, the Netherlands, Poland, Romania, Russia, Slovakia, Spain, Sweden, Turkey, Ukraine, UK, USA, former Yugoslavia.

Genus *Erdoesina* GRAHAM, 1957

Erdoesina GRAHAM, 1957: 180. Type species: *Pteromalus alboannulatus* RATZEBURG, original designation and monotypy.

***Erdoesina alboannulata* (RATZEBURG, 1852)**

Pteromalus alboannulatus RATZEBURG, 1852: 231. Male, Female, Berlin, Germany (DEI?).

Distribution in Iran: East Azarbaijan (LOTFALIZADEH & GHARALI 2008).

Distribution outside Iran: Azerbaijan, Czech Republic, Germany, Kazakhstan, Poland, Romania, Russia and adjacent countries, Slovakia, Turkey, Uzbekistan.

Genus *Euneura* WALKER, 1844

Euneura WALKER, 1844: 331. Type species: *Euneura augarus* WALKER, by monotypy.

***Euneura lachni* (ASHMEAD, 1887)**

Pachycrepis lachni ASHMEAD, 1887: 193. Holotype Female, Florida, USA (USNM).

Distribution in Iran: Alborz (SHOJAI 1998 as *Euneura laeviuscula* Graham, 1969), Isfahan (GHAHARI 2014), Mazandaran (GHAHARI 2004), Tehran

(MODARRES AWAL 1997 as *E. laeviuscula*), West Azarbaijan (GHAHARI & HUANG 2012), Iran (no locality cited) (OILB 1971).

D i s t r i b u t i o n o u t s i d e I r a n : Canada, China, Czech Republic, Germany, India, Italy, Japan, Kirgizia, the Netherlands, Pakistan, Russia, South Korea, Sweden, Turkey, USA.

C o m m e n t s : Hyperparasitoid of Aphididae (Hemiptera) (OILB 1971), and *Aphidius ervi* HALIDAY (Hymenoptera: Aphidiidae) as the parasitoid *Acyrtosiphon pisum* (HARRIS) (Hemiptera: Aphididae) on bean (GHAHARI 2004; GHAHARI & HUANG 2012). Parasitoid of *Pterochlorus persicae* CHOLODKOVSKY (Hemiptera: Aphididae) on *Persica vulgaris*, and *P. salignus* (GMELIN) on *Salix* sp. (MODARRES AWAL 1997, SHOJAI 1998 as *E. laeviuscula*).

***Euneura saetosa* (DELUCCHI, 1955)**

Gygaxia saetosa DELUCCHI, 1955: 145. Holotype Female, Germany (MHNG). BOUČEK (1991) transferred to *Euneura*.

D i s t r i b u t i o n i n I r a n : Golestan (SAKENIN et al. 2008b), Mazandaran (SAKENIN et al. 2008a).

D i s t r i b u t i o n o u t s i d e I r a n : Europe.

Genus *Eurydinota* FÖRSTER, 1878

Eurydinota FÖRSTER, 1878: 42. Type species: *Eurydinota leptomera* FÖRSTER, by monotypy.

***Eurydinota leptomera* FÖRSTER, 1878**

Eurydinota leptomera FÖRSTER, 1878: 43. Holotype Female, Germany (DEI?).

D i s t r i b u t i o n i n I r a n : West Azarbaijan (GHAHARI & HUANG 2012), Western and northwestern Iran (no locality cited) (SAKENIN et al. 2011).

D i s t r i b u t i o n o u t s i d e I r a n : Austria, Czech Republic, France, Germany, Italy, Romania, Slovakia, Sweden, former Yugoslavia.

Genus *Gastracanthus* WESTWOOD, 1833

Gastracanthus WESTWOOD, 1833: 121. Type species: *Gastracanthus pulcherrimus* WESTWOOD, by monotypy.

***Gastracanthus pulcherrimus* WESTWOOD, 1833**

Gastracanthus pulcherrimus WESTWOOD, 1833: 121. Original type (Female) lost. England (BMNH) (KERRICH & GRAHAM 1957).

D i s t r i b u t i o n i n I r a n : West Azarbaijan (ABD-RABOU et al. 2005; GHAHARI & HUANG 2012).

D i s t r i b u t i o n o u t s i d e I r a n : Belgium, Croatia, Czech Republic, Finland, France, Germany, Hungary, Moldova, the Netherlands, Romania, Slovakia, Spain, Sweden, UK.

C o m m e n t s : Reared from *Sphenoptera* sp. (Coleoptera: Buprestidae) (ABD-RABOU et al. 2005; GHAHARI & HUANG 2012).

***Gastracanthus* sp.**

Distribution in Iran: Kordestan (SHOJAI 1998).

Comments: Parasitoid of *Cecidomyia* sp. (Diptera: Cecidomyiidae) on *Salix* sp. (SHOJAI 1998).

Genus *Goidanichium* BOUČEK, 1970

Goidanichium BOUČEK 1970: 55. Type species: *Goidanichium atrum* BOUČEK, original designation and monotypy.

***Goidanichium atrum* BOUČEK, 1970**

Goidanichium atrum BOUČEK, 1970: 56-57. Holotype Female, Italy (BMNH).

Distribution in Iran: Guilan (ABD-RABOU et al. 2005).

Distribution outside Iran: Italy, Turkey.

Comments: Reared from *Pseudococcus adonfidum* LINNAEUS (Hemiptera: Pseudococcidae) on begonia (ABD-RABOU et al. 2005).

Genus *Guancheria* HEDQVIST, 1978

Guancheria HEDQVIST 1978: 319. Type species: *Guancheria compressithorax* HEDQVIST, original designation and monotypy.

***Guancheria* sp.**

Distribution in Iran: Kerman (JAFARI NODOOSHAN & SHAIGAN 1993; JAFARI NODOOSHAN et al. 1995).

Comments: Parasitoid of *Kemania pistaciella* AMSEL (Lepidoptera: Tineidae) (JAFARI NODOOSHAN & SHAIGAN 1993; JAFARI NODOOSHAN et al. 1995). Since there is only one species, *Guancheria compressithorax* HEDQVIST 1978 in the genus *Guancheria* and its distribution is restricted to Canary Islands, so its presence in Iran is probably doubtful and needs more samplings.

Genus *Gugolzia* DELUCCHI & STEFFAN, 1956

Gugolzia DELUCCHI & STEFFAN, 1956: 30. Type species: *Gugolzia harmolitae* DELUCCHI & STEFFAN, by monotypy.

***Gugolzia bademia* DOĞANLAR, 2004**

Gugolzia bademia DOĞANLAR, 2004: 76-78. Holotype Female, Turkey (MKUT).

Distribution in Iran: Chaharmahal & Bakhtiari (LOTFALIZADEH et al. 2008; LOTFALIZADEH & GHARALI 2008).

Distribution outside Iran: Turkey.

Comments: Parasitoid of *Eurytoma amygdali* ENDERLEIN (Hymenoptera: Eurytomidae) on *Amygdalus comminus* (Rosaceae) (LOTFALIZADEH et al. 2008; LOTFALIZADEH & GHARALI 2008). The European and Turkish species of *Gugolzia* were revised by DOĞANLAR & DOĞANLAR (2010).

***Gugolzia harmolitae* DELUCCHI & STEFFAN, 1956**

Gugolzia harmolitae DELUCCHI & STEFFAN, 1956: 31. Holotype Female, France (MNHN).

Distribution in Iran: Ardabil (LOTFALIZADEH & GHARALI 2008), Chaharmahal & Bakhtiari, Khuzestan (GHAHARI et al. 2010b).

Distribution outside Iran: France, Turkey.

Comments: Parasitoid of *Tetramesa eximia* (GIRAUD), *Tetramesa hordei* (HARRIS) (Hymenoptera: Eurytomidae) (GHAHARI et al. 2010b).

Genus *Gyrinophagus* RUSCHKA, 1914

Gyrinophagus RUSCHKA, 1914: 208. Type species: *Gyrinophagus luteipes* RUSCHKA, by monotypy.

***Gyrinophagus aper* (WALKER, 1839)**

Pteromalus aper WALKER, 1839: Lectotype, United Kingdom-England (BMNH), designated and transferred to *Gyrinophagus* by GRAHAM (1956).

Distribution in Iran: Mazandaran (SAKENIN et al. 2008a).

Distribution outside Iran: Austria, Belgium, Canada, Czech Republic, Sweden, UK.

***Gyrinophagus luteipes* RUSCHKA, 1914**

Gyrinophagus luteipes RUSCHKA, 1914: 208. Lectotype Female, Germany (in Ruschka Collection), designated by BOUČEK (1991).

Distribution in Iran: Mazandaran (SAKENIN et al. 2008a), West Azarbaijan (SAKENIN et al. 2008b).

Distribution outside Iran: Germany, Sweden.

Genus *Habritys* THOMSON, 1878

Habritys THOMSON, 1878: 54. Type species: *Pteromalus brevicornis* RATZEBURG, by monotypy.

***Habritys brevicornis* (RATZEBURG, 1844)**

Pteromalus brevicornis RATZEBURG, 1844: 201. Female? Male? Germany (DEI?).

Distribution in Iran: East Azarbaijan, West Azarbaijan (HASSAN-PASHAI-MEHR & LOTFALIZADEH 2015), Northern Khorasan (SAKENIN et al. 2008b).

Distribution outside Iran: Belgium, Canada, Croatia, Czech Republic, Finland, France, Germany, Hungary, Kazakhstan, the Netherlands, Romania, Serbia, Slovakia, Spain, Sweden, UK, USA, former Yugoslavia.

Genus *Hobbia* DELUCCHI, 1957

Hobbia DELUCCHI, 1957: 142. Type species: *Pteromalus stenonotus* RATZEBURG, original designation.

***Hobbia stenonota* (RATZEBURG, 1848)**

Pteromalus stenonotus RATZEBURG, 1848: 206. Male, Female, Germany (DEI?).

Distribution in Iran: Kerman (LOTFALIZADEH et al. 2012), Iran (no locality cited) (ASKEW et al. 2006; LOTFALIZADEH & GHARALI 2008).

Distribution outside Iran: Austria, Belgium, Bulgaria, Czech Republic, France, Germany, Hungary, the Netherlands, Romania, Russia, Slovenia, Spain, Sweden, Turkey, Ukraine, UK.

Comments: Collected from cynipid galls *Diplolepis mayri* (SCHLECHTENDAL) (Hymenoptera: Cynipidae) on *Quercus* sp. (ASKEW et al. 2006; LOTFALIZADEH & GHARALI 2008); reared from galls of *Diplolepis fructuum* RÜBSAAMEN (LOTFALIZADEH et al. 2012).

Genus *Holcaeus* THOMSON, 1878

Holcaeus THOMSON, 1878: 104. Type species: *Etroxys dichrous* THOMSON, by subsequent designation of, ASHMEAD (1904).

***Holcaeus calligetis* (WALKER, 1839)**

Pteromalus calligetis WALKER, 1839: 222. Lectotype, United Kingdom-England (BMNH), designated by GRAHAM (1969). BOUČEK (1965) transferred to *Holcaeus*.

Distribution in Iran: Iran (no locality cited) (KHANJANI 2006, p. 15).

Distribution outside Iran: Belgium, Czech Republic, Germany, Moldova, the Netherlands, UK.

Comments: Hyperparasitoid of *Bathyplectes anurus* (THOMSON), and *B. curculionis* (THOMPSON) (Hymenoptera: Ichneumonidae) (KHANJANI 2006, p. 15).

Genus *Homoporus* THOMSON, 1878

Homoporus THOMSON, 1878: 64. Type species: *Pteromalus fulviventrīs* WALKER, by subsequent designation of, ASHMEAD (1904).

***Homoporus fulviventrīs* (WALKER, 1835)**

Pteromalus fulviventrīs WALKER, 1835: 190. Lectotype, United Kingdom-England (BMNH), designated by GRAHAM (1969). DELUCCHI (1957) transferred to *Homoporus*.

Distribution in Iran: Ardabil (GHAHARI & HUANG 2012), Kerman (MITROIU et al. 2011), Western and northwestern Iran (no locality cited) (SAKENIN et al. 2011).

Distribution outside Iran: Belgium, Bosnia Herzegovina, Canary Islands, China, Croatia, Czech Republic, Germany, Hungary, Italy, Kazakhstan, Madeira, Moldova, the Netherlands, Romania, Russia, Slovakia, Spain, Sweden, Transcaucasus, Turkey, UK.

***Homoporus semiluteus* (WALKER, 1872)**

Pteromalus semiluteus WALKER, 1872: 101. Lectotype Female, France-Corsica (BMNH), designated and transferred to *Homoporus* by GRAHAM (1969).

Distribution in Iran: Razavi Khorasan (HASANI & MADJDZADEH 2011b; HASANI et al. 2011; HASANI & MADJDZADEH 2012).

Distribution outside Iran: Belgium, Croatia, Czech Republic, France, Germany, Hungary, Italy, Moldova, Slovakia, Spain, Sweden, UK.

***Homoporus subniger* (WALKER, 1835)**

Pteromalus subniger WALKER, 1872: 95. Lectotype Female, United Kingdom (BMNH). GRAHAM (1969) designated and transferred to *Homoporus*.

Distribution in Iran: Ardabil, Mazandaran (GHAHARI 2014), East Azarbaijan (LOTFALIZADEH 2015), West Azarbaijan (GHAHARI & HUANG 2012).

Distribution outside Iran: Austria, China, Czech Republic, France, Germany, Hungary, Kazakhstan, Moldova, Montenegro, the Netherlands, Romania, Serbia, Slovakia, Spain, Sweden, Turkey, UK, former Yugoslavia.

Comments: An unknown species, *Homoporus* sp. was reared from the pupa of grape berry moth, *Lobesia botrana* (DENIS & SCHIFFERMÜLLER) (Lepidoptera: Tortricidae) from vineyard of West Azarbaijan province by AKBARZADEH SHOUKAT et al. (2008).

Genus *Lariophagus* CRAWFORD, 1909

Lariophagus CRAWFORD, 1909: 52. Type species: *Lariophagus texanus* CRAWFORD, by monotypy.

***Lariophagus distinguendus* (FÖRSTER, 1841)**

Pteromalus distinguendus FÖRSTER, 1841: Male, Germany (DEI?). KURDJUMOV (1913) transferred to *Lariophagus*.

Distribution in Iran: Mazandaran (SAKENIN et al. 2008a).

Distribution outside Iran: Argentina, Australia, Austria, Belgium, Brazil, Canada, Chile, China, Croatia, Czech Republic, Egypt, Germany, Hong Kong, Hungary, India, Israel, Italy, Japan, Kazakhstan, Lebanon, Madeira, Mexico, Morocco, Nepal, the Netherlands, New Zealand, Portugal, Romania, Russia and adjacent countries, Serbia, Slovakia, South Korea, Sri Lanka, Sweden, Switzerland, Thailand, Turkey, Ukraine, UK, USA, Uruguay, former Yugoslavia.

Genus *Meraporus* WALKER, 1834

Meraporus WALKER, 1834: 298. Type species: *Meraporus graminicola* WALKER, by subsequent designation of, WESTWOOD (1839).

***Meraporus graminicola* WALKER, 1834**

Meraporus graminicola WALKER, 1834: Male, Female, United Kingdom (BMNH).

Distribution in Iran: East Azarbaijan (SAKENIN et al. 2008b).

Distribution outside Iran: Belgium, Canary Islands, Czech Republic, Denmark, Faeroe Islands, Germany, Hungary, Iceland, Moldova, Morocco, the Netherlands, North Africa, Norway, Romania, Russia and adjacent countries, Serbia, Slovakia, Spain, Balearics, Sweden, Switzerland, Transcaucasus, Ukraine, UK, former Yugoslavia.

Genus *Merisus* WALKER, 1834

Merisus WALKER, 1834: 166. Type species: *Merisus splendidus* WALKER, by monotypy.

***Merisus splendidus* WALKER, 1834**

Merisus splendidus WALKER, 1834: 233. Neotype Female?, France (BMNH), designated by GRAHAM (1994).

Distribution in Iran: Kordestan (GHAHARI & HUANG 2012), western and northwestern Iran (no locality cited) (SAKENIN et al. 2011).

Distribution outside Iran: Belgium, Czech Republic, France, Germany, Hungary, Italy, Kazakhstan, Macedonia, Moldova, Montenegro, the Netherlands, North Africa, Romania, Serbia, Slovakia, Spain, Sweden, Turkey, UK, former Yugoslavia.

Comments: Larval parasitoid of *Tetramesa* sp. (Hymenoptera: Eurytomidae) (GHAHARI & HUANG 2012).

Genus *Mesopolobus* WESTWOOD, 1833

Mesopolobus WESTWOOD, 1833: 443. Type species: *Mesopolobus fasciventris* WESTWOOD, by monotypy.

***Mesopolobus aequus* (WALKER, 1834)**

Eutelus aequus WALKER, 1834: 364. Types not known, Lectotype Female, United Kingdom (BMNH).

Material examined: Razavi Khorasan province, Neyshaboar, 1207 m, 2 ♀ ♀ September 2009. New record for Iran.

Distribution outside Iran: Belgium, Canary Islands, Czech Republic, Finland, Germany, Hungary, Kazakhstan, Madeira, Moldova, the Netherlands, North Africa, Serbia, Slovakia, Spain, Sweden, Turkey, UK, USA, former Yugoslavia.

***Mesopolobus amaenus* (WALKER, 1834)**

Amblymerus amaenus WALKER, 1834: 307. Lectotype Female, United Kingdom-England (BMNH), designated and transferred to *Mesopolobus* by GRAHAM (1957).

Distribution in Iran: Fars (HAESELBRATH 1989), Golestan (GHAHARI 2014), Iran (no locality cited) (ASKEW et al. 2006).

Distribution outside Iran: Austria, Belgium, China, Croatia, Czech Republic, France, Germany, Hungary, Ireland (north and south), Italy, Japan, the Netherlands, Romania, Spain, Sweden, Tonga, Ukraine, UK.

Comments: Parasitoid of *Leucoma wiltshirei* COLLENETTE (Lepidoptera: Lymantriidae) on *Quercus persica* (HAESELBRATH 1989). Also, collected from rose gall wasp, *Diplolepis mayri* (SCHLECHTENDAL) (Hymenoptera: Cynipidae) (ASKEW et al. 2006).

***Mesopolobus arcanus* ASKEW, 1997**

Mesopolobus arcanus ASKEW, 1997: 972-975 (in ASKEW & BLASCO-ZUMETA 1997). Holotype Female, Spain (BMNH).

Distribution in Iran: Fars (ALEMANSOUR et al. 2010).

Distribution outside Iran: Spain.

C o m m e n t s : Parasitoid of *Eurytoma* sp. (Hymenoptera: Eurytomidae) on *Epheda procera* (Ephedraceae) (ALEMANSOUR et al. 2010).

***Mesopolobus deserti* DZHANOKMEN, 1994**

Mesopolobus deserti DZHANOKMEN, 1994: 371-374. Holotype Female, Kazakhstan (ZISP).

D i s t r i b u t i o n i n I r a n : Razavi Khorasan (HASANI & MADJDZADEH 2011b; HASANI et al. 2011; HASANI & MADJDZADEH 2012).

D i s t r i b u t i o n o u t s i d e I r a n : Kazakhstan.

***Mesopolobus diffinis* (WALKER, 1834)**

Eutelus diffinis WALKER, 1834: 358. Lectotype Female, United Kingdom (BMNH).

M a t e r i a l e x a m i n e d : Kerman province, Jiroft, 723 m, 1 ♀, June 2011. New record for Iran.

D i s t r i b u t i o n o u t s i d e I r a n : Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Germany, Hungary, Kazakhstan, Moldova, Montenegro, the Netherlands, Slovakia, Spain, Sweden, Transcaucasus, Turkey, Turkmenistan, UK, former Yugoslavia.

***Mesopolobus fasciventris* WESTWOOD, 1833**

Mesopolobus fasciventris WESTWOOD, 1833: 443-444. Holotype Female, United Kingdom-England (HDOU).

D i s t r i b u t i o n i n I r a n : Kerman (MAHDAVI & MADJDZADEH 2013).

D i s t r i b u t i o n o u t s i d e I r a n : Andorra, Austria, Belgium, Czech Republic, Finland, France, Germany, Greece, Hungary, Italy, Moldova, the Netherlands, Poland, Romania, Slovakia, Spain, Sweden, Ukraine, UK, USA.

C o m m e n t s : Reared from leaf-galls (Cynipidae) on *Salix alba* LINNAEUS (Salicaceae) (MAHDAVI & MADJDZADEH 2013).

***Mesopolobus incultus* (WALKER, 1834)**

Platyterma incultum WALKER, 1834: 340. Lectotype Male, United Kingdom-England (BMNH).

Platymesopus incultus (WALKER, 1834). GRAHAM 1957: 229. New combination for *Platyterma incultum* WALKER, 1834.

M a t e r i a l e x a m i n e d : Kermanshah province, Hersin, 1556 m, 1 ♂, April 2010. New record for Iran.

D i s t r i b u t i o n o u t s i d e I r a n : Belgium, Canada, Czech Republic, Germany, Hungary, Italy, Moldova, Morocco, the Netherlands, New Zealand, Romania, Russia, Slovakia, Spain, Sweden, Switzerland, Syria, Turkey, Ukraine, UK, Scotland, Wales.

***Mesopolobus juniperinus* ROSEN, 1958**

Mesopolobus juniperinus ROSEN, 1958: 218. Types unknown, Sweden.

D i s t r i b u t i o n i n I r a n : Golestan (GHAHARI 2014).

Distribution outside Iran: Denmark, Europe, Kazakhstan, Spain, Sweden, UK.

***Mesopolobus laticornis* (WALKER, 1834)**

Platyterma laticorne WALKER, 1834: 304. Lectotype Female, United Kingdom-England (BMNH). *Mesopolobus laticornis* (WALKER, 1834). ROSEN VON 1958: 215. New combination for *Platyterma laticorne* WALKER.

Material examined: Kordestan province, Dezaj, 1521 m, 1 ♀, July 2011. New record for Iran.

Distribution outside Iran: Croatia, Czech Republic, Germany, Hungary, Ireland (north and south), Moldova, Montenegro, the Netherlands, Russia, Spain, Sweden, Turkey, UK, former Yugoslavia.

***Mesopolobus (Mesopolobus) mediterraneus* (MAYR, 1903)**

Eutelus mediterraneus MAYR, 1903: 388, 389. Male, Female, Italy (DEZP?). ROSEN (1958) transferred to *Mesopolobus*.

Distribution in Iran: East Azarbaijan (SAKENIN et al. 2008b), Mazandaran (SAKENIN et al. 2008a).

Distribution outside Iran: Bosnia Herzegovina, Bulgaria, Croatia, Europe, France, Germany, Isle of Man (British Isles), Italy, Slovakia, Spain, Sweden, Turkey, UK, former Yugoslavia.

***Mesopolobus (Xenocrepis) morys* (WALKER, 1848)**

Pteromalus morys WALKER, 1848: 197. Lectotype Male, United Kingdom-England (BMNH), designated by GRAHAM (1957). ROSEN (1960) transferred to *Mesopolobus*.

Distribution in Iran: Khuzestan (GHAHARI et al. 2010b).

Distribution outside Iran: Belgium, Canada, Czech Republic, France, Germany, Hungary, Italy, Kazakhstan, Kirgizia, Lithuania, Moldova, the Netherlands, Poland, Romania, Slovakia, Spain, Sweden, Switzerland, Turkey, UK, USA.

Comments: Parasitoid of *Ceutorrhynchus assimilis* (PAYKULL) (Coleoptera: Curculionidae) (GHAHARI et al. 2010b).

***Mesopolobus nobilis* (WALKER, 1834)**

Platyterma nobile WALKER, 1834: 304. Lectotype Female, United Kingdom-England, (BMNH). *Mesopolobus nobilis* (WALKER, 1834). ROSEN VON 1958: 212. New combination for *Platyterma nobile* WALKER, 1834.

Material examined: Golestan province, Kalaleh, 147 m, 2 ♀ ♀, August 2010. New record for Iran.

Distribution outside Iran: Austria, Belgium, Bulgaria, Czech Republic, France, Germany, Hungary, Ireland (north and south), Kazakhstan, Moldova, the Netherlands, New Zealand, Slovakia, Spain, Sweden, Turkey, UK, USA.

***Mesopolobus sericeus* (FÖRSTER, 1770)**

Cynipssericeus FÖRSTER, 1770: 14. Neotype Female, United Kingdom-Wales (BMNH), designated by GRAHAM (1994). DAY & FITTON (1977) transferred to *Mesopolobus*.

Distribution in Iran: Kerman (MAHDAVI et al. 2015), Mazandaran (GHAHARI et al. 2010b as *M. jucundus*), Razavi Khorasan (HASANI & MADJDZADEH 2011b; HASANI & MADJDZADEH 2012, on *Tamarix* sp.), Zanzan (GHAHARI et al. 2010a as *M. jucundus*).

Distribution outside Iran: Belgium, Croatia, Denmark, Europe, France, Germany, Hungary, Israel, Italy, Kazakhstan, the Netherlands, Romania, Spain.

Comments: Reared from *Diplolepis mayri* (SCHLECHTENDAL) (Hymenoptera: Cynipidae) on *Rosa canina* (GHAHARI et al. 2010a, b, as *M. jucundus*), *Diplolepis fructuum* RÜBSAAMEN on *Rosa beggeriana* (MAHDAVI et al. 2015).

***Mesopolobus (Mesopolobus) subfumatus* (RATZEBURG, 1852)**

Pteromalus subfumatus RATZEBURG, 1852: 236. Holotype Female, Germany (DEI?). ROSEN (1958) transferred to *Mesopolobus*.

Distribution in Iran: Semnan (ABD-RABOU et al. 2005)

Distribution outside Iran: Austria, Canada, China, Czech Republic, France, Germany, Hungary, Japan, the Netherlands, Poland, Russia and adjacent countries, Siberia, Slovakia, Spain, Sweden, UK.

***Mesopolobus teliformis* (WALKER, 1834)**

Platyterma teliforme WALKER, 1834: 305. Lectotype Female, United Kingdom-England (BMNH). *Mesopolobus teliformis* (WALKER, 1834). ROSEN VON 1958: 214. New combination for *Platyterma teliforme* WALKER, 1834.

Material examined: Northern Khorasan province, Ashkhaneh, 743 m, 1 ♀, September 2009. New record for Iran.

Distribution outside Iran: Belgium, Bulgaria, Czech Republic, France, Germany, Hungary, Kazakhstan, the Netherlands, Russia and adjacent countries, Slovakia, Sweden, Turkey, UK.

***Mesopolobus typographi* (RUSCHKA, 1924)**

Eutelus typographi RUSCHKA, 1924: 13. Type material. Syntypes (Male and Female) in the Hochschule für Bodenkultur and Naturhistorisches Museum, Vienna; in Swedish Forestry Academy, and in coll. Ruschka (GRAHAM 1969).

Material examined: Razavi Khorasan province, Quchan, 1268 m, 1 ♀, 1 ♂, April 2010. New record for Iran.

Distribution outside Iran: Afghanistan, Austria, Czech Republic, Germany, Norway, Poland, Russia, Slovakia, Spain, Sweden, UK.

Genus *Metacolus* FÖRSTER, 1856

Metacolus FÖRSTER, 1856: 65. Type species: *Metacolus unifasciatus* FÖRSTER, by monotypy.

***Metacolus azureus* (RATZEBURG, 1844)**

Pteromalus azureus RATZEBURG, 1844: 203. Male, Germany (DEI?). GRAHAM (1969) transferred to *Metacolus*.

Distribution in Iran: Northern Khorasan (GHAHARI et al. 2010a).

Distribution outside Iran: Afghanistan, Belgium, Bosnia Hercegovina, Caucasus, Croatia, Czech Republic, Finland, Germany, Hungary, Israel, Kazakhstan, Montenegro, the Netherlands, Norway, Poland, Romania, Russia, Slovenia, Spain, Sweden, Ukraine, UK, former Yugoslavia.

Comments: Parasitoid of *Scolytus kirschi* SKALITZKY (Coleoptera: Scolytidae) on apricot tree (*Armeniaca vulgaris*) (GHAHARI et al. 2010a).

***Metacolus unifasciatus* FÖRSTER, 1856**

Metacolus unifasciatus FÖRSTER, 1856: 70. Male, Female, Germany (NHMV?).

Distribution in Iran: Ardabil (GHAHARI & HUANG 2012), Mazandaran (ABD-RABOU et al. 2005).

Distribution outside Iran: Armenia, Belgium, Bosnia Hercegovina, Bulgaria, Caucasus, China, Croatia, Czech Republic, Finland, France, Germany, Greece, Hungary, India, Israel, Italy, Kazakhstan, Lithuania, Montenegro, the Netherlands, Norway, Poland, Romania, Russia, Slovakia, South Africa, Spain, Sweden, Ukraine, UK, Uzbekistan, former Yugoslavia.

Comments: Parasitoid of *Scolytus fasciatus* REITTER (Coleoptera: Scolytidae) on elm (ABD-RABOU et al. 2005), *Scolytus* sp. (Coleoptera: Scolytidae) (GHAHARI & HUANG 2012).

Genus *Metastenus* WALKER, 1834

Metastenus WALKER, 1834: 301. Type species: *Metastenus concinnus* WALKER, by monotypy.

***Metastenus concinnus* WALKER, 1834**

Metastenus concinnus WALKER, 1834: 302. Lectotype Female, United Kingdom (BMNH), designated by GRAHAM (1956).

Distribution in Iran: Golestan (ABD-RABOU et al. 2005), Mazandaran (GHARIZADEH & HESAMI 2003).

Distribution outside Iran: Argentina, Caucasus, Croatia, Czech Republic, France, Germany, India, Kazakhstan, Slovakia, Spain, Switzerland, Transcaucasus, UK.

Comments: Reared from *Cryptolaemus monterouzieri* MULSANT (Coleoptera: Coccinellidae) (ABD-RABOU et al. 2005; GHARIZADEH & HESAMI 2003).

Genus *Mokrzeckia* MOKRZECKI, 1934

Mokrzeckia MOKRZECKI, 1934: 143. Type species: *Pteromalus pini* HARTIG, by monotypy.

***Mokrzeckia obscura* GRAHAM, 1969**

Mokrzeckia obscura GRAHAM, 1969: 479. Holotype Female, United Kingdom-England (HDOU).

Distribution in Iran: Isfahan (AFIUNIZADEH & KARIMZADEH 2010).

Distribution outside Iran: England.

Comments: Hyperparasitoid of *Plutella xylostella* (LINNAEUS) (Lepidoptera: Plutellidae) (AFIUNIZADEH & KARIMZADEH 2010).

***Mokrzeckia pini* (HARTIG, 1838)**

Pteromalus pini HARTIG, 1838: 253. Male? Female, Berlin (Germany) (DEI?). DELUCCHI (1958) transferred to *Mokrzeckia*.

Distribution in Iran: Golestan (SAKENIN et al. 2008b), Mazandaran (SAKENIN et al. 2008a).

Distribution outside Iran: Austria, Belgium, China, Czech Republic, Europe, France, Germany, Italy, Japan, Korea, North Africa, Poland, Russia, Slovakia.

Genus *Muscidifurax* GIRAULT & SANDERS, 1910

Muscidifurax GIRAULT & SANDERS, 1910: 146. Type species: *Muscidifurax raptor* GIRAULT & SANDERS, original designation and monotypy.

***Muscidifurax raptor* GIRAULT & SANDERS, 1910**

Muscidifurax raptor GIRAULT & SANDERS, 1910: 149. Lectotype Female, United States of America-Illinois (INHS), designated by FRISON (1927).

Distribution in Iran: Chaharmahal & Bakhtiari, Hormozgan, Tehran (IRANPOUR et al. 1991; MODARRES AWAL 1997).

Distribution outside Iran: Argentina, Australia, Belgium, Brazil, Canada, Chile, Colombia, Costa Rica, Czech Republic, Denmark.

Comments: Pupal parasitoid of house fly, *Musca domestica* (LINNAEUS) (Diptera: Muscidae) (IRANPOUR et al. 1991; MODARRES AWAL 1997).

Genus *Nasonia* ASHMEAD, 1904

Nasonia ASHMEAD, 1904: 316. Type species: *Mormoniella brevicornis* ASHMEAD, original designation.

***Nasonia vitripennis* (WALKER, 1836)**

Pteromalus vitripennis WALKER, 1836: 492. Lectotype Female, United Kingdom-England (BMNH), designated by GRAHAM (1969). PECK (1951) transferred to *Nasonia*.

Distribution in Iran: Chaharmahal & Bakhtiari, Hormozgan, Tehran (IRANPOUR et al. 1991, MODARRES AWAL 1997 as *Mormoniella vitripennis* (WALKER, 1836)), Iran (no locality cited) (IRANPOUR et al. 1991).

Distribution outside Iran: Argentina, Australia, Austria, Belgium, Brazil, Canada, Chile, China, Croatia, Czech Republic, Denmark, Egypt, France, Germany, Hawaii, India, Israel, Italy, Japan, Kazakhstan, Kirgizia, Korea, South Madeira, the Netherlands, New Caledonia, New Zealand, North Africa, Norway, Poland, Romania, Senegal, Serbia, Slovakia, South Africa, South Korea, Spain, Sri Lanka, Sweden, Tadzhikistan, Turkey, UK, USA, Uzbekistan, former Yugoslavia, Zimbabwe.

Comments: Polyembryonic pupal parasitoid of house fly, *Musca domestica* (LINNAEUS) (Diptera: Muscidae) (IRANPOUR et al. 1991, MODARRES AWAL 1997 as *M. vitripennis*).

Genus *Nikolskayana* BOUČEK, 1965

Nikolskayana BOUČEK, 1965: 377. Type species: *Nikolskayana mirabilis* BOUČEK, original designation and monotypy.

***Nikolskayana mirabilis* BOUČEK, 1965**

Nikolskayana mirabilis BOUČEK, 1965: 378. Holotype Female, Turkmenistan (ZISP).

Distribution in Iran: West Azarbaijan (ABD-RABOU et al. 2005; GHAHARI & HUANG 2012).

Distribution outside Iran: Central Asia.

Comments: Reared from *Xyleborus saxeseni* (RATZEBURG) (Coleoptera: Scolytidae) on the cherry tree (ABD-RABOU et al. 2005; GHAHARI & HUANG 2012).

Genus *Norbanus* WALKER, 1843

Norbanus WALKER, 1843: 158. *Norbanus dysaules* WALKER, by subsequent designation of, ASHMEAD, W.H. (1904).

***Norbanus arcuatus* XIAO & HUANG 2001**

Norbanus arcuatus XIAO & HUANG 2001: 11. Holotype Female, Peoples' Republic of China-Fujian (Fukien) (IZAS).

Distribution in Iran: Fars (HESAMI et al. 2010, on *Astragalus meridionalis*).

Distribution outside Iran: China.

***Norbanus (Picroscytoides) calabrus* (MASI, 1924)**

Picroscytus calabrus MASI, 1942: 285-286. Types unknown, location: Italy.

Distribution in Iran: East Azarbaijan (LOTFALIZADEH 2015).

Distribution outside Iran: Azerbaijan, Bulgaria, Croatia, Cyprus, Czech Republic, France, Italy, Kazakhstan, Serbia, Slovakia, Tadjikistan, Turkey, Turkmenistan, Ukraine, former Yugoslavia.

***Norbanus cerasiops* (MASI, 1922)**

Picroscytoides cerasiops MASI, 1922: 154, 158. Male, Female, Italy (DEZP?). BOUČEK (1991) transferred to *Norbanus*.

Distribution in Iran: East Azarbaijan, West Azarbaijan (LOTFALIZADEH 2015), Razavi Khorasan (HASANI & MADJDZADEH 2011a; HASANI et al. 2011; HASANI & MADJDZADEH 2012, on *Tamarix* sp.).

Distribution outside Iran: Caucasus, China, Croatia, Cyprus, Czech Republic, France, Hungary, Italy, Kazakhstan, Moldova, Morocco, Romania, Serbia, Slovakia, Spain, Turkey, former Yugoslavia.

***Norbanus meridionalis* (MASI, 1922)**

Picroscytus meridionalis MASI, 1922: 147. Syntype Male, Female, Italy (MCSN).

Distribution in Iran: East Azarbaijan (LOTFALIZADEH 2015).

Distribution outside Iran: Cyprus, Czech Republic, France, Hungary, Italy, Kazakhstan, Romania, Russia, Slovakia, Spain, Sweden.

***Norbanus obscurus* (MASI, 1922)**

Picroscytoides obscurus MASI, 1922: 154. Male, Female, Italy (DEZP?). BOUČEK (1991) transferred to *Norbanus*.

Distribution in Iran: East Azarbaijan (GHAHARI & HUANG 2012; LOTFALIZADEH 2015), Kordestan, West Azarbaijan (LOTFALIZADEH 2015), western and northwestern Iran (no locality cited) (SAKENIN et al. 2011).

Distribution outside Iran: Azerbaijan, Caucasus, Croatia, Germany, Hungary, Italy, Kazakhstan, Macedonia, Romania, Serbia, Spain, Transcaucasus, Turkey, Ukraine, former Yugoslavia.

***Norbanus rasplusi* LOTFALIZADEH, 2015**

Norbanus rasplusi LOTFALIZADEH, 2015: 430-432. Holotype Female, Iran (HMIM).

Distribution in Iran: East Azarbaijan (LOTFALIZADEH 2015).

Distribution outside Iran: Until now only from Iran (LOTFALIZADEH 2015).

***Norbanus scabriculus* (NEES, 1834)**

Pteromalus scabriculus NEES, 1834. 100. Male, Female, Germany (HDOU?). PECK (1963) transferred to *Norbanus*.

Distribution in Iran: Qazvin (LOTFALIZADEH 2015), West Azarbaijan (GHAHARI & HUANG 2012).

Distribution outside Iran: Azerbaijan, Canada, Caucasus, Croatia, Czech Republic, Germany, Hungary, Italy, Kazakhstan, Moldova, Montenegro, the Netherlands, Romania, Russia and adjacent countries, Slovakia, Spain, Sweden, Ukraine, former Yugoslavia.

Comments: Reared from *Cephus* sp. (Hymenoptera: Cephidae) (GHAHARI & HUANG 2012).

Genus *Notoglyptus* MASI, 1917

Notoglyptus MASI L., 1917: 181. New genus, Type species: *Notoglyptus niger* MASI, original designation.

***Notoglyptus scutellaris* (DODD & GIRAULT, 1915)**

Merismus scutellaris DODD & GIRAULT, 1915: 328. Holotype Female, Australia-Queensland (QMB).

Distribution in Iran: Tehran (GHAHARI 2014).

Distribution outside Iran: Australia, Bulgaria, Canada, Czech Republic, Hungary, India, Italy, Japan, Kazakhstan, Korea, Macedonia, Malaysia, Morocco, New Zealand, North Africa, Romania, Saudi Arabia, Slovakia, South Africa, Spain, Sweden, Transcaucasus, Zimbabwe.

Genus *Oxysychus* DELUCCHI, 1956

Oxysychus DELUCCHI, 1956: 246. Type species: *Dinarmus silvestrii* MASI, original designation.

***Oxysychus* sp.**

Distribution in Iran: Markazi, Tehran (RADJABI 1991; MODARRES AWAL 1997).

Comments: Parasitoid of *Sphenoptera davatchii* DESCARPENTRIES and *S. kambyses* OBENBERGER (Coleoptera: Buprestidae) (RADJABI 1991; MODARRES AWAL 1997).

Genus *Pachycrepoideus* ASHMEAD, 1904

Pachycrepoideus ASHMEAD, 1904: 329. Type species: *Pachycrepoideus dubius* ASHMEAD, by monotypy.

***Pachycrepoideus vindemmiae* (RONDANI, 1875)**

Pteromalus vindemmiae RONDANI, 1875: 145-148. Lectotype Female, Italy (MLSF), designated and transferred to *Pachycrepoideus* by DELUCCHI (1955).

Distribution in Iran: Kordestan (GHAHARI & HUANG 2012), Mazandaran (ABD-RABOU et al. 2005), Qom (KISHANI FARAHANI et al. 2009, 2010).

Distribution outside Iran: Argentina, Australia, Barbados, Belgium, Belize, Bolivia, Brazil, Canada, Canary Islands, Colombia, Costa Rica, Croatia, Czech Republic, Denmark, Dominica, Europe, Fiji, Germany, Ghana, Greece, Hawaii, India, Indonesia, Israel, Italy, Jamaica, Japan, Kazakhstan, Kirgizia, Malaysia, Mauritius, Mexico, Moldova, Morocco, the Netherlands, New Zealand, North Africa, Panama, Philippines, Puerto Rico, Romania, Serbia, Slovakia, South Korea, Spain, Sweden, Switzerland, Taiwan, Trinidad & Tobago, Tunisia, Turkey, UK, USA, Uzbekistan, Venezuela, former Yugoslavia.

Comments: Reared from *Drosophila melanogaster* (MEIGEN) (Diptera: Drosophilidae) on fig fruit (ABD-RABOU et al. 2005; GHAHARI & HUANG 2012). Hyperparasitoid of pupa of *Apanteles myeloenta* WILKINSON (Hymenoptera: Braconidae) (KISHANI FARAHANI et al. 2009, 2010).

Genus *Pachyneuron* WALKER, 1833

Pachyneuron WALKER, 1833: 371, 380. Type species: *Pachyneuron formosum* WALKER, by monotypy.

***Pachyneuron aphidis* (BOUCHÉ, 1834)**

Diplolepis aphidis BOUCHÉ, 1834: 170. Female? Male? Germany (DEI). REINHARD (1859) transferred to *Pachyneuron*.

Distribution in Iran: Alborz (DAVATCHI & CHODJAI 1968; OILB 1971; Haeselbrath 1989), Ardabil (LOTFALIZADEH 2002b; LOTFALIZADEH & GHARALI 2008), East Azarbaijan, Mazandaran (GHAHARI 2012, 2014), Guilan, Isfahan (GHAHARI 2014), Kerman (YAZDANI & MEHRNEJAD 1993; MODARRES AWAL 1997; EMAMI & MEHRNEJAD 2004 as *Pachyneuron cremifaniae* MASI; MITROIU et al. 2011, on *Euphorbia* sp.), Khuzestan (MOSADDEGH 1993; MODARRES AWAL 1997; FARSI et al. 2010), Razavi Khorasan (DARSOU EI et al. 2011; HASANI & MADJDZADEH 2012), Tehran (MODARRES AWAL 1997; SHOJAI 1998), Zanjan (KEYHANIAN et al. 1995; MODARRES AWAL 1997).

Distribution outside Iran: Argentina, Armenia, Australia, Belgium, Brazil, Canada, Canary Islands, Caucasus, Chile, China, Colombia, Croatia, Cuba, Czech Republic, Egypt, El Salvador, Europe, France, Germany, Greece, Hawaii, Hungary, India, Iraq, Israel, Italy, Japan, Kazakhstan, Kirgizia, South Korea, Libya, Macedonia, Mexico, Moldova, Montenegro, Morocco, the Netherlands, New Zealand, Pakistan, Peru, Poland, Puerto Rico, Romania, Russia and adjacent countries, Rwanda, Serbia, Slovakia, Spain, Sweden, Switzerland, Syria, Tadjikistan, Taiwan, Trinidad & Tobago, Turkey, Turkmenistan, Ukraine, UK, USA, Uruguay, Venezuela, Yemen, former Yugoslavia.

Comments: Hyperparasitoid of *Diaeretiella rapae* (M'INTOSH) (Hymenoptera: Aphidiidae) (DAVATCHI & CHODJAI 1968). Reared from psyllid species (Hemiptera: Psyllidae) on *Pistacia mutica* (YAZDANI & MEHRNEJAD 1993), *Aphis gossypii* (GLOVER) and *Aphis craccivora* KOCH (Hemiptera: Aphididae) which parasitized by *Lysiphlebus fabarum* (MARSHALL) (Hymenoptera: Aphidiidae) (EMAMI & MEHRNEJAD 2004 as *Pachyneuron cremifaniae* MASI), rape aphids on rape (*Brassica napus*) (FARSI et al. 2010). Parasitoid of Aphididae (Hemiptera) (MOSADDEGH 1993; MODARRES AWAL 1997), *Brevicoryne brassicae* (LINNAEUS) (Hemiptera: Aphidae) on rape seed (*Brassica napus*) (DAVATCHI & CHODJAI 1968; MODARRES AWAL 1997; SHOJAI 1998; LOTFALIZADEH 2002b; LOTFALIZADEH & GHARALI 2008), olive psyllid (*Euphyllura olivina* COSTA) (Hemiptera: Psyllidae) (KEYHANIAN et al. 1995; MODARRES AWAL 1997), *A. gossypii* (Hemiptera: Aphididae) (LOTFALIZADEH 2002a; KHANJANI 2006; LOTFALIZADEH & GHARALI 2008).

An unknown species, *Pachyneuron* sp. was collected as the parasitoid of Syrphidae (Diptera) from pome fruit tress orchards of Bojnord (Northern Khorasan) by MALEKSHI et al. (2000).

***Pachyneuron bonum* XU & LI, 1991**

Pachyneuron bonum XU & LI, 1991: 72, 73-74. Female, Peoples' Republic of China-Hunan (Hunan) (BAUC?).

Distribution in Iran: Teharn (TALEBI et al. 2008).

Distribution outside Iran: China.

Comments: Parasitoid of *Planococcus vovae* (NASONOV) (Hemiptera: Pseudococcidae) on cypress trees (*Cupressus semprevirens fastigiata*) (TALEBI et al. 2008).

***Pachyneuron erzurumicum* DOĞANLAR, 1986**

Pachyneuron erzurumicum DOĞANLAR, 1986: 26-30. Holotype Female, Turkey (CUTT).

Distribution in Iran: Ilam (LOTFALIZADEH & GHARALI 2008), Kerman (MITROIU et al. 2011, on *Euphorbia* sp.), Razavi Khorasan (HASANI & MADJIZADEH 2012).

Distribution outside Iran: Kazakhstan, Turkey.

***Pachyneuron formosum* WALKER, 1833**

Pachyneuron formosum WALKER, 1833: 380. Lectotype, United Kingdom (BMNH), designated by GRAHAM (1969).

Distribution in Iran: East Azarbaijan, Guilan, West Azarbaijan (GHAHARI 2014), Ilam (LOTFALIZADEH & GHARALI 2008, in safflower field), Iran (no locality cited) (OILB 1971; NARENDRAN et al. 2007).

Distribution outside Iran: Belgium, Canary Islands, China, France, Germany, Hungary, Italy, Japan, Kazakhstan, Kirgizia, Middle East, Morocco, the Netherlands, Romania, Spain, Sweden, Switzerland, Tadjhikistan, Turkey, UK.

***Pachyneuron grande* THOMSON, 1878**

Pachyneuron grande THOMSON, 1878: 29. Lectotype Female, Sweden (LUZN), designated by GRAHAM (1969).

Distribution in Iran: Alborz (SADEGHI & EBRAHIMI 2001), East Azarbaijan (GHAHARI & HUANG 2012), Mazandaran (GHAHARI 2004, 2012), northern costal region of Iran (LOTFALIZADEH & GHARALI 2008).

Distribution outside Iran: Austria, Belgium, Bosnia Hercegovina, China, Czech Republic, France, Germany, Hungary, Kazakhstan, Kirgizia, Moldova, the Netherlands, Romania, Serbia, Slovakia, Spain, Sweden, Switzerland, former Yugoslavia (NOYES 2015), Turkey (MUŞTU et al. 2011).

Comments: Parasitoid of hover fly larvae feeding on black poplar aphid, *Pterocomma populeum* (KALTENBACH) (Hemiptera: Aphididae) (SADEGHI & EBRAHIMI 2001), *Nipaecoccus vastator* MASKELL (Hemiptera: Pseudococcidae) on oleander (GHAHARI 2004; GHAHARI & HUANG 2012).

***Pachyneuron groenlandicum* (HOLMGREN, 1872)**

Pteromalus groenlandicus HOLMGREN, 1872: 100, Lectotype Female, Greenland (NHRM), designated by HEDQVIST (1977). LUNDBECK (1897) transferred to *Pachyneuron*.

Distribution in Iran: Alborz (HAESSELBRATH 1989), Ilam (LOTFALIZADEH & GHARALI 2008), Kerman (MITROIU et al. 2011, on *Euphorbia* sp.), Razavi Khorasan (HASANI & MADJDZADEH 2012).

Distribution outside Iran: Belgium, China, Czech Republic, France, Germany, Greenland, India, Italy, Japan, Kazakhstan, South Korea, Moldova, the Netherlands, Poland, Romania, Siberia, Slovakia, Sweden, Switzerland, Turkey, UK, Yemen.

Comments: Reared from *Phleomyzus passerine* SIGNORET (Hemiptera: Aphididae) (HAESSELBRATH 1989).

***Pachyneuron leucopiscida* MANI, 1939**

Pachyneuron leucopiscida MANI, 1939: 86. Holotype Female, India (IARI).

Distribution in Iran: Kerman (EMAMI & MEHRNEJAD 2004 as *P. cremifaniae* Masi), Kordestan (DEHDAR & MADJDZADEH 2013).

Distribution outside Iran: Croatia, Czech Republic, Europe, Germany, India, Israel, Kazakhstan, Kirgizia, Moldova, Slovakia, Sweden, Switzerland, Transcaucasus, Turkey, UK, Yemen.

Comments: Hyperparasitoid of *Aphis gossypii* (GLOVER) and *Aphis craccivora* Koch (Hemiptera: Aphididae) which parasitized by *Lysiphlebus fabarum* (MARSHALL)

(Hymenoptera: Aphidiidae) (EMAMI & MEHRNEJAD 2004 as *Pachyneuron cremifaniae* MASI).

***Pachyneuron muscarum* (LINNAEUS, 1758)**

Ichneumon muscarum LINNAEUS, 1758: 567. Male?, Female? Sweden (LCLS).

Distribution in Iran: Alborz (EBRAHIMI 2014), East Azarbaijan (LOTFALIZADEH 2002b; GHAHARI et al. 2010b as *Pachyneuron concolor* FÖRSTER 1841; EBRAHIMI et al. 2012; LOTFALIZADEH et al. 2014a, c), Fars (LOTFALIZADEH 2000, 2002b; HESAMI & FALLAHZADEH 2004; LOTFALIZADEH & GHARALI 2008; FALLAHZADEHA et al. 2008, 2011; EBRAHIMI 2014), Guilan (DAVOODI et al. 2004b), Isfahan (BAGHERI & NEMATOLLAHI 2006, NEMATOLLAHI 2010 as *P. concolor*), Kermanshah (JALILVAND et al. 2013), Khuzestan (ASADEH et al. 1991a, b; MODARRES AWAL 1997; NOVIN et al. 2000; ZARGHAMI et al. 2010), Semnan (DEZIANIAN & SAHRAGARD 2000), Tehran (HAESSELBRATH 1989; DAVOODI et al. 2004a; LOTFALIZADEH & GHARALI 2008), Zanjan (TARASI et al. 2004 as *P. concolor*), southern and central parts of Iran (no locality cited) (LOTFALIZADEH & GHARALI 2008), Iran (no locality cited) (OILB 1971).

Distribution outside Iran: Armenia, Belgium, Bulgaria, Caucasus, Croatia, Czech Republic, Denmark, Europe, France, Georgia, Germany, Greece, Hungary, India, Israel, Italy, Kazakhstan, Moldova, the Netherlands, Poland, Romania, Russia, Saudi Arabia, Serbia, Slovakia, Spain, Sweden, Switzerland, Taiwan, Turkey, Ukraine, UK, former Yugoslavia.

Comments: Parasitoid of *Pseudococcus* spp. (Hemiptera: Pseudococcidae) (ASADEH et al. 1991a, b; MODARRES AWAL 1997), *pistacia psyllids*, *Agonoscaena pistaciae* (Hemiptera: Psyllidae) (DEZIANIAN & SAHRAGARD 2000), *Nipaecoccus viridis* (NEWSTEAD) (Hemiptera: Pseudococcidae) (MODARRES AWAL 1997; NOVIN et al. 2000), Chrysopidae (Neuroptera) and Syrphidae (Diptera) (LOTFALIZADEH 2002b), mealybugs (Hemiptera: Pseudococcidae) on *Morus* sp. and *Citrus* sp. (HESAMI & FALLAHZADEH 2004), *Chrysoperla carnea* (STEPHENS) and *Suaris fedschenkoi* (MCLACHLAN) (Neuroptera: Chrysopidae) on cypress tree (LOTFALIZADEH 2000; LOTFALIZADEH & GHARALI 2008), *Planococcus ficus* (SIGNORET) (Hemiptera: Pseudococcidae) (FALLAHZADEHA et al. 2008, 2011), *Sphaerolecanium prunastri* (BOYER DE FONSCOLOMBE) (Hemiptera: Diaspididae) (EBRAHIMI et al. 2012; LOTFALIZADEH et al. 2014a, c), *Eulecanium tiliae* (LINNAEUS) (Hemiptera: Coccidae) on *Prunus divaricata*, and *Parthenolecanium corni* (BOUCHÉ) (Hemiptera: Coccidae) on *P. amygdalus* (JALILVAND et al. 2013), *Lepidosaphes malicola* BORCHSENIUS (Hemiptera: Diaspididae), *Didesmococcus unifasciatus* (Archangelskaya) (Hemiptera: Coccidae) (LOTFALIZADEH et al. 2014a, c), *Maconellicoccus hirsutus* (GREEN) (Hemiptera: Pseudococcidae) (EBRAHIMI 2014). Hyperparasitoid of *Psylla pyricola* FOERSTER (Hemiptera: Psyllidae) on pear (*Pyrus communis* LINNAEUS) (HAESSELBRATH 1989), coccids (Hemiptera) (DAVOODI et al. 2004b), *E. tiliae* (DAVOODI et al. 2004a; LOTFALIZADEH & GHARALI 2008; EBRAHIMI 2014), *Coccus hesperidum* (L.), *Eulecanium coryli* (L.), *Sphaerolecanium prunastri* (BOYER de FONSCOLOMBE), *Didesmococcus unifasciatus* (ARKANGELSKAYA) (Hemiptera: Coccidae) (DAVOODI et al. 2004a), *Nephus arcuatus* KAPUR (Coleoptera: Coccinellidae) (ZARGHAMI et al. 2010), *Anagyrus* spp. (Hymenoptera: Encyrtidae) (HESAMI & FALLAHZADEH 2004). In safflower (*Carthamus tinctorius*, Asteraceae) fields and parasitoid of safflower shoot fly, *Acanthiophilus*

helianthi ROSSI (Diptera: Tephritidae) (BAGHERI & NEMATOLLAHI 2006, NEMATOLLAHI 2010 as *Pachyneuron concolor* FÖRSTER 1841). Also some unknown species (*Pachyneuron* spp.) were collected from Khorasan by JALAEIAN et al. (2011) as the parasitoid of *Agonosцена pistaciae*.

***Pachyneuron nelsoni* GIRAULT, 1928**

Pachyneuron nelsoni GIRAULT, 1928: 2. Holotype Female, Australia-Queensland (QMB).

Distribution in Iran: East Azarbaijan (LOTFALIZADEH & GHARALI 2008), Razavi Khorasan (HASANI & MADJDZADEH 2012).

Distribution outside Iran: Afrotropical, Australia, Azerbaijan, Canary Islands, China, Croatia, India, Kazakhstan, Kirgizia, Libya, Moldova, Russia, Spain, Tadzhikistan, Turkey, Uzbekistan, Yemen.

Comments: Pupal parasitoid of syrphid fly (*Paragus* sp.) (Diptera: Syrphidae) (LOTFALIZADEH & GHARALI 2008).

***Pachyneuron planiscuta* THOMSON, 1878**

Pachyneuron planiscuta THOMSON, 1878: 29. Lectotype Female, Sweden (LUZN), designated by GRAHAM (1969).

Distribution in Iran: Hamadan (GHAHARI et al. 2010a), Mazandaran (GHAHARI 2004; SAKENIN et al. 2008a).

Distribution outside Iran: China, Czech Republic, Hungary, Kazakhstan, Moldova, the Netherlands, Romania, Sweden, UK.

Comments: Parasitoid of *Nipaecoccus viridis* (NEWSTEAD) (Hemiptera: Pseudococcidae) on white mulberry and *Nerium oleander* (GHAHARI 2004; GHAHARI et al. 2010a).

***Pachyneuron solitarium* (HARTIG, 1838)**

Chrysolampus solitarius HARTIG, 1838: 250. Lectotype Female, Germany, designated by GRAHAM, M.W.R. de V. 1969: 839. Albert FÖRSTNER, Berlin.

Distribution in Iran: Ardabil (GHAFOURI-MOGHADDAM et al. 2014).

Distribution outside Iran: Belgium, Bulgaria, China, Czech Republic, Georgia, Germany, India, Japan, Kazakhstan, Korea, Moldova, the Netherlands, Romania, Russia, Siberia, Slovakia, Spain, Sweden.

Comments: Hyperparasitoid of *Pemphigus spyrothecae* PASSERINI (Hemiptera: Aphididae) (GHAFOURI-MOGHADDAM et al. 2014).

***Pachyneuron* sp.**

Distribution in Iran: Alborz (SHOJAI 1998).

Comments: Parasitoid of *Pterochlorus persicae* CHOLODKOVSKY (Hemiptera: Aphididae) on *Prunus persica* (SHOJAI 1998).

Genus *Paracarotomus* ASHMEAD, 1894

Paracarotomus ASHMEAD, 1894: 335. Type species: *Paracarotomus cephalotes* ASHMEAD, by monotypy.

***Paracarotomus cephalotes* ASHMEAD, 1894**

Paracarotomus cephalotes ASHMEAD, 1894: 336. Male, United States of America (USNM).

Distribution in Iran: Ardabil (GHAHARI & HUANG 2012), Mazandaran (ABD-RABOU et al. 2005).

Distribution outside Iran: Australia, France, India, Italy, Kazakhstan, Nigeria, Papua New Guinea, Russia and adjacent countries, Siberia, South Africa, Sri Lanka, Uganda, USA, Zimbabwe.

Comments: Parasitoid of *Syrphus pyrastris* (LINNAEUS) (Diptera: Syrphidae) from sunflower field (ABD-RABOU et al. 2005), *Syrphus* sp. (Diptera: Syrphidae) (GHAHARI & HUANG 2012).

Genus *Peridesmia* FÖRSTER, 1856

Peridesmia FÖRSTER, 1856: 65. Type species: *Isocyrtus aquisgranensis* MAYR, by subsequent designation of, GAHAN (1923).

***Peridesmia discus* (WALKER, 1835)**

Pteromalus discus WALKER, 1835: 482. Lectotype, United Kingdom-England (BMNH), designated and transferred to *Peridesmia* by GRAHAM (1956).

Distribution in Iran: East Azarbaijan (LOTFALIZADEH & GHARALI 2008, in *Medicago sativa* field).

Distribution outside Iran: Belgium, Czech Republic, France, Georgia, Germany, Italy, Kazakhstan, Moldova, Morocco, Romania, Russia, Serbia, Slovakia, Spain, Sweden, UK, USA, former Yugoslavia.

Genus *Phaenocythus* GRAHAM, 1969

Phaenocythus GRAHAM, 1969: 561-562. Type species: *Pteromalus glechomae* FÖRSTER, original designation and monotypy.

***Phaenocythus glechomae* (FÖRSTER, 1841)**

Pteromalus glechomae FÖRSTER, 1841: Male, Female, Germany (BRNG?).

Distribution in Iran: Semnan (GHAHARI et al. 2010a).

Distribution outside Iran: Belgium, France, Germany, Hungary, Kazakhstan, Russia, Spain, Sweden, UK.

Comments: Reared from *Liposthenes* (= *Aulax*) *glechomae* LINNAEUS (Hymenoptera: Cynipidae) on *Glechoma* sp. (GHAHARI et al. 2010a).

Genus *Platecrizotes* FERRIÈRE, 1934

Platecrizotes FERRIÈRE, 1934: 90. Type species: *Platecrizotes sudanensis* FERRIÈRE, by monotypy.

***Platecrizotes europaeus* BOUČEK, 1964**

Platecrizotes europaeus BOUČEK, 1964. Holotype Female, Moldova (NMP).

Distribution in Iran: Golestan (ABD-RABOU et al. 2005).

Distribution outside Iran: Moldova, Poland.

Comments: Parasitoid of *Acletoxenus formosus* LOEW (Diptera: Drosophilidae) from cotton field (ABD-RABOU et al. 2005).

Genus *Pseudocatolaccus* MASI, 1908

Pseudocatolaccus MASI, 1908: 138. Type species: *Pseudocatolaccus asphondyliae* MASI, by monotypy.

***Pseudocatolaccus aragonensis* ASKEW, 2001**

Pseudocatolaccus aragonensis ASKEW, 2001: 62-63 (in ASKEW et al. 2001). Holotype Female, Spain (MNCN).

Distribution in Iran: Razavi Khorasan (HASANI & MADJDZADEH 2011a; HASANI et al. 2011; HASANI & MADJDZADEH 2012).

Distribution outside Iran: Spain.

***Pseudocatolaccus nitescens* (WALKER, 1834)**

Amblymerus nitescens WALKER, 1834: 347. Lectotype Female, United Kingdom-England (BMNH), designated and transferred to *Pseudocatolaccus* by GRAHAM (1969).

Distribution in Iran: East Azarbaijan (LOTFALIZADEH & GHARALI 2008).

Distribution outside Iran: Belgium, Canary Islands, Croatia, Cyprus, Czech Republic, Europe, France, Germany, Greece, Hungary, Italy, Kazakhstan, Macedonia, Madeira, Moldova, Montenegro, Morocco, the Netherlands, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, UK, former Yugoslavia.

Genus *Psilocera* WALKER, 1833

Psilocera WALKER, 1833: 371, 373. Type species: *Psilocera obscura* WALKER, by monotypy.

***Psilocera obscura* WALKER, 1833**

Psilocera obscura WALKER, 1833: 374. Lectotype Male, United Kingdom (BMNH).

Material examined: West Azarbaijan province, Mahabad, 1361 m, 2 ♀ ♀ 1 ♂, ex *Apanteles glomeratus* (LINNAEUS) (Hymenoptera: Braconidae), September 2010. New record for Iran.

Distribution outside Iran: Bulgaria, Croatia, Czech Republic, France, Germany, Italy, Moldova, Montenegro, the Netherlands, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Turkey, UK, former Yugoslavia.

Genus *Psychophagus* MAYR, 1904

Pteromalus (Diglochis) THOMSON MAYR, 1904: 8. Type species: *Pteromalus omnivorus* WALKER, by monotypy (junior primary homonym of *Diglochis* FÖRSTER).

***Psychophagus omnivorus* (WALKER, 1835)**

Pteromalus omnivorus WALKER, 1835: 204. Lectotype Male, (BMNH), designated by GRAHAM (1969). KURDJUMOV (1913) transferred to *Psychophagus*.

Distribution in Iran: Guilan (REZAI et al. 2001, 2003).

Distribution outside Iran: Austria, Azerbaijan, Belgium, Canada, Croatia, Czech Republic, France, Germany, Hungary, Macedonia, Moldova, the Netherlands, North Africa, Poland, Romania, Russia and adjacent countries, Serbia, Slovakia, Spain, Sweden, Transcaucasus, European part of Turkey, Ukraine, UK, USA, former Yugoslavia.

Comments: Pupal parasitoid of American white webworm, *Hyphantria cunea* Drury (Lepidoptera: Arctiidae) (REZAEI et al. 2001, 2003).

Genus *Pteromalus* SWEDERUS, 1795

Pteromalus SWEDERUS, 1795: 201. Type species: *Ichneumon puparum* LINNAEUS, by subsequent designation of, WESTWOOD (1839).

***Pteromalus albipennis* WALKER, 1835**

Pteromalus albipennis WALKER, 1835: 204. Lectotype Male, United Kingdom-England (BMNH), designated by GRAHAM (1969).

Distribution in Iran: Chaharmahal & Bakhtiari (LOTFALIZADEH & GHARALI 2014), East Azarbaijan (GHAHARI et al. 2010a; LOTFALIZADEH & GHARALI 2014), Golestan (GHAHARI et al. 2010a), Mazandaran (GHAHARI et al. 2010a; GHAHARI 2012).

Distribution outside Iran: Belgium, Canary Islands, Czech Republic, Germany, Hungary, Ireland (north and south), Italy, Kazakhstan, Moldova, the Netherlands, Romania, Slovakia, Spain, Sweden, Switzerland.

Comments: Reared from *Myopites inulaedyssentericae* BLOT (Diptera: Tephritidae), *Terellia tussilaginis* (FABRICIUS) (Diptera: Tephritidae), and *Urophora cardui* (LINNAEUS) (Diptera: Tephritidae) (GHAHARI et al. 2010a).

***Pteromalus bedeguaris* (THOMPSON, 1878)**

Etoxyx (Habrocytus) bedeguaris THOMPSON, 1878: Lectotype Female, Sweden (LUZN), designated by GRAHAM (1969). BOUČEK & GRAHAM (1978) transferred to *Pteromalus*.

Distribution in Iran: East Azarbaijan (LOTFALIZADEH et al. 2006, 2012; LOTFALIZADEH & GHARALI 2008), Kerman (MAHDAVI & MADJDZADEH 2013; MAHDAVI et al. 2015), Mazandaran (GHAHARI et al. 2010b), Tehran (RAKHSHANI et al. 2003; LOTFALIZADEH et al. 2006), West Azarbaijan (LOTFALIZADEH et al. 2012), widely distributed from north-west of Iran (OILB 1971; LOTFALIZADEH et al. 2006) to south-west (ASKEW et al. 2006).

Distribution outside Iran: Andorra, Austria, Belgium, Canada, Czech Republic, Denmark, France, Germany, Hungary, Italy, Kazakhstan, Kirgizia, the Netherlands, Romania, Russia and adjacent countries, Serbia, Slovakia, Spain, Sweden, Switzerland, Tadzhikistan, Transcaucasus, Turkey, UK, USA, Uzbekistan, former Yugoslavia.

Comments: Reared from gall of *Diplolepis* sp. (Hymenoptera: Cynipidae) on *Rosa canina* (Rosaceae) (RAKHSHANI et al. 2003), *Diplolepis fructuum* (RÜBSAAMEN) on *Rosa canina* and *R. damascena* (LOTFALIZADEH et al. 2006; LOTFALIZADEH & GHARALI 2008), *Diplolepis mayri* (SCHLECHTENDAL) (ASKEW et al. 2006; GHAHARI et al. 2010b), reared from galls of *D. fructuum* (LOTFALIZADEH et al. 2012), *D. fructuum* on *Rosa beggeriana*

(MAHDAVI et al. 2015), and *Ephedra major* (Ephedraceae) (MAHDAVI & MADJIDZADEH 2013).

***Pteromalus bifoveolatus* FÖRSTER, 1861**

Pteromalus bifoveolatus FÖRSTER, 1861: 36. Male, Switzerland.

Distribution in Iran: Alborz (HEIDARI et al. 2004), Kordestan (GHAHARI & HUANG 2012), West Azarbaijan (KARIMPOUR & HYDONE 2005), Western and northwestern Iran (no locality cited) (SAKENIN et al. 2011).

Distribution outside Iran: Croatia, Czech Republic, Europe, Germany, Italy, Kazakhstan, Mauritania, Moldova, Morocco, North Africa, Romania, Slovakia, Spain, Sweden, Switzerland, Turkey, UK.

Comments: Gregarious parasitoid of *Vespa orientalis* LINNAEUS (Hymenoptera: Vespidae) (HEIDARI et al. 2004). Larval parasitoid of *Malocosoma castrense* (LINNAEUS) (Lepidoptera: Lasiocampidae) (KARIMPOUR & HYDONE 2005; LOTFALIZADEH & GHARALI 2008).

***Pteromalus cardui* (ERDÖS, 1953)**

Cecidostiba cardui ERDÖS, 1953: 230. Lectotype Female, Hungary (HNHM), designated by Thuróczy (1992). GRAHAM (1969) transferred to *Habrocytus*.

Distribution in Iran: Golestan (GHAHARI 2004; SAKENIN et al. 2008a).

Distribution outside Iran: France, Germany, Hungary, Kazakhstan, the Netherlands, Serbia, Slovakia, Spain, Sweden, UK, former Yugoslavia.

Comments: Pupal parasitoid of *Vanessa cardui* LINNAEUS (Lepidoptera: Nymphalidae) on soybean (GHAHARI 2004).

***Pteromalus chlorospilus* (WALKER, 1834)**

Eutelus chlorospilus WALKER, 1834: Lectotype Female, United Kingdom (BMNH).

Distribution in Iran: Ardabil (HASHEMI & LOTFALIZADEH 2014).

Distribution outside Iran: Germany, Ireland, Romania, Sweden, UK.

Comments: Parasitoid of *Oxystoma ochropus* (GERMAR) (Coleoptera: Brentidae) (HASHEMI & LOTFALIZADEH 2014).

***Pteromalus cyniphidis* (LINNAEUS, 1758)**

Ichneumon cyniphidis LINNAEUS, 1758: 1: 567. Neotype Male, Finland (ZMUH), designated by VIKBERG & ASKEW 2006.

Distribution in Iran: Kerman (MAHDAVI et al. 2015).

Distribution outside Iran: Austria, Belgium, Croatia, Czech Republic, Denmark, Europe, Finland, France, Germany, Hungary, Italy, Kazakhstan, the Netherlands, Norway, Russia, Slovakia, Sweden, Switzerland, UK, USA.

Comments: Association with leaf galls on *Salix pycnostachya* ANDERSSON (Salicaceae) (MAHDAVI et al. 2015).

***Pteromalus dolichurus* (THOMSON, 1878)**

Pteromalus dolichurus THOMSON, 1878: 5: 119. Lectotype Male, Sweden (LUZN), designated by GRAHAM 1969, and ASKEW 2006.

Distribution in Iran: Kerman (MAHDAVI et al. 2015).

Distribution outside Iran: Austria, Croatia, Czech Republic, Germany, Hungary, the Netherlands, Norway, Romania, Spain, Sweden, Switzerland, UK.

Comments: Association with leaf galls on *Salix pycnostachya* ANDERSSON (Salicaceae) (MAHDAVI et al. 2015).

***Pteromalus elevatus* (WALKER, 1834)**

Eutelus elevatus WALKER, 1834: Lectotype, United Kingdom (BMNH), designated by GRAHAM (1969). KURDJUMOV (1913) transferred to *Pteromalus*.

Distribution in Iran: East Azarbaijan (GHAHARI & HUANG 2012), Golestan (GHAHARI 2004), Isfahan (GHAHARI 2012).

Distribution outside Iran: Austria, Belgium, Canada, Czech Republic, Germany, Hawaii, Hungary, Kazakhstan, Kirgizia, Macedonia, Moldova, the Netherlands, Romania, Russia, Montenegro, Spain, Sweden, Switzerland, Tadjikistan, Transcaucasus, Turkey, UK, Uzbekistan, former Yugoslavia.

Comments: Pupal parasitoid of *Pieris brassicae* (LINNAEUS) (Lepidoptera: Pieridae) (GHAHARI 2004; GHAHARI & HUANG 2012).

***Pteromalus intermedius* (WALKER, 1834)**

Eutelus intermedius WALKER, 1834: 366. Lectotype, United Kingdom (BMNH), designated by GRAHAM (1969). WALKER (1846) transferred to *Pteromalus*.

Distribution in Iran: Guilan (GHAHARI et al. 2010a), Tehran (GHAHARI 2014).

Distribution outside Iran: France, Germany, Italy, Kazakhstan, Madeira, the Netherlands, Romania, Russia and adjacent countries, Spain, Sweden, Turkey, UK.

Comments: Reared from *Oxya parietina* (LINNAEUS) (Diptera: Tephritidae) (GHAHARI et al. 2010a).

***Pteromalus microps* (GRAHAM, 1969)**

Habroclytus microps GRAHAM, 1969: 556-558. Holotype Female, Ireland (Eire) (BMNH). BOUČEK & GRAHAM (1978) transferred to *Pteromalus*.

Distribution in Iran: East Azarbaijan (GHAHARI & HUANG 2012), Mazandaran (GHAHARI 2004).

Distribution outside Iran: Germany, Kazakhstan, the Netherlands, Romania, Sweden, UK, USA.

Comments: Pupal parasitoid of *Papilio machaon* LINNAEUS (Lepidoptera: Papilionidae) (GHAHARI 2004; GHAHARI & HUANG 2012).

***Pteromalus puparum* (LINNAEUS, 1758)**

Ichneumon puparum LINNAEUS, 1758: 567. Lectotype Female (LCLS), designated by Graham (1969). SWEDERUS (1795) transferred to *Pteromalus*.

Distribution in Iran: Ardabil, Fars, Guilan, Isfahan (GHAHARI 2014), East Azarbaijan (GHAHARI 2012), Golestan (MODARRES AWAL 1997; SHOJAI 1998; GHAHARI 2014), Kerman (FARID 1987; MODARRES AWAL 1997), Mazandaran (GHAHARI 2012, 2014), Khuzestan (MODARRES AWAL 1997; SHOJAI 1998), Razavi Khorasan (HASANI & MADJZADEH 2012, on *Tamarix* sp.), Tehran (MODARRES AWAL 1997; LOTFALIZADEH & GHARALI 2008), West Azarbaijan (AKBARZADEH SHOUKAT et al. 2008; RAZMI et al. 2011a, b; AKBARZADEH SHOUKAT 2011; GHAHARI 2014; AKBARZADEH SHOUKAT et al. 2015), Iran (no locality cited) (OILB 1971; DAVATCHI & CHODJAI 1968).

Distribution outside Iran: Algeria, Australia, Austria, Azores, Barbados, Belgium, Bermuda, Bolivia, Bulgaria, Canada, Canary Islands, Chile, China, Croatia, Czech Republic, Egypt, El Salvador, Europe, Finland, France, Germany, Greece, Hawaii, Hungary, India, Iraq, Ireland (north and south), Israel, Italy, Japan, Kazakhstan, Kirgizia, Korea, South Korea, Macedonia, Madeira, Malaysia, Moldova, Mongolia, Nepal, the Netherlands, New Zealand, North Africa, Pakistan, Papua New Guinea, Poland, Portugal, Romania, Russia, Saudi Arabia, Slovakia, South Africa, Spain, Sweden, Switzerland, Tadzhikistan, Taiwan, Turkey, Ukraine, UK, USA.

Comments: Parasitoid of citrus butterfly, *Papilio demoleus* LINNAEUS (Lepidoptera: Papilionidae) (FARID 1987; MODARRES AWAL 1997), *Lepidosaphes malicola* BORCHSENIUS (Hemiptera: Diaspididae) (MODARRES AWAL 1997), *Vanessa cardui* (LINNAEUS) (Lepidoptera: Nymphalidae) (MODARRES AWAL 1997; SHOJAI 1998), cabbage large white butterfly, *Pieris brassicae* (LINNAEUS) (Lepidoptera: Pieridae) on *Brassica oleracea* (MODARRES AWAL 1997; SHOJAI 1998; RAZMI et al. 2011a, b), grape berry moth, *Lobesia botrana* (DENIS & SCHIFFERMÜLLER) (Lepidoptera, Tortricidae) (AKBARZADEH SHOUKAT et al. 2008; AKBARZADEH SHOUKAT 2011; AKBARZADEH SHOUKAT et al. 2015), *Plutella xylostella* (LINNAEUS) (Lepidoptera: Plutellidae) on *Brassica oleraceae* (LOTFALIZADEH & GHARALI 2008).

***Pteromalus semotus* (WALKER, 1834)**

Eutelus semotus WALKER, 1834: 367. Lectotype Female, United Kingdom-England (BMNH), designated by GRAHAM (1969). WALKER (1846) transferred to *Pteromalus*.

Distribution in Iran: Isfahan (GHAHARI 2014), Kerman (MEHRNEJAD 2008; MEHRNEJAD & BASIRAT 2009).

Distribution outside Iran: Austria, Belgium, Bosnia Hercegovina, Bulgaria, Canary Islands, Cape Verde Islands, Czech Republic, Denmark, Egypt, Estonia, Turkey (NOYES 2015), India (P.M. Sureshan).

Comments: Larval parasitoid of the pistachio twig borer moth, *Kermania pistaciella* AMSEL (Lepidoptera: Tineidae) (MEHRNEJAD 2008; MEHRNEJAD & BASIRAT 2009).

Also an unknown species, *Pteromalus* sp. was collected from the larvae of *K. pistaciella* from Kerman by Jafari NODOOSHAN & SHAIGAN (1993) which it is probably *P. semotus*.

***Pteromalus sequester* WALKER, 1835**

Pteromalus sequester WALKER, 1835: 495. Lectotype, United Kingdom-England (BMNH).

Distribution in Iran: Ardabil (HASHEMI & LOTFALIZADEH 2014), Golestan (GHAHARI 2014), Yazd (MOHAMMADI-KHORAMABADI et al. 2014).

Distribution outside Iran: Australia, Belgium, Bulgaria, Canada, Canary Islands, Chile, Czech Republic, Europe, France, Germany, Hawaii, Hungary, India, Iraq, Israel, Kazakhstan, Kirgizia, Mexico, the Netherlands, New Zealand, Poland, Romania, Russia, Serbia, Slovakia, Spain, Sweden, Turkey, Ukraine, UK, USA, Russia, Siberia, former Yugoslavia.

Comments: Parasitoid of *Oxystoma ochropus* (GERMAR) (Coleoptera: Brentidae) (HASHEMI & LOTFALIZADEH 2014), and *Hypenidium oculatum* (BECKER) (Diptera: Tephritidae) (MOHAMMADI-KHORAMABADI et al. 2014).

***Pteromalus smaragdus* GRAHAM, 1969**

Pteromalus smaragdus GRAHAM, 1969: 494. Holotype Female, Sweden (BMNH).

Distribution in Iran: Fars (GHAHARI 2014).

Distribution outside Iran: Spain, Sweden.

***Pteromalus varians* (SPINOLA, 1808)**

Diplolepis varians SPINOLA, 1808: Female, Male, Italy. Nees ab ESENBECK (1834) transferred to *Pteromalus*.

Distribution in Iran: Almost areas (no locality cited) (MODARRES AWAL 1997 as *Habrocytus grandis* (WALKER, 1835)).

Distribution outside Iran: Austria, Bulgaria, Caucasus, Czech Republic, Europe, France, Germany, Hungary, Italy, Kazakhstan, Latvia, Lithuania, Moldova, the Netherlands, Poland, Romania, Russia and adjacent countries, Serbia, Spain, Sweden, Switzerland, United Kingdom, former Yugoslavia.

Comments: Parasitoid of *Anthonomus pomorum* LINNAEUS (Coleoptera: Curculionidae) (MODARRES AWAL 1997 as *Habrocytus grandis* (WALKER)).

Also an unknown species, *Habrocytus* sp. was reported by MODARES AWAL (1997) as the parasitoid of *Hypera variabilis* HERBST (Coleoptera: Curculionidae).

***Pteromalus veneris* DALLA TORRE, 1898**

Pteromalus veneris DALLA TORRE, 1898: 153, Male (Germany) (BRNG?).

Distribution in Iran: Iran (no locality cited) (MIRABZADEH 1989 as *Pteromalus venustus* WALKER).

Distribution outside Iran: Germany.

Comments: Parasitoid of megachilid wasps (Hymenoptera: Megachilidae) (MIRABZADEH 1989 as *P. venustus*).

***Pteromalus* spp.**

Distribution in Iran: Alborz (FARAHBAKSH 1961), Isfahan (AFIUNIZADEH & KARIMZADEH 2010).

Comments: Pupal parasitoid of *Cerura bifida* HÜBNER (Lepidoptera: Notodontidae) (FARAHBAKSH 1961). Hyperparasitoid of *Plutella xylostella* (LINNAEUS) (Lepidoptera: Plutellidae) (AFIUNIZADEH & KARIMZADEH 2010).

Genus *Rhaphitelus* WALKER, 1834

Rhaphitelus WALKER, 1834: 168, 178. Type species: *Rhaphitelus maculatus* WALKER, by monotypy.

***Rhaphitelus ladenbergi* (RATZEBURG, 1844)**

Styloceras ladenbergii RATZEBURG, 1844: 208. Female, Male, Germany (DEI?).

Distribution in Iran: Isfahan (ABD-RABOU et al. 2005).

Distribution outside Iran: Czech Republic, France, Germany, Italy, Poland, Romania, Serbia, UK, former Yugoslavia.

Comments: Parasitoid of *Scolytus multistriatus* (MARSHAM) (Coleoptera: Scolytidae) on *Faxinus* sp. (ABD-RABOU et al. 2005).

***Rhaphitelus maculatus* WALKER, 1834**

Rhaphitelus maculatus WALKER, 1834: 179. Holotype Female, United Kingdom (BMNH).

Distribution in Iran: Alborz (DAVATCHI & CHODJAI 1968, SHOJAI 1998), Ardabil (DAVATCHI & CHODJAI 1968), East Azarbaijan (MODARRES AWAL 1997; LOTFALIZADEH & KHALGHANI 2008; LOTFALIZADEH & GHARALI 2008), Hamadan, Isfahan, Markazi, Zanjan (RADJABI 1991; MODARRES AWAL 1997).

Distribution outside Iran: Argentina, Australia, Belgium, Bulgaria, Canada, Chile, Croatia, Czech Republic, Egypt, France.

Comments: Parasitoid of *Scolytus mediterraneus* (EGGER) (Coleoptera: Scolytidae) on dead wood of apple (SHOJAI 1963, 1998; DAVATCHI & CHODJAI 1968; RADJABI 1991; MODARRES AWAL 1997; LOTFALIZADEH & GHARALI 2008).

Genus *Rhopalicus* FÖRSTER, 1856

Rhopalicus FÖRSTER, 1856: 66. *Cleonimus maculifer* FÖRSTER, by monotypy.

***Rhopalicus quadratus* (RATZEBURG, 1844)**

Pteromalus quadratus RATZEBURG, 1844: 202. Types unknown. Berlin, Germany.

Material examined: Kordestan province, Baneh, 1431 m, 2 ♀♀ ex *Lixus iridis* Olivier (Coleoptera: Curculionidae), August 2009. New record for Iran.

Distribution outside Iran: Armenia, Austria, Belarus, China, Czech Republic, Finland, France, Germany, Hungary, Japan, Lithuania, the Netherlands, Norway, Poland, Russia, Slovakia, Spain, Sweden, Ukraine, UK, USA.

***Rhopalicus tutela* (WALKER, 1836)**

Cheiropachus tutela WALKER, 1836: 14. Lectotype, United Kingdom (BMNH).

Material examined: Guilan province, Roodbar, 213 m, 3 ♀♀ 1 ♂, ex *Scolytus orientalis* (EGGERS) (Coleoptera: Scolytidae) October 2011. New record for Iran.

Distribution outside Iran: Armenia, Austria, Belarus, Belgium, Bulgaria, Canada, Croatia, China, Czech Republic, Finland, France, Germany, Hungary, Japan, Kirgizia, Lithuania, the Netherlands, New Zealand, Norway, Poland, Romania, Russia, Serbia, Slovakia, Spain, Sweden, Switzerland, Transcaucasus, Turkey, Ukraine, UK, USA, former Yugoslavia.

Genus *Sceptrothelys* GRAHAM, 1956

Sceptrothelys GRAHAM, 1956: 89. Type species: *Pteromalus grandiclava* WALKER, original designation.

***Sceptrothelys intermedia* GRAHAM, 1969**

Sceptrothelys intermedia GRAHAM, 1969: 486-487. Holotype Female, Finland (HDOU).

Distribution in Iran: Golestan (SAKENIN et al. 2008b), Mazandaran (SAKENIN et al. 2008a).

Distribution outside Iran: Finland, France, Germany, Kazakhstan, Sweden, UK, USA.

Genus *Schizonotus* RATZBURG, 1852

Schizonotus RATZBURG, 1852: 230. Type species: *Pteromalus sieboldi* RATZBURG, by subsequent designation of, ASHMEAD (1904).

***Schizonotus sieboldi* (RATZBURG, 1848)**

Pteromalus sieboldi RATZBURG, 1848: 230. Syntypes, Germany (DEI). GRAHAM (1969) treated it under *Schizonotus*.

Distribution in Iran: Alborz (SADEGHI & ASKARY 2001), Fars (LOTFALIZADEH & AHMADI 1998; LOTFALIZADEH & GHARALI 2008), Ilam (LOTFALIZADEH & GHARALI 2008), Mazandaran (ABD-RABOU et al. 2005; GHAHARI et al. 2010a).

Distribution outside Iran: Bulgaria, Caucasus, China, Croatia, Czech Republic, Europe, France, Germany, Hungary, Italy, Kazakhstan, Lithuania, Macedonia, Moldova, Norway, Pakistan, Russia and adjacent countries, Serbia, Slovakia, Sweden, Switzerland, Turkey, Turkmenistan, UK, USA, Uzbekistan, former Yugoslavia.

Comments: Pupal parasitoid of popular leaf beetle, *Chrysomela populi* LINNAEUS (Coleoptera: Chrysomelidae) (LOTFALIZADEH & AHMADI 1998; SADEGHI & ASKARY 2002), *Chrysomela coerufans* SCRIB (ABD-RABOU et al. 2005; GHAHARI et al. 2010a).

Genus *Spaniopus* WALKER, 1833

Spaniopus WALKER, 1833: 371. Type species: *Spaniopus dissimilis* WALKER, by subsequent monotypy.

***Spaniopus dissimilis* WALKER, 1833**

Spaniopus dissimilis WALKER, 1833: 466. Lectotype, United Kingdom-England (BMNH), designated by GRAHAM (1956).

Distribution in Iran: Ilam (LOTFALIZADEH & GHARALI 2008, in safflower field).

Distribution outside Iran: Belgium, Canada, Czech Republic, Germany, Ireland (north and south), the Netherlands, Russia, Sweden, UK, USA.

***Spaniopus polyspilus* GRAHAM, 1956**

Spaniopus polyspilus GRAHAM, 1956: 251. Holotype Female, Sweden (LUZN).

Distribution in Iran: Ilam (LOTFALIZADEH & GHARALI 2008).

Distribution outside Iran: Czech Republic, Hungary, Ireland (north and south), Sweden, United Kingdom.

Genus *Sphegigaster* SPINOLA, 1811

Sphegigaster SPINOLA 1811: 149. Type species: *Diplolepis pallicornis* SPINOLA, by subsequent designation of, ASHMEAD (1904).

***Sphegigaster brevicornis* (WALKER, 1833)**

Dicyclus brevicornis WALKER: 456. Lectotype Female, United Kingdom-England (BMNH), designated and transferred to *Sphegigaster* by GRAHAM (1969).

Distribution in Iran: West Azarbaijan (GHAHARI et al. 2010b).

Distribution outside Iran: Italy, Romania, Spain, Sweden, Turkey, UK.

Comments: Parasitoid of *Liriomyza trifolii* (BURGESS) (Diptera: Agromyzidae) (GHAHARI et al. 2010b).

***Sphegigaster cuscutae* FERRIÈRE, 1959**

Sphegigaster cuscutae FERRIÈRE 1959: 98. Male? Female? Germany (DEI?).

Distribution in Iran: Ardabil, East Azarbaijan, Mazandaran (GHAHARI 2014), Razavi Khorasan (HASANI & MADJDZADEH 2011a; HASANI et al. 2011; HASANI & MADJDZADEH 2012).

Distribution outside Iran: Germany, Kazakhstan, Moldova, Romania, Sweden, Yemen.

***Sphegigaster ineus* MITROIU, 2008**

Sphegigaster ineus MITROIU, 2008: 65. Holotype Female, Romania (MHNB).

Distribution in Iran: East Azarbaijan (LOTFALIZADEH et al. 2015).

Distribution outside Iran: Romania.

***Sphegigaster nigricornis* (NEES, 1834)**

Chrysolampus nigricornis NEES, 1834: 133. Lectotype Female, Germany (HDOU), designated and transferred to *Sphegigaster* by GRAHAM (1969).

Distribution in Iran: East Azarbaijan, Ilam (LOTFALIZADEH & GHARALI 2008).

Distribution outside Iran: Belgium, Canary Islands, Czech Republic, France, Germany, Hungary, Kazakhstan, Madeira, the Netherlands, Romania, Spain, Sweden, Switzerland, UK.

***Sphegigaster orobanchiae* KURDJUMOV, 1912**

Sphegigaster orobanchiae KURDJUMOV, 1912: 233. Male? Female? Russia-Kursk Oblast.

Distribution in Iran: Qazvin (SHOJAI 1968, 1998), Tehran, Zanjan (MODARRES AWAL 1997), Iran (no locality cited) (OILB 1971).

Distribution outside Iran: Europe, Hungary, Iraq, Italy, Russia and adjacent countries, Serbia, Turkey, Ukraine, former Yugoslavia.

Comments: Parasitoid of leaf miners (Diptera: Agromyzidae) (OILB 1971).

***Sphegigaster persiana* MITROIU & MADJDZADEH, 2011**

Sphegigaster persiana MITROIU & MADJDZADEH, 2011 (in MITROIU et al. 2011: 246). Holotype Female, Iran (MICO).

Distribution in Iran: Kerman (ABOLHASANZADEH et al. 2011; MITROIU et al. 2011, in *Beta vulgaris* field).

Distribution outside Iran: Endemic to Iran.

Comments: Probably parasitoid of small flies mining plant tissues (MITROIU et al. 2011).

***Sphegigaster stepicola* BOUČEK, 1965**

Sphegigaster stepicola BOUČEK, 1965: 12. Holotype Female, India-Uttar Pradesh (SJCA).

Distribution in Iran: East Azarbaijan (GHAHARI & HUANG 2012), Mazandaran (GHAHARI 2004; SAKENIN et al. 2008a).

Distribution outside Iran: Algeria, Austria, China, Croatia, Czech Republic, Ethiopia, Hungary, India, Italy, Kazakhstan, Moldova, Morocco, Romania, Slovakia, Thailand, Transcaucasus, former Yugoslavia.

Comments: Larval parasitoid of *Agromyza schineri* GIRAUD (Diptera: Agromyzidae) (GHAHARI 2004; GHAHARI & HUANG 2012).

***Sphegigaster truncata* THOMSON, 1878**

Sphegigaster truncata THOMSON, 1878: 21. Lectotype Female, Sweden (LUZN), designated by GRAHAM (1969).

Distribution in Iran: Kerman (ABOLHASANZADEH et al. 2011; MITROIU et al. 2011).

Distribution outside Iran: China, Czech Republic, Germany, Hungary, Kazakhstan, Moldova, Romania, Slovakia, Slovenia, Sweden, UK.

***Sphegigaster* sp.**

Distribution in Iran: Ardabil (LOTFALIZADEH & GHARALI 2008).

Comments: Parasitoid of crucifer leaf miner, *Chromatomyia horticola* (GOUREAU), *Liriomyza sativae* (BLANCHARD) on crucifer (Diptera: Agromyzidae) (LOTFALIZADEH & GHARALI 2008).

Genus *Stenetra* MASI, 1931

Stenetra MASI 1931: 170. Type species: *Stenetra ligustica* MASI, by monotypy.

***Stenetra ligustica* MASI, 1931**

Stenetra ligustica Masi 1931: 170. Types unknown, Italy.

Material examined: Chaharmahal & Bakhtiari province, Gandoman, 2251 m, 1♀, September 2011. New record for Iran.

Distribution outside Iran: Azerbaijan, Czech Republic, Croatia, Europe, Italy, Kazakhstan, Slovakia, Spain.

***Stenetra* sp.**

Distribution in Iran: Qazvin (LOTFALIZADEH & GHARALI 2008).

Comments: Collected from seed of *Sphora alopecuroides* (Fabaceae) (LOTFALIZADEH & GHARALI 2008).

Genus *Stenomalina* GHESQUIÈRE, 1946

Stenomalina GHESQUIÈRE, 1946: 370. [Replacement name for *Stenomalus* THOMSON 1878 nec GEMMINGER & HAROLD 1872]. Type species: *Etroxys crassicornis* THOMSON, by subsequent designation of, ASHMEAD (1904).

***Stenomalina gracilis* (WALKER, 1834)**

Eutelus gracilis WALKER, 1834: 365. Lectotype Female, United Kingdom-Scotland (BMNH), designated by GRAHAM & CLARIDGE (1965). BOUČEK (1977) transferred to *Stenomalina*.

Distribution in Iran: Guilan (GHAHARI et al. 2010a).

Distribution outside Iran: Belgium, Canada, China, Croatia, Czech Republic, Germany, Hungary, Italy, Moldova, Montenegro, Morocco, the Netherlands, Poland, Romania, Serbia, Slovakia, Spain, Sweden, Switzerland, Ukraine, UK, former Yugoslavia.

Comments: Parasitoid of *Dasyneura acrophila* WINN (Diptera: Cecidomyiidae) on ash tree (*Fraxinus excelsior*) (GHAHARI et al. 2010a).

***Stenomalina* cf. *iera* (WALKER, 1844)**

Pteromalus iera WALKER, 1844: 339. Lectotype Female, Norway (BMNH), designated and transferred to *Stenomalina* by GRAHAM & CLARIDGE (1965).

Distribution in Iran: Razavi Khorasan (HASANI & MADJDZADEH 2011a; HASANI et al. 2011; HASANI & MADJDZADEH 2012).

Distribution outside Iran: Germany, Norway, Sweden.

Genus *Stenoselma* DELUCCHI, 1956

Stenoselma DELUCCHI, 1956: 65. Type species: *Stenoselma nigrum* DELUCCHI, original designation and monotypy.

***Stenoselma nigrum* DELUCCHI, 1956**

Stenoselma nigrum DELUCCHI 1956: Holotype Female, Italy (ETHZ).

Distribution in Iran: East Azarbaijan (GHAHARI & HUANG 2012), Kordestan (NAZEMI-RAFI et al. 2011; ALIPANAH et al. 2013; DEHDAR & MADJDZADEH 2013), Semnan (SAKENIN et al. 2008a).

Distribution outside Iran: Armenia, Azerbaijan, Bosnia Hercegovina, Canary Islands, Croatia, Czech Republic, Germany, Italy, Kazakhstan, Macedonia, Morocco, North Africa, Romania, Slovakia, Spain, Turkmenistan.

Comments: Parasitoid of *Anthaxia aspera* BILY (Coleoptera: Buprestidae) (GHAHARI & HUANG 2012).

Genus *Stinoplus* THOMSON, 1878

Etroxys (*Stinoplus* THOMSON) 1878: Type species: *Etroxys militaris* THOMSON, by subsequent designation of, ASHMEAD (1904). DALLA TORRE (1898) gave new status to *Etroxys*.

***Stinoplus etearchus* (WALKER, 1848)**

Etroxys (*Stinoplus* THOMSON) 1848: 107. Type species: *Etroxys militaris* THOMSON, by subsequent designation of, ASHMEAD (1904). DALLA TORRE & VON (1898) gave genus status.

Distribution in Iran: Golestan (SAKENIN et al. 2008b).

Distribution outside Iran: Australia, Croatia, France, Hungary, Isle of Man (British Isles), Kazakhstan, Macedonia, Morocco, the Netherlands, New Zealand, Serbia, Spain, Sweden, UK, former Yugoslavia.

Genus *Syntomopus* WALKER, 1833

Syntomopus WALKER, 1833: 371, 372. Type species: *Syntomopus thoracicus* WALKER, by subsequent designation of, WESTWOOD (1839).

***Syntomopus incisus* THOMSON, 1878**

Syntomopus incisus THOMSON, 1878: 23. New species, Lectotype Female, Sweden (LUZN), designated by GRAHAM (1969).

Distribution in Iran: Ilam (LOTFALIZADEH & GHARALI 2008).

Distribution outside Iran: Canary Islands, China, Czech Republic, Germany, Hungary, Isle of Man (British Isles), Italy, Kazakhstan, the Netherlands, Romania, Serbia, Slovakia, Spain, Sweden, Turkey, UK, former Yugoslavia.

Genus *Thureonella* GIJSWIJT, 1990

Thureonella GIJSWIJT, 1990: 23. Lectotype Female, LUZN, Sweden, designated by GRAHAM (1969).

***Thureonella* sp.**

Distribution in Iran: Ilam (LOTFALIZADEH & GHARALI 2008).

Genus *Tomicobia* ASHMEAD, 1899

Tomicobia ASHMEAD, 1899: 203. Type species: *Tomicobia tibialis* ASHMEAD, by subsequent monotypy.

***Tomicobia (Tomicobia) seitneri* (RUSCHKA, 1924)**

Ipocoelius seitneri RUSCHKA, 1924: 7. Male, Female, Sweden (USNM). GAHAN (1938) transferred to *Tomicobia*.

Distribution in Iran: Golestan (SAKENIN et al. 2008b).

Distribution outside Iran: Austria, Belgium, China, Czech Republic, Finland, Germany, Hungary, Italy, Japan, Mongolia, Norway, Poland, Romania, Russia and adjacent countries, Siberia, Slovakia, Spain, Sweden, Ukraine.

Genus *Toxema* WALKER, 1833

Toxema WALKER, 1833: 378. Type species: *Toxema fuscicornis* WALKER, by subsequent designation of, WESTWOOD (1839).

***Toxema fuscicorne* WALKER, 1833**

Toxema fuscicorne WALKER, 1833: 378. Lectotype Female, United Kingdom-England (BMNH), designated by GRAHAM (1969).

Distribution in Iran: Isfahan (GHAHARI et al. 2010a), Yazd (ABD-RABOU et al. 2005).

Distribution outside Iran: Belgium, Croatia, Czech Republic, France, Germany, Hungary, Ireland (north and south), the Netherlands, Romania, Spain, Sweden, Switzerland, UK.

Comments: Parasitoid of *Agromyza schneri* GIRAULT (Diptera: Agromyzidae) (ABD-RABOU et al. 2005; GHAHARI et al. 2010a).

Genus *Trichomalopsis* CRAWFORD, 1913

Trichomalopsis CRAWFORD, 1913: 251. Type species: *Trichomalopsis shirakii* CRAWFORD, original designation and monotypy.

***Trichomalopsis peregrina* (GRAHAM, 1969)**

Eupteromalus peregrinus GRAHAM, 1969: 764-766, Holotype Female, United Kingdom-England (BMNH). GRAHAM (1996) transferred to *Trichomalopsis*.

Distribution in Iran: Golestan (GHAHARI 2004), Isfahan (GHAHARI et al. 2010a).

Distribution outside Iran: Austria, Canada, Czech Republic, France, Germany, Hungary, Italy, Kazakhstan, Moldova, the Netherlands, Romania, Russia and adjacent countries, Slovakia, Spain, Turkey, Ukraine, UK, USA.

Comments: Larval parasitoid of *Rhagoletis cerasi* (LINNAEUS) (Diptera: Tephritidae) on strawberry (GHAHARI 2004), *Rhagoletis* sp. (GHAHARI et al. 2010a).

***Trichomalopsis* sp.**

Distribution in Iran: Golestan (SHOJAI 1968, 1998; MODARRES AWAL 1997 as *Eupteromalus* sp.), Kerman (MODARRES AWAL 1997 as *Eupteromalus* sp.).

Comments: Parasitoid of *Oscinella frit* (LINNAEUS) (Diptera: Chloropidae) in *Triticum vulgare* field (SHOJAI 1968, 1998; MODARRES AWAL 1997 as *Eupteromalus* sp.).

Genus *Trichomalus* THOMSON, 1878

Isocyrtus (*Trichomalus* THOMSON), 1878: 134. Type species: *Isocyrtus punctinucha* THOMSON, by subsequent designation of, ASHMEAD (1904). DALLA TORRE (1898) elevated to *Trichomalus* genus.

***Trichomalus campestris* (WALKER, 1834)**

Amblymerus campestris WALKER, 1834: 343. Lectotype, United Kingdom-England (BMNH), designated and transferred to *Trichomalus* by GRAHAM (1956).

Distribution in Iran: East Azarbaijan (LOTFALIZADEH & GHARALI 2008, in alfalfa (*Medicago sativa*) field).

Distribution outside Iran: Belgium, Bosnia Hercegovina, Croatia, Czech Republic, France, Germany, Hungary, Israel, Italy, Moldova, Montenegro, the Netherlands, Romania, Serbia, Slovakia, Spain, Sweden, Switzerland, Turkey, Ukraine, UK, former Yugoslavia.

***Trichomalus perfectus* (WALKER, 1835)**

Pteromalus perfectus WALKER, 1835: 488. Lectotype, United Kingdom-England (BMNH), designated by GRAHAM (1956). DELUCCHI & GRAHAM (1956) transferred to *Trichomalus*.

Distribution in Iran: East Azarbaijan (GHAHARI & HUANG 2012), Golestan (SAKENIN et al. 2008a), Teharn (SAKENIN et al. 2008b).

Distribution outside Iran: Canada, Czech Republic, France, Germany, Hungary, Lithuania, the Netherlands, Poland, Russia, Slovakia, Spain, Sweden, Switzerland, UK.

Comments: Parasitoid of *Ceutorrhynchus* sp. (Coleoptera: Curculionidae) (GHAHARI & HUANG 2012).

***Trichomalus posticus* (WALKER, 1834)**

Eutelus posticus WALKER, 1834: 366. Lectotype, United Kingdom-Scotland (BMNH), designated and transferred to *Trichomalus* by GRAHAM (1956).

Distribution in Iran: East Azarbaijan, West Azarbaijan (GHAHARI 2014), Tehran (GHAHARI et al. 2010a).

Distribution outside Iran: Belgium, Czech Republic, Germany, Turkey.

Comments: Parasitoid of *Chlorops* sp. (Diptera: Chloropidae) (GHAHARI et al. 2010a).

***Trichomalus rufinus* (WALKER, 1835)**

Pteromalus rufinus WALKER, 1835: 495. Lectotype, United Kingdom (BMNH), designated and transferred to *Tricomalus* by GRAHAM (1956).

Distribution in Iran: East Azarbaijan (LOTFALIZADEH & MEHRVAR 2006; LOTFALIZADEH & GHARALI 2008, in alfalfa field).

Distribution outside Iran: Austria, Belgium, Bosnia Hercegovina, Canary Islands, Czech Republic, France, Germany, Greece, Hungary, Kazakhstan, Lithuania, Montenegro, the Netherlands, Norway, Romania, Slovakia, Spain, Sweden, Turkey, Ukraine, UK, former Yugoslavia.

Genus *Trigonoderus* WESTWOOD, 1832

Trigonoderus WESTWOOD, 1832: 127. Type species: *Trigonoderus princeps* WESTWOOD, by monotypy.

***Trigonoderus pulcher* WALKER, 1836**

Trigonoderus pulcher WALKER, 1836: 16. Lectotype Female, United Kingdom (BMNH), designated by KERRICH & GRAHAM (1957).

Distribution in Iran: Hamadan (GHAHARI et al. 2010a).

Distribution outside Iran: Belgium, Croatia, Czech Republic, Germany, Japan, Romania, Serbia, Slovakia, Sweden, UK, former Yugoslavia (NOYES 2015), India (P.M. Sureshan).

Genus *Trycnosoma* GRAHAM, 1957

Trycnosoma GRAHAM, 1957: 140. Type species: *Etoxys punctipleura* THOMSON, original designation and monotypy.

***Trycnosoma ernobii* HEDQVIST 1974**

Trycnosoma ernobii HEDQVIST, 1974: 118. Male? Female? Sweden (MNHG).

Distribution in Iran: Isfahan (GHAHARI et al. 2010b).

Distribution outside Iran: Sweden.

Comments: Parasitoid of *Ernobius mollis* LINNAEUS (Coleoptera: Anobiidae) on dried wood (GHAHARI et al. 2010b).

***Trycnosoma punctipleura* (THOMSON 1878)**

Etoxys (Habrocytus) punctipleura THOMSON, 1878: 122. Lectotype, Sweden (LUZN), designated and transferred to *Trycnosoma* by GRAHAM (1957).

Distribution in Iran: Isfahan (GHAHARI et al. 2010a).

Distribution outside Iran: Czech Republic, France, the Netherlands, Slovakia, Sweden, UK.

Comments: Parasitoid of *Cycloderes cribricollis* DESBROCHERS (Coleoptera: Curculionidae) on sugar-beet (*Beta vulgaris*) (GHAHARI et al. 2010a).

Genus *Urolepis* WALKER, 1846

Urolepis WALKER, 1846: 26. Type species: *Ormocerus maritimus* WALKER, by monotypy.

***Urolepis maritima* (WALKER, 1834)**

Ormocerus maritimus WALKER, 1834: 169. New species, Lectotype Female, United Kingdom-England (BMNH), designated by GRAHAM (1969). WALKER (1846) transferred to *Urolepis*.

Distribution in Iran: Ardabil (GHAHARI & HUANG 2012), Fars, Isfahan, Tehran (GIBSON 2000), Mazandaran (GHAHARI 2004; SAKENIN et al. 2008a), widely distributed from Mazandaran province to Fars (LOTFALIZADEH & GHARALI 2008).

Distribution outside Iran: Austria, Belgium, Canada, Canary Islands, Czech Republic, Denmark, Egypt, France, Germany, Hungary, Iraq, Ireland (north and south), Kazakhstan, Middle East, Moldova, Mongolia, Montenegro, the Netherlands, Romania, Sweden, Turkmenistan, Ukraine, UK, USA, Uzbekistan, former Yugoslavia.

Comments: Parasitoid of *Ephydra afghanica* DAHL (Diptera: Ephydriidae) on rice (GIBSON 2000; GHAHARI 2004; LOTFALIZADEH & GHARALI 2008). Also, an unknown species, *Urolepis* sp. was recorded by DAMADZADEH et al. (1991) from Isfahan as the parasitoid of *E. afghanica* (MODARRES AWAL 1997; KHANJANI 2006).

Subfamily *Spalanginae* HALIDAY, 1833

Genus *Spalangia* LATREILLE, 1805

Spalangia LATREILLE, 1805: 13. Type species: *Spalangia nigra* LATREILLE, by monotypy.

***Spalangia cameroni* PERKINS 1910**

Spalangia cameroni PERKINS, 1910: 656. Types unknown. Hawaii.

Material examined: Chaharmahal & Bakhtiari province, Boroojen, 2213 m, 2♀ September 2011. New record for Iran.

Distribution outside Iran: Argentina, Australia, Azores, Belize, Bermuda, Brazil, Bulgaria, Canada, Canary Islands, Chile, China, Colombia, Costa Rica, Cyprus, Czech Republic, Denmark, Dominican Republic, Ecuador, Fiji, Germany, Ghana, Grenada, Hawaii, Hungary, India, Jamaica, Kazakhstan, Madagascar, Malawi, Malaysia, Mauritius, Mexico, Moldova, Morocco, the Netherlands, New Zealand, Nicaragua, North Africa, Panama, Paraguay, Peru, Philippines, Puerto Rico, Romania, Russia, Senegal, Serbia, Solomon Islands, Somalia, South Africa, Spain, St Vincent & Grenadines, Sweden, Tanzania, Trinidad & Tobago, UK, USA, Uruguay, Uzbekistan, Venezuela, former Yugoslavia.

***Spalangia endius* WALKER, 1839**

Spalangia endius WALKER, 1839: 96. Male, Chile (BMNH).

Distribution in Iran: Iran (no locality cited) (BEHBAHANI et al. 1993, 1995, 1998).

Distribution outside Iran: Afrotropical, American Samoa, Argentina, Australasian, Australia, Brazil, Islands, Canada, Canary Islands, Chile, Colombia, Costa Rica, Cyprus, Czech Republic, Ecuador, Fiji, France, Germany, Ghana, Guam, Hawaii,

India, Indonesia, Italy, Kazakhstan, Kirgizia, Madeira, Malawi, Malaysia, Marshall Islands, Mauritius, Mexico, Morocco, New Caledonia, New Zealand, Nigeria.

C o m m e n t s : Parasitoid of house fly, *Musca domestica* LINNAEUS (Diptera: Muscidae) (BEHBAHANI et al. 1993, 1995, 1998).

***Spalangia erythromera* FÖRSTER, 1850**

Spalangia erythromera FÖRSTER, 1850: 512. Types unknown. Germany.

M a t e r i a l e x a m i n e d : Lorestan province, Aleshtar, 1255 m, 2♀ ♀, ex *Haematobia* sp. (Diptera: Muscidae), October 2011. New record for Iran.

D i s t r i b u t i o n o u t s i d e I r a n : Albania, Austria, Belgium, Bulgaria, Canada, China, Czech Republic, France, Germany, Hungary, Kazakhstan, Moldova, Montenegro, the Netherlands, Romania, Slovakia, Spain, Sweden, Switzerland, UK, USA, Venezuela, former Yugoslavia.

***Spalangia fuscipes* NEES, 1834**

Spalangia fuscipes NEES, 1834: 270. Types Male, Female, lost Germany.

M a t e r i a l e x a m i n e d : Isfahan province, Golpaygan, 2038 m, 1♀ ♀, 1♂ ♂, ex *Oscinella frit* Linnaeus (Diptera: Chloropidae), April 2012. New record for Iran.

D i s t r i b u t i o n o u t s i d e I r a n : Algeria, Austria, Bulgaria, Canary Islands, China, Croatia, Czech Republic, France, Germany, Hungary, India, Ireland, Italy, Malaysia, Moldova, Morocco, the Netherlands, North Africa, Romania, Russia, Slovakia, Spain, Sweden, Transcaucasus, Turkey, Ukraine, USA.

***Spalangia nigra* LATREILLE, 1805**

Spalangia nigra LATREILLE, 1805: 228. Lectotype Female, France (MRSN).

M a t e r i a l e x a m i n e d : Southern Khorasan province, Birjand, 1427 m, 2♀ ♀, 1♂ ♂, April 2011. New record for Iran.

D i s t r i b u t i o n o u t s i d e I r a n : Australia, Austria, Barbados, Belgium, Brazil, Bulgaria, Canada, Chile, China, Croatia, Czech Republic, Denmark, France, Germany, Grenada, Hawaii, Hungary, India, Ireland, Italy, Japan, Korea, Moldova, New Zealand, North Africa, Peru, Romania, Russia, Serbia, St Vincent & Grenadines, Sweden, Switzerland, Trinidad & Tobago, UK, USA, former Yugoslavia.

***Spalangia nigripes* CURTIS, 1839**

Spalangia nigripes CURTIS, 1839: folio 740. Lectotypes Female, United Kingdom.

M a t e r i a l e x a m i n e d : Guilan province, Roodbar, 215 m, 3♀ ♀, ex *Musca domestica* LINNAEUS (Diptera: Muscidae), August 2011. New record for Iran.

D i s t r i b u t i o n o u t s i d e I r a n : Austria, Belgium, Bosnia-Herzegovina, Croatia, Czech Republic, Denmark, France, Germany, Hungary, Italy, Lebanon, Luxembourg, Romania, Russia, Slovakia, Sweden, Switzerland, Ukraine, UK, USA, Uzbekistan, former Yugoslavia.

***Spalangia nigroaenea* CURTIS, 1839**

Spalangia nigroaenea CURTIS, 1839: 740. Holotype Female, United Kingdom (ANIC).

Distribution in Iran: East Azarbaijan (LOTFALIZADEH 2004; LOTFALIZADEH & GHARALI 2008).

Distribution outside Iran: Afrotropical, Antilles, Argentina, Australia, Austria, Bangladesh, Belgium, Brazil, Bulgaria, Canada, Canary Islands, Chile, Costa Rica, Cyprus, Czech Republic, Egypt, Fiji, France, Germany, Ghana, Haiti, Hungary, India, Indonesia, Italy, Kazakhstan, Kirgizia, South Korea, Madeira, Malawi, Malaysia, Mauritius, Mexico, Morocco, Nigeria, North Africa, Pakistan, Papua New Guinea, Peru, Puerto Rico, Romania, Russia and adjacent countries, Saudi Arabia, Solomon Islands, South Africa, Spain, Sri Lanka, Sudan, Sweden, Trinidad & Tobago, UK, USA, Uruguay, Uzbekistan, Zambia.

***Spalangia subpunctata* FÖRSTER, 1850**

Spalangia subpunctata FÖRSTER, 1850: 516. Lectotype Female, Germany (NHMV), designated by BOUČEK (1963).

Distribution in Iran: East Azarbaijan (LOTFALIZADEH 2004; LOTFALIZADEH & GHARALI 2008, in alfalfa field), Iran (no locality cited) (IRANPOUR et al. 1991).

Distribution outside Iran: Belgium, Bulgaria, Caucasus, China, Czech Republic, Denmark, Europe, France, Germany, Hungary, Kazakhstan, Madeira, Moldova, Montenegro, Morocco, the Netherlands, North Africa, Poland, Romania, Russia and adjacent countries, Serbia, Slovakia, Spain, Sweden, Tadzhikistan, Turkey, UK, Uzbekistan, former Yugoslavia.

Comments: Parasitoid of house fly, *Musca domestica* LINNAEUS (Diptera: Muscidae) (IRANPOUR et al. 1991).

Subfamily Sycophaginae WALKER, 1875

Genus *Apocryptophagus* ASHMEAD, 1904

Apocryptophagus ASHMEAD, 1904: 238. Type species: *Chalcis explorator* COQUEREL, original designation.

***Apocryptophagus gigas* (MAYR, 1906)**

Eukoebelea gigas MAYR, 1906: 164-165. Male? Female? Yemen (RNHL?). BERG & WIEBES (1992) transferred to *Apocryptophagus*.

Distribution in Iran: Sistan & Baluchestan (GHAHARI & VAN NOORT 2011).

Distribution outside Iran: Botswana, Comoro Islands, Ethiopia, Kenya, Madagascar, Malawi, Namibia, Senegal, South Africa, Tanzania, Yemen, Zambia, Zimbabwe.

Comments: On *Ficus* sp.; this species is known as fig wasp (GHAHARI & VAN NOORT 2011).

Genus *Sycophaga* WESTWOOD, 1840

Sycophaga WESTWOOD, 1840: 222. Type species: *Sycophaga crassipes* WESTWOOD, by monotypy.

***Sycophaga sycomori* (LINNAEUS, 1758)**

Cynips sycomori LINNAEUS, 1758: 554-555. Israel, Female? Male? (MNHG?). LOEW (1843) transferred to *Sycophaga*.

Distribution in Iran: East Azarbaijan (GHAHARI & VAN NOORT 2011).

Distribution outside Iran: Botswana, Comores, Egypt, Eritrea, Ethiopia, Greece, Israel, Kenya, Madagascar, Malawi, Namibia (South West Africa), North Africa, Senegal, South Africa, Syria, Tanzania, Yemen, Zambia, Zimbabwe.

Comments: On *Ficus* sp.; this species is known as fig wasp (GHAHARI & VAN NOORT 2011).

Subfamily Sycoryctinae WIEBES, 1966

Genus *Apocrypta* COQUEREL, 1855

Apocrypta COQUEREL, 1855: 367. Type species: *Apocrypta perplexa* COQUEREL, by subsequent designation of, ASHMEAD (1904).

***Apocrypta longitarsus* MAYR, 1906**

Apocrypta longitarsus MAYR, 1906: 163. CAMEROON (RNHL?).

Distribution in Iran: Fars (GHAHARI & VAN NOORT 2011), Kordestan (alfalfa field) (NAZEMI-RAFI et al. 2011).

Distribution outside Iran: Botswana, Cameroon, Comoro Islands, Eritrea, Israel, Kenya, Madagascar, Malawi, Namibia, Senegal, South Africa, Tanzania, Yemen, Zambia, Zimbabwe.

Comments: On *Ficus* sp.; this species is known as fig wasp (GHAHARI & VAN NOORT 2011).

Genus *Philotrypesis* FÖRSTER, 1878

Philotrypesis FÖRSTER, 187 : 59. Type species *Philotrypesis longicauda* FÖRSTER by monotypy and original designation.

***Philotrypesis caricae* (LINNAEUS, 1762)**

Philotrepsis caricae LINNAEUS, 1762: 31-32. designated and transferred to *Philotrypesis* by Mayr, 1885: 35.

Distribution in Iran: Fars (LOTFALIZADEH et al. 2014b).

Distribution outside Iran: Caucasus, Central Asia, Europe, France, Israel, Italy, Russia, Ukraine, USA.

Discussion

Of the 16 subfamilies of Iranian Pteromalidae, the subfamilies Pteromalinae, Miscogasterinae and Cleonyminae (with 79 genera and 165 species, 5 genera and 14 species, 7 genera and 8 species, respectively) are more diverse than the others (Fig. 2). Also among the 114 genera, the genera *Mesopolobus*, *Pteromalus* and *Pachyneuron* with 16, 15 and 11 species, respectively, are more diverse than the other genera. Additionally, there are some unknown reported species (*Dibrachys* sp., *Gastracanthus* sp., *Guancheria* sp., *Oxysychus* sp., *Pachyneuron* sp., *Pteromalus* spp., *Sphegigaster* sp., *Stenetra* sp., *Thureonella* sp. and *Trichomalopsis* sp.) which are not listed above.

Upon the results of this catalogue, several pteromalids were reported as parasitoids or hyperparasitoids of different taxa. A summary of the relationships of Iranian Pteromalidae with other insects is listed below (Fig. 3).

Coleoptera (68 records from 11 families): Anobiidae (2), Bostrichidae (2), Brentidae (2), Bruchidae (8), Buprestidae (9), Cerambycidae (1), Chrysomelidae (2), Coccinellidae (2), Curculionidae (13), Dermestidae (1), Scolytidae (17).

Hemiptera (47 records from 5 families): Aphididae (12), Coccidae (16), Diaspididae (4), Pseudococcidae (8), Psyllidae (7).

Lepidoptera (40 records from 16 families): Arctiidae (1), Elachistidae (1), Gracillariidae (1), Lasiocampidae (1), Lymantriidae (4), Notodontidae (1), Nymphalidae (2), Olethreutidae (3), Papilionidae (2), Pieridae (2), Plutellidae (3), Pyralidae (5), Thaumetopoeidae (2), Tineidae (6), Tortricidae (5), Yponomeutidae (1).

Diptera (49 records 9 families): Agromyzidae (10), Anthomyiidae (1), Cecidomyiidae (6), Chloropidae (3), Drosophilidae (2), Ephydriidae (2), Muscidae (5), Syrphidae (5), Tephritidae (14).

Hymenoptera (43 records from 7 families): Cephidae (2), Cynipidae (32), Eurytomidae (5), Megachilidae (1), Sphecidae (1), Torymidae (1), Vespidae (1).

Neuroptera: Five records from one family, Chrysopidae.

Some pteromalids are hyperparasitoids and so they are harmful to biological control agents. Pteromalidae of Iran are the hyperparasitoids of 11 Hymenoptera parasitoid species as follow: *Encarsia azimi* HAYAT (Aphelinidae), *Aphidius ervi* HALIDAY, *Diaeretiella rapae* (M'INTOSH), *Lysiphlebus fabarum* (MARSHALL) (Aphidiidae), *Apanteles glomeratus* (LINNAEUS), *Apanteles myeloenta* WILKINSON, *Cotesia plutellae* (KURDJUMOV) (Braconidae), *Anagyrus* sp. (Hymenoptera: Encyrtidae), *Euderomphale chelidonii* ERDÖS (Eulophidae), *Bathyplectes anurus* (THOMSON), *B. curculionis* (THOMPSON) (Ichneumonidae). Additionally, three species, *Apocrypta longitarsus* MAYR, *Apocryptophagus gigas* (MAYR) and *Sycophaga sycomori* (LINNAEUS) are listed as fig wasps. Some pteromalids have relationship with gall wasps (Cynipidae), which 14 cynipid species have been known from Iran as follow: *Adleria caputmedusae* ROHWER & FAGAN, *Andricus cecconii* KIEFFER, *Andricus grossulariae* GIRAUD, *Andricus lucidus* (HARTIG), *Andricus multiplicatus* GIRAUD, *Andricus tomentosus* (TROTTER), *Chilaspis israeli* (STERNLICHT), *Cynips panteli* (KIEFFER), *Diplolepis ?nervosa* (CURTIS), *Diplolepis mayri* (SCHLECHTENDAL), *Diplolepis fructuum* (RUBSAAMEN), *Liposthenes* (=Aulax) *glechomae* LINNAEUS, *Neuroterus tricolor* (HARTIG), *Rhodites rosae* (LINNAEUS).

Iran is comprised of 31 provinces and among them, East Azarbaijan, Mazandaran and Khorasan (total of Northern, Razavi and Southern Khorasan provinces) with 63, 47 and 38 reported species respectively, have the highest diversity (the majority of faunistic surveys were done in these provinces); followed by Kerman, Golestan, Isfahan and Kordestan provinces arranged sequentially (Fig. 4). No species have been reported thus far from Kuhgiluyeh & Boyer-Ahmad, primarily because it has not been systematically sampled.

This catalogue indicates that the fauna of Iranian Pteromalidae is very diverse and since Iran is a large country with various geographical regions and climates, surely there remain many further species to be discovered. Upon the several samplings and the fauna of areas adjacent Iran and other Palaearctic regions, this list is very far from complete. It is likely that the number of species of pteromalids occurring in Iran would probably exceed 1000 species. This is based on the UK fauna (ca 600 spp.), which is much smaller and has fewer habitat types (J. NOYES, personal communication).

These insects play an important role in biological control of serious agricultural and forest pests and many of them are employed successfully in biological control programs all over the world (BOUČEK & RASPLUS 1991; SURESHAN & NARENDHAN 2003); determining the species diversity in different regions of Iran and their conservation is necessary. Conservation biological control involves manipulation of the environment to enhance the survival, fecundity, longevity, and behavior of natural enemies to increase their effectiveness (LANDIS et al. 2000). On the other hand, identification of pteromalid hosts is another important issue that may result in applied biological control programs.

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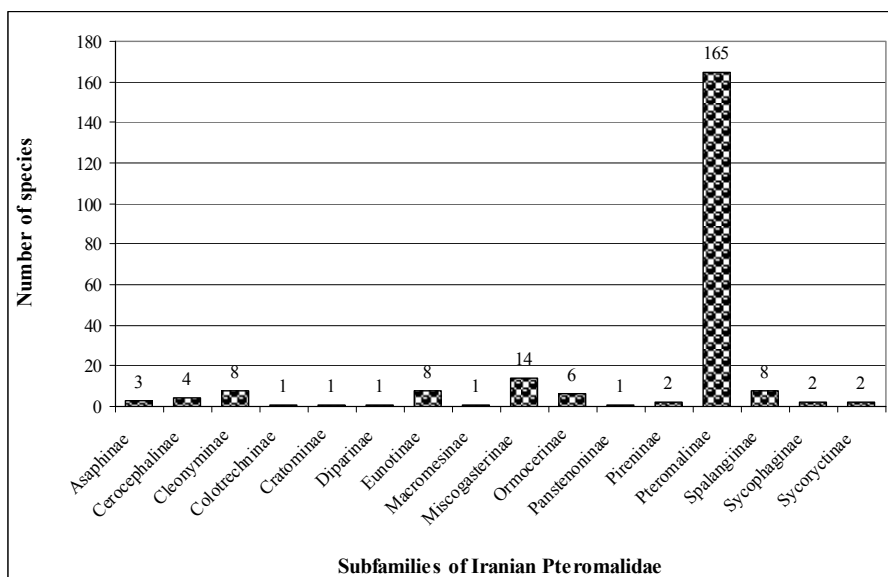


Fig. 2: Species diversity of each subfamilies of Iranian Pteromalidae.

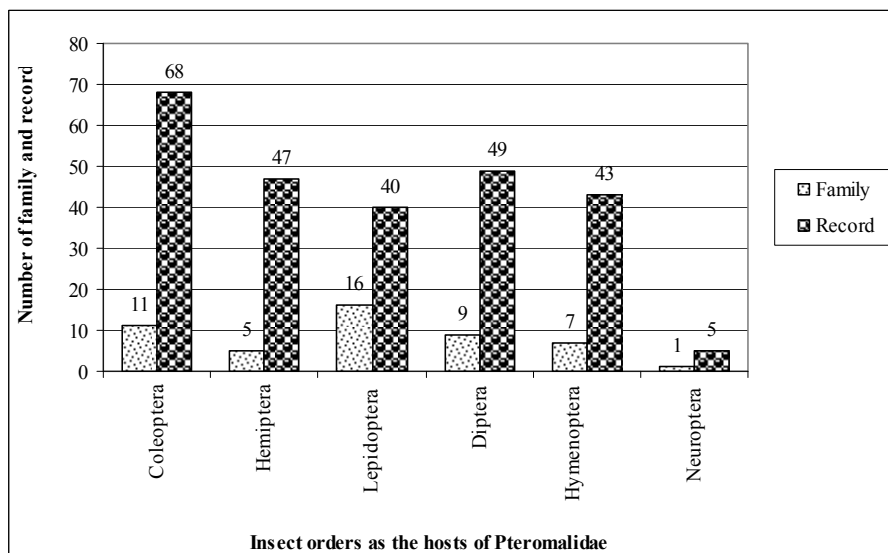


Fig. 3: Number of host records of Pteromalidae in Iran.

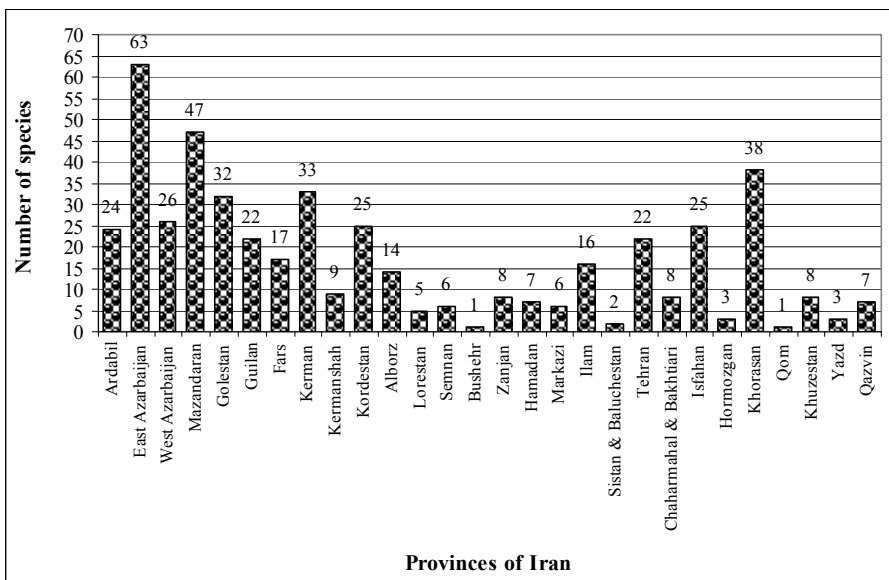


Fig. 4: Number of reported species of Iranian Pteromalidae by province.

The pteromalids (Hymenoptera: Chalcidoidea: Pteromalidae) are small parasitic wasps feeding as larvae on the immature stages of other species of insects (mainly) and spiders (rarely) and also many of them are phytophagous. These are one of the numerous and economically important groups of parasitoids regulating the abundance of many insects, including xylophagous ones.

The family is distributed in all biogeographical areas of the world and shows great diversity in morphology and biology. It contains more than 600 valid genera and more than 3500 valid species. Species diversity of Pteromalidae in Iran is studied in this paper.