

Checklist of eulophid wasps (Insecta: Hymenoptera: Eulophidae) of Iran

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ABSTRACT: In the present paper a list of the Eulophidae species (Hymenoptera: Chalcidoidea) and their associated hosts in Iran is provided. A total of 106 species belonging to 37 genera and to the following subfamilies are listed: Entedoninae (seven genera/19 species), Entiinae (one genus/one species), Eulophinae (16 genera/45 species), Tetrastichinae (13 genera/41 species).

INTRODUCTION

Eulophidae is the largest family in the Chalcidoidea including over 4472 species placed in four subfamilies and 297 genera: Entiinae (17/148), Eulophinae (97/1316), Entedoninae (87/1307), Tetrastichinae (91/1644), unplaced (5/57) (Noyes 2010). Different types of trophic associations, including endoparasitism (Entedoninae and Tetrastichinae), ectoparasitism (Eulophinae and Entiinae) and phytophagy or predatism are recorded within the eulophids (Hesami 2009). Meanwhile, some species are considered as important biological control agent of pests. The first efforts on knowing eulophids from Iran were made by Herting (1973) and Davatchi and Shojaei (1989). Recently, more contributions have been done for collecting and identifying the Iranian eulophids, their associates (Dousti 2008; Dousti *et al.* 2008; Ebrahimi *et al.* 2009; Golizadeh *et al.* 2008; Hesami 2009; Hesami *et al.* 2006a; Hesami *et al.* 2006b; Hesami *et al.* 2010; Rakhshani *et al.* 2003; Rezaei *et al.* 2003; Talebi *et al.* 2008; Yefremova *et al.* 2007; Zahiri *et al.* 2004) and their role in biological control of some pests, to some extent (Rezaei *et al.* 2003; Talebi *et al.* 2008). Noyes (2010) provided an excellent reference for Eulophid species from Iran, but it seems that some results of studies on the family in Iran are not listed there. Here we present an updated checklist of eulophid species and their hosts as a background of further biological and systematic efforts in Iran.

MATERIALS AND METHODS

The checklist aimed at reviewing as many references as possible on the Eulophidae and listing each species with distributional data and the host records in Iran. The Iranian provinces from which the eulophid species were recorded are shown in Figure 1. Classification, arrangement and distribution outside Iran follows Noyes (2010). Seventy three eulophid species were reported in the Universal Chalcidoidea Database, but here 33 other eulophids, (marked with an asterisk (*)) and new host

associations are added to the previous records.

RESULTS AND DISCUSSION

The list below present 106 eulophid species to Iran. Among them the following five species are recorded for the first time in Iran: *Aprostocetus beyazus* Doganlar, 1992; *Aprostocetus persicus* Yefremova and Yegorenko, 2007; *Cirrospilus scapus* Yefremova, 2007; *Derostenus persicus* Gomovsky, 2003; *Diglyphus scapus* Yefremova, 2008. Most literature data on eulophids new for the Iranian fauna were from ecological studies and their role as natural enemies or forest entomology. Iran is located in Palaearctic region and the existance of different and unique habitates for eulophid wasps, it seems that the Iranian fauna of Eulophidae is more rich and need more attention based on regions and material surveys. Number of genera and species of Eulophidae in the world and Iran are presented in Table 1. Among the 106 species recorded in this paper, most of the genera and species belong to the subfamily Eulophinae (16 genera/45 species), followed by Tetrastichinae (13 genera/41 species).

SUBFAMILY: ENTEDONINAE

Genus: *Achrysocharoides* Girault, 1913

Achrysocharoides suprafolius (Askew, 1974)*

Host: *Phyllonorycter corylifoliella* (Hübner) (Lepidoptera: Gracillariidae) (Amiri *et al.* 2009).

Distribution: Iran: Fars Province (Amiri *et al.* 2009). Outside Iran: Germany, Netherlands, England, Scotland.

Genus: *Chrysocharis* Foerster, 1856

Chrysocharis amyite (Walker, 1839)

Host: parasitoid of leafminer flies (Diptera: Agromyzidae) (Yefremova *et al.* 2007).

Distribution: Iran: Isfahan Province (Yefremova *et al.*

2007). Outside Iran: Bulgaria, Canada, Croatia, Czech Republic, Denmark, France, Germany, Greece, Hungary, Italy, Japan, Korea, Macedonia, Moldova, Netherlands, Norway, China, Portugal, Slovakia, Sweden, England, United States of America, USSR, Former Yugoslavia.

Chrysocharis laomedon* (Walker, 1839)

Host: *Kermania pistaciella* Amsel (Lepidoptera: Tineidae) (Mehrnejad and Basirat 2009).

Distribution: Iran: Fars Province (Hesami et al. 2010); Kerman province, (Mehrnejad and Basirat 2009). Outside Iran: Bulgaria, Croatia, Czech Republic, Denmark, France, Germany, Hungary, Italy, Japan, Turkey, Moldova, Netherlands, Slovakia, Sweden, England, United States of America, USSR, Former Yugoslavia.

Genus: *Closterocerus* Westwood, 1833

***Closterocerus aratus* (Walker, 1838)**

Host: Unknown.

Distribution: Iran: Golestan and Tehran provinces (OILB 1971; Shojaei 1968; Shojaei 1989). Outside Iran: Bulgaria, Canada, Canary Islands, Czech Republic, Denmark, Finland, Germany, Greece, Hungary, Ireland, Moldova, Netherlands, Norway, Peru, Poland, Portugal, Russia, Spain, Sweden, Ukraine, England, United States of America, USSR, Former Yugoslavia.

***Closterocerus formosus* Westwood, 1833**

Host: *Liriomyza sativae* Blanchard and *L. trifolii* (Burgess) (Diptera: Agromyzidae) (Asadi et al. 2006; Zahiri et al. 2004); *Phyllocnistis citrella* Stainton (Lepidoptera: Gracillariidae) (Dousti et al. 2008).

Distribution: Iran: Tehran Province (Asadi et al. 2006; OILB 1971; Zahiri et al. 2004); Fars province (Dousti et al. 2008; Hesami et al. 2006b); Sistan- Baluchistan province (Ebrahimi et al. 2009). Outside Iran: Afrotropical, Austria, Bulgaria, Canada, Canary Islands, Croatia, Czech Republic, Denmark, Eritrea, Ethiopia, Finland, France, Germany, Greece, Guam, Hawaii, Hungary, Indonesia, Iraq, Israel, Italy, Jamaica, Japan, Jordan, Kazakhstan, Macedonia, Malaysia, Mexico, Moldova, Netherlands, North Africa, Norway, China, Poland, Romania, Russia, Slovakia, South Africa, Spain, Sudan, Sweden, Switzerland, Taiwan, Turkey, Turkmenistan, Ukraine, United Arab Emirates, England, United States of America, USSR, Yemen, Former Yugoslavia.

Closterocerus longiventris* (Askew, 1979)

Host: *Phyllonorycter corylifoliella* (Hubner) (Lepidoptera: Gracillariidae) (Amiri et al. 2009).

Distribution: Iran: Fars Province (Amiri et al. 2009). Outside Iran: Bulgaria, Denmark, Sweden, England.

Genus: *Derostenus* Westwood, 1833

***Derostenus persicus* Gomovsky, 2003**

Host: Unknown.

Distribution: Iran: Fars Province (Gumovsky 2003). Not recorded outside Iran.

Genus: *Entedon* Dalman, 1820

***Entedon biroi* Erdős, 1944**

Host: Unknown.

Distribution: Iran: (Gumovsky 1999). Outside Iran: Bulgaria, Czech Republic, Hungary, Kazakhstan, Moldova, Mongolia, Slovakia, Turkey, Ukraine, United States of America, USSR, Uzbekistan.

***Entedon ergias* Walker, 1839**

Host: *Ruguloscolytus mediterraneus* Eggers, *Phloesinus bicolor* Brullé, *Scolytus multistriatus* Marsham (Coleoptera: Scolytidae) (Radjabi 1986).

Distribution: Iran: East Azarbaijan, Markazi, Tehran and Zanjan provinces (Davatchi and Shojaei 1989; Radjabi 1986; Shojaei 1968; Shojaei 1989) (recorded as *Entedon leucogramma* Ratzburg, 1844). Outside Iran: Armenia, Austria, Bulgaria, Canada, Croatia, Czech Republic, Finland, France, Georgia, Germany, Hungary, Israel, Italy, Moldova, Netherlands, Norway, Poland, Russia, Slovakia, Sweden, Ukraine, England, United States of America, USSR, Former Yugoslavia.

Genus: *Euderomphale* Girault, 1916

Euderomphale bemisiae* Viggiani, 1977

Host: *Bemisia giffardi* (Kotinsky) (Hemiptera: Aleyrodidae) (Ghahari et al. 2006).

Distribution: Iran: Guilan Province (Ghahari et al. 2006). Outside Iran: Italy.

Euderomphale chelidonii* Erdos, 1966

Host: *Aleyrodes lonicerae* Walker (Hemiptera: Aleyrodidae) (Ghahari et al. 2006).

Distribution: Iran: Mazandaran Province (Ghahari et al. 2006). Outside Iran: Austria, Egypt, Finland, Germany, Hungary, Moldova, Poland, Sweden, England, Yemen.

Genus: *Pediobius* Walker, 1846

***Pediobius bruchicida* (Rondani, 1872)**

Host: unknown.

Distribution: Iran: (Askew et al. 2006). Outside Iran: Afrotropical, Algeria, Australia, Czech Republic, Egypt, Greece, Hungary, India, Israel, Italy, Lebanon, Libya, Macedonia, Moldova, New Zealand, Papua New Guinea, Russia, Slovakia, Spain, Sweden, Tadjhikistan, Tanzania, Turkey, Turkmenistan, Ukraine, Yemen, Former Yugoslavia.

***Pediobius cassidae* Erdos, 1951**

Host: unknown.

Distribution: Iran: Chaharmahal-Bakhtiari Province (Yefremova et al. 2007). Outside Iran: Austria, Croatia, Czech Republic, France, Germany, Hungary, Italy, Macedonia, Moldova, Netherlands, Russia, Slovakia, Slovenia, Sweden, Transcaucasus, Turkey, Ukraine, England, Yemen, former Yugoslavia.

***Pediobius crassicornis* (Thomson, 1878)**

Host: *Phyllocnistis citrella* Stainton (Lepidoptera: Gracillariidae) (Ebrahimi et al. 2009; Yefremova et al. 2007).

Distribution: Iran: Bushehr Province (Ebrahimi et al. 2009; Yefremova et al. 2007). Outside Iran: Canada, Czech

Republic, France, Germany, Hungary, Italy, Japan, Moldova, Netherlands, Slovakia, Sweden, Ukraine, England, United States of America, USSR, Yemen.

***Pediobius illustris* (Waterston, 1915)**

Host: unknown.

Distribution: Iran: (Boucek and Askew 1968; Waterston 1915). Outside Iran: Bulgaria, Czech Republic, Germany, Greece, Hungary, Italy, Kirgizia, Moldova, Netherlands, Poland, Russia, Slovakia, Sweden, Tadzhikistan, Turkey, Ukraine, USSR.

***Pediobius italicus* Bouceck, 1968**

Host: *Phyllocnistis citrella* Stainton (Lepidoptera: Gracillariidae) (Ebrahimi et al. 2009; Yefremova et al. 2007).

Distribution: Iran: Fars Province (Ebrahimi et al. 2009; Yefremova et al. 2007). Outside Iran: Italy, Japan.

***Pediobius lysis* (Walker, 1839)**

Host: *Galerucella lineola* (Fabricius) (Coleoptera: Chrysomelidae) (Yefremova et al. 2007).

Distribution: Iran: Golestan Province (Yefremova et al. 2007). Outside Iran: Croatia, Czech Republic, France, Germany, Hungary, Italy, Moldova, Netherlands, Slovakia, Spain, Sweden, England, Former Yugoslavia.

***Pediobius pyrgo* (Walker, 1839)**

Host: *Phyllocnistis citrella* Stainton (Lepidoptera: Gracillariidae) (Ebrahimi et al. 2009; Yefremova et al. 2007); *Ocneria terebinthina* Stgr. (Lepidoptera: Lymanthriidae) (Ebrahimi et al. 2009) (Abai 1993).

Distribution: Iran: Kerman and Bushehr Provinces (Yefremova et al. 2007); Kerman Province (Ebrahimi et al. 2009). Outside Iran: Bulgaria, Canada, Canary Islands, Czech Republic, France, Germany, Honduras, Hungary, Iraq, Italy, Japan, Korea, Moldova, Netherlands, Oriental, Poland, Russia, Slovakia, Spain, Sweden, Taiwan, Turkey, Ukraine, United Arab Emirates, England, United States of America, USSR, Former Yugoslavia.

***Pediobius saulius* (Walker, 1839)**

Host: *Phyllocnistis citrella* Stainton (Lepidoptera: Gracillariidae) (Ebrahimi et al. 2009).

Distribution: Iran: Chaharmahal-Bakhtiari Province (Yefremova et al. 2007); Bushehr Province (Ebrahimi et al. 2009). Outside Iran: Austria, Bulgaria, Canary Islands, Croatia, Czech Republic, Germany, Greece, Hungary, Israel, Italy, Japan, Kazakhstan, Korea, Moldova, Netherlands, Romania, Russia, Slovakia, Sweden, Switzerland, Turkey, Turkmenistan, Ukraine, United Arab Emirates, United Kingdom, England, USSR, Yemen, Former Yugoslavia.

SUBFAMILY: ENTIINAE

Genus: *Euderus* Haliday, 1844

Euderus agrili* Bouceck, 1963

Host: unknown.

Distribution: Iran: Fars Province (Hesami 2009). Outside Iran: Bulgaria, Czech Republic, Germany, Greece, Hungary, Italy, Kirgizia, Moldova, Netherlands, Poland, Russia,

Slovakia, Sweden, Tadzhikistan, Turkey, Ukraine, USSR.

SUBFAMILY: EULOPHINAE

Genus: *Aulogymnus* Forster, 1851

***Aulogymnus gallarum* (Linnaeus, 1761)**

Host: *Adleria* sp., *Andricus* sp., *Cynips* sp. (Hymenoptera: Cynipidae) (Yefremova et al. 2007).

Distribution: Iran: Ghazvin Province (Yefremova et al. 2007). Outside Iran: Austria, Belgium, Croatia, Czech Republic, Finland, Germany, Hungary, Italy, Moldova, Netherlands, Romania, Russia, Slovenia, Spain, Sweden, England, USSR, Former Yugoslavia.

Aulogymnus skianeuros* (Ratzeburg, 1844)

Host: *Andricus grossulariae* Giraud and *A. multiplicatus* Giraud (Hymenoptera: Cynipidae) (Zargaran et al. 2008).

Distribution: Iran: West Azarbaijan Province (Zargaran et al. 2008). Outside Iran: Austria, Belgium, Bulgaria, Croatia, Czech Republic, France, Germany, Hungary, Italy, Moldova, Netherlands, Romania, Russia, Spain, Sweden, Turkey, Ukraine, England, Scotland, Former Yugoslavia.

Genus: *Cirrospilus* Westwood, 1832

***Cirrospilus ingenuus* Gahan, 1932**

Host: *Phyllocnistis citrella* Stainton (Lepidoptera: Gracillariidae) (Ebrahimi et al. 2009; Yefremova et al. 2007).

Distribution: Iran: Bushehr Province (Ebrahimi et al. 2009; Yefremova et al. 2007); Baluchistan (Ebrahimi et al. 2009). Outside Iran: Australia, India, Indonesia, Israel, Japan, Jordan, Mexico, Morocco, China, Philippines, Spain, Syria, Taiwan, Thailand, United States of America, Yemen.

***Cirrospilus lynceus* Walker, 1838**

Host: *Phyllocnistis citrella* Stainton (Lepidoptera: Gracillariidae) (Alavi et al. 2002; Yefremova et al. 2007).

Distribution: Iran: Mazandaran Province (Ebrahimi et al. 2009; Yefremova et al. 2007); Golestan Province (Alavi et al. 2002). Outside Iran: Austria, Azerbaijan, Bosnia Herzegovina, Bulgaria, Croatia, Czech Republic, Germany, Hungary, Ireland, Israel, Italy, Japan, Korea, Lithuania, Moldova, Netherlands, China, Poland, Romania, Russia, Slovakia, Spain, Sweden, Turkey, Ukraine, England, USSR, Former Yugoslavia.

***Cirrospilus scapus* Yefremova, 2007**

Host: *Liriomyza congesta* (Becker) (Diptera: Agromyzidae) (Yefremova et al. 2007).

Distribution: Iran: West Azarbaijan Province (Yefremova et al. 2007). Outside Iran: This species has not already been recored outside Iran.

***Cirrospilus staryi* Bouceck, 1959**

Host: *Phyllocnistis citrella* Stainton (Lepidoptera: Gracillariidae) (Ebrahimi et al. 2009; Yefremova et al. 2007).

Distribution: Iran: Bushehr Province (Ebrahimi et al. 2009; Yefremova et al. 2007). Outside Iran: Algeria, Austria, Bulgaria, Croatia, Czech Republic, France, Georgia,

Germany, Lebanon, North Africa, Sweden, Transcaucasus, Turkey, Former Yugoslavia.

***Cirrospilus talitzkii* Boucek, 1961**

Host: *Leucoptera scitella* Zell. (Lepidoptera: Lyonetiidae) (Yefremova et al. 2007); *Phyllonorycter corylifoliella* (Hübner) (Lepidoptera: Gracillariidae) (Amiri et al. 2009).

Distribution: Iran: East Azarbaijan Province (Yefremova et al. 2007); Fars Province (Amiri et al. 2009) (recorded as *Zagrammosoma talitzkii* (Boucek, 1977). Outside Iran: Bulgaria, Italy, Kazakhstan, Moldova, Russia, Turkmenistan, Ukraine, USSR (Eastern USSR), Former Yugoslavia.

Cirrospilus variegatus* (Masi, 1907)

Host: leaf miner flies (Diptera: Agromyzidae) (Hesami et al. 2006a).

Distribution: Iran: Fars Province (Hesami et al. 2006a), Outside Iran: Afrotropical, Armenia, Australia, Azerbaijan, Barbados, Bulgaria, Canary Islands, Croatia, Eritrea, Ethiopia, Hungary, India, Gujarat, Kerala, Italy, Kenya, Libya, Moldova, Morocco, New Zealand, North Africa, Pakistan, China, Peru, Romania, Russia, Slovakia, Spain, Sweden, Switzerland, Tanzania, Turkey, Turkmenistan, United Arab Emirates, Uzbekistan, Yemen, Former Yugoslavia.

***Cirrospilus viticola* (Rondani, 1877)**

Host: *Phyllocnistis citrella* Stainton (Lepidoptera: Gracillariidae) (Ebrahimi et al. 2009; Yefremova et al. 2007).

Distribution: Iran: Hormozgan Province (Ebrahimi et al. 2009; Yefremova et al. 2007). Outside Iran: Austria, Azerbaijan, Bulgaria, Croatia, Czech Republic, France, Germany, Hungary, Italy, Moldova, Netherlands, Norway, Poland, Romania, Russia, Slovakia, Sweden, Switzerland, Ukraine, England, USSR, Former Yugoslavia.

Cirrospilus vittatus* Walker, 1838

Host: *Stigmella malella* (Stainton) (Lepidoptera: Nepticulidae) (Radjabi 1986).

Distribution: Iran: Tehran and West Azarbaijan Provinces (Radjabi 1986). Outside Iran: Algeria, Austria, Azerbaijan, Bosnia Hercegovina, Bulgaria, Canada, Canary Islands, Croatia, Czech Republic, France, Germany, Greece, Hungary, Iceland, Iraq, Ireland, Italy, Japan, Jordan, Latvia, Macedonia, Moldova, Netherlands, North Africa, Norway, China, Poland, Romania, Russia, Slovakia, Spain, Sweden, Switzerland, Tunisia, Turkey, Ukraine, England, United States of America, USSR, Former Yugoslavia.

Genus: *Diaulinopsis* Crawford, 1912

***Diaulinopsis arenaria* (Erdos, 1951)**

Host: *Liriomyza* sp. (Diptera: Agromyzidae) (Dousti et al. 2008).

Distribution: Iran: Kordestan Province (Yefremova et al. 2007); Fars Province (Dousti et al. 2008). Outside Iran: Austria, Azerbaijan, Bulgaria, Canary Islands, Croatia, Czech Republic, Hungary, Italy, Jordan, Moldova, China, Poland, Romania, Russia, Slovakia, Spain, Sweden, Former Yugoslavia.

Genus: *Dichatomus* Förster, 1878

***Dichatomus acerinus* Förster, 1878**

Host: unknown.

Distribution: Iran (OILB 1971). Outside Iran: Austria, Croatia, France, Germany, Hungary, Italy, Netherlands, Spain.

Genus: *Diglyphus* Walker, 1844

***Diglyphus chabrias* (Walker, 1838)**

Host: *Syringopais temperatella* Lederer (Lepidoptera, Deoclonidae) (Yefremova et al. 2007); *Ceroplastes rusci* L. (Hemiptera: Coccidae) (Fallahzadeh et al. 2006).

Distribution: Iran: Lorestan Province (Yefremova et al. 2007); Fars Province (Fallahzadeh et al. 2006). Outside Iran: Bulgaria, Canary Islands, Czech Republic, Germany, Hungary, Madeira, Netherlands, Norway, Pakistan, Russia, Slovakia, Spain, Sweden, England.

***Diglyphus crassinervis* Erdös, 1958**

Host: *Liriomyza sativae* Blanchard (Diptera: Agromyzidae) (Asadi et al. 2006; Dousti et al. 2008).

Distribution: Iran: Tehran Province (Asadi et al. 2006); Fars Province (Dousti et al. 2008). Outside Iran: Bulgaria, Canary Islands, Czech Republic, Egypt, France, Germany, Hungary, Iraq, Israel, Italy, Jordan, Moldova, Morocco, China, Portugal, Slovakia, Spain, Sweden, Turkey, England, Yemen.

***Diglyphus isaea* (Walker, 1838)**

Host: *Liriomyza* sp. (Diptera: Agromyzidae) (Asadi et al. 2006; Dousti et al. 2008).

Distribution: Iran: Tehran Province (Asadi et al. 2006); Chaharmahal-Bakhtiari Province (Yefremova et al. 2007); Fars Province (Dousti et al. 2008). Outside Iran: worldwide.

***Diglyphus minoëus* (Walker, 1838)**

Host: *Liriomyza* sp. (Diptera: Agromyzidae) (Yefremova et al. 2007).

Distribution: Iran: Isfahan Province (Yefremova et al. 2007). Outside Iran: Austria, Barbados, Bulgaria, Croatia, Czech Republic, Germany, Hungary, Italy, Japan, Korea, Moldova, Netherlands, Norway, Pakistan, China, Russia, Slovakia, Sweden, Switzerland, Turkmenistan, England, Yemen.

Diglyphus poppoea* Walker, 1848

Host: *Agromyza ambigua* Fallén (Diptera: Agromyzidae) (Dousti 2008).

Distribution: Iran: Fars Province (Dousti 2008). Outside Iran: Canary Islands, Czech Republic, Finland, Germany, Hungary, Italy, Moldova, Morocco, Netherlands, Portugal, Russia, Spain, Sweden, Switzerland, England, Scotland, Wales, Yemen.

Diglyphus pulchripes* (Crawford, 1912)

Host: *Liriomyza trifolii* (Burgess) (Diptera: Agromyzidae) (Dousti et al. 2008).

Distribution: Iran: Fars Province (Dousti et al. 2008). Outside Iran: Canada, China, United States of America.

Diglyphus sabulosus* Erdös, 1951

Host: *Pegomya betae* (Curtis) (Diptera: Anthomyiidae)

(Davatchi and Shojaei 1989; Farahbakhsh 1961; Shojaei 1989).

Distribution: Iran: Tehran and Qazvin Provinces (Davatchi and Shojaei 1989; Farahbakhsh 1961; Shojaei 1989). Outside Iran: Czech Republic, Hungary, Romania, Slovakia, Sweden, Ukraine.

***Diglyphus scapus* Yefremova, 2008**

Host: unknown.

Distribution: Iran: Mazandaran Province (Hesami et al. 2006b; Hesami et al. 2008). Outside Iran: This species has not already been recorded outside Iran.

Genus: *Elasmus* Westwood, 1833

Elasmus nudus* Nees, 1834

Host: unknown.

Distribution: Iran: Fars Province (Hesami 2009). Outside Iran: Canary Islands, Caucasus, Croatia, Czech Republic, Finland, France, Germany, Hungary, Italy, Moldova, Poland, Russia, Slovakia, Spain, Sweden, Switzerland, Tadjikistan, Turkey, Turkmenistan, Ukraine, United Arab Emirates, United Kingdom, Yemen, Former Yugoslavia.

Genus: *Elachertus* Spinola, 1811

Elachertus fenestratus* Nees, 1834

Host: *Cephus pygmaeus* Linnaeus (Hymenoptera: Cephidae) (Behdad 1982; Sahragard 1977).

Distribution: Iran: Generally distributed in Iran (Behdad 1982; Sahragard 1977). Outside Iran: Austria, Bosnia Herzegovina, Canada, Croatia, Czech Republic, France, Germany, Greece, Greenland, Hungary, Italy, Japan, Korea, Mexico, Netherlands, China, Poland, Russia, Slovakia, Sweden, Switzerland, Tadjikistan, Turkey, Turkmenistan, England, United States of America, USSR, Yemen, Former Yugoslavia.

***Elachertus gallicus* Erdos, 1958**

Host: *Phyllocnistis citrella* Stainton (Lepidoptera: Gracillariidae) (Ebrahimi et al. 2009; Yefremova et al. 2007).

Distribution: Iran: Fars Province (Ebrahimi et al. 2009; Yefremova et al. 2007). Outside Iran: France, Germany, Russia, Sweden, England.

Genus: *Euplectrus* Westwood, 1832

Euplectrus bicolor* (Swederus, 1795)

Host: *Mythimna loreyi* (Duponchel) (Lepidoptera: Noctuidae) (Naseri et al. 1998).

Distribution: Iran: West Azarbaijan Province (Naseri et al. 1998). Outside Iran: Australia, Tasmania, Bulgaria, Canada, Croatia, Czech Republic, Denmark, France, Germany, Hungary, Italy, Japan, South Korea, Moldova, Netherlands, North Africa, China, Russia, Slovakia, Somalia, Spain, Sweden, Turkey, Turkmenistan, England, United States of America, USSR, Former Yugoslavia.

Euplectrus flavipes* (Fonscolombe, 1832)

Host: *Spodoptera exigua* (Hübner) (Lepidoptera: Noctuidae) (Eghtedar 1989; Shojaei 1989).

Distribution: Iran: Tehran and Fars Provinces (Eghtedar 1989; Shojaei 1989). Outside Iran: Bulgaria, Canary Islands, Croatia, Cyprus, Dominican Republic, France, Hungary, Italy, Mexico, Moldova, China, Portugal, Slovakia, Slovenia, Spain, Sweden, Syria, Taiwan, Turkey, Turkmenistan, Former Yugoslavia.

***Euplectrus liparidis* Ferriere, 1941**

Host: *Leucania (Acantholeucania) loreyi* Duponchel (Lepidoptera: Noctuidae) (Yefremova et al. 2007).

Distribution: Iran: West Azarbaijan Province (Yefremova et al. 2007). Outside Iran: Algeria, Bulgaria, Canada, Czech Republic, Italy, Japan, Korea, Macedonia, China, Slovakia, Yemen.

Genus: *Hemiptarsenus* Westwood, 1833

***Hemiptarsenus varicornis* (Girault, 1913)**

Host: *Liriomyza trifolii* (Burgess) (Dip.: Agromyzidae) (Yefremova et al. 2007).

Distribution: Iran: Hormozgan Province (Yefremova et al. 2007). Outside Iran: Australia, Canary Islands, Ethiopia, Fiji, Ghana, Guam, Hawaii, India, Indonesia, Japan, Kenya, Madeira, Malaysia, New Caledonia, New Zealand, Pakistan, China, Saudi Arabia, Senegal, Seychelles, Spain, Sri Lanka, Sudan, Taiwan, Tanzania, Turkey.

Hemiptarsenus wailesellae* Nowicki, 1929

Host: *Liriomyza sativae* Blanchard (Diptera: Agromyzidae) (Zahiri et al. 2004).

Distribution: Iran: Tehran Province (Zahiri et al. 2004). Outside Iran: Algeria, Bulgaria, Croatia, Czech Republic, Germany, Italy, North Africa, Poland, Slovakia, Former Yugoslavia.

Hemiptarsenus zilahisebessi* Erdös, 1951

Host: *Liriomyza sativae* Blanchard (Diptera: Agromyzidae) (Zahiri et al. 2004).

Distribution: Iran: Tehran Province (Zahiri et al. 2004); Fars Province (Dousti et al. 2008). Outside Iran: Bulgaria, Egypt, France, Hungary, Jordan, Korea, Moldova, China, Poland, Russia, Slovakia, Spain, Turkey, Former Yugoslavia.

Genus: *Hyssopus* Girault, 1916

***Hyssopus geniculatus* (Hartig, 1838)**

Host: *Phyllocnistis citrella* Stainton (Lepidoptera: Gracillariidae) (Ebrahimi et al. 2009; Yefremova et al. 2007).

Distribution: Iran: Mazandaran Province (Ebrahimi et al. 2009; Yefremova et al. 2007). Outside Iran: Bulgaria, Croatia, Czech Republic, Finland, France, Germany, Hungary, Italy, Japan, Korea, Macedonia, Netherlands, Norway, China, Poland, Russia, Slovakia, Spain, Sweden, Tadjikistan, Turkey, Turkmenistan, England, Yemen.

Genus: *Necremnus* Thomson, 1878

Necremnus leucarthros* (Nees, 1834)

Host: *Hypera postica* (Gyllenhal) (Coleoptera:

Curculionidae) (Akbari-Noushad 1995).

Distribution: Iran: East Azarbaijan Province (Akbari-Noushad 1995). Outside Iran: Algeria, Armenia, Bulgaria, Czech Republic, Denmark, France, Germany, Greece, Hungary, India, Italy, Macedonia, Moldova, Netherlands, Poland, Russia, Slovakia, Sweden, Switzerland, Transcaucasus, Turkey, England, United States of America, USSR, Former Yugoslavia.

***Necremnus tidius* (Walker, 1839)**

Host: *Cephus pygmeus* L. (Hymenoptera: Cephidae) and *Syringopais temperatella* Lederer (Lepidoptera: Elachistidae) (Yefremova *et al.* 2007).

Distribution: Iran: Isfahan and Lorestan Provinces (Yefremova *et al.* 2007). Outside Iran: Bulgaria, Canada, Canary Islands, Croatia, Czech Republic, France, Germany, Israel, Netherlands, Poland, Russia, Slovakia, Spain, Sweden, Turkey, England, United States of America, Former Yugoslavia.

Genus: *Pnigalio* Schrank, 1802

***Pnigalio agraulis* (Walker, 1839)**

Host: *Phyllocnistis citrella* Stainton, *Phyllonorycter corylifoliella* (Hübner) (Lepidoptera: Gracillariidae) (Ebrahimi *et al.* 2009; Yefremova *et al.* 2007).

Distribution: Iran: Khuzestan Province (Ebrahimi *et al.* 2009; Yefremova *et al.* 2007); Fars Province (Amiri *et al.* 2009); Mazandarn Province (Jafari 2000). Outside Iran: Australia, Austria, Bosnia Herzegovina, Bulgaria, Canary Islands, Croatia, Czech Republic, France, Germany, Greece, Hungary, Italy, Macedonia, Moldova, Netherlands, New Zealand, Norway, China, Romania, Russia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, England, Scotland, USSR, Former Yugoslavia.

Pnigalio nemati* (Westwood, 1838)

Host: unknown.

Distribution: Iran: Fars Province (Hesami 2009). Outside Iran: Finland, France, Germany, Hungary, Russia, England.

***Pnigalio pectinicornis* (Haeselbarth, 1989)**

Host: *Phyllonorycter corylifoliella* Hübner (Yefremova *et al.* 2007), *Phyllocnistis citrella* Stainton (Lepidoptera: Gracillariidae) (Alavi *et al.* 2002).

Distribution: Iran: Golestan Province (Alavi *et al.* 2002); Lorestan Province (Yefremova *et al.* 2007); Fars Province (Hesami 2009). Outside Iran: Australia, Austria, Bosnia Herzegovina, Bulgaria, Canary Islands, Croatia, Czech Republic, France, Germany, Greece, Hungary, Italy, Macedonia, Moldova, Netherlands, New Zealand, Norway, China, Romania, Russia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, England, Scotland, USSR, Former Yugoslavia.

***Pnigalio rotundiventris* (Erdos, 1954)**

Host: *Phyllonorycter corylifoliella* (Hübner) (Lepidoptera: Gracillariidae) (Yefremova *et al.* 2007).

Distribution: Iran: Mazandaran Province (Yefremova *et al.* 2007). Outside Iran: Hungary, Russia, Sweden.

***Pnigalio soemius* (Walker, 1839)**

Host: *Phyllocnistis citrella* Stainton (Lepidoptera: Gracillariidae) (Ebrahimi *et al.* 2009; Hesami 2009; Yefremova *et al.* 2007).

Distribution: Iran: Bushehr Province (Ebrahimi *et al.* 2009; Yefremova *et al.* 2007); Mazandarn and Fars Provinces (Hesami 2009). Outside Iran: Austria, Bangladesh, Bulgaria, Canary Islands, Croatia, Czech Republic, France, Germany, Hungary, Iraq, Israel, Italy, Korea, Macedonia, Madeira, Moldova, Netherlands, Norway, Pakistan, China, Romania, Russia, Slovakia, Spain, Sweden, Switzerland, Syria, Turkey, Ukraine, England, Scotland, USSR, former Yugoslavia.

Genus: *Ratzeburgiola* Erdos, 1958

Ratzeburgiola cristatus* (Ratzeburg, 1848)

Host: *Liriomyza trifolii* (Diptera: Agromyzidae) (Dousti *et al.* 2008).

Distribution: Iran: Fars Province (Dousti *et al.* 2008). Outside Iran: Bulgaria, Croatia, Czech Republic, France, Germany, Hungary, Italy, Macedonia, Moldova, Russia, Slovakia, Spain, Sweden, Turkey, England, Former Yugoslavia.

Genus: *Rhiconopelte* Forster, 1878

***Rhiconopelte crassicornis* (Nees, 1834)**

Host: *Hyphantria cunea* (Drury) (Lepidoptera: Arctiidae) (Yefremova *et al.* 2007).

Distribution: Iran: Guilan Province (Yefremova *et al.* 2007). Outside Iran: Austria, Bulgaria, Czech Republic, France, Germany, Hungary, Italy, Kazakhstan, Macedonia, Moldova, Netherlands, Poland, Russia, Slovakia, Turkey, Yemen.

Genus: *Stenomesus* Westwood, 1833

***Stenomesus rufescens* (Retzius, 1783)**

Host: *Phyllocnistis citrella* Stainton (Lepidoptera: Gracillariidae) (Ebrahimi *et al.* 2009; Yefremova *et al.* 2007).

Distribution: Iran: Hormozgan Province (Ebrahimi *et al.* 2009; Yefremova *et al.* 2007). Outside Iran: Armenia, Austria, Bulgaria, Czech Republic, France, Georgia, Germany, Hungary, Italy, Netherlands, Norway, Slovakia, Sweden, Transcaucasus, Turkey, England, United States of America, Former Yugoslavia.

Genus: *Sympiesis* Förster, 1856

***Sympiesis angustipennis* (Erdös, 1954)**

Host: unknown.

Distribution: Iran: Chaharmahal-Bakhtiari Province (Yefremova *et al.* 2007). Outside Iran: Croatia, Czech Republic, Hungary, Italy, Macedonia, Russia, Slovakia, Spain, Former Yugoslavia.

Sympiesis euspilapterygis* (Erdos, 1958)

Host: *Syringopais temperatella* Lederer (Lepidoptera: Elachistidae) (Pirhadi *et al.* 2008).

Distribution: Iran: Lorestan Province (Pirhadi *et al.* 2008). Outside Iran: Austria, Bulgaria, Czech Republic, Germany, Hungary, Poland, Sweden, Turkey, Former Yugoslavia.

***Sympiesis gordius* (Walker, 1839)**

Host: *Phyllonorycter corylifoliella* (Hübner) (Lepidoptera: Gracillariidae) (Amiri et al. 2009; Radjabi 1986); *Phyllonorycter blancardella* (Fabricious), *Leucoptera scitella* (Zeller) (Lepidoptera: Lyonetidae) (Yefremova et al. 2007).

Distribution: Iran: Tehran and Markazi Provinces (Haeselbarth 1985; Radjabi 1986); Fras Province (Amiri et al. 2009); Isfahan Province (Yefremova et al. 2007). Outside Iran: Afghanistan, Austria, Bosnia Hercegovina, Bulgaria, Canada, Croatia, Czech Republic, Finland, Germany, Hungary, Iran, Italy, Kazakhstan, Latvia, Macedonia, Moldova, Netherlands, Norway, China, Romania, Russia, Slovakia, Spain, Sweden, Switzerland, Ukraine, England, Scotland, USSR, Former Yugoslavia.

***Sympiesis gregori* Boucek, 1959**

Host: *Phyllonorycter corylifoliella* (Hübner) (Lepidoptera: Gracillariidae) (Yefremova et al. 2007).

Distribution: Iran: Lorestan Province (Yefremova et al. 2007). Outside Iran: Austria, Azerbaijan, Bulgaria, Canary Islands, Croatia, Czech Republic, France, Germany, Hungary, Moldova, Morocco, Netherlands, Russia, Slovakia, Spain, Sweden, England, Former Yugoslavia.

***Sympiesis sericeicornis* (Nees, 1834)**

Host: *Phyllonorycter corylifoliella* (Hubner) (Amiri et al. 2009); *Phyllonorycter blancardiella* (Fabricious), *Phyllonorycter turanica* Gerasimov, *Leucoptera scitella* Zeller, *Lithocolletis platani* Stgr. (Lepidoptera: Gracillariidae) (Radjabi 1986).

Distribution: Iran: Tehran Province (Haeselbarth 1985; Radjabi 1986) and Fars Province (Amiri et al. 2009). Outside Iran: Armenia, Austria, Azerbaijan, Bosnia Herzegovina, Bulgaria, Canada, Canary Islands, Caucasus, Croatia, Czech Republic, France, Germany, Greece, Hungary, Israel, Italy, Japan, Kazakhstan, Korea, Macedonia, Moldova, Netherlands, Norway, China, Poland, Romania, Russia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tadzhikistan, Taiwan, Transcaucasus, Turkey, Ukraine, England, Scotland, United States of America, USSR, Former Yugoslavia.

SUBFAMILY: TETRASTICHINAE**Genus: *Aprostocetus* Westwood, 1833*****Aprostocetus artemisicola* Graham, 1987***

Host: Cecidomyiidae (Diptera) on *Artemisia* spp. (Hesami et al. 2010).

Distribution: Iran: Fars Province (Hesami et al. 2010). Outside Iran : Italy, Germany, Russia, Spain, England.

***Aprostocetus aurantiacus* (Ratzeburg, 1852)**

Host: *Diplolepis* sp. (Hymenoptera: Cynipidae) (Lotfalizadeh et al. 2006).

Distribution: Iran: East Azarbaijan Province (Lotfalizadeh et al. 2006). Outside Iran: Austria, Czech Republic, Denmark, Finland, France, Germany, Hungary, Netherlands, Russia, Spain, Sweden, England.

***Aprostocetus beyazus* Doganlar, 1992**

Host: unknown.

Distribution: Iran (Doganlar 1992). Not recorded outside Iran

***Aprostocetus bucculentus* Kostjukov, 1978**

Host: *Eurytoma amygdali* Enderlein (Hymenoptera: Eurytomidae) (Lotfalizadeh et al. 2008; Yefremova et al. 2007).

Distribution: Iran: Chaharmahal-Bakhtiari (Yefremova et al. 2007), Yazd and Qazvin Provinces (Lotfalizadeh et al. 2008). Outside Iran: Armenia, Israel, Turkey.

Aprostocetus ceroplastae* (Girault, 1916)

Host: *Planococcus vovae* (Nasonov) (Hemiptera: Pseudococcidae) (Talebi et al. 2008).

Distribution: Iran: Tehran Province (Talebi et al. 2008). Outside Iran: Australia, Egypt, France, Greece, Israel, Italy, Lebanon, Libya, Madagascar, Mauritius, Morocco, China, South Africa, Turkey, Uganda, United States of America.

***Aprostocetus eurytomae* (Nees, 1834)**

Host: *Diplolepis fructuum* (Rübsaamen) (Hymenoptera: Cynipidae) (Lotfalizadeh et al. 2006).

Distribution: Iran: East Azarbaijan Province (Lotfalizadeh et al. 2006). Outside Iran: Armenia, Czech Republic, Finland, France, Germany, Morocco, Netherlands, Norway, Poland, Russia, Spain, Sweden, Turkey, England.

***Aprostocetus forsteri* (Walker, 1847)**

Host: *Cephus pygmaeus* L. (Hymenoptera: Cephidae) (Yefremova et al. 2007).

Distribution: Iran: Tehran Province (Yefremova et al. 2007); Fars Province (Hesami 2009). Outside Iran: Austria, Bulgaria, Cyprus, Czech Republic, France, Hungary, Italy, Russia, Slovakia, Spain, Sweden, Switzerland, Turkey, Former Yugoslavia.

***Aprostocetus lachares* (Walker, 1839)**

Host: unknown.

Distribution: Iran: Mazandaran Province (Domenichini 1966; Graham 1987); Fras Province (Hesami et al. 2006b). Outside of Iran: France, Sweden, England.

***Aprostocetus neglectus* (Domenichini, 1957)**

Host: unknown.

Distribution: Iran (Domenichini 1966; Graham 1987). Outside Iran: Austria, Czech Republic, France, Georgia, Germany, Greece, Hungary, India, Israel, Italy, Moldova, Morocco, Pakistan, Russia, Sweden, Turkey, England, USSR.

***Aprostocetus persicus* Yefremova and Yegorenko, 2007**

Host: *Bactrocera zonata* (Saunders) (Saunders) on *Mango* sp. (Yefremova et al. 2007).

Distribution: Iran: Hormozgan Province (Yefremova et al. 2007). Outside Iran: This species has not already been recored outside Iran

Aprostocetus toddaliae* (Risbec, 1958)

Host: *Ceroplastes rusci* L. (Hemiptera: Coccidae).

Distribution: Iran: Fars Province (Fallahzadeh et al. 2008). Outside Iran: Israel, Madagascar, Turkey.

Aprostocetus trjapitzini* (Kostjukov, 1976)

Host: *Planococcus ficus* (Signoret) (Hemiptera: Pseudococcidae) (Fallahzadeh et al. 2008).

Distribution: Iran: Fars Province (Fallahzadeh et al. 2008). Outside Iran: Germany, Kazakhstan, Moldova, Netherlands, Romania, Russia, Sweden, Tadjikistan, Turkey, England, Uzbekistan.

***Aprostocetus venustus* (Gahan, 1914)**

Host: *Contarinia tritici* Kirby (Diptera: Cecidomyiidae) on *Mango* (Yefremova et al. 2007).

Distribution: Iran: Sistan-Baluchestan Province (Yefremova et al. 2007). Outside Iran: Bulgaria, Canada, Canary Islands, Czech Republic, France, Germany, Hungary, Italy, Netherlands, Russia, Slovakia, Spain, Sweden, United States of America, USSR, Former Yugoslavia.

***Aprostocetus zosimus* (Walker, 1839)**

Host: *Diplolepis rosae* (L.) (Graham 1991; Hesami et al. 2006b).

Distribution: Iran: Fars Province (Graham 1991; Hesami et al. 2006b). Outside Iran: Azores, Canada, Czech Republic, Denmark, France, Germany, Hungary, Ireland, Italy, Moldova, Netherlands, New Zealand, Norway, Russia, Slovakia, Spain, Sweden, Switzerland, Tunisia, Ukraine, England, United states of America, USSR.

Genus: *Baryscapus* Förster, 1856

Baryscapus anasillus* Graham, 1991

Host: *Andricus lucidus* (Hartig), *A. megalucidus* Melika, Stone, Sadeghi & Pujade-Villar, *Nuroterus lanuginosus* Giraud (asexual Generation), *N. numismalis* (Fourcroy), *N. saliens* (Kollar) (sexual generation) (Hymenoptera: Cynipidae) (Nazemi-Rafie et al. 2007).

Distribution: Iran: Kordestan, Kermanshah and Ilam Provinces (Nazemi-Rafie et al. 2007). Outside Iran: France.

***Baryscapus conwentziae* (Ferriere, 1959)**

Host: *Phyllocnistis citrella* Stainton (Lepidoptera: Gracillariidae) (Ebrahimi et al. 2009; Yefremova et al. 2007).

Distribution: Iran: Sistan-Baluchestan Province (Ebrahimi et al. 2009; Yefremova et al. 2007). Outside Iran: Austria, Georgia, Germany, Italy, Netherlands, England.

***Baryscapus endemus* (Walker, 1839)**

Host: *Phyllocnistis citrella* Stainton (Lepidoptera: Gracillariidae) (Ebrahimi et al. 2009; Yefremova et al. 2007).

Distribution: Iran: Sistan-Baluchestan Province (Ebrahimi et al. 2009; Yefremova et al. 2007). Outside Iran: Austria, Bulgaria, Denmark, France, Germany, Hungary, Ireland, Moldova, Netherlands, Norway, Poland, Russia, Spain, Sweden, Switzerland, Turkey, Ukraine, England, USSR, Former Yugoslavia.

Baryscapus erynniae* (Domenichini, 1965)

Host: *Erynniopsis antennata* (Diptera: Tachinidae) on *Galerucella luteola* (Coleoptera: Chrysomelidae) (Khalili Mahani et al. 2003).

Distribution: Iran: Isfahan (Khalili Mahani et al. 2003); Fars Province (Hesami et al. 2010). Outside Iran : Bulgaria,

Italy, France, America.

***Baryscapus evonymellae* (Bouché, 1834)**

Host: *Yponomeuta* sp. (Lepidoptera: Yponomeutidae) (Shojaei 1968).

Distribution: Iran: Tehran Province (Shojaei 1968) and Fars Province (Graham 1991; Hesami et al. 2006b). Outside Iran: Armenia, Azerbaijan, Belgium, Bosnia Herzegovina, Bulgaria, Czech Republic, France, Germany, Hungary, Italy, Kirgizia, Lithuania, Moldova, Netherlands, Poland, Romania, Russia, Spain, Sudan, Sweden, Switzerland, Transcaucasus, Turkey, Ukraine, England, United States of America, USSR, Serbia.

***Baryscapus hylesini* Graham, 1991**

Host: *Agrilus suvorovi populneus* Schaeff. (Coleoptera: Buprestidae), *Hylesinus fraxini* Panzer (Coleoptera: Curculionidae) (Yefremova et al. 2007).

Distribution: Iran: Isfahan Province (Yefremova et al. 2007). Outside Iran: Italy, Palaeartic, Russia, Sweden, England.

Baryscapus impeditus* (Nees, 1834)

Host: *Liriomyza trifolii* (Diptera:Agromyzidae) (Dousti et al. 2008).

Distribution: Iran: Fars Province (Dousti et al. 2008). Outside Iran: Andorra, Bulgaria, Croatia, Czech Republic, France, Germany, India, Italy, Moldova, Netherlands, Pakistan, Russia, Slovakia, Sweden, Turkey, Serbia.

***Baryscapus nigroviolaceus* (Nees, 1834)**

Host: *Leucoptera scitella* (Zeller), *Lyonetia clerkella* Linnaeus (Lepidoptera: Lyonetidae) (Esmaili 1983; Shojaei et al. 2000; Shojaei et al. 2002); *Hypera postica* Fabrecius (Coleoptera: Curculionidae) (Yefremova et al. 2007).

Distribution: Iran: Khorasan Razavi Province (Yefremova et al. 2007), Tehran Province (Esmaili 1983; Shojaei et al. 2000; Shojaei et al. 2002). Outside Iran: Austria, Bulgaria, Czech Republic, France, Germany, Hungary, Italy, Moldova, Russia, Spain, Sweden, Switzerland, Turkey, Ukraine, United Kingdom, England, USSR, Former Yugoslavia.

***Baryscapus oophagus* (Otten, 1942)**

Host: *Phyllocnistis citrella* Stainton (Lepidoptera, Gracillariidae) (Ebrahimi et al. 2009; Yefremova et al. 2007).

Distribution: Iran: Sistan-Baluchestan Province (Ebrahimi et al. 2009; Yefremova et al. 2007), Fars Province (Hesami et al. 2010). Outside Iran: Bulgaria, Czech Republic, France, Germany, Poland, Russia, Sweden.

***Baryscapus pallidae* Graham, 1991**

Host: unknown.

Distribution: Iran (Graham 1991). Outside Iran: France, Sweden, Turkey, England.

Baryscapus sugonjaevi* (Kostjukov, 1976)

Host: *Planococcus ficus* (Signoret) (Hemiptera: Coccidae) (Fallahzadeh et al. 2008).

Distribution: Iran: Fars Province (Fallahzadeh et al. 2008). Outside Iran: Armenia, Georgia, Germany, Kazakhstan, Kirgizia, Moldova, Romania, Russia, Sweden, Tadjikistan.

Genus: *Chouioia* Yang, 1989

***Chouioia cunea* Yang, 1989**

Host: *Hyphantria cunea* (Drury) (Lepidoptera: Arctiidae) (Rezaei et al. 2003).

Distribution: Iran: Guilan Province (Rezaei et al. 2003). Outside Iran: Italy, Japan, Korea, China.

Genus: *Citrostichus* Boucek, 1988***Citrostichus phillocnistoides* (Narayanan, 1960)**

Host: *Phyllocnistis citrella* Stainton (Lepidoptera: Gracillariidae) (Ebrahimi et al. 2009; Yefremova et al. 2007).

Distribution: Iran: Kerman Province (Ebrahimi et al. 2009; Yefremova et al. 2007). Outside Iran: Afghanistan, Argentina, Australia, Greece, India, Israel, Italy, Japan, Jordan, Morocco, Oman, Pakistan, China, Spain, Taiwan, Thailand.

Genus: *Leptocybe* Fisher and LaSalle, 2004***Leptocybe invasa* Fisher and LaSalle, 2004**

Host: Gallling wasp on *Eucalyptus* sp. (Hesami et al. 2004).

Distribution: Iran: Fars Province (Hesami et al. 2004; Thu et al. 2009). Outside Iran: Algeria, Australia, Brazil, India, Israel, Italy, Jordan, Kenya, Morocco, Spain, Syria, Thailand, Turkey, Uganda, Vietnam.

Genus: *Melittobia* Westwood, 1848***Melittobia acasta* (Walker, 1839)**

Host: unknown.

Distribution: Iran: Iran (Thompson 1955). Outside Iran: Argentina, Austria, Azores, Bulgaria, Canada, Caucasus, Czech Republic, Denmark, Finland, France, Germany, Guam, Hungary, India, Italy, Japan, Kazakhstan, Madeira, Moldova, Netherlands, New Zealand, North Africa, China, Poland, Russia, Sri Lanka, Sweden, Switzerland, Ukraine, England, United States of America, USSR, Venezuela, Former Yugoslavia.

Genus: *Minotetrastichus* Kostjukov, 1977***Minotetrastichus frontalis* (Nees, 1834)***

Host: *Phyllonorycter corylifoliella* (Hübner) (Lepidoptera: Gracillariidae) (Amiri et al. 2009).

Distribution: Iran: Fars Province (Amiri et al. 2009). Outside Iran: Austria, Bosnia Herzegovina, Bulgaria, Canada, Canary Islands, Croatia, Czech Republic, Denmark, Finland, France, Germany, Hungary, Ireland (north and south), Italy, Macedonia, Moldova, Netherlands, Norway, Pakistan, Romania, Russia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine, United Arab Emirates, England, United States of America, USSR, Former Yugoslavia.

***Minotetrastichus platenellus* (Mercet, 1922)**

Host: unknown.

Distribution: Iran: Iran (Haeselbarth 1983). Outside Iran: Bulgaria, Czech Republic, France, Georgia, Germany, Greece, Hungary, Israel, Italy, Netherlands, Slovakia, Ukraine, England, Former Yugoslavia.

Genus: *Neotrichoporoides* Girault, 1913***Neotrichoporoides szelenyii* (Erdos, 1951)***

Host: unknown.

Distribution: Iran: Fars Province (Hesami et al. 2010). Outside Iran: Azerbaijan, Bulgaria, Czech Republic, Greece, Hungary, Italy, Portugal, Saudi Arabia.

Genus: *Oomyzus* Rondani, 1870***Oomyzus brevistigma* (Gahan, 1936)**

Host: *Galerucella luteola* (Müller) (Coleoptera: Chrysomelidae) (Azmayesh-Fard and Esmaili 1981).

Distribution: Iran: Tehran and Fars Provinces (Azmayesh-Fard and Esmaili 1981; Dreistadt and Dahlsten 1991). Outside Iran: United States of America, Greece.

***Oomyzus gallerucae* (Fonscolombe, 1832)**

Host: *Galerucella luteola* (Müller) (Coleoptera: Chrysomelidae).

Distribution: Iran: Tehran Province (Azmayesh-Fard and Esmaili 1981) (recorded as *Tetrastichus xanthomelaenae* Rondani); Markazi and Fars Provinces (Boucek 1977; Domenichini 1966; Dreistadt and Dahlsten 1991; Shojaei 1989). Outside Iran: France, Hungary, Italy, Romania, United States of America.

***Oomyzus incertus* (Ratzeburg, 1844)**

Host: *Hypera postica* (Gyllenhal) (Coleoptera: Curculionidae) (Alizadeh et al. 2000; Domenichini 1966; Esmaili and Habibi 1974; Habibi 1977; Kamali et al. 1978; Kostjukov 1978; Mirabzadeh 1986; Monadjemi 1975a, b).

Distribution: Iran: West Azarbaijan and Tehran Provinces (Alizadeh et al. 2000; Domenichini 1966; Esmaili and Habibi 1974; Habibi 1977; Kamali et al. 1978; Kostjukov 1978; Mirabzadeh 1986; Monadjemi 1975a, b). Outside Iran: Armenia, Bulgaria, Canada, Czech Republic, Finland, France, Germany, Hungary, Ireland (north and south), Italy, Kazakhstan, Moldova, Netherlands, Poland, Russia, Sweden, Switzerland, Tselinograd Obl., England, United States of America, USSR.

Oomyzus sokolowskii* (Kurdjumov, 1912)

Host: *Plutella xylostella* (Linnaeus) (Golizadeh et al. 2008).

Distribution: Iran: Tehran Province (Golizadeh et al. 2008). Outside Iran: Antigua and Barbados, Australia, Azerbaijan, Bangladesh, Belize, Benin, Bermuda, Brazil, Bulgaria, Canada, Caribbean (including West Indies), Chile, Dominican Republic, Egypt, Fiji, France, Guam, Hungary, India, Italy, Jamaica, Japan, Kenya, Korea, South, Leeward Islands, Malaysia, Mexico, Montserrat, Pakistan, China, Romania, Russia, South Africa, Sri Lanka, Switzerland, Taiwan, Trinidad & Tobago, Ukraine, United States of America, USSR.

Genus: *Pronotalia* Gradwell, 1957***Pronotalia orobanchiae* Graham, 1991**

Host: *Phytomyza orobanchia* (Kaltenbach) (Diptera: Agromyzidae) (Cikman and Doganlar 2006).

Distribution: Iran: Tehran Province (Cikman and Doganlar 2006; Graham 1991). Outside Iran: Bulgaria, Uzbekistan, Former Yugoslavia.

Genus: *Sigmophora* Rondani, 1867

***Sigmophora brevicornis* (Panzer, 1804)**

Host: *Diplolepis rosae* (L.) (Hymenoptera: Cynipidae) (Hesami *et al.* 2006b).

Distribution: Iran: Tehran Province (Hesami *et al.* 2006b). Outside Iran: Andorra, Austria, Bulgaria, Canada, Croatia, Cyprus, Czech Republic, Denmark, Finland, France, Georgia, Germany, Greece, Hungary, India, Ireland, Israel, Italy, Japan, Korea, Lebanon, Macedonia, Moldova, Morocco, Netherlands, Norway, Pakistan, Portugal, Romania, Russia, Slovakia, Spain, Sweden, Switzerland, Thailand, Turkey, Ukraine, England, USSR, Vietnam, Former Yugoslavia.

Genus: *Tamarixia* Mercet, 1924

Tamarixia radiata* (Waterston, 1922)

Host: *Diaphorina citri* Kuwayama (Hemiptera: Psyllidae) (Hasanpour *et al.* 2009).

Distribution: Iran: Hormozgan Province (Hasanpour *et al.* 2009). Outside Iran: Guadeloupe, India, Japan, Pakistan, South Africa, Swaziland, Taiwan, United States of America, Vietnam, Zimbabwe.

***Tamarixia upis* (Walker, 1839)**

Host: *Phyllocnistis citrella* Stainton (Lepidoptera: Gracillariidae) (Ebrahimi *et al.* 2009; Yefremova *et al.* 2007).

Distribution: Iran: Sistan-Baluchestan Province (Ebrahimi *et al.* 2009; Yefremova *et al.* 2007). Outside Iran: Bulgaria, Czech Republic, France, Germany, Italy, Moldova, Netherlands, Russia, Slovakia, Sweden, England, Former Yugoslavia.

Genus: *Tetrastichus* Haliday, 1844

***Tetrastichus epilachnae* (Giard, 1896)**

Host: Coccinellidae (Coleoptera) (Farahbakhsh 1961).

Distribution: Iran: Tehran Province, Caspian sea area (Herting 1973) (Farahbakhsh 1961). Outside Iran: Bulgaria, Croatia, France, Hungary, India, Italy, Macedonia, Morocco, Netherlands, Pakistan, Slovakia, Sweden, USSR, Former Yugoslavia.



FIGURE 1. Iran's provinces where the eulophid wasps have been collected.

TABLE 1. Comparison in number of genera and species of Iranian eulophids belonging to different subfamilies.

Eulophid wasps	NUMBER OF GENERA		NUMBER OF SPECIES	
	World	Iran	World	Iran
Eulophidae	297	37	4472	106
Entedoninae	87	7	1307	19
Entiinae	17	1	148	1
Eulophinae	97	16	1316	45
Tetrastichinae	91	13	1644	41

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