

An annotated checklist of the ladybirds (Coleoptera: Coccinellidae) of Iran

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Abstract

A checklist of 110 ladybird species (Coleoptera: Coccinellidae) belonging to 6 subfamilies in Iran is provided. Among them, 28 species (two species *Aphidecta oblitterata* & *Scymnus mediteraneus* were new reports for Iran) from 14 genera by corresponding author (R. Jafari) were collected & Identified. External characters plus characteristics of the male & female genitalia were used in order to diagnose species. Among coccinellid species collected, many species were predacious, preying on various species of aphids, mites & coccids. Species belong to 34 genera (*Brumus*, *Chilocorus*, *Exochomus*, *Platynaspis*, *Rhyzobius*, *Rodolia*, *Bulaea*, *Adalia*, *Anistostica*, *Aphidecta*, *Calvia*, *Cheilomenes*, *Coccinella*, *Coccinulla*, *Hippodamia*, *Menochilus*, *Oenopia*, *Olla*, *Propylea*, *Halyzia*, *Psyllobora*, *Vibidia*, *Tytthaspis*, *Epilachna*, *Hyperaspis*, *Clitostethus*, *Cryptolaemus*, *Diomus*, *Nephus*, *Scymnus*, *Stethorus*, *Diloponis*, *Serangium* & *Pharoscymnus*), 15 tribes (Chilocorini, Platynaspidini, Coccidulini, Noviini, Bulaeini, Coccinellini, Psylloborini, Tytthaspidini, Epilachnini, Hyperaspidini, Scymnini, Stethorini, Microweisini, Serangiini & Sticholotidini) & 6 subfamilies (Coccidulinae, Coccinellinae, Scymninae, Chilocorinae, Sticholotidinae and Epilachninae). The scymninae and sticholotinae subfamilies had maximum & minimum numbers of species among other subfamilies respectively. Comparing the various Tribes, Coccinellini showed the highest number of genus (50%). Two subfamilies: Coccinellinae & Scymninae constitute the major part of the Iranian fauna, including more than 81 species (74%) in Iran.

Key words :Coccinellidae, Iran, Checklist

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Introduction

Coccinellidae or Ladybeetles are well known mostly beneficial insects. Ladybeetles belong Class Insecta, Subclass Pterygota, Order Coleoptera, Suborder Polyphaga, Superfamily Cucujoidea and Family Coccinellidae (Gordon, 1985; Majerus, 1994). There are seven subfamilies of coccinellidae: Coccidulinae, Coccinellinae, Scymninae, Chilocorinae, Ortalinae, Sticholotidinae and Epilachninae (Vandenberg, 2002). Worldwide nearly 6000 species spanning about 360 genera are known. About 90 percent of the species are predators of aphids, coccids, psyllids, aleyrodids, chrysomelid larvae, mites and the remainder being herbivorous or mycettophagous (Majerus, 1994; Obyrcki & Kring, 1998; Iperiti & Bertand 2001; Vandenberg, 2002). The coccinellidae are an important group of beetles from both an economic standpoint in their use as biological control agent and in their diversity and adaptation to a number of differing habitats (Michels, 1987). Iran is an ecologically diverse country which includes rich agricultural areas, deserts, marshes, rivers and mountain habitats. Because of these specialized geographic and vegetative zones, Javanshir (1976) grouped the Iranian vegetation coverage into five zones, including the Irano-Touranian floristic zone that encompasses the most extensive area of Iran. In the confluence of these different climatic and geographic zones, a rich faunal assemblage is expected for the country. Unfortunately, there are very few references in the literature as to their distribution and diversity of ladybeetles in Iran. With the exception of the central areas, has usually not been included in papers dealing with the distribution of coccinellids in Iran. The periodic review of insect collections may produce important information on species distribution (McCorquodale & Bondrup-Nielsen, 2004; Hesler & Kieckhefer, 2008). Thus, an updated review of collections containing coccinellids is needed to reflect the dynamics of this group in Iran, and the objective of this paper is to provide an updated inventory of the Coccinellidae of Iran. This paper is an attempt to fill the void regarding the coccinellidae found in Iran. The earliest study on the coccinellidae of Iran conducted by Afshar (1937; 1938; 1944), Bielawski (1956), Gardenhire (1959), Farahbakhs (1961), Vojdani (1965), Gharib (1966 ;1973), Naeem (1971), Fursch (1977) and Duverger (1983) listed some faunistic reports on Iranian Coccinellidae. Modares Awal (1997) cited eighty seven valid species of ladybird beetles in his list of agricultural pests and their natural enemies in Iran. Borumand (2000) collected fifty one valid species of Coccinellidae in his list of : Insect of Iran, The List of Coleoptera in the Insect Collection of Plant Pests and Diseases Research Institute, Coleoptera: Cucujoidea: Coccinellidae. In recent years some faunistic studies have been done on Iranian Coccinellidae and some new species have been described (Yazdani & Ahmadi, 1991; Jafari & Kamali, 2007; Ebrahimi *et al.*, 2012). Some studies on Coccinellidae in Iran have recently been conducted by various local and foreign scientists (Fatemi, 1983; Haghshenas *et al.*, 2004; Askari, 1986; Khalaf & Sepehr, 1986; Mostaan, 1986 ;Parvizi *et al.*, 1987; Behdad, 1988; Hodjat & Moradeshaghi, 1988; Khalaf & Aberomand, 1989; Asadeh & Mosaddegh, 1991; Kouhpayezadehesfahani & Mosadegh, 1991; Radjabi, 1991; Yazdani & Ahmadi, 1991; Sadeghi & Esmaili, 1992; Ahmadi & Sarafrazi, 1993; Ahmadi & Yazdani, 1993; Akbarinoushad, 1993; Alemansoor & Ahmadi, 1993; Mossadegh & Kocheili, 1993; Mostaan, 1993; Yazdani & Ebrahimi, 1993; Saeb, 1994, 1995; Alhoseini & Mostofipour, 1995; Haghshenas *et al.*, 1995; Moadi & Mossadegh, 1995; Montazeri & Mossadegh, 1995; Yaghmaee & Kharazipakdel, 1995; Kalantari & Sadeghi, 2000; Bagheri & Mosadegh, 1995; Hajizadeh & Kamali, 1997; Kheirkhahe, 1997; Dazyanian & Sahragard, 2000; Kalantari & Sadeghi, 2000; Hajizadeh *et al.*, 2001; Nematolahi & Bagheri, 2002; Ebrahimzadeh & Mosadegh, 2004; Ghahari *et al.*, 2004; Hajizadeh *et al.*, 2004; Emami & Arbabi, 2005; Khanjani, 2005; Afshari *et al.*, 2007; Jafari & Kamali, 2007; Jafari *et al.*, 2008; Farahi & Sadeghinamghi, 2009; Ansaripor & Shakarami, 2011; Zareijallalabad & Jafari, 2011; Ahmadi *et al.*, 2012).

Materials and Methods

The geographical scope of this checklist covers the Iranian provinces. Iran consist of 30 provinces and located in Palaearctic zone. The author conducted an extensive survey for coccinellids throughout the provinces of Iran in the course of graduate research work (2006-2012). The following checklist is a result of this survey. This study is based on a literature review of

published papers concerning systematic and faunistic studies on Coccinellidae material collected from Iran and is positively supported by the recent faunistic expeditions carried out by the author. Adult ladybirds were collected using standard sweeping net and a hand-held aspirator in different locations of the provinces such as Lorestan and Markazi (west of Iran), Gilan, Golestan and Mazandaran (north of Iran), Isfahan (central Iran), Fars, Hormozgan, Kerman, and Sistanbalouchestan (south and southeastern Iran). In order to identify species and subspecies precisely, genitalia of both sexes were dissected and stained. The genitalia and abdomens were then mounted by applying Hoyer or Euparal mounting media. The collected specimens are deposited in the Collection of Entomology, Department of Agriculture, Borujerd Islamic Azad University. The arrangement of the subfamily, tribe, genera and species are alphabetical for convenience, and does not reflect polygenetic relationship.

Results and Discussion

Altogether 110 ladybird species of 34 genera (*Brumus*, *Chilocorus*, *Exochomus*, *Platynaspis*, *Rhyzobius*, *Rodolia*, *Bulaea*, *Adalia*, *Anistostica*, *Aphidecta*, *Calvia*, *Cheilomenes*, *Coccinella*, *Coccinulla*, *Hippodamia*, *Menochilus*, *Oenopia*, *Olla*, *Propylea*, *Halysia*, *Psyllobora*, *Vibidia*, *Tytthaspis*, *Epilachna*, *Hyperaspis*, *Clitostethus*, *Cryptolaemus*, *Diomus*, *Nephus*, *Scymnus*, *Stethorus*, *Diloponis*, *Serangium* and *Pharoscygnus*), 15 tribes (Chilocorini, Platynaspidini, Coccidulini, Noviini, Bulaeini, Coccinellini, Psylloborini, Tytthaspidini, Epilachnini, Hyperaspidini, Scymnini, Stethorini, Microweisini, Serangiini and Sticholotidini) and 6 subfamilies (Coccidulinae, Coccinellinae, Scymninae, Chilocorinae, Sticholotidinae and Epilachninae) were reported to Iran.

Among them, the following two species *Aphidecta obliterata* and *Scymnus mediteraneus* are recorded by Jafari (2007) for the first time in Iran. When numbers of all the genera were compared, it was concluded that the *Scymnus* (22%) was most number of records than other genera in the list. Tribe Coccinellini (50%) includes the highest number of genera. Two subfamilies: Coccinellinae and Scymninae constitute the major part of the Iranian fauna, including more than 81 species (74%) in Iran. The greatest and least numbers of species (richness species) have been reported from the Mazandaran (48%) and Kohkilyboyerahmad (2%) provinces respectively (Table 1). Species and genera are listed in the phyletic sequence of Gordon (1985) and for higher classification of Vandenberg (2002). Distribution information is presented based on collection records and cited literature.

The coccinellid beetles are considered to be a great economic importance in agro-ecosystem through their successful employed in the biological control of many injurious insect (Agarwala & Dixon, 1992). Coccinellidae is extremely diverse in their habits. They live in all terrestrial ecosystems: tundra, forest, grassland agroecosystems and from the plains to mountains (Skaife, 1979). Coccinellids are also regarded as bioindicators (Iperti & Paoletti, 1999) and provide more general information about the ecosystem in which they occur (Andersen, 1999). Ladybirds are density dependent predators, their numbers rise as the prey numbers increase (Dixon, 2000). The predaceous role of lady beetles benefit from the maintenance of field diversity, which supports the population of prey such as aphids, thrips and mites (Iperti & Paoletti, 1999). The ladybird beetles migrated between various crop fields throughout the season depending upon the availability of prey and habitat disturbance (Maredia *et al.*, 1992).

Iran is located in Palaearctic region and the existence of different and unique habitats for lady beetles, it seems that the Iranian fauna of coccinellidae is more rich and need more attention based on regions and material surveys. Iran is an ecologically diverse country which includes rich agricultural areas, deserts, marshes, rivers and mountain habitats. Because of these specialized geographic and vegetative zones, Javanshir (1976) grouped the Iranian vegetation coverage into five zones, the most important is including the Irano-Touranian floristic zone that encompasses the most extensive area of Iran. In the confluence of these different climatic and geographic zones, a rich faunal assemblage is expected for the country. Unfortunately, there are very few references in the literature as to their distribution and diversity of ladybeetles in Iran. The present work shows the extreme richness of the coccinellid fauna in Iran. In this country the primary biotic and abiotic

conditions for the activity of those species seem to be present. This inventory of coccinellid species in the country will help improve Integrated Pest Management in crops and orchards .

110 species are listed as follows:

Subfamily Chilocorinae Sasaji, 1968

Tribe Chilacorini Costa, 1849

***Brumus* Mulsant ,1850**

1) *B. octosignatus* Gebler, 1830

Iranian records: Azarbaijane sharghi (Farahbakhsh, 1976), Gillan (Hajizadeh *et al.*, 2001), Isfahan (Fatemi, 1983; Haghshenas *et al.*, 2004), Kerman (Kouhpayezadehesfahani & Mosadegh, 1991), Khorasane jonobi (Moadi & Mossadegh, 1995), Khorasane razavi (Yaghmaee & Kharazipakdel, 1995; Kalantari & Sadeghi, 2000), Mazandaran (Ghahari *et al.*, 2004), Qom (Vojdani, 1965; Naeem, 1971), Sistan va baluchistan (Vojdani, 1965; Naeem, 1971) and Tehran (Afshar, 1944; Farahbakhsh, 1961; Naeem, 1971).

Distribution outside Iran: Corsica, East Palaearctic and Near East.

2) *B. undulatus* (Weise, 1878)

Iranian records: Khorasane razavi (Farahi & Sadeghinamghi, 2009) and Lorestan (Jafari & Kamali, 2007).

3) *B. undecempunctata* Linnaeus, 1758

Iranian records: Mazandaran (Ghahari *et al.*, 2004) and Tehran (Afshar, 1944; Farahbakhsh, 1961; Naeem, 1971).

***Chilocorus* Leach ,1815**

1) *C. bipustulatus* (Linnaeus, 1758)

Iranian records: Ardabil, Azarbaijane gharbi (Parvizi *et al.*, 1987), Azarbaijane sharghi (Farahbakhsh, 1976), Bushehr (Vojdani, 1965; Naeem, 1971), Chaharmahal va bakhtiari (Bagheri & Mosadegh, 1995), Fars (Ahmadi & Yazdani, 1993), Gillan (Hajizadeh *et al.*, 2001), Golestan (Montazeri & Mosadegh, 1995), Hamadan, Hormozgan (Vojdani, 1965; Naeem, 1971), Ilam (Vojdani, 1965; Naeem, 1971), Isfahan (Fatemi, 1983; Haghshenas *et al.*, 2004), Kerman (Kouhpayezadehesfahani & Mosadegh, 1991), Kermanshah (Naeem, 1971), Khorasane jonobi (Moadi & Mossadegh, 1995), Khorasane razavi (Yaghmaee & Kharazipakdel, 1995; Kalantari & Sadeghi, 2000; Farahi & Sadeghinamghi, 2009), Khorasane shomali, Khuzestan (Mosadegh & Kocheili, 1993), Kohgiluyeh va boyer-ahmad (Vojdani, 1965), Kurdistan (Vojdani, 1965; Naeem, 1971) , Lorestan (Jafari & Kamali, 2007), Markazi (Ahmadi *et al.*, 2012), Mazandaran (Ghahari *et al.*, 2004), Qazvin (Vojdani, 1965; Naeem, 1971) ,Qom (Vojdani, 1965; Naeem, 1971), Semnan (Vojdani, 1965; Naeem, 1971) ,Sistan va baluchistan (Vojdani, 1965; Naeem, 1971), Tehran (Afshar, 1944; Farahbakhsh, 1961; Naeem, 1971), Yazd (Vojdani, 1965; Naeem, 1971) and Zanjan (Vojdani, 1965) .

Distribution outside Iran: Austria, Belgium, England, Bulgaria, Corsica, Croatia, Czech Republic, Denmark, Turkey, Finland, France, Germany, Greek, Hungary, Italy, Luxembourg, Madeira, Malta, Norway, Poland, Portuguese, Romania, Russia, Sardinia, Slovakia, Slovenia, Spain , Sweden , Switzerland, Ukraine, Yugoslavia former, East Palaearctic and North Africa .

2) *C. stigma*) Say, 1835

Iranian records: Gillan (Hajizadeh *et al.*, 2001), Golestan (Montazeri & Mosadegh 1995) & Mazandaran (Ghahari *et al.*, 2004).

Distribution outside Iran: United States of America.

Exochomus Redtenbacher, 1843**1) *E. flavipes* (Thunberg, 1781)**

Iranian records: Azarbaijane sharghi (Farahbakhsh, 1976), Fars (Ahmadi & Yazdani 1993), Gillan (Hajizadeh *et al.*, 2001), Golestan (Montazeri & Mosadegh, 1995), Isfahan (Fatemi, 1983; Haghshenas *et al.*, 2004), Kerman (Kouhpayezadehesfahani & Mosadegh, 1991), Kermanshah (Farahbakhsh, 1961), Khorasane razavi (Yaghmaee & Kharazipakdel, 1995; Kalantari & Sadeghi, 2000), Lorestan (Jafari & Kamali, 2007), Markazi (Ahmadi *et al.*, 2012), Mazandaran (Ghahari *et al.*, 2004), Sistan va baluchistan (Vojdani, 1965; Naeem, 1971) and Tehran (Afshar, 1944; Farahbakhsh, 1961; Naeem, 1971).

Distribution outside Iran: Nearctic region.

2) *E. gebleri* Weise 1878

Iranian records: Khorasane razavi (Yaghmaee & Kharazipakdel, 1995; Kalantari & Sadeghi, 2000) and Lorestan (Jafari & Kamali, 2007).

3) *E. illaesticollis* Redtenbacher, 1843

Iranian record: Kerman (Yazdani & Ebrahimi, 1993).

4) *E. melanocephalus* Zoubkoff, 1833

Iranian records: Chaharmahaal va bakhtiari (Bagheri & Mosadegh, 1995), Khorasane razavi (Yaghmaee & Kharazipakdel, 1995; Kalantari & Sadeghi 2000) and Lorestan (Jafari & Kamali, 2007).

5) *E. nigripennis* Erichson, 1843

Iranian records: Fars (Ahmadi & Yazdani, 1993), Gillan (Hajizadeh *et al.*, 2001), Golestan (Montazeri & Mosadegh, 1995), Ilam (Vojdani, 1965; Naeem, 1971), Isfahan (Fatemi, 1983; Haghshenas *et al.*, 2004), Kerman (Kouhpayezadehesfahani & Mosadegh, 1991), Khorasane jonobi (Moadi & Mossadegh, 1995), Khorasane razavi (Yaghmaee & Kharazipakdel, 1995; Kalantari & Sadeghi, 2000), Khuzestan (Mosadegh & Kocheili, 1993; Ebrahimzadeh & Mosadegh, 2004), Mazandaran (Ghahari *et al.*, 2004) and Sistan va baluchistan (Vojdani, 1965; Naeem, 1971).

Distribution outside Iran: Canary, Malta, East Palaearctic, Near East and North Africa.

6) *E. nigromaculatus* (Goeze, 1777)

Iranian records: Azarbaijane gharbi (Parvizi *et al.*, 1987), Azarbaijane sharghi (Farahbakhsh, 1976), Chaharmahaal va bakhtiari (Bagheri & Mosadegh, 1995), Fars (Ahmadi & Yazdani, 1993), Ilam (Vojdani, 1965; Naeem, 1971), Gillan (Hajizadeh *et al.*, 2001), Golestan (Montazeri & Mosadegh, 1995), Kerman (Kouhpayezadehesfahani & Mosadegh, 1991), Khorasane jonobi (Moadi & Mossadegh, 1995), Khorasane razavi (Farahi & Sadeghinamghi, 2009; Kalantari & Sadeghi, 2000), Lorestan (Jafari & Kamali, 2007), Mazandaran (Ghahari *et al.*, 2004) and Tehran (Afshar, 1944; Farahbakhsh, 1961; Naeem, 1971).

Distribution outside Iran: Austria, Balearic, Belgium, Bulgaria, Corsica, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greek, Hungary, Italy, Portuguese, Romania, Russia, Slovakia, Spain, Sweden, Switzerland, Netherlands, Ukraine, East Palaearctic and Near East.

7) *E. pubescens* Kuster, 1848

Iranian records: Fars (Ahmadi & Yazdani, 1993), Kerman (Kouhpayezadehesfahani & Mosadegh, 1991), Khorasane jonobi (Moadi & Mossadegh, 1995), Khorasane razavi (Yaghmaee & Kharazipakdel, 1995), Khuzestan (Ebrahimzadeh & Mosadegh, 2004), Lorestan (Jafari & Kamali, 2007), Mazandaran (Ghahari *et al.*, 2004) and Sistan va baluchistan (Vojdani, 1965; Naeem, 1971).

Distribution outside Iran: Spain, Near East and North Africa.

8) *E. quadripustulatus* (Linnaeus, 1758)

Iranian records: Azarbaijane sharghi (Farahbakhsh, 1976), Chaharmahal va bakhtiari (Bagheri & Mosadegh, 1995), Fars (Ahmadi & Yazdani, 1993), Gillan (Hajizadeh *et al.*, 2001), Golestan (Montazeri & Mosadegh, 1995), Ilam (Vojdani, 1965; Naeem, 1971), Isfahan (Fatemi, 1983; Haghshenas *et al.*, 2004), Kerman (Kouhpayezadehesfahani & Mosadegh, 1991), Khorasane razavi (Yaghmaee & Kharazipakdel, 1995; Kalantari & Sadeghi, 2000), Lorestan (Jafari & Kamali, 2007), Mazandaran (Ghahari *et al.*, 2004), Qazvin (Vojdani, 1965; Naeem, 1971), Qom (Vojdani, 1965; Naeem, 1971) and Tehran (Afshar, 1944; Farahbakhsh, 1961; Naeem, 1971).

Distribution outside Iran: England, South africa and United States of America.

9) *E. undulates* Weise, 1878

Iranian records: Chaharmahal va bakhtiari (Bagheri & Mosadegh, 1995), Fars (Ahmadi & Yazdani, 1993), Kerman (Kouhpayezadehesfahani & Mosadegh, 1991), Khorasane jonobi (Moadi & Mossadegh, 1995) and Lorestan (Jafari & Kamali, 2007).

Tribe Platynaspidini Casey, 1899

***Platynaspis* Redtenbacher, 1844**

1) *P. luterubra* (Goeze, 1777)

Iranian records: Fars (Ahmadi & Yazdani, 1993), Kerman (Kouhpayezadehesfahani & Mosadegh, 1991), Khorasane jonobi (Moadi & Mossadegh 1995), Lorestan (Jafari & Kamali, 2007) and Tehran (Afshar, 1944; Farahbakhsh, 1961; Naeem, 1971).

Distribution outside Iran: Austria, Belgium, England, Corsica, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greek, Hungary, Italy, Malta, Netherlands, Norway, Poland, Romania, Russia North, Sardinia, Slovakia, Sweden, Switzerland, East Palaearctic and North Africa.

Subfamily Coccidulinae Sasaji, 1968

Tribe Coccidulini Costa, 1849

***Rhyzobius* Stephens, 1829**

1) *R. lophantes* (Blaisdell, 1829)

Iranian records: Gillan, Golestan and Mazandaran (Behdad, 1988).

Distribution outside Iran: France, Greek, Italy, Madeira, Malta, Sardinia, Spain, Afrotropicalregion, Australianregion, NearEast, Neotropical region and North Africa.

Tribe Noviini Ganglbauer, 1899

***Rodolia* Mulsant, 1850**

1) *R. Cardinalis* (Mulsant, 1850)

Iranian records: Gillan (Hajizadeh *et al.*, 2001) and Golestan (Montazeri & Mosadegh, 1995).

Distribution outside Iran: Corsica, Crete, Cyprus, France, Greek, Italy, Madeira, Malta, Portuguese, Sardinia, Spain, Switzerland, Turkey, Ukraine, Afro-tropical region, Australian region, East Palaearctic, Near East, North Africa and Oriental region.

2) *R. fausti* Wiese, 1878

Iranian record: Khorasane razavi (Yaghmaee & Kharazipakdel, 1995; Kalantari & Sadeghi, 2000).

Subfamily Coccinellinae Ganglbauer, 1899**Tribe Bulaeini*****Bulaea* Mulsant ,1850****1) *B. lichatschovii* Hummel, 1827**

Iranian records: Azarbaijane gharbi (Parvizi *et al.*, 1987), Azarbaijane sharghi (Farahbakhsh, 1976), Ardabil, Bushehr (Vojdani, 1965; Naeem, 1971) ,Fars (Ahmadi & Yazdani, 1993), Hormozgan (Vojdani, 1965; Naeem, 1971) ,Ilam (Vojdani, 1965; Naeem, 1971), Isfahan (Fatemi, 1983; Haghshenas *et al.*, 2004), Kerman (Kouhpayezadehesfahani & Mosadegh, 1991), Khorasane jonobi (Moadi & Mossadegh, 1995), Khorasane razavi (Yaghmaee & Kharazipakdel, 1995; Kalantari & Sadeghi, 2000) ,Khorasane shomali, Markazi (Ahmadi *et al.*, 2012) ,Sistan va baluchistan (Vojdani, 1965; Naeem, 1971) and Tehran (Afshar, 1944; Farahbakhsh, 1961; Naeem, 1971).

Distribution outside Iran: Bulgaria, Croatia, Greek, Hungary, Italy, Macedonia, Romania, Russia, Spain, Ukraine, Afro-tropical region, East Palaearctic and North Africa.

Tribe Coccinellini Weise, 1885***Adalia* Mulsant ,1846****1) *A. bipunctata* (Linnaeus, 1758)**

Iranian records: Ardabil, Azarbaijane sharghi (Farahbakhsh, 1976), Gillan, Golestan (Montazeri & Mosadegh, 1995), Isfahan (Fatemi, 1983; Haghshenas *et al.*, 2004), Kerman (Kouhpayezadehesfahani & Mosadegh, 1991), Kerman (Kouhpayezadehesfahani & Mosadegh, 1991) Kermanshah, Khorasane jonobi (Moadi & Mossadegh, 1995) Khorasane razavi (Yaghmaee & Kharazipakdel, 1995; Kalantari & Sadeghi, 2000), Khuzestan (Mosadegh & Kocheili, 1993; Ebrahimzadeh & Mosadegh, 2004), Lorestan (Jafari & Kamali, 2007), Markazi (Ahmadi *et al.*, 2012), Mazandaran (Ghahari *et al.*, 2004) and Tehran (Afshar, 1944; Farahbakhsh, 1961; Naeem, 1971).

Distribution outside Iran: Albania, Andorra, Austria, Balearic, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Corsica, Croatia, Cyprus, Czech Republic, Denmark, England, Estonia, Finland, France, Germany, Greek, Hungary, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Maderia, Malta, Netherlands, Norway, Poland, Portuguese, Romania, Russia, Sardinia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine, Yugoslavia former, Afro-tropical region, Australian region, East Palaearctic, Near East, Nearctic region, Neotropical region, North Africa and Oriental region.

2) *A. decempunctata* (Linnaeus, 1758)

Iranian records: Fars (Ahmadi & Yazdani, 1993), Gillan, Golestan (Montazeri & Mosadegh, 1995), Ilam (Vojdani, 1965; Naeem, 1971), Isfahan (Fatemi, 1983; Haghshenas *et al.*, 2004), Khorasane jonobi (Moadi & Mossadegh, 1995), Khorasane razavi (Yaghmaee & Kharazipakdel, 1995; Kalantari & Sadeghi, 2000), Lorestan (Jafari & Kamali, 2007), Markazi (Ahmadi *et al.*, 2012), Mazandaran (Ghahari *et al.*, 2004) , Tehran (Afshar, 1944; Farahbakhsh, 1961; Naeem, 1971) and Yazd (Vojdani, 1965; Naeem, 1971).

Distribution outside Iran: Albania, Andorra, Austria, Balearic, Belgium, Bosnia and Herzegovina, Bulgaria, Corsica, Croatia, Czech Republic, Denmark, England, Estonia, Finland, France, Germany, Greek, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Maderia, Malta , Netherlands, Norway, Poland, Portuguese, Romania, Russia, Sardinia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine, Yugoslavia former, Near East and North Africa.

3) *A. fasciatopunctata* Mulsant, 1866

Iranian records: Azarbaijane gharbi (Parvizi *et al.*, 1987), Azarbaijane sharghi (Farahbakhsh, 1976), Isfahan (Fatemi, 1983; Haghshenas *et al.*, 2004), Kerman (Kouhpayezadehesfahani & Mosadegh, 1991) Kermanshah, Kurdistan (Vojdani, 1965; Naeem, 1971), Mazandaran (Ghahari *et al.*, 2004), Qom (Vojdani, 1965; Naeem, 1971), Tehran (Afshar, 1944; Farahbakhsh, 1961; Naeem, 1971) and Yazd (Vojdani, 1965; Naeem, 1971).

4) *A. tetraspilota* Hoppe, 1831

Iranian record: Khorasane razavi (Yaghmaee & Kharazipakdel 1995; Kalantari & Sadeghi, 2000).

***Anistostica* Dejan ,1837**

1) *A. bitriangularis* Say, 1835

Iranian record: Khorasane razavi (Yaghmaee & Kharazipakdel, 1995).

2) *A. novemdecimpunctata* Linnaeus, 1758

Iranian record: Tehran (Vojdani, 1965).

***Aphidecta* Weise, 1899**

1) *A. obliterata* (Linnaeus, 1758)

Iranian record: Lorestan (Jafari & Kamali, 2007).

Distribution outside Iran: Austria, Belgium, Bosnia and Herzegovina, England, Bulgaria, Croatia, Czech Republic, Denmark, Finland, France, Germany, Hungary, Ireland, Italy, Kaliningrad Region, Luxembourg, Netherlands, Norway, Poland, Romania, Russia, Slovakia, Slovenia, Spain, Sweden, Switzerland and Near East.

***Calvia* Mulsant ,1846**

1) *C. decemguttata* Linnaeus, 1758

Iranian records: Khorasane razavi (Yaghmaee & Kharazipakdel, 1995; Kalantari & Sadeghi, 2000) and Lorestan (Jafari & Kamali, 2007).

Distribution outside Iran: Austria, Belgium, Bosnia and Herzegovina, Czech Republic, France, Germany, Hungary, Italy, Luxembourg, Poland, Romania, Slovakia, Spain, Sweden, Switzerland, Netherlands, Ukraine, East Palaearctic and Oriental region.

2) *C. quatuordecimguttata* Linnaeus, 1758

Iranian record: Kerman (Kouhpayezadehesfahani & Mosadegh, 1991).

Distribution outside Iran :Albania ,Austria ,Balearic ,Belgium ,Bosnia and Herzegovina , England, Bulgaria, Corsica, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greek, Hungary, Italy, Kaliningrad Region, Latvia, Liechtenstein, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portuguese, Romania, Russia, Sardinia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Yugoslavia former, East Palaearctic and Nearctic region.

***Cheilomenes* Dejean ,1836**

1) *C. Sexmaculata* (Fabricius, 1781)

Iranian records: Hormozgan (Vojdani, 1965; Naeem, 1971), Sistan va baluchistan (Vojdani, 1965; Naeem, 1971) and Tehran (Afshar, 1944; Farahbakhsh, 1961; Naeem, 1971).

Distribution outside Iran: India, Taiwan.

Coccinella* Linnaeus, 1758*1) *C. bimaculata***

Iranian record: Fars (Askari, 1986).

2) *C. hieroglyphica* (Linnaeus, 1758)

Iranian record: Mazandaran (Ghahari *et al.*, 2004).

Distribution outside Iran: Austria, Belarus, Belgium, England, Bulgaria, Czech Republic, Denmark, Finland, France, Germany, Hungary, Italy, Luxembourg, Netherlands, Norway, Poland, Romania, Russia, Slovakia, Spain, Sweden, Switzerland, Ukraine, East Palaearctic and Nearctic region.

3) *C. iranica* Dobzhnsky, 1926

Iranian records: Mazandaran (Ghahari *et al.*, 2004) and Tehran (Afshar, 1944; Farahbakhsh, 1961; Naeem, 1971).

4) *C. Magnifica* (Redtenbacher)

Iranian record: Mazandaran (Ghahari *et al.*, 2004).

Distribution outside Iran: Austria, Belgium, England, Bulgaria, Corsica, Czech Republic, Denmark, Finland, France, Germany, Hungary, Italy, Luxembourg, Netherlands, Norway, Poland, Romania, Russia, Slovakia, Spain, Sweden, Switzerland, East Palaearctic and North Africa.

5) *C. magnopunctata* Rybakow

Iranian record: Khorasane razavi (Farahi & Sadeghinamghi, 2009).

6) *C. novemnotata* Herbst, 1793

Iranian record: Khuzestan (Ebrahimzadeh & Mosadegh, 2004).

Distribution outside Iran: Mexico and United States of America.

7) *C. qudrimaculata* Linnaeus, 1758

Iranian records: Fars (Ahmadi & Yazdani, 1993) and Tehran (Afshar, 1944; Farahbakhsh, 1961; Naeem, 1971).

8) *C. redimata* Weise, 1885

Iranian record: Chaharmahaal va bakhtiari (Bagheri & Mosadegh, 1995).

9) *C. septempunctata* Linnaeus, 1758

Iranian records: Ardabil, Azarbaijane gharbi (Parvizi *et al.*, 1987), Azarbaijane sharghi (Farahbakhsh, 1976), Bushehr (Vojdani, 1965; Naeem, 1971), Chaharmahaal va bakhtiari (Bagheri & Mosadegh, 1995), Fars (Ahmadi & Yazdani, 1993), Gillan (Hajizadeh *et al.*, 2001), Golestan (Montazeri & Mosadegh, 1995), Hamadan, Hormozgan (Vojdani, 1965; Naeem, 1971), Ilam (Vojdani, 1965; Naeem, 1971), Isfahan (Fatemi, 1983; Haghshenas *et al.*, 2004), Kerman (Kouhpayezadehesfahani & Mosadegh, 1991), Khorasane jonobi (Moadi & Mossadegh, 1995), Khorasane razavi (Yaghmaee & Kharazipakdel, 1995; Kalantari & Sadeghi, 2000), Khorasane shomali, Khuzestan (Asadeh & Mosadegh, 1991; Ebrahimzadeh & Mosadegh, 2004), Kohgiluyeh va boyer-ahmad, Kurdistan (Vojdani, 1965; Naeem, 1971), Lorestan (Jafari & Kamali 2007), Markazi (Ahmadi *et al.*, 2012), Mazandaran (Ghahari *et al.*, 2004), Qazvin (Vojdani, 1965; Naeem, 1971), Qom (Vojdani, 1965; Naeem, 1971), Semnan (Vojdani, 1965; Naeem, 1971), Sistan va baluchistan (Vojdani, 1965; Naeem, 1971), Tehran (Afshar, 1944; Farahbakhsh, 1961; Naeem, 1971), Yazd and Zanjan (Vojdani, 1965; Naeem, 1971).

Distribution outside Iran: Albania, Andorra, Austria, Azores, Balearic, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Corsica, Croatia, Cyprus, Czech Republic, Denmark, England, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Maderia, Malta, Netherlands, Norway, Poland, Portuguese, Romania,

Russia, Sardinia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine, Yugoslavia former, Afro-tropical region, East Palaearctic, Near East, Nearctic region and Oriental region.

10) *C. sinuatomarginata* Faldermann, 1837

Iranian record: Tehran (Vojdani, 1965; Naeem, 1971)

11) *C. undecimpunctata* Linnaeus, 1758

Iranian records: Azarbaijane sharghi (Farahbakhsh, 1976), Fars (Ahmadi & Yazdani, 1993), Gillan (Hajizadeh *et al.*, 2001), Golestan (Montazeri & Mosadegh, 1995), Hamadan, Ilam (Vojdani, 1965; Naeem, 1971), Isfahan (Fatemi, 1983; Haghshenas *et al.*, 2004), Kerman (Kouhpayezadehesfahani & Mosadegh, 1991), Kerman (Kouhpayezadehesfahani & Mosadegh, 1991) Kermanshah, Khorasane jonobi (Moadi & Mossadegh, 1995), Khorasane razavi (Yaghmaee & Kharazipakdel, 1995; Kalantari & Sadeghi, 2000) Khuzestan (Asadeh & Mosadegh, 1991; Ebrahimzadeh & Mosadegh, 2004), Kurdistan (Vojdani, 1965; Naeem, 1971), Lorestan (Ansaripour & Shakarami, 2011), Markazi (Ahmadi *et al.*, 2012), Mazandaran (Ghahari *et al.*, 2004) ,Semnan (Vojdani, 1965; Naeem, 1971), Sistan va baluchistan (Vojdani, 1965; Naeem, 1971) ,Tehran (Afshar, 1944; Farahbakhsh, 1961; Naeem, 1971), Yazd (Vojdani, 1965; Naeem, 1971) and Zanjan (Vojdani, 1965; Naeem, 1971).

Distribution outside Iran: Austria, Azores, Balearic, Belgium, England, Bulgaria, Corsica, Czech Republic, Denmark, Finland, France, Germany, Greek, Hungary, Italy, Luxembourg, Norway, Poland, Portuguese, Sardinia, Slovakia, Spain, Sweden and Netherlands.

***Coccinulla* Dobzhansky, 1925**

1) *C. elegantul* Weise, 1855

Iranian record: Khorasane razavi (Yaghmaee & Kharazipakdel, 1995).

2) *C. redimita* Weise, 1855

Iranian record: Tehran (Afshar, 1944; Farahbakhsh, 1961; Naeem, 1971).

***Hippodamia* (Mulsant ,1846)**

1) *H. sinuata* Mulsant, 1850

Iranian record: Fars (Naeem, 1971).

2) *H. tredecimpunctata* Linnaeus, 1758

Iranian records: Azarbaijane gharbi (Parvizi *et al.*, 1987), Chaharmahaal va bakhtiari (Bagheri & Mosadegh, 1995), Fars (Ahmadi & Yazdani, 1993), Gillan (Hajizadeh *et al.*, 2001), Isfahan (Fatemi, 1983; Haghshenas *et al.*, 2004) and Mazandaran (Behdad, 1988).

Distribution outside Iran: Austria, Balearic, Belgium, Bosnia and Herzegovina, England, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, Germany, Greek, Hungary, Italy, Kaliningrad Region, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Romania, Russia, Slovakia Spain, Sweden, Switzerland, Ukraine, EastPalaearctic, NearEast and North Africa.

3) *H. variegata* (Goeze, 1777)

Iranian records: Chaharmahaal va bakhtiari (Bagheri & Mosadegh, 1995), Fars (Ahmadi & Yazdani, 1993), Golestan (Montazeri & Mosadegh, 1995), Kerman (Kouhpayezadehesfahani & Mosadegh, 1991), Khorasane razavi (Yaghmaee & Kharazipakdel, 1995; Kalantari & Sadeghi, 2000), Lorestan (Jafari & Kamali, 2007) and Mazandaran (Ghahari *et al.*, 2004)

Distribution outside Iran :Albania, Andorra ,Austria ,Azores, Balearic, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Corsica, Croatia, Cyprus, Czech Republic, Denmark, England, Estonia, Finland, France, Germany, Greek, Hungary, Ireland, Italy, Latvia, Liechtenstein,

Lithuania, Luxembourg, Macedonia, Maderia, Malta, Netherlands, Norway, Poland, Portuguese, Romania, Russia, Sardinia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, Yugoslavia former, East Palaearctic, Near East, North africa and Oriental region.

***Menochilus* Timberlake, 1943**

1) *M. sexmaculatus* (Fabricius, 1781)

Iranian records: Sistan va baluchistan (Vojdani, 1965; Naeem, 1971) and Tehran (Afshar, 1944; Farahbakhsh, 1961; Naeem, 1971).

***Oenopia* Mulsant, 1850**

1) *O. conglobata* (Linnaeus, 1758)

Iranian records: Azarbaijane ghargbi, Azarbaijane sharghi (Farahbakhsh, 1976), Chaharmahaal va bakhtiari (Bagheri & Mosadegh, 1995), Fars (Ahmadi & Yazdani, 1993), Gillan (Hajizadeh *et al.*, 2001), Golestan (Montazeri & Mosadegh, 1995), Hamadan, Isfahan (Fatemi, 1983; Haghshenas *et al.*, 2004), Kerman (Kouhpayezadehesfahani & Mosadegh, 1991), Khorasane jonobi (Moadi & Mossadegh, 1995), Khorasane razavi (Yaghmaee & Kharazipakdel, 1995; Kalantari & Sadeghi, 2000), Khuzestan (Asadeh & Mosadegh, 1991; Ebrahimzadeh & Mosadegh, 2004), Lorestan (Jafari & Kamali 2007), Mazandaran (Ghahari *et al.*, 2004), Qom (Vojdani, 1965; Naeem, 1971), Tehran (Afshar, 1944; Farahbakhsh, 1961; Naeem, 1971) and Yazd (Vojdani, 1965 ;Naeem, 1971).

Distribution outside Iran: Austria, Balearic, Belgium, Bulgaria, Corsica, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greek, Hungary, Italy, Luxembourg, Netherlands, Poland, Portuguese, Romania, Russia, Sardinia, Slovakia, Spain, Sweden, Switzerland, East Palaearctic, NearEast and North Africa.

2) *O. oncina* (Olivier, 1808)

Iranian records: Chaharmahaal va bakhtiari (Bagheri & Mosadegh, 1995), Fars (Alemansoor & Ahmadi, 1993), Golestan (Montazeri & Mosadegh, 1995), Khorasane jonobi (Moadi & Mossadegh, 1995), Khorasane razavi (Yaghmaee & Kharazipakdel, 1995; Kalantari & Sadeghi, 2000), Lorestan (Jafari & Kamali 2007) and Mazandaran (Ghahari *et al.*, 2004).

Distribution outside Iran: Bulgaria.

***Olla* Velen**

1) *O. v-ingrum* (Mulsant, 1866)

Iranian records: Isfahan, Fars, Kermanshah and Lorestan (Naeem, 1971).

***Propylea* Mulsant, 1846**

1) *P. quatuordecimpunctata* (Linnaeus, 1758)

Iranian records: Ardabil ,Chaharmahaal va bakhtiari (Bagheri & Mosadegh, 1995), Gillan (Hajizadeh *et al.*, 2001), Golestan (Montazeri & Mosadegh, 1995), Isfahan (Fatemi, 1983; Haghshenas *et al.*, 2004), Khorasane razavi (Yaghmaee & Kharazipakdel, 1995; Kalantari & Sadeghi, 2000), Khuzestan (Asadeh & Mosadegh, 1991; Ebrahimzadeh & Mosadegh, 2004), Lorestan (Jafari & Kamali, 2007), Mazandaran (Ghahari *et al.*, 2004), Semnan (Vojdani, 1965; Naeem, 1971) and Tehran (Gardenhire, 1959).

Distribution outside Iran: Austria, Balearic, Belarus, Belgium, England, Bulgaria, Corsica, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portuguese, Romania, Russia, Sardinia, Slovakia, Spain, Sweden, Switzerland, Ukraine, Yugoslavia former, East Palaearctic, NearEast and North Africa.

Tribe Psylloborini Casey, 1899

Halyzia Mulsant, 1846

1) *H. sedecimgutata* (Linnaeus, 1758)

Iranian records: Gillan and Mazandaran (Behdad, 1988; Ghahari *et al.*, 2004).

Distribution outside Iran: Austria, Belgium, England, Bulgaria, Corsica, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Italy, Kaliningrad Region, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Portuguese, Romania, Russia, Sardinia, Slovakia, Spain, Sweden, Switzerland, and Near east.

Psyllobora Dejean, 1836

1) *P. bisoetonotata* (Mulsant, 1850)

Iranian records: Fars (Ahmadi & Yazdani, 1993; Vojdani, 1965; Naeem, 1971) and Hormozgan (Vojdani, 1965; Naeem, 1971).

2) *P. vigintiduopunctata* (Linnaeus, 1758).

Iranian records: Azarbaijane gharbi (Parvizi *et al.*, 1987), Azarbaijane sharghi (Farahbakhsh, 1976), Chaharmahaal va bakhtiari (Bagheri & Mosadegh 1995), Fars (Ahmadi & Yazdani, 1993), Gillan (Hajzadeh *et al.*, 2001), Golestan (Montazeri & Mosadegh, 1995), Isfahan (Fatemi, 1983 ; Haghshenas *et al.*, 2004), Khorasane jonobi (Moadi & Mossadegh, 1995), Khorasane razavi (Yaghmaee & Kharazipakdel, 1995; Kalantari and Sadeghi, 2000), Lorestan (Jafari Kamali, 2007), Mazandaran (Farahbakhsh, 1961; Ghahari *et al.*, 2004) and Tehran (Afshar, 1944; Farahbakhsh, 1961; Naeem, 1971).

Distribution outside Iran: Austria, Balearic, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Corsica, Croatia, Czech Republic, Denmark, England, Estonia, France, Germany, Greek, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Macedonia, Malta, Netherlands, Norway, Poland, Portuguese, Romania, Russia, Sardinia, Slovakia, Spain, Sweden, Switzerland, Ukraine and Yugoslavia former.

Vibidia Mulsant, 1846

1) *V. duodecimguttata* (Poda, 1761)

Iranian records: Azarbaijane gharbi (Parvizi *et al.*, 1987) and Gillan (Farahbakhsh, 1961).

Distribution outside Iran: Austria, Belgium, Bosnia and Herzegovina, England, Canary, Corsica, Croatia, Czech Republic, Denmark, France, Germany, Greek, Italy, Lithuania, Luxembourg, Macedonia, Netherlands, Portuguese, Romania, Russia, Sardinia, Slovakia, Spain, Sweden, Switzerland, Ukraine, East Palaearctic and Near East.

Tribe Tytthaspidini

Tytthaspis Croth, 1847

1) *T. sedecimpunctata* (Linnaeus, 1761)

Iranian record: Fars (Mohamadzadehfard & Falahzadeh, 2009).

Distribution outside Iran: Austria, Belgium, England, Bulgaria, Corsica, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greek, Hungary, Ireland, Italy, Kaliningrad Region, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portuguese, Romania, Russia, Sardinia, Slovakia, Spain, Sweden, Switzerland, Yugoslavia former, East Palaearctic, Near East and North Africa.

Subfamily Epilachninae Ganglbauer, 1899**Tribe Epilachnini Costa, 1849*****Epilachna* Dejean, 1837****1) *E. argus* Geoffroy, 1762**

Iranian record: Kerman (Kouhpayezadehesfahani & Mosadegh 1991), Ilam, Kermanshah (Naeem, 1971).

2) *E. chrysomelina*

Iranian records: Azarbaijane sharghi (Farahbakhsh, 1976), Bushehr (Vojdani, 1965; Naeem, 1971), Fars (Ahmadi & Yazdani, 1993), Gillan (Hajizadeh *et al.*, 2001), Golestan (Montazeri & Mosadegh, 1995), Hamadan (Khanjani, 2005), Hormozgan (Vojdani, 1965; Naeem, 1971), Ilam (Vojdani, 1965; Naeem, 1971), Isfahan (Fatemi, 1983; Haghshenas *et al.*, 2004), Kerman (Kouhpayezadehesfahani & Mosadegh, 1991), Kermanshah, Khorasane jonobi (Moadi & Mossadegh, 1995), Khorasane razavi (Yaghmaee & Kharazipakdel, 1995; Kalantari & Sadeghi, 2000), Khuzestan (Asadeh & Mosadegh, 1991; Ebrahimzadeh & Mosadegh, 2004), Lorestan (Jafari & Kamali, 2007), Markazi (Ahmadi *et al.*, 2012), Mazandaran (Ghahari *et al.*, 2004), Semnan (Vojdani, 1965; Naeem, 1971), Sistan va baluchistan (Vojdani, 1965; Naeem, 1971) and Tehran (Afshar, 1944; Farahbakhsh, 1961; Naeem, 1971).

3) *E. elaterii* (Rossi, 1794)

Iranian record: Khorasane razavi (Yaghmaee & Kharazipakdel 1995).

Subfamily Scymninae Della & Beffa, 1912**Tribe Hyperaspidini Costa, 1849*****Hyperaspis* Redtenbacher, 1844****1) *H. asiatica* Lewis**

Iranian record: Tehran (Vojdani, 1965)

2) *H. concolor* (Suffrian, 1843)

Iranian record: Chaharmahaal va bakhtiari (Bagheri and Mosadegh, 1995).

Distribution outside Iran: Austria, Croatia, Czech Republic, France, Germany, Greek, Hungary, Italy, Portuguese, Romania, Sardinia, Slovakia and Spain.

3) *H. duvergeri* Fursch, 1985

Iranian record: Chaharmahaal va bakhtiari (Bagheri & Mosadegh, 1995).

Distribution outside Iran: Croatia, France, Hungary, Italy, Portuguese, Spain and North Africa.

4) *H. femorata* (Motscholsky, 1837)

Iranian record: Tehran (Afshar, 1944; Farahbakhsh, 1961; Naeem, 1971).

Distribution outside Iran: Bulgaria, Russia, Ukraine and East Palaearctic.

5) *H. marmottani* Fairmaire, 1868

Iranian record: Khorasane razavi (Yaghmaee & Kharazipakdel, 1995).

6) *H. persica* Duverger

Iranian records: Khorasane jonobi and Khorasane razavi (Moadi & Mossadegh, 1995).

7) *H. polita* Weise, 1885

Iranian records: Golestan (Montazeri & Mosadegh 1995), Kerman (Kouhpayezadehesfahani & Mosadegh, 1991), Khorasane jonobi (Moadi & Mossadegh, 1995), Khorasane razavi, Khuzestan (Asadeh & Mosadegh 1991) and Mazandaran (Ghahari *et al.*, 2004).

8) *H. pumila* Mulsant

Iranian record: Tehran (Naeem, 1971).

9) *H. quadrimaculata* Red .

Iranian record : Lorestan (Ansari pour 2012).

10) *H. syriaco* Weise, 1885

Iranian records: Chaharmahal va bakhtiari (Bagheri & Mosadegh 1995).

Tribe Scymnini Costa, 1849

***Clitostethus* Weise, 1885**

1) *C. arcuatus* (Rossi, 1794)

Iranian records: Chaharmahal va bakhtiari (Bagheri & Mosadegh, 1995), Fars (Ahmadi & Yazdani, 1993), Gillan, Golestan (Montazeri & Mosadegh, 1995), Kerman (Kouhpayezadehesfahani & Mosadegh 1991), Khorasane jonobi (Moadi & Mossadegh, 1995) and Mazandaran (Ghahari *et al.*, 2004).

Distribution outside Iran: Austria, Belgium, Bosnia and Herzegovina, England, Bulgaria, Corsica, Croatia, Czech Republic, France, Germany, Greek, Italy, Luxembourg, Maderia, Malta, Netherlands, Poland, Portuguese, Sardinia, Slovakia, Spain, Switzerland and North Africa.

***Cryptolaemus* Mulsant, 1853**

1) *C. montrouzieri* Mulsant, 1853

Iranian records: Fars (Khalaf & Aberoumand, 1989), Gillan (Hajizadeh *et al.*, 2001) ,Golestan (Montazeri & Mosadegh, 1995), Lorestan (Ansari pour & Shakarami, 2011) and Mazandaran (Behdad, 1988; Ghahari *et al.*, 2004).

Distribution outside Iran: France, Italy, Sardinia, Spain and Australian region.

***Diomus* Mulsant, 1850**

1) *D. rubidus* Motscholsky, 1837

Iranian record: Kerman (Kouhpayezadehesfahani & Mosadegh, 1991).

Distribution outside Iran: France, Greek, Italy, Spain, East Palaearctic and Near East

***Nephus* Mulsant, 1846**

1) *N. biguttatus* Mulsant, 1853

Iranian records: Golestan (Montazeri & Mosadegh, 1995), Khorasane jonobi (Moadi & Mossadegh, 1995) and Mazandaran (Ghahari *et al.*, 2004).

2) *N. bipunctatus* (Kugelann, 1794)

Iranian records: Fars (Ahmadi & Yazdani, 1993), Gillan, Kerman (Kouhpayezadehesfahani & Mosadegh, 1991) and Mazandaran (Ghahari *et al.*, 2004).

Distribution outside Iran: Austria, Belgium, Bulgaria, Corsica, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greek, Luxembourg, Malta, Netherlands, Norway, Romania, Slovakia, Spain, Sweden, Near East and North Africa.

3) *N. bisignatus* Fursch, 1965

Iranian record: Khorasane razavi (Yaghmaee & Kharazipakdel, 1995).

Distribution outside Iran: Austria, Belgium, England, Croatia, Denmark, Finland, France, Germany, Italy, Luxembourg, Netherlands, Norway, Poland, Sardinia, Spain, Sweden and North Africa.

4) *N. caucasicus* Weise, 1929

Iranian record: Tehran (Afshar, 1944; Farahbakhsh, 1961; Naeem, 1971).

5) *N. hiekei* Fursch, 1987

Iranian record: Fars (Falahzade, 2003).

6) *N. includens* Korschefsky, 1931

Iranian record: Khuzestan (Asadeh & Mosadegh, 1991; Ebrahimzadeh & Mosadegh, 2004).

Distribution outside Iran: Italy, Netherlands and North Africa.

Scymnus* Kugelann, 1794*1) *S. apetzi* Mulsant, 1846**

Iranian records: Azarbaijane gharbi (Parvizi *et al.*, 1987), Chaharmahaal va bakhtiari (Bagheri & Mosadegh, 1995), Fars (Ahmadi & Yazdani 1993), Gillan (Hajizadeh *et al.*, 2001), Golestan (Montazeri & Mosadegh, 1995), Khorasane razavi (Yaghmaee & Kharazipakdel 1995; Kalantari and Sadeghi, 2000) , Lorestan (Jafari & Kamali, 2007), Mazandaran (Ghahari *et al.*, 2004) and Tehran (Afshar, 1944; Farahbakhsh, 1961; Naeem, 1971).

Distribution outside Iran: Albania, Bulgaria, Corsica ,Croatia, Cyprus, Czech Republic, France, Germany, Greek, Hungary, Italy, Malta, Portuguese, Sardinia, Slovakia, Spain, East Palaearctic, Near East and North Africa.

2) *S. apetzoides* Capra et Fursch, 1927

Iranian records: Lorestan (Jafari & Kamali, 2007) and Tehran (Afshar, 1944; Farahbakhsh ,1961; Naeem, 1971).

Distribution outside Iran: Albania, Austria, Belgium, Bulgaria, Corsica, Cyprus, France, Germany, Italy, Poland, Slovakia, Slovenia, Spain and Near East .

3) *S. arabicus* Fursch, 1989

Iranian records: Fars (Ahmadi & Yazdani, 1993), and Lorestan (Jafari & Kamali, 2007).

4) *S. araraticus* Khnzorian, 1969

Iranian records: Chaharmahaal va bakhtiari (Bagheri & Mosadegh, 1995) and Kerman (Kouhpayezadehesfahani & Mosadegh, 1991).

Distribution outside Iran: France, Italy and Sardinia.

5) *S. argutus* Mulsant, 1850

Iranian record: Kerman (Kouhpayezadehesfahani & Mosadegh, 1991).

6) *S. auritus* (Thunberg, 1781)

Iranian records: Chaharmahaal va bakhtiari (Bagheri & Mosadegh, 1995), Fars (Ahmadi & Yazdani, 1993) and Gillan (Hajizadeh *et al.*, 2001).

Distribution outside Iran: Austria, Belgium, Bulgaria, Corsica, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greek, Hungary, Italy, Luxembourg, Malta, Netherlands, Norway, Poland, Portuguese, Romania, Sardinia, Slovakia, Spain, Sweden, Switzerland, East Palaearctic and Near East.

7) *S. bimaculatus*

Iranian records: Gillan (Hajizadeh *et al.*, 2001), Golestan (Montazeri & Mosadegh, 1995) and Mazandaran (Ghahari *et al.*, 2004).

8) *S. bisignatus* Fursch, 1989

Iranian record: Tehran (Afshar, 1944; Farahbakhsh, 1961; Naeem, 1971).

9) *S. flavicollis* Redtenbacher, 1843

Iranian records: Chaharmahal va Bakhtiari (Bagheri & Mosadegh, 1995), Fars (Ahmadi & Yazdani, 1993), Gillan (Hajizadeh et al., 2001), Isfahan (Fatemi, 1983; Haghshenas et al., 2004), Khorasane Razavi (Yaghmaee & Kharazipakdel, 1995; Kalantari & Sadeghi, 2000), Lorestan (Ansari-pour & Shakarami, 2011) and Mazandaran (Ghahari et al., 2004).

Distribution outside Iran: Cyprus and Near East.

10) *S. frontalis* Fabricius, 1787

Iranian records: Azarbaijane Gharbi (Parvizi et al., 1987), Isfahan (Fatemi, 1983; Haghshenas et al., 2004), Khorasane Razavi (Yaghmaee & Kharazipakdel, 1995; Kalantari & Sadeghi, 2000), Lorestan (Jafari & Kamali, 2007) and Tehran (Afshar, 1944; Farahbakhsh, 1961; Naeem, 1971).

Distribution outside Iran: Austria, Belgium, Corsica, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Italy, Netherlands, Norway, Poland, Portuguese, Romania, Russia, Slovakia, Spain, Sweden, Switzerland, Ukraine, East Palaearctic and Near East.

11) *S. impexus* Mulsant, 1850

Iranian record: Azarbaijane Gharbi (Parvizi et al., 1987)

Distribution outside Iran: Belgium, Corsica, Czech Republic, France, Germany, Greece, Italy, Poland, Romania, Slovakia, Spain, Sweden, Switzerland and North Africa.

12) *S. indrihensis* Weise, 1929

Iranian record: Khorasane Jonubi (Moadi & Mossadegh, 1995).

Distribution outside Iran: Italy, East Palaearctic and Near East.

13) *S. levillantii* Mulsant, 1850

Iranian records: Fars (Ahmadi & Yazdani, 1993), Kerman (Kouhpayezadehesfahani & Mosadegh, 1991), Khorasane Razavi (Yaghmaee & Kharazipakdel, 1995; Kalantari & Sadeghi, 2000), Khuzestan (Asadeh & Mosadegh, 1991; Ebrahimzadeh & Mosadegh, 2004) and Mazandaran (Ghahari et al., 2004).

14) *S. marginalis* Mannerheim, 1843

Iranian records: Gillan, Golestan and Mazandaran (Behdad, 1988).

Distribution outside Iran: Corsica, France, Italy, Malta, Sardinia, Spain and North Africa.

15) *S. mediterraneus* Iablokoff-Khnzorian, 1977

Iranian record: Lorestan (Jafari & Kamali, 2007).

Distribution outside Iran: Bulgaria, Corsica, Croatia, France, Italy, Maderia, Malta, Portuguese, Romania, Sardinia, Slovakia, Spain, Ukraine, Near East and North Africa.

16) *S. mongolicus* Weise, 1855

Iranian records: Kerman (Kouhpayezadehesfahani & Mosadegh, 1991), Khorasane Jonubi (Moadi & Mossadegh, 1995) and Khuzestan (Asadeh & Mosadegh, 1991; Ebrahimzadeh & Mosadegh, 2004).

Distribution outside Iran: Austria, Belgium, Bosnia and Herzegovina, England, Bulgaria, Corsica, Croatia, Czech Republic, France, Germany, Greece, Italy, Luxembourg, Maderia, Malta, Netherlands, Poland, Portuguese, Sardinia, Slovakia, Spain, Switzerland and North Africa.

17) *S. nigrinus* Kugellan, 1794

Iranian record : Isfahan (Fatemi, 1983).

Distribution outside Iran: Austria, Belgium, England, Bulgaria, Corsica, Czech Republic, Denmark, Finland, France, Germany, Greek, Hungary, Italy, Luxembourg, Norway, Poland, Russia, Slovakia, Spain, Sweden and Switzerland.

18) *S. pallipediformis* Gunther, 1958

Iranian records: Isfahan (Fatemi, 1983; Haghshenas *et al.*, 2004), Khorasane razavi (Yaghmaee & Kharazipakdel, 1995; Kalantari & Sadeghi, 2000) and Lorestan (Jafari & Kamali, 2007).

Distribution outside Iran: Albania, Austria, Belgium, Bulgaria, Corsica, Croatia, Cyprus, France, Germany, Italy, Poland, Slovakia, Slovenia, Spain and Near east.

Iranian records: Chaharmahaal va bakhtiari (Bagheri & Mosadegh, 1995), Golestan (Montazeri & Mosadegh, 1995), Khorasane razavi (Yaghmaee & Kharazipakdel, 1995), Lorestan (Jafari & Kamali, 2007) and Mazandaran (Ghahari *et al.*, 2004).

20) *S. quadriguttatus* Capra, 1927

Iranian records: Fars (Ahmadi & Yazdani, 1993), Gillan, Golestan (Montazeri & Mosadegh, 1995), Khorasane razavi (Yaghmaee & Kharazipakdel 1995) and Mazandaran (Ghahari *et al.*, 2004).

Distribution outside Iran: Albania, Bulgaria, Croatia, Cyprus, France, Greek, Italy, Macedonia and Near east.

21) *S. qudrimaculatus* Hbst.

Iranian records: Gillan, Golestan and Mazandaran(Behdad, 1988).

22) *S. rubromaculatus* Goeze, 1777

Iranian records: Fars (Ahmadi & Yazdani, 1993), and Mazandaran (Ghahari *et al.*, 2004).

Distribution outside Iran: Austria, Azores, Belgium, Bulgaria, Corsica, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greek, Hngary ,Italy ,Maderia, Netherlands, Norway, Poland, Romania, Russia, Sardinia, Slovakia, Spain, Sweden, Switzerland and East Palaearctic.

23) *S. subvillosus* Goeze, 1777

Iranian records: Azarbajjane gharbi (Parvizi *et al.*, 1987), Fars (Ahmadi & Yazdani, 1993), Isfahan (Fatemi, 1983; Haghshenas *et al.*, 2004), Kerman (Kouhpayezadehesfahani & Mosadegh, 1991), Khorasane razavi (Yaghmaee & Kharazipakdel, 1995; Kalantari & Sadeghi, 2000), Lorestan (Jafari & Kamali, 2007), Markazi (Ahmadi *et al.*, 2012) and Mazandaran (Ghahari *et al.*, 2004) .

Distribution outside Iran: Austria, Azores, Bosnia and Herzegovina, Bulgaria, Corsica, Croatia, Cyprus, Czech Republic, France, Germany, Greek, Hungary, Italy, Maderia, Malta, Poland, Portuguese, Romania, Russia, Sardinia, Slovakia, Spain, Switzerland, Ukraine, East Palaearctic, Near East and North Africa.

24) *S. syriacus* (Marseul, 1898)

Iranian records: Chaharmahaal va bakhtiari (Bagheri & Mosadegh, 1995), Fars (Ahmadi & Yazdani, 1993), Gillan and Golestan (Montazeri & Mosadegh, 1995), Kerman (Kouhpayezadehesfahani & Mosadegh 1991; Zareijallalabad & Jafari, 2011), Khorasane jonobi (Moadi & Mossadegh, 1995), Khorasane razavi (Yaghmaee & Kharazipakdel, 1995; Kalantari & Sadeghi, 2000), Khuzestan (Asadeh & Mosadegh, 1991; Ebrahimzadeh & Mosadegh, 2004), Lorestan (Duverger, 1983) and Mazandaran (Ghahari *et al.*, 2004).

Tribe Stethorini Dohzhansky, 1924

Stethorus Weise, 1885

1) *S. gilvifrons* Mulsant, 1850

Iranian records: Chaharmahal va bakhtiari (Bagheri & Mosadegh, 1995), Fars (Ahmadi & Yazdani, 1993), Gillan, Golestan (Montazeri & Mosadegh, 1995), Isfahan (Fatemi, 1983; Haghshenas et al., 2004), Khorasane jonobi (Moadi & Mossadegh, 1995), Khorasane razavi (Yaghmaee & Kharazipakdel, 1995; Kalantari & Sadeghi, 2000), Khuzestan (Asadeh & Mosadegh, 1991; Ebrahimzadeh & Mosadegh, 2004), Lorestan (Jafari & Kamali, 2007), Mazandaran (Ghahari et al., 2004), Tehran (Afshar, 1944; Farahbakhsh, 1961; Naeem, 1971, Radjabi, 1991).

Distribution outside Iran: Bulgaria, Cyprus, Italy, Malta, Portuguese, Sardinia, Spain, Near East, North Africa and Oriental region.

2) *S. punctillum* Weise, 1891

Iranian records: Azarbaijane gharbi (Parvizi et al., 1987), Chaharmahal va bakhtiari (Bagheri & Mosadegh, 1995), Gillan, Isfahan (Fatemi, 1983; Haghshenas et al., 2004), Kerman (Kouhpayezadehesfahani & Mosadegh, 1991), Khorasane jonobi (Moadi & Mossadegh, 1995), Khorasane razavi (Yaghmaee & Kharazipakdel, 1995; Kalantari & Sadeghi, 2000), Khuzestan (Asadeh & Mosadegh, 1991; Ebrahimzadeh & Mosadegh, 2004) and Tehran (Afshar, 1944; Farahbakhsh, 1961; Naeem, 1971).

Distribution outside Iran: Austria, Azores, Belgium, England, Corsica, Croatia, Czech Republic, Denmark, Finland, France, Greece, Hungary, Luxembourg, Malta, Netherlands, Norway, Poland, Portuguese, Romania, Russia, Slovakia, Spain, Sweden, Switzerland, Yugoslavia former, East Palaearctic, Near East, Neotropical region and North Africa.

3) *S. siphonulus* (Kapur, 1948)

Iranian record: Khuzestan and Lorestan (Ansaripour & Shakarami, 2011).

Subfamily Sticholotinae Gordon, 1997

Tribe Microweisini Leng, 1920

Diloponis Pope, 1962

1) *Diloponis Fuerschi* Ahmadi & Yazdani, 1991

Iranian record: Fars (Ahmadi & Yazdani, 1993)

Tribe Serangiini Blackwelder, 1945

Serangium Blackburn, 1889

1) *S. montazrii* Fursch, 1995

Iranian records: Gillan, Golestan (Montazeri & Mosadegh, 1995), Mazandaran (Ghahari et al., 2004) and Zanjan (Vojdani, 1965; Naeem, 1971).

Tribe Sticholotidini Weise, 1990

Pharoscygnus Bedel, 1906

1-*P. arabicus* Fursch

Iranian record: Fars (Ahmadi & Yazdani, 1993).

2) *P. brunneosignatus*

Iranian record: Khorasane razavi (Ebrahimi et al., 2012).

3) *P. flexibilis* Mulsant, 1853

Iranian record: Fars (Ahmadi & Yazdani, 1993).

4) *P. ovoideus* Sicard, 1929

Iranian records: Fars (Ahmadi & Yazdani, 1993), Gillan (Hajizadeh *et al.*, 2001), Kerman (Kouhpayezadehesfahani & Mosadegh, 1991) and Lorestan (Jafari & Kamali, 2007).

5) *P. pharoides* Marseul, 1898

Iranian records: Chaharmahaal va bakhtiari (Bagheri & Mosadegh, 1995) and Fars (Ahmadi & Yazdani, 1993) .

6) *P. setulosus* Chevrolat, 1861

Iranian record: Fars (Ahmadi & Yazdani, 1993).

Distribution outside Iran: Spain and North africa.

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Table 1- Abundance percent of species in Provinces

Abundance percent	Species numbers	Province name
10	11	Ardabil
14.54	16	Azarbaijane gharbi
11.81	13	Azarbaijane sharghi
3.63	4	Bushehr
23.63	26	Chaharmahaal va bakhtiari
41.81	46	Fars
34.54	38	Gillan
29.09	32	Golestan
6.36	7	Hamadan
5.45	6	Hormozgan
8.18	9	Ilam
22.72	25	Isfahan
26.36	29	Kerman
8.18	9	Kermanshah
22.72	25	Khorasane jonobi
40	44	Khorasane razavi
1.81	2	Khorasane shomali
18.18	20	Khuzestan
1.81	2	Kohgiluye va boyerahmad
5.45	6	Kurdistan
33.63	37	Lorestan
9.09	10	Markazi
43.63	48	Mazandaran
2.72	3	Qazvin
5.45	6	Qom
5.45	6	Semnan
1.81	2	Sistan va baluchistan
29.09	32	Tehran
6.36	7	Yazd
3.63	4	Zanjan

References

- Afshar, J. 1937.** Les insectes nuisibles aux arbers fruitiers en Iran .Entomologie et Phytopathologie Appliquees, 112 pp.
- Afshar, J. 1938.** Pest of summer crops, vegetables, industrial plants and forages in Iran and their control. Entomologie et Phytopathologie Appliquees, 124 pp.
- Afshar, J. 1944.** Les nomes scientifique de quelques coleopteres de Iran et leurs importance en agriculture. Entomologie et Phytopathologie Appliquees, 22 pp.
- Afshari, A., Mossadegh, M. S., Soleymannejadian, E. and Kamali, K. 2007.** Geographical distribution and host plants of *Stethorus gilvifrons* Mulsant) (Coleoptera.: Coccinellidae) and its biology under laboratory conditions in Khuzestan province .Journal of Agricultural Science Natural Resources, 14(4): 111- 116.
- Ahmadi, A., Jafari, R. and Vafai, R. 2012.** The faunistic survey of ladybird (Coleoptera: Coccinellidae) in orchards and crops Arak and shurb. Proceeding of the 20th Iranian Plant Protection Congress, Vol. 1, Pests: 139.
- Ahmadi, A. A. and Sarafrazi, A. 1993.** Natural enemy of *Diuraphis noxia* in Fars Province. Proceeding of the 11th Iranian Plant Protection Congress, Vol. 1, Pests: 1 .
- Ahmadi, A. A. and Yazdani, A. 1993.** The coccinellids fauna of Fars province, part 2, tribe Scymnini of subfamily Scymninae. Journal of Entomolgy Society of Iran, 12(3) :1-21.
- Alemansoor, H. and Ahmadi, A. A. 1993.** Natural enemies of cotton whitefly ,*Bemisia tabci* (Gennadius), in Fars province. Proceeding of the 11th Iranian Plant Protection Congress, Vol. 1, Pests: 106 .
- Ansariopor, A. and Shakarami, J. 2011.** Study of ladybird in Khoramabad (Lorestan province) Iran. Life Science Journal, 8(3): 488-495 .
- Ansariopor, A. and Malekisadeghi, S .2012.** Study of ladybird (Coleoptera :Cerambicidae) pine and cypress trees in Khoramabad district .Proceeding of the 20th Iranian Plant Protection Congress, Vol. 1, Pests: 98.
- Asadeh, G. A .and .Mosaddegh, M. S. 1991.** The mealybugs ,*Pseudococcus* spp. (Hemiptera: Pseudococcidae) fauna of Khuzestan province. The Scientific Journal of Agriculture, 16(1, 2): 47-52.
- Askari, A. 1986.** Integrated in an experimental field. Proceeding of the 1th Iranian Plant Protection Congress, Vol. 1, Pests :202.
- Bagheri, M. And Mosadegh, M. S. 1995.** Fauna of Coccinellidae in Charmahalobakhtiari Province. Proceeding of the 12th Iranian Plant Protection Congress, Vol. 1, Pests :308 .
- Bielawski, R. 1956.** Coccinelliden aus libanon und dem iran im museum Genf mit Beshreibung. heuer scymnini-Arten (Coleoptera: Coccinellidae) .Revue Suisse Zoology, 8 (3): 645-657 .
- Behdad, E. 1988.** Pests and diseases of frost trees and shurbs of Iran .Entomologie et Phytopathologie Appliquees, 807 pp.
- Borumand, H. 2000.** Insect of Iran: The List of Coleoptera in the Insect Collection of Plant Pests & Disesases Research Institute,Coleoptera: Cucujoidea :Coccinellidae, 44pp .
- Dazyanian, A. and Sahragard, A. 2000.** Natural enemy of *Aganosцена pestacia* in Damghan . Proceeding of the 14th Iranian Plant Protection Congress, Vol. 1, Pests :270.
- Duverger, C. 1983 .**Contribution ala connaissance des coccinelidae d Iran. Nouz. Entomology.XII : 73-93
- Ebrahimi, S., Karimi, J. and Modaresawal, M. 2012.** The first record of the ladybird , *Pharoscumnus brunneosignatus* Mader ,1949) Coleoptera: Coccinellidae) for Iran .Proceeding of the 20th Iranian Plant Protection Congress, Vol. 1, Pests: 128.
- Ebrahimzadeh, P. and .Mosadegh, M. S. 2004.** The coccinellids and aphids of alfalfa field in Khuzestan .Proceeding of the 16th Iranian Plant Protection Congress, Vol. 1, Pests: 137.
- Emami, M. S. and Arbabi, M. 2005.** Study on the predator insects of European red spider mite in Semirum area(Isfahan). Journal of biology of Iran, 18(2): 157-164 .
- Esmaili, M., Mirkarimi, A. A.and Azemayeshfard, P. 1991.** Agricultural entomology. Tehran University Press, 552 pp.

- Farahbakhsh, G. 1961.** Checklist of important insects and other enemies of plants and agricultural products in Iran, 153 pp.
- Farahbakhsh, G. and Moini, M. 1976.** Olive pests in Iran. Plant Pests and Diseases Research Institute, 72 pp.
- Farahi, S. and Sadeghinamghi, H. 2009.** Diversity species of aphids and coccinellids in field wheat in Mashhad. Journal of Plant Protection, 23(2): 89-95.
- Fatemi, H. 1983.** Population fluctuation of *Tetranychus turkestanii* in Isfahan. Entomologie et Phytopathologie Appliquees, 50(1, 2): 27-53.
- Fursch, H. 1996.** Coccinellids from Iran. Coccinella, 6: 24-25.
- Fursch, H. 1977.** Coccinellideaus beatea aus libnon und dem iran im Museum Genf mit Beshreibung near Scymnini-Arten (Coleoptera: Coccinellidae). Revue Suisse Zoology, 84(3): 645-657
- Gardenhire, R. Q. 1959.** Summary of insect conditions in Iran (1958). Applied Entomology Phytopathology, (18): 51-61 .
- Ghahari, H., Sakenin, L., Zheng, L. Y. and Huang, J. 2004.** A contribution to the predatory coccinellids fauna (Coleoptera :Coccinellidae) in Mazandaran province. Proceeding of the 16th Iranian Plant Protection Congress, Vol. 1, Pests: 151 .
- Gharib, A. 1966.** *Ommatissus binotatus* Fieb .var *lybicus* Berg. (Hemiptera: Tropicuchidae). Entomologie et Phytopathologie Appliquees, 24: 37-47.
- Gharib, A. 1973.** *Parlatoria blanchardi* Targ. (Hemiptera: Diaspididae). Entomologie et Phytopathologie Appliquees, 34: 10-17.
- Gordon, R. D. 1985.** The Coccinellidae of America North of Mexico. Jou Society, 93(1): 1-912.
- Haghshenas, A. R., Malkeshi, S. H. and .Bagheri, M. R. 2004.** The fauna of coccinellids in cereal aphids and investigation on population fluctuation of dominant species in Isfahan province .Proceeding of the 16th Iranian Plant Protection Congress, Vol. 1, Pests: 126.
- Hajizadeh, J., Jalalisanadi, J. and Peyrovichashnasar, H. 2001.** Introduction part of ladybirds (Col.: Coccinellidae) in Gillan province. Journal of Agricultural Science and Natural Resources, 4(2): 99-112
- Hesler, L. S. and. Kieckhefer, R. W. 2008.** An annotated and updated species list of the Coccinellidae (Coleoptera) of South Dakota. Coleopterists Bulletin, 62: 443-454.
- Hodek, I. 1973.** Biology of Coccinellidae .Czechoslovak. Academy of Science Prague.260 p.
- Hodjat, S. H. and Moradeshaghi, M. J. 1988.** Citrus aphids in Iran. Bulltan Plant Protection Organization Iran, 31: 1-40
- Iperti, G. and Bertand, E. 2001.** Hibernation of *Harmonia axyridis* (Coleoptera :Coccinellidae) in South-Eastern France .*Acta Societas Zoologicae Bohemicae*, 65: 207-210
- Jafari, R. and Kamali, K. 2007.** Faunestic study of ladybird in Lorestan province and report of new records in Iran. New Finding in Agriculture, 1(4): 349-359.
- Jafari, R., Kamali, K., Shojai, M. and Ostovan, H. 2008.** Life table parameters of *Hippodamia variegata* (Coleoptera :Coccinellidae), on *Aphis fabae* (Hemiptera :Aphididae) under laboratory conditions. Journal of New Agricultural Science, 10(4): 17-25.
- Jafari, R. and Gholdaste, S. 2009.** Functional response of *Hippodamia variegata* (Coleoptra : Coccinellidae), on *Aphis fabae* (Hemiptera :Aphididae). Acta entomologica serbica, 93(1): 14-100
- Jafari, R. and Vafaei-shoshtari, R. 2010.** Effect of different temperatures on life developmental stages of *Hippodamia variegata* Goeze (Coleoptera, Coccinellidae), feeding on *Aphis fabae* Scopoli (Hemiptera, Aphididae). Journal of Entomological Research, 1(4): 289-297.
- Jafari, R. 2011.** Biology of *Hippodamia variegata* (Goeze) (Coleoptra :Coccinellidae), on *Aphis fabae* Scopoli (Hemiptera :Aphididae). Journal of Plant Protection Research, 51(2): 190-194 .
- Javanshir, K. 1976.** Atlas of woody plants of Iran (in Persion). National Society of Natural Resources and Human Environment Conservation, 84 pp .
- Kalantari, A. A. and .Sadeghi, S. E 2000.** Survary of ladybirds(coccinellidae) in almond orchards at west-korasan .Proceeding of the 14th Iranian Plant Protection Congress, Vol. 1, Pests: 271.

- Khalaf, J. and Aberoumand, G. 1989.** Some preliminary researchs on the biology and biological control of mealybug (*Pseudococcus filamentosus* CK11) in Fars Province of Iran. *Entomologie et Phytopathologie Appliquees*, 56 (1,2): 93-99.
- Khalaf, J. and Sepehr, K. 1989.** Biological control of mealybug (*Pseudococcus filamentosus* Ckll.) in Fars province of Iran. *Proceeding of the 8th Iranian Plant Protection Congress*, Vol. 1, Pests: 29.
- Khanjani, M. 2005.** *Field Crop Pests in Iran (Insects & Mites)*. Bu-Ali Sina University Press, 719 pp .
- Kouhpayezadehesfahani, N. and Mosadegh, M. S. 1991.** Some of the ladybirde fauna of Kerman province. *Proceeding of the 10th Iranian Plant Protection Congress*, Vol. 1, Pests: 64.
- McCorquodale, D. B. and Bondrup-Nielsen, S. 2004.** Do we know beetles? Lessons from new records of Cerambycidae (Coleoptera) for Nova Scotia. *Proceedings of the Nova Scotia Institute of Science*, 42: 209-223.
- Michels, G. J. 1987.** A checklist of the coccinellidae (coleoptera) of Wyoming. *The Coleopterist Bulletin*, 41(3): 249- 255 .
- Majerus, M. E. N. 1994.** *Ladybirds*. Harper Collins, London, 367 pp
- Moadi, S. and Mossadegh, M. S. 1995.** The coccinellids (Coleoptera) of southeast Khorasan province, Iran .*Proceeding of the 12th Iranian Plant Protection Congress*, Vol. 1, Pests: 326 .
- Modarres-Awal, M. 1997.** *List of agricultural pests and their natural enemies in Iran* .Mashhad Ferdowsi University Press, 429pp.
- Montazeri, M. M. and Mossadegh, M. S. 1995.** The coccinellids fauna of Gorgan plain Gonbad Kavus .*Proceeding of the 12th Iranian Plant Protection Congress*, Vol. 1, Pests :325.
- Mossadegh, M. S. and Kocheili, F. 1993.** Some of the lady-birds (coccinellidae) fauna of Khuzestan ,Iran. *Ahvaz Science Journal of Agriculture*, 16 (1, 2): 23-30.
- Mostaan, M. 1993.** Natural enemies of european red mite in apple orchards of Oroumieh region, West Azarbaijan, Iran. *Proceeding of the 11th Iranian Plant Protection Congress*, Vol. 1, Pests: 199.
- Naeem, A. 1971.** The fauna of iranian Coccinellidae. *Entomologie et Phytopathologie Appliquees*, 31: 11-14.
- Nematolahi, M. R. and Bagheri, M. R. 2002.** Fauna coccinellids of mohamadi-flower in Kashan shurb. *Proceeding of the 15th Iranian Plant Protection Congress*, Vol. 1, Pests: 302 .
- Obrycki, J. J. and Kring, T. J. 1998.** Predaceous Coccinellidae in biological control. *Annual Review of Entomology*, 43: 295–321.
- Parvizi, R., Mostaan, M., Broumand, H. and Mirzayans, H. 1987.** Complementary study on the Coccinellidae fauna in Western Azarbaijan, *Entomologie et Phytopathologie Appliquees*, 54(1,2): 159-162
- Radjabi, G. R. 1991.** *Insects attacking rosaceous fruit trees in Iran*. 1. Vol ,Coleoptera, *Entomologie et Phytopathologie Appliquees*, 221 pp.
- Sadeghi, E. and Esmaili, M. 1992.** Preying habits and hibernation site of *Coccinella septempunctata*, *Hippodamia variegata* and *Psyllobora Vigintiduopunctata* in Karaj. *Journal of Entomology Society of Iran*, 11(1,2): 19-34.
- Saeb, H. and Farzaneh, A. 1995.** Bioecological studies on olive black scale in Gillan. *Entomologie et Phytopathologie Appliquees*, 194 pp.
- Vandenberg, N. J. 2002.** Coccinellidae Latreille 1807. In *American Beetles*. Volume 2. Polyphaga: Scarabaeoidea through Curculionoidea .Edited by R.H .Arnett, Jr., M.C. Thomas, P.E. Skelley, and J.H. Frank. CRC Press ,Boca Raton, FL, 371–389 pp.
- Vojdani, S. 1965.** Les coccinelles utiles et nuisibles de Iran. *Bull. 65. Pub .Dep. Pro. Des. Plant Universite de Tehran. Faculte d Agronomie Karadj*, 1-100 pp.
- Yaghmaee, F. and Kharazipakdel, A. 1995.** A faunistic survey of coccinellids in Mashhad region. *Proceeding of the 12th Iranian Plant Protection Congress*, 307 pp.
- Yazdani, A. and Ahmadi, A. A 1991.** New record of eight coccinellid species of genus *Scymnus* from Fars province. *Proceeding of the 10th Iranian Plant Protection Congress*, 85 pp.

چک لیست اولیه کفشدوزک‌های (Coccinellidae: Coleoptera) ایران

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چکیده

در این چک لیست ۱۱۰ گونه کفشدوزک متعلق به ۶ زیرخانواده تهیه شده است. از این تعداد ۲۸ گونه توسط نویسنده مسئول (رضا جعفری) جمع‌آوری و شناسایی گردیده است که دو گونه *obliterata Aphidecta* و *Scymnus mediteraneus* برای اولین بار از ایران توسط نویسنده گزارش می‌شود. برای تشخیص گونه‌ها از صفات خارجی و ژنیتالیای کفشدوزک‌های نر و ماده استفاده شد. اغلب کفشدوزک‌های موجود در چک لیست گوشت‌خوار و عمدتاً از شته‌ها، کنه‌ها و شپشک‌ها تغذیه می‌کنند. گونه‌های موجود در چک لیست متعلق به ۳۴ جنس شامل (*Brumus*، *Aphidecta*، *Calvia*، *Anistostica*، *Adalia*، *Bulaea*، *Rodolia*، *Rhyzobius*، *Platynaspis*، *Exochomus*، *Chilocorus*، *Olla*، *Propylea*، *Halyzia*، *Cheilomenes*، *Coccinella*، *Coccinulla*، *Hippodamia*، *Menochilus*، *Oenopia*، *Nephus*، *Diomus*، *Cryptolaemus*، *Clitostethus*، *Hyperaspis*، *Epilachna*، *Tytthaspis*، *Psyllobora*، *Vibidia*، *Pharoscyminus* and *Diloponis*، *Serangium*، *Scymnus*، *Stethorus*)، ۱۵ قبیله شامل (*Psylloborini*، *Platynaspidini*، *Coccidulini*، *Noviini*، *Bulaeini*، *Coccinellini*، *Chilocorini*)، *Stethorini*، *Microweisini*، *Serangini* and *Sticholotidini*، *Tytthaspidini*، *Epilachnini*، *Hyperaspidini*، *Scymnini* و ۶ زیر خانواده شامل (*Coccinellinae*، *Scymninae*، *Chilochorinae*، *Sticholotidinae* & *Coccidulinae*)، *Epilachninae* هستند. بیشترین و کمترین تعداد گونه به ترتیب مربوط به زیر خانواده‌های *Sticholotinae* و *Scymninae* بود. بیشترین تعداد جنس با ۵۰ درصد فراوانی مربوط به قبیله *Coccinellini* بود. اکثر گونه‌های دو زیر خانواده *Coccinellinae* و *Scymninae* با فراوانی ۸۰ درصد از اغلب نقاط ایران گزارش شده‌اند.

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