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 obliterata & 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, Psylllobora, Vibidia, Tythaspis, Epilachna, Hyperaspis, Clistostethus, Cryptolaemus, Diomus, Neophus, Scymnus, Stethorus, Diloponis, Serangium & Pharosciymnus), 15 tribes (Chilocorini, Platynaspidini, Coccidulini, Novini, Bulaeini, Coccinellini, Psyllloborini, Tythaspodini, Epilachnini, Hyperaspodini, Scymminii, Stethorini, Microweisini, Serangiini & Sticholotidini) & 6 subfamilies (Coocidulinae, Coccinellinae, Scymninae, Chilochorinae, 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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Received: 14 Sep. 2013 – Accepted: 15 Aug. 2015
Introduction

Coccinellidae or Ladybeetles are well known mostly beneficial insects. Ladybeetles belong to the Class Insecta, Subclass Pterygota, Order Coleoptera, Suborder Polyphaga, Superfamily Cucujoidea and Family Coccinellidae (Gordon, 1985; Majorus, 1994). There are seven subfamilies of coccinellidae: Coccidulinae, Coccinellinae, Scymninae, Chilochorinae, Ortallinae, 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, aleurodids, chrysomelid larvae, mites and the remainder being herbivorous or mycetophagous (Majorus, 1994; Obrycki & Kring, 1998; Iperti & Bertrand 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-Turanian 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 & Kiechhefer, 2008). Thus, an updated review of collections containing coccinellids in 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 records 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: Cucujoidae: 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; Ebrahimim 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; Khalafl & Sepehr, 1986; Mostaan, 1986 ;Parvizi et al., 1987; Behdad, 1988; Hodjat & Moradeshaghi, 1988; Khalaf & Aberomand, 1989; Asadeh & Mosadegh, 1991; Kouhpayezadehesfahani & Mosadegh,1991; Radjabi, 1991; Yazdani & Ahmadi, 1991; Sadeghi & Esmuali, 1992; Ahmadi & Sarafrazi, 1993; Ahmadi & Yazdani, 1993; Akbarinoushad, 1993; Alemansoor & Ahmadi, 1993; Mosadegh & Kocheili, 1993; Mostaan, 1993; Yazdani & Ebrahimim, 1993; Saeb, 1994, 1995; Alhoseini & Mostofipour, 1995; Haghshenas et al., 1995; Moadi & Moshadegh, 1995; Montazeri & Moshadegh, 1995; Yaghmaei & Khazaripakdel, 1995; Kalantari & Sadeghi, 2000; Bagheri & Moshadegh, 1995; Hajizadeh & Kamali, 1997; Kheirkhahe, 1997; Dazyanian & Sahragard, 2000; Kalantari & Sadeghi, 2000; Hajizadeh et al., 2001; Nematolah & 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 Palearctic 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), Gillan, 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, Rhizobius, Rodolia, Bulaea, Adalia, Anistostica, Aphidecta, Calvia, Chelomenes, Coccinella, Coccinulla, Hippodamia, Menochilus, Oenopia, Olla, Propylea, Halysia, Psyllobora, Vibidia, Tythaspis, Epilachna, Hyperaspis, Clitostethus, Cryptolaemus, Diomus, Nephus, Scymnus, Stethorus, Diloponis, Serangium and Pharoscymnus), 15 tribes (Chilocorini, Platynaspini, Coccidulini, Novini, Bulaeini, Coccinellini, Psylloborini, Tythaspini, Epilachnini, Hyperaspini, Scymnini, Stethorini, Microwesini, 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 Kohkilloyboyerahmad (2%) provinces respectively (Table 1). Species and genera are listed in the phylectic 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, grasslandagroecosystems 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 ladybeetles 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 lady beetles 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 Chilocorini Costa, 1849**

**Brumus Mulsant, 1850**

1) *B. octosignatus Gebler, 1830*

   **Iraniand records:** Azarbaijane sharghi (Farahbakhsh, 1976), Gillan (Hajizadeh et al., 2001), Isfahan (Fatemi, 1983; Haghshenas et al., 2004), Kerman (Khoupayezadehesfahani & 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)


   **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 (Yaghmae & 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 (Yaghmae & Kharazipakdel, 1995; Kalantari & Sadeghi, 2000) and Lorestan (Jafari & Kamali, 2007).

3) *E. illaeicollis* Redtenbacher, 1843

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

4) *E. melanocephalus* Zoubkoff, 1833

**Iranian records:** Chaharmahaal va bakhtiari (Bagheri & Mosadegh, 1995), Khorasane razavi (Yaghmae & 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 (Yaghmae & 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, Greece, 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 (Yaghmae & 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:** Azarbaijan sharghi (Farahbakhsh, 1976), Chaharmahaal 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 (Kouhpayazadehesfahani & 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:** Chaharmahaal va bakhtiari (Bagheri & Mosadegh, 1995), Fars (Ahmadi & Yazdani, 1993), Kerman (Kouhpayazadehesfahani & 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 (Kouhpayazadehesfahani & Mosadegh, 1991), Khorasane jonobi (Moadi & Mossadegh, 1995) and Lorestan (Jafari & Kamali, 2007)

   **Distribution outside Iran:** Austria, Belgium, England, Corsica, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greece, 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* (Blasiusdell, 1829)

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

   **Distribution outside Iran:** France, Greece, Italy, Madeira, Malta, Sardinia, Spain, Afrotropical region, Australian region, Near East, 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, Greece, 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


Distribution outside Iran: Bulgaria, Croatia, Greece, 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)


Distribution outside Iran: Albania, Andorra, Austria, 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, Australian region, East Palaearctic, Near East, Neartic region, Neotropical region, North Africa and Oriental region.

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


Distribution outside Iran: Albania, Andorra, Austria, Balearic, Belgium, Bosnia and Herzegovina, Bulgaria, Corsica, Croatia, Czech Republic, Denmark, England, Estonia, Finland, France, Germany, Greece, 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.

2) *A. tetraspilota* Hoppe, 1831

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

*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, Austria, Belgium, Bosnia and Herzegovina, Czech Republic, Denmark, Finland, France, Germany, Hungary, Italy, Kaliningrad Region, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Russia, Sardinia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Yugoslavia former, 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, Greece, Hungary, Italy, Kaliningrad Region, Latvia, Liechtenstein, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portuguese, Romania, Russia, Serbia, 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, 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** Dobzhansky, 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 & Sadeghinamgh, 2009).

6) **C. novemnotata** Herbst, 1793
   Distribution outside Iran: Mexico and United States of America.

7) **C. qudrimaculata** Linnaeus, 1758

8) **C. redimata** Weise, 1885
   Iranian record: Chaharmahaal va bakhtiar (Bagheri & Mosadegh, 1995).

9) **C. septempunctata** Linnaeus, 1758
   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, 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  

Distribution outside Iran: Austria, Azores, Balearic, Belgium, 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 (Yaghmae & Kharazipakdel, 1995).

2) *C. redimita* Weise, 1855  

*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, East Palaearctic, Near East 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 (Kouhpayezahehesfahani & Mosadegh, 1991), Khorasane razavi (Yaghmae & 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)  

**Oenopia Mulsant, 1850**  
1) *O. conglobata* (Linnaeus, 1758)  
Distribution outside Iran: Austria, Baleareic, 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, Near East and North Africa.

2) *O. oncina* (Olivier, 1808)  
Iranian records: Chaharmahaal va bakhtierzi (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).

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

**Propylea Mulsant, 1846**  
1) *P. quatuordecimpunctata* (Linnaeus, 1758)  
Distribution outside Iran: Austria, Baleareic, 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, Near East 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. bisoconotata* (Mulsant, 1850)
   - Iranian records: Fars (Ahmadi & Yazdani, 1993; Vojdani, 1965; Naeem, 1971) and Hormozgan (Vojdani, 1965; Naeem, 1971).
   2) *P. vigintiduopunctata* (Linnaeus, 1758).
   - 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: Fars (Mohamadzadehfard & Falahzadeh, 2009) 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

2) E. chrysomelina

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)
   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 & Mosadegh, 1995).

7) H. polita Weise, 1885
   Iranian records: Golestan (Montazeri & Mosadegh 1995), Kerman (Kouhpayezadehesfahani & Mosadegh, 1991), Khorasane jonobi (Moadi & Mosadegh, 1995), Khorasane razavi, Khuzestan (Asadeh & Mosadegh 1991) and Mazandaran (Ghahari et al., 2004).
8) *H. pumila* Mulsant

9) *H. quadrimaculata* Red.

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 (Kouhpayezahehsafhani & 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, Madera, Malta, Netherlands, Poland, Portuguese, Sardinia, Slovakia, Spain, Switzerland and North Africa.

*Cryptolaemus* Mulsant, 1853

1) *C. montrouzieri* Mulsant, 1853
    *Distribution outside Iran*: France, Italy, Sardinia, Spain and Australian region.

*Diomus* Mulsant, 1850

1) *D. rubidus* Motscholsky, 1837
    *Distribution outside Iran*: France, Greece, Italy, Spain, East Palaeartic 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 (Kouhpayezahehsafhani & 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 (Falahlzade, 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), Chaharmahala va bakhtiar (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:** Chaharmahala va bakhtiar (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:** Chaharmahala va bakhtiar (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

9) *S. flavicollis* Redtenbacher, 1843
   Distribution outside Iran: Cyprus and Near East.

10) *S. frontalis* Fabricius, 1787
   Distribution outside Iran: Austria, Belgium, Corsica, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greek, Hungary, Italy, Netherlands, Norway, Poland, Portuguese, Romania, Russia, Slovakia, Spain, Sweden, Switzerland, Ukraine, East Palaearctic and Near East.

11) *S. impexus* Mulsant, 1850
   Distribution outside Iran: Belgium, Corsica, Czech Republic, France, Germany, Greek, Italy, Poland, Romania, Slovakia, Spain, Sweden, Switzerland and North Africa.

12) *S. indrihensis* Weise, 1929
   Iranian record: Khorasane jonobi (Moadi & Mosadegh, 1995).
   Distribution outside Iran: Italy, East Palaearctic and Near East.

13) *S. levaiantis* Mulsant, 1850

14) *S. marginalis* Mannerheim, 1843
   Iranian records: Gillan, Golesthan 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
   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.
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) 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).

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, Hungary, Italy, Maderia, Netherlands, Norway, Poland, Romania, Russia, Sardinia, Slovakia, Spain, Sweden, Switzerland and East Palaeartic.

23) *S. subvillosus* Goeze, 1777
**Distribution outside Iran:** Austria, Azores, Bosnia and Herzegovina, Bulgaria, Corsica, Croatia, Cyprus, Czech Republic, France, Germany, Greek, Hungary, Italy, Maderia, Netherlands, Norway, Poland, Romania, Russia, Sardinia, Slovakia, Spain, Switzerland, Ukraine, East Palaeartic, Near East and North Africa.

24) *S. syriacus* (Marseul, 1898)
Tribe Stethorini Dohzhansky, 1924

*Stethorus* Weise, 1885

1) *S. gilvifrons* Mulsant, 1850


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

2) *S. punctillum* Weise, 1891


   Distribution outside Iran: Austria, Azores, Belgium, England, Corsica, Croatia, Czech Republic, Denmark, Finland, France, Greek, 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)


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


Subfamily Sticholotidinae Weise, 1990

*Pharoscymnus* Bedel, 1906

1) *P. arabicus* Fursch

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

2) *P. brunneosignatus*

   Iranian record: Khorasane razavi (Ebrahim *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.

Acknowledgment
The research was supported by Islamic Azad University, Borujerd Branch, Borujerd, Iran.
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References


چک لیست اولیه کفشودزکهای (Coccinellidae: Coleoptera) ایران

رضا جعفری؛ هملموت فورش؛ مهدی زارع

چکده

در این چک لیست 110 گونه کفشودزک متعلق به 4 زیرخانواده به شده است. از این تعداد 28 گونه توسط توسنده Scymnus و obliterata Aphidecta مستند (رضا جعفری) جمع آوری و شناسایی گردیده است که دو گونه برای او نیز پیش از ایران توسط توسنده گزارش شده. برای تشخیص گونه‌ها از صفات خارجی و زناتیایی کفشودزکهای نر و ماده استفاده شد. اغلب کفشودزکهای موجود در چک لیست کوشش‌وار و عمداً از شده‌اها کنه و شیشه‌ها تعیین می‌کنند. گونه‌های موجود در چک لیست متعلق به 24 جنس شامل (Brumus, Aphidecta, Calvia, Anistostica, Adalia, Balaea, Rodolia, Rhyzobius, Platynaspis, Exochomus, Chilocorus, Olla, Propylea, Halyzia, Cheilomenes, Coccinella, Coccinulla, Hippodamia, Menochilus, Oenopia, Nephus, Diomus, Cryptolaemus, Clitostethus, Hyperaspis, Epilachna, Tythaspis, Psyllobora, Vibidia, Pharoscyamus and Diloponisc, Serangium, Scymnus, Stethorus, Psylloborini, Platynaspidini, Coccidulini, Noviini, Bulaeini, Coccinellini, Chilocorini) و 15 قیبله شامل (Stethorus, Microweisini, Serangiini and Sticholotidini, Tythaspidini, Epilachnini, Hyperaspidini, Scymminini Coccinellinae, Scymninae, Chilochariniae, Sticholotidinae & Coccoidea) و 6 زیرخانواده شامل (Sticholotinae و Scymninae هستند. بیشترین و کمترین تعداد گونه به ترتیب مربوط به زیر خانواده‌های (Epilachninae بود. بیشترین تعداد جنس با 50 درصد فراوانی مربوط به قبیله Coccinellini بود. اکثر گونه‌های دو زیر خانواده Psylloborini و Coccinellinae با فراوانی 80 درصد از اغلب نقاط ایران گزارش شده‌اند.

واژه‌های کلیدی: چک لیست، کفشودزک، ایران

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نتایج دریافت مقاله (122) - تاریخ پذیرش مقاله (122/08/94)