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An annotated checklist of Iranian Asilidae (Insecta: Diptera: Brachycera: Asiloidea)

H. GHAHARI, R. HAYAT, R.J. LAVIGNE & H. OSTOVAN

A b s t r a c t : A checklist of the Asilidae (Diptera) from Iran is provided based on a survey of the literature. In total 289 species and subspecies representing 88 genera and 9 subfamilies (Apocleinae, Asilinae, Atomosinae, Dasypogoninae, Laphriinae, Laphystiinae, Leptogastrinae, Ommatiinae, Stenopogoninae) are listed. Synonymies, distribution data, and prey records, where available, are presented for each species.

K e y w o r d s : Diptera, Asilidae, Robber fly, Predator, Prey, Catalogue, Iran.

Introduction

Robber flies or assassin flies (Asiloidea, Asilidae) comprise one of the most taxonomically diverse, speciose, and conspicuous families of Diptera (BARNES et al. 2007). This family is particularly known for its predatory habits and mimicry of other insects, especially bees and wasps (Hymenoptera) (LAVIGNE et al. 1978). Robber flies are an important group of predators in all zoogeographical regions (LONDT 2006), and are characteristic of steppe and desert landscapes (ASTAKHOV 2011). Over 7,000 valid species are known, representing 530 genera and subgenera; these are distributed throughout the world, except in the Arctic and the Antarctic. In addition, 18 genera and 39 species have been described from the Eocene, Oligocene, and Miocene; 15 of these genera exist today (GHAHARI et al. 2007c).

Asilids display both great diversity and abundance in arid regions, and in grasslands (LONDT 2006). These are highly effective predatory as adults (both sexes) and larvae, feeding mainly on insects and more rarely, on spiders. The saliva with a nerve toxin and proteolytic enzymes has important role in external digestion of prey (KAHAN 1964; LAVIGNE et al. 1978; WOOD 1981). Certain robber fly species seem to prefer bumblebees, wasps, dragonflies, grasshoppers, or beetles. The web-based Predator-Prey Database for Asilidae (Hexapoda: Diptera) created by LAVIGNE (2003) currently contains approximately 58.000 prey records. However, these records do not necessarily provide exact numbers of prey taken, since in many cases authors have simply stated that "several", "multiple" or "many" of any given species were taken as prey. Summaries have been published for Hymenoptera (DENNIS & LAVIGNE 2007), Lepidoptera (DENNIS et al. 2009) and Araneae (DENNIS et al. 2012).

The larvae of Asilidae are predators, or ectoparasites, that feed on eggs, larvae, or pupae

of other insects. Larvae of most species that have been reared fed on white grubs (Coleoptera: Scarabaeidae), but some have been known to prey on larvae of other beetle families, and on larvae of Hymenoptera and Diptera, with a single reference to feeding on Orthoptera eggs (KNUTSON 1972; WOOD 1981; FOOTE 1991).

The first formal analysis using molecular evidence was presented by BYBEE et al. (2004) in order to illustrating phylogenetic relationships among the Asilidae and 10 subfamilies were recognized: Apocleinae, Asilinae, Dasypogoninae, Laphriinae, Laphystiinae, Leptogastrinae, Ommatiinae, Stenopogoninae, Stichopogoninae and Trigonimiminae. Most recently DIKOW (2009a, b) used both morphological and DNA sequence data to recognize 14 subfamilies: Asilinae, Bathypogoninae, Brachyrhopalinae, Dasypogoninae, Dioctriinae, Laphriinae, Leptogastrinae, Ommatiinae, Phellinae, Stenopogoninae, Stichopogoninae, Tillobromatinae, Trigonimiminae and Willistoninae. Bathypogoninae, Phellinae, Tillobromatinae and Willistoninae do not occur in Iran; therefore our results only deal with the remaining subfamilies.

Iran is a large country - covers an area of 1.623.779 km², and is bordered in the north by the Caucasus Mts., Middle Asian natural regions and the Caspian Sea (-27 m below sea level); in the west by the Anatolian and Mesopotamian regions; in the east by the eastern part of the Iranian plateau (Afghanistan and adjacent west Pakistan) and the Baluch-Sindian region; and finally in the south by the Persian Gulf and Oman Sea, which are connected by the latter to the Indian Ocean (ZEHZAD et al. 2002) (Figure 1). It has a spectacular position between three different ecological zones, the Palaearctic, Afrotropical and Indomalayan.

The first published records of Iranian asilids were those of PORTSCHINSKY (1873), who described two new species. This was followed by papers by BIGOT (1880) and HERMANN (1905), who reported on new and little known species from "Persia". As a result of the Persian expeditions of N.A. Zarudny from 1898 to 1901, additional species were recorded (BECKER & STEIN 1913). ENGEL (1930) summarised the known distribution of the Asilidae of the Palaearctic, including the species that had been collected in Iran up to that time. It was not until the mid 1950s that interest in the Iranian asilid fauna was rekindled by TIMON-DAVID (1955), who erected a new genus, *Iranopogon*, for a previously undescribed species, which he named *I. brandti*. Subsequently, OLDROYD (1958) produced a list of asilids from Iran, while JANSSENS (1961) commented on species occurring in both Iraq and Iran. Three years later, ABBASSIAN-LINTZEN (1964a) made the first definitive study of Iranian Asilidae and, in a companion paper, she compiled notes on the genus *Eremisca* (ABBASSIAN-LINTZEN 1964b). While revising the genus *Neomochtherus* Osten-Sacken, TSACAS (1968) observed that some species of that genus had been recorded from Iran. THEODOR (1980), who has produced the most modern treatment of the Asilidae of the Palaestine/Israel region, noted that some of those species also had been recorded in Iran. GELLER-GRIMM & HRADSKY (1999), TOMASOVIC (1999, 2002) and TOMASOVIC & SAGHAEI (2009) have recently described additional new species from Iran.

Biological notes concerning Iranian robber fly species are very rare and usually consist of habitat or prey records, such as those provided by ABBASSIAN-LINTZEN (1964a). A record of a dragonfly (Odonata: Libellulidae: *Orthetrum* sp.) falling prey to an undetermined asilid species was published by McLACHLAN (1903), while a "Persian" asilid [*Philonicus albiceps* (MEIGEN, 1820)] was noted attacking house flies by RICARDO

(1920). HAYAT et al. (2008) prepared a list of Iranian Asilidae which included 156 species; subsequently SAGHAEI et al. (2010) added 76 species for a total of 232. Additional species have since been encountered and/or distribution records added due to work carried on during the period 2007-2011. Additionally while the predator-prey relationship between Asilidae and Iranian Arthropoda was investigated previously the records are scattered throughout the literature. The intent of the present paper is to update all distribution data, to update systematic relationships and to consolidate data on Iranian Asilid-prey relationships.

Materials and Methods

Published data on the family Asilidae (Diptera) in Iran are summarized. The checklist contains the following data: the valid taxa name, published records with provincial distribution (Figure 1), or when this information is not available - "Iran (no locality cited)" is given, synonyms and prey records. The nomenclature, synonymy and distribution follow that of GELLER-GRIMM (2007) and LEHR (1988), plus other references, e.g. ENGEL (1930), EFFLATOUN BEY (1934), THEODOR (1980), LEHR (1992, 1996), LEHR et al. (2007), and HAYAT et al. (2008).

Results

Results of the literature survey show that 279 species and 10 subspecies representing 89 genera and 9 subfamilies are now known to occur in Iran. For ease of use, species and subspecies are listed alphabetically under subfamily and generic headings and do not reflect taxonomic relationships. Group names listed below reflect changes proposed by DIKOW (2003, 2009 a,b).

Family A s i l i d a e LATREILLE, 1802

Subfamily A p o c l e i n a e PAPAVERO, 1973

Genus *Apoclea* MACQUART, 1838

Apoclea albipila BECKER in BECKER & STEIN, 1913

D i s t r i b u t i o n i n I r a n : Sistan & Baluchestan (BECKER & STEIN 1913), Iran (no locality cited) (ENGEL 1930; LEHR 1988).

C o m m e n t s : Endemic to Iran.

Apoclea algira (LINNÉ, 1767) [*Asilus*]

Asilus alginis FABRICIUS, 1787; *A. vegeta* WIEDEMANN, 1828; *A. pallida* MACQUART, 1838; *A. fuscana* MACQUART, 1838; *A. aberrans* SCHINER, 1867; *A. deformis* WALKER, 1871.

D i s t r i b u t i o n i n I r a n : Sistan & Baluchestan (OLDROYD 1958).

D i s t r i b u t i o n o u t s i d e I r a n : Algeria, Egypt, Israel, Libya, Morocco, Niger, Tunisia, Turkey.

***Apoclea continuata* BECKER in BECKER & STEIN, 1909**

Distribution in Iran: Guilan (HAYAT et al. 2008), Sistan & Baluchestan (BECKER & STEIN 1913), Iran (no locality cited) (ENGEL 1930).

Comments: Predator of grasshoppers and relatives, especially *Paratettix caucasicus* BEI-BIENKO (Orthoptera: Tettigidae) (HAYAT et al. 2008). Endemic to Iran.

***Apoclea femoralis* (WIEDEMANN, 1828) [*Asilus*]**

Asilus helva WIEDEMANN, 1828; *A. illustris* SCHINER, 1867; *A. aperta* BECKER in BECKER & STEIN, 1909.

Distribution in Iran: Fars (SAGHAEI et al. 2008, 2009, 2010; TOMASOVIC & SAGHAEI 2009), Kerman, Khorasan, Sistan & Baluchestan (BECKER & STEIN 1913), Iran (no locality cited) (ENGEL 1930).

Distribution outside Iran: Egypt, Israel, Nigeria, Palestine, Sudan, Yemen.

Comments: Predator of *Polistes* sp. (Hymenoptera: Vespidae) (SAGHAEI et al. 2010).

***Apoclea helvipes* LOEW, 1873**

Distribution in Iran: Kerman, Sistan & Baluchestan, Southern Iran (BECKER & STEIN 1913; OLDROYD 1958).

Distribution outside Iran: Algeria, Kazakhstan, Turkey.

***Apoclea micracantha* LOEW, 1856**

Apoclea arabica BECKER, 1910 sensu EFFLATOUN, 1937 (questionable sensu GELLER-GRIMM, 2002).

Distribution in Iran: Isfahan (GHAHARI et al. 2007b; HAYAT et al. 2008), Mazandaran (GHAHARI et al. 2007b, 2009), Iran (no locality cited) (ENGEL 1930).

Distribution outside Iran: Egypt, Israel, Libya, Morocco, Tunisia, Yemen.

Comments: This species was collected in a rice field, also resting on *Polygonum convolvulus* (Polygonaceae) (GHAHARI et al. 2007b). Predator of *Ancistrocerus auctus* (FABRICIUS) (Hymenoptera: Vespidae) (HAYAT et al. 2008).

***Apoclea plurisetosa* BECKER in BECKER & STEIN, 1909**

Distribution in Iran: Sistan & Baluchestan (BECKER & STEIN 1913), Iran (no locality cited) (ENGEL 1930).

Comments: Endemic to Iran.

***Apoclea trivialis* LOEW, 1873**

Distribution in Iran: Khorasan (BECKER & STEIN 1913).

Distribution outside Iran: Algeria, Kazakhstan, Libya, Tunisia, Turkey.

Genus *Hippomachus* ENGEL, 1927

***Hippomachus iranensis* LONDT, 1985**

Distribution in Iran: Sistan & Baluchestan (LONDT 1985).

Comments: Endemic to Iran.

***Hippomachus pegasus* (LOEW, 1858) [*Trichonotus*]**

Hippomachus bei EFFLATOUN und LONDT, 1983.

Distribution in Iran: Sistan & Baluchestan (OLDROYD 1958).

Distribution outside Iran: Afrotropical Region, South Africa, West Africa, Egypt (LEHR 1988).

Genus *Philodicus* LOEW, 1847

***Philodicus ponticus* (BIGOT, 1880) [*Alcimus*]**

Alcimus bimaculatus BECKER in BECKER & STEIN, 1913.

Distribution in Iran: Fars (SAGHAEI et al. 2008, 2009, 2010; TOMASOVIC & SAGHAEI 2009), Golestan, Guilan (HAYAT et al. 2008), Kerman, Khorasan (BECKER & STEIN 1913), Khuzestan (GHAHARI et al. 2007b), Mazandaran (GHAHARI et al. 2007b, 2008b), Sistan & Baluchestan (BECKER & STEIN 1913; OLDROYD 1958), Iran (no locality cited) (ENGEL 1930; THEODOR 1980).

Distribution outside Iran: Afghanistan, Greece, Iraq, Israel, South European territory, Soviet Middle Asia, former Transcaucasus Republics (incl. Azerbaijan), Turkey.

Comments: This species was collected in a rice field (GHAHARI et al. 2008b), and resting on *Brachiaria eruciformis* (Gramineae), and *Sonchus oleraceus* (Compositae) (GHAHARI et al. 2007b). Predator of *Vespula germanica* (FABRICIUS), *Vespa orientalis* LINNAEUS (Hymenoptera: Vespidae) (HAYAT et al. 2008), and *Tabanus leleani* AUSTEN (Diptera: Tabanidae) (SAGHAEI et al. 2010).

***Philodicus spectabilis* LOEW, 1871**

Distribution in Iran: Fars (SAGHAEI et al. 2008, 2009, 2010; TOMASOVIC & SAGHAEI 2009), Sistan & Baluchestan (OLDROYD 1958).

Distribution outside Iran: Afghanistan, Kazakhstan.

Comments: Predator of *Goniocercus walkeri* (MCLACHLAN) (Neuroptera: Myrmeleontidae) (SAGHAEI et al. 2010).

Genus *Promachus* LOEW, 1848

***Promachus canus* (WIEDEMANN, 1818) [*Asilus*]**

Asilus tessellatus PALLAS in WIEDEMANN, 1818 (nomen nudum).

Distribution in Iran: Ardabil (HAYAT et al. 2008), Fars (SAGHAEI et al. 2008, 2009, 2010), Guilan (GHAHARI et al. 2007b, 2009), Mazandaran (GHAHARI et al. 2007b, 2008b), Iran (no locality cited) (ENGEL 1930).

Distribution outside Iran: Afghanistan, Kazakhstan, Russia, Turkey.

Comments: This species was collected in a rice field (GHAHARI et al. 2007b, 2008b), and resting on *Malva montana* (Malvaceae) and, *Sorghum halepense* (Gramineae) (GHAHARI et al. 2007b). Predator of *Podalonia hirsuta hirsuta* (SCOPOLI) (Hymenoptera: Sphecidae) (HAYAT et al. 2008), *Trachypteris picta* (FABRICIUS) (Coleoptera: Buprestidae) (SAGHAEI et al. 2010).

***Promachus canus leontochlaenus* LOEW, 1871**

Distribution in Iran: Isfahan, Khuzestan (HAYAT et al. 2008), Khorasan (BECKER & STEIN 1913), Semnan (SAKENIN et al. 2010), Tehran (SAMIN et al. 2010).

Distribution outside Iran: Kazakhstan, Turkey.

Comments: Predator of *Chalybion* (*Chalybion*) *flebile* (LEPELETIER de SAINT-FARGEU) (Hymenoptera: Sphecidae) (HAYAT et al. 2008).

***Promachus griseiventris* BECKER in BECKER & STEIN, 1913**

Promachus aegyptiacus EFFLATOUN, 1929.

Distribution in Iran: Kerman (BECKER & STEIN 1913), Sistan & Baluchestan (BECKER & STEIN 1913; OLDROYD 1958), Iran (no locality cited) (ENGEL 1930; THEODOR 1980).

Distribution outside Iran: Egypt, Israel, Sudan.

***Promachus leoninus* LOEW, 1848**

Distribution in Iran: Fars (SAGHAEI et al. 2008, 2009; TOMASOVIC & SAGHAEI 2009), Golestan, Kerman (HAYAT et al. 2008), Isfahan (GHAHARI et al. 2007b, 2009), Mazandaran (GHAHARI et al. 2007b), Tehran (SAMIN et al. 2010), Iran (no locality cited) (LEHR 1988).

Distribution outside Iran: Azerbaijan, Bosnia-Herzegovina, Croatia, Greece, India, Israel, Myanmar (Burma), Romania, Russia, Slovenia, Turkey.

Comments: This species was found in a rice field, and resting on *Berberis integerrima* (Berberidaceae) (GHAHARI et al. 2007b). Predator of *Polistes dominulus* (CHRIST) (Hymenoptera: Vespidae) (HAYAT et al. 2008).

***Promachus maculatus* (FABRICIUS, 1775) [*Asilus*]**

Distribution in Iran: East Azarbaijan (SAKENIN et al. 2008a), Fars (SAKENIN et al. 2008b), Sistan & Baluchestan (SAMIN et al. 2011a).

Distribution outside Iran: Afghanistan, India, Sri Lanka.

Comments: Predator of *Epeolus variegata* (LINNAEUS) (Hymenoptera: Anthophoridae) (SAMIN et al. 2011a), and *Platygaster oebalus* WALKER (Hymenoptera: Platygasteridae) (SAKENIN et al. 2008a).

***Promachus microlabis* LOEW, 1857**

Distribution in Iran: Isfahan (GHAHARI et al. 2007a), Khorasan (OSTOVARI & RASTEGAR 2013).

Distribution outside Iran: Cyprus, Syria, Turkey.

Comments: Predator of *Eristalis tenax* (LINNAEUS) (Diptera: Syrphidae) and *Tabanus tergustinus* EGGER (Diptera: Tabanidae) (GHAHARI et al. 2007a).

***Promachus mustela* LOEW, 1854**

Distribution in Iran: Semnan (SAKENIN et al. 2010), Tehran (SAMIN et al. 2010).

Distribution outside Iran: Israel, Lebanon, Syria, Turkey.

***Promachus rectangularis* LOEW, 1854**

Erax cinctipes WALKER, 1871 (LOEW, 1873).

Distribution in Iran: Kerman, Sistan & Baluchestan (BECKER & STEIN 1913), Iran (no locality cited) (ENGEL 1930).

Distribution outside Iran: Egypt, Ethiopia, Yemen.

Subfamily Asilinae LATREILLE, 1802

Genus *Aneomochtherus* LEHR, 1996

***Aneomochtherus aerifacies* (TSACAS, 1968) [*Neomochtherus*]**

Distribution in Iran: Mazandaran (SAKENIN et al. 2008a), Tehran (SAMIN et al. 2010).

Distribution outside Iran: Turkey.

Comments: Predator of *Agapanthia* (*Agapanthia*) *walteri* REITTER (Coleoptera: Cerambycidae) (SAKENIN et al. 2008a).

***Aneomochtherus atripes* (OLDROYD, 1958) [*Neomochtherus*]**

Distribution in Iran: Kerman, Sistan & Baluchestan (BECKER & STEIN 1913), Iran (no locality cited) (ENGEL 1930).

Comments: Endemic to Iran.

***Aneomochtherus hungaricus rossicus* (ENGEL, 1927)**

Neomochtherus hungaricus distans TSACAS, 1968; *N. sercovae* LEHR, 1964 (LEHR, 1996); *N. serkovae* LEHR, 1996.

Distribution in Iran: Iran (no locality cited) (TSACAS 1968).

Distribution outside Iran: Armenia, Azerbaijan, China, Kazakhstan, Mongolia.

***Aneomochtherus macropygus* TSACAS, 1968**

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

Distribution outside Iran: Israel, Palestine.

Comments: This species was collected in a *Ficus carica* forest. Predator of *Philanthus triangulum* (FABRICIUS) (Hymenoptera: Sphecidae) (SAGHAEI et al. 2010).

***Aneomochtherus mesopotamicus* (JANSSENS, 1961) [*Neomochtherus*]**

Distribution in Iran: Semnan (SAMIN et al. 2011a), Iran (no locality cited) (TSACAS 1968).

Distribution outside Iran: Iraq (LEHR 1988).

***Aneomochtherus micrasiaticus* (TSACAS, 1968) [*Neomochtherus*]**

Neomochtherus mundus micrasiaticus TSACAS, 1968

Distribution in Iran: West Azarbaijan (SHOEIBI & KARIMPOUR 2010).

Distribution outside Iran: Palaearctic, Afrotropical, Asia, Greece, Turkey (LEHR 1988).

Comments: Predator of grasshoppers, especially *Acridella robusta* UVAROV (Orthoptera: Acrididae) (SHOEIBI & KARIMPOUR 2010).

***Aneomochtherus mundus* (LOEW, 1849) [*Neomochtherus*]**

Neomochtherus rhodius TSACAS, 1963.

Distribution in Iran: East Azarbaijan (HAYAT et al. 2008), Fars (SAGHAEI et al. 2010), Golestan, Mazandaran (GHAHARI et al. 2007b, 2008b).

Distribution outside Iran: Greece, Turkey.

Comments: This species was collected in a rice field (GHAHARI et al. 2007b, 2008b), and resting on *Chenopodium opulifolium* (Chenopodiaceae) and *Rapistrum rugrosum* (Brassicaceae) (GHAHARI et al. 2007b). Predator of grasshoppers, especially *Acridella robusta* UVAROV (Orthoptera: Acrididae) (HAYAT et al. 2008) and *Salentia* sp. (Diptera: Therevidae) (SAGHAEI et al. 2010). Also a fly parasite, *Megaselia scalaris* (LOEW) (Diptera: Phoridae), was reared from the adults of *A. mundus* (HAYAT et al. 2008).

***Aneomochtherus ochriventris* (LOEW, 1854)**

Distribution in Iran: Fars (SAGHAEI et al. 2008; TOMASOVIC & SAGHAEI 2009).

Distribution outside Iran: Morrocco, Tunisia (LEHR 1988), Spain (TOMASOVIC & SAGHAEI 2009).

***Aneomochtherus ochriventris caucasicus* TSACAS, 1968**

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

Distribution outside Iran: Azerbaijan (LEHR 1988), Caucasus (TSACAS 1968).

Comments: This species was collected in an *Amygdalus scoparia* forest. Predator of *Phyllomorpha* sp. (Hemiptera: Coreidae) (SAGHAEI et al. 2010).

***Aneomochtherus ochriventris persicus* TOMASOVIC & SAGHAEI, 2009**

Distribution in Iran: Fars (TOMASOVIC & SAGHAEI 2009).

Comments: Endemic to Iran.

***Aneomochtherus perplexus* (BECKER, 1923) [*Cerdistus*]**

Neomochtherus repentinus RICHTER, 1963.

Distribution in Iran: Fars (TOMASOVIC & SAGHAEI 2009), Guilan (HAYAT et al. 2008), Khuzestan (OLDROYD 1958; GHAHARI et al. 2007b), Mazandaran (GHAHARI et al. 2007b), Semnan (SAKENIN et al. 2010), Iran (no locality cited) (TSACAS 1968).

Distribution outside Iran: Armenia, Azerbaijan, Russia, Turkey, Ukraine (LEHR 1988).

C o m m e n t s : This species was collected resting on *Robinia viscosa* (Papilionaceae) and *Ziziphus spina-christi* (Rhamnaceae) (GHAHARI et al. 2007b).

***Aneomochtherus petrishtshevae* (STACKELBERG, 1937) [*Neomochtherus*]**

D i s t r i b u t i o n i n I r a n : Northern Khorasan (TSACAS 1968), Iran (no locality cited) (LEHR 1988).

D i s t r i b u t i o n o u t s i d e I r a n : Kazakhstan, Tajikistan, Turkmenistan, Uzbekistan (LEHR 1988).

Genus *Antipalus* LOEW, 1849

***Antipalus truncatus* (LOEW, 1849) [*Asilus*]**

D i s t r i b u t i o n i n I r a n : Fars (LEHR et al. 2007).

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

C o m m e n t s : Predator of *Delta unguiculatum* (VILLERS) (Hymenoptera: Vespidae) (LEHR et al. 2007).

Genus *Antiphrisson* LOEW, 1849

***Antiphrisson adpressus* (LOEW, 1849) [*Asilus*]**

D i s t r i b u t i o n i n I r a n : Fars (SAGHAEI et al. 2008, 2009, 2010; TOMASOVIC & SAGHAEI 2009), Khuzestan (OLDROYD 1958).

D i s t r i b u t i o n o u t s i d e I r a n : Azerbaijan, Egypt, Israel, Kazakhstan, Russia, Turkey.

C o m m e n t s : Predator of *Bembecinus tridens* FABRICIUS (Hymenoptera: Sphecidae) and *Eristalis tenax* (LINNAEUS) (Diptera: Syrphidae) (SAGHAEI et al. 2010).

***Antiphrisson trifarius* (LOEW, 1849) [*Asilus*]**

Asilus sareptanus LICHTWARDT, 1903; *A. thalhammeri* LICHTWARDT, 1903.

D i s t r i b u t i o n i n I r a n : Fars (SAGHAEI et al. 2008, 2009, 2010), Mazandaran (HAYAT et al. 2008).

D i s t r i b u t i o n o u t s i d e I r a n : Albania, Azerbaijan, Belgium, Bosnia-Herzegovina, Croatia, Egypt, France, Germany, Greece, Hungary, Israel, Italy, Kazakhstan, Malta, Morocco, Romania, Russia, Slovenia, Spain, Switzerland, Syria, Tunisia, Turkey.

C o m m e n t s : Predator of *Delta unguiculatum* (VILLERS) (Hymenoptera: Vespidae) (SAGHAEI et al. 2008, 2010).

Genus *Asiloephesus* LEHR, 1992

***Asiloephesus excisus* (LOEW, 1848) [*Asilus*]**

Asilus excisus LOEW, 1848; *Eutolmus excisus* (LOEW, 1848).

D i s t r i b u t i o n i n I r a n : Khorasan (BECKER & STEIN 1913).

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

Genus *Asilus* LINNAEUS, 1758

***Asilus barbarus* LINNAEUS, 1758**

Asilus sinis SEGUY, 1930; *A. flavipes* ESIPENKO, 1970.

Distribution in Iran: Khuzestan (HAYAT et al. 2008).

Distribution outside Iran: Algeria, China, France, Italy, Mongolia, Morocco, Russia (Far East, Siberia), Tunisia (LEHR 1988).

Comments: Predator of *Sphex flavipennis* FABRICIUS (Hymenoptera: Sphecidae) (HAYAT et al. 2008).

***Asilus crabroniformis* LINNAEUS, 1758**

Distribution in Iran: Semnan (HAYAT et al. 2008; SAKENIN et al. 2010), Tehran (SAMIN et al. 2010).

Distribution outside Iran: Algeria, Austria, Azerbaijan, Belgium, Bosnia-Herzegovina, Croatia, Czech Republic, Denmark, Finland, France, Germany, Hungary, Italy, Morocco, Norway, Poland, Romania, Russia, Slovakia, Slovenia, Spain, Sweden, Switzerland, The Netherlands, Turkey, United Kingdom.

Comments: Predator of cricket, *Gryllus desertus* (PALLAS) (Orthoptera: Gryllidae) (HAYAT et al. 2008), *Eristalinus quinquelineatus* (FABRICIUS) and *Helophilus parallelus* (HARRIS) (Diptera: Syrphidae) (SAMIN et al. 2010).

***Asilus lucidus* PALLAS in WIEDEMANN, 1818**

Distribution in Iran: Kordestan (HAYAT et al. 2008), Iran (no locality cited) (LEHR 1988).

Distribution outside Iran: Russia and adjacent regions.

Genus *Astochia* BECKER, 1913

***Astochia caspica* HERMANN, 1917**

Astochia sareptana BECKER, 1923.

Distribution in Iran: Iran (no locality cited) (LEHR 1988).

Distribution outside Iran: Afghanistan, Azerbaijan, Kazakhstan, Russia.

***Astochia metatarsata* BECKER in BECKER & STEIN, 1913**

Distribution in Iran: Kerman (BECKER & STEIN 1913), Sistan & Baluchestan (BECKER & STEIN 1913; OLDROYD 1958), Iran (no locality cited) (ENGEL 1930).

Comments: Endemic to Iran.

***Astochia sodalis* (WULP, 1899) [*Itamus*]**

Distribution in Iran: Iran (no locality cited) (ABBASSIAN-LINTZEN 1964a).

Distribution outside Iran: Yemen.

Genus *Cerdistus* LOEW, 1849***Cerdistus debilis* BECKER, 1923**

Distribution in Iran: East Azarbaijan (GHAHARI et al. 2010), Lorestan (SAMIN et al. 2011a), Semnan (OSTOVARI & RASTEGAR 2013).

Distribution outside Iran: Greece, Turkey, former Yugoslavia.

Comments: Predator of *Chrysoperla carnea* (STEPHENS) (Neuroptera: Chrysopidae) (GHAHARI et al. 2010) and *Bothynoderes ambiguus* FÄHRÆUS and *Megamecus albilaterus* FAUST (Coleoptera: Curculionidae) (SAMIN et al. 2011a).

***Cerdistus denticulatus* (LOEW, 1849) [*Asilus*]**

Distribution in Iran: Isfahan (LEHR et al. 2007).

Distribution outside Iran: Armenia, Azerbaijan, Bulgaria, Georgia, Greece, Turkey.

Comments: Predator of *Coccinella septempunctata* LINNAEUS (Coleoptera: Coccinellidae) (LEHR et al. 2007).

***Cerdistus manii* SCHINER, 1867**

Distribution in Iran: Mazandaran (LEHR et al. 2007).

Distribution outside Iran: Armenia, Azerbaijan, Georgia, Tunisia, Turkey.

Comments: Predator of *Dicranolaius bellulus* GUERIN-MENEVILLE (Coleoptera: Melyridae), and *Dasyleurotettix depressus* (BRISOUT) (Orthoptera: Tettigidae) (LEHR et al. 2007).

***Cerdistus zelleri* SCHINER, 1862**

Distribution in Iran: Fars (SAMIN et al. 2011a), Khorasan (OSTOVARI & RASTEGAR 2013).

Distribution outside Iran: Austria, Germany, Italy, Romania, Sicily, Turkey.

Comments: Predator of *Heterotropus sabulosus* PARAMONOV (Diptera: Bombyliidae) and *Bombylisoma senegalense* MACQUART (Diptera: Bombyliidae) (SAMIN et al. 2011a).

Genus *Didysmachus* LEHR, 1996***Didysmachus picipes* (MEIGEN, 1820) [*Asilus*]**

Asilus nigripes (MEGERLE in MEIGEN, 1820); *A. forcipula* (ZELLER, 1840); *A. mixtus* (LOEW, 1840); *Dysmachus pendulus* BECKER, 1923; *Eutolmus brunnicosus* (BECKER, 1923).

Distribution in Iran: Fars, Yazd (LEHR et al. 2007), West Azarbaijan (SHOEIBI & KARIMPOUR 2010).

Distribution outside Iran: Albania, Armenia, Austria, Azerbaijan, Czech Republic, Denmark, Finland, France, Georgia, Germany, Hungary, Italy, Kazakhstan, Norway, Poland, Romania, Russia (North, Central and South European territory, West Siberia), Sweden, Switzerland, The Netherlands, Turkey, Ukraine, former Yugoslavia (LEHR 1996).

Comments: Predator of *Silvius caucasicus* (OLSUFJEV) (Diptera: Tabanidae) (LEHR et al. 2007).

Genus *Dysmachus* LOEW, 1860

***Dysmachus bifurcus* (LOEW, 1848) [*Asilus*]**

Asilus varius (MEIGEN, 1820); *A. domitor* (MEIGEN, 1830); *Dysmachus perturbans* BECKER, 1923.

Distribution in Iran: Mazandaran (LEHR et al. 2007).

Distribution outside Iran: Austria, Czech Republic, Denmark, France, Germany, Great Britain, Hungary, Poland, Romania, Switzerland, Turkey.

Comments: Predator of *Ammophila heydeni heydeni* DAHLBOM (Hymenoptera: Sphecidae) (LEHR et al. 2007).

***Dysmachus bilobus* LOEW, 1871**

Distribution in Iran: Golestan (LEHR et al. 2007).

Distribution outside Iran: Armenia, Azerbaijan, Bulgaria, Georgia, Kirgystan, Romania, Russia (South European territory), Turkey, Ukraine, Uzbekistan, former Yugoslavia.

Comments: Predator of *Liris niger* (FABRICIUS) (Hymenoptera: Crabronidae) (LEHR et al. 2007).

***Dysmachus bimucronatus* (LOEW, 1854) [*Lophonotus*]**

Distribution in Iran: Golestan (LEHR et al. 2007).

Distribution outside Iran: Austria, Bulgaria, Czech Republic, France, Germany, Hungary, Italy, Kazakhstan, Romania, Russia, Turkey, Ukraine, former Yugoslavia.

Comments: Predator of *Tabanus bactrianus* OLSUFJEV (Diptera: Tabanidae) (LEHR et al. 2007).

***Dysmachus cephalenus* LOEW, 1871**

Distribution in Iran: Fars (LEHR et al. 2007).

Distribution outside Iran: Albania, Bulgaria, Greece, Turkey, former Yugoslavia.

Comments: Predator of *Ammophila sabulosa sabulosa* (LINNAEUS) (Hymenoptera: Sphecidae) (LEHR et al. 2007).

***Dysmachus dasyproctus* LOEW, 1871**

Distribution in Iran: Isfahan (LEHR et al. 2007), Khorasan (GHAHARI et al. 2008a).

Distribution outside Iran: Armenia, Azerbaijan, Georgia, Greece, Romania, Turkey.

Comments: This species was collected in a cotton field. Predator of *Evania hunteri* MANI, and *Brachygaster minutus* (OLIVIER) (Hymenoptera: Evaniidae) (GHAHARI et al. 2008a). Also, predator of *Tabanus bromius flavofemoratus* STROBL (Diptera: Tabanidae) (LEHR et al. 2007).

***Dysmachus fuscipennis* (MEIGEN, 1820) [Asilus]**

Asilus spiniger (ZELLER, 1840).

Distribution in Iran: Fars (LEHR et al. 2007).

Distribution outside Iran: Albania, Azerbaijan, Bulgaria, Czech Republic, France, Georgia, Germany, Greece, Hungary, Italy, Kazakhstan, Poland, Romania, Russia (South European territory, West Siberia), Turkey, Ukraine, former Yugoslavia.

Comments: Predator of *Bembecinus asiaticus iranicus* SCHMID-EGGER (Hymenoptera: Crabronidae) (LEHR et al. 2007).

***Dysmachus praemorsus* (LOEW, 1854) [Lophonotus]**

Asilus nigripes (MACQUART, 1826); *Lophonotus tridens* (EGGER, 1855); *Dysmachus foliiformis* BECKER, 1923.

Distribution in Iran: East Azarbaijan (SHOEIBI & KARIMPOUR 2010), Fars (LEHR et al. 2007).

Distribution outside Iran: Albania, Austria, Bulgaria, France, Germany, Hungary, Poland, Romania, Turkey, Ukraine, former Yugoslavia.

Comments: Predator of *Tabanus filipjevi* OLSUFJEV (Diptera: Tabanidae) (LEHR et al. 2007).

***Dysmachus setipyga* BECKER, 1923**

Distribution in Iran: Mazandaran, Tehran (LEHR et al. 2007).

Distribution outside Iran: Turkey.

Comments: Predator of *Atylotus quadrifarius* (LOEW) (Diptera: Tabanidae) (LEHR et al. 2007).

***Dysmachus styliifer* (LOEW, 1854) [Lophonotus]**

Distribution in Iran: Golestan (LEHR et al. 2007; GHAHARI et al. 2008a), Semnan (NADERIAN et al. 2012).

Distribution outside Iran: Albania, Armenia, Austria, Azerbaijan, Bulgaria, Czech Republic, France, Georgia, Germany, Greece, Hungary, Italy, Poland, Romania, Russia (South European territory), Turkey, Ukraine, former Yugoslavia.

Comments: This species was collected in a cotton field. Predator of *Liris niger* (FABRICIUS) (Hymenoptera: Sphecidae) (GHAHARI et al. 2008a). Also, predator of *Robineauella pseudoscoparia* (KRAMER) (Diptera: Sarcophagidae) (LEHR et al. 2007).

***Dysmachus tricuspis* (LOEW, 1848) [Asilus]**

Dysmachus kervillei VILLENEUVE, 1910.

Distribution in Iran: East Azarbaijan (SHOEIBI & KARIMPOUR 2010), Isfahan (LEHR et al. 2007).

Distribution outside Iran: Albania, Greece, Romania, Tunisia, Turkey.

Comments: Predator of *Phryxe vulgaris* (FALLÉN) (Diptera: Tachinidae) (LEHR et al. 2007). Also, an unknown species of *Dysmachus* was collected from Fars province by SAGHAEI et al. (2010) as the predator of *Sphaerophoria scripta* (LINNAEUS) (Diptera: Syrphidae).

Genus *Eccoptopus* LOEW, 1860

***Eccoptopus longitarsis* (MACQUART, 1838) [*Asilus*]**

Eccoptopus erythrogastrus LOEW, 1871; *Coelopus lucidus* (BECKER, 1907).

Distribution in Iran: Iran (no locality cited) (THEODOR 1980).

Distribution outside Iran: Algeria, Egypt, Iraq, Israel, Morocco, Tunisia.

Genus *Echthistus* LOEW, 1849

***Echthistus rufinervis* (MEIGEN, 1820) [*Asilus*]**

Asilus femoralis (MEGERLE in MEIGEN, A. *flavescens* (MACQUART, 1834); *Asilus cognatus* LOEW, 1849; *Echthistus rufiventris* BECKER et al., 1903.

Distribution in Iran: Fars (LEHR et al. 2007).

Distribution outside Iran: Austria, Bulgaria, Czech Republic, France, Germany, Greece, Hungary, Israel, Kazakhstan, Poland, Romania, Russia (South European territory, West Siberia), Switzerland, Turkey, Ukraine, former Yugoslavia.

Comments: Predator of *Tabanus bromius* LINNAEUS (Diptera: Tabanidae) (LEHR et al. 2007).

Genus *Engelepogon* LEHR, 1992

***Engelepogon antiochiensis* (TSACAS, 1964) [*Acanthopleura*]**

Distribution in Iran: Mazandaran (LEHR et al. 2007).

Distribution outside Iran: Turkey.

Comments: Predator of *Hybomitra erberi* (BRAUER) (Diptera: Tabanidae) (LEHR et al. 2007).

***Engelepogon brunnipes* (FABRICIUS, 1794) [*Asilus*]**

Asilus brunnipes (FABRICIUS, 1794); *A. castanipes* (MEIGEN, 1820); *A. rufipes* (MEIGEN, 1820) (nomen nudum); *Mochterus goliath* (SCHINER, 1867).

Distribution in Iran: Kordestan (HAYAT et al. 2008).

Distribution outside Iran: Algeria, Austria, France, Greece, Italy, Morocco, Spain, Tunisia, Turkey, former Yugoslavia (LEHR 1988).

Comments: Predator of *Bembix bicolor* RADOSZKOWSKI (Hymenoptera: Sphecidae) (HAYAT et al. 2008).

***Engelepogon cingulifer* (BECKER, 1913) [*Machimus*]**

Distribution in Iran: East Azarbaijan, West Azarbaijan (SHOEIBI & KARIMPOUR 2010), Khorasan, Sistan & Baluchestan (BECKER & STEIN 1913), Iran (no locality cited) (ENGEL 1930).

Distribution outside Iran: Azerbaijan, Kazakhstan, former Soviet Middle Asia, former Transcaucas Republics (LEHR 1988).

***Engelepogon idiorhythmicus* (JANSSEN, 1960) [*Acanthopleura*]**

Distribution in Iran: Fars (SAGHAEI et al. 2008, 2009, 2010).

Distribution outside Iran: Greece, former Transcaucasus Republics, Turkey (LEHR 1988).

Comments: This species was collected in an *Amygdalus scoparia* forest, predator of *Phycus* sp. (Diptera: Therevidae) (SAGHAEI et al. 2010).

Genus *Erax* SCOPOLI, 1763***Erax barbatus* SCOPOLI, 1763**

Asilus frontalis (OLIVIER, 1789); *A. punctatus* (MEIGEN, 1804).

Distribution in Iran: Guilan (SAKENIN et al. 2008a), Mazandaran (SAKENIN et al. 2008b; GHAHARI et al. 2009), Tehran (SAMIN et al. 2010).

Distribution outside Iran: Bulgaria, Czech Republic, France, Germany, Greece, Poland, Romania, Sweden, Russia (South European territory, former Transcaucasus Republics), Turkey, former Yugoslavia.

Comments: Predator of *Macrophya duodecimpunctata* (LINNAEUS), *Messa wuestneii* (KONOW) (Hymenoptera: Tenthredinidae) (SAMIN et al. 2010) and *Hypenidium roborowskii* (BECKER) (Diptera: Tephritidae) (SAKENIN et al. 2008a).

***Erax grootaerti* TOMASOVIC, 2002**

Distribution in Iran: Fars (TOMASOVIC 2002; TOMASOVIC & SAGHAEI 2009).

Comments: Endemic to Iran.

***Erax nubeculus* (LOEW, 1848) [*Asilus*]**

Distribution in Iran: Isfahan (GHAHARI et al. 2010), Khorasan (OSTOVARI & RASTEGAR 2013).

Distribution outside Iran: Turkey (LEHR 1988).

Comments: Predator of *Chrysoperla iranica* HÖLZEL (Neuroptera: Chrysopidae) (GHAHARI et al. 2010).

***Erax sedulus* RICHTER, 1963**

Distribution in Iran: West Azarbaijan (SHOEIBI & KARIMPOUR 2010).

Distribution outside Iran: Azerbaijan (LEHR 1988).

***Erax tenuicornis* (LOEW, 1848) [*Asilus*]**

Distribution in Iran: East Azarbaijan (SAKENIN et al. 2008a), Fars (SAMIN et al. 2011a).

Distribution outside Iran: Greece, Turkey.

Comments: Predator of *Pamphilius balteatus* (FALLÉN) (Hymenoptera: Pamphiliidae) (SAMIN et al. 2011a), *Acantholyda erythrocephala* (LINNAEUS) (Hymenoptera: Pamphiliidae) (SAKENIN et al. 2008a).

Genus *Erebunus* RICHTER, 1966

***Erebunus farinosus* (BECKER in BECKER & STEIN, 1913) [*Epitriptus*]**

Argillemisca transcaspica (LEHR, 1964); *Eremisca transcaspica* LEHR, 1964; *E. transcaspica pilosa* LEHR, 1964.

Distribution in Iran: Khorasan (BECKER & STEIN 1913), Semnan (SAKENIN et al. 2010).

Distribution outside Iran: Kazakhstan.

Comments: Predator of *Ectemnius rubicola* (DUFOUR & PERRIS) (Hymenoptera: Sphecidae) (SAKENIN et al. 2010).

Genus *Eremisca* HULL, 1962

***Eremisca heleni* (EFFLATOUN, 1934) [*Cerdistus*]**

Distribution in Iran: Hormozgan, Sistan & Baluchestan (ABBASSIAN-LINTZEN 1964b), Iran (no locality cited) (THEODOR 1980).

Distribution outside Iran: Egypt, Israel, Morocco, Oman.

Comments: On sand dunes; in evening attracted by light (ABBASSIAN-LINTZEN 1964b).

***Eremisca shahgudiani* ABBASSIAN-LINTZEN, 1964**

Eremisca araratica RICHTER, 1966.

Distribution in Iran: Khuzestan (ABBASSIAN-LINTZEN 1964b).

Distribution outside Iran: Armenia, Azerbaijan.

Comments: This species was found among tamarisk and oleander bushes on sandy soil on the river bank and between shrubs on light soil (ABBASSIAN-LINTZEN 1964b).

Genus *Esatanas* LEHR, 1986

***Esatanas shah* (RONDANI, 1873) [*Proctocanthus*]**

Distribution in Iran: Type-locality: "Persia sep."-- Iran (no locality cited) (ENGEL 1930).

Distribution outside Iran: Kazakhstan, Turkmenistan, Uzbekistan (LEHR 1988).

Genus *Eutolmus* LOEW, 1848

***Eutolmus calopus* (LOEW, 1848) [*Asilus*]**

Distribution in Iran: Golestan (LEHR et al. 2007).

Distribution outside Iran: Armenia, Azerbaijan, Georgia, Greece, Turkey, former Yugoslavia.

Comments: Predator of *Cerceris tuberculata* VILLERS (Hymenoptera: Crabronidae) (LEHR et al. 2007).

***Eutolmus facialis* (LOEW, 1848) [*Asilus*]**

Distribution in Iran: East Azarbaijan (SHOEIBI & KARIMPOUR 2010), Tehran (LEHR et al. 2007).

Distribution outside Iran: Israel, Palestine, Turkey, former Yugoslavia (LEHR et al. 2007).

Comments: Predator of *Dasyrhamphis umbrinus* (MEIGEN) (Diptera: Tachinidae) (SHOEIBI & KARIMPOUR 2010).

***Eutolmus immaculatus* LOEW, 1871**

Eutolmus implacidus LOEW, 1871.

Distribution in Iran: Golestan (SAKENIN et al. 2008a), Khorasan (SAMIN et al. 2011a), Mazandaran (SAKENIN et al. 2008a, b).

Distribution outside Iran: Germany, Kazakhstan, Russia and adjacent regions (Soviet Middle Asia), Turkey.

Comments: Predator of *Bombus rehbinderi* VOGT, and *Psithyrus* (*Psithyrus*) *campestris* (PANZER) (Hymenoptera: Apidae) (SAMIN et al. 2011a).

***Eutolmus mordax* (LOEW, 1848) [*Asilus*]**

Asilus periscelis (LOEW, 1848).

Distribution in Iran: Fars (LEHR et al. 2007).

Distribution outside Iran: Greece, Romania, Russia, (Central European territory), Tunisia, Turkey.

Comments: Predator of *Palarus variegatus* (FABRICIUS) (Hymenoptera: Crabronidae) (LEHR et al. 2007).

***Eutolmus parricida* (LOEW, 1848) [*Asilus*]**

Distribution in Iran: East Azarbaijan, West Azarbaijan (SHOEIBI & KARIMPOUR 2010), Mazandaran (LEHR et al. 2007; HAYAT et al. 2008), Semnan (SAKENIN et al. 2010).

Distribution outside Iran: Afghanistan, Armenia, Azerbaijan, Georgia, Turkey.

Comments: Predator of *Ramonda spathulata* (FALLÉN) (Diptera: Tachinidae) (LEHR et al. 2007) and *Sphex oxianus* GUSSAKOVSKY (Hymenoptera: Sphecidae) (HAYAT et al. 2008).

***Eutolmus rufibarbis* (MEIGEN, 1820) [*Asilus*]**

Asilus melampodius (ZELLER, 1840); *A. forcipatus* v. *major* FALLÉN, 1814.

Distribution in Iran: Khorasan (OSTOVARI & RASTEGAR 2013), Zanzan (GHAHARI et al. 2009; SAMIN et al. 2011a, b, c).

Distribution outside Iran: Austria, Belgium, Bulgaria, Czech Republic, Denmark, France, Germany, Greece, Hungary, Italy, Japan, Korea, Poland, Romania, Russia and adjacent regions (Central European territory, East Siberia, Far East,

North European territory, South European territory, West Siberia), Sweden, Switzerland, The Netherlands, Turkey, United Kingdom, former Yugoslavia.

Comments: Predator of *Philonthus cruentatus* (GMELIN) (Coleoptera: Staphylinidae) (SAMIN et al. 2011b, c).

Genus *Machimus* LOEW, 1849

***Machimus annulipes* (BRULLÉ, 1832) [*Asilus*]**

Asilus basalis LOEW, 1849; *A. cerdo* GERSTAECKER, 1861.

Distribution in Iran: Fars (SAGHAEI et al. 2010), Guilan (GHAHARI et al. 2007b, 2009), Kermanshah, Semnan (HAYAT et al. 2008), Mazandaran (GHAHARI et al. 2007b, 2008b).

Distribution outside Iran: Albania, Azerbaijan, Bosnia-Herzegovina, Bulgaria, Croatia, Great Britain, Greece, Hungary, Israel, Poland, Romania, Slovenia, Switzerland, Turkey.

Comments: This species was collected in a rice field (GHAHARI et al. 2007b, 2008b) and resting on *Trifolium pratensis* (Leguminosae) (GHAHARI et al. 2007b), also in a wheat field predator of *Psammotettix* sp. (Hemiptera: Cicadellidae) (SAGHAEI et al. 2010). Predator of *Sarcophaga (Liopygia) argyrostoma* ROBINEAU-DESVOIDY and *Sarcophaga (Sarcophaga) lehmanni* MÜLLER (Diptera: Sarcophagidae) (HAYAT et al. 2008).

***Machimus aradensis* THEODOR, 1980**

Distribution in Iran: Fars (SAGHAEI et al. 2008, 2009, 2010).

Distribution outside Iran: Israel, Palestine.

Comments: Predator of *Ammophila sabulosa* (LINNAEUS) (Hymenoptera: Sphecidae) (SAGHAEI et al. 2010).

***Machimus armipes* BECKER in BECKER & STEIN, 1913**

Distribution in Iran: Golestan, Mazandaran (GHAHARI et al. 2007b), Kerman, Sistan & Baluchestan (BECKER & STEIN 1913), Iran (no locality cited) (ENGEL 1930).

Distribution outside Iran: Kyrgystan, Tajikistan (LEHR 1988).

Comments: This species was collected resting on *Rubus hyrcanus* (Rosaceae), and *Xanthium pensylvanicum* (Compositae) (GHAHARI et al. 2007b).

***Machimus caliginosus* (MEIGEN, 1820) [*Asilus*]**

Asilus apicatus (LOEW, 1848); *A. lugens* (LOEW, 1849).

Distribution in Iran: Fars (SAKENIN et al. 2008b), Lorestan (SAMIN et al. 2011a), Mazandaran (SAKENIN et al. 2008a).

Distribution outside Iran: Austria, Belgium, Bulgaria, Czech Republic, France, Germany, Greece, Italy, Turkey, former Yugoslavia.

Comments: Predator of *Arge turcomana* GUSSAKOVSKIJ (Hymenoptera: Argidae) (SAMIN et al. 2011a), and *Xylocopa (Xylocopa) valga* GERSTÄCKER (Hymenoptera: Anthophoridae) (SAKENIN et al. 2008a).

***Machimus cyanopus* (LOEW, 1849) [Asilus]**

Distribution in Iran: East Azarbaijan (SAKENIN et al. 2008a), Golestan (SAMIN et al. 2011d), Semnan (SAKENIN et al. 2010).

Distribution outside Iran: Albania, Austria, Bulgaria, France, Germany, Greece, Hungary, Italy, Romania, Switzerland, Turkey, former Yugoslavia.

Comments: Predator of *Lindenius albilabris* (FABRICIUS), *Achysphex pompiliiformis* (PANZER) (Hymenoptera: Sphecidae) (SAKENIN et al. 2010), *Scolia (Scolia) galbula* (PALLAS), *Scolia (Scolia) fallax* (EVERSMANN) (Hymenoptera: Scoliidae) (SAKENIN et al. 2008a), and *Sepedophilus littoreus* (LINNAEUS) (Coleoptera: Staphylinidae) (SAMIN et al. 2011d).

***Machimus elegans* (LOEW, 1849) [Asilus]**

Distribution in Iran: Isfahan (LEHR et al. 2007).

Distribution outside Iran: Spain, Turkey.

Comments: Predator of *Cylindrothecum ibericum* (VILLENEUVE) (Diptera: Sarcophagidae) (LEHR et al. 2007).

***Machimus graciosus* LOEW, 1871**

Distribution in Iran: Chaharmahal & Bakhtiari (LEHR et al. 2007).

Distribution outside Iran: Turkey.

Comments: Predator of *Hybomitra peculiaris* (SZILADY) (Diptera: Tabanidae) (LEHR et al. 2007).

***Machimus modestus* (LOEW, 1849) [Asilus]**

Distribution in Iran: Golestan (LEHR et al. 2007).

Distribution outside Iran: Bulgaria, Hungary, Romania, Turkey, former Yugoslavia.

Comments: Predator of *Myolepta luteola* (GMELIN), and *Spiximorpha worelli* (BRĂDESCU) (Diptera: Syrphidae) (LEHR et al. 2007).

***Machimus nahalalensis* THEODOR, 1980**

Distribution in Iran: Fars (SAGHAEI et al. 2008, 2009, 2010).

Distribution outside Iran: Israel.

Comments: Predator of *Syntomon* sp. (Diptera: Dolichopodidae) (SAGHAEI et al. 2010).

***Machimus nevadensis* (STROBL in CZERNY & STROBL, 1909) [Asilus]**

Distribution in Iran: Yazd (HAYAT et al. 2008).

Distribution outside Iran: Spain (LEHR 1988).

Comments: Predator of *Ceceris tuberculata* VILLERS (Hymenoptera: Sphecidae) (HAYAT et al. 2008).

***Machimus rudis* BECKER, 1923**

Distribution in Iran: Fars, Yazd (LEHR et al. 2007).

Distribution outside Iran: Turkey.

Comments: Predator of *Calliphora vicina* (ROBINEAU-DESVOIDY) (Diptera: Calliphoridae) and *Tetrix subulata* (LINNAEUS) (Orthoptera: Tetrigidae) (LEHR et al. 2007).

***Machimus rusticus* (MEIGEN, 1820) [*Asilus*]**

Asilus genualis ZELLER, 1840; *A. obscurus* MEIGEN, 1820.

Distribution in Iran: East Azarbaijan, West Azarbaijan (SHOEIBI & KARIMPOUR 2010), Fars (SAGHAEI et al. 2008, 2009, 2010; TOMASOVIC & SAGHAEI 2009), Isfahan (GHAHARI et al. 2007b), Khorasan (HAYAT et al. 2008), Mazandaran (GHAHARI et al. 2007b, 2008b), Semnan (GHAHARI et al. 2008a), Tehran (SAMIN et al. 2010).

Distribution outside Iran: Albania, Austria, Belgium, Bosnia-Herzegovina, Bulgaria, Croatia, Czech Republic, France, Germany, Great Britain, Greece, Italy, Kazakhstan, Poland, Romania, Slovakia, Slovenia, Spain, Switzerland, The Netherlands, Turkey, United Kingdom.

Comments: This species was collected in a rice field (GHAHARI et al. 2007b, 2008b), and resting on *Polygonum convolvulus* (Polygonaceae) (GHAHARI et al. 2007b), in a cotton field. Predator of *Systropha curvicornis* (SCOPOLI) (Hymenoptera: Halictidae) (GHAHARI et al. 2008a). Predator of *Papilio demoleus demoleus* LINNAEUS (Lepidoptera: Papilionidae) (HAYAT et al. 2008), *Conophorus glaucescens* (LOEW) and *Usia (Usia) calva* LOEW (Diptera: Bombyliidae) (SAMIN et al. 2010), *Delta unguiculatum* (VILLERS) (Hymenoptera: Vespidae) (SAGHAEI et al. 2010).

***Machimus setibarbus* (LOEW, 1849) [*Asilus*]**

Asilus intermedius (HOLMGREN in ZETTERSTEDT, 1852); *Machimus setiventris* ENGEL, 1928.

Distribution in Iran: Isfahan (LEHR et al. 2007).

Distribution outside Iran: Bulgaria, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Greece, Israel, Italy, Poland, Romania, Russia (Central European territory), Spain, Sweden, Tunisia, Turkey, former Yugoslavia.

Comments: Predator of *Tachina magnicornis* (ZETTERSTEDT) (Diptera: Tachinidae) (LEHR et al. 2007).

***Machimus thoracius* (LOEW, 1849) [*Asilus*]**

Distribution in Iran: Kerman, Sistan & Baluchestan (BECKER & STEIN 1913), Khuzestan (GHAHARI et al. 2007b), Mazandaran (GHAHARI et al. 2007b, 2009).

Distribution outside Iran: Hungary, Turkey.

Comments: This species was collected in a rice field, and also resting on *Hibiscus syriacus* (Malvaceae) (GHAHARI et al. 2007b).

Genus *Machiremisca* LEHR, 1996***Machiremisca decipiens* (WIEDEMANN in MEIGEN, 1820) [*Asilus*]**

Dysmachus: LEHR, 1988; *A. variegatus* MEIGEN, 1820; *Eutolmus multicolor* SCHINER, 1854 (nomen nudum)/ *varispinus* STROBL in CERNY & STROBL, 1909; *Eremisca*: LEHR, 1996; *Machiremisca decipiens* (WIEDEMANN in MEIGEN, 1820) (comb. n. in TOMASOVIC et. al. 2003).

Distribution in Iran: Isfahan (HAYAT et al. 2008), Semnan (SAKENIN et al. 2010).

Distribution outside Iran: Italy, Portugal, Spain (LEHR 1988).

Comments: Predator of *Ancistrocerus auctus* FABRICIUS (Hymenoptera: Vespidae) (HAYAT et al. 2008).

Genus *Neoitamus* OSTEN SACKEN, 1878***Neoitamus cyanurus* (LOEW, 1849) [*Itamus*]**

Asilus aestivus (SCHRANK, 1781); *A. niger* (DE GEER, 1776); *A. tabidus* (MEIGEN, 1820); *A. tipuloides* (HARRIS, 1776) (Doubtful species in LEHR, 1988); *A. tibialis* FALLÉN, 1814; *A. cyanurus*: SHI, 1992.

Distribution in Iran: Mazandaran (HAYAT et al. 2008), Tehran (SAMIN et al. 2010).

Distribution outside Iran: Austria, Belgium, Bulgaria, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Greece, Hungary, Ireland, Italy, Luxembourg, Poland, Romania, Russia, Sweden, Switzerland, Taiwan, The Netherlands, Turkey.

Comments: Predator of *Silvia ochraceus* (LOEW) (Diptera: Tabanidae) (HAYAT et al. 2008).

***Neoitamus senectus* RICHTER, 1963**

Neoitamus lehri MOUCHA & HRADSKY, 1963.

Distribution in Iran: Tehran (SAMIN et al. 2010), West Azarbaijan (HASBENLI & BAYRAKDAR 2006).

Distribution outside Iran: Armenia, Azerbaijan, Georgia, Moldavia, Russia, former Transcaucasus Republics, Turkey, Ukraine.

Comments: Predator of *Anastoechus miscens* WALKER (Diptera: Bombyliidae) (SAMIN et al. 2010).

Genus *Neomochtherus* OSTEN SACKEN, 1878***Neomochtherus acanthodes* (LOEW, 1849) [*Asilus*]**

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

Distribution outside Iran: Former Transcaucasus Republics, Turkey.

***Neomochtherus albicans* (LOEW, 1849) [*Asilus*]**

Distribution in Iran: Guilan (SAKENIN et al. 2008a), Tehran (SAMIN et al. 2011c), West Azarbaijan (SAMIN et al. 2011b).

Distribution outside Iran: Turkey.

Comments: Predator of *Sterictiphora furcata* (VILLERS) (Hymenoptera: Argidae) (SAKENIN et al. 2008a) and *Philonthus varians* (PAYKULL) (Coleoptera: Staphylinidae) (SAMIN et al. 2011b, c).

Genus *Oldroydiana* LEHR, 1996

Oldroydiana calceatus (OLDROYD, 1958) [*Dsymachus*]

Distribution in Iran: Khuzestan (OLDROYD 1958).

Comments: Endemic to Iran.

Genus *Paramochtherus* THEODOR, 1980

Paramochtherus persicus TOMASOVIC & SAGHAEI, 2009

Distribution in Iran: Fars (TOMASOVIC & SAGHAEI 2009).

Comments: Endemic to Iran.

Genus *Philonicus* LOEW, 1849

Philonicus albiceps (MEIGEN, 1820) [*Asilus*]

Asilus canescens WIDEMANN in MEIGEN, 1820; *A. albibarbus* ZELLER, 1840 (error); *A. nudus* (LOEW, 1840); *Philonicus domesticus* RICARDO, 1920; *P. elutus* LOEW, 1871; *Cerdistus pulcher* BECKER, 1923; *C. marinus* BECKER, 1923; *C. orientalis* ESIPENKO, 1969.

Distribution in Iran: Fars (SAGHAEI et al. 2010; TOMASOVIC & SAGHAEI 2009), Guilan, Northern Iran (RICARDO 1920), Kordestan (HAYAT et al. 2008), Mazandaran (GHAHARI et al. 2007b, 2008b), Tehran (SAMIN et al. 2010).

Distribution outside Iran: Albania, Austria, Azerbaijan, Belgium, Bosnia-Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Greece, Hungary, Iceland, Ireland, Israel, Italy, Liechtenstein, Luxembourg, Malta, Mongolia, Norway, Poland, Portugal, Romania, Russia (East Siberia, Far East), Slovakia, Slovenia, Spain, Sweden, Switzerland, The Netherlands, Turkey, United Kingdom.

Comments: This species was collected in a rice field (GHAHARI et al. 2008b), and also resting on *Amaranthus retroflexus* (Amaranthaceae) (GHAHARI et al. 2007b). Predator of house fly, *Musca domestica* LINNAEUS (Diptera: Muscidae) (RICARDO 1920), *Mellinus crabroneus* (THUNBERG) (Hymenoptera: Sphecidae) (SAMIN et al. 2010), *Anthidium florentinum* (FABRICIUS) (Hymenoptera: Megachilidae) (SAGHAEI et al. 2010).

Genus *Polyphoni* LOEW, 1848

Polyphoni *laevigatus* LOEW, 1848

Distribution in Iran: Khuzestan (OLDROYD 1958), West Azarbaijan (SHOEIBI & KARIMPOUR 2010).

Distribution outside Iran: Albania, Azerbaijan, Greece, Palestine, Syria, Turkey.

Genus *Polysarca* SCHINER, 1866

***Polysarca unguolata* (WIEDEMANN, 1818) [*Laphria*]**

Asilus unguolata PALLAS.

Distribution in Iran: Guilan (GHAHARI et al. 2007b), Semnan (OSTOVARI & RASTEGAR 2013).

Distribution outside Iran: Central and South European territory, Kazakhstan, Russia, Soviet Middle Asia, Turkey, Turkmenistan, Uzbekistan.

Comments: This species was collected in a rice field (GHAHARI et al. 2007b).

Genus *Reminasus* LEHR, 1979

***Reminasus ephippium* (MACQUART, 1855) [*Asilus*]**

Asilus pulcher RICARDO, 1922.

Distribution in Iran: Sistan & Baluchestan (BECKER & STEIN 1913).

Distribution outside Iran: China, India, Mongolia, Sri Lanka.

Genus *Satanas* JACOBSON, 1908

***Satanas gigas* (EVERSMANN, 1855)**

Saropogon gigas BECKER in BECKER & STEIN, 1913.

Distribution in Iran: Fars (SAGHAEI et al. 2008, 2009, 2010; TOMASOVIC & SAGHAEI 2009), Kerman, Khorasan (BECKER & STEIN 1913), Mazandaran (GHAHARI et al. 2007b), Semnan (HAYAT et al. 2008; SAKENIN et al. 2010), Sistan & Baluchestan (BECKER & STEIN 1913; OLDROYD 1958), Iran (no locality cited) (ENGEL 1930).

Distribution outside Iran: Algeria, Azerbaijan, China, Egypt, Greece, Israel, Kazakhstan, Libya, Mongolia, Romania, Russia, Turkey.

Comments: This species was collected in a rice field (GHAHARI et al. 2007b). Predator of *Podalonia hirsuta hirsuta* (SCOPOLI) (Hymenoptera: Sphecidae) (HAYAT et al. 2008), *Bryodema* sp. (Orthoptera: Acrididae) and *Truxalis* sp. (Orthoptera: Acrididae) (SAGHAEI et al. 2010).

Genus *Tolmerus* LOEW, 1849 [*Asilus*]

***Tolmerus atricapillus* (FALLÉN, 1814)**

Asilus opacus (MEIGEN, 1820); *A. calceatus* (MEIGEN, 1820); *A. plebeius* (MEIGEN, 1820); *A. rufimanus* (MEIGEN, 1820); *A. subulatus* (LOEW, 1840); *A. bicornis* (ZELLER, 1840).

Distribution in Iran: Fars (SAKENIN et al. 2008b), Isfahan (SAKENIN et al. 2008a; GHAHARI et al. 2009), Khorasan (SAMIN et al. 2011a).

Distribution outside Iran: Austria, Belgium, Bulgaria, Czech Republic, Denmark, Finland, France, Germany, Italy, Kazakhstan, Luxembourg, Norway, Poland, Romania, Russia and adjacent regions (Central European territory, East Siberia, Far East, North European territory, South European territory, West Siberia), Sweden, Switzerland, The Netherlands, United Kingdom.

Comments: Predator of *Calameuta grombczewskii* (JAKOVLEV) (Hymenoptera: Cephidae) (SAKENIN et al. 2008a).

***Tolmerus cingulatus* (FABRICIUS, 1781) [*Asilus*]**

Epitriptus cingulatus (FABRICIUS, 1781); *Asilus annulatus* MACQUART, 1826; *A. striatus* MEIGEN, 1820; *A. pictipes* LOEW, 1848; *A. maculosus* HARRIS, 1776.

Distribution in Iran: Khorasan (BECKER & STEIN 1913), Tehran (SAMIN et al. 2010), Iran (no locality cited) (ENGEL 1930).

Distribution outside Iran: Austria, Azerbaijan, Belgium, Bosnia-Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, Finland, France, Germany, Hungary, Italy, Norway, Poland, Romania, Russia, Slovakia, Slovenia, Sweden, Switzerland, The Netherlands, Turkey, United Kingdom.

***Tolmerus facialis* BECKER in BECKER & STEIN, 1913**

Distribution in Iran: Sistan & Baluchestan (BECKER & STEIN 1913).

Comments: Endemic to Iran.

***Tolmerus fuscus* (MACQUART, 1839) [*Asilus*]**

Distribution in Iran: Ardabil (SAKENIN et al. 2011), East Azarbaijan (SAKENIN et al. 2009).

Distribution outside Iran: South European Territory of USSR, Spain (Canary Islands and Madeira), Turkey.

Comments: Predator of *Protaetia excavaata* GOMY & PERCHERON (Coleoptera: Scarabaeidae) (SAKENIN et al. 2009).

***Tolmerus richterae* LEHR, 1981**

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

Distribution outside Iran: Armenia, former Transcaucasus Republics.

***Tolmerus tessellatus* (LOEW, 1849) [*Asilus*]**

Distribution in Iran: Hamadan (SAMIN et al. 2011a), Khuzestan (SAKENIN et al. 2008a; GHAHARI et al. 2009), Zanjan (SAMIN et al. 2011b, c).

Distribution outside Iran: Italy, Romania, Turkey.

Comments: Predator of *Andrena haemorrhoa* (FABRICIUS) (Hymenoptera: Andrenidae) (SAMIN et al. 2011a), *Scolia* (*Scolia*) *fuciformis* (SCOPOLI) (Hymenoptera: Scoliidae) (SAKENIN et al. 2008a) and *Lathrobium pallidipenne* HOCHHUTH (Coleoptera: Staphylinidae) (SAMIN et al. 2011b, c).

***Tolmerus tivonensis* (THEODOR, 1980) [*Machimus* (*Tolmerus*)]**

Distribution in Iran: Golestan (GHAHARI et al. 2007a).

Distribution outside Iran: Israel, Turkey.

Comments: Predator of *Hyperaspis femorata* (MOTSCHULSKY) (Coleoptera: Coccinellidae) (GHAHARI et al. 2007a).

Genus *Trichomachimus* ENGEL, 1934

***Trichomachimus curtus* LEHR, 1989**

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

(GHAHARI et al. 2010), Kerman (SAMIN et al. 2011a), Semnan (OSTOVARI & RASTEGAR 2013).

Distribution outside Iran: Caucasus, Russia and adjacent countries.

Comments: Predator of *Chrysoperla carnea* (STEPHENS) (Neuroptera: Chrysopidae) (GHAHARI et al. 2010), *Bombylius* (*Bombylius*) *cinerascens* MIKAN (Diptera: Bombyllidae) (SAMIN et al. 2011a) and *Phyrrhalta* (*Galerucella*) *tenella* (LINNAEUS) (Coleoptera: Chrysomelidae) (SAKENIN et al. 2008a).

***Trichomachimus klapperichi* MOUCHA & HRADSKÝ, 1964**

Distribution in Iran: Golestan (GHAHARI et al. 2007b), Khorasan (OSTOVARI & RASTEGAR 2013).

Distribution outside Iran: Afghanistan.

Comments: This species was collected resting on *Corchorus olitorius* (Tilliaceae) (GHAHARI et al. 2007b).

***Trichomachimus oldroydi* MOUCHA & HRADSKÝ, 1964**

Distribution in Iran: Guilan (GHAHARI et al. 2007b), Khorasan (OSTOVARI & RASTEGAR 2013).

Distribution outside Iran: Afghanistan.

Comments: This species was collected in a rice field (GHAHARI et al. 2007b).

***Trichomachimus pubescens* MOUCHA & HRADSKÝ, 1964 [*Machimus*]**

Distribution in Iran: Fars (SAKENIN et al. 2008b), Tehran (SAMIN et al. 2010).

Distribution outside Iran: Afghanistan, China, India, Tibet.

Comments: Predator of *Psithyrus* (*Ashtonipsithyrus*) *bohemicus* (SEIDL) (Hymenoptera: Apidae) (SAKENIN et al. 2008a), *Chrysotoxum cautum* (HARRIS) (Diptera: Syrphidae) and *Eupeodes nuba* (WIEDEMANN) (Diptera: Syrphidae) (SAMIN et al. 2010).

Genus *Turka* OZDIKMEN, 2008

***Turka cervinus* (LOEW, 1856) [*Epitriptus*]**

Epitriptus cervinus LOEW, 1856; *Epitriptus cretaceus* BECKER in BECKER & STEIN, 1913.

Distribution in Iran: Iran (no locality cited) (BECKER & STEIN 1913; ENGEL 1930).

Distribution outside Iran: Iraq, Kazakhstan, Kirgystan, North Africa (incl. Morocco, Tunisia, Egypt), Russia, Turkey (ÖZDIKMEN 2008).

Subfamily *Atomosinae* HERMANN, 1912

Genus *Amathomyia* HERMANN, 1912

***Amathomyia persiana* HERMANN, 1912**

Amathomyia persiana BECKER in BECKER & STEIN, 1913.

Distribution in Iran: Sistan & Baluchestan (BECKER & STEIN 1913), Iran (no locality cited) (ENGEL 1930).

Distribution outside Iran: Tunisia, Uzbekistan.

Genus *Loewinella* HERMANN, 1912

***Loewinella virescens* (LOEW, 1871) [*Atomosia*]**

Distribution in Iran: Khuzestan (OLDROYD 1958), Tehran (SAMIN et al. 2010).

Distribution outside Iran: China, Mongolia, Russia and adjacent regions.

Subfamily *Dasygogoninae* MACQUART, 1838

Tribe *Isozogonini* HARDY, 1948

Genus *Leptarthrus* STEPHENS, 1829

***Leptarthrus brevirostris* (MEIGEN, 1804) [*Dioctria*]**

Dasygogon apicalis VON RÖDER, 1840; *D. armillatus* FALLÉN, 1824; *D. longitarsis* FALLÉN, 1814.

Distribution in Iran: Golestan, Mazandaran (GHAHARI et al. 2007a).

Distribution outside Iran: Albania, Austria, Bulgaria, Czech Republic, Germany, Denmark, France, Great Britain, Italy, Romania, Russia (Central European territory), Slovakia, Sweden, Turkey, former Yugoslavia.

Comments: Predator of *Volucella inanis* (LINNAEUS) (Diptera: Syrphidae) and *Polistes dominulus* (CHRIST) (Hymenoptera: Vespidae) (GHAHARI et al. 2007a).

Genus *Paraphamartania* ENGEL, 1930

***Paraphamartania syriaca* (SCHINER, 1867) [*Aphamartania*]**

Distribution in Iran: Khorasan (OSTOVARI & RASTEGAR 2013), Semnan, Tehran (GHAHARI et al. 2007a).

Distribution outside Iran: Greece, Israel, Kazakhstan, Syria, Turkey.

Comments: Predator of *Chrysolina coeruleans* SCRIBE (Coleoptera: Chrysomelidae) and *Thomisus onustus* (WALCKENAER) (Araneae: Thomisidae) (GHAHARI et al. 2007a).

Genus *Pegesimallus* LOEW, 1858

***Pegesimallus mesasiaticus* (LEHR, 1958) [*Neolaparus*]**

Distribution in Iran: Ardabil (SAKENIN et al. 2011), East Azarbaijan (SAKENIN et al. 2009), Mazandaran (SAKENIN et al. 2008a).

Distribution outside Iran: Armenia, China, Kazakhstan (incl. Turkistan), Mongolia, Soviet Middle Asia, former Transcaucasus Republics.

Comments: Predator of *Dorcadion (Autodorcadion) talyshense* GANGLBAUER (Coleoptera: Cerambycidae) (SAKENIN et al. 2008a) and *Schizoprymnus terebralis* (ŠNOFLÁK) (Hymenoptera: Braconidae) (SAKENIN et al. 2009).

***Pegesimallus volcatus* (WALKER, 1849) [*Dasypogon*]**

Dasypogon hypsaon WALKER, 1849; *D. cerco* WALKER, 1849; *Cenopogon bifidus* WULP, 1898.

Distribution in Iran: Semnan (SAKENIN et al. 2010; OSTOVARI & RASTEGAR 2013).

Distribution outside Iran: China, India, Indonesia, Java, Myanmar, Pakistan, Taiwan.

Genus *Rhabdogaster* LOEW, 1858

***Rhabdogaster cinerascens* (WULP, 1899) [*Psilinus*]**

Psilinus cinerascens WULP, 1899.

Distribution in Iran: Sistan & Baluchestan (OLDROYD 1958).

Distribution outside Iran: Kenya, Yemen.

Genus *Theurgus* RICHTER, 1966

***Theurgus kerzneri* LEHR, 1974**

Distribution in Iran: Isfahan (GHAHARI et al. 2010), Semnan (Samin et al. 2011a).

Distribution outside Iran: Mongolia, Russia and adjacent regions.

Comments: Predator of *Sympherobius pygmaeus* (RAMBUR) (Neuroptera: Hemerobiidae) (GHAHARI et al. 2010), *Labidostomis senicula* KRAATZ (Coleoptera: Chrysomelidae) and *Psylliodes brisouti* BEDEL (Coleoptera: Chrysomelidae) (SAMIN et al. 2011a).

Tribe *Dasypogonini* MACQUART, 1838

Genus *Dasypogon* MEIGEN, 1803

***Dasypogon diadema* (FABRICIUS, 1781) [*Asilus*]**

Asilus analis FABRICIUS, 1794; *A. liburnicus* GERMAR, 1817; *A. nervosus* MEIGEN, 1804; *A. punctatus* FABRICIUS, 1781; *A. bohemicus* PREYSSLER, 1790; *A. cylindrica* FABRICIUS, 1794; *A. fasciatus* MEIGEN, 1820; *A. rubidus* HERMANN, 1906; *A. umbrosus* BRULLÉ, 1832; *Selidopogon sicanus* COSTA, 1853; *S. diadema* FABRICIUS, 1781.

Distribution in Iran: East Azarbaijan, Fars, Golestan, Khuzestan, Mazandaran, Tehran (ABBASSIAN-LINTZEN 1964a), Iran (no locality cited) (THEODOR 1980).

Distribution outside Iran: Albania, Austria, Azerbaijan, Belgium, Bosnia-Herzegovina, Bulgaria, Croatia, Czech Republic, France, Germany, Greece, Hungary, Italy, Morocco, Poland, Romania, Russia, Slovakia, Slovenia, Spain, Switzerland, former Transcaucasus Republics, Turkey, United Kingdom.

Comments: This species was always closely associated with trees and bushes (ABBASSIAN-LINTZEN 1964a).

***Dasypogon irinelae* WEINBERG, 1986**

Distribution in Iran: Fars (SAGHAEI et al. 2010), West Azarbaijan (HAYAT et al. 2008; SHOEIBI & KARIMPOUR 2010).

Distribution outside Iran: Azerbaijan, Turkey.

Comments: Predator of *Chalybion* (*Chalybion*) *flexile* (LEPELLETIER de SAINT-FARGEU) (Hymenoptera: Sphecidae) (HAYAT et al. 2008) and *Delta dimidiatipenne* (SAUSSURE) (Hymenoptera: Vespidae) (SAGHAEI et al. 2010).

***Dasypogon magisi* TOMASOVIC, 1999**

Dasypogon variabilis BRULLÉ, 1832 (ENGEL, 1930; LEHR, 1988; WEINBERG, 1991).

Distribution in Iran: Fars (TOMASOVIC 1999; SAGHAEI et al. 2008, 2009, 2010; TOMASOVIC & SAGHAEI 2009).

Distribution outside Iran: Iraq.

Comments: This species was collected in an *Amygdalus scoparia* forest. Predator of *Gryllus bimaculatus* De GEER (Orthoptera: Gryllidae), *Xylocopa pubescens* SPINOLA (Hymenoptera: Apidae), *Megascolia maculata maculata* (Hymenoptera: Scolidae) (SAGHAEI et al. 2010).

***Dasypogon octonotatus* LOEW, 1869**

Dasypogon variabilis BRULLÉ, 1832 (ENGEL, 1930; WEINBERG, 1991), subspecies of *diadema* (LEHR, 1988).

Distribution in Iran: East Azarbaijan (HAYAT et al. 2008), Khuzestan (GHAHARI et al. 2007b), Mazandaran (GHAHARI et al. 2007b, 2008b, 2009).

Distribution outside Iran: Azerbaijan, Greece, Kazakhstan, Mongolia, Romania, Russia, Turkey, West Siberia.

Comments: This species was collected in a rice field (GHAHARI et al. 2007b, 2008b), resting on *Ricinus communis* (Euphorbiaceae) (GHAHARI et al. 2007b). Predator of *Katamenes sichelii* (GIORDANI SOIKA) and *Vespa crabro crabro* LINNAEUS (Hymenoptera: Vespidae) (HAYAT et al. 2008).

Genus *Saropogon* LOEW, 1847***Saropogon albicans* JANSSENS, 1961**

Distribution in Iran: Fars (SAKENIN et al. 2008b), Kermanshah (SAMIN et al. 2011a).

Distribution outside Iran: Iraq.

Comments: Predator of *Cladius pectinicornis* (GEOFFROY) and *Tenthredo* (*Eurogaster*) *obsoleta* KLUG (Hymenoptera: Tenthredinidae) (SAMIN et al. 2011a).

***Saropogon alternatus* LOEW, 1873**

Saropogon alternans LOEW, 1873.

Distribution in Iran: East Azarbaijan (ABBASSIAN-LINTZEN 1964a), Sistan & Baluchestan (OLDROYD 1958).

Distribution outside Iran: Uzbekistan.

***Saropogon bijani* ABBASSIAN-LINTZEN, 1964**

Distribution in Iran: Khuzestan (ABBASSIAN-LINTZEN 1964a).

Comments: Endemic to Iran.

***Saropogon clausus* BECKER, 1906**

Saropogon vosseleri BECKER, 1906.

Distribution in Iran: Khorasan, Sistan & Baluchestan (BECKER & STEIN 1913).

Distribution outside Iran: Algeria, Morocco, Tunisia.

***Saropogon dasynotus* LOEW, 1871**

Distribution in Iran: East Azarbaijan (SAKENIN et al. 2009), Tehran (SAMIN et al. 2010).

Distribution outside Iran: Kazakhstan, Russia and adjacent regions (Soviet Middle Asia), Turkey.

Comments: Predator of *Rugilus similis* (ERICHSON) (Coleoptera: Staphylinidae) (SAKENIN et al. 2009).

***Saropogon distinctus* BECKER, 1906**

Distribution in Iran: Fars (SAGHAEI et al. 2008, 2009, 2010).

Distribution outside Iran: Algeria, Egypt, Israel.

Comments: Predator of *Tabanus eggeri* SCHINER (Diptera: Tabanidae) (SAGHAEI et al. 2010).

***Saropogon fucatus* LOEW, 1869**

Distribution in Iran: Sistan & Baluchestan (BECKER & STEIN 1913).

Distribution outside Iran: North Africa, Spain.

***Saropogon gigas* BECKER in BECKER & STEIN, 1913**

Distribution in Iran: Kerman, Sistan & Baluchestan (BECKER & STEIN 1913).

Comments: Endemic to Iran.

***Saropogon jugulum* (LOEW, 1847) [*Dasypogon*]**

Dasypogon brachypterus LOEW, 1869; *D. micropterus* LOEW, 1869.

Distribution in Iran: Khuzestan (OLDROYD 1958; ABBASSIAN-LINTZEN 1964a).

Distribution outside Iran: Albania, Algeria, Bosnia-Herzegovina, Croatia, Egypt, France, Great Britain, Greece, Libya, Morocco, Slovenia, Spain, Turkey.

***Saropogon leucocephalus* (MEIGEN, 1820) [*Dasypogon*]**

Dasypogon leucocephalus MEIGEN; *Laphria scutellaris* (WIEDEMANN in MEIGEN, 1820).

Distribution in Iran: Fars (SAKENIN et al. 2008b), Guilan (GHAHARI et al. 2009), Kermanshah (SAMIN et al. 2011a), Mazandaran (SAKENIN et al. 2008a).

Distribution outside Iran: Egypt, France, Israel, Italy, Morocco, Palestine, Spain, Tunisia, Turkey.

Comments: Predator of *Paroxyna punctella* (FALLÉN) (Diptera: Tephritidae) and *Tephritis simplex* (LOEW) (Diptera: Tephritidae) (SAKENIN et al. 2008a).

***Saropogon longicornis* (MACQUART, 1838) [*Dasypogon*]**

Distribution in Iran: Golestan, Mazandaran (GHAHARI et al. 2007b), Khorasan (BECKER & STEIN 1913), Sistan & Baluchestan (BECKER & STEIN 1913; THEODOR 1980), Tehran (ABBASSIAN-LINTZEN 1964a; SAMIN et al. 2010), Iran (no locality cited) (ENGEL 1930).

Distribution outside Iran: Egypt, Israel, Palestine.

Comments: This species was collected in a rice field, and resting on *Poa trivialis* (Poaceae) (GHAHARI et al. 2007b).

***Saropogon luctuosus* (WIEDEMANN in MEIGEN, 1820) [*Dasypogon*]**

Dioctria nigripennis COSTA, 1844.

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

Distribution outside Iran: Croatia, France, Greece, Italy, Portugal.

***Saropogon melanophrus* BIGOT, 1878**

Distribution in Iran: East Azarbaijan (SAKENIN et al. 2008a), Golestan, Mazandaran (SAMIN et al. 2011c, d), Lorestan (SAMIN et al. 2011a).

Distribution outside Iran: Palaearctic Region.

Comments: Predator of *Bombus* (*Eversmannibombus*) *persicus* RADOSZKOWSKI (Hymenoptera: Apidae) (SAKENIN et al. 2008a) and *Aleochara bipustulata* (LINNAEUS) (Coleoptera: Staphylinidae) (SAMIN et al. 2011c, d).

***Saropogon mofidii* ABBASSIAN-LINTZEN, 1964**

Distribution in Iran: Khuzestan (ABBASSIAN-LINTZEN 1964a).

Comments: Endemic to Iran.

***Saropogon platynotus* (LOEW, 1847) [*Dasypogon*]**

Distribution in Iran: Golestan, Mazandaran (GHAHARI et al. 2007a), Semnan (OSTOVARI & RASTEGAR 2013).

Distribution outside Iran: Turkey.

Comments: Predator of *Philanthus triangulum* (FABRICIUS) and *Ectemnius continuus* (FABRICIUS) (Hymenoptera: Crabronidae) (GHAHARI et al. 2007a).

***Saropogon pollinosus* LOEW, 1869**

Distribution in Iran: Isfahan, Tehran (GHAHARI et al. 2007a), Khorasan (OSTOVARI & RASTEGAR 2013).

Distribution outside Iran: Spain, Turkey, Tunisia, Egypt.

Comments: Predator of *Philipomyia aprica* (MEIGEN) (Diptera: Tabanidae), *Polistes* (*Megapolistes*) *wattii* CAMERON (Hymenoptera: Vespidae) (GHAHARI et al. 2007a).

***Saropogon verticalis* OLDROYD, 1958**

Distribution in Iran: Khuzestan (ABBASSIAN-LINTZEN 1964a), Sistan & Baluchestan (OLDROYD 1958).

Comments: Endemic to Iran. Predator of wasps (Hymenoptera) (ABBASSIAN-LINTZEN 1964a).

***Saropogon vestitus* (WIEDEMANN, 1828) [*Dasypogon*]**

Dasypogon aegypticus MACQUART, 1838; *D. confluens* LOEW, 1851.

Distribution in Iran: Semnan (SAKENIN et al. 2010), Sistan & Baluchestan (BECKER & STEIN 1913), Iran (no locality cited) (THEODOR 1980).

Distribution outside Iran: Egypt, Israel, Libya, Switzerland, Syria, Turkey.

Comments: Predator of *Strongylogaster xanthocera* (STEPHENS) (Hymenoptera: Tenthredinidae) (SAKENIN et al. 2010).

Subfamily Laphriinae MACQUART, 1838

Tribe Laphriini MACQUART, 1838

Genus *Choerades* WALKER, 1851

***Choerades fimbriata* (MEIGEN, 1820) [*Laphria*]**

Laphria marginata (MEIGEN, 1820).

Distribution in Iran: Ardabil (HAYAT et al. 2008), Semnan (SAKENIN et al. 2010).

Distribution outside Iran: Albania, Armenia, Austria, Azerbaijan, Czech Republic, Finland, France, Germany, Hungary, Italy, Poland, Romania, Russia and West Siberia, Slovakia, Switzerland, Turkey, former Yugoslavia.

Comments: Predator of *Tabanus ansarii* (ABBASSIAN-LINTZEN) (Diptera: Tabanidae) (HAYAT et al. 2008).

***Choerades fuliginosa* (PANZER, 1798) [*Asilus*]**

Laphria auribarbis (MEIGEN, 1820); *L. cincta* MEIGEN, 1820; *L. neutralis* (DUDA, 1940).

Distribution in Iran: Ardabil (SAMIN et al. 2011b), Fars (SAMIN et al. 2011c), Khorasan (OSTOVARI & RASTEGAR 2013), Tehran (SAMIN et al. 2010).

Distribution outside Iran: Armenia, Albania, Austria, Bulgaria, Czech Republic, Finland, France, Germany, Greece, Poland, Romania, Russia and adjacent regions (East Siberia, North European territory, former Transcaucasus Republics, West Siberia), Spain, Sweden, Turkey, former Yugoslavia.

Comments: Predator of *Philonthus politus* (LINNAEUS) (Coleoptera: Staphylinidae) (SAMIN et al. 2011b, c).

***Choerades fulva* (MEIGEN, 1804) [*Laphria*]**

Laphria proboscidea (LOEW, 1847); *L. aurigera* (DUFOUR, 1850); *L. aurifera* (SCHINER, 1854).

Distribution in Iran: East Azarbaijan (SAKENIN et al. 2009), Fars, Lorestan

(SAMIN et al. 2011a), Mazandaran (SAKENIN et al. 2008a), West Azarbaijan (SAKENIN et al. 2011).

Distribution outside Iran: Austria, Czech Republic, France, Germany, Greece, Italy, Poland, Romania, Russia (Far East, South European territory), Switzerland, The Netherlands, Tibet, Turkey, former Yugoslavia.

Comments: Predator of *Arge cingulata* (JAKOVLEV) (Hymenoptera: Argidae) (SAKENIN et al. 2008a; SAMIN et al. 2011a), *Ctenisomorphus major* (RAFFRAY) (Coleoptera: Staphylinidae) (SAKENIN et al. 2009) and *Sterictiphora furcata* (VILLERS) (Hymenoptera: Argidae) (SAMIN et al. 2011a).

***Choerades gilva* (LINNAEUS, 1758) [*Asilus*]**

Asilus rufa DE GEER, 1776; *Laphria bilineata* WALKER, 1849.

Distribution in Iran: Guilan (GHAHARI et al. 2007b, 2009), Ilam, Kermanshah (HAYAT et al. 2008), Mazandaran (GHAHARI et al. 2007b).

Distribution outside Iran: Bulgaria, Canada, Czech Republic, Denmark, England, Finland, France, Germany, Hungary, Italy, Mongolia, Norway, Poland, Romania, Russia, Sweden, Switzerland, The Netherlands, USA.

Comments: This species was collected in a rice field, and resting on *Amaranthus blitoides* (Amaranthaceae) (GHAHARI et al. 2007b). Predator of *Delta dimidiatipenne* (SAUSSURE) and *Vespa crabro* LINNAEUS (Hymenoptera: Vespidae) (HAYAT et al. 2008).

***Choerades loewi* LEHR, 1991**

Distribution in Iran: Khorasan (OSTOVARI & RASTEGAR 2013), Yazd (GHAHARI et al. 2007a).

Distribution outside Iran: Greece, Turkey.

Comments: Predator of *Sarcophaga (Sarcophaga) lehmani* MÜLLER (Diptera: Sarcophagidae) and *Tabanus autumnalis* LINNAEUS (Diptera: Tabanidae) (GHAHARI et al. 2007a).

***Choerades marginata* (LINNAEUS, 1758) [*Asilus*]**

Asilus media (MULLER, 1765); *A. aurea* (OLIVIER, 1789); *Erax nigra* SCOPOLI, 1763; *Laphria anthrax* MEIGEN, 1804; *L. nigra* (MEIGEN, 1804); *L. nigrifrons* (MEGERLE in MEIGEN, 1820); *L. fulgida* (MEIGEN, 1820); *L. podagrica* (MEIGEN, 1820); *L. strandi* (DUDA, 1940); *L. chrysocephala* MEIGEN, 1820.

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

Distribution outside Iran: Albania, Austria, Belgium, Czech Republic, Denmark, England, Finland, France, Germany, Hungary, Italy, Luxembourg, Norway, Poland, Romania, Sweden, Switzerland, The Netherlands, former Yugoslavia (GELLER-GRIMM 2007), Russia (ASTAKHOV 2011).

***Choerades ursula* (LOEW, 1851) [*Laphria*]**

Distribution in Iran: Isfahan, Kerman, Khorasan (GHAHARI et al. 2007a), Semnan (OSTOVARI & RASTEGAR 2013).

Distribution outside Iran: Russia (East and West Siberia), Turkey.

Comments: Predator of *Chalybion walteri* (KOHL), *Spheg leuconotus* BRULLÉ and

Podalonia tydei (LE GUILLOU) (Hymenoptera: Sphecidae) (GHAHARI et al. 2007a).

Genus *Laphria* MEIGEN, 1803

Laphria aurea (FABRICIUS 1794) [*Asilus*]

Laphria lutea MEGERLE in MEIGEN, 1820.

Distribution in Iran: Mazandaran, Qom (GHAHARI et al. 2007a), Semnan (GHAHARI et al. 2007a; OSTOVARI & RASTEGAR 2013).

Distribution outside Iran: Austria, Bulgaria, Czech Republic, France, Greece, Hungary, Israel, Italy, Romania, Russia (South European territory), Slovakia, Turkey, former Yugoslavia.

Comments: Predator of *Oxythyrea cinctella* (SCHAUM) (Coleoptera: Scarabaeidae), *Cephalostenus elegans* BRULLÉ (Coleoptera: Tenebrionidae) and *Coccinella septempunctata* (LINNAEUS) (Coleoptera: Coccinellidae) (GHAHARI et al. 2007a).

***Laphria dizonias* LOEW, 1847**

Distribution in Iran: Fars (ABBASSIAN-LINTZEN 1964a; SAGHAEI et al. 2008, 2009, 2010; TOMASOVIC & SAGHAEI 2009), Southern Iran (no locality cited) (ABBASSIAN-LINTZEN 1964a).

Distribution outside Iran: Armenia, Azerbaijan, Greece, Iraq, Israel, Turkey.

Comments: This species was collected around fig trees (ABBASSIAN-LINTZEN 1964a). Predator of *Bembix oculata* PANZER (Hymenoptera: Sphecidae) (SAGHAEI et al. 2010).

***Laphria flava* (LINNAEUS, 1761) [*Asilus*]**

Erax conopsoides SCOPOLI, 1763; *E. ferox* SCOPOLI, 1763; *Asilus fulva* GEOFFROY in FOURCROY, 1785; *Asilus pedemontana* FABRICIUS, 1794; *Laphria escorialensis* STROBL, 1906.

Distribution in Iran: Mazandaran (HAYAT et al. 2008).

Distribution outside Iran: Albania, Algeria, Austria, Belgium, Czech Republic, Denmark, England, France, Germany, Greece, Hungary, India, Italy, Luxembourg, Mongolia, Norway, Poland, Romania, Russia, Spain, Sweden, The Netherlands, Turkey, former Yugoslavia.

Comments: Predator of the gypsy moth, *Lymantria dispar* LINNAEUS (Lepidoptera: Lymantridae) in oak forests (HAYAT et al. 2008).

***Laphria gibbosa* (LINNAEUS, 1758) [*Asilus*]**

Distribution in Iran: Khorasan, Yazd (GHAHARI et al. 2007a).

Distribution outside Iran: Austria, Belgium, Switzerland, Czech Republic, Slovakia, Germany, Denmark, Spain, France, Great Britain, Italy, Norway, Poland, Romania, Sweden, Finland, Russia (North, Central and South European territory, West and East Siberia), Kazakhstan, Turkey, former Yugoslavia.

Comments: Predator of *Gonocephalum freudei* KASZAB (Coleoptera: Tenebrionidae), *Coccinella septempunctata* (LINNAEUS) (Coleoptera: Coccinellidae) (GHAHARI et al. 2007a).

Genus *Nusa* WALKER, 1851

Nusa infumata (LOEW, 1851) [*Laphria*]

Laphria brachyptera LOEW, 1851; *Dasythrix stenura* LOEW, 1858; *D. ruficornis* WULP, 1899.

Distribution in Iran: Tehran (ABBASSIAN-LINTZEN 1964a), Iran (no locality cited) (THEODOR 1980).

Distribution outside Iran: Egypt, Kazakhstan, Kenya, Mozambique, Namibia, Russia, South African Republic, Tanzania, Yemen, Zimbabwe.

Nusa puella (RONDANI, 1873) [*Halictosoma*]

Distribution in Iran: Iran (no locality cited) (LEHR 1988).

Comments: Endemic to Iran.

Nusa ramicosa (LOEW, 1871) [*Dasythrix*]

Dasythrix ramicosa LOEW, 1871.

Distribution in Iran: Kerman (BECKER & STEIN 1913), Khuzestan (ABBASSIAN-LINTZEN 1964a), Sistan & Baluchestan (BECKER & STEIN 1913; OLDROYD 1958).

Distribution outside Iran: Azerbaijan, China, Iraq, Kazakhstan, Kirgystan Tajikistan, Turkmenistan, Turkey, Uzbekistan.

Comments: This species was collected resting on fine white clay in amongst more or less sparse vegetation (ABBASSIAN-LINTZEN 1964a).

Tribe *Andrenosomini* HULL, 1962

Genus *Andrenosoma* RONDANI, 1856

Andrenosoma albibarbe (MEIGEN, 1820) [*Laphria*]

erythrurum (LOEW, 1847): Linn. ent., 2: 552 (*Laphria*). Type-locality: "Mermeriza" (Turkey).

adustiventre (COSTA, 1863): Atti R. Accad., Napoli, (1) 2: 50 (*Elaeotoma*). Type-locality: Calabria (Italy).

Distribution in Iran: East Azarbaijan (SAMIN et al. 2011b, c), Hamadan (SAMIN et al. 2011a), Isfahan (SAKENIN et al. 2008a).

Distribution outside Iran: Algeria, Austria, Czech Republic, France, Greece, Italy, Poland, Romania, Russia and adjacent regions (Central European territory, Far East, South European territory), Spain, Turkey.

Comments: Predator of *Bombus* (*Thoracobombus*) *runderarius* (MÜLLER) (Hymenoptera: Apidae) (SAKENIN et al. 2008a) and *Stenus aceris* STEPHENS (Coleoptera: Staphylinidae) (SAMIN et al. 2011b, c).

Andrenosoma atrum (LINNAEUS, 1758) [*Asilus*]

Erax prostratum SCOPOLI, 1763.

Distribution in Iran: Ardabil (HAYAT et al. 2008).

Distribution outside Iran: Algeria, Austria, Bulgaria, Czech Republic, Denmark, France, Germany, Greece, Italy, Poland, Romania, Russia, Spain, Sweden, Switzerland, Turkey, former Yugoslavia.

Comments: Predator of the Colorado potato beetle, *Leptinotarsa decemlineata* SAY (Coleoptera: Chrysomelidae) (HAYAT et al. 2008).

***Andrenosoma farsicola* TOMASOVIC & SAGHAEI, 2009**

Distribution in Iran: Fars (TOMASOVIC & SAGHAEI 2009).

Comments: Endemic to Iran.

***Andrenosoma serratum* HERMANN, 1906**

Distribution in Iran: Guilan (GHAHARI et al. 2007a), Semnan (GHAHARI et al. 2007a; OSTOVARI & RASTEGAR 2013).

Distribution outside Iran: Turkey.

Comments: Predator of *Allodynerus floricola* (SAUSSURE) (Hymenoptera: Vespidae) and *Parapolybia escalerae* (MEADE-WALDO) (Hymenoptera: Vespidae) (GHAHARI et al. 2007a).

Genus *Pogonosoma* RONDANI, 1856

***Pogonosoma maroccanum* (FABRICIUS, 1794) [*Asilus*]**

hyalinipenne COSTA, 1857: Giambatt. Vico, Gior. Sci., Napoli, 2(3): 450. (*Pogonosoma*). Type-locality: "Calabria" (Italy).

Distribution in Iran: Khorasan (OSTOVARI & RASTEGAR 2013), Mazandaran, Semnan (GHAHARI et al. 2007a).

Distribution outside Iran: Albania, Algeria, Austria, Bulgaria, Czech Republic, France, Germany, Greece, Hungary, Italy, Malta, Morocco, Poland, Romania, Russia (central and South European territory), Slovakia, Turkey, former Yugoslavia.

Comments: Predator of *Podalonia hirsuta* (SCOPOLI) (Hymenoptera: Sphecidae), *Ischnogasteroides picteti picteti* (SAUSSURE) (Hymenoptera: Vespidae) (GHAHARI et al. 2007a).

Tribe *Ctenotini* HULL, 1962

Genus *Ctenota* LOEW, 1873

***Ctenota coerulea* (BECKER in BECKER & STEIN, 1913) [*Epilamyra*]**

Distribution in Iran: Khorasan (BECKER & STEIN 1913), Iran (no locality cited) (ENGEL 1930).

Distribution outside Iran: Israel, Kazakhstan, Mongolia, former Soviet Middle Asia.

***Ctenota molitrix* LOEW, 1873**

Distribution in Iran: Khuzestan (ABBASSIAN-LINTZEN 1964a), Sistan & Baluchestan (BECKER & STEIN 1913), Iran (no locality cited) (ENGEL 1930; THEODOR 1980).

Distribution outside Iran: Egypt, Israel, Kazakhstan, Syria, Turkmenistan, Uzbekistan (LEHR 1988).

Comments: This species was collected on dry white clay with xerophilous and halophilous plants (ABBASSIAN-LINTZEN 1964a).

Genus *Stiphrolamyra* ENGEL, 1928

***Stiphrolamyra pleskei* (BECKER in BECKER & STEIN, 1913)**

Lamyra pleskei (BECKER in BECKER & STEIN, 1913) (HRADSKY & GELLER-GRIMM, 1997).

Distribution in Iran: Kerman (BECKER & STEIN 1913), Sistan & Baluchestan (BECKER & STEIN, 1913; DIKOW and LONDT, 2000), Iran (no locality cited) (ENGEL 1930).

Distribution outside Iran: Afghanistan, Turkey.

Comments: Although species of *Lamyra* LOEW are easy to recognize in the field, little is known about their biology. THEODOR (1980) mentioned that *Lamyra vorax* LOEW, 1858 resembles *Sphegaster sordidus* DAHLBOM (Sphecidae) (found sympatrically in southwest Arabia) in size, appearance and coloration. This observation is supported by the collection (in Namibia by Jason G.H. Londt of a wasp of the genus *Sphegaster* sp., which was flying together with *Lamyra gulo* (LOEW, 1851). It is not known if this is mimicry or merely convergence (DIKOW & LONDT 2000).

***Stiphrolamyra rubicunda* OLDROYD, 1947**

Distribution in Iran: Fars (SAGHAEI et al. 2008, 2009, 2010).

Distribution outside Iran: Egypt, Israel, Libya, Morocco.

Comments: Predator of *Cylindromyia brassicaria* (FABRICIUS) (Diptera: Tachinidae) (SAGHAEI et al. 2010).

Subfamily Laphystiinae HENDEL, 1936

Genus *Acrochordomerus* HERMANN, 1920

***Acrochordomerus aeneus* HERMANN, 1920**

Distribution in Iran: Guilan, Khuzestan (GHAHARI et al. 2007b), Semnan (OSTOVARI & RASTEGAR 2013).

Distribution outside Iran: Syria, Turkey.

Comments: This species was collected resting on *Tribulus terrestris* (Zygophyllaceae) (GHAHARI et al. 2007b).

Genus *Glyphotriclis* HERMANN, 1920

***Glyphotriclis impulvinatus* OLDROYD, 1958**

Distribution in Iran: Khuzestan (ABBASSIAN-LINTZEN 1964a), Sistan & Baluchestan (OLDROYD 1958).

Comments: Endemic to Iran. Numerous on sandy bank of the Karkheh River. Predator of solitary wasps of same body length and appearance as *G. impulvinatus*, the wasps inhabiting minute burrows in the sand (ABBASSIAN-LINTZEN 1964a).

Genus *Hoplotriclis* HERMANN, 1920

***Hoplotriclis pallasii* (WIEDEMANN, 1828) [*Dasypogon*]**

Distribution in Iran: East Azarbaijan (SAMIN et al. 2011b, c), Semnan (SAKENIN et al. 2010).

Distribution outside Iran: Greece, Kazakhstan, Romania, Russia (South European territory), Turkey.

Comments: Predator of *Vespula rufa* (LINNAEUS), *V. vulgaris* (LINNAEUS) (Hymenoptera: Vespidae) (SAKENIN et al. 2010) and *Stenus subaeneus* ERICHSON (Coleoptera: Staphylinidae) (SAMIN et al. 2011b, c).

Genus *Laphystia* LOEW, 1847

***Laphystia dimidiata* OLDROYD, 1958**

Distribution in Iran: Khuzestan (OLDROYD 1958).

Comments: Endemic to Iran.

***Laphystia erberi* (SCHINER, 1865) [*Laphyctis*]**

Laphyctis arenacea PARAMONOV 1930.

Distribution in Iran: Fars (SAGHAEI et al. 2008, 2009, 2010), Khuzestan, Sistan & Baluchestan (OLDROYD 1958).

Distribution outside Iran: Azerbaijan, Egypt, Greece, Iraq, Israel, Italy, Kazakhstan, Malta, Spain, Romania, Tunisia, Turkey.

Comments: Predator of an unknown species of Chrysididae (Hymenoptera) (SAGHAEI et al. 2010).

***Laphystia latiuscula* LOEW, 1871**

Laphystia metallescens HERMANN, 1906.

Distribution in Iran: Fars (ABBASSIAN-LINTZEN 1964a).

Distribution outside Iran: Afghanistan, Russia, Ukraine.

***Laphystia lehri* ABBASSIAN-LINTZEN, 1964**

Distribution in Iran: Khuzestan (ABBASSIAN-LINTZEN 1964a).

Comments: Endemic to Iran. This species was collected on sandy ground with sparse vegetation beside saline swamps (ABBASSIAN-LINTZEN 1964a).

***Laphystia sabulicola* LOEW, 1847**

Distribution in Iran: Fars, Isfahan (GHAHARI et al. 2007a).

Distribution outside Iran: Austria, China, Greece, Italy, Kazakhstan, Tajikistan, Tunisia, Turkey, Turkmenia, Uzbekistan, former Yugoslavia.

Comments: Predator of *Palmodes occitanicus puncticollis* (KOHL) (Hymenoptera: Sphecidae), *Cephus pygmaeus* (LINNAEUS) (Hymenoptera: Cephidae) (GHAHARI et al. 2007a).

Genus *Perasis* HERMANN, 1905

***Perasis sussianae* ABBASSIAN-LINTZEN, 1964**

Distribution in Iran: Khuzestan (ABBASSIAN-LINTZEN 1964a).

Distribution outside Iran: Azerbaijan.

Comments: This species was collected on light, loose soil. Predator of large yellow ants (Hymenoptera: Formicidae) (ABBASSIAN-LINTZEN 1964a).

Genus *Psilocurus* LOEW, 1874

***Psilocurus hypopygialis* (PARAMONOV, 1930) [*Laphystia*]**

Psilocurus translatus OLDROYD, 1958 sensu LEHR, 1988, questionable sensu WEINBERG & BACHLI 2001.

Distribution in Iran: Khuzestan (OLDROYD 1958; ABBASSIAN-LINTZEN 1964a).

Distribution outside Iran: Armenia, Azerbaijan, Iraq, Turkmenistan.

Comments: This species was collected resting on white clay within more or less sparse vegetation (ABBASSIAN-LINTZEN 1964a).

Genus *Scytomedes* RODER, 1882

***Scytomedes haemorrhoidalis* (FABRICIUS, 1794) [*Asilus*]**

Gastrichelus nubeculipennis (COSTA, 1863); *Scytomedes menstruus* LOEW in VON RODER, 1882.

Distribution in Iran: Semnan (SAKENIN et al. 2010), West Azarbaijan (HAYAT et al. 2008).

Distribution outside Iran: Algeria, Bulgaria, France, Greece, Italy, Morocco, Tunisia, Turkey.

Comments: Predator of *Musca domestica* (Diptera: Muscidae) (HAYAT et al. 2008).

Genus *Trichardis* HERMANN, 1906

***Trichardis leucomus* (WULP, 1899) [*Hoplistomerus*]**

Strobilothrix albipila BECKER, 1907.

Distribution in Iran: Khuzestan (OLDROYD 1958; ABBASSIAN-LINTZEN 1964a), Iran (no locality cited) (THEODOR 1980).

Distribution outside Iran: Algeria, Egypt, Israel, Kazakhstan, Morocco, Yemen.

Comments: This species was collected on river banks with pure sandy soil, rocks, tamarisks and oleander (ABBASSIAN-LINTZEN 1964a).

Genus *Trichardopsis* OLDROYD, 1958

***Trichardopsis richteri* OLDROYD, 1958**

Acrochordomerus kasakh LEHR, 1958.

Distribution in Iran: Khuzestan (ABBASSIAN-LINTZEN 1964a), Southern Iran (no locality cited) (OLDROYD 1958).

Distribution outside Iran: Kazakhstan, Kirgystan Tajikistan, Turkmenistan, Uzbekistan.

Genus *Triclis* LOEW, 1851

***Triclis olivaceus* (LOEW, 1851) [*Dasypogon*]**

Gastrichelius halictivorus RONDANI, 1856.

Distribution in Iran: Iran (no locality cited) (THEODOR 1980).

Distribution outside Iran: Azerbaijan, France, Greece, Israel, Italy, Kazakhstan, Kirgyzstan, Tajikistan, Turkmenistan, Uzbekistan, Russia, Turkey.

Genus *Udenopogon* BECKER, 1913

***Udenopogon inscriptus* BECKER in BECKER & STEIN, 1913**

Distribution in Iran: Kerman, Sistan & Baluchestan (BECKER & STEIN 1913), Iran (no locality cited) (ENGEL 1930).

Comments: Endemic to Iran.

Subfamily *Leptogastrinae* SCHINER, 1862

Genus *Euscelidia* WESTWOOD, 1849

***Euscelidia pallasii* (WIEDEMANN, 1818)**

Leptogaster conopsoides (PALLAS in WIEDEMANN, 1818) as a collection name; *Leptogaster pubiceps* LOEW, 1871.

Distribution outside Iran: Greece, Kazakhstan, Russia, Turkey, Turkmenistan.

Distribution in Iran: Markazi (HAYAT et al. 2008).

Genus *Leptogaster* MEIGEN, 1803

***Leptogaster calceata* ENGEL, 1925**

Distribution in Iran: Ilam, Kordestan (GHAHARI et al. 2007a), Semnan (OSTOVARI & RASTEGAR 2013).

Distribution outside Iran: Armenia, Azerbaijan, Georgia, former Transcaucasus Republics, Turkey.

Comments: Predator of *Chalybion flebile* (LEPELETIER) (Hymenoptera: Sphecidae) and *Podalonia hirsuta* (SCOPOLI) (Hymenoptera: Sphecidae) (GHAHARI et al. 2007a). *Leptogaster* spp. are more often reported as preying upon spiders because of their method of foraging, generally close to the ground, weaving in-and-out of vegetation, and hovering in front of vegetation, and striking at resting prey (DENNIS & LAVIGNE 1976; DIKOW 2007, 2008; SCARBROUGH & SIPES 1973).

***Leptogaster cylindrica* (DE GEER, 1776)**

Asilus tipuloides FABRICIUS, 1775; *A. livida* GEOFFROY in FOURCROY, 1785; *A. fusca* MEIGEN, 1804; *A. nigricornis* LOEW, 1847; *A. dorsalis* DAHLBOM, 1851.

Distribution in Iran: Fars (SAGHAEI et al. 2008, 2009, 2010), Iran (no locality cited) (LEHR 1988).

Distribution outside Iran: Albania, Algeria, Austria, Belgium, Bulgaria, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Italy, Kazakhstan (incl. Turkistan), Luxembourg, Mongolia, Norway, Poland, Roumania, Russia (Central, North and South European Territory, East and West Siberia, Far East), Soviet Middle Asia, Spain, Sweden, Switzerland, The Netherlands, former Transcaucasus Republics, Turkey, United Kingdom, former Yugoslavia.

Comments: This species was collected in a harvested wheat field. Predator of *Zyginidia sohrab* Zachvatkin (Hemiptera: Cicadellidae) (SAGHAEI et al. 2010).

***Leptogaster cylindrica hispanica* MEIGEN, 1838**

Distribution in Iran: Iran (no locality cited) (LEHR 1988).

Distribution outside Iran: Algeria, Azerbaijan, Bosnia-Herzegovina, Croatia, France, Italy, Kazakhstan, Morocco, Slovenia, Spain, former Transcaucasus Republics, West Siberia.

***Leptogaster gracilis* LOEW, 1847**

Distribution in Iran: Sistan & Baluchestan (OLDROYD 1958).

Distribution outside Iran: Israel, Kazakhstan, Mongolia, Romania, Russia, Turkey.

***Leptogaster guttiventris* ZETTERSTEDT, 1842**

Leptogaster cylindrica MEIGEN, 1820.

Distribution in Iran: Golestan (HAYAT et al. 2008).

Distribution outside Iran: Austria, Belgium, Czech Republic, Denmark, England, Finland, France, Germany, Hungary, Poland, Russia, Sweden, Switzerland, The Netherlands.

Comments: Predator of *Podalonia micipsa* (MORICE) (Hymenoptera: Sphecidae) (HAYAT et al. 2008).

***Leptogaster nartshukae* LEHR, 1961**

Distribution in Iran: Iran (no locality cited) (LEHR 1988).

Distribution outside Iran: Kazakhstan, Mongolia, Russia (West and East Siberia).

***Leptogaster pubicornis* LOEW, 1847**

Leptogaster pusillus JAENNICKE 1867.

Distribution in Iran: Golestan (HAYAT et al. 2008), Semnan (SAKENIN et al. 2010), Tehran (SAMIN et al. 2010).

Distribution outside Iran: Bulgaria, Czech Republic, France, Germany, Greece, Hungary, Italy, Kazakhstan, Russia, Switzerland, Turkey, Uzbekistan.

Comments: Predator of *Archips rosanus* (LINNAEUS) (Lepidoptera: Tortricidae) (HAYAT et al. 2008), *Cerceris rybyensis* (LINNAEUS) (Hymenoptera: Sphecidae) and *Vespula vulgaris* (LINNAEUS) (Hymenoptera: Vespidae) (SAMIN et al. 2010).

Subfamily Ommatiinae HARDY, 1927

Genus *Ommatius* WIEDEMANN, 1821

***Ommatius eugenii* RICHTER, 1976**

Distribution in Iran: Chaharmahal & Bakhtiari (SAKENIN et al. 2008a), Khorasan (SAMIN et al. 2011a).

Distribution outside Iran: Afghanistan.

Comments: Predator of *Bombus* (*Melanobombus*) *minuatus* BINGHAM (Hymenoptera: Apidae) (SAKENIN et al. 2008a).

***Ommatius stackelbergi* (V. RICHTER, 1960)**

Distribution in Iran: Semnan, Tehran (GHAHARI et al. 2007a).

Distribution outside Iran: Armenia, Turkey.

Comments: Predator of *Sarcophaga* (*Liopygia*) *argyrostoma* ROBINEAU-DESVOIDY (Diptera: Sarcophagidae) and *Sarcophaga* (*Liopygia*) *africa* WIEDEMANN (Diptera: Sarcophagidae) (GHAHARI et al. 2007a).

***Ommatius tenellus* WULP, 1889**

Distribution in Iran: Sistan & Baluchestan (OLDROYD 1958).

Distribution outside Iran: Algeria, Azerbaijan, Chad, China, Egypt, Ethiopia, India, Israel, Niger, Senegal, Sudan, Yemen.

Subfamily Stenopogoninae HULL, 1962

Tribe Dioctriini ENDERLEIN, 1936

Genus *Dioctria* MEIGEN, 1803

***Dioctria abdominalis* BECKER, 1923**

Distribution in Iran: Isfahan (LEHR et al. 2007).

Distribution outside Iran: Turkey (LEHR 1988, BAYRAKDAR & HASBENLI 2009).

Comments: Predator of *Euodynerus* (*Euodynerus*) *disconotatus* (LICHTENSTEIN) (Hymenoptera: Vespidae) (LEHR et al. 2007).

***Dioctria atricapilla* MEIGEN, 1804**

Dioctria nigripes MEIGEN, 1804; *D. fuscipennis* FALLÉN, 1814; *D. atrata* MEIGEN, 1820; *D. fallen* MEIGEN, 1820; *D. geniculata* MEIGEN, 1820; *D. rufimana* LOEW, 1840 (as var. of *fuscipennis*).

Distribution in Iran: Golestan (LEHR et al. 2007).

Distribution outside Iran: Austria, Belgium, Bulgaria, Byelorussia, Corsica, Denmark, Estonia, Finland, France, Germany, Hungary, Italy, Kazakhstan, Latvia, Lithuania, Luxembourg, Moldavia, Mongolia, Poland, Romania, Russia, Sweden, Switzerland, The Netherlands, Turkey, Ukraine, United Kingdom.

Comments: Predator of *Calliphora vomitoria* (LINNAEUS) (Diptera: Calliphoridae) (LEHR et al. 2007).

***Dioctria dispar* LOEW, 1871**

Distribution in Iran: Guilan (HAYAT et al. 2008).

Distribution outside Iran: Russia, Kirgystan, Tajikistan, Uzbekistan.

Comments: Predator of the rice stem borer, *Chilo suppressalis* WALKER (Lepidoptera: Pyralidae) in rice fields (HAYAT et al. 2008).

***Dioctria flavipennis* MEIGEN, 1820**

Dioctria aurifrons MEIGEN, 1820.

Distribution in Iran: Guilan (HAYAT et al. 2008), Isfahan (GHAHARI et al. 2007b), Mazandaran (GHAHARI et al. 2007b; HAYAT et al. 2008).

Distribution outside Iran: Austria, Bulgaria, Byelorussia, China, Czech Republic, Estonia, France, Germany, Great Britain, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldavia, Poland, Romania, Russia, Tajikistan, Turkey, Turkmenistan, Ukraine, Uzbekistan, West Siberia.

Comments: This species was collected in a rice field, and resting on *Xanthium pensylvanicum* (Compositae) (GHAHARI et al. 2007b). Predator of *Sesamia* sp. (Lepidoptera: Noctuidae) in corn fields and *Dociostaurus crassiusculus* (PANTEL) (Orthoptera: Acrididae) in cotton fields (HAYAT et al. 2008).

***Dioctria gracilis* MEIGEN, 1820**

D. concinna COSTA, 1883.

Distribution in Iran: Southern Khorasan (HAYAT et al. 2008).

Distribution outside Iran: Algeria, France, Germany, Italy, Sardinia, Switzerland, Turkey.

Comments: Predator of the rice stem borer, *Chilo suppressalis* WALKER and *C. phragmitellus* (HÜBNER) (Lepidoptera: Pyralidae) in rice and corn fields (HAYAT et al. 2008).

***Dioctria hyalipennis* (FABRICIUS, 1794)**

Dioctria anomala MACQUART, 1826; *D. flavipes* MEIGEN, 1804; *D. frontalis* MEIGEN, 1804; *D. varipes* MEIGEN, 1820; *D. baumhaueri* MEIGEN, 1820; *D. strandi* DUDA, 1940.

Distribution in Iran: Sistan & Baluchestan (HAYAT et al. 2008).

Distribution outside Iran: Algeria, Austria, Belgium, Bulgaria, Canada, Czech Republic, Denmark, England, Finland, France, Great Britain, Italy, Luxembourg, Poland, Romania, Russia, Spain, Switzerland, The Netherlands, Tunisia, USA, former Yugoslavia.

Comments: Predator of *Paratettix histricus* (STÅL) (Orthoptera: Tettigidae) (HAYAT et al. 2008).

***Dioctria linearis* (FABRICIUS, 1787) [*Asilus*]**

Asilus cingulata ZETTERSTEDT, 1849; *A. linearis* MEIGEN, 1830.

Distribution in Iran: Guilan (HAYAT et al. 2008).

Distribution outside Iran: Austria, Belgium, Bulgaria, Czech Republic, Denmark, England, France, Germany, Great Britain, Hungary, Italy, Luxembourg, Poland, Romania, Russia, Switzerland, The Netherlands, former Yugoslavia.

Comments: Predator of *Ancistrocerus auctus* (FABRICIUS), and *Katamenes sichelii* (GIORDANI SOIKA) (Hymenoptera: Vespidae) (HAYAT et al. 2008).

***Dioctria lugens* LOEW, 1873**

Distribution in Iran: Iran (no locality cited) (LEHR 1988).

Distribution outside Iran: Turkey.

***Dioctria rufonigra* THEODOR, 1980**

Distribution in Iran: Mazandaran (LEHR et al. 2007).

Distribution outside Iran: Israel, Palestine, Turkey.

Comments: Predator of *Helophilus parallelus* (HARRIS) (Diptera: Syrphidae) (LEHR et al. 2007).

***Dioctria striata* THEODOR, 1980**

Distribution in Iran: Fars, Kerman (LEHR et al. 2007).

Distribution outside Iran: Israel, Palestine, Turkey.

Comments: Predator of *Xanthochelus nomas* (PALLAS) (Coleoptera: Curculionidae) (LEHR et al. 2007).

***Dioctria valida* LOEW, 1856**

Distribution in Iran: Isfahan (LEHR et al. 2007).

Distribution outside Iran: Israel, Lebanon, Palestine, Syria, Turkey.

Comments: Predator of *Temelucha lucida* (SZÉPLIGETI) (Hymenoptera: Ichneumonidae) (LEHR et al. 2007).

Genus *Molobratia* HULL, 1958

***Molobratia egregia* (LOEW, 1869) [*Dasypogon*]**

Distribution in Iran: Fars (LEHR et al. 2007), Mazandaran (SAKENIN et al. 2008a), Semnan (SAKENIN et al. 2010).

Distribution outside Iran: Armenia, Azerbaijan, Georgia, Romania, Turkey.

Comments: Predator of *Psalidium maxillosum* (FABRICIUS) (Coleoptera: Curculionidae) (LEHR et al. 2007) and *Mallosia (Semnosia) caucasica* PIC (Coleoptera: Cerambycidae) (SAKENIN et al. 2008a).

***Molobratia teutonius* (LINNAEUS, 1767) [*Asilus*]**

Erax tenthredoides SCOPOLI, 1763; *Asilus marmoratus* GEOFFROY in FOURCROY, 1785; *Dasypogon teuton* MACQUART, 1834.

Distribution in Iran: Chaharmahal & Bakhtiari (LEHR et al. 2007), Fars (TOMASOVIC & SAGHAEI 2009), Isfahan (HAYAT et al. 2008), Tehran (SAMIN et al. 2010).

Distribution outside Iran: Albania, Austria, Belgium, Bulgaria, Czech Republic, Denmark, France, Germany, Greece, Hungary, Italy, Poland, Romania, Russia, Spain, Sweden, The Netherlands, Switzerland, Turkey.

Comments: Predator of *Mallada flavifrons* (BRAUER) (Neuroptera: Chrysopidae) (LEHR et al. 2007) and *Dolichovespula saxonica* (FABRICIUS) (Hymenoptera: Vespidae) (SAMIN et al. 2010).

Tribe *Stichopogonini* HARDY, 1930

Genus *Lasiopogon* LOEW, 1847

***Lasiopogon pilosellus* LOEW, 1847**

Distribution in Iran: East Azarbaijan (SAKENIN et al. 2009), West Azarbaijan (SAMIN et al. 2011a).

Distribution outside Iran: Austria, Poland, Switzerland, Turkey.

Comments: Predator of *Copris hispanus* (LINNAEUS) (Coleoptera: Scarabaeidae) (SAKENIN et al. 2009) and *Bombus* (*Thoracobombus*) *runderarius* (MÜLLER) (Hymenoptera: Apidae) (SAMIN et al. 2011a).

***Lasiopogon tarsalis* LOEW, 1847**

Distribution in Iran: Chaharmahal & Bakhtiari (GHAHARI et al. 2010), Khorasan (OSTOVARI & RASTEGAR 2013).

Distribution outside Iran: Italy, Turkey.

Comments: Predator of *Hemisemidalis pallida* (WITHYCOMBE) (Neuroptera: Coniopterigidae) (GHAHARI et al. 2010).

Genus *Rhadinus* LOEW, 1856

***Rhadinus megalonix* LOEW, 1856**

Distribution in Iran: Khuzestan (OLDROYD 1958; ABBASSIAN-LINTZEN 1964a).

Distribution outside Iran: Egypt, Iraq, Israel, Libya, Sudan, Syria, former Transcaucasus Republics, Tunisia, Yemen.

***Rhadinus ungulinus* LOEW, 1856**

Distribution in Iran: Khuzestan (SAKENIN et al. 2008a), Tehran (SAMIN et al. 2010).

Distribution outside Iran: Egypt, Israel, Tunisia, Yemen.

Comments: Predator of *Cephus cultratus* EVERSMANN (Hymenoptera: Cephidae) and *Cryptocephalus* (*Cryptocephalus*) *semiargenteus* REITTER (Coleoptera: Chrysomelidae) (SAKENIN et al. 2008a).

Genus *Stichopogon* LOEW, 1847

***Stichopogon albellus* LOEW, 1856**

Distribution in Iran: Khuzestan (ABBASSIAN-LINTZEN 1964a), Sistan & Baluchestan (OLDROYD 1958), Tehran (SAMIN et al. 2010).

Distribution outside Iran: Egypt, Israel, Palestine.

***Stichopogon auritinctus* ABBASSIAN-LINTZEN, 1964**

Distribution in Iran: East Azarbaijan (ABBASSIAN-LINTZEN 1964a).

Comments: Endemic to Iran.

***Stichopogon caucasicus* BEZZI, 1910**

Distribution in Iran: East Azarbaijan (ABBASSIAN-LINTZEN 1964a), Kerman, Sistan & Baluchestan (OLDROYD 1958).

Distribution outside Iran: Former South European territory.

Comments: This species was collected on banks along small watercourses (ABBASSIAN-LINTZEN 1964a).

***Stichopogon chrysostoma* SCHINER, 1867**

Stichopogon lucidiventria BECKER, 1902.

Distribution in Iran: Khorasan (BECKER & STEIN 1913), Tehran (ABBASSIAN-LINTZEN 1964a).

Distribution outside Iran: Cyprus, Egypt, Israel, Kazakhstan, Libya, Mongolia, former Soviet Middle Asia, Turkey.

***Stichopogon elegantulus* (WIEDEMANN in MEIGEN, 1820) [*Dasypogon*]**

Stichopogon aequicinctus COSTA, 1844; *S. tener* LOEW, 1847; *S. frauenfeldi* EGGER, 1855; *S. riparius* LOEW, 1871; *S. caspicus* RICHTER, 1963.

Distribution in Iran: East Azarbaijan, Golestan, Sistan & Baluchestan (GHAHARI et al. 2007a).

Distribution outside Iran: Algeria, Armenia, Austria, Azerbaijan, Bulgaria, Egypt, France (Corse), Georgia, Germany, Hungary, Israel, Italy, Kirgyzstan, Malta, Morocco, Portugal, former South European territory, Spain, former Transcaucasus Republics, Turkey, former Yugoslavia.

Comments: Predator of *Bombus* (*Pyrobombus*) sp. (Hymenoptera: Apidae), *Delta dimidiatipenne* (SAUSSURE) (Hymenoptera: Vespidae), and *Dolichovespula saxonica* (FABRICIUS) (Hymenoptera: Vespidae) (GHAHARI et al. 2007a).

***Stichopogon scaliger* LOEW, 1847**

Stichopogon congener LOEW, 1856.

Distribution in Iran: East Azarbaijan (ABBASSIAN-LINTZEN 1964a), Kerman, Sistan & Baluchestan (BECKER & STEIN 1913), Semnan (SAKENIN et al. 2010), Tehran (SAMIN et al. 2010).

Distribution outside Iran: Bulgaria, Czech Republic, Egypt, France, Greece, Italy, Kazakhstan, Romania, Slovakia, former South European territory, Turkey.

Comments: Predator of *Tachysphex pompiliformis* (PANZER) (Hymenoptera: Sphecidae) (SAMIN et al. 2010).

***Stichopogon scaliger conjungens* BEZZI, 1895**

Distribution in Iran: Guilan (GHAHARI et al. 2007b, 2009), Semnan (OSTOVARI & RASTEGAR 2013).

Distribution outside Iran: Greece, Italy, Kazakhstan, Russia, former South European territory, Turkey, Turkmenistan.

Comments: This species was collected in a rice field (GHAHARI et al. 2007b).

***Stichopogon schineri* KOCH, 1872**

Stichopogon spinimanus POKORNY, 1887.

Distribution in Iran: Semnan (SAKENIN et al. 2010), Sistan & Baluchestan (OLDROYD 1958).

Distribution outside Iran: Bulgaria, Corsica, France, Germany, Greece, Italy, Morocco, Spain, Switzerland, former Yugoslavia (incl. Bosnia-Herzegovina, Croatia, Macedonia, Slovenia).

Comments: Predator of *Nematus (Pteronidea) caeruleocarpus* (HARTIG) (Hymenoptera: Tenthredinidae) (SAKENIN et al. 2010).

Tribe *Stenopogonini* HARDY, 1930

Genus *Acnephalum* MACQUART, 1838

***Acnephalum futile* WULP, 1899**

Distribution in Iran: Guilan (GHAHARI et al. 2010), Hormozgan (SAMIN et al. 2011a), Semnan (OSTOVARI & RASTEGAR 2013).

Distribution outside Iran: Iraq, Saudi Arabia, Yemen and adjacent regions.

Comments: Predator of *Chrysoperla carnea* (STEPHENS) (Neuroptera: Chrysopidae) (GHAHARI et al. 2010).

Genus *Amphisbetetus* HERMANN, 1906

***Amphisbetetus dorsatus* BECKER in BECKER & STEIN, 1913**

Amphisbetetus rufipes ENGEL, 1930.

Distribution in Iran: Sistan & Baluchestan (BECKER & STEIN 1913), Iran (no locality cited) (ENGEL 1930, LEHR 1988, THEODOR 1980).

Distribution outside Iran: Egypt, Israel, Kazakhstan, former Soviet Middle Asia, Turkey.

***Amphisbetetus favillaceus* (LOEW in ROSENHAUER, 1856) [*Habropogon*]**

Distribution in Iran: Fars (SAGHAEI et al. 2008, 2009), Khuzestan (ABBASSIAN-LINTZEN 1964a).

Distribution outside Iran: Afghanistan, Greece, Israel, former Soviet Middle Asia, Spain, former Transcaucasus Republics, Turkey.

Comments: This species was collected in the stony semi-desert hills of Northern Khuzestan, where asilids flew over the ground for very short distances (ABBASSIAN-LINTZEN 1964a).

Genus *Anarolius* LOEW, 1844

***Anarolius fronto* LOEW, 1873**

Distribution in Iran: Golestan (GHAHARI et al. 2007b).

Distribution outside Iran: Kazakhstan, Russia, Turkey, Uzbekistan.

C o m m e n t s : This species was collected in a rice field (GHAHARI et al. 2007b).

***Anarolius jamshidi* ABBASSIAN-LINTZEN, 1964**

D i s t r i b u t i o n i n I r a n : Tehran (ABBASSIAN-LINTZEN 1964a).

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

***Anarolius jubatus* LOEW, 1844**

D i s t r i b u t i o n i n I r a n : Ardabil (GHAHARI et al. 2008a), Tehran (LEHR et al. 2007).

D i s t r i b u t i o n o u t s i d e I r a n : Armenia, Asian Turkey, Greece, former Transcaucasus Republics.

C o m m e n t s : This species was collected in a cotton field. Predator of a snout moth (Lepidoptera: Pyralidae) (GHAHARI et al. 2008a). Predator of *Larinus* (*Larinomesius*) *curtus* HOCHHUTH (Coleoptera: Curculionidae) (LEHR et al. 2007).

Genus *Ancylorhynchus* BERTHOLD, 1827

***Ancylorhynchus argyrogaster* (SÉGUY, 1932) [*Ancylorrhynchus*]**

D i s t r i b u t i o n i n I r a n : Fars (TOMASOVIC & SAGHAEI 2009), Iran (no locality cited) (LEHR 1988).

C o m m e n t s : Endemic to Iran.

***Ancylorhynchus bicolor* (BECKER in BECKER & STEIN, 1913) [*Ancylorrhynchus*]**

D i s t r i b u t i o n i n I r a n : Khorasan (BECKER & STEIN 1913), Iran (no locality cited) (ENGEL 1930; LEHR 1988).

C o m m e n t s : Endemic to Iran.

***Ancylorhynchus farinosus* (BECKER in BECKER & STEIN, 1913) [*Ancylorrhynchus*]**

D i s t r i b u t i o n i n I r a n : Sistan & Baluchestan (BECKER & STEIN 1913), Iran (no locality cited) (ENGEL 1930; LEHR 1988).

C o m m e n t s : Endemic to Iran.

***Ancylorhynchus glaucius* (ROSSI, 1790) [*Ancylorrhynchus*]**

Dasygogon variegates (WIEDEMANN, 1818); *Dioctria pictus* (WIEDEMANN, 1821).

D i s t r i b u t i o n i n I r a n : East Azarbaijan (SAKENIN et al. 2009), Tehran (SAMIN et al. 2010).

D i s t r i b u t i o n o u t s i d e I r a n : Albania, Austria, France, Greece, Israel, Italy, Kazakhstan, Palestine, Romania, Russia and adjacent regions (former South European territory, former Soviet Middle Asia), Syria, Turkey, former Yugoslavia.

C o m m e n t s : Predator of *Aphodius foetidus* (HERBST) (Coleoptera: Scarabaeidae) (SAKENIN et al. 2009) and *Polistes nimpha* (CHRIST) (Hymenoptera: Vespidae) (SAMIN et al. 2010).

Genus *Anisopogon* LOEW, 1874

***Anisopogon asiaticus* OLDROYD, 1963 [*Heteropogon* (*Anisopogon*)]**

Distribution in Iran: Golestan (GHAHARI et al. 2007b), Mazandaran (GHAHARI et al. 2007b, 2009), Khorasan (OSTOVARI & RASTEGAR 2013).

Distribution outside Iran: Afghanistan.

Comments: This species was collected in a rice field, and resting on *Urtica dioica* (Urticaceae) (GHAHARI et al. 2007b).

***Anisopogon hermanni* (ENGEL, 1930) [*Heteropogon*]**

Heteropogon modestus (LEHR, 1964).

Distribution in Iran: Fars (LEHR et al. 2007).

Distribution outside Iran: Israel, Kazakhstan, former South European territory, former Transcaucasus Republics, Turkey.

Comments: Predator of *Bibio marci* (LINNAEUS) (Diptera: Bibionidae) (LEHR et al. 2007).

Genus *Crotilocerus* LOEW, 1847

***Crotilocerus megilliformis* (LOEW, 1847) [*Dasypogon*]**

Distribution in Iran: Fars, Tehran (ABBASSIAN-LINTZEN 1964a).

Distribution outside Iran: Armenia, Greece, Romania, Turkey.

***Crotilocerus spinosus persianus* GELLER-GRIMM & HRADSKÝ, 1999**

Distribution in Iran: Fars (SAGHAEI et al. 2008, 2009, 2010; TOMASOVIC & SAGHAEI 2009), Isfahan (GELLER-GRIMM & HRADSKÝ 1999).

Comments: Endemic to Iran. Predator of *Tabanus atropathenicus* OLSUFJEV (Diptera: Tabanidae) (SAGHAEI et al. 2010).

Genus *Cyrtopogon* LOEW, 1847

***Cyrtopogon centralis* LOEW, 1871**

Distribution in Iran: Guilan, Isfahan (GHAHARI et al. 2007b).

Distribution outside Iran: China, Mongolia, Russia (West and East Siberia, Far East), South and North Korea, Turkey.

Comments: This species was collected in a rice field, and resting on *Adiantum capillus/veneris* (Adiantaceae) (GHAHARI et al. 2007b).

***Cyrtopogon gorodkovi* LEHR, 1966**

Distribution in Iran: Fars (SAKENIN et al. 2008b), Isfahan (SAMIN et al. 2011a).

Distribution outside Iran: Russia and adjacent regions (Soviet Middle Asia, Tajikistan).

Comments: Predator of *Chrysolina* (*Diachalcoidea*) *sacorum* (WEISE) (Coleoptera: Chrysomelidae) (SAMIN et al. 2011a).

***Cyrtopogon kushka* LEHR, 1998**

Distribution in Iran: East Azarbaijan (SAKENIN et al. 2008a), Golestan (SAMIN et al. 2011d), Khorasan (SAMIN et al. 2011a).

Distribution outside Iran: Turkmenistan and other former Soviet Middle Asia regions.

Comments: Predator of *Colpa* (*Colpa*) *sexmaculata* (FABRICIUS) (Hymenoptera: Scoliidæ) (SAKENIN et al. 2008a), *Acantholyda erythrocephala* (LINNAEUS) (Hymenoptera: Pamphiliidae) (SAMIN et al. 2011a) and *Lordithon thoracicus* (FABRICIUS) (Coleoptera: Staphylinidae) (SAMIN et al. 2011d).

Genus *Eriopogon* LOEW, 1847

***Eriopogon laniger* (MEIGEN, 1804) [*Dasypogon*]**

Holopogon flavescens JAENNICKE, 1867 (GELLER-GRIMM, 1999).

Distribution in Iran: Sistan & Baluchestan (BECKER & STEIN 1913).

Distribution outside Iran: Algeria, France, Morocco, Portugal, Spain, Tunisia.

Genus *Galactopogon* ENGEL, 1929

***Galactopogon hispidus* ENGEL, 1929**

Distribution in Iran: Fars (ABBASSIAN-LINTZEN 1964a; SAGHAEI et al. 2008, 2009, 2010), Khuzestan, Sistan & Baluchestan (OLDROYD 1958; ABBASSIAN-LINTZEN 1964a).

Distribution outside Iran: Algeria, Israel, Jordan.

Comments: Predator of *Scaeva pyrastris* (LINNAEUS) (Diptera: Syrphidae) and *Hemianax ephippiger* (BURMEISTER) (Odonata: Aeshnidae) (SAGHAEI et al. 2010).

Genus *Habropogon* LOEW, 1847

***Habropogon decipiens* THEODOR, 1980**

Distribution in Iran: Fars (SAGHAEI et al. 2008, 2009), Kermanshah (HAYAT et al. 2008).

Distribution outside Iran: Israel, Jordan, Turkey.

Comments: Predator of *Palmodes occitanicus puncticollis* (KOHL) (Hymenoptera: Sphecidae) (HAYAT et al. 2008).

***Habropogon doriae* RONDANI, 1873**

Distribution in Iran: Type-locality: "Persia" (Iran). Iran (no locality cited) (ENGEL 1930).

Distribution outside Iran: Armenia.

***Habropogon lineatus* LEHR, 1960**

Distribution in Iran: East Azarbaijan (LEHR 1988).

Distribution outside Iran: Azerbaijan.

***Habropogon longiventris* LOEW, 1847**

Distribution in Iran: Sistan & Baluchestan (HAYAT et al. 2008), Tehran (ABBASSIAN-LINTZEN 1964a).

Distribution outside Iran: France, Greece, Israel, Russia, former Transcaucasus Republics, Turkey, Ukraine.

Comments: Predator of *Katamenes sichelii* (GIORDANI SOIKA) (Hymenoptera: Vespidae) (HAYAT et al. 2008).

***Habropogon montanus* LEHR, 1960**

Distribution in Iran: Khuzestan (ABBASSIAN-LINTZEN 1964a).

Distribution outside Iran: Kazakhstan, Tajikistan.

***Habropogon similimus* THEODOR, 1980**

Distribution in Iran: Golestan (LEHR et al. 2007).

Distribution outside Iran: Israel, Turkey.

Comments: Predator of *Coccinella septempunctata septempunctata* LINNAEUS (Coleoptera: Coccinellidae) (LEHR et al. 2007).

***Habropogon spissipes* HERMANN, 1909**

Habropogon epissipes ENGEL, 1925.

Distribution in Iran: Chaharmahal & Bakhtiari (SAKENIN et al. 2008a), East Azarbaijan (GHAHARI et al. 2009), Tehran (SAMIN et al. 2010), West Azarbaijan (SAKENIN et al. 2008b).

Distribution outside Iran: Egypt, Morocco, Turkey.

Comments: Predator of *Taxonus agrorum* (FALLÉN) (Hymenoptera: Tenthredinidae) and *Phyllotreta maculicornis* PIC (Coleoptera: Chrysomelidae) (SAKENIN et al. 2008a).

***Habropogon verticalis* BECKER in BECKER & STEIN, 1913**

Distribution in Iran: Sistan & Baluchestan (BECKER & STEIN 1913).

Distribution outside Iran: Turkey.

Genus *Heteropogon* LOEW, 1847

***Heteropogon lehri* RICHTER, 1968**

Distribution in Iran: Mazandaran (LEHR et al. 2007).

Distribution outside Iran: Armenia, Turkey.

Comments: Predator of *Malachius (Malachius) vittatus* MÉNÉTRIÈS (Coleoptera: Malachiidae) (LEHR et al. 2007).

***Heteropogon lugubris mesasiaticus* LEHR, 1970**

Distribution in Iran: Tehran (SAMIN et al. 2010), Iran (no locality cited) (LEHR 1988).

Distribution outside Iran: Armenia, Azerbaijan, Kazakhstan, Tajikistan, Uzbekistan.

***Heteropogon nubilus* (WIEDEMAN in MEIGEN, 1820)**

Isopogon brevis (SCHINER, 1868).

Distribution in Iran: Fars (LEHR et al. 2007), West Azarbaijan (SHOEIBI & KARIMPOUR 2010).

Distribution outside Iran: Algeria, Israel, Jordan, Morocco, Palestine, Portugal, Spain, Tunisia, Turkey.

Comments: Predator of *Campylomma liebknechti* GIRAULT (Heteroptera: Miridae) and *Tetrix tartara tartara* (BOLIVAR) (Orthoptera: Tetrigidae) (LEHR et al. 2007).

***Heteropogon pyrinus* HERMANN, 1906**

Heteropogon pyrrhinus ENGEL, 1925.

Distribution in Iran: Fars (SAGHAEI et al. 2008, 2009), Iran (no locality cited) (HERMANN 1905; ENGEL 1930; THEODOR 1980).

Distribution outside Iran: Azerbaijan, Egypt, Israel, Kazakhstan, Kirgyzstan, Tajikistan, Turkmenistan.

***Heteropogon scoparius* LOEW, 1847**

Distribution in Iran: Chaharmahal & Bakhtiari (LEHR et al. 2007).

Distribution outside Iran: Albania, former Soviet Middle Asia, Turkey.

Comments: Predator of *Lixus rubicundus* ZUBKOW (Coleoptera: Curculionidae) (LEHR et al. 2007).

***Heteropogon succinctus* LOEW, 1847**

Distribution in Iran: Isfahan (LEHR et al. 2007).

Distribution outside Iran: Turkey.

Comments: Predator of *Pristomerus horribilis* NAROLSKY (Hymenoptera: Ichneumonidae) (LEHR et al. 2007).

Genus *Holopogon* LOEW, 1847

***Holopogon albosetosus* SCHINER, 1867**

Holopogon digrammus LOEW, 1871

Distribution in Iran: East Azarbaijan (SAKENIN et al. 2009), Kordestan (SAKENIN et al. 2011), Tehran (SAMIN et al. 2010).

Distribution outside Iran: Kazakhstan, Russia and adjacent regions (former South European territory, Soviet Middle Asia, former Transcaucasus Republics), Turkey, Turkmenistan, Uzbekistan.

Comments: Predator of *Taphaeus hiator* (THUNBERG) (Hymenoptera: Braconidae) (SAKENIN et al. 2009).

***Holopogon dimidiatus* (MEIGEN, 1820)**

Podoctria dimidipennis (MEGERLE in MEIGEN, 1820); *Dasypogon fuscipennis* (MEIGEN, 1820); *Holopogon timidus* LOEW, 1847.

Distribution outside Iran: Austria, France, Greece, Hungary, Italy, Kazakhstan, Poland, Romania, Russia, former South European territory, West Siberia, former Transcaucasus Republics, former Yugoslavia.

Distribution in Iran: Golestan (HAYAT et al. 2008).

***Holopogon fumipennis* (MEIGEN, 1820)**

Dasypogon albipilus (MEIGEN, 1820); *Holopogon strandi* DUDA, 1940.

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

Distribution outside Iran: Austria, Belgium, Czech Republic, Germany, Greece, France, Hungary, Italy, Poland, Roumania, former South European territory, Switzerland, Turkey, former Yugoslavia (GELLER-GRIMM 2007), Russia (ASTAKHOV 2011).

Comments: Predator of *Urophora ligulipalpis* (HERING) (Diptera: Tephritidae) (SAKENIN et al. 2008a).

***Holopogon imbecillus* LOEW, 1871**

Distribution in Iran: Tehran (OLDROYD 1958), West Azarbaijan (SHOEIBI & KARIMPOUR 2010).

Distribution outside Iran: Former Soviet Middle Asia including, Armenia, Azerbaijan.

***Holopogon nigripennis* (MEIGEN, 1820) [*Dasypogon*]**

Distribution in Iran: Khorasan (BECKER & STEIN 1913).

Distribution outside Iran: Austria, Azerbaijan, Belgium, Bulgaria, China, Czech Republic, Far East of former USSR, France, Germany, Greece, Italy, Kazakhstan, Mongolia, Poland, Slovakia, Switzerland, West and East Siberia.

***Holopogon nigropilosus* THEODOR, 1980**

Distribution in Iran: Chaharmahal & Bakhtiari (LEHR et al. 2007).

Distribution outside Iran: Israel, Turkey.

Comments: Predator of *Ebaeus basipes* ABEILLE DE PERRIN (Coleoptera: Malachiidae) (LEHR et al. 2007).

***Holopogon priscus* (MEIGEN, 1820) [*Dasypogon*]**

Podactria hyalipennis (MEGERLE in MEIGEN, 1820); *Dasypogon clavipes* (LOEW, 1840); *D. laniger* (ZELLER, 1840); *Holopogon claviger* LOEW, 1871 (Nomen nudum).

Distribution in Iran: East Azarbaijan (SAKENIN et al. 2008a, b), Lorestan (SAMIN et al. 2011a).

Distribution outside Iran: Austria, France, Hungary, Kazakhstan, Poland, Russia (Central European territory, former South European territory, West Siberia), Kirgyzstan, Tajikistan, Turkey, former Yugoslavia.

Comments: Predator of *Xylocopa (Copoxya) iris* (CHRIST) (Hymenoptera: Anthophoridae) (SAMIN et al. 2011a), *Aproceros umbricola* Malaise and *Arge turcomana* Gussakovskij (Hymenoptera: Argidae) (SAKENIN et al. 2008a).

Genus *Iranopogon* TIMON-DAVID, 1955

***Iranopogon brandti* TIMON-DAVID, 1955**

Distribution in Iran: Fars (TIMON-DAVID 1955).

Comments: Endemic to Iran.

Genus *Jothopogon* BECKER, 1913

***Jothopogon leucomallus* (LOEW, 1871) [*Cyrtopogon*]**

Distribution in Iran: Sistan & Baluchestan (BECKER & STEIN 1913), Tehran (SAMIN et al. 2010), Iran (no locality cited) (THEODOR 1980).

Distribution outside Iran: Israel, Jordan, Turkey, Turkmenistan, Uzbekistan.

Comments: Predator of *Dolichovespula media* (RETZIUS) (Hymenoptera: Vespidae) (SAMIN et al. 2010).

Genus *Pycnopogon* LOEW, 1847

***Pycnopogon fasciculatus* (LOEW, 1847) [*Dasypogon*]**

Distribution in Iran: Golestan, Mazandaran (LEHR et al. 2007).

Distribution outside Iran: Albania, Algeria, Azerbaijan, Bulgaria, Czech Republic, France, Greece, Israel, Italy, Morocco, Romania, Spain, Syria, Tunisia, Turkey, former Yugoslavia.

Comments: Predator of *Polistes (Sulcopolistes) atrimandibularis* ZIMMERMANN (Hymenoptera: Vespidae) (LEHR et al. 2007).

***Pycnopogon hirsutus* BECKER in BECKER & STEIN, 1913**

Distribution in Iran: Sistan & Baluchestan (BECKER & STEIN 1913).

Comments: Endemic to Iran.

***Pycnopogon leucostomus* ENGEL, 1930**

Distribution in Iran: Mazandaran (LEHR et al. 2007).

Distribution outside Iran: Armenia, France, Turkey.

Comments: Predator of *Ischnogasteroides picteti picteti* (SAUSSURE) (Hymenoptera: Vespidae) (LEHR et al. 2007).

***Pycnopogon melanostomus* LOEW, 1874**

Distribution in Iran: Khuzestan (ABBASSIAN-LINTZEN 1964a), Mazandaran (HAYAT et al. 2008).

Distribution outside Iran: Egypt, Kazakhstan.

Comments: Predator of *Calliphora vomitoria* LINNAEUS (Diptera: Calliphoridae) (HAYAT et al. 2008).

***Pycnopogon mixtus* (LOEW, 1847) [*Dasypogon*]**

Dasypogon anthophorinus LOEW, 1847.

Distribution in Iran: Fars (SAGHAEI et al. 2008, 2009, 2010), Isfahan, Kerman (LEHR et al. 2007).

Distribution outside Iran: Armenia, Azerbaijan, Egypt, Georgia, Greece, Israel, Jordan, Turkey.

Comments: Predator of *Malachius* (*Malachius*) *labiatus* BRULLÉ (Coleoptera: Malachiidae), *Melanotmethis fuscipennis* (REDTENBACHER) (Orthoptera: Pamphagidae) (LEHR et al. 2007) and *Episyrphus balteatus* (DE GEER) (Diptera: Syrphidae) (SAGHAEI et al. 2010).

Genus *Scylaticus* LOEW, 1858

***Scylaticus elamiensis* ABBASSIAN-LINTZEN, 1964**

Distribution in Iran: Khuzestan (ABBASSIAN-LINTZEN 1964a).

Comments: Endemic to Iran.

Genus *Sisyrnodytes* LOEW, 1856

***Sisyrnodytes nilicola* (RONDANI, 1850) [*Acnephalum*]**

Sisyrnodytes floccus LOEW, 1856; *Dasygogon contrarius* (WALKER, 1871); *Sisyrnodytes rufus* SÉGUY, 1931.

Distribution outside Iran: Algeria, Egypt, Israel, Morocco, former Soviet Middle Asia, Yemen.

Distribution in Iran: Fars (SAKENIN et al. 2008b), Hormozgan (SAMIN et al. 2011a).

Genus *Stenopogon* LOEW, 1847

***Stenopogon avus* (LOEW, 1874) [*Scleropogon*]**

Distribution in Iran: Northern Khorasan (ABBASSIAN-LINTZEN 1964a), Tehran (SAMIN et al. 2010), Iran (no locality cited) (ENGEL 1930).

Distribution outside Iran: Kazakhstan, former Soviet Middle Asia.

Comments: Predator of *Polistes bischoffi* WEYRAUCH (Hymenoptera: Vespidae) (SAMIN et al. 2010).

***Stenopogon callosus* (PALLAS in WIEDEMANN, 1818) [*Asilus*]**

Distribution in Iran: Fars (LEHR et al. 2007), Tehran (GHAHARI et al. 2008a).

Distribution outside Iran: Armenia, Azerbaijan, Bulgaria, France, Georgia, Germany, Hungary, Kazakhstan, Poland, Romania, former South European territory, Turkey, former Yugoslavia.

Comments: This species was collected in a cotton field. Predator of *Helicoverpa armigera* (Lepidoptera: Noctuidae) and *Xylocopa* (*Copoxyla*) *iris* (CHRIST) (Hymenoptera: Anthophoridae) (GHAHARI et al. 2008a). Also, predator of *Bellieria melanura* MEIGEN (Diptera: Sarcophagidae) (LEHR et al. 2007).

***Stenopogon coracinus* (LOEW, 1847) [*Dasypogon*]**

Distribution in Iran: Golestan (LEHR et al. 2007).

Distribution outside Iran: Bulgaria, France, Greece, Hungary, Italy, Romania, Turkey, former Yugoslavia.

Comments: Predator of *Graptus armeniacus* HOCHHUTH (Coleoptera: Curculionidae) (LEHR et al. 2007).

***Stenopogon elongatus* (MEIGEN, 1804) [*Asilus*]**

Stenopogon loewi SCHINER, 1866 (nomen nudum).

Distribution in Iran: Fars (SAGHAEI et al. 2010), Kuzestan (KHAJEHZADEH 2004), Semnan (SAKENIN et al. 2010), West Azarbaijan (SHOEIBI & KARIMPOUR 2010), Iran (no locality cited) (LEHR 1988).

Distribution outside Iran: Egypt, France, Greece, Hungary, Palestine, Romania, Russia, Tunisia, Turkey, West Sahara.

Comments: Predator of grasshoppers, *Locusta migratoria* LINNAEUS and *Dociostaurus maroccanus* (THUNBERG) (Orthoptera: Acrididae) (KHAJEHZADEH 2004), *Jebusaea hammerschmidtii* REICHE (Coleoptera: Cerambycidae), *Omophlus* sp. (Coleoptera: Alleculidae), *Apis mellifera* LINNAEUS (Hymenoptera: Apidae) (SAGHAEI et al. 2010).

***Stenopogon heteroneurus* (MACQUART, 1838) [*Dasypogon*]**

Distribution in Iran: Fars (ABBASSIAN-LINTZEN 1964a; SAGHAEI et al. 2010), Sistan & Baluchestan (BECKER & STEIN 1913).

Distribution outside Iran: Algeria, Egypt, Israel, Morocco, Tunisia, Turkmenistan, Uzbekistan.

Comments: This species was collected in a *Amygdalus scoparia* forest Predator of *Apis mellifera* (Hymenoptera: Apidae) (SAGHAEI et al. 2010).

***Stenopogon junceus* (WIEDEMANN in MEIGEN, 1820) [*Dasypogon*]**

Dasypogon tanygastrus LOEW, 1861.

Distribution in Iran: Ardabil, East Azarbaijan, Khuzestan, Tehran, Yazd (ABBASSIAN-LINTZEN 1964a), Fars (ABBASSIAN-LINTZEN 1964a; SAGHAEI et al. 2008, 2009, 2010; TOMASOVIC & SAGHAEI 2009), Mazandaran (GHAHARI et al. 2007b).

Distribution outside Iran: Afghanistan, Azerbaijan, France, Greece, Israel, Morocco, former South European territory, Spain, former Transcaucasus Republics Turkey.

Comments: This species was collected in a rice field (GHAHARI et al. 2007b). Predator of the migratory locust, *Schistocerca gregaria* (FORSKAL) (Orthoptera: Acrididae) (ABBASSIAN-LINTZEN 1964a) and *Chalcophorella bagdadensis* (LAPORTE & GORY 1836) (Coleoptera: Buprestidae) (SAGHAEI et al. 2010).

***Stenopogon laevigatus* (LOEW, 1851) [*Dasypogon*]**

Dasypogon bicolor BIGOT, 1878.

Distribution in Iran: East Azarbaijan and West Azarbaijan (SHOEIBI & KARIMPOUR 2010), Fars, Yazd (ABBASSIAN-LINTZEN 1964a), Golestan (HAYAT et al. 2008; GHAHARI et al. 2008a), Tehran (SAMIN et al. 2010).

Distribution outside Iran: Afghanistan, Turkey, former Transcaucasus Republics, former South European territory.

Comments: This species was collected in a cotton field. Predator of *Evania stenochela* KIEFFER and *Zeuxevania splendidula* (COSTA) (Hymenoptera: Evaniidae) (GHAHARI et al. 2008a) and *Calliphora vomitoria* LINNAEUS (Diptera: Calliphoridae) (HAYAT et al. 2008).

***Stenopogon mollis* LOEW, 1868**

Distribution in Iran: Tehran (LEHR et al. 2007).

Distribution outside Iran: Armenia, Georgia, Turkey.

Comments: Predator of *Campylomma liebkechti* GIRAULT (Heteroptera: Miridae) (LEHR et al. 2007).

***Stenopogon nataliae* V. RICHTER, 1963**

Distribution in Iran: Golestan, Mazandaran (LEHR et al. 2007).

Distribution outside Iran: Armenia, Turkey.

Comments: Predator of *Malachius aeneus* LINNAEUS (Coleoptera: Malachiidae) and *Truxalis robusta* UVAROV (Orthoptera: Acrididae) (LEHR et al. 2007).

***Stenopogon nigriventris* LOEW, 1868**

Distribution in Iran: Golestan (HAYAT et al. 2008).

Distribution outside Iran: Greece, former Transcaucasus Republics, specifically Georgia, Turkey.

Comments: Predator of *Acridella turrita* LINNAEUS (Orthoptera: Acrididae) (HAYAT et al. 2008).

***Stenopogon roederii* BEZZI 1895**

Distribution in Iran: Mazandaran (GHAHARI et al. 2007b, 2009).

Distribution outside Iran: Italy, former Soviet Middle Asia, former Transcaucasus Republics (incl. Azerbaijan), Turkey.

Comments: This species was collected in a rice field (GHAHARI et al. 2007b).

***Stenopogon rufipilus* (LOEW, 1873)**

Distribution in Iran: Type-locality: "Schahkuh, Elbuis" (Iran, Golestan province). Northern Khorasan (ABBASSIAN-LINTZEN 1964a), Iran (no locality cited) (ENGEL 1930).

Comments: Endemic to Iran.

***Stenopogon rufipilus ruficauda* ENGEL, 1929**

Distribution in Iran: Khorasan (OSTOVARI & RASTEGAR 2013), Tehran (SAMIN et al. 2010).

Distribution outside Iran: Armenia, former Transcaucasus Republics.

Comments: Predator of *Chrysotoxum parvulum* VIOLOVITSH (Diptera: Syrphidae) (SAMIN et al. 2010).

***Stenopogon sabaudus* (FABRICIUS, 1794)**

Asilus fulvulus PALLAS in WIEDEMANN, 1818 (nomen nudum); *A. occultus* LOEW, 1861.

Distribution in Iran: Khorasan (GHAHARI et al. 2008a), Kordestan (ABBASSIAN-LINTZEN 1964a), Semnan (NADERIAN et al. 2012).

Distribution outside Iran: Albania, Austria, Azerbaijan, Bosnia-Herzegovina, Bulgaria, Croatia, Czech Republic, France, Germany, Greece, Hungary, Italy, Slovakia, Slovenia, former South European territory, Spain, Switzerland, Syria, former Transcaucasus Republics, Turkey.

Comments: This species was collected in a cotton field. Predator of *Palarus variegatus* (FABRICIUS) (Hymenoptera: Sphecidae) (GHAHARI et al. 2008a). The subspecies *S. sabaudus harpax* LOEW, 1868 was reported from Kordestan by SAGHAEI et al. (2009) the report being based on the paper by ABBASSIAN-LINTZEN (1964a), but this subspecies was not recorded by ABBASSIAN-LINTZEN (1964a); therefore its presence in Iran is doubtful.

***Stenopogon sciron* (LOEW, 1873) [*Scleropogon*]**

Scleropogon theseus LOEW, 1873.

Distribution in Iran: Fars (SAGHAEI et al. 2008, 2009, 2010; TOMASOVIC & SAGHAEI 2009), Kerman (ABBASSIAN-LINTZEN 1964a), Tehran (SAMIN et al. 2010), Iran (no locality cited) (ENGEL 1930; THEODOR 1980).

Distribution outside Iran: Afghanistan, former Transcaucasus Republics, Turkey.

Comments: Predator of *Oedaleus* sp. (Orthoptera: Acrididae) (SAGHAEI et al. 2010). Also, an unknown species of *Stenopogon* was collected from Fars province by SAGHAEI et al. (2010) as the predator of *Sphingonotus* cf. *rubescens* (WALKER) (Orthoptera: Acrididae).

***Stenopogon sciron superbus* (PORTSCHINSKY, 1873) [*Scleropogon*]**

Distribution in Iran: East Azarbaijan, West Azarbaijan (SHOEIBI & KARIMPOUR 2010), Sistan & Baluchestan (OLDROYD 1958), Iran (no locality cited) (ENGEL 1930).

Distribution outside Iran: Afghanistan, Kazakhstan, Kirgizstan, former South European territory, former Transcaucasus Republics.

***Stenopogon shirazi* TOMASOVIC & SAGHAEI, 2009**

Distribution in Iran: Fars (TOMASOVIC & SAGHAEI 2009).

Comments: Endemic to Iran.

***Stenopogon strataegus* GERSTAECKER, 1862**

Stenopogon antar SCHINER, 1867.

Distribution in Iran: Fars (LEHR et al. 2007).

Distribution outside Iran: Greece, Turkey.

Comments: Predator of *Colloceria melancholica* (GRAVENHORST) (Hymenoptera: Ichneumonidae) (LEHR et al. 2007).

***Stenopogon theodori* LEHR, 1984**

Stenopogon variabilis THEODOR, 1980.

Distribution in Iran: Isfahan (SAKENIN et al. 2008a), Semnan (SAKENIN et al. 2010).

Distribution outside Iran: Israel, Jordan.

Comments: Predator of *Athalia glabricollis* THOMSON (Hymenoptera: Tenthredinidae) (SAKENIN et al. 2008a).

***Stenopogon xanthotrichus* (BRULLÉ, 1832)**

Dasypogon ochreateus (LOEW, 1847); *Stenopogon graecus* LOEW, 1855.

Distribution in Iran: Isfahan (LEHR et al. 2007), Semnan (GHAHARI et al. 2008a; NADERIAN et al. 2012).

Distribution outside Iran: Albania, Greece, Romania, Turkey.

Comments: This species was collected in a cotton field. Predator of *Nezara viridula* LINNAEUS (Heteroptera: Pentatomidae) (GHAHARI et al. 2008a) and *Vespula* (*Paravespula*) *germanica* (FABRICIUS) (Hymenoptera: Vespidae) (LEHR et al. 2007).

Discussion

The recorded robber fly fauna of Iran comprises 289 species representing 88 genera and 9 subfamilies: Asilinae (31 genera and 93 species and 3 subspecies), Stenopogoninae (23 genera and 89 species and 5 subspecies), Apocleinae (4 genera, 19 species, 1 subspecies), Atomosinae (2 genera, 2 species), Dasypogoninae (7 genera, 28 species), Laphriinae (7 genera, 23 species), Laphystiinae (11 genera, 15 species), Leptogastrinae (2 genera, 7 species, 1 subspecies), and Ommatiinae (1 genus, 3 species). Among the 88 reported genera from Iran, *Stenopogon* (with 20 species), *Saropogon* (with 18 species), *Machimus* (with 14 species), *Aneomochtherus* (with 12 species), *Dioctria* (with 11 species), and *Dysmachus* (with 10 species) are more diverse than the other genera. The diversity of species within the Iranian asilid fauna is illustrated in Figure 2. Iran is comprised of 31 provinces and among them Fars with 75 reported species has the highest diversity (the majority of faunistic surveys were done in this province); followed by Sistan & Baluchestan, Mazandaran, Tehran, Khorasan, Semnan and East Azarbaijan arranged sequentially (Figure 3). No species have been reported thus far from Alborz, Bushehr, Kuhgiluyeh & Boyerahmad, Kordestan, and Qazvin primarily because they have not been systematically sampled.

Predator-prey analysis

Based on a limited number of prey records, a total of 282 species representing 9 Orders were recorded as being taken by Iranian Asilidae: Araneae (one record: 0.35%), Coleoptera (49 records: 17.37%), Diptera (65 records: 23%), Hemiptera (6 records: 2.12%), Hymenoptera (125 records: 44.32%), Lepidoptera (9 records: 3.19%), Neuroptera (8 records: 2.83%), Odonata (one record: 0.35%), and Orthoptera (18 records: 6.38%) (Figure 4).

Based on limited sampling, Iranian robber flies are predators of insects representing species in 60 families, many of which are agricultural and forest pests. A summary of the taxa containing prey items are listed below.

Class Araneae: One record of the family Thomisidae.

Class Hexapoda:

Order Coleoptera. 49 records in 12 families: Alleculidae (1 record), Buprestidae (2 records), Cerambycidae (4 records), Chrysomelidae (8 records), Coccinellidae (5 records), Curculionidae (7 records), Malachiidae (4 records), Melyridae (1 record), Scarabaeidae (4 records), Staphylinidae (11 records), Tenebrionidae (2 records).

Order Diptera. 65 records in 11 families: Bibionidae (1 record), Bombyliidae (6 records), Calliphoridae (4 records), Dolichopodidae (1 record), Muscidae (2 records), Sarcophagidae (8 records), Syrphidae (14 records), Tabanidae (16 records), Tachinidae (5 records), Tephritidae (4 records), Therevidae (2 records).

Order Hemiptera. 6 records in 4 families: Cicadellidae (2 records), Coreidae (1 record), Miridae (2 records), Pentatomidae (1 record).

Order Hymenoptera. 125 records in 19 families: Andrenidae (1 record), Anthophoridae (4 records), Apidae (11 records), Argidae (5 records), Braconidae (2 records), Cephidae (3 records), Chrysididae (1 record), Crabronidae (6 records), Evaniidae (3 records), Formicidae (1 record), Ichneumonidae (3 records), Halticidae (1 record), Megachilidae (1 record), Pamphilidae (3 records), Platygasteridae (1 record), Scoliidae (5 records), Sphecidae (31 records), Tenthredinidae (8 records), Vespidae (35 records).

Order Lepidoptera. 9 records in 5 families: Lymantridae (1 record), Noctuidae (2 records), Papilionidae (1 record), Pyralidae (4 records), Tortricidae (1 record).

Order Neuroptera. 8 records in 4 families: Chrysopidae (5 records), Coniopterigidae (1 record), Hemerobiidae (1 record), Myrmeleontidae (1 record).

Order Odonata. One record, Aeshnidae.

Order Orthoptera. 18 records in 3 families: Acrididae (11 records), Gryllidae (2 records), Tettigidae (5 records).

Comparison of different taxa (Figure 4) indicates that Hymenoptera with 125 recorded species, and Diptera with 65 and Coleoptera with 49 species, are the most common prey for robber flies in Iran. The abundance of Hymenoptera in the insect fauna of the world is reflected in the "Asilidae Predator-Prey Database" produced by Dr. ROBERT LAVIGNE (2003). Of the approximate 58,024 prey in the database, 25,320 are Hymenoptera, or just under one half of the total (DENNIS & LAVIGNE 2007).

As to spiders (Araneae), only one species was reported. Robber flies do not often take spiders as prey (DENNIS et al. 2012). It is assumed that this is, in part, because most robber fly prey are usually captured while they are in flight and predation does not ordinarily take place on the ground, except in the *Stenopogon* (LOEW, 1847) group (Asilidae: Stenopogoninae) (DENNIS et al. 2012). Although spiders are incapable of flight, they can dangle from silken threads or jump into the air, and so such prey may be considered to have been collected in flight (Londt 2006). Also for the 27 robber fly genera and/or species taken with over 20 prey, 0.2 to 10% were spiders, with an average of 2.5% (DENNIS et al. 2012).

Most species of Asilidae have restricted ecological requirements and are rather locally distributed. Within their broader ranges, individuals tend to be found in isolated, local aggregations (MARTIN 1965). Their specialized habitats and other species-specific specializations, together with their ecological roles as primary predators of insects, make

robber flies significant elements of the ecosystem. Along with butterflies (Lepidoptera), tiger beetles (Coleoptera: Carabidae), and dragonflies (Odonata), robber flies are increasingly viewed as a focal group of conservation concern (BARNES et al. 2007). Many species prey upon honey bees, sometimes causing significant damage to bee colonies (DENNIS & LAVIGNE 2007; LEHR 1964). Some robber flies, in the larval stage, are regarded as potential biological control agents against scarab larvae (WEI et al. 1995).

Although there is a diverse fauna of robber flies in Iran they are general predators which attack and eat several beneficial insects as well as pests; therefore they can not be considered important and efficient agents in biological control programs. However, these dipteran flies are beneficial organisms in a variety of ecosystems and therefore must be conserved along with other natural enemies. Conservation biological control involves manipulation of the environment to enhance the survival, fecundity, longevity and behavior of natural enemies to increase their effectiveness. Such conservation efforts may be directed at mitigating harmful conditions or enhancing favorable ones. Conservation practices can be further categorized as those that focus on reducing mortality, providing supplementary resources, controlling secondary enemies, or manipulating host plant attributes to the benefit of natural enemies (van den Bosch and Telford, 1964). Of the major forms of biological control, conservation biological control has received the least amount of attention (LANDIS et al. 2000). Because of its importance in enhancing natural enemy performance, conservation biological control should be a keystone of all biological control efforts (GURR & WRATTEN 1999).

Conclusion

There have been significant advances in our knowledge of Iranian Asilidae since ABBASSIAN-LINTZEN's (1964a) catalogue listing 22 genera and 39 species. Though many areas of Iran remain poorly sampled, especially areas of north and northwestern Iran, several interesting species have been discovered recently. Summarizing all these data, has greatly improved our understanding of the distribution of Iranian Asilidae. Once additional sampling is completed we can expect additional species to be discovered in the future, probably for a total of 350. Although the taxonomy of Asilidae has been well studied in different regions of the world, the biology and ethology of these predators has been poorly investigated and is a field which lends itself to the aspiring researcher. Additionally, it behooves researchers to make every effort at conserving the environments in which robber flies occur. This checklist is aimed at providing background information for the inquiring researcher.

Zusammenfassung

Eine Checkliste der Asilidae (Diptera) aus dem Iran, basierend auf den Literaturdaten, wird erstellt. Insgesamt werden 289 Arten und Unterarten, die 88 Gattungen und 9 Unterfamilien (Apocleinae, Asilinae, Atomosinae, Dasypogoninae, Laphriinae, Laphystiinae, Leptogastrinae, Ommatiinae, Stenopogoninae) repräsentieren, aufgelistet. Synonymien, Verbreitungsdaten, Aufzeichnungen über Beutetiere werden – soweit verfügbar – für die einzelnen Arten angegeben.

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Authors' addresses:

Dr. Hassan GHAHARI

Department of Plant Protection

Shahre Rey Branch, Islamic Azad University

Tehran, Iran

E-mail: hghahari@yahoo.com

Dr. Rüstem HAYAT

Department of Plant Protection

Faculty of Agriculture, Suleyman Demirel University

Isparta, Turkey

E-mail: rustemhayat@sdu.edu.tr

Corresponding author.

Dr. Robert J. LAVIGNE

Entomology Section, South Australia Museum

North Terrace, Adelaide, SA 5000,

Australia

E-mail: Hexapoda55@gmail.com

Dr. Hadi OSTOVAN

Department of Entomology

Fars Science and Research Branch, Islamic Azad University

Marvdasht, Iran

E-mail: ostovan2001@yahoo.com



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

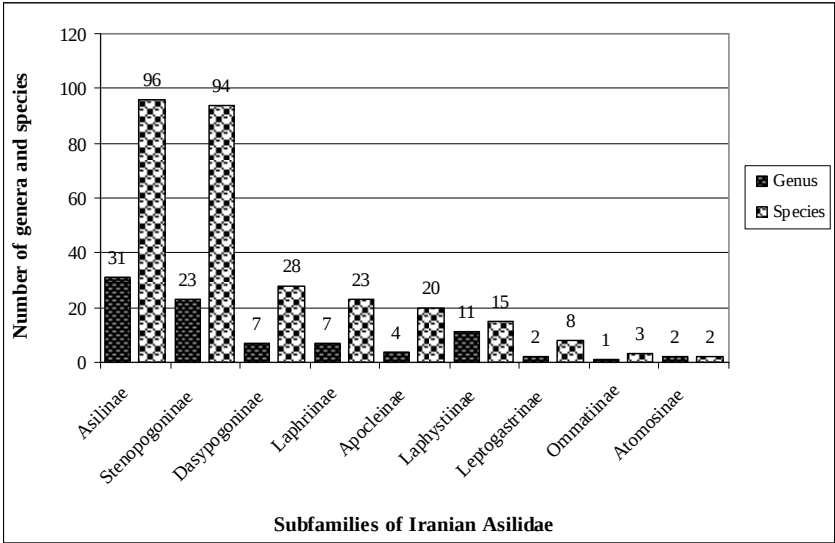


Fig. 2: Species diversity of subfamilies of Iranian Asilidae.

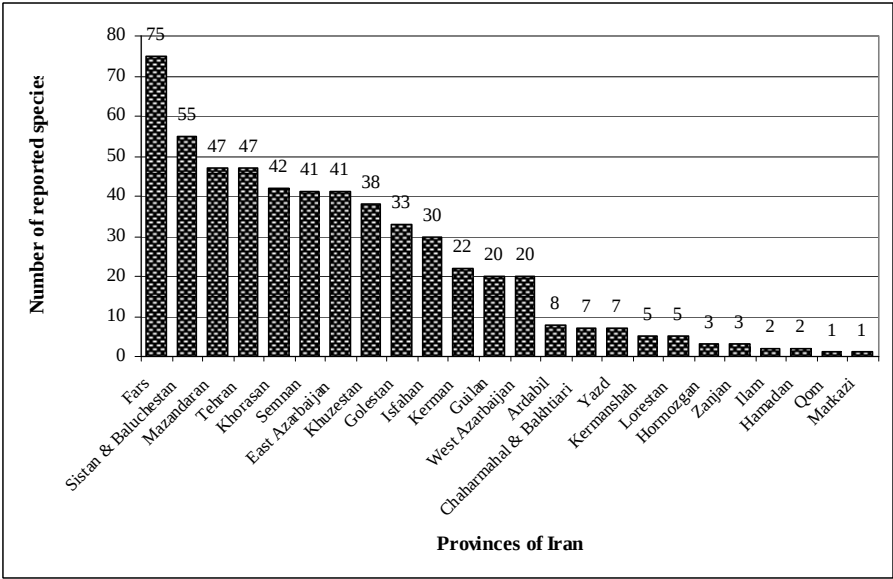


Fig. 3: Number of reported species of Iranian Asilidae by province.

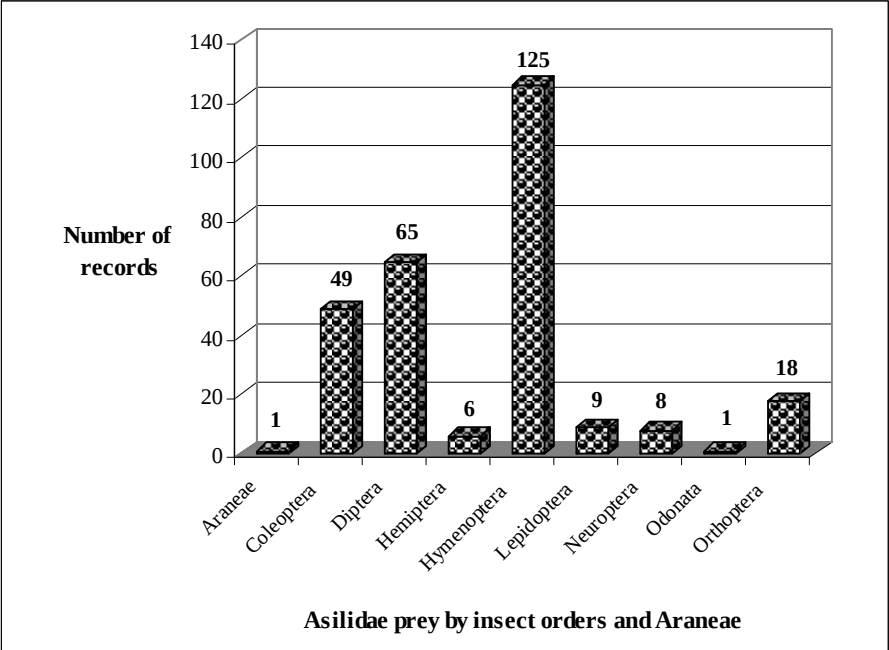


Fig. 4: Number of prey records of Asilidae in Iran.

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Autor(en)/Author(s): Ghahari Hassan, Hayat Rüstem, Lavigne Robert, Ostovan Hadi

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