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An annotated catalog of the Iranian Reduvioidea (Hemiptera: Heteroptera: Cimicomorpha)

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Abstract

An updated list of Iranian Reduvioidea Latreille (families Pachynomidae, Reduviidae) is presented and discussed in this paper. For Iranian fauna, there are records of one species of Pachynomidae and 109 species and subspecies of assassin bugs (Reduviidae) distributed in 24 genera and subgenera, and seven subfamilies, Emesinae, Harpactorinae, Holoptilinae, Peiratinae, Phymatinae, Reduviinae, and Stenopodainae. We report 6 new country records and one new species, *Empicoris baerensprungi* (Dohrn, 1863) for Asian fauna. Synonyms and distribution data are also given.

Key words: Heteroptera, Cimicomorpha, Reduvioidea, Pachynomidae, Reduviidae, Catalog, Iran, Palearctic Region

Introduction

Cimicomorpha comprise more than 20,000 species, now currently placed in 17 families (Weirauch & Schuh 2011). The superfamily Reduvioidea Latreille 1807 includes only two families, Pachynomidae Stål 1873 and Reduviidae Latreille 1807; both are present in Iran (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Pachynomidae has been considerd within Nabidae but the taxon is close to Reduviidae and was recognized at family rank by Carayon (1950) and Carayon & Villiers (1968). Pachynomidae is a small family with two subfamilies, Aphelonotinae Carayon & Villiers 1968 and Pachynominae Stål 1873; both are found in South American and Africa. Pachynomidae (and especially the genus *Pachynomus*) are more widely distributed from Africa to India and Mid Asia (Carayon & Villiers 1968). The biology of the 16 known species has been poorly studied, and most specimens have been collected at light (Schuh & Slater 1995).

Reduviidae are a diverse group of mostly predatory insects with currently close to 7000 species described worldwide, and 1000 genera and 29 subfamilies (Cassis & Gross 1995; Weirauch 2008; Henry 2009). The family Reduviidae contains more subfamilies than any other heteropteran family and their composition and relationship need further studies (Ambrose 1999, 2004, 2006). Hence, there is an absolute need for a comprehensive reassessment of the subfamilies, tribes (divisions), and genera (Ambrose *et al*. 2007; Weirauch & Munro 2009).

Most assassin bugs prey on other arthropods, with frequent specialization on a certain group of prey organisms, such as termites, ants, or diplopods (Cassis & Gross 1995; Weirauch & Cassis 2006; Forthman & Weirauch 2012). Members of the subfamily Triatominae are distinctive for their blood-sucking habits and as vectors of human trypanosomiasis (*Trypanosoma cruzi*, the causal agent of Chagas' disease) in the Neotropics (Henry 2009). Reduviidae are found in many terrestrial habitats, but are most abundant in tropical and subtropical regions (Melo & Coscarón 2004). In the Palearctic, the reduviids are well known in the temperate countries, but very scarce in the northern parts (Putshkov & Putshkov 1996; Yildirim *et al*. 2010; Aukema *et al*. 2013).

Many reduviids are generalist predators of many pest insects. Reduviid bugs are valuable predators in situations where a variety of insect pests occur, and they should be conserved and augmented for their utilization in

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biocontrol programs (Ambrose 1999). As reduviids are larger than other predaceous bugs, their nymphs and adults consume considerable numbers of prey (Schaefer 1988).

In continuing to catalogs Iranian Heteroptera (Ghahari *et al*. 2009c, d, 2010b, c, 2012, 2013; Ghahari & Heiss 2012; Ghahari & Moulet 2012, 2013), the superfamily Reduvioidea is cataloged in this paper.

Material and methods

Published data on the superfamily Reduvioidea from Iran are summarized. Original materials were collected from different regions of Iran by sweeping net. Additionally, some new and unpublished data from museums or private collections (MHNG: Switzerland, Geneva, Muséum d'Histoire Naturelle (including Eckerlein's collection); MNHN: France, Paris, Muséum National d'Histoire Naturelle; NMPC: Czech Republic, Prague, National Museum of Natural History, Department of Entomology; ZMAS: Russia, St. Petersburg, Russian Academy of Sciences, Zoological Institute) are added. Subfamilies, tribes, genera and species are listed alphabetically. The valid species names are followed by a chronological listing of references to records from Iran. The following data are included: valid taxa names, synonyms, published records with provincial distribution (see Fig. 1), and the general distribution, classification, nomenclature, and distribution data of Reduviidae as suggested by Maldonado-Capriles (1990), Kerzhner (1993), Putshkov & Putshkov (1996), Putshkov & Moulet (2010), and Aukema *et al*. (2013) have been followed. For a detailed citation of the reduviids listed here, the readers may refer to Maldonado-Capriles (1990), Putshkov & Putshkov (1996), and Putshkov & Moulet (2010). Also, if necessary, taxonomic problems are discussed. The new country records of this paper were identified by the second author, and P. Putshkov (Schmalgausen Institute of Zoology, Ukraine).

Results

This catalog includes one species of Pachynomidae, and 109 species and subspecies of Reduviidae from 24 genera and subgenera and 7 subfamilies (including, Emesinae with 5 species from 3 genera, Harpactorinae with 34 species from 8 genera, Holoptilinae with one species from one genus, Peiratinae with 12 species from 4 genera, Phymatinae with 2 species from 2 genera, Reduviinae with 27 species from 3 genera, and Stenopodainae with 27 species from 3 genera). Six species—*Coranus* cf. *laticeps* Wagner, 1952 (Harpactorinae), *Empicoris baerensprungi* (Dohrn, 1863), *Empicoris culiciformis* (De Geer, 1773) (Emesinae), *Oncocephalus thoracicus* Fieber, 1861 (Stenopodainae), *Phymata crassipes* (Fabricius, 1775) (Phymatinae), *Reduvius autrani* Reuter, 1892 (Reduviinae)—are new records for the Iranian fauna, and *Empicoris baerensprungi* (Dohrn, 1863) is a new species for Asian fauna.

Superfamily Reduvioidea Latreille, 1807

Family Pachynomidae Stål, 1873

Subfamily Pachynominae Stål, 1873

Genus *Pachynomus* Klug, 1830

Pachynomus lethierry Puton, 1874

Pachynomus lethierryi Puton, 1874: 440 (as new species).

Distribution in Iran. Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. North Africa (Algeria), The Sudan, Near East, Turkey, Mid Asia, Turkmenistan, Uzbekistan (Carayon & Villiers 1968).

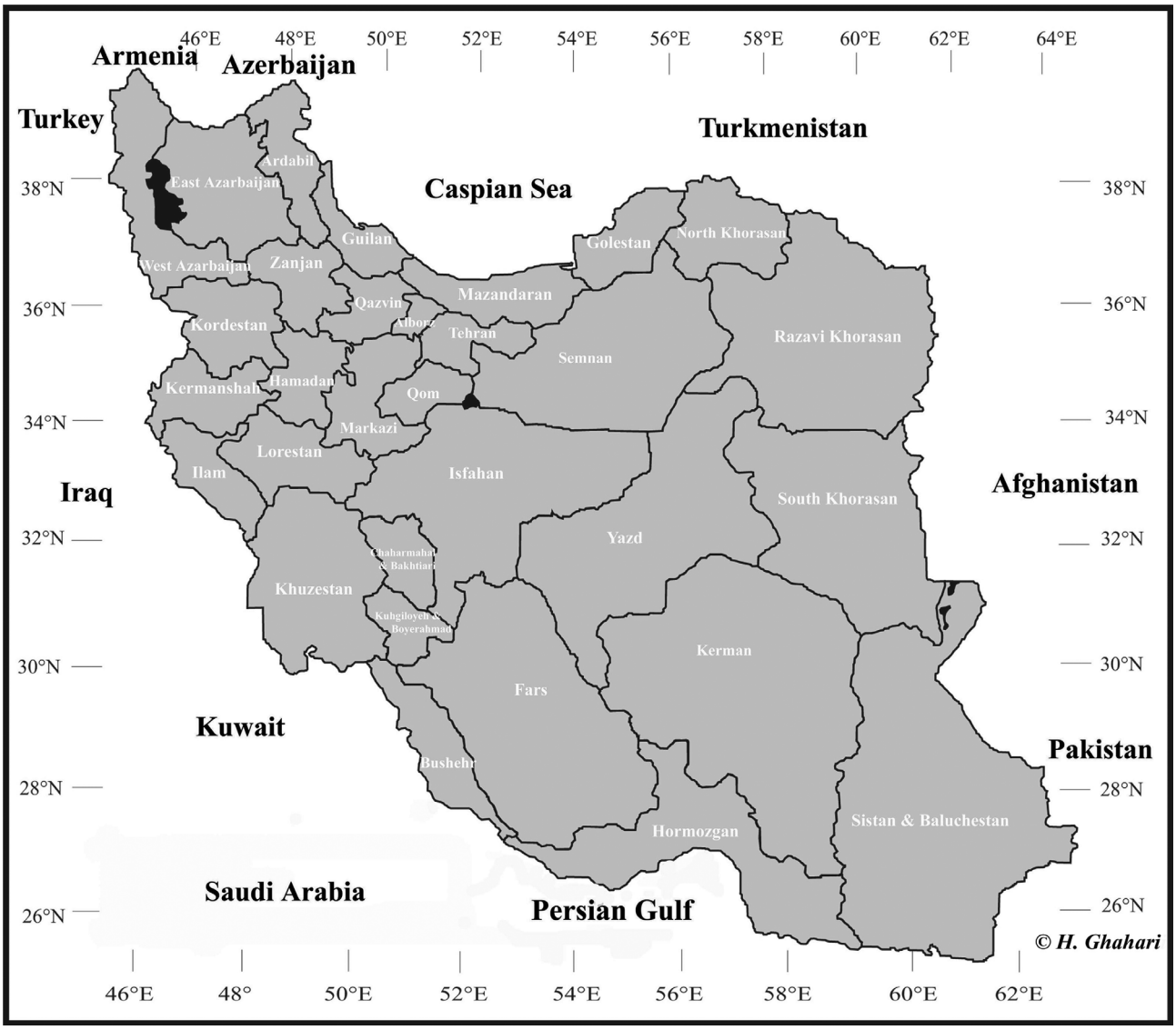

FIGURE 1. Map

Family Reduviidae Latreille, 1807

Subfamily Emesinae Amyot & Serville, 1843

Tribe Emesini Amyot & Serville, 1843

Genus *Stenolemus* Signoret, 1858

***Stenolemus bogdanovii* Oshanin, 1871**

Stenolemus bogdanovii Oshanin, 1871: 208.

Distribution in Iran. Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. Caucasus, Near East, Ponto-Turanian.

Tribe Leistarchini Stål, 1863

Genus *Ploiaria* Scopoli, 1786

***Ploiaria matilei* Dispons & Villiers, 1967**

Ploiaria matilei Dispons & Villiers, 1967: 1078.

Distribution in Iran. East Azarbaijan (Dispons & Villiers 1967; Putshkov & Pluot-Sigwalt 2008; Gharaat *et al*. 2009).

Distribution outside Iran. Endemic to Iran (Putshkov & Putshkov 1996).

Tribe Ploiariolini Van Duzee, 1916

Genus *Empicoris* Uhler, 1894

***Empicoris baerensprungi* (Dohrn, 1863)**

Ploiaria baerensprungi Dohrn, 1863: 60 (as new species).

Material examined. Hormozgan province, Isin, 1♂, 28.4-6.5.1977, loc 320, Exped. Nat. Mus. Praha, NMPC coll. **New record for Asian fauna.**

Distribution outside Iran. Western and Central Europe, Balkan region, Ukraine (Crimea) (Putshkov & Moulet 2010).

Comments. The general color of this specimen is paler than described by Putshkov & Moulet (2010) and the annulation of antennomeres and legs does not correspond exactly to their description; but the apophyse of pygophore rather narrow, long and laterally sinuated and the external side of paramere finely denticulate are diagnostic.

According to Hoberlandt (1983), the place where this specimen has been collected is a "date-palm oasis with numeous gardens", and the vegetation around composed by "sparse trees of *Prosopis spicigera* [Fabaceae], *Acacia arabica* [Mimosaceae], *Acacia flava* [Mimosaceae], *Calotropis procera* [Asclepiadaceae] and *Euphorbia larica* [Euphorbiaceae]", the author precises that the collects in the locality have been made "from vegetation and by light traps". In western Europe, *E. baerensprungi* lives in forests, gardens or orchards on old trees such as *Quercus, Malus*, *Populus*, *Pinus*, *Cupressus*; it often hides among lichens, moses, bundles (Putshkov & Moulet 2010).

***Empicoris culiciformis* (De Geer, 1773)**

La punaise culiciforme Geoffroy, 1762: 462 (invalid name); *Cimex culiciformis* De Geer, 1773; 323 (as new species); *Ploiaria alata* Scopoli, 1786: 51; *Gerris erraticus* Fallén, 1807: 117; *Ploiaria maculata* Haldeman, 1847: 151; *Ploiariodes errabunda* Banks, 1909: 45 (non Say, 1832); *Empicoris thermalis* Dispons, 1958: 84; *Empicoris culiciformis italicus* Tamanini, 1962: 247.

Material examined. West Azarbaijan province, Qushchi (1363 m), 2♀, 19.vii.2007. **New record for Iran.**

Distribution outside Iran. One of most widely distributed reduviids, nearly cosmopolitan. Euroasian: Europe (except Scandinavia), Caucasus (Armenia, Georgia), the Maghreb, Near East, Mid Asia (Azerbaijan, Kazakhstan, Kirghizia, Tajikistan, Uzbekistan) (Putshkov & Putshkov 1996; Aukema *et al*. 2013). In America known in USA but Henry & Froeschner (1988) mentioned it only from Connecticut, Maryland, Oregon, Virginia; also citated from Chile and Argentina but the records were not confirmed recently (Melo & Faúndez 2011). The extra-Palearctic are considered results of introduction by human transport (Putshkov & Moulet 2010).

Comments. *Empicoris culiciformis* lives in several types of biotopes, but not too sunny nor too dry, sometimes in peat-bogs or on salted soils. It is often found on the ground or under vegetation, caughts on trees, in bird net, or

in spider webs (Putshkov & Moulet 2010). *Empicoris culiciformis* feeds upon small Diptera, especially Chironomidae, Chloropidae, and Culicidae (Diptera) (Putshkov & Moulet 2010).

Empicoris mediterraneus Hoberlandt, 1956

Empicoris vagabunda auct. non Linnaeuas, 1758; *Ploiariola culiciformis* auct. non De Geer, 1773; *Empicoris mediterraneaus* Hoberlandt, 1956: 74; *Empicoris culiciformis weberi* Dispons, 1965a: 56; *Empicorus salinus cubitalis* Ribes, 1973: 40.

Distribution in Iran. Iran (without precise locality) (Putshkov & Moulet 2010, Aukema *et al*. 2013).

Distribution outside Iran. Irano-Mediterranean: Azerbaijan, Croatia, France, Greece, Hungary, Italy, the Maghreb, Near East, Portugal, European part of Russia, Spain, Turkey, Ukraine, Uzbekistan (Putshkov & Putshkov 1996; Putshkov & Moulet 2010; Aukema *et al*. 2013); doubtful in Germany, Great Britain, and Ireland (Putshkov & Moulet 2010).

Comments. Often *E. mediterraneus* is found on the ground or on the vegetation (Putshkov & Moulet 2010).

Empicoris vagabundus (Linnaeus, 1758)

Cimex vagabundus Linnaeus, 1758: 450; *Cimex squalidus* Gmelin, 1790: 2192; *Ploearia erratica* R.F. Sahlberg, 1848: 164 (non Fallén, 1807); *Ploearia pilosa* Fieber, 1861: 150; *Poiariodes hirtipes* Banks, 1912: 97; *Ploiariola canadensis* Parshley, 1919: 25.

Diostribution in Iran. Iran (without precise locality) (Putshkov & Moulet 2010; Aukema *et al*. 2013)).

Distribution outside Iran. Holarctic (Europe, the whole Asia including, Far East, North America) (Putshkov & Putshkov 1996; Aukema *et al*. 2013); introduced to Chile (Melo & Faúndez 2011).

Comments. Often *E. vagabundus* is collected on various trees (e.g., *Abies*, *Carpinus*, *Picea*, *Quercus*, *Tilia*, *Ulmus*, *Malus pumila*, *Pyrus communis*, etc.), especially on the dead leaves of those trees. It is known on lichens, faggots, webs of spiders, barklice, and booklice (Psocoptera) where it hunts and eats small Diptera and Homoptera (Putshkov & Moulet 2010).

Subfamily Harpactorinae Amyot & Serville, 1843

Tribe Harpactorini Amyot & Serville, 1843

Genus *Amphibolus* Klug, 1830

Amphibolus venator (Klug, 1830)

Reduvius (*Amphibolus*) *venator* Klug, 1830: fol. e, pl. 9.

Distribution in Iran. Kerman (Dispons & Villiers 1967).

Distribution outside Iran. Arabian Peninsula, Asia, Near East, the Maghreb; India, tropical Africa, Canada, and tropical America (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Comments. This species is a predator and a useful agent for biocontrol of stored-product insects and may disperse with the stored-products.

Genus *Callistodema* Reuter, 1890

Callistodema fasciata (Kolenati, 1857)

Rhinocoris cruentus var. *fasciatus* Kolenati, 1857: 463; *Callidema lygaeiformis* Jakovlev, 1876: 266; *Callidema fasciata* Jakovlev, 1879: 160; *Callistodema fasciatum* f. *quadrimaculata* Stichel, 1959 in Dispons & Stichel (1959): 139.

Distribution in Iran. Alborz (new data—H. Günther's collection), Isfahan, Mazandaran, Qazvin, Tehran (new data—MHNG), Iran (without precise locality) (Putshkov & Moulet 2010; Aukema *et al*. 2013).

Distribution outside Iran. Ponto-Mediterranean, Armenia, Azerbaijan, Greece, Russia, Turkey (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Comments. A species strictly found on *Tamarix* (Tamaricaceae), where the green larvae can hide and hunt. It feeds on small cicadas (Hemiptera: Cicadidae) and bugs (Lygaeidae, Miridae); adults hibernate and they can endure very low temperatures (-20°C) and -30°C in laboratory conditions (Putshkov 1987; Putshkov & Moulet 2010).

Genus *Coranus* Curtis, 1833

Coranus (*Coranus*) *aegyptius* (Fabricius, 1775)

Reduvius aegyptius Fabricius, 1775: 732; *Coranus zibanicus* Dispons, 1953: 108; *Coranus linnavuorii* Dispons, 1963.

Distribution in Iran. East Azarbaijan (Hoberlandt 1959; Baroughi 1978; Modarres Awal 1997a, c), Fars (Hoberlandt 1959; Dispons & Villiers 1967; Ghahari *et al*. 2011b), Isfahan (Razmjoo *et al*. 2011), Khorasan (Modarres Awal 1997b, 2008; Rahimi *et al*. 2010a, c), Mazandaran (Dispons & Villiers 1967; Ghahari *et al*. 2008a), Semnan (Dispons & Villiers 1967), Sistan & Baluchestan (new data—ZMAS), Tehran (Hoberlandt 1954, 1959; Kiritshenko 1966; Dispons & Villiers 1967), Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. Eremian: from Madeira and The Canary Archipelago, North Africa, Near East, Arabian Peninsula, Central Asia; known in Tropical Africa (Senegal, The Sudan, Tchad) (Putshkov & Putshkov 1996; Kment & Jindra 2005; Putshkov & Moulet 2010; Aukema *et al*. 2013).

Comments. In rice fields and on *Sorghum halepense* (Poaceae) (Ghahari *et al*. 2008a); *C. aegyptius* often inhabits dry biotopes (desert conditions) (Lindberg 1958; Linnavuori 1964); it has been mentioned under *Salicornia* sp. (Amaranthaceae) on a salted soil (Putshkov & Moulet 2010).

Coranus (*Coranus*) *aethiops* Jakovlev, 1893

Coranus aethiops Jakovlev, 1893: 303.

Distribution in Iran. Mazandaran (Sakenin *et al*. 2008).

Distribution outside Iran. Euro-Siberian from Scandinavia to Siberia and Asian Russia, Asian Kazakhstan, Kirgizia, and Mongolia, with isolated scattered records in Central Europe; always at high latitudes or, if not, at high elevations (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Comments. Although the presence of this species in Iran is possible, but it must be studied more carefully from the further samplings. One cannot exclude confusion with another *Coranus* of the *subapterus*-group, a group of very close species, particularly with one form of *Coranus* cf. *subapterus* known from Bulgaria to Middle Asia (Iran), which identity requires further studies (see Putshkov & Moulet 2010).

Coranus (*Coranus*) *angulatus* Stål, 1874

Harpactor aegyptius Herrich Schaefer, 1842: 107 (non Fabricius, 1775); *Coranus angulatus* Stål, 1874: 20 (a replacement of *H. aegyptius* Herrich-Schaefer); *Coranus pirzadae* Miller, 1950 in China & Miller (1950): 232; *Coranus angulatus filsi* Dispons, 1954: 112.

Distribution in Iran. Hormozgan (Hoberlandt 1959; Hoberlandt 1961 as *C. pirzadae*; Dispons & Villiers 1967);

Tehran (Brown 1966), West Azarbaijan (Sakenin *et al*. 2010), Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. Eremian, known in Tropical Africa, Arabian peninsula, Indian subcontinent (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Comments. *Coranus angulatus* is a species living in desert conditions (Dispons 1955).

Coranus (*Coranus*) *contrarius* (Reuter, 1881)

Coranus contrarius Reuter, 1881: 161 (as new species).

Distribution in Iran. Guilan (Ghahari *et al*. 2009a), Khorasan (Modarres Awal 1997b, c; Rahimi *et al*. 2010a, c).

Distribution outside Iran. Central and Western Europe to Turkey, Asian Kazakhstan, and Russia (Yenissey River) (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Comments. This taxon is very close to the *subapterus*-group and the *aegyptius*-group from which it can only be separated by its second antennomere being longer than the third (Putshkov & Moulet 2010).

Coranus (*Velinoides*) *dilatatus* (Matsumura, 1913)

Velinoides dilatatus Matsumura, 1913: 161; *Coranus magnus* Hsiao & Ren, 1981: 514.

Distribution in Iran. Mazandaran (Sakenin *et al*. 2008).

Distribution outside Iran. China, Russia (East Siberia, Far East), Japan, Korea, Mongolia.

Comments. This is the largest *Coranus* species (body length about 18 mm) and can be easily recognized. Because the main distribution of *C. dilatatus* is in the east and northeast of Asia, the presence of this species in Iran needs confirmation. Of course, Mazandaran province is located south of Caspian Sea, contains a lot of various agricultural and forest ecosystems, and consequently a diverse insect fauna is expected; so the presence of rare taxa like *C.* (*Velinoides*) *dilatatus* in this area is not unexpected.

Coranus (*Coranus*) *griseus* (Rossi, 1790)

Reduvius griseus Rossi, 1790: 257 (as new species); *Harpactor murinus* Rambur, 1840: 177; *Coranus persicus* Wagner, 1952: 102; *Coranus aegyptius* auct. non Fabricius, 1775.

Distribution in Iran. East Azarbaijan, Fars, Sistan & Baluchestan, Tehran (new data—ZMAS), Golestan, Khorasan (Ghahari *et al*. 2011b), Isfahan, Yazd (new data—P. Putshkov's collection), Mazandaran (Ghahari *et al*. 2008a, b, 2009), Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. Turano-Mediterranean (in North Africa only in the Maghreb) (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Comments. In rice fields and on *Delonix regia* (Fabaceae) (Ghahari *et al*. 2008a) and *Physalis angulata* (Solanaceae) (Ghahari *et al*. 2011b). *Coranus griseus* generally lives in dry and sunny biotopes with sparce vegetation, often under plants (Moulet 2002a; Putshkov & Moulet 2010).

Coranus (*Coranus*) cf. *laticeps* Wagner, 1952

Material examined. East Azarbaijan province, Tabriz, 1♂, 11.x.2004. Semnan province, Garmsar, 1♀, 27.x.2004. **New record for Iran.**

Distribution outside Iran. Caucasus, Tajikistan, Turkmenistan.

Comments. In Iran, Caucasus, Tajikistan, and Turkmenistan are *laticeps*-like *Coranus* so variable morphologically that it is impossible to attribute them specifically to *C. laticeps*, *C. tuberculifer* Reuter, 1881, or *C.*

cf. *subapterus* (De Geer, 1773) which have mixed characters. Such samples have been called *Coranus* cf. *laticeps* or "caucasian" *Coranus laticeps* (Putshkov & Moulet 2010). On the other hand, in Europe *C. laticeps*, *C. tuberculifer* Reuter, and *C. subapterus* are well delimitated from each other (P. Putshkov, personal communication).

Coranus (*Coranus*) *niger* (Rambur, 1840)

Harpactor niger Rambur, 1840: 178; *Harpactor affinis* Lucas, 1848: 51; *Coranus revellieri* Mulsant & Rey, 1873: 90; *Coranus fieberi* Puton, 1874: 232; *Coranus niger* var. *femoralis* Ragusa, 1908: 125.

Distribution in Iran. Mazandaran (Ghahari *et al*. 2008a, b, 2009b).

Distribution outside Iran. Mediterranean Europe, northern Africa, Israel, Jordan, and Saudi Arabia (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Comments. In rice fields and on *Ziziphus spina-christi* (Rhamnaceae) (Ghahari *et al*. 2008a).

Coranus (*Coranus*) cf. *subapterus* (De Geer, 1773)

Cimex subapterus De Geer, 1773: 287 (as new species); *Cimex naevius* Gmelin, 1790: 2200; *Cimex dimidiatus* Turton, 1802: 703; *Reduvius pedestris* Wollf, 1811: 199; *Colliocoris griseus* Hahn, 1833: 25; *Harpactor hahnii* Kolenati, 1857: 465; *Coranus tuberculifer* Benedek, 1969: 44 non Reuter, 1881.

Distribution in Iran. Ardabil (Dispons & Villiers 1967), East Azarbaijan (Dispons & Villiers 1967), Khorasan (Rahimi *et al*. 2010a, b, c), Mazandaran (Wagner 1961; Sakenin *et al*. 2008).

Distribution outside Iran. Euro-Siberian: Europe, Kazakhstan, northwestern China, Russia (West Siberia) (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Comments. On alfalfa and ground (Rahimi *et al*. 2010a). This species is not mentioned in Iran by Putshkov & Moulet (2010). The discrimination of *C. subapterus* and the close species (*C. aethiops* Jakovlev 1893, *hammarstroemi* Reuter 1982, *kerzhneri* P.V. Putshkov 1982, *laticeps* Wagner 1952, *pectoralis* Jakovlev 1883, *stenopygus* P.V. Putshkov 1982, *tuberculifer* Reuter 1881, *woodroffei* P.V. Putshkov 1982) is very difficult and we know that hybrid forms exist. In Bulgaria, Caucasus (Armenia, Turkey) and central Asia (Afghanistan, Azerbaijan, Iran, Tajikistan, Turkmenistan) lives *Coranus* cf. *subapterus*; this is a taxon we do not know at the moment if it represents a really valid species, or a subspecies, or only a variation of *subapterus*.

Coranus (*Coranus*) *tuberculifer* Reuter, 1881

Coranus lateralis Jakovlev, 1879: 158 (nomen oblitum, a color variation); *Coranus tuberculifer* Reuter, 1881: 162.

Distribution in Iran. Tehran (Brown 1966; Dispons & Villiers 1967).

Distribution outside Iran. Ponto-Mediterranean, from Italy, Balkan Peninsula to Near East, Azerbaijan, Asian part of Turkey, and Jordan (Putshkov & Putshkov 1996; Putshkov & Moulet 2010; Aukema *et al*. 2013).

Comments. Iranian records are doubtful (Putshkov & Putshkov 1996; Putshkov & Moulet 2010), and most probably are other species (e.g., Caucasian *C. laticeps*, *C.* cf. *subapterus*).

Genus *Nagusta* Stål, 1859

Nagusta goedelii (Stål, 1859)

Zelus goedelii Kolenati, 1857: 459 (as new species); *Nagusta rugulosa* Stål, 1859: 375; *Phanerocoris cornutus* Jakvlev, 1876: 269.

Distribution in Iran. East Azarbaijan (Hoberlandt 1954; Modarres Awal 1997a, c; Ghahari *et al*. 2010a), Fars, Lorestan (Hoberlandt 1954, 1959), Isfahan (Dispons & Villiers 1967; Rakhshani *et al*. 2010), Khorasan (Modarres Awal 1997b; Rahimi *et al*. 2010a, c), Mazandaran (Seidenstücker 1957; Hoberlandt 1959), Tehran (Hoberlandt 1954, 1959; Seidenstücker 1957), Iran (without precise locality) (Putshkov & Putshkov 1996; Putshkov & Moulet 2010).

Distribution outside Iran. Euro-Turanian: from Austria to Central Asia (Azerbaijan); the Balkans and Creta, Near East and Caucasus (Putshkov & Putshkov 1996; Kment & Dolejšová 2010; Aukema *et al*. 2013).

Comments. *Nagusta goedelii* only lives on trees throughout its life (*Citrus*, *Cydonia*, *Fraxinus*, *Juniperus*, *Populus*, *Pinus*, *Prunus*, *Punica*, *Quercus*, *Rosa*, *Ulmus*, *Malus*, etc.); occasionally it is found on herbs (e.g., *Galium*, Rubiaceae) (Putshkov & Moulet 2010). Feeding of *N. goedelii* is poorly known; in laboratory conditions, cannibalism is very frequent. *N. goedeli* is univoltine and adults hibernate (Putshkov & Moulet 2010). It is a predator of alfalfa aphids (Hemiptera: Aphididae) (Rakhshani *et al*. 2010).

Nagusta simonis Puton, 1890

Nagusta simonis Puton, 1890: 228 (as new species); *Nagusta simonyi* Linnavuori, 1974: 125 (lapsus).

Distribution in Iran. Kerman (Seidenstücker 1958), Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. Central Asia, Near East (Cyprus), north and tropical Africa, Saudi Arabia.

Genus *Rhynocoris* Hahn, 1833

Rhynocoris abramovii (Oshanin, 1871)

Reduvius abramovi Oshanin, 1871: 207.

Distribution in Iran. Lorestan (Dispons & Villiers 1967).

Distribution outside Iran. Central Asia, Kazakhstan, Kirgizia, Tajikistan, Turkmenistan, Uzbekistan.

Comments. Dispons (1970) mentioned this species in Iraq but this record seems doubtful according to Putshkov & Putshkov (1996). The presence of this species in Iran needs confirmation.

Rhynocoris annulatus (Linnaeus, 1758)

Cimex annulatus Linnaeus, 1758: 447 (as new species); *Zelus annulatus* Blanchard, 1840: 102; *Reduvius zandicus* Schouteden, 1929: 253; *Rhynocoris annulatus* var. *nigripes* Mancini, 1952: 57; *Rhinocoris annulatus* f. *mancinii* Stichel in Stichel & Dispons, 1959: 125 (new name for a. var. *nigripes*); *Rhinocoris annulatus hilaris* Dispons, 1968: 12; *Rhinocoris annulatus vasconicus* Dispons, 1968: 13; *Rhinocoris annulatus wastinensis* Dispons, 1968: 13.

Distribution in Iran. West Azarbaijan (Ghahari *et al*. 2009a; Sakenin *et al*. 2010).

Distribution outside Iran. Euro-Siberian (known from East of Ural Mts.) (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Comments. *Rhynocoris annulatus* lives in open forests with few trees and in fields nearby; often nymphs and adults are found on the ground under *Verbascum* and *Thymus*. In Europe, *R. annulatus* feeds on small heteropterans, caterpillars, and larvae of several coleopterans. Eggs sometime are destroyed by proctoturid wasps (Putshkov & Moulet 2010).

Rhynocoris dauricus (Kiritshenko, 1926)

Rhinocoris (*Oncauchenius*) *dauricus* Kiritshenko, 1926: 333 (as new species); *Rhinocoris solifer* Dispons, 1968: 14.

Distribution in Iran. Mazandaran (Sakenin *et al*. 2008).

Distribution outside Iran. Asia east of Yenissey River (China, eastern Russia, Mongolia).

Rhynocoris flavolimbatus (Jakovlev, 1889)

Harpactor flavolimbatus Jakovelv, 1889: 341 (as new species); *Rhinocoris flavolimbatus* f. *descampsi* Dispons & Viliers, 1967: 1069.

Distribution in Iran. Ardabil, East Azarbaijan (Dispons & Villiers 1967, Putshkov & Pluot-Sigwalt 2008 as *R. flavolimbatus* f. *descampsi* and nominotypical form), Golestan, Mazandaran (Ghahari *et al*. 2008a, 2011b), Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. Asian Turkey and Transcaucasia. Cited also from Syria but these data may concern southern Turkey (Putshkov & Putshkov 1996).

Comments. In rice fields and on *Portulaca oleraceae* (Portulacaceae) (Ghahari *et al*. 2008a), and in cotton fields and on *Malva silvestris* (Malvaceae) (Ghahari *et al*. 2011b).

Rhynocoris ibericus Kolenati, 1857

Rhinocoris ibericus Kolenati, 1857: 461 (as new species); *Rhinocoris morio* Kolenati, 1857: 461 non Germar, 1838; *Reduvius* (*Harpiscus*) *kolenatii* Reuter, 1881: 187 (new name for *Rh. morio* Kolenati).

Distribution in Iran. Ardabil (new data—P. Putshkov's collection), East Azarbaijan (NHMG: Eckerlein's collection; Ghahari *et al*. 2011b), Fars (Hoberlandt 1959; Ghahari *et al*. 2011b), Golestan (Heiss 2002), Khorasan (Modarres Awal 1997b; Rahimi *et al*. 2010a), Mazandaran (Kiritshenko 1966; Heiss 2002; Ghahari *et al*. 2008a, 2011b), Tehran (Lindberg 1938; Kiritshenko 1966; Heiss 2002), northern Iran (without precise locality) (Jakovlev 1877), Iran (without precise locality) (Putshkov & Putshkov 1996; Putshkov & Moulet 2010).

Distribution outside Iran. Ponto-Mediterranean and Central Asia from Greece to Turkmenistan (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Comments. In rice fields and on *Rubus hyrcanus* (Rosaceae), *Ziziphus spina-christi* (Rhamnanceae) (Ghahari *et al*. 2008a), in cotton fields, and on *Trifolium pratensis* (Fabaceae) (Ghahari *et al*. 2011b). *Rhynocoris ibericus* has been found up to 2000 m on various herbs (particularly *Astragalus* (Fabaceae)); it feeds on several butterflies and caterpillars (Putshkov & Moulet 2010).

Rhynocoris iracundus (Poda, 1761)

Cimex iracundus Poda, 1761: 58 (as new species); *Cimex sanguineus* Schrank, 1776: 58; *Reduvius cruentus* Fabricius, 1787: 310; *Cimex monspelliensis* Gmelin, 1790: 2198; *Rhinocoris caucasicus* Kolenati, 1857: 462; *Rhinocoris rubricus* var. *interruptus* Kolenati, 1857: 462; *Rhinocoris rubricus* var. *nigripes* Kolenati, 1857: 462; *Rhinocoris rubricus* var. *pictus* Kolenati, 1857: 462; *Harpactor rubricoxa* Bergroth, 1890: 56; *Harpactor monticola* var. *jucundus* Horváth, 1891: 80; *Harpactor geniculatus* Jakovlev, 1904: 94; *Rhinocoris iracundus amabilis* Stichel in Dispons & Stichel, 1959: 132; *Rhinocoris iracundus amabilis* f. *armeniaca* Stichel in Dispons & Stichel, 1959: 132; *Rhynocoris hieropolitanus* Dispons, 1964: 90; *Rhynocoris ocreatus* Dispons, 1964: 100; *Rhinocoris iracundus nigripes* f. *safavii* Dispons & Villiers, 1967: 1070; *Rhinocoris iracundus* f. *rhodantis* Dispons, 1968: 13; *Rhinocoris iracundus* f. *soosi* Benedek, 1969: 481; *Rhinocoris iracundus* f. *hoberlandti* Benedek, 1969: 482; *Rhinocoris iracundus* f. *rubra* Benedek, 1969: 482.

Distribution in Iran. Ardabil (Ghahari *et al*. 2010a; Havaskary *et al*. 2012), Fars (new data—NHMG: Eckerlein's collection as var. *rubricoxa*), Golestan (Bergroth 1890; Kiritshenko 1949; Seidenstücker 1957), Guilan (Seidenstücker 1957; Rezaei *et al*. 2006; Sakenin *et al*. 2009), Khorasan (Modarres Awal 1997b; Rahimi *et al*. 2010a, c, as *R. rubricoxa*), Kordestan (Sakenin *et al*. 2010), Mazandaran (Dispons & Villiers 1967, Putshkov & Pluot-Sigwalt 2008 as *R. iracundus nigripes* and as *R. iracundus nigripes* f. *safavii*; Ghahari *et al*. 2008a, b, 2009b; Sakenin *et al*. 2009), Tehran (Kiritshenko 1949, 1966, Modarres Awal 1997c), Iran (without precise locality)

(Yarmand *et al*. 2002; Putshkov & Putshkov 1996; Putshkov & Moulet 2010).

Distribution outside Iran. Euro-Asian, not beyond 55° North (cited from Iberian Peninsula but often these records concern *Rh. cuspidatus*) (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Comments. In rice fields and on *Urtica dioica* (Urticaceae), *Hibiscus syriacus* (Malvaceae), and *Malva silvestris* (Malvaceae) (Ghahari *et al*. 2008a); also on *Corchorus olitorius* (Tilliaceae), and *Polygonum convolvulus* (Polygonaceae) (Ghahari *et al*. 2008a). A very variable species; many of these variations have been considered formerly as local subspecies. It predates on *Hyphantria cunea* (Drury) (Lepidoptera: Arctiidae) (Rezaei *et al*. 2006). *Rhynocoris iracundus* lives in steppes and open forest, often on herbs or little trees or shrubs; it feeds upon pollinator insects of various families of Coleoptera, Hymenoptera, and Lepidoptera (Putshkov & Moulet 2010). This species is widely distributed in Iran and we have studied several material from different regions of the country.

Rhynocoris leucospilus sibiricus **(Jakovlev, 1893)**

Harpactor sibiricus Jakovlev, 1893: 23 (as new species).

Distribution in Iran. Mazandaran (Sakenin *et al*. 2008, as *Rhynocoris sibiricus* Jakovlev).

Distribution outside Iran. China, Korea, Mongolia, Siberia (Putshkov & Putshkov 1996). Indications for Azerbaijan, Ukraine are wrong, and those for Alaska doubtful (Putshkov & Moulet 2010).

Comments. The species *R. leucospilus* has been divided into 5 subspecies, *l. leucospilus* (Stål, 1859), *l. altaicus* Kiritshenko, 1926, *l. dybowskii* (Jakovlev, 1876), *l. rubromarginatus* (Jakovlev, 1893), and *l. sibiricus* (Jakovlev, 1893). As no subspecies is known in Central Asia, therefore the Iranian record needs confirmation.

Rhynocoris monticola monticola **(Oshanin, 1890)**

Harpactor monticola Oshanin, 1871: 208 (as new species); *Harpactor morio* Oshanin, 1871: 196 (non Kolenati, 1857).

Distribution in Iran. East Azarbaijan, Mazandaran (Sakenin *et al*. 2009), Qazvin (Hoberlandt 1959 as *R. monticola jucunda* Horváth 1891), West Azarbaijan (Sakenin *et al*. 2010), Northern Iran (without precise locality) (Jakovlev 1877), Iran (without precise locality) (Lindberg 1938; Putshkov & Putshkov 1996).

Distribution outside Iran. Central Asia, northwest China.

Rhynocoris persicus **(Jakovlev, 1877)**

Harpactor persicus Jakovlev, 1877: 96 (as new species); *Harpactor christophi* Jakovlev, 1877: 97; *Harpactor analis* Jakovlev, 1889: 340; *Rhinocoris christophi* var. *pictipes* Horváth, 1911: 591.

Distribution in Iran. East Azarbaijan (Dispons & Villiers 1967 as *Rh. christophi*), Golestan (Jakovlev 1877; Hoberlandt 1959), Hamadan (new data—P. Putshkov's collection), Kerman (Dispons & Villiers 1967 as *Rh. christophi*), Khorasan (Dispons & Villiers 1967, Rahimi *et al*. 2010a, c as *Rh. christophi*), Mazandaran (Ghahari *et al*. 2008a), Qazvin (Dispons & Villiers 1967 as *Rh. christophi*), Semnan (Jakovlev 1877; Putshkov 2002 as *Rh. persicus* and *Rh. christophi*), Tehran (Hoberlandt 1954; Brown 1966 as *Rh. persicus* and *Rh. christophi*), Iran (without precise locality) (Lindberg 1938; Putshkov & Putshkov 1996).

Distribution outside Iran. Ponto-Turanian (Asian Turkey, Transcaucasia, Israel, Syria, ?Asian Kazakhstan) (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Comments. On *Rubus hyrcanus* (Rosaceae) and *Sorghum halepense* (Poaceae) (Ghahari *et al*. 2008a).

Rhynocoris pumilus **(Jakovlev, 1877)**

Harpactor pumilus Jakovlev, 1877: 97.

Distribution in Iran. Semnan (Jakovlev 1877; Putshkov & Putshkov 1996).

Distribution outside Iran. Endemic to Iran (Putshkov & Putshkov 1996).

Rhynocoris punctiventris (Herrich-Schaeffer, 1846)

Harpactor punctiventris Herrich-Schaeffer, 1846: 85 (as new species); *Harpactor variegatus* Fieber, 1861: 153; *Rhinocoris punctiventris* f. *uniannulata* Stichel in Dispons & Stichel, 1959: 128; *Rhinocoris punctiventris* var. *dimidiatus* Dispons, 1964: 101.

Distribution in Iran. Ardabil (Nouri-Ganbalani & Akbarian 1998), Azarbaijan, Lorestan (new data—MNHN), Fars, Isfahan (Ghahari *et al*. 2011b), Khorasan (Rahimi *et al*. 2010a), Kordestan (Sakenin *et al*. 2010; Samin *et al*. 2011), Iran (without precise locality) (Yarmand *et al*. 2002; Putshkov & Putshkov 1996, Putshkov & Moulet 2010).

Distribution outside Iran. Ponto-Mediterranean: from Balkan Peninsula and Crimea to Near East (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Comments. In cotton fields and on *Althea rosea* (Malvaceae) (Ghahari *et al*. 2011b). Predates on Colorado potato beetle (*Leptinotarsa decemlineata* Say) (Coleoptera: Chrysomelidae) (Nouri-Ganbalani & Akbarian 1998). *Rhynocoris punctiventris* often lives in rocky biotopes with herbs, shrubs (e.g., *Crataegus*), or trees (*Carpinus*, *Quercus*, etc.) with climate of the Mediterranean type both in dry or wet atmosphere. It feeds upon wasps, bees, cicadas, bugs, and small beetles. Often females eat their own eggs or nymphs (Putshkov & Moulet 2010).

Rhynocoris rubrogularis (Horváth, 1880)

Harpactor rubrogularis Horváth, 1880: 96; *Rhinocoris annulatus* var. *rubrogularis* Kiritshenko, 1926: 222.

Distribution in Iran. East Azarbaijan (Ghahari *et al*. 2009a), West Azarbaijan (Sakenin *et al*. 2010), Iran (without precise locality) (Kiyak & Salur 2000).

Distribution outside Iran. Asian Turkey, Azerbaijan, Georgia, Russia (Caucasus) (Putshkov & Putshkov 1996; Kiyak & Salur 2000; Aukema *et al*. 2013).

Comments. On *Eragrostis poaeoides* (Poaceae) (Ghahari *et al*. 2009a). This species (formerly only a subspecies of *annulatus*) can only be separated from *annulatus* by its male genitalia.

Rhynocoris (*Rhynocoris*) *violentus* (Germar, 1837)

Harpactor violentus Germar in Silberman, 1837: 126; *Harpactor disciventris* Herrich-Schaeffer, 1848: 86; *Harpactor natalensis* Stål, 1855: 42; *Rhinocoris violentus* vars. *fasciventer* and *vittata* Schouteden, 1952: 229.

Distribution in Iran. Khorasan (Ghahari *et al*. 2011b).

Distribution outside Iran. Afrotropical species extending to Yemen (Maldonado-Capriles 1990, Moulet *et al.* in press).

Comments. This species was introduced to Iran, and identified from the specimens from surrounding of cotton field.

Genus *Vachiria* Stål, 1859

Vachiria annulipes Poppius, 1909

Vachiria annulipes Poppius, 1909: 3 (as new species).

Distribution in Iran. Sistan & Baluchestan (Poppuis 1909; Putshkov & Putshkov 1996).

Distribution outside Iran. Endemic to Iran.

Vachiria deserta (Becker, 1867)

Reduvius desertus Becker, 1867: 114 (as new species); *Centroscelis spinosus* Jakovlev, 1874: 76.

Distribution in Iran. Ilam (Samin *et al*. 2011), Kordestan (Ghahari *et al*. 2009a), West Azarbaijan (Sakenin *et al*. 2010), northern Iran (without precise locality) (Jakovlev 1877).

Distribution outside Iran. Caucasus, Ukraine, West Siberia (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Comments. This taxon forms with *V. prolixa* Kiritshenko 1925, *V. semenovi* Jakovlev 1903, and *V. similis* Poppius 1909 a species complex, very difficult to separate. Some data by Putshkov & Putshkov (1996) for *deserta* are erroneous and Putshkov & Moulet (2010) only mention it in Ukraine but records in other regions are not improbable. *Vachiria deserta* is known on wet soils under *Salicornia* (Amaranthaceae) or other halophytes, in such conditions it feeds upon various bugs (Putshkov & Moulet 2010).

Vachiria natolica Stål, 1859

Vachiria natolica Stål, 1869: 375 (as new species); *Centroscelicoris pallidispinis* Reuter, 1891: 141.

Distribution in Iran. Southern Khorasan (without precise locality) (Seidenstücker 1957), Tehran (Brown 1966), Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. Eremian (in Europe only Spain and Portugal): North Africa (Mauritania), Central Asia, Near East, Saudi Arabia (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Comments. *Vachiria natolica* lives on trees and shrubs, particularly *Tamarix* (Tamaricaceae), in a great part of its area; *Artemisia* (Asteraceae), *Atriplex* (Amaranthaceae), *Salsola* (Amaranthaceae), *Teucrium* (Lamiaceae), etc. are known as cover-plants too. Feeding host plants are unkown (Putshkov & Moulet 2010). *Vachiria pallidispina* (Reuter) is considered a subspecies (*natolica pallidispina*) considering not only the coloration but the length and width of the pronotal verrucae; intermediates have been found, so it is therefore impossible to consider *pallidispina* as a valid species (Putshkov & Moulet 2010).

Genus *Zelus* Fabricius, 1803

Zelus longipes (Linnaeus, 1767)

Cimex longipes Linnaeus, 1767: 724 (as new species); *Cimex macropus* Gmelin, 1788: 2193; *Reduvius phalangium* Fabricius, 1794: 196; *Reduvius rubidus* Lepeletier & Serville, 1825: 278; *Zelus bilobus* Say, 1832: 12; *Evagoras speciosus* Burmeister, 1835: 227; *Evagoras tricolor* Herrich-Schaeffer, 1848: 45; *Zelus mactans* Stål,1862: 148; *Velia agavis* Blasques, 1871: 289; *Zelus speciosus* var. *stolli* Lethierry & Severin, 1896: 152; *Zelus speciosus* var. *stolli* Kirkaldy, 1909: 41.

Distribution in Iran. Golestan (Sakenin *et al*. 2009 as *Zelus bilobus* Say).

Distribution outside Iran. Central and South America except Chile, the Bahamas, the Antilles (Maldonado Capriles 1990).

Comments. *Zelus* spp. are restricted to the Neotropical Region, and the Iranian records obviously refer to an accidental introduction. An undetermined species of *Zelus* was collected by Akbarzadeh Shoukat (2000) from West Azarbaijan, and by Razmjoo *et al*. (2011) from Isfahan; we suppose that these materials are *Z. longipes*. Also, recently, another species, *Z. renardii* (Kolenati, 1857), has been recorded in Greece (Petrakis & Moulet 2011; Davranoglou 2011) and Spain (Baena & Torres 2012).

Tribe Rhaphidosomatini Distant, 1904

Genus *Rhaphidosoma* Amyot & Serville, 1843

Rhaphidosoma argillaceum Horvath, 1929

Rhaphidosoma argillaceum Horváth, 1929: 331 (as new species).

Distribution in Iran. Kermanshah (Hoberlandt 1959), Iran (without precise locality) (Putshkov & Putshkov 1996).
Distribution outside Iran. Israel, Syria (Putshkov & Putshkov 1996).

Rhaphidosoma davatchiae Dispons & Villiers, 1967

Rhaphidosoma davatchiae Dispons & Villiers, 1967: 1070 (as new species).

Distribution in Iran. Fars (Dispons & Villiers 1967; Putshkov & Putshkov 1996; Putshkov & Pluot-Sigwalt 2008).
Distribution outside Iran. Endemic to Iran. Also mentioned from Saudi Arabia by Putshkov & Putshkov (1996).

Rhaphidosoma tuberculatum Distant, 1904

Rhaphidosoam tuberculatum Distant, 1904: 330.

Distribution in Iran. Iran (without precise locality) (Putshkov & Putshkov 1996).
Distribution outside Iran. Pakistan (Putshkov & Putshkov 1996).

Subfamily Holoptilinae Amyot & Serville, 1843

Tribe Dasycnemini Wygodzinsky & Usinger, 1963

Genus *Putoniola* Bergroth, 1898

Putoniola kermana Dispons, 1964

Putoniola kermana Dispons, 1964: 64 (as new species).

Distribution in Iran. Kerman (Dispons 1964a; Putshkov & Putshkov 1996; Putshkov & Pluot-Sigwalt 2008).
Distribution outside Iran. Endemic to Iran.

Subfamily Peiratinae Amyot & Serville, 1843

Genus *Androclus* Stål, 1863

Androclus pictus (Herrich-Schaeffer, 1848) *Pirates pictus* Herrich-Schaeffer, 1848: 63 (as new species); *Dicraotropis pictus* Mayr, 1865: 438; *Androclus* (*Dicraotropis*) *sculpturatus* Breddin, 1903: 4.

Distribution in Iran. East Azarbaijan (Ghahari *et al*. 2011a), West Azarbaijan (Sakenin *et al*. 2010).
Distribution outside Iran. Tropical and South Africa (Cameroon, Guinea, east Africa, Senegal) (Maldonado Capriles 1990), South East Asia (Java), Indian subcontinent (Ghahari *et al*. 2011a).

Genus *Ectomocoris* Mayr, 1865

Ectomocoris basra Linnavuori, 1972

Ectomocoris basra Linnavuori, 1972: 46 (as new species).

Distribution in Iran. Iran (without precise locality) (Linnavuori 1972; Putshkov & Putshkov 1996).

Distribution outside Iran. Iraq (Linnavuori 1972; Putshkov & Putshkov 1996).

Ectomocoris caucasicus Linnavuori, 1972

Ectomocoris quadrimaculatus Linnavuori, 1961: 41 (non Serville, 1831); *Ectomocoris caucasicus* Linnavuori, 1972: 45 (new name for *E. quadrimaculatus* Linnavuori, 1961).

Distibution in Iran. Mazandaran (new data—P. Putshkov's collection), Iran (without precise locality) (Putshkov & Moulet 2010; Aukema *et al*. 2013).

Distribution outside Iran. Asian Turkey, Azerbaijan, Armenia, Georgia, Russian (Caucasus) (Putshkov & Putshkov 1996), Iraq (Putshkov & Moulet 2010; Aukema *et al*. 2013).

Ectomocoris chiragra (Fabricius, 1803)

Reduvius chiragra Fabricius, 1803: 278 (as new species); *Pirates fulvoguttatus* Herrich-Schaeffer, 1842: 105; *Ectomocoris infimus* Miller, 1954: 401; *Ectomocoris lindbergi* Miller, 19556: 5.

Distribution in Iran. Khuzestan (Seidenstücker 1958), Iran (without precise locality) (Putshkov & Putshkov 1996; Putshkov & Moulet 2010).

Distribution outside Iran. Tropical Africa, Meditarranean, Near East, and Tropical Asia (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Comments. *Ectomocoris chiragra* has been mentioned from Spain by Linnavuori (1972), Gamarra (1980), and Putshkov & Putshkov (1996), but not by Ribes (1961) nor by Ribes *et al*. (1997). Its presence in Italy is based on old citations, but up to date catalogs do not cite it (Faraci & Rizzotti Vlach 1995). Additionally, Spanish citations are doubtful too.

Ectomocoris cordiger Stål, 1866

Ectomocoris cordiger Stål, 1867: 256 (as new species); *Pirates adjunctus* Walker, 1873: 114.

Distribution in Iran. Khuzestan (Dispons & Villiers 1967), Iran (without precise locality) (China 1938; Putshkov & Putshkov 1996; Ambrose 2006; Ambrose *et al*. 2007).

Distribution outside Iran. India, Iraq, Sri Lanka, Saudi Arabia (Putshkov & Putshkov 1996).

Ectomocoris ochropterus Stål, 1866

Ectomocoris ochropterus Stål, 1867: 256 (as new species); *Pirates posticus* Walker, 1873: 115; *Eumerus flaviger* Stål, 1874: 61.

Distribution in Iran. Sistan & Baluchestan (Ghahari *et al*. 2011a).

Distribution outside Iran. Eritrea, Ethiopia, India (Putshkov & Putshkov 1996).

Ectomocoris quadrimaculatus (Serville, 1831)

Peirates quadrimaculatus Serville, 1831: 217 (as new species); *Peirates triguttatus* Erichson, 1842: 11; *Pirates trifenestratus* Stål, 1855: 38; *Ectomocoris quadrimaculatus* var. *macroquadrimaculatus* Hesse, 1925: 110.

Distribution in Iran. Kerman (Seidenstücker 1958), Kermanshah (Ghahari *et al*. 2011a), Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. Tropical and south Africa, Indian subcontinent, Iraq.

Ectomocoris ululans (Rossi, 1790)

Reduvius ululans Rossi, 1790: 256; *Ectomocoris ululans* var. *tidikelti* Dispons, 1961: 246.

Distribution in Iran. Ardabil (Dispons & Villiers 1967), East Azarbaijan (Dispons & Villiers 1967; Hassanzadeh *et al*. 2009; Ghahari *et al*. 2010a), Khorasan (Modarres Awal 1997b; Rahimi *et al*. 2010a, c), Khuzestan (Seidenstücker 1958; Dispons & Villiers 1967), Mazandaran (Hoberlandt 1954; Seidenstücker 1957; Heiss 2002), Semnan (new data—P. Putshkov's collection), Sistan & Baluchestan (Hoberlandt 1954; Seidenstücker 1957), Tehran (Wagner 1961), West Azarbaijan (Gharaat *et al*. 2009), Iran (without precise locality) (China 1927; Hoberlandt 1961; Putshkov & Putshkov 1996; Yarmand *et al*. 2002; Putshkov & Moulet 2010),

Distribution outside Iran. Eremian: Arabian Peninsula, Mediterranean shores of Spain, Corsica, Italy, Balkan Peninsula, Jordan, Ethiopia (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Comments. *E. ululans* lives in wet and the more often salty biotopes on *Tamarix* (Tamaricaceae), *Suaeda*, and *Arthrocnemum* (both Amaranthaceae) (Putshkov & Moulet 2010).

Genus *Lestomerus* Amyot & Serville, 1843

Lestomerus bicolor (Villiers, 1948)

Pirates (*Brachysandalus*) *bicolor* Villiers, 1948: 241 (as new species); *Pirates sin* Linnavuori, 1984: 17.

Distribution in Iran. Golestan, Mazandaran (Ghahari *et al*. 2011b, as *Peirates sin*), Khuzestan (Seidenstücker 1958; Putshkov & Putshkov 1996).

Distribution outside Iran. Sahelian Africa, Iraq, Saudi Arabia (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Comments. In cotton fields, and on *Vitex pseudo-negundo* (Verbenaceae) (Ghahari *et al*. 2011b, as *Peirates sin*).

Genus *Peirates* Serville, 1831

Peirates hybridus (Scopoli, 1763)

Cimex hybridus Scopoli, 1763: 131 (as new species); *Reduvius bipunctatus* Fabricius, 1794: 203; *Pirates ambiguus* Mulsant & Rey, 1873: 123; *Pirates hybridus* var. *nigriventris* Rey, 1893: 121; *Peirates hybridus* var. *hybridus* Horváth, 1897: 93.

Distribution in Iran. East Azarbaijan (Modarres Awal 1997a, c; Sadeghian *et al*. 2002; Ghahari *et al*. 2010a; Nikdel *et al*. 2011), Golestan (Hoberlandt 1954), Guilan (Wagner 1961; Dispons & Villiers 1967; NHMG: Eckerlein's collection), Ilam, Qazvin (new data—P. Putshkov's collection), Isfahan (Sakenin *et al*. 2011), Kermanshah (Hoberlandt 1959), Khorasan (Modarres Awal, 1997b; Rahimi *et al*. 2010a, c), Mazandaran (Seidenstücker 1957; Ghahari *et al*. 2008a, b, 2009b), Sistan & Baluchestan (Seidenstücker 1957), West Azarbaijan (Ghahari *et al*. 2011b), Iran (without precise locality) (Putshkov & Putshkov 1996; Coscarón 1997).

Distribution outside Iran. Turano-Mediterranean, also known from China and India (doubtful) (Putshkov & Putshkov 1996; Coscarón 1997; Aukema *et al*. 2013).

Comments. On *Malva parviflora* (Malvaceae) (Ghahari *et al*. 2011b), and *Sorghum halepense* (Poaceae) (Ghahari *et al*. 2008a) where, probably, it hunts although more generally it runs on the ground. In western Europe *P. hybridus* lives often under *Dorycnium* (Fabaceae) and on *Cistus* (Cistaceae) in biotopes with few vegetation; it lives both in dry and wet biotopes; *P. hybridus* feeds upon various heteropterans (Putshkov & Moulet 2010).

Peirates strepitans Rambur, 1839

Pirates niger Herrich-Schaeffer, 1835: 98 (nomen nudum); *Pirates unicolor* Herrich-Schaeffer, 1836: 90 (nomen oblitum); *Peirates strepitans* Rambur, 1839: 174 (as new species); *Pirates rufipennis* Lucas, 1849: 52; *Peirates lugubris* Stål, 1858: 318; *Pirates niger* Wollaston, 1858: 123; *Pirates coracinus* Garbiglietti, 1869: 197.

Distribution in Iran. Kerman, Khuzestan (Seidenstücker 1958), West Azarbaijan (new data—P. Putshkov's collection), Iran (without precise locality) (Putshkov & Putshkov 1996; Putshkov & Moulet 2010).

Distribution outside Iran. Mediterraneo-Ethiopian; poorly known in Europe except Spanish Mediterranean, sporadic elsewhere (Albania, Bulgaria, Greece, Italy), Great Islands (Corsica, Creta, Cyprus, Canary archipelago, Madeira archipelago); Africa, Madagascar, Near East, Mid Asia, Arabic Peninsula. Also recorded in Azerbaijan, China, Vietnam (Coscarón & Morrone 1995; Aukema *et al*. 2013).

Comments. *Peirates strepitans* lives in both wet and dry biotopes, on shores or not; it hibernates as an adult stage and it is collected all around in the year (Putshkov & Moulet 2010).

Peirates turpis Walker, 1873

Pirates turpis Walker, 1873: 120 (as new species); *Pirates* (*Cleptocoris*) *brachypterus* Horváth, 1879: 148; *Pirates concolor* Jakovlev, 1881: 213; *Pirates* (*Cleptocoris*) *moestus* Reuter, 1881: 43.

Distribution in Iran. Mazandaran (Sakenin *et al*. 2008).

Distribution outside Iran. China, Japan, Korea, Russia (Far East) and Oriental Region (Coscarón & Morrone 1995; Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Comments. Coscarón & Morrone (1995) reported *Peirates atromaculatus* (Stål, 1870) from Iran, but it is a mistaken report because all the regions which they mentioned as Iranian localities are related to Far East (Russia). Its distribution is restricted to China, Japan, tropical Asia from India to Papua New Guinea (Coscarón & Morrone 1995; Coscarón 1997; Aukema *et al*. 2013).

Subfamily Phymatinae Laporte, 1832

Tribe Macrocephalini Amyot & Serville, 1843

Genus *Hoberlandtiana* Kormilev & Doesburg, 1986

Hoberlandtiana iranica (Hoberlandt, 1959)

Amblythyreus iranicus Hoberlandt, 1959 (as new species).

Distribution in Iran. East Azarbaijan, Khuzestan (Hoberlandt 1959), Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. Endemic to Iran.

Tribe Phymatini Laporte, 1832

Genus *Phymata* Latreille, 1802

***Phymata* (*Phymata*) *crassipes* (Fabricius, 1775)**

La punaise à pattes de crabe Geoffroy, 1762: 447 (invalid); *Acanthia crassipes* Fabricius, 1775: 695 (as new species); *Cimex chelifer* Geoffroy, 1785 in Fourcroy (1785): 202.

Material examined. East Azarbaijan province, Arasbaran (832 m), 1♂, 1♀, 24.viii.2004. **New record for Iran.**

Distribution outside Iran. Palearctic (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Comments. *Phymata chinensis* Drake, 1947 was considered a synonym of *P. crassipes* by Maa & Lin (1956). Hsiao & Liu (1981) recognized *P. chinensis* as a subspecies of *P. crassipes*. Putshkov & Putshkov (1996) treated *P. chinensis* as a valid species, but stated that the status is unclear and requires addtional studies. *Phymata coarctata* Flor, 1860 has sometimes been considered as a variety (e.g., by Josifov 1968) or a synonym (e.g., by Puton 1879) of *P. crassipes*; in fact it is only a variety of the genuine *P. monstrosa* (Fabricius, 1794) (Putshkov & Moulet 2010). *Phymata crassipes* lives in flowers of various shrubs (*Chrysanthemum*, *Helichrysum*, *Hypericum*, *Inula*, *Molinia*, *Sarothamnus*, *Seseli*), where it hunts pollinator insects (Apidae, Braconidae, Chrysomelidae) (Putshkov & Moulet 2010).

Subfamily Reduviinae Amyot & Servile, 1843

Genus *Holotrichius* Burmeister, 1835

***Holotrichius albicans* Reuter, 1891**

Holotrichius albicans Reuter, 1891: 22 (as new species).

Distribution in Iran. Fars (Hoberlandt 1954), Sistan & Baluchestan (Hoberlandt 1959), Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. China, Siberia, Turkmenistan.

***Holotrichius apterus* Jakovlev, 1879**

Holotrichius apterus Jakovlev, 1879: 163 (as new species), *Holotrichius eroanumensis* Dispons, 1964; *Holotrichius araxeus* Dispons, 1964.

Distribution in Iran. Fars (Dispons & Villiers 1967), Khorasan (Modarres Awal 1997b; Rahimi *et al*. 2010a, c), Qom (Wagner 1961), Tehran (Brown 1966; Hoberlandt 1954), Iran (without precise locality) (Lindberg 1938; Putshkov & Putshkov 1996).

Distribution outside Iran. Armenia (Putshkov & Putshkov 1996; Putshkov & Pluot-Sigwalt 2008; Aukema *et al*. 2013), Asian Turkey, Azerbaijan, Georgia, Russia (Daghestan) (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

***Holotrichius bergrothi* Reuter, 1891**

Holotrichius tenebrosus (non Burmeister, 1835) Jakovlev, 1874: 80 (misidentification); *Holotrichius bergrothi* Reuter, 1891: 7 (as new species); *Holotrichius ilius* Dispons, 1964: 19; *Holotrichius apterus kafirnigani* Dispons, 1964: 24; *Holotrichius apterus kizilkumi*Dispons, 1964: 23.

Distribution in Iran. Golestan (Moulet 2006).

Distribution outside Iran. Russia (Sarepta) (Reuter 1891), Kazakhstan, Tajikistan (Putshkov & Pluot-Sigwalt 2008).

Holotrichius denudatus Costa, 1842

Reduvius albofasciatus Cyrillo, 1787: 6 (nomen oblitum); *Holotrichius denudatus* Costa, 1842: 281 (as new species); *Holotrichius cyrilli* Costa, 1842: 283; *Holotrichius maurus* Fieber, 1861: 156 (non Fabricius, 1775).

Distribution in Iran. Northern Iran (without precise locality) (Jakovlev 1877).

Distribution outside Iran. Crete, Greece, Italy, Macedonia, Morocco, Turkey (Asian), doubtful in Israel (Putshkov & Putshkov 1996; Aukema *et al*. 2013). Also not cited from Iran by Putshkov & Putshkov (1996) nor by Putshkov & Moulet (2010); probably its presence in Iran is doubtful.

Holotrichius dezfouliani Dispons & Villiers, 1967

Holotrichius dezfouliani Dispons & Villiers, 1967: 1075 (as new species).

Distribution in Iran. Kermanshah (Dispons & Villiers 1967; Putshkov & Putshkov 1996; Putshkov & Pluot-Sigwalt 2008).

Distribution outside Iran. Endemic to Iran.

Holotrichius eghbali Dispons & Villiers, 1967

Holotrichius eghbali Dispons & Villiers, 1967: 1072 (as new species).

Distribution in Iran. Hormozgan, Sistan, & Baluchestan (Dispons & Villiers 1967; Putshkov & Pluot-Sigwalt 2008), Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. Endemic to Iran.

Holotrichius grimmi Jakovlev, 1879

Holotrichius grimmi Jakovlev, 1879: 162 (as new species).

Distribution in Iran. Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. Azerbaijan, Turkmenistan.

Holotrichius mesoleucus Kiritshenko, 1914

Holotrichius mesoleucus Kiritshenko, 1914: 195 (as new species).

Distribution in Iran. Razavi Khorasan (Rahimi *et al*. 2010a, c, d).

Distribution outside Iran. Asian Kazakhstan, Uzbekistan (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Comments. On *Avena fatua* (Poaceae) (Rahimi *et al*. 2010d). Also, an undetermined species of *Holotrichius* sp. was reported by Kiritshenko (1949) from Shahrood (Semnan province).

Genus *Pasira* Stål, 1859

Pasira basiptera Stål, 1859

Pasira basiptera Stål, 1859: 190 (as new species); *Pasira basiptera* f. *microptera* Stål, 1859: 190; *Aphleps dimidiatus* Fieber, 1870: 224; *Pasira dimidiata* var. *brachyptera* Horváth, 1883: 29; *Pasira basiptera* var. *mystica* Horváth, 1907: 308; *Pasira basiptera mediterranea* Dispons, 1959: 163; *Pasira mediterranea* Putshkov, 1987: 3.

Distribution in Iran. Golestan (Dispons & Villiers 1967), Kerman, Khuzestan (Seidenstücker 1958), Mazandaran (Heiss 2002), Qom (Wagner 1961), Sistan & Baluchestan (Hoberlandt 1954; Dispons & Villiers 1967), Iran (without precise locality) (Hoberlandt 1961; Putshkov & Putshkov 1996).

Distribution outside Iran. Mediterranean, extending to Arabian Peninsula and Central Asia (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Comments. The micropterous form formerly identified as *basiptera mediterranea* by Dispons (1959) and later as *mediterranea* by Putshkov (1987) may belong to *P. marinadolina* Putshkov & Moulet 2003, a species known in Armenia, Azerbaijan, Crimea (Putshkov & Moulet 2003), and which can also be found in Iraq and Iran. For the moment we accept this identification before studing other material. In Cyprus, *Pasira basiptera* lives under *Callendula persica* (Asteraceae) (Hoberlandt 1952) and in Sardegna it can be found all through the year (Dioli 1979).

Genus *Reduvius* Fabricius, 1775

Reduvius ales Kiritshenko, 1966

Reduvius ales Kiritshenko, 1966: 804 (as new species).

Distribution in Iran. Fars (Kiritshenko 1966), Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. Endemic to Iran.

Reduvius autrani Reuter, 1892

Reduvius autrani Reuter, 1892: 24 (as new species); *Reduvius maestus* Miller, 1956: 73.

Material examined. Khorasan province, Kuh-e Binalud, 1 specimen, 8.vii.1975, Eckerlein's collection. **New record for Iran.**

Distribution outside Iran. Israel, Syria (Putshkov & Putshkov 1996).

Reduvius christophi (Jakovlev, 1874)

Oplistopus christophi Jakovlev, 1874: 79 (as new species); *Parthocoris typicus* Miller in China & Miller, 1950: 228.

Distribution in Iran. Fars (Wagner 1961), Hormozgan (Dispons & Villiers 1967), Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. Central Asia: Kazakhstan, Kirgizia, Tajikistan, Turkmenistan, Uzbekistan, Afghanistan (Putshkov & Putshkov 1996).

Comments. The males are fully winged and the females apterous. Their morphology is so different that Miller (in China & Miller 1950) thought that females belonged to another genus.

Reduvius ciliatus Jakovlev, 1879

Reduvius ciliatus Jakovlev, 1879: 165 (as new species).

Distribution in Iran. Fars (Miyamoto 1963; Kiritshenko 1966), Hormozgan (Kiritshenko 1966), Ilam (new data—P. Purshkov's collection), Sistan & Baluchestan (Hoberlandt 1954), Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. Ponto-Mediterranean (though not found in Europe), south European part of Russia, and Near East (Iraq, Israel, Syria) (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Reduvius disciger Horváth, 1896

Reduvius disciger Horváth, 1896: 328 (as new species).

Distribution in Iran. Semnan (Horváth 1896), Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. Central Asia: Kazakhstan, Tajikistan, Turkmenistan, Uzbekistan, Afghanistan (Putshkov & Putshkov 1996).

Reduvius fedtschenkianus (Oshanin, 1871)

Opsicoetus fedtschenkianus Oshanin, 1871: 206 (as new species); *Reduvius fedtschenkianus* var *fuscescens* Reuter, 1892: 4.

Distribution in Iran. East Azarbaijan, Kermanshah (new data—P. Putshkov's collection), Fars (Wagner 1961), Khorasan (Modarres Awal 2008; Rahimi *et al*. 2010a, c), Kordestan (Sakenin *et al*. 2010), Mazandaran (Sakenin *et al*. 2008), Sistan & Baluchestan (Seidenstücker 1957), Tehran (Hoberlandt 1954, as *R. fedtschenkianus* f. *fuscescens* Reuter 1892), northern Iran (without precise locality) (Jakovlev 1877; Dispons & Villiers 1967; Putshkov & Putshkov 1996).

Distribution outside Iran. Afghanistan, Iraq, Central Asia (Kazakhstan, Tajikistan, Turkmenistan, Uzbekistan), and northwestern China (Putshkov & Putshkov 1996).

Comments. The coloration of different specimens of *R. fedtschenkianus,* which were collected from various geographical regions of Iran, is variable, from dark brown to black.

Reduvius gharibi Dispons & Villiers, 1967

Reduvius gharibi Dispons & Villiers, 1967: 1071 (as new species).

Distribution in Iran. Sistan & Baluchestan (Dispons & Villiers 1967; Putshkov & Putshkov 1996; Putshkov & Pluot-Sigwalt 2008).

Distribution outside Iran. Endemic to Iran.

Reduvius inermis (Jakovlev, 1886)

Opsicoetus inermis Jakovlev, 1886: 89 (as new species).

Distribution in Iran. Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. Armenia, Azerbaijan, Iraq (Putshkov & Putshkov 1996).

Reduvius jakovleffi Reuter, 1892

Reduvius jakovleffi Reuter, 1892: 27 (as new species).

Distribution in Iran. Ardabil (Havaskary *et al*. 2012), East Azarbaijan (NHMG: Eckerlein's collection; Modarres Awal 1997c; Ghahari *et al*. 2011b), Golestan, Kermanshah, Sistan & Baluchestan (Hoberlandt 1954), Khorasan (Seidenstücker 1957; Modarres Awal 1997b, 2008; Rahimi *et al*. 2010a, c), Mazandaran (Ghahari *et al*. 2011b), Sistan & Baluchestan (Seidenstücker 1957), Iran (without precise locality) (Hoberlandt 1961; Putshkov & Putshkov 1996).

Distribution outside Iran. Eremian: Cyprus, Egypt, Libya, Near East, Arabian Peninsula, Afghanistan (Putshkov & Putshkov 1996).

Comments. In cotton fields and on *Camelia japonica* (Teaceae) (Ghahari *et al*. 2011b).

Reduvius komarowii (Jakovlev, 1885)

Opsicoetus komarowii Jakovlev, 1885: 125 (as new species).

Distribution in Iran. Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. Central Asia (Afghanistan, Kazakhstan, Tajikistan, Turkmenistan, Uzbekistan) (Putshkov & Putshkov 1996).

Reduvius osiris Kirkaldy, 1909

Reduvius dorsalis Stål, 1855: 188 (non Fabricius, 1803); *Reduvius osiris* Kirkaldy, 1909: 32 (new name for *dorsalis* Stål); *Reduvius infimus* Miller, 1956: 63.

Distribution in Iran. Golestan (Sakenin *et al*. 2009, as *R. dorsalis*), Hamadan (new data), Isfahan (Ghahari *et al*. 2011b).

Distribution outside Iran. Egypt, Libya, Near East, the Sudan (Putshkov & Putshkov 1996).

Comments. On *Corchorus olitorius* (Tilliaceae) (Ghahari *et al*. 2011b).

Reduvius pallipes Klug, 1830

Reduvius (*Opsicoetus*) *pallipes* Klug, 1830: fol. e (as new species); *Reduvius thoracicus* Stål, 1855: 188; *Reduvius testaceus* Fieber, 1861 (non Herrich-Schaeffer, 1845).

Distribution in Iran. Ardabil (Havaskary *et al*. 2012), East Azarbaijan (Modarres Awal 1997a, 1998; Gharaat *et al*. 2009; Ghahari *et al*. 2010a, Sakenin *et al*. 2011), Fars (Miyamoto 1963), Golestan (Heiss 2002), Kermanshah (Sakenin *et al*. 2010; Samin *et al*. 2011), Khorasan (Modarres Awal 2008; Rahimi *et al*. 2010a, c), Khuzestan, Qazvin, Sistan & Baluchestan (Hoberlandt 1959), Mazandaran (Ghahari *et al*. 2008a, b, 2009b, 2011b), West Azarbaijan (Gharaat *et al*. 2009), Tehran (Kiritshenko 1966), Iran (without precise locality) (Putshkov & Putshkov 1996; Putshkov & Moulet 2010).

Distribution outside Iran. North Africa, Italy (Sicily), Malta, Balkan Peninsula, Near east, Arabian Peninsula, Pakistan (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Comments. In rice fields and on *Prosopis farcta* (Leguminosae) (Ghahari *et al*. 2008a), in cotton fields, and on *Atraphaxis spinosa* (Polygonaceae) (Ghahari *et al*. 2011b). In Algeria it has been collected in excrement of a barn-owl (*Tyto alba*) (Putshkov & Moulet 2010).

Reduvius parcus Kiritshenko, 1966

Reduvius parcus Kiritshenko, 1966: 804 (as new species).

Distribution in Iran. Sistan & Baluchestan (Kiritshenko 1966; Putshkov & Putshkov 1996).

Distribution outside Iran. Endemic to Iran.

Reduvius personatus (Linnaeus, 1758)

Cimex personatus Linnaeus, 1758: 446 (as new species); *Cimex ater* Poda, 1761: 57; *La punaise mouche* Geoffroy, 1762: 436; *Cimex quisquilius* De Geer, 1773: 382; *Cimex anulala* Harris, 1780: 89; *Cimex villosus* Thunberg, 1783: 35; *Reduvius pungens* Leconte, 1855: 404; *Reduvius albosignatus* Provancher, 1872: 105.

Distribution in Iran. Ardabil (Modarres Awal 1987; Ghahari *et al*. 2010a), East Azarbaijan (Modarres Awal 1997c), Golestan (Heiss 2002), Khorasan (Rahimi *et al*. 2010a, c), Khuzestan (new data—P. Putshkov's collection), Mazandaran (Sakenin *et al*. 2008), Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. Holarctic (except China, Far East, Japan), cited in USA (Ontario, New Jersey, Florida) and Canada, mentioned in Australia; not quoted in Africa except The Maghreb (Putshkov & Putshkov 1996; Aukema *et al*. 2013). *R. personatus* has a wide distribution (30º-52° latitude and 12W-67 E longitude) in North America and within 35º-63º latitude and 10 W to 65 E longitude in the Western Palaearctic (Javahery 2013).

Comments. Very often *R. personatus* is collected in human houses or in cowsheds or stables where nymphs hide with sand or dust. *R. personatus* feeds upon various arthropods found in its biotopes and thus has a very diversified supply (Putshkov & Moulet 2010).

Reduvius tabidus Klug, 1830

Reduvius (*Opsicoetus*) *tabidus* Klug, 1830: fol. e (as new species); *Reduvius tabidus* var. *amentatus* Dispons, 1960: 244.

Distribution in Iran. Kerman, Khorasan, Khuzestan, Tehran (Seidenstücker 1957), Sistan & Baluchestan (Seidenstücker 1957; Kiritshenko 1966), Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. Eremian: North and tropical Africa, Near East, Mid Asia (Iran, Iraq); doubtful in Turkestan, Arabian Peninsula; in Europe known from Sicily of Italy (Putshkov & Putshkov 1996; Putshkov & Moulet 2010; Aukema *et al*. 2013).

Reduvius tenuicornis (Jakovlev, 1889)

Opsicoetus tenuicornis Jakovlev, 1889: 338 (as new species).

Distribution in Iran. Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. Central Asia (Kazakhstan, Tajikistan, Turkmenistan, Uzbekistan) (Putshkov & Putshkov 1996).

Reduvius testaceus (Herrich-Schaeffer, 1845)

Holotrichius testaceus Herrich-Schaeffer, 1845: 39 (as new species); *Reduvius pallidus* Stål, 1855: 188 non Klug, 1830; *Reduvius verniciosus* Miller, 1956: 91.

Distribution in Iran. Ardabil (Modarres Awal 1996, 1997c), East Azarbaijan (Baroughi 1987; Modarres Awal, 1997a, c), Fars (Hoberlandt 1954; Wagner 1961), Golestan (Ghahari *et al*. 2011b), Kerman (Seidenstücker 1957),

Khorasan (Modarres Awal 1997b, 2008; Rahimi *et al*. 2010a, c), Kermanshah (Sakenin *et al*. 2010), Qom (Wagner 1961), Sistan & Baluchestan (Hoberlandt 1954; Seidenstücker 1957; Dispons & Villiers 1967), Tehran (Hoberlandt 1954), West Azarbaijan (new data—NHMG: Eckerlein's collection), Northern Iran (without precise locality) (Jakovlev 1877), Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. Mainly an Asian species, westward to Croatia; North Africa (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Comments. On alfalfa and grasses (Rahimi *et al*. 2010a), and on *Malva neglecta* (Malvaceae) (Ghahari *et al*. 2011b).

Reduvius transnominalis **Distant, 1904**

Reduvius debilis Reuter, 1887: 160 (junior primary homonym of *R. debilis* Walker, 1873); *Reduvius transnominalis* Distant, 1904: 251 (new name for *R. debilis* Reuter).

Distribution in Iran. Kerman (Seidenstücker 1957), Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. India (Putshkov & Putshkov 1996).

Subfamily Stenopodainae Amyot & Serville, 1843

The Stenopodainae are dull-colored and demonstrate uniformity in their coloration pattern among the many genera and species (Giacchi 1984; Gil-Santana 2012).

Genus *Oncocephalus* Klug, 1830

Oncocephalus acutangulus **Reuter, 1882**

Oncocephalus acutangulus Reuter, 1882: 7, 25 (as new species); *Oncocephalus brevipennis* Reuter, 1882: 27; *Oncocephalus pugnax* Horváth, 1898: 69; *Oncocephalus vosseleri* Reuter, 1900: 247; *Oncocephalus acutangulus beniyenni* Dispons, 1950: 258; *Oncocephalus acutangulus punctus* Dispons, 1950: 258; *Oncocephalus agadirensis* Dispons, 1950: 259; *Oncocephalus tingitanus* Dispons, 1950: 259; *Oncocephalus atlas* Dispons, 1950: 261; *Oncocephalus acutangulus radialis* Dispons, 1965b: 37; *Oncocephalus acutangulus cubitalis* Dispons, 1965b: 38; *Oncocephalus acutangulus perfectus* Dispons, 1965b: 38; *Oncocephalus acutangulus didymus* Dispons, 1965b: 38.

Distribution in Iran. Guilan (new data—NHMG: Eckerlein's collection), Khorasan (new data—R. Linnavuori's collection), Mazandaran (Ghahari *et al*. 2008a), Iran (without precise locality) (Putshkov & Moulet 2010).

Distribution outside Iran. Ponto-South Mediterranean species: from North Africa and the Balkans to Central Asia and Arabian Peninsula, in Spain only in the south (Putshkov & Putshkov 1996; Putshkov & Moulet 2010; Aukema *et al*. 2013).

Comments. In rice fields and on *Eruca sativa* (Brassicaceae), and *Portulaca oleraceae* (Portulacaceae) (Ghahari *et al*. 2008a). In the Maghreb *O. acutangulus* has been collected in wet biotopes and up to 2000 m high (Putshkov & Moulet 2010). The taxa described by Dispons (1950, 1965) are now considered only as variations in size, color, or in the number and localization of black spots of the corium.

Oncocephalus brachymerus **Reuter, 1882**

Oncocephalus brachymerus Reuter, 1882: 10 (as new species); *Oncocephalus babylo* Dispons, 1970: 407.

Distribution in Iran. Khorasan (new data—R. Linnavuori's collection), Iran (without precise locality) (Putshkov & Moulet 2010).

Distribution outside Iran. Asian Turkey, Cyprus, Russia (South European Territory), Near East, European USSR, Central Asia, Afghanistan (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Oncocephalus curvirostris Moulet, 2004

Oncocephalus curvirostris Moulet, 2004: 285 (as new species).

Distribution in Iran. Hormozgan (Moulet 2004).

Distribution outside Iran. Endemic to Iran.

Oncocephalus gedrosiae Dispons, 1964

Oncocephalus gedrosiae Dispons, 1964: 99 (as new species).

Distribution in Iran. Sistan & Baluchestan (Dispons 1964b; Putshkov & Putshkov 1996; Putshkov & Pluot-Sigwalt 2008).

Distribution outside Iran. Saudi Arabia (Putshkov & Moulet 2010).

Onocephalus herzi (Jakovlev, 1893)

Stirogaster herzi Jakovlev, 1893: 323 (as new species).

Distribution in Iran. Northern Iran (without precise locality) (Jakovlev 1893, Putshkov & Putshkov 1996).

Distribution outside Iran. Endemic to Iran; also, quoted in Turkmenistan by Putshkov & Putshkov (1996).

Comments. According to Maldonado Capriles (1990), *O. herzi* is a synonym of *O. obsoletus*; this opinion was not followed by Putshkov & Putshkov (1996).

Oncocephalus impictipes Jakovlev, 1885

Oncocephalus impictipes Jakovlev, 1885: 127 (as new species); *Oncocephalus baltazardi* Dispons & Villiers, 1967: 1076.

Distribution in Iran. Bushehr, Golestan, Ilam (Dispons & Villiers 1967 as *baltazardi*), Kermanshah (Dispons & Villiers 1967), Khorasan (Rahimi *et al*. 2010a), Khuzestan (Seidenstücker 1957), Mazandaran (Sakenin *et al*. 2008), Sistan & Baluchestan (Seidenstücker 1957, 1958; Hoberlandt 1959; Wagner 1961; Kiritshenko 1966; Dispons & Villiers 1967 as *impictipes*), Tehran (Hoberlandt 1959; Dispons & Villiers 1967, Putshkov & Pluot-Sigwalt 2008 as *O. baltazardi*), Iran (without precise locality) (Putshkov & Putshkov 1996).

New material examined. (NMPC coll.). Fars: Baghak, 15 km W Ahram, 60 m, 19-20.iv.1977, loc. 301 (3 exx); Kerman: Golbaf, 31.V.1977, loc. 352; Gav Koshi near Esfandaqeh, 60 km W of Sabzevaran, 1650 m, 7-8.V.1973, loc 190; Kerman: Dowlatabad, 85 km E of Hajiabad, 8-9.V.1973; Sistan & Baluchestan: Kuh-e Khajeh, 490 m, 3-5.VI.1977, loc. 357 (6 exx); Khorasan: 36 km N of Gonabad, 830 m, 7-8.VI.1977, loc 361 (3 exx); Sistan & Baluchestan: 13 km SSE of Nikshahr, valley of the river Nikshahr, 8-9.IV.1973, loc 152; Sekand, 27 km ENE of Sarbaz, 31.III-1.IV.1973, loc 144 (Hoberlandt 1981, 1983).

Distribution outside Iran. Iraq, Azerbaijan, Central Asia, Afghanistan (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Comments. This taxon probably is a synonym of *O. obsoletus* (Klug, 1830) (Linnavuori 1986; Moulet 2002b; Putshkov & Moulet 2010).

Oncocephalus mesopatamicus Dispons, 1970

Oncocephalus mesopotamicus Dispons, 1970: 410 (as new species); *Oncocephalus mesopotamicus* var. *buxtoni* Disons, 1970: 412.

Distribution in Iran. Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. Iraq (Putshkov & Putshkov 1996).

Comments. According to Putshkov & Moulet (2010), this species is very probably a synonym of *O. ocularis* Horváth, 1898, a species known in Asian Turkey, Israel, and Syria. Further studies are necessary to prove (or not) the synonymy.

Oncocephalus notatus (Klug, 1830)

Reduvius notatus Klug, 1830: 19 (as new species).

Distribution in Iran. Khuzestan (Seidenstücker 1957), Qom (Wagner 1961), Sistan & Baluchestan (Seidenstücker 1957), Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. Eremian, North Africa, Near East, Central Asian, Arabian and Ethiopian regions. Spanish and Italian records are doubtful and probably concern *O. pilicornis*, but the presence of *O. notatus* in the southern (and warmest) European regions cannot be excluded (Putshkov & Putshkov 1996; Putshkov & Moulet 2010; Aukema *et al*. 2013).

Oncocephalus obsoletus Klug, 1830

Reduvius (*Oncocephalus*) *obsoletus* Klug, 1830: fol. e; *Oncocephalus fasciatus* Reuter, 1900: 249; *Oncocephalus fasciatus* var. *apterus* Dispons, 1950: 262; *Oncocephalus cincticrus* Miller, 1956: 1; *Oncocephalus fasciatellus* Dispons, 1962: 31.

Distribution in Iran. Golestan, Khorasan (new data—E. Heiss's collection), Iran (without precise locality) (Putshkov & Putshkov 1996; Putshkov & Moulet 2010).

Distribution outside Iran. Eremian: tropical and North Africa, Greece, Near East, and Arabian Peninsula (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Oncocephalus pilicornis Reuter, 1882

Myodocha pilicornis (non Reuter, 1882) Herrich-Schaeffer, 1835: 62 (= *O. plumicornis* Germar, 1822); *Oncocephalus squalidus* Herrich-Schaeffer, 1849 (non Rossi, 1790); *Oncocephalus notatus* Fieber, 1861: 152 (non Klug, 1830); *Oncocephalus notatus* Puton, 1875: 51 (non Klug, 1830); *Oncocephalus notatus* Mulsant & Rey, 1873: 104 (non Klug, 1830); *Oncocephalus pilicornis* Reuter, 1882: 7 (stat. revised); *Oncocephalus notatus* Servadei, 1967: 239 (non Klug, 1830); *Oncocephalus plumicornis*, Dispons, 1968: 55; *Oncocephalis vicinalis* Dispons, 1968: 59.

Distribution in Iran. East Azarbaijan (Ghahari *et al*. 2010a), Guilan (NHMG: Eckerlein's collection; Moulet 2004; Sakenin *et al*. 2011), Khuzestan (Seindenstücker 1958), Mazandaran (Hoberlandt 1959; Ghahari *et al*. 2008a, b, 2009b), Sistan & Baluchestan (Seidenstücker 1957; Hoberlandt 1959), Iran (without precise locality) (Putshkov & Putshkov 1996).

New material examined. (NMPC coll.). Khorasan: 15 km N Eshq Abad (river valley, at light), 37° 48.2'N, 56° 55.5'E, 800 m, 25-26.v.2006, J. Hájek & P. Chvojka leg (2 exx); Guilan: 5 km NW Kakrud (stream valley, at light), 36° 51.2' N, 50° 13.9' E, 670 m, 2-3.vi.2006, J. Hájek & P. Chvojka leg.

Distribution outside Iran. Euro Asian and African (known in Tropical Africa) (Putshkov & Putshkov 1996; Aukema *et al*. 2013); according to Linnavuori (1961), a Palearctic species known in Japan and the Nearctic.

Comments. In rice fields and on *Chenopodium opulifolium* (Amaranthaceae) (Ghahari *et al*. 2008a). In Western Europe, *O. pilicornis* lives in wet and hot biotopes; it is not rare in deltas nor on salty soils; it has been

collected under *Bromus* (Poaceae) or among *Phragmites* (Poaceae) or *Urtica* (Urticaceae). The nymphal life is much longer than the adult stage (Putshkov & Moulet 2010).

Oncocephalus plumicornis (Germar, 1822)

Reduvius plumicornis Germar, 1822: pl. 24 (as new species); *Myodocha pilicornis* Herrich-Schaeffer, 1835: 62 (non Reuter, 1882); *Oncocephalus plumicoria* Kiritshenko, 1938: 88 (lapsus).

Distribution in Iran. Fars (new data—R. Linnavuori's collection), Golestan (Hoberlandt 1954), Guilan (Seidenstücker 1957), Hormozgan, Kerman (Dispons & Villiers 1967), Mazandaran (Ghahari *et al*. 2008a, b, 2009b), Sistan & Baluchestan (Hoberlandt 1959; Dispons & Villiers 1967), Iran (without precise locality) (China 1938; Hoberlandt 1961; Putshkov & Putshkov 1996).

Distribution outside Iran. Arabian Peninsula, Central Asia, Balkan Peninsula, Ukraine (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Comments. In rice fields, and on *Eruca sativa* (Brassicaceae) (Ghahari *et al*. 2008a). *O. plumicornis* lives both in wet and dry biotopes and has a very diversified supply. Also it was collected (accidental?) in birds' nests (Putshkov & Moulet 2010).

Oncocephalus ribesi Moulet, 2011

Oncocephalus ribesi Moulet, 2011: 306 (as new species).

Distribution in Iran. Hormozgan (Moulet 2011).

Distribution outside Iran. Endemic to Iran.

Oncocephalus similimus Reuter, 1888

Oncocephalus simillimus Reuter, 1888: 201 (as new species); *Oncocephalus confusus* Hsiao, 1977: 76 (non Reuter, 1882); *Oncocephalus colusus* P.V. Putshkov, 1987: 104 (new name for *O. confusus* Hsiao, 1977); *Oncocephalus hsiaoi* Maldonado, 1990: 514 (new name for *O. confusus* Hsiao, 1977).

Distribution in Iran. Mazandaran (Sakenin *et al*. 2008).

Distribution outside Iran. China, Korea, Japan, Russia (Far East) (Putshkov & Putshkov 1996).

Comments. Because the distribution of *O. similimus* is restricted to the Eastern Palearctic Region, the presence of this species in Iran must be studied further; althouth its presence in Iran and Caucassus is strongly possible.

Oncocephalus squalidus (Rossi, 1790)

Reduvius squalidus Rossi, 1790: 258 (as new species); *Oncocephalus griseus* Spinola, 1837: 102; *Oncocephalus plumicornis* Herrich-Schaeffer, 1847: 8 (non Germar, 1838); *Reduvius comatus* Kolenati, 1857: 457 (non Germar, 1838); *Oncocephalus impictipennis* Stål, 1866: 156; *Oncocephalus nigricollis* Dispons, 1950: 261 (non Horváth, 1911); *Oncocephalus squalidus nigricollis* Dispons, 1950: 261; *Oncocephalus brachymerus* Wagner, 1952: 113 (non Reuter, 1882).

Distribution in Iran. East Azarbaijan (Dispons & Villiers 1967), Guilan (Moulet 2004); Khorasan (Rahimi *et al*. 2010a, c).

Distribution outside Iran. Mediterranean basin extending to Central Asia, Arabian Peninsula and Eastern Africa (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Comments. Generally *O. squalidus* lives in dry biotopes and is often attracted by light-traps; adults hibernate (Putshkov & Moulet 2010).

Oncocephalus termezanus Kiritshenko, 1914

Oncocephalus termezanus Kiritshenko, 1914: 199 (as new species).

Distribution in Iran. Sistan & Baluchestan (Hoberlandt 1959), Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. Azerbaijan, Central Asia: Kazakhstan, Tajikistan, Turmenistan, Uzbekistan (Putshkov & Putshkov 1996).

Oncocephalus thoracicus Fieber, 1861

Oncocephalus thoracicus Fieber, 1861: 152 (as new species); *Oncocephalus reuteri* Bergroth, 1914: 178.

Material examined. West Azarbaijan province, Ourmieh, 2♂, unknown date. **New record for Iran.**

Distribution outside Iran. Ponto-Mediterranean (Asian Turkey, Bulgaria, Near East, Saudi Arabia) (Putshkov & Putshkov 1996; Putshkov & Moulet 2010; Aukema *et al*. 2013).

Oncocephalus vescerae Dispons, 1965

Oncocephalus vescerae Dispons, 1965c: 19 (as new species).

Distribution in Iran. Alborz (new data—P. Putshkov's collection), Golestan (Dispons & Villiers 1967; Putshkov & Moulet 2010), Guilan (Dispons & Villiers 1967; Putshkov & Moulet 2010), Khuzestan (Dispons & Villiers 1967; Putshkov & Moulet 2010), Mazandaran (Dispons & Villiers 1967), Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. Eremian from Canary Islands and Crete to Near East, Arabian Peninsula and Central Asia (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Comments. Close to *O. pilicornis*, according to Linnavuori (1974); the records outside of the Mediterranean basin must be studied carefully.

Genus *Pygolampis* Germar, 1817

Pygolampis bidentata (Goeze, 1778)

Cimex No 6 Geoffroy, 1762: 438 (invalid name); *Cimex* sp. Schaeffer, 1766: pl. 11 (invalid name); *Cimex bidentatus* Goeze, 1778: 242 (name for *Cimex* No 6 Geoffroy); *Cimex bifurcatus* Goeze, 1778: 277 (name for *Cimex* sp. Schaeffer); *Cimex pallipes* Fabricius, 1781: 376; *Miris rusticus* Panzer, 1804: 17; *Gerris denticollis* Fallén, 1807: 115; *Pygolampis denticulata* Germar, 1817: 286; *Ochetopus spinicollis* Hahn, 1833: 177; *Lygaeus spinulatus* Contarini, 1847: 90; *Pygolampis bidentata* var. *obscuripes* Rey, 1888: 194; *Pygolampis cognata* Horváth, 1899: 367; *Pygolampis cortesae* Dispons, 1955: 196.

Distribution in Iran. Khuzestan (Seidenstücker 1958), Mazandaran (Heiss 2002; Sakenin *et al*. 2008), Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. Palearctic, rare in North Africa (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Comments. In Western Europe, *P. bidentata* lives both in dry and wet biotopes under *Ononis*, *Sarothamnus* (Fabaceae), *Kochia* (Amaranthaceae), *Salvia*, and *Thymus* (both Lamiaceae), under dead vegetation or in moss; the whole development takes two years (Putshkov & Moulet 2010).

Pygolampis prolixa Stål, 1859

Pygolampis prolixa Stål, 1859: 379 (as new species).

Distribution in Iran. Khuzestan (Seidenstücker 1958), Mazandaran (Hoberlandt 1954; Dispons & Villiers 1967), Iran (without precise locality) (Hoberlandt 1961; Putshkov & Putshkov 1996).

Distribution outside Iran. Afghanistan, Indonesia (Putshkov & Putshkov 1996).

Genus *Stirogaster* Jakovlev, 1874

Stirogaster ahriman Rédei, 2005

Stirogaster ahriman Rédei, 2005: 34 (as new species).

Distribution in Iran. Fars (Rédei 2005).

New material examined. (NMPC coll.). Kerman: Dowlatabad, 85 km E of Hajiabad, 8-9.V.1973, loc192 (2 exx); Fars: 30 km E of Kazerun, 1300 m, 8-10.VI.1973, loc 229 (9 exx); Jashak, 60 km SE of Khormuj, 20.IV.1977, loc 304 (9 exx); 12 km NW of Kangan, 70 m, 21-22.IV.1977, loc 305; Hormozgan: Bagh-e Tang, 6 km W of Genu, 410 m, 7-9.V.1977, loc 323 (3 exx) (Hoberlandt 1981, 1983).

Distribution outside Iran. Endemic to Iran.

Comments. A large serie of this species sent by Dr. P. Kment (Praha) shows a rather great variability in the coloration of hemelytra. The original description (Redei 2005) states that the brown color of the external cell extends until the top though in *S. uvarovi* the top of this cell is colorless; in our specimens the external cell is not colored at the top. The pygophore and paramers of males of this serie are identically with those presented for *S. ahriman*. Some measurements fully agree with those of *S. ahriman*, too.

Stirogaster balachowskyi (Dispons & Villiers, 1967)

Davatchicoris balachowskyi Dispons & Villiers, 1967: 1076 (as new species).

Distribution in Iran. Fars (Dispons & Villiers 1967 as *D. balachowskyi*; Putshkov & Putshkov 1996; Putshkov & Pluot-Sigwalt 2008 as *D. balachowskyi*), Golestan, Ilam, Kerman, Tehran (Dispons & Villiers 1967).

Distribution outside Iran. Endemic to Iran.

Stirogaster desertorum Horváth, 1913

Stirogaster desertorum Horváth, 1913: 594 (as new species).

Distribution in Iran. Kerman (Seidenstücker 1958), Khuzestan (Seidenstücker 1957), Sistan & Baluchestan (Seidenstücker 1957; Hoberlandt 1959; Kiritshenko 1966), Iran (without precise locality) (Putshkov & Putshkov 1996).

New material examined. (NMPC coll.). Sistan & Baluchestan: 13 km SSE Nikshash, valley of the river Nikshahr, 8-9.IV.1973, loc 152 (3 exx); 9 km S of Espakeh, 10.IV.1973, loc 155; Bahu Kalat, 68 km S of Rask, 3-4.IV.1973, loc 147 (Hoberlandt 1981).

Distribution outside Iran. Afghanistan, North Africa, Saudi Arabia (Putshkov & Putshkov 1996; Aukema *et al*. 2013).

Stirogaster fausti Jakovlev, 1874

Stirogaster fausti Jakovlev, 1874: 74 (as new species); *Stirogaster fausti* var. *obtusangulus* Linnavuori, 1964: 319.

Distribution in Iran. Golestan, Sistan & Baluchestan (Seidenstücker 1957; Hoberlandt 1959), Hormozgan (Dispons & Villiers 1967), Kerman (Seidenstücker 1957, 1958), Iran (without precise locality) (Putshkov & Putshkov 1996).

New material examined. (NMPC coll.). Khorasan: Shurlaq (river valley, at light), 36°18.8'N, 60° 38.0'E, 570 m, 18-19.V.2006, J. Hájek & P. Chvojka leg; 36 km N of Gonabad, 830 m, 7-8.VI.1977, loc 361 (3 exx); Sistan & Baluchestan: Bahu-Kalat, 68 km S of Rask, 3-4.IV.1973, loc 147 (4 exx); 13 km SSE Nikshahr, valley of the river Nikshahr, 8-9.IV.1973, loc 152; Kerman: Gav Koshi near Esfandaqeh, 60 km W od Sabzevaran, 1650 m, 7-8.V.1973, loc 190 (2 exx); 43 km S of Sabzevaran, 540 m, 16-17.V.1977, loc 334; Chashmùeh-ye Sargaz, 50 km W of Sabzevaran, 1650 m, 20-21.V.1977, loc 339; Sistan & Baluchestan: Makran: Shahvar, 12 km NW of Minab, 18-19.V.1973; Hormozgan: Ziarat, 23 km NWN of Bila'I, 57 km S of Minab, 14-15.V.1977, loc 330 (3 exx) (Hoberlandt 1981, 1983).

Distribution outside Iran. Asian Turkey, Near East, Central Asian, Afghanistan (Putshkov & Putshkov 1996); also mentioned from Maghreb by Putshkov & Putshkov (1996) but those records seems erroneous as the species has not been recorded elswhere in North Africa.

Stirogaster kmenti Moulet, 2010

Stirogaster kmenti Moulet, 2010: 7 (as new species).

Distribution in Iran. Fars, Kerman (Moulet 2010).

Distribution outside Iran. Endemic to Iran.

Stirogaster laticeps Linnavuori, 1964

Stirogaster laticeps Linnavuori, 1964: 318 (as new species).

Distribution in Iran. Kerman (Linnavuori 1964), Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. Endemic to Iran.

Stirogaster pericarti Moulet, 2008

Stirogaster pericarti 2008: 248 (as new species).

Distribution in Iran. Sistan & Baluchestan (Moulet 2008).

Distribution outside Iran. Endemic to Iran.

Stirogaster uvarovi China, 1934

Stirogaster uvarovi China, 1934: 126 (as new species).

Distribution in Iran. Sistan & Baluchestan (Hoberlandt 1959), Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. Iraq (Putshkov & Putshkov 1996).

Doubtful species

Among the 112 species of Reduvioidea which have been reported from Iran so far, the three following species of Reduviidae are doubtful and we do not consider them as fauna of Iran.

Subfamily Harpactorinae Amyot & Serville, 1843

Genus *Sinea* Amyot & Serville, 1843

***Sinea diadema* (Fabricius, 1776)**

Cimex multispinosus De Geer, 1773: 348 (nomen oblitum); *Reduvius diadema* Fabricius, 1776: 302 (as new species); *Cimex hispidus* Thunberg, 1783: 33; *Cimex setosus* Gmelin, 1790: 2144; *Reduvius raptatorius* Say, 1825: 327; *Irantha hispida* Stål, 1866: 264; *Reduvius raptorius* Walker, 1873: 139; *Sinea undulata* Uhler, 1894: 282; *Cimex selosus* Caudell, 1901: 4; *Acholla diadema* Malloch, 1920: 240.

Distribution in Iran. Golestan (Sakenin *et al*. 2009).

Distribution outside Iran. America. Mentioned from England by Maldonado Capriles (1990), which however is a lapsus for New England (in the northeast of USA).

Comments. *Sinea diadema* was identified only on one dried specimen from northern Iran by Sakenin *et al*. (2009), which we think was introduced to Iran accidentally. We do not consider it as the fauna of Iran until collecting the new materials.

Subfamily Peiratinae Amyot & Serville, 1843

Genus *Sirthenea* Spinola, 1840

***Sirthenea flavipes* (Stål, 1855)**

Rasahus flavipes Stål, 1855: 187 (as new species); *Rasahus cumingi* Dohrn, 1860: 407; *Rasahus apicalis* Signoret, 1862: 125; *Pirates strigifer* Walker, 1873: 116; *Pirates basiger* Walker, 1873: 117; *Phalanthus geniculatus* Matsumura, 1905: 41 (non Stål, 1863).

Distribution in Iran. Sistan & Baluchestan (Seidenstücker 1957), Iran (without precise locality) (Putshkov & Putshkov 1996).

Distribution outside Iran. Far East Asia, Indonesia, Sri Lanka, Tropical Asia.

Comments. *Sirthenea flavipes* is an Oriental species and one of common predators in rice fields in southern China. The record from Iran is doubtful and we do not consider the species as part of the fauna of Iran.

Subfamily Reduviinae Amyot & Servile, 1843

Genus *Platymeris* Laporte, 1833

***Platymeris laevicollis* Distant, 1919**

Platymeris laevicollis Distant, 1919: 468.

Distribution in Iran. Southern Iran (without precise locality, in date-palm areas) (Modarres Awal 1997c).

Distribution outside Iran. Eastern Africa (Zanzibar).

Comments. The genus *Platymeris* is an African. Most species of this genus are large and colorful. Some species are kept as pets by some people. The presence of this species in Iran is doubtful, and we do not consider it part of the fauna of Iran.

Discussion

This catalog shows a diverse fauna of Reduviidae in Iran. Among the recorded species from Iran, 18 species are endemic to Iran. Among the 7 subfamilies of Iranian Reduviidae, Harpactorinae contains 34 species, Stenopodainae 26 species, and Reduviinae has 26 species; these three subfamiiles are more diverse than the others (Fig. 2). Worldwide, the Harpactorinae is the largest reduviid subfamily, including more than 300 genera and 2000 species (Maldonado-Capriles 1990; Zhao *et al*. 2006). The Reduviinae represents the second largest subfamily in Reduviidae, with more than 1000 valid species in approximately 140 genera from all zoogeographical regions (Putshkov & Putshkov 1985; Maldonado-Capriles 1990; Luo *et al*. 2009). Approximately 116 genera and over 730 valid species have been described in Stenopodainae, the majority of them inhabiting the tropics (Schuh & Slater 1995).

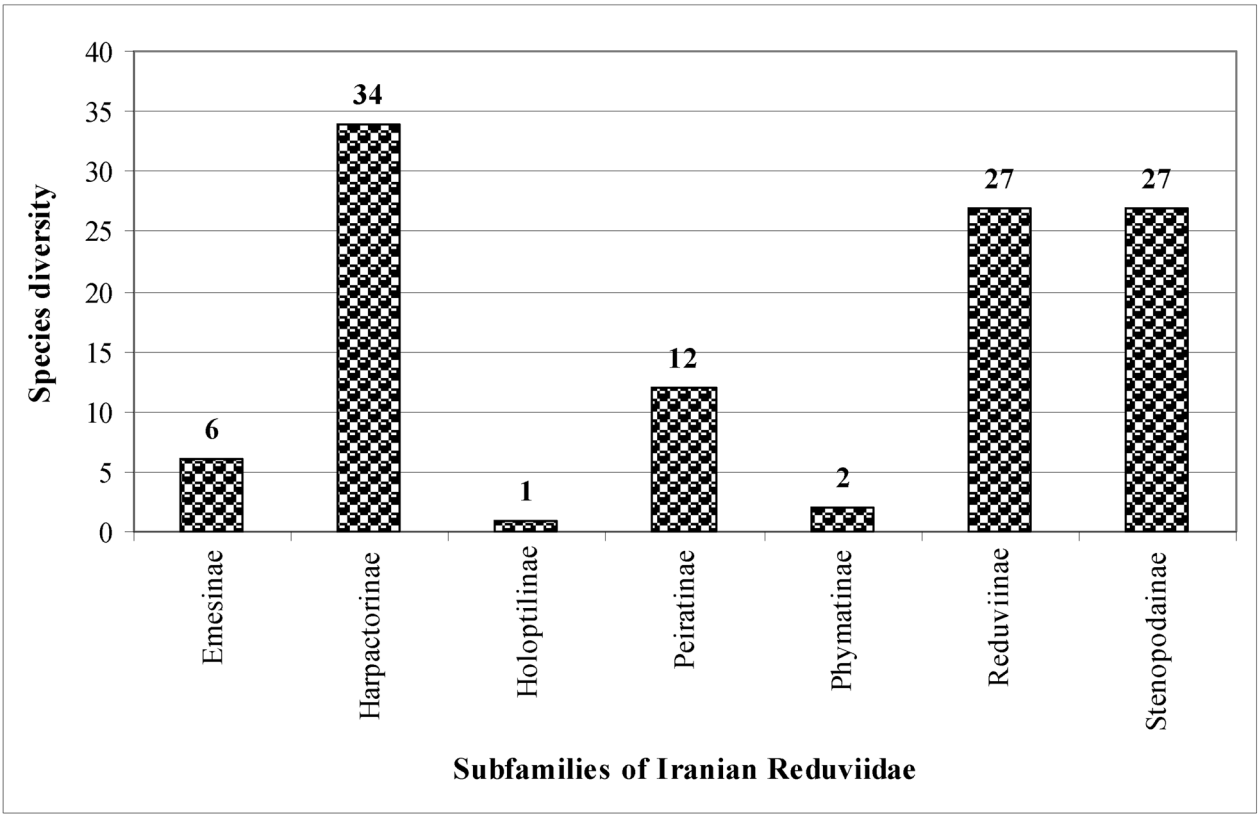

FIGURE 2. Species diversity in each subfamily of Iranian Reduviidae.

Among the 24 genera of Iranian Reduviidae, *Reduvius* with 18 species, *Oncocephalus* with 17 species, *Rhynocoris* with 13 species, and *Coranus* with 10 species are more diverse than the other genera (Fig. 3). The genus *Reduvius* is represented by 192 species at world-scale and 70 in the Palearctic Region, *Oncocephalus* by 194 and 41 species respectively and *Rhynocoris* by 148 and 36 respectively (Maldonado Capriles 1990; Putshkov & Putshkov 1996). *Coranus* is one of the largest genera in the Harpactorinae, with 96 known species worldwide (Putshkov & Putshkov 1985; Maldonado Capriles 1990). This genus is widely distributed and occurs throughout the Eastern Hemisphere, with 30 Palearctic, 17 Oriental, 41 Ethiopian, and 17 Australian species (Liu *et al*. 2009).

Phytophagous bugs are emphasized as agricultural pests. Yet many predatory heteropterans, as in the families Anthocoridae (*sensu lato*), Geocoridae, Miridae, Nabidae, asopine Pentatomidae, and Reduviidae, serve agriculture by reducing phytophagous insects. However, the biology of most Iranian reduviids still remains unknown. The diversity and bionomics of assassin bugs from Iran need further studies.

The incidence of vector-borne diseases can be affected as well. For example, rising temperatures can expand distributions, accelerate life cycle times, and increase population densities of certain species, as seen in some species of *Triatoma* Laporte, 1833 (Triatominae: Reduviidae) that are vectors of *Trypanosoma cruzi*, the causal

agent of Chagas's disease (Curto de Casas & Carcavallo 1995). Although *T. cruzi* now occurs only in the Neotropics, the movemrnt of humans and therefore insects may bring *T. cruzi* to the Old World—where some species of *Triatoma* already exist.

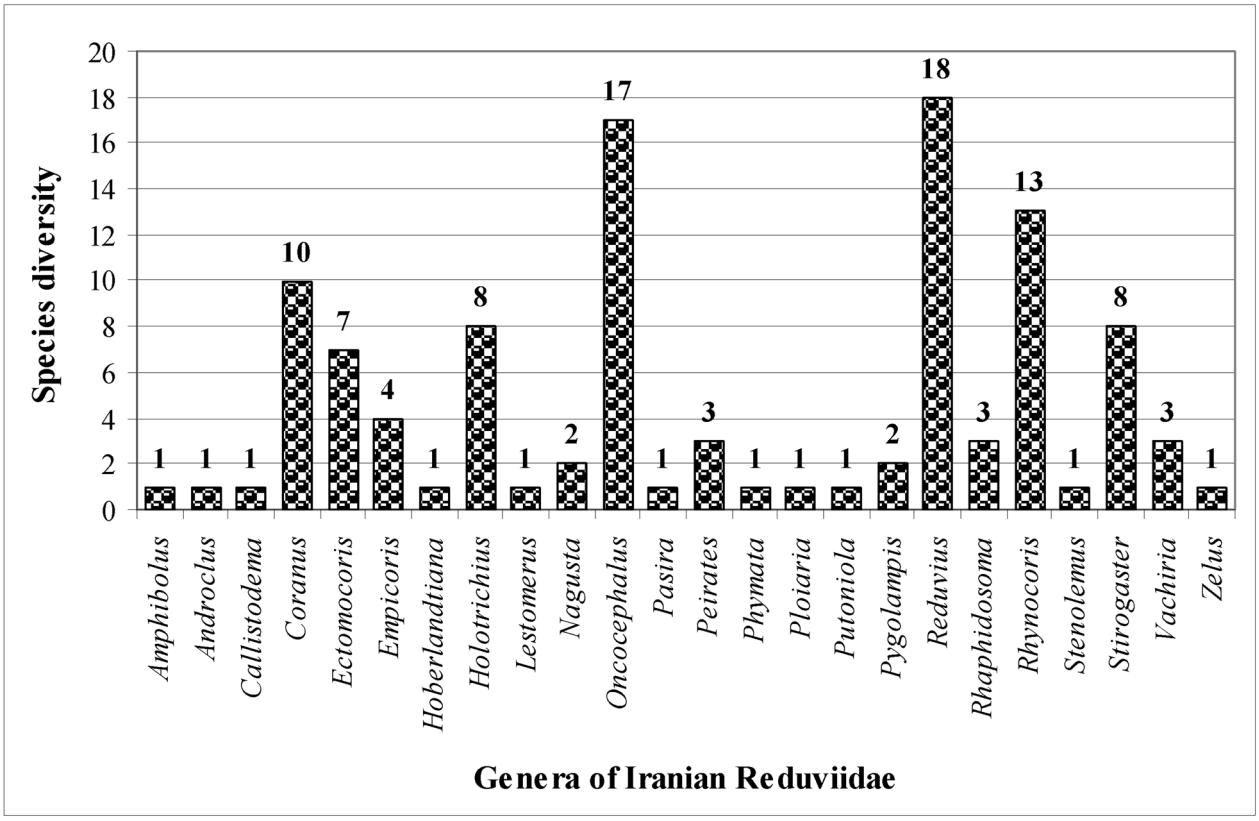

FIGURE 3. Species diversity in each genera of Iranian Reduviidae.

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