

Article

An annotated checklist of Iranian Mesostigmata (Acari), excluding the family Phytoseiidae

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Abstract

The present checklist provides the results of a survey of collected and identified mesostigmatic mites in Iran (excluding the family Phytoseiidae) including 348 species belonging to 128 genera, 39 families, and 17 superfamilies of which one genus (*Trachyuropoda* Berlese, 1888) is a new record for Iranian mite fauna. It is annotated with some corrections to specific identities which have previously reported by Iranian literature and with known geographical and habitats distributions in Iran. Suborders Sejida and Trigynaspida comprise three and seven recorded species belonging to two and six genera, respectively, and Monogynaspida (except the Phytoseiidae) with 338 species belonging to 120 genera. No species of the cohorts Heatherellina and Heterozercnina has been recorded from Iran yet.

Key words: Checklist, Acari, Mesostigmata, Monogynaspida, Trigynaspida, Sejida, Iran.

Introduction

The Mesostigmata is a large, diverse and cosmopolitan assemblage of parasitiform mites. Most of them are free-living predators, and many species are parasites or symbionts of mammals, birds, reptiles, or arthropods (Walter & Proctor 1999). Lindquist *et al.* (2009) divided the order into three suborders (Monogynaspida, Trigynaspida and Sejida). There are about 12000 species belonging to approximately 70 families which grouped into 26 superfamilies (Walter & Proctor 1999; Lindquist *et al.* 2009).

Iran is the 18th largest country in the world with an area of 1,648,195 km². The country's climate ranges from arid or semiarid, to subtropical along the Caspian Sea coast and the northern forests. Identified Iranian mite fauna comprises species belonging to the orders Ixodida, Mesostigmata, Trombidiformes and Sarcoptiformes. No species of Opilioacarida and Holothyrida has been collected and reported from Iran yet.

Investigation on the mesostigmatic mite fauna in Iran has been done in various scattered studies, especially during last two decades. Kamali *et al.* (2001) reported 159 families, 430 genera and about 1000 species of Acari from Iran of which 157 species

belong to 88 genera of Mesostigmata based on review of more than 300 research articles, abstracts, Ph. D. dissertations and M. Sc. theses. To provide the current checklist, all available published reports of Iranian mesostigmatic mites were reviewed and also several collected species from different areas of the country were identified, but the identification validity of some previously recorded species could not be confirmed here.

Materials and methods

The authors checked all available papers including new taxa collected from Iran, and new reports of families, genera and species. Those new described species without deposition data considered as *nomen nudum* and excluded from this checklist. Also, uncertainly identified species were removed from the current work and the species identified at the generic level has been mentioned when the genus not referred at the species level. The taxonomy is followed that of Lindquist *et al.* (2009). Also, longitude and latitude have not included here because they were not presented for most of species reported from Iran.

Our collected materials which inhabit in soil, litter, moss, and manure extracted by Berlese-Tullgren funnel and species associated with insects removed from their hosts under stereomicroscope. Mites were cleared in Nesbitt's fluid and mounted on permanent slides using Hoyer's medium, and deposited in the Acarological Collection in International Centre for Science, High Technology and Environmental Sciences, Kerman, Iran.

SUBORDER MONOGYNASPIDA

COHORT GAMASINA

SUBCOHORT DERMANYSSIAE (DERMANYSSINA)

SUPERFAMILY ASCOIDEA

FAMILY AMEROSEIIDAE EVANS, 1961

Genus *Ameroseius* Berlese, 1903

Ameroseius bassolase (Vargass, 2001)

Distribution and habitats. **Fars Province** (Marvdasht). Soil (Soleimani *et al.* 2011).

Ameroseius corbiculus (Sowerby, 1806)

Distribution and habitats. **East Azerbaijan Province** (Tabriz). Soil of orchards (Kamali *et al.* 2001); **Zanjan Province** (Region not mentioned). Soil, rotten wood, fungi, litter and dung (Zare *et al.* 2012).

Ameroseius corniculus (Karg, 1971)

Distribution and habitats. **Fars Province** (Shiraz). Soil of orchards (Khezri *et al.* 2006).

Ameroseius eumorphus Bregetova, 1977

Distribution and habitats. **Kerman Province** (Kerman). Sheep and poultry manure (Arjomandi *et al.* 2011); **North Khorasan Province** (Bojnurd). Soil of farms, gardens and manures (Mahpikaran *et al.* 2012).

Ameroseius fungicolis Mašán, 1998

Distribution and habitats. **Alborz Province** (Eshtehard). Compost and mushroom (Kheradmand *et al.* 2007).

Ameroseius insignis Bernhard, 1963

Distribution and habitats. **East Azerbaijan Province** (Tabriz). Soil of orchards (Kamali *et al.* 2001); **Fars Province** (Marvdasht, Islamic Azad University, Fars Science and Research Branch). ex. apple bark beetles (Arabzadeh *et al.* 2012).

Ameroseius lidiae Bregetova, 1977

Distribution and habitats. **Fars Province** (Jahrom). Soil of citrus orchards (Khademi *et al.* 2006); **Kerman Province** (Baft). Soil (Rajaei *et al.* 2011a); **Zanjan Province** (Region not mentioned). Soil, rotten wood, fungi, litter and dung (Zare *et al.* 2012).

Ameroseius nova (Nasr & Abou-Awad, 1984)

Distribution and habitats. **Fars Province** (Jahrom). Soil of citrus orchards (Khademi *et al.* 2006).

Ameroseius ornatus Womersley, 1956

Distribution and habitats. **Fars Province** (Estahban). Soil, leaves, litter, bark and saffron balb (Naghbinejad *et al.* 2011); **Kerman Province** (Rafsanjan). Soil of fruit orchards (Mohammadi *et al.* 2012).

Ameroseius parplumosus Nasr and Abu-Awad, 1984

Distribution and habitats. **Fars Province** (Jahrom). Soil of citrus orchards (Khademi *et al.* 2006); **Zanjan Province** (Region not mentioned). Soil, rotten wood, fungi, litter and dung (Zare *et al.* 2012).

Ameroseius plumea (Oudemans, 1930)

Distribution and habitats. **Kerman Province** (Jiroft). Soil (Balooch Shahryari *et al.* 2012).

Ameroseius plumigerus (Oudemans, 1930)

Distribution and habitats. **Region not mentioned.** Stored products (Sepasgozarian 1978; Modarres Awal 1994, 1997; Kamali *et al.* 2001); **Alborz Province** (Mallard, Shahryar, Mohammad Shahr). Compost and mushroom (Kheradmand *et al.* 2007).

Ameroseius plumosus (Oudemans, 1902)

Distribution and habitats. **West Azerbaijan Province** (Urmia). House dust (Kamali *et al.* 2001); (Miandoab Plain). Foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003); **Isfahan Province** (Khomeini Shahr, Najaf Abad). Soil of fruit orchards (Jalaeian *et al.* 2006); **Khuzestan Province** (Ahvaz). Soil (Baharloo *et al.* 2006); **Sistan va Baluchestan Province** (Sistan Region). Stored product (Sayadi *et al.* 2011); **West Azerbaijan Province** (Urmia). Soil (Rezaie *et al.* 2011); (Khoy). Soil of sunflower fields (Taher *et al.* 2012); (Salmas). Soil and plant debris of apple orchards (Alizadeh & Shirdel 2012); (Khoy, Salmas, Boukan, Mahabad, Urmia, Gharehziaadin). Dried fruits and nuts (Ardehsir *et al.* 2012).

Ameroseius pseudoplumosus Rack, 1972

Distribution and habitats. **Zanjan Province** (Region not mentioned). Soil, rotten wood, fungi, litter and dung (Zare *et al.* 2012).

Genus *Epicriopsis* Berlese, 1916

Epicriopsis horridus (Kramer, 1876)

Distribution and habitats. **East Azerbaijan Province** (Tabriz). Soil of orchards (Kamali *et al.* 2001); **Golestan Province** (Gorgan). Soil and litter (Kazemi *et al.* 2011a, 2012).

Epicriopsis palustris Karg, 1971

Distribution and habitats. **Zanjan Province** (Region not mentioned). Soil, rotten wood, fungi, litter and dung (Zare *et al.* 2012).

Genus *Sertitympanum* Elsen & Whitaker, 1985

Sertitympanum aegyptiacus Nasr & Abow-Awad, 1984

Distribution and habitats. **Mazandaran Province** (Region not mentioned). Honey bee hives (Mosaddegh 1997; Kamali *et al.* 2001); **Guilan Province** (Region not mentioned). Stored rice, rice dust and debris (Noei *et al.* 2008); **Razavi Khorasan Province** (Kashmar). Soil of vineyards (Salarzahi *et al.* 2011).

Sertitympanum rotundus (Womersley, 1956)

Distribution and habitats. **Tehran Province** (Varamin, Mohammad Abad, Asgar Abad, Moein Abad, Pouinak, Jalil Abad, Ghalesin, Pishva Roadway). Soil of crop fields including pomegranate, grape vine, eggplant, cucumber, wheat, tomato, lettuce and alfalfa (Kheradpir & Pakyari 2011).

FAMILY ASCIDAE OUDEMANS, 1905

Genus *Antennoseius* Berlese, 1916

(*Antennoseius* s. str. Berlese, 1916; *Vitzthumia* Thor, 1930)

Antennoseius (Antennoseius) bacatus Athias-Henriot, 1961

Distribution and habitats. **Kerman Province** (Kerman). Soil of alfalfa fields (Kazemi *et al.* 2011b); (Kerman). Sheep manure (Arjomandi *et al.* 2011); **Kohkiluyeh va Boyer-Ahmad Province** (Gachsaran). Soil of corn and rape seed farms (Moradian *et al.* 2011); **Fars Province** (Marvdasht). Soil (Soleimani *et al.* 2011); (Marvdasht, Kamfiruz). Soil and decayed plants under the oak trees (Beyzavi & Ostovan 2012); **Chaharmahal va Bakhtiari Province** (Shahrekord). Soil (Nemati *et al.* 2012b); **Khuzestan Province** (Baghmalek). Soil and nest of unidentified ant (Nemati *et al.* 2012b).

New record. **Fars Province** (Kuhmare Sorkhi Region). Soil of oak forest, Sh. Yazdanpanah coll., March 2010.

Note. Mehrnejad & Ueckermann (2001) and Naghibinejad *et al.* (2011) reported *Antennoseius (Antennoseius) bacatosimilis* Karg, 1965 from Rafsanjan (Kerman Province) and Estahban (Fars Province), respectively. The senior author examined several specimens collected from almost the same area and all of them belong to

Antennoseius (A.) bacatus. Also, we agree with Costa (1969) and Bregetova (1977a) that *Antennoseius (A.) bacatosimilis* is a doubtful species and may be a junior synonym of *Antennoseius (Antennoseius) bacatus*.

***Antennoseius (Antennoseius) borrusicus* Sellnick, 1945**

Distribution and habitats. **Golestan Province** (Gorgan). Soil (Malek-Shahkouyi *et al.* 2011b).

***Antennoseius (Antennoseius) masoviae* (Sellnick, 1943)**

Distribution and habitats. **Kerman Province** (Bam). ex. unidentified scarab and carabid beetles (Mehrzaad *et al.* 2011); **Fars Province** (Estahban). Soil, leaves, litter, bark and saffron bulb (Naghbinejad *et al.* 2011); **Kohkiluyeh va Boyer-Ahmad Province** (Gachsaran). Soil of corn and rape seed farms (Moradian *et al.* 2011); **Chaharmahal and Bakhtiari Province** (Shahrekord). Soil (Nemati *et al.* 2012b); **Khuzestan Province** (Ghaletol). Soil (Nemati *et al.* 2012b).

***Antennoseius (Vitzthumia) kamalii* Moraza & Kazemi, 2009**

Distribution and habitats. **North Khorasan Province** (Esfarayen). ex. *Bembidion cf. turkestanicum* Fassati and *Harpalus (s. str.) distinguendus* (Duftschmid) (Moraza & Kazemi 2009); **Zanjan Province** (Region not mentioned). Soil, rotten wood, fungi, litter and dung (Zare *et al.* 2012).

***Antennoseius (Vitzthumia) oudemansi* (Thor, 1930)**

Distribution and habitats. **Isfahan Province** (Falavarjan). Foliage of trees, weeds and soil of orchards (Jalaeian *et al.* 2004a).

Genus *Anystipalpus* Berlese, 1911

***Anystipalpus kazemii* Lindquist & Moraza, 2009**

Distribution and habitats. **Razavi Khorasan Province** (Gonabad, Rahan Village). ex. unidentified carabid beetle (Lindquist & Moraza 2009).

***Anystipalpus labiduricola* Lindquist & Moraza, 2009**

Distribution and habitats. **North Khorasan Province** (Esfarayen). ex. earwig (*Labidura* sp.) (Lindquist & Moraza 2009); **Kerman Province** (Bam). ex. unidentified

scarab and carabid beetles (Mehrzaad *et al.* 2011); **Khuzestan Province** (Ahvaz). Soil (Nemati *et al.* 2012b).

Anystipalpus livshitsi (Eidelberg, 1989)

Distribution and habitats. **North Khorasan Province** (Esfarayen). ex. *Ophonus* (*Metophonus*) *rufibarbis* (Fabricius) (Lindquist & Moraza 2009); **Golestan Province** (Daland Forest). ex. *Herpalus* sp. (Bahrami *et al.* 2011).

Anystipalpus longipalpus (Barilo, 1987)

Distribution and habitats. **Isfahan Province** (Shahreza). Soil (Kavianpour *et al.* 2011); **Khuzestan Province** (Baghmalek, Ghaletol). Soil (Nemati *et al.* 2012b).

Anystipalpus percicola Berlese, 1911

Distribution and habitats. **North Khorasan Province** (Mane and Samalghan). ex. *Ophonus* (*Hesperophonus*) *rebellus* (Schauberger) (Lindquist & Moraza 2009).

Genus *Arctoseius* Thor, 1930

Arctoseius cetratus (Sellnick, 1940)

Distribution and habitats. **Hamedan Province** (Region not mentioned). Darnel (Kamali *et al.* 2001); **West Azerbaijan Province** (Miandoab Plain). Foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003); (Salmas). Soil and plant debris of apple orchards (Alizadeh & Shirdel 2012); **Alborz Province** (Karaj, Eshtehard). Compost and mushroom (Kheradmand *et al.* 2007); **Semnan Province** (Damghan). Soil of alfalfa farm, (Kalatehroudbar Village). Soil of barley farm, (Cheshmeh-Ali). On *Cardaria draba* (L.) and in soil mixed with weeds near the pool of a spring, (Dibaj). Soil near bay willow trunk, decaying matter of a poplar trunk and soil at the margin of a sik, (Astaneh Village). Soil near a pear trunk at the margin of a sik, (Tooyehdarvar Village). Soil of an alfalfa farm, wheat farm and decaying leaves of walnut tree and chicken manure, (Haji Abad Village). Litter in pistachio orchard, (Amiriyyeh). Soil of corn farm, (Naim Abad Village). Soil mixed with manure in pistachio orchard, (Dashtebou Village). Soil mixed with weeds in an apple orchard and soil mixed with decaying leaves, (Fouladmahalleh triway). Sawdust mixed manure, (Shams Abad Village). Soil near a grapevine trunk, twigs with long horn beetle galleries of fruit tree in apple and pear orchards, decaying crown of apricot with woodborer galleries and sawdust near a decaying trunk of black mulberry, (Abbas Abad Village). Soil of alfalfa farm, (Bakhsh Abad Village). Decaying trunk of a willow tree, (Hadadeh Village). Soil mixed with weeds near a grapevine and pistachio trees, (Kalatehmolla). Soil of grapevine orchard, (Tooyehdarvar Village). Litter at the margin of a sike (Shamsi *et al.* 2008); **Tehran Province** (Tehran, Sorkhe Hesar Forest Park). Soil (Pakyari *et al.* 2006b,

2008); **Guilan Province** (Region not mentioned). Soil, plants, warehouses, manure and decaying plants (Hajizadeh *et al.* 2009b, 2010a); **Kohkiluyeh and Boyer-Ahmad Province** (Gachsaran). Soil of corn and rape seed farms (Moradian *et al.* 2011); **Isfahan Province**: (Shahreza). Soil (Kavianpour *et al.* 2011); (Region not mentioned). Soil (Nemati *et al.* 2012b); **Golestan Province** (Gorgan). Soil (Malek-Shahkouyi *et al.* 2011b); **Fars Province** (Jahrom). Soil of citrus orchards (Khademi *et al.* 2006); (Estahban). Soil, leaves, litter, bark and saffron bulb (Naghbinejad *et al.* 2011); (Shiraz). Soil (Montazeri *et al.* 2011); (Marvdasht). Soil (Soleimani *et al.* 2011); (Larestan). Soil of cotton and wheat fields (Khadempour *et al.* 2012); (Darab). Soil and foliage of cotton fields (Khorsand *et al.* 2012); (Sepidan, Hodayan). Foliage, soil, leaf-litter, weeds and soil of apple trees (Maneshi *et al.* 2012); **Zanjan Province** (Region not mentioned). Soil, rotten wood, fungi, litter and dung (Zare *et al.* 2012); **Kerman Province** (Sirjan, Pariz, Gostueyeh, Shahrehabak, Marj). Soil (Masnavipour *et al.* 2011); (Bam). Soil (Mehrzaad *et al.* 2012); (Jiroft). Soil (Balooch Shahryari *et al.* 2012); **Chaharmahal and Bakhtiari Province** (Shahrekord). Soil (Nemati *et al.* 2012b); **Khuzestan Province** (Baghmalek, Ghaletol, Izeh). Soil (Nemati *et al.* 2012b).

Arctoseius idiodactylus Lindquist, 1961

Distribution and habitats. **West Azerbaijan Province** (Urmia). Apple orchards (Kamali *et al.* 2001; Atamehr *et al.* 2008); **Fars Province** (Shiraz). Soil (Montazeri *et al.* 2011).

Arctoseius minutus (Halbert, 1915)

Distribution and habitats. **Mazandaran Province** (Amol). Soil (Sakenin Chelav *et al.* 2006a, b).

Note. Sakenin Chelav *et al.* (2006a, b) reported this species under the genus *Iphidozercon* Berlese, 1903 from Mazandaran Province, but it has been transferred to the genus *Arctoseius* Thor, 1930 (Gwiazdowicz 2008).

Arctoseius pulvisculus (Berlese, 1920)

Distribution and habitats. **Golestan Province** (Gorgan). Soil (Malek-Shahkouyi *et al.* 2011b).

Arctoseius semiscissus (Berlese, 1892)

Distribution and habitats. **Isfahan Province** (Mobarake). Foliage of trees, weeds and soil of orchards (Jalaeian *et al.* 2004a); **Semnan Province** (Tooyehdarvar Village). Decaying matter of oleaster trunk and decaying leaves of walnut tree, (Dibaj). Soil mixed with weeds near an almond tree, (Berom Village). Soil of pistachio orchard, (Cheshmeh-Ali). On twigs of apricot (Shamsi *et al.* 2008); **Golestan Province** (Gorgan).

Soil (Malek-Shahkouyi *et al.* 2011b); **Kerman Province** (Shahrebabak, Marj). Soil (Masnavipour *et al.* 2011); **Fars Province** (Shiraz). Soil (Montazeri *et al.* 2011); **Zanjan Province** (Region not mentioned). Soil, rotten wood, fungi, litter and dung (Zare *et al.* 2012).

Arctoseius venustulus (Berlese, 1917)

Distribution and habitats. **Semnan Province** (Tooyehdarvar Village). Soil with ant nest at a wheat farm, (Dibaj). Soil mixed with weeds near a pear tree, (Tooyeh Village). Soil mixed with litter near a cherry tree (Shamsi *et al.* 2008); **Kohkiluyeh and Boyer-Ahmad Province** (Gachsaran). Soil of corn and rape seed farms (Moradian *et al.* 2011); **Golestan Province** (Gorgan). Soil (Malek Shahkouyi *et al.* 2011b).

Genus *Asca* von Heyden, 1826

Asca aphidioides (Linnaeus, 1758)

Distribution and habitats. **Mazandaran Province** (Amol). Soil (Sakenin Chelav *et al.* 2006a, b); **Golestan Province** (Gorgan). Soil (Malek-Shahkouyi *et al.* 2011b); **Kohkiluyeh and Boyer-Ahmad Province** (Gachsaran). Soil of corn and rape seed farms (Moradian *et al.* 2011).

Asca nesoica Athias-Henriot, 1961

Distribution and habitats. **Zanjan Province** (Region not mentioned). Soil, rotten wood, fungi, litter and dung (Zare *et al.* 2012).

Genus *Gamasellodes* Athias-Henriot, 1961

Gamasellodes bicolor (Berlese, 1918)

Distribution and habitats. **Hamedan Province** (Region not mentioned). Bean (*Phaseolus vulgaris* L.) and clover (*Trifolium* sp.) farms (Khanjani & Kamali 2000a; Kamali *et al.* 2001); **Fars Province** (Kazerun). Stored onion (Kamali *et al.* 2001); **Mazandaran and Kordestan Provinces** (Region not mentioned). Shallot, potato and honey bee hives (Modarres Awal 1994; Mosaddegh 1997; Ostovan & Mosaddegh 1999; Kamali *et al.* 2001); **Khuzestan Province** (Safiabad). Grapevine yards (Kamali *et al.* 2001; Darvishzadeh & Kamali 2009); (Izeh, Baghmalek). Soil (Nemati *et al.* 2012b); **West Azerbaijan Province** (Miandoab Plain). Foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003); **Tehran Province** (Tehran, Shahid Beheshti University Campus). Soil (Kamali *et al.* 2004); **Semnan Province** (Tooyehdarvar Village). Soil of alfalfa farm, (Tazareh Village). Decaying underbark matter of an alive poplar, (Haji Abad Village). Litter in a pistachio orchard, (Naim Abad Village). Soil of a pistachio orchard, (Forat Village). Soil at the margin of a sike, (Astaneh). Soil at the

margin of a sik near a pear tree, (Damghan). Soil near an olive tree, (Shams Abad Village). Decaying crown of an apricot tree along the margin of a sike, (Kalatemolla). Soil of a pistachio orchard, (Damghan). Soil on an apricot orchard (Shamsi *et al.* 2008); **Guilan Province** (Region not mentioned). Soil, plants, warehouses, manure and decaying plants (Hajizadeh *et al.* 2009b, 2010a); **Isfahan Province** (Shahreza). Soil (Kavianpour *et al.* 2010); **Razavi Khorasan Province** (Kashmar). Soil of vineyards (Salarzahi *et al.* 2010); **Fars Province** (Marvdasht). Soil (Soleimani *et al.* 2010); (Shiraz). Soil (Montazeri *et al.* 2011); (Estahban). Soil, leaves, litter, bark and saffron balb (Naghbinejad *et al.* 2011); (Doroodzan). Soil of fields (Asadpoor *et al.* 2012); **Golestan Province** (Gorgan). Soil (Malek-Shahkouyi *et al.* 2011b).

Gamasellodes insignis (Hirschmann, 1963)

Distribution and habitats. **Isfahan Province** (Zarrin Shahr, Khomeini Shahr). Foliage of trees, weeds and soil of orchards (Jalaeian *et al.* 2004a); (Shahreza). Soil (Kavianpour *et al.* 2011).

Genus *Iphidozercon* Berlese, 1903

Iphidozercon australis Gwiazdowicz & Halliday, 2008

Distribution and habitats. **Fars Province** (Shiraz). Soil (Montazeri *et al.* 2011).

Iphidozercon corticalis Evans, 1958

Distribution and habitats. **Tehran Province** (Tehran, Sorkhe Hesar Forest Park). Soil (Pakyari *et al.* 2006b, 2008); **Fars Province** (Marvdasht, Kamfiruz). Soil and decayed plants under the oak trees (Beyzavi & Ostovan 2012).

Iphidozercon gibbus (Berlese, 1903)

Distribution and habitats. **Region not mentioned.** Starchy materials, animal manure and humus (Modarres Awal 1997; Kamali *et al.* 2001); **Fars Province** (Kazerun). Stored decaying onion (Ostovan & Kamali 1994; Kamali *et al.* 2001); (Jahrom). Soil of citrus orchards (Khademi *et al.* 2006); (Estahban). Soil, leaves, litter, bark and saffron balb (Naghbinejad *et al.* 2011); **Isfahan Province** (Najaf Abad). Soil of fruit orchards (Jalaeian *et al.* 2006); **Zanjan Province** (Region not mentioned). Soil, rotten wood, fungi, litter and dung (Zare *et al.* 2012); **Kerman Province** (Shahrehabak, Marj). Soil (Masnavipour *et al.* 2011).

Genus *Leioseius* Berlese, 1916

Leioseius bicolar (Berlese, 1918)

Distribution and habitats. **Fars Province** (Larestan). Soil of cotton and wheat fields (Khadempour *et al.* 2012).

Genus *Neojordensia* Evans, 1957

Neojordensia sinuate Athias-Henriot, 1973

Distribution and habitats. **Mazandaran Province** (Nowshahr). Soil and litter (Kazemi *et al.* 2012); **Golestan Province** (Gorgan). Soil and litter (Kazemi *et al.* 2012).

Genus *Protogamasellus* Karg, 1962

Protogamasellus hibernicus Evans, 1982

Distribution and habitats. **Fars Province** (Kazerun). Stored rice and barley (Kamali *et al.* 2001); **West Azerbaijan Province** (Urmia). Aerial plant parts and soil of potato fields (Mosavi *et al.* 2004); (Khoy). Soil of sunflower fields (Taher *et al.* 2012).

Protogamasellus massula (Athias-Henriot, 1961)

Distribution and habitats. **West Azerbaijan Province** (Miandoab Plain). Foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003); (Salmas). Soil and plant debris of apple orchards (Alizadeh & Shirdel 2012); **Tehran Province** (Tehran, Sorkhe Hesar Forest Park). Soil (Pakyari *et al.* 2006b, 2008); **Semnan Province** (Tooyehdavar Village). Soil near an oleaster trunk, decaying poplar trunk with woodborer galleries, decaying leaves of walnut, litter near a sumac tree, decaying matter of an oleaster tree and soil, (Cheshmeh-gholghol spring). Soil near a berberry, (Agareh Village, Sattarie's orchard). Decaying wood trunk of an alive willow, (Dibaj). Soil near an almond tree, (Damghan). Soil near a walnut tree, (Rashm Village). Moss at the margin of a sike (Shamsi *et al.* 2008); **Isfahan Province** (Shahreza). Soil (Kavianpour *et al.* 2011); **Fars Province** (Larestan). Soil of cotton and wheat fields (Khadempour *et al.* 2012); **Kerman Province** (Jiroft). Soil (Balooch Shahryari *et al.* 2012).

Protogamasellus mica (Athias-Henriot, 1961)

Distribution and habitats. **West Azerbaijan Province** (Miandoab Plain). Foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003); **Fars Province** (Jahrom). Soil of citrus orchards (Khademi *et al.* 2006); **Semnan Province** (Tooyehdarvar Village). Litter near a sumac tree, (Mohammad Abad Village). Soil mixed with weeds on a pistachio orchard, (Cheshmeh-Ali roadside). Soil mixed with weeds near a cherry tree, (Damghan). Soil in a Park, (Dibaj) Soil in barley farm, (Zarrin Abad Village). Soil near a willow tree at the margin of sike, (Rashm Village). Moss at the margin of sike (Shamsi *et al.* 2008); **Guilan Province** (Region not mentioned). Soil, plants, warehouses, manure and decaying plants (Hajizadeh *et al.* 2009b, 2010a); **Isfahan**

Province (Shahreza). Soil (Kavianpour *et al.* 2011); **Razavi Khorasan Province** (Kashmar). Soil of vineyards (Salarzahi *et al.* 2011); **Kerman Province** (Jiroft). Soil (Balooch Shahriyari *et al.* 2011).

Note. Shamsi *et al.* (2008) reported *Protogamasellus primitivus* Karg, 1962 from Iran, but that is junior synonym of *P. mica* (Mineiro *et al.* 2009).

Protogamasellus minor (Athias-Henriot, 1961)

Distribution and habitats. **Semnan Province** (Agareh Village, Sattari's orchard). Decaying matter of a willow tree (Shamsi *et al.* 2008).

Protogamasellus scuticalis Genis, Loots & Ryke, 1967

Distribution and habitats. **Fars Province** (Estahban). Soil, leaves, litter, bark and saffron balb (Naghbinejad *et al.* 2011).

Genus *Zerconopsis* Hull, 1918

Zerconopsis michaeli Evans & Hyatt, 1960

Distribution and habitats. **Mazandaran Province** (Amol). Soil (Sakenin Chelav *et al.* 2006a, b); (Nowshahr). Soil and litter (Kazemi & Ahangaran 2011; Kazemi *et al.* 2012); **Golestan Province** (Gorgan). Soil (Malek-Shahkouyi *et al.* 2011b; Kazemi *et al.* 2012).

FAMILY MELICHARIDAE HIRSCHMANN, 1962

Genus *Melichares* Hering, 1838

Melichares agilis Hering, 1838

Distribution and habitats. **Guilan Province** (Region not mentioned). Livestocks (Modarres Awal 1994, 1997; Kamali *et al.* 2001).

Genus *Proctolaelaps* Berlese, 1923

Proctolaelaps bickleyi (Bram, 1956)

Distribution and habitats. **Fars Province** (Kazerun). Stored onion and potato contaminated to *Schwiebia* spp. and *Rhizoglyphus* spp. (Ostovan & Kamali 1994; Kamali *et al.* 2001); (Region not mentioned). Honey bee hives (Modarres Awal 1997; Ostovan & Mosaddegh 1999); (Marvdasht). Soil (Soleimani *et al.* 2011); (Shiraz).

Potato, zucchini, flour and the floor of insectariums (Granpayeh *et al.* 2012); **Tehran Province** (Tehran). Associated with elm bark beetle *Scolytus multistriatus* (Marsh) (Ostovan & Kamali 1997; Kamali *et al.* 2001).

Proctolaelaps cassoides Faraji, Sakenin-Chelav & Karg, 2007

Distribution and habitats. **Mazandaran Province** (Amol). Soil and debris (Faraji *et al.* 2007).

Proctolaelaps hystericoides Lindquist & Hunter, 1965

Distribution and habitats. **Ardabil Province** (Moghan Plain). Cotton fields (Kamali *et al.* 2001); **Fars Province** (Jahrom). Soil of citrus orchards (Khademi *et al.* 2006).

Proctolaelaps intermedius Athias-Henriot, 1959

Distribution and habitats. **Tehran Province** (Tehran, various Parks). Associated with elm bark beetle, *S. multistriatus* (Ostovan & Kamali 1997; Kamali *et al.* 2001).

Note. Ostovan & Kamali (1997) reported *Neojordensia orientalis* Chant, 1963, but this species has been transferred to the genus *Proctolaelaps* Berlese, 1923 and also considered as junior synonym of *Proctolaelaps intermedius* (Mineiro *et al.* 2009).

Proctolaelaps longipilis (Chant, 1958)

Distribution and habitats. **East Azerbaijan Province** (Tabriz). Soil of orchards (Kamali *et al.* 2001); **Markazi Province** (Saveh). Pomegranate (Kamali *et al.* 2001); **Fars Province** (Jahrom). Soil of citrus orchards (Khademi *et al.* 2006).

Proctolaelaps pygmaeus (Müller, 1860)

Distribution and habitats. **Fars Province** (Kazerun). Stored onion and potato contaminated to *Schwiebia* spp. and *Rhizoglyphus* spp. (Ostovan & Kamali 1994; Kamali *et al.* 2001); (Marvdasht). Soil (Soleimani *et al.* 2011); (Shiraz). Soil (Montazeri *et al.* 2011); (Larestan). Soil of cotton and wheat fields (Khadempour *et al.* 2012); (Shiraz). Potato, zucchini, flour and the floor of insectariums (Granpayeh *et al.* 2012); (Marvdasht, Islamic Azad University, Fars Science and Research Branch). Soil and decayed plants associated with conifers (Amirazodi & Ostovan 2012); (Darab). Soil and foliage of cotton fields (Khorsand *et al.* 2012); (Doroodzan). Soil of fields (Asadpoor *et al.* 2012); **Khuzestan Province** (Dezful). Citrus orchards (Malekzadeh *et al.* 2000); (Region not mentioned). Nests or body of fresh and pinned museum specimens of different insects of order Coleoptera (Family Scarabaeidae, Carabidae), Hymenoptera (Formicidae) and Orthoptera (Gryllidae, Acrididae) (Nemati & Babaeian 2010);

Hamedan Province (Region not mentioned). Associated with Fabaceae plants (Kamali *et al.* 2001); **Lorestan and Kordestan Provinces** (Region not mentioned). No more data (Kamali *et al.* 2001); **West Azerbaijan Province** (Urmia). House dust (Kamali *et al.* 2001), aerial plants part and soil of potato fields (Mosavi *et al.* 2004), soil (Rezaie *et al.* 2011); (Miandoab Plain). Foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003); **Isfahan Province** (Najaf Abad). Soil of fruit orchards (Jalaeian *et al.* 2006); **Semnan Province** (Tooyehdarvar Village). Decaying lives of walnut tree, (Dibaj). Soil mixed with weeds near an almond tree and decaying plant fruit fallen on the ground in an apple orchard, (Dibaj, near Imamzadeh). Decaying trunk of a willow tree, (Forat Village). Soil mixed with weeds at the margin of a sike, (Damghan). Soil mixed with weeds near a walnut tree (Shamsi *et al.* 2008); **Chaharmahal va Bakhtiari Province** (Region not mentioned). Nests or body of fresh and pinned museum specimens of different insects of order Coleoptera (Family Scarabaeidae, Carabidae), Hymenoptera (Formicidae) and Orthoptera (Gryllidae, Acrididae) (Nemati & Babaeian 2010); **Bushehr Province** (Region not mentioned). Nests or body of fresh and pinned museum specimens of different insects of order Coleoptera (Family Scarabaeidae, Carabidae), Hymenoptera (Formicidae) and Orthoptera (Gryllidae, Acrididae) (Nemati & Babaeian 2010); **Guilan Province** (Region not mentioned). Soil, plants, warehouses, manure and decaying plants (Hajizadeh *et al.* 2009b, 2010a); **Isfahan Province** (Shahreza). Soil (Kavianpour *et al.* 2011); **Kerman Province** (Sirjan, Zeidabad, Gostueyeh, Mani, Sarcheshmeh, Shahrebabak). Soil (Masnavipour *et al.* 2011); (Bam). ex. unidentified scarab and carabid beetles (Mehrzaad *et al.* 2011); (Bam). Soil (Mehrzaad *et al.* 2012); (Rafsanjan). Soil of fruit orchards (Mohammadi *et al.* 2012); **Zanjan Province** (Region not mentioned). Soil, rotten wood, fungi, litter and dung (Zare *et al.* 2012).

New record. **Mazandaran Province** (Tirtash). ex. *Gryllus* sp., under elytra, Sh. Kazemi coll., July 2007.

Proctolaelaps regalis De Leon, 1963

Distribution and habitats. **Fars Province** (Kazerun). Stored onion (Ostovan & Kamali 1994; Modarres Awal 1997; Kamali *et al.* 2001); **Alborz Province** (Karaj). Associated with stored products (Sayedi *et al.* 2006).

Proctolaelaps scolyti Evans, 1958

Distribution and habitats. **Kordestan Province** (Region not mentioned). Honey bee hives (Mosaddegh 1997; Kamali *et al.* 2001); **Semnan Province** (Forat Village). Soil mixed with weeds at the margin of a sike, (Tazareh Village). Decaying matter of an alive poplar with woodborer galleries (Shamsi *et al.* 2008).

Proctolaelaps ventrianalis Karg, 1971

Distribution and habitats. **West Azerbaijan Province** (Miandoab Plain). Foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003); **Guilan Province** (Region not mentioned).

mentioned). Stored rice, rice dust and debris (Noei *et al.* 2008); **Fars Province** (Shahreza). Soil (Kavianpour *et al.* 2011); (Shiraz). Soil (Montazeri *et al.* 2011).

SUPERFAMILY DERMANYSSOIDEA

FAMILY MACRONYSSIDAE OUDEMANS, 1936

Genus *Ornityssus* Sambon, 1928

Ornityssus bacoti (Hirst, 1913)

Distribution and habitats. **Khuzestan Province** (Ahvaz). ex. *Rattus rattus* L., *Rattus norvegicus* Berkenhout and *Mus musculus* L. (Nemati *et al.* 2000c); **Generally distributed** (Region not mentioned). Various species of rats, house mouse and man (Kamali *et al.* 2001); **Chaharmahal and Bakhtiari Province** (Sharekord). ex. mice (Nemati *et al.* 2008a).

FAMILY DERMANYSSIDAE KOLENATI, 1859

Genus *Dermanyssus* Dugès, 1834

Dermanyssus chelidonis Oudemans, 1939

Distribution and habitats. **Chaharmahal and Bakhtiari and Isfahan Provinces** (Region not mentioned). Body of birds or their nests (Keivani *et al.* 2012).

Dermanyssus gallinae (De Geer, 1778)

Distribution and habitats. **Generally distributed** (Region not mentioned). Chicken and pigeon (Kamali *et al.* 2001); **Chaharmahal and Bakhtiari and Isfahan Provinces** (Region not mentioned). Body of birds or their nests (Keivani *et al.* 2012).

New record. **Alborz Province** (Karaj). Manure, Sh. Kazemi coll., March 2001; **Kerman Province** (Kerman). Chicken manure, E. Arjomandi coll., July 2011.

Genus *Liponyssoides* Hirst, 1913

Liponyssoides sanguineus (Hirst, 1914)

Distribution and habitats. **Chaharmahal and Bakhtiari Province** (Sharekord). ex. mice (Nemati *et al.* 2008a).

FAMILY LAELAPIDAE BERLESE, 1892

Genus *Alloparasitus* Berlese, 1920

***Alloparasitus oblongus* (Halbert, 1915)**

Distribution and habitats. **Fars Province** (Marvdasht, Islamic Azad University, Fars Science and Research Branch). ex. apple bark beetles (Arabzadeh *et al.* 2012).

Genus *Androlaelaps* Berlese, 1903

***Androlaelaps marshalli* (Berlese, 1911)**

Distribution and habitats. **Chaharmahal and Bakhtiari Province** (Sharekord). ex. mice (Nemati *et al.* 2008a).

***Androlaelaps aegypticus* Hafez, Elbadry & Naser, 1982**

Distribution and habitats. **Fars Province** (Marvdasht, Islamic Azad University, Fars Science and Research Branch). Soil (Soleimani *et al.* 2011); **Razavi Khorasan Province** (Kashmar). Soil of vineyards (Salarzahi *et al.* 2011).

***Androlaelaps kifli* Metwali & Ibrahim, 1985**

Distribution and habitats. **Khuzestan Province** (Ahvaz). Nest of *Pheidole pallidula* Nylander and *Monomorium destructor* (Jerdon) (Nemati *et al.* 2000b; Kamali *et al.* 2001); **Isfahan Province** (Isfahan). Soil and litter (Ramezani & Nemati 2010); (Shahreza). Soil (Kavianpour *et al.* 2011); **Fars Province** (Shiraz). Soil (Montazeri *et al.* 2011).

Genus *Coleolaelaps* Berlese, 1914

***Coleolaelaps asiaticus* Karg, 1999**

Distribution and habitats. **Alborz Province** (Karaj). ex. *Polyphylla olivieri* Castelnau (Joharchi & Halliday 2011); **Fars Province** (Shiraz). ex. *P. olivieri* (Joharchi & Halliday 2011); **Yazd Province** (Yazd). ex. *P. olivieri* (Joharchi & Halliday 2011); **Tehran Province** (Tehran). ex. *P. olivieri* (Joharchi *et al.* 2011b).

***Coleolaelaps costai* Joharchi & Halliday, 2011**

Distribution and habitats. **Alborz Province** (Karaj, Shahrestanak). ex. *P. olivieri* (Joharchi & Halliday 2011); **Tehran Province** (Tehran). ex. *P. olivieri* (Joharchi *et al.*

2011b); **Golestan Province** (Gorgan, Kordkooy Forest). ex. *Melolontha melolontha* (L.) (Bahrami *et al.* 2011).

Coleolaelaps ferdowsi Joharchi, 2012

Distribution and habitats. **Razavi Khorasan Province** (Neishabour). Associated with the larval stage of *Polyphylla* sp. (Joharchi *et al.* 2012b; Joharchi 2012).

Genus Cosmolaelaps Berlese, 1903

Cosmolaelaps acutiscutus Teng, 1982

Distribution and habitats. **Isfahan Province** (Shahreza). Soil (Kavianpour *et al.* 2011).

Cosmolaelaps brevipedestra (Karg, 1985)

Distribution and habitats. **Khuzestan Province** (Ahvaz). Nest of *P. pallidula* (Nemati *et al.* 2000b), nest of ant *Tapinoma simrothi* Krausse (Kamali *et al.* 2001); **Fars Province** (Jahrom). Soil of citrus orchards (Khademi *et al.* 2006); **Yazd Province** (Region not mentioned). Soil (Dehghan *et al.* 2011).

Cosmolaelaps cassoidea (Karg, 1981)

Distribution and habitats. **Khuzestan Province** (Ahvaz). Soil (Nemati *et al.* 2000a; Kamali *et al.* 2001); **West Azerbaijan Province** (Urmia). Aerial plants part and soil of potato fields (Mosavi *et al.* 2004); **Sistan and Baluchestan Province** (Sistan Region). Soil (Arjmandi Nejad *et al.* 2006, 2008); **Isfahan Province** (Isfahan). Soil and litter (Ramezani & Nemati 2010).

Cosmolaelaps longus Hafez, Elbadry & Naser, 1982

Distribution and habitats. **Fars Province** (Shiraz). Soil, litter and humus (Soleimani & Joharchi 2012); **Yazd Province** (Region not mentioned). Soil, litter and humus (Soleimani & Joharchi 2012).

Cosmolaelaps lutegiensis (Shcherbak, 1971)

Distribution and habitats. **Guilan Province** (Region not mentioned). Soil, decaying plant debris and stored products (Hajizadeh *et al.* 2010b); **Isfahan Province** (Shahreza). Soil (Kavianpour *et al.* 2011); **Golestan Province** (Gorgan). Soil (Kazemi *et al.* 2011a); **West Azerbaijan Province** (Salmas). Soil and plant debris of apple orchards (Alizadeh *et al.* 2011); (Khoy). Soil of sunflower fields (Taher *et al.* 2012); **Kerman Province**

(Jiroft). Soil (Balooch Shahryari *et al.* 2011, 2012); **Mazandaran Province** (Kelardasht, Tonekabon, Dimron, Nowshahr, Ramsar). Soil and litter (Kazemi & Ahangaran 2011); **Tehran Province** (Shemiranat, Rudbar-Ghasran). Soil, litter and humus (Cheraghali *et al.* 2012).

Cosmolaelaps rectangularis Sheals, 1962

Distribution and habitats. **Khuzestan Province** (Ahvaz). Soil (Nemati *et al.* 2000a); **West Azerbaijan Province** (Miandoab Plain). Foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003); **Isfahan Province** (Shahreza). Soil (Kavianpour *et al.* 2011).

Cosmolaelaps subacutiscutus Bai & Wang, 2005

Distribution and habitats. **Fars Province** (Shiraz). Soil, litter and humus (Soleimani & Joharchi 2012); **Yazd Province** (Region not mentioned). Soil, litter and humus (Soleimani & Joharchi 2012).

Cosmolaelaps vacua (Michael, 1891)

Distribution and habitats. **Tehran Province** (Tehran, Shahid Beheshti University Campus). Soil (Kamali *et al.* 2004); (Tehran, Sorkkeh Hesar Forest Park). Soil (Pakyari 2008); **Guilan Province** (Region not mentioned). Soil, decaying plants and stored products (Hajizadeh *et al.* 2010b); **Chaharmahal and Bakhtiari Province** (Shahrekord). Nest of ants (Babaeian *et al.* 2010); **Fars Province** (Shiraz). Soil (Montazeri *et al.* 2011); **Kohkiluyeh and Boyer-Ahmad Province** (Gachsaran). Soil of corn and rape seed farms (Moradian *et al.* 2011); **Zanjan Province** (Region not mentioned). Soil (Rahmani & Zare 2011); **West Azerbaijan Province** (Urmia). Soil (Rezaie *et al.* 2011); **Razavi Khorasan Province** (Torbat-e Jam). Soil of orchards (Rahmdeli *et al.* 2011); (Kashmar). Soil of vineyards (Salarzahi *et al.* 2011); **Yazd Province** (Region not mentioned). Soil (Dehghan *et al.* 2011); **Kerman Province** (Jiroft). Soil (Balooch Shahryari *et al.* 2011, 2012); (Bam). Soil (Mehrzaad *et al.* 2012); **Isfahan Province** (Isfahan). Soil (Khalili-Moghadam *et al.* 2012).

Genus *Euandrolaelaps* Bregetova, 1977

Euandrolaelaps karawaiewi (Berlese, 1903)

Distribution and habitats. **Khuzestan Province** (Ahvaz). Soil (Nemati *et al.* 2000a; Kamali *et al.* 2001); **Hamedan Province** (Region not mentioned). Apple and *Astragalus* sp. (Kamali *et al.* 2001); **West Azerbaijan Province** (Miandoab Plain). Foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003); (Urmia). Foliage and soil of potato fields (Mosavi *et al.* 2004), soil (Rezaie *et al.* 2011); (Salmas). Soil and plant debris of apple orchards (Alizadeh *et al.* 2011); **Fars Province** (Jahrom). Soil

of citrus orchards (Khademi *et al.* 2006); (Shiraz). Soil (Montazeri *et al.* 2011), potato, zucchini, flour and the floor of insectariums (Granpayeh *et al.* 2012); (Marvdasht). Soil (Soleimani *et al.* 2011); (Larestan). Soil of cotton and wheat fields (Khadempour *et al.* 2012); (Darab). Soil and foliage of cotton fields (Khorsand *et al.* 2012); (Sepidan, Homayjan). Associated with apple trees (Maneshi *et al.* 2012); **Chaharmahal and Bakhtiari Province** (Shahrekord). Without more information (Nemati *et al.* 2008b); soil (Babaeian *et al.* 2010); **Guilan Province** (Region not mentioned). Soil, decaying plants and stored products (Hajizadeh *et al.* 2010b); **Kerman Province** (Shahrehabak, Rafsanjan). Soil (Masnavipour *et al.* 2011); (Jiroft). Soil (Balooch Shahryari *et al.*, 2011, 2012); **Kohkiluyeh and Boyer-Ahmad Province** (Gachsaran). Soil of corn and rape seed farms (Moradian *et al.* 2011); **Yazd Province** (Region not mentioned). Soil (Dehghan *et al.* 2011); **Zanjan Province** (Region not mentioned). Soil (Rahmani & Zare 2011); **Razavi Khorasan Province** (Region not mentioned). Soil of potato field crop (Baradaran *et al.* 2011); (Torbat-e Jam). Soil of orchards (Rahmdeli *et al.* 2011); (Kashmar). Soil of vineyards (Salarzahi *et al.* 2011); (Region not mentioned). Corm of gladiole and saffron (Baradaran Anaraki *et al.* 2012); **Tehran Province** (Region not mentioned). Soil of potato field crop (Baradaran *et al.* 2011); (Tehran). Soil, plant debris and leaf litters of green spaces (Ghasemimoghadam *et al.* 2012); (Shemiranat, Rudbar-Ghasran). Soil, litter and humus (Cheraghali *et al.* 2012); (Tehran, Varamin, Shahr-e Rey, Damavand). Soil and leaf litter of green spaces and orchards (Baroozeh *et al.* 2012); **Isfahan Province** (Shahreza). Soil (Kavianpour *et al.* 2011); (Isfahan). Soil (Khalili-Moghadam *et al.* 2012); **Markazi Province** (Region not mentioned). Corm of gladiole and saffron (Baradaran Anaraki *et al.* 2012).

Euandrolaelaps sardoa (Berlese, 1911)

Distribution and habitats. **Yazd Province** (Region not mentioned). Soil (Dehghan *et al.* 2011).

Genus *Eulaelaps* Berlese, 1903

Eulaelaps oudemansi Turk, 1945

Distribution and habitats. **West Azerbaijan Province** (Urmia). House dust (Kamali *et al.* 2001).

Eulaelaps stabularis (C.L. Koch, 1839)

Distribution and habitats. **Region not mentioned.** Hoeny bee hives (Shahhosseini & Kamali 1989; Ostovan & Mosaddegh 1999; Kamali *et al.* 2001); **Guilan Province** (Region not mentioned). Stored rice, rice dust and debris (Noei *et al.* 2008), soil, decaying plants and Stored products (Hajizadeh *et al.* 2010b); **Golestan Province** (Gorgan). Soil (Kazemi *et al.* 2011a, 2012); **West Azerbaijan Province** (Salmas). Soil and plant debris of apple orchards (Alizadeh *et al.* 2011); **Tehran Province** (Shemiranat, Rudbar-Ghasran). Soil, litter and humus (Cheraghali *et al.* 2012);

Chaharmahal and Bakhtiari and Isfahan Provinces (Region not mentioned). Body of birds or their nests (Keivani *et al.* 2012).

Genus *Gaeolaelaps* Evans & Till, 1966

Gaeolaelaps aculeifer (G. Canestrini, 1884)

Distribution and habitats. **Khuzestan Province** (Ahvaz). Soil and nest of small mammals (Nemati *et al.* 2000a; Kamali *et al.* 2001); (Safiabad). Grapevine yards (Kamali *et al.* 2001; Darvishzadeh & Kamali 2009); **Hamedan Province** (Region not mentioned). Bean (*P. vulgaris*), clover (*Trifolium* sp.), darnel and liquorice (Khanjani & Kamali 2000a; Kamali *et al.* 2001); **East Azerbaijan Province** (Tabriz). Soil of orchards (Kamali *et al.* 2001); **Fars Province** (Kazerun). Stored products (Kamali *et al.* 2001); (Jahrom). Arboreal and soil surface of wheat and barley crops under or a side of date palm and citrus orchards (Ebrahimi *et al.* 2010); (Marvdasht). Soil (Soleimani *et al.* 2011); (Shiraz). Soil (Montazeri *et al.* 2011); (Marvdasht, Islamic Azad University, Fars Science and Research Branch). ex. apple bark beetles (Arabzadeh *et al.* 2012); (Doroodzan). Soil of fields (Asadpoor *et al.* 2012); (Larestan). Soil of cotton and wheat fields (Khadempour *et al.* 2012); (Sepidan, Homayjan). Associated with apple trees (Maneshi *et al.* 2012); **West Azerbaijan Province** (Miandoab Plain). Foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003); (Urmia). Aerial plants part and soil of potato fields (Mosavi *et al.* 2004), soil (Rezaie *et al.* 2011); (Salmas). Soil and plant debris of apple orchards (Alizadeh *et al.* 2011); (Khoy). Soil of sunflower fields (Taher *et al.* 2012); **Isfahan Province** (Isfahan). Canopy, trunk especially from scolytids larval tunnels and the collar region of elm trees (Jalalizand *et al.* 2004), soil and litter (Ramezani & Nemati 2010), soil (Khalili-Moghadam *et al.* 2012); (Goldasht). Soil of fruit trees orchards (Jalaeian *et al.* 2006); (Shahreza). Soil (Kavianpour *et al.* 2011); (Kashan). Soil (Sekonji *et al.* 2011); **Tehran Province** (Tehran, Shahid Beheshti University Campus). Soil (Kamali *et al.* 2004); (Tehran, Sorkheh Hesar Forest Park). Soil (Pakyari 2008); (Varamin, Mohammad Abad, Asgar Abad, Moein Abad, Pouinak, Jalil Abad, Ghalesin, Pishva Roadway). Soil of crop fields including pomegranate, grapevine, eggplant, cucumber, wheat, tomato, lettuce and alfalfa (Kheradpir & Pakyari 2011); (Region not mentioned). Soil of potato field crop (Baradaran *et al.* 2011); (Tehran, Varamin, Shahr-e Rey, Damavand). Soil and leaf litter of green spaces and orchards (Baroozeh *et al.* 2012); (Tehran). Soil, plant debris and leaf litters of green spaces (Ghasemimoghadam *et al.* 2012); (Shemiranat, Rudbar-Ghasran). Soil, litter and humus (Cheraghali *et al.* 2012); **Sistan and Baluchestan Province** (Sistan Region). Soil (Arjmandi Nejad *et al.* 2006, 2008); **Guilan Province** (Region not mentioned). Stored rice, rice dust and debris (Noei *et al.* 2008); soil, plants debris and Stored products (Hajizadeh *et al.* 2010b); **Chaharmahal and Bakhtiari Province** (Shahrekord). (Nemati *et al.* 2008b); (Region not mentioned). Soil (Babaeian *et al.* 2010); (Gachsaran). Soil of corn and rape seed farms (Moradian *et al.* 2011); **Yazd Province** (Region not mentioned). Soil (Dehghan *et al.* 2011); **Golestan Province** (Gorgan). Soil (Kazemi *et al.* 2011a); (Golestan forest). ex. *Pentodon* sp. (Bahrami *et al.* 2011); **Kerman Province** (Sirjan, Mani, Shahrehabak, Maymand, Riseh, Raviz, Rafsanjan). Soil (Masnavipour *et al.* 2011); (Baft). Soil (Rajaei *et al.* 2011a); (Jiroft). Soil (Balooch Shahryari *et al.* 2011, 2012); **Zanjan Province** (Region not mentioned). Soil (Rahmani

& Zare 2011); **Razavi Khorasan Province** (Region not mentioned). Soil of potato field crop (Baradaran *et al.* 2011); (Torbat-e Jam). Soil of orchards (Rahmdeli *et al.* 2011); (Kashmar). Soil of vineyards (Salarzahi *et al.* 2011); corm of gladiole and saffron (Baradaran Anaraki *et al.* 2012); **Mazandaran Province** (Nowshahr). Soil (Kazemi & Ahangaran 2011); **Markazi Province** (Region not mentioned). Corm of gladiole and saffron (Baradaran Anaraki *et al.* 2012).

Gaeolaelaps angustiscutatus (Willmann, 1951)

Distribution and habitats. **Guilan Province** (Region not mentioned). Soil, decaying plants and stored products (Hajizadeh *et al.* 2010b, c); **Fars Province** (Marvdasht). Soil (Soleimani *et al.* 2011); **Kerman Province** (Jiroft). Soil (Balooch Shahryari *et al.* 2012).

Gaeolaelaps angustus (Karg, 1965)

Distribution and habitats. **Chaharmahal and Bakhtiari Province** (Shahrekord). (Nemati *et al.* 2008b); **Yazd Province** (Region not mentioned). Soil (Dehghan *et al.* 2011); **Isfahan Province** (Shahreza). Soil (Kavianpour *et al.* 2011); **Kerman Province** (Bam). Associated with palm trees (Dehghan Dolati *et al.* 2011); **Razavi Khorasan Province** (Torbat-e Jam). Soil of orchards (Rahmdeli *et al.* 2011); (Region not mentioned). Soil of potato field crop (Baradaran *et al.* 2011); **Tehran Province** (Region not mentioned). Soil of potato field crop (Baradaran *et al.* 2011); (Shemiranat, Rudbar-Ghasran). Soil, litter and humus (Cheraghali *et al.* 2012); (Tehran, Varamin, Shahr-e Rey, Damavand). Soil and leaf litter of green spaces and orchards (Baroozeh *et al.* 2012).

Gaeolaelaps deinos (Zeman, 1982)

Distribution and habitats. **Isfahan Province** (Isfahan). Soil (Khalili-Moghadam *et al.* 2012).

Gaeolaelaps glabrosimilis (Hirschmann, 1969)

Distribution and habitats. **East Azerbaijan Province** (Tabriz). Soil of orchards (Kamali *et al.* 2001).

Gaeolaelaps kargi (Costa, 1968)

Distribution and habitats. **Chaharmahal and Bakhtiari Province** (Shahrekord). (Nemati *et al.* 2008b); (Region not mentioned). Soil (Babaeian *et al.* 2010); (Region not mentioned). Body of birds or their nests (Keivani *et al.* 2012); **Guilan Province** (Region not mentioned). Soil, decaying plants and stored products (Hajizadeh *et al.* 2010b); **Razavi Khorasan Province** (Region not mentioned). Soil of potato field crop

(Baradaran *et al.* 2011); **Yazd Province** (Region not mentioned). Soil (Dehghan *et al.* 2011); **Isfahan Province** (Shahreza). Soil (Kavianpour *et al.* 2011); (Isfahan). Soil (Khalili-Moghadam *et al.* 2012); (Region not mentioned). Body of birds or their nests (Keivani *et al.* 2012); **Fars Province** (Shiraz). Soil (Montazeri *et al.* 2011); **Kerman Province** (Baft). Soil (Rajaei *et al.* 2011a); (Jiroft). Soil (Balooch Shahryari *et al.* 2011, 2012); **Tehran Province** (Region not mentioned). Soil of potato field crop (Baradaran *et al.* 2011); (Shemiranat, Rudbar-Ghasran). Soil, litter and humus (Cheraghali *et al.* 2012).

Gaeolaelaps minor (Costa, 1968)

Distribution and habitats. **West Azerbaijan Province** (Miandoab Plain). Foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003); **Tehran Province** (Tehran, Sorkheh Hesar Forest Park). Soil (Pakyari 2008); (Shemiranat, Rudbar-Ghasran). Soil, litter and humus (Cheraghali *et al.* 2012); (Tehran, Varamin, Shahr-e Rey, Damavand). Soil and leaf litter of green spaces and orchards (Baroozeh *et al.* 2012); (Tehran). Soil, plant debris and leaf litters of green spaces (Ghasemimoghadam *et al.* 2012); **Chaharmahal and Bakhtiari Province** (Shahrekord). Soil (Babaeian *et al.* 2010); **Guilan Province** (Region not mentioned). Soil, decaying plants and stored products (Hajizadeh *et al.* 2010b, c); **Razavi Khorasan Province** (Kashmar). Soil of vineyards (Salarzahi *et al.* 2011); **Kerman Province** (Jiroft). Soil (Balooch Shahryari *et al.* 2011, 2012).

New record. **Tehran Province** (Tehran, Shahed University). Manure, F. Hasanzade coll., April 2008.

Gaeolaelaps nolli (Karg, 1962)

Distribution and habitats. **Khuzestan Province** (Ahvaz). Soil (Nemati *et al.* 2000a; Kamali *et al.* 2001); **Hamedan Province** (Region not mentioned). Clover (*Trifolium* sp.), wild sainfoin, darnel, alfalfa, vetch (Khanjani & Kamali 2000a; Kamali *et al.* 2001); **East Azerbaijan Province** (Tabriz). Soil of orchards (Kamali *et al.* 2001); **Chaharmahal and Bakhtiari, Khuzestan and Bushehr Provinces** (Region not mentioned). Nests or body of fresh and pinned museum specimens of different insects of order Coleoptera (Family Scarabaeidae, Carabidae), Hymenoptera (Formicidae) and Orthoptera (Gryllidae, Acrididae) (Nemati & Babaeian 2010); **Guilan Province** (Region not mentioned). Soil, decaying plants and stored products (Hajizadeh *et al.* 2010b, c); **Yazd Province** (Region not mentioned). Soil (Dehghan *et al.* 2011); **West Azerbaijan Province** (Salmas). Soil and plant debris (Alizadeh *et al.* 2011); (Urmia). Soil (Rezaie *et al.* 2011); **Razavi Khorasan Province** (Torbat-e Jam). Soil of orchards (Rahmdeli *et al.* 2011); **Kohkiluyeh and Boyer-Ahmad Province** (Gachsaran). Soil of corn and rapeseed farms (Moradian *et al.* 2011); **Golestan Province** (Naharkhoran forest). ex. *Pentodon* sp. (Bahrami *et al.* 2011); **Kerman Province** (Baft). Soil (Rajaei *et al.* 2011a); (Jiroft). Soil (Balooch Shahryari *et al.* 2011, 2012); **Fars Province** (Darab). Soil and foliage of cotton fields (Khorsand *et al.* 2012); (Sepidan, Homayjan). Foliage, soil, leaf-litter, weeds and soil of apple trees (Maneshi *et al.* 2012).

Gaeolaelaps oreithyiae (Walter & Oliver, 1989)

Distribution and habitats. **Chaharmahal and Bakhtiari Province** (Shahrekord). Soil (Nemati *et al.* 2008b); **Kerman Province** (Bam). Soil (Mehrzhad *et al.* 2012).

Gaeolaelaps postreticulatus (Xu & Liang, 1996)

Distribution and habitats. **Fars Province** (Shiraz). Soil (Montazeri *et al.* 2011).

Gaeolaelaps praesternalis (Willmann, 1949)

Distribution and habitats. **Fars Province** (Shiraz). Soil of orchards (Khezri *et al.* 2006); (Marvdasht). Soil (Soleimani *et al.* 2011); (Larestan). Soil of cotton and wheat fields (Khadempour *et al.* 2012); **Isfahan Province** (Kashan). Soil (Sekonji *et al.* 2011); **Razavi Khorasan Province** (Region not mentioned). Soil of potato field crop (Baradaran *et al.* 2011); **Tehran Province** (Region not mentioned). Soil of potato field crop (Baradaran *et al.* 2011); (Shemiranat, Rudbar-Ghasran). Soil, litter and humus (Cheraghali *et al.* 2012); (Tehran, Varamin, Shahr-e Rey, Damavand). Soil and leaf litter of green spaces and orchards (Baroozeh *et al.* 2012).

New record. **Razavi Khorasan Province** (Torbat Heydariyeh, Feiz-Abad). ex. *Pentodon* sp., H. Hajiqanbar coll., May 2007.

Gaeolaelaps queenslandicus (Womersley, 1956)

Distribution and habitats. **Khuzestan Province** (Ahvaz). Soil (Nemati *et al.* 2000a; Kamali *et al.* 2001); **Fars Province** (Jahrom). Soil of citrus orchards (Khademi *et al.* 2006); (Marvdasht). Soil (Soleimani *et al.* 2011); (Shiraz). Soil (Montazeri *et al.* 2011); (Larestan). Soil of cotton and wheat fields (Khadempour *et al.* 2012); **Chaharmahal and Bakhtiari Province** (Shahrekord). (Nemati *et al.* 2008b); (Shahrekord). Soil (Babaeian *et al.* 2010); body of birds or their nests (Keivani *et al.* 2012); **Guilan Province** (Region not mentioned). Soil, decaying plants and stored products (Hajizadeh *et al.* 2010b, c); **Isfahan Province** (Isfahan). Soil and litter (Ramezani & Nemati 2010), soil (Khalili-Moghadam *et al.* 2012); (Shahreza). Soil (Kavianpour *et al.* 2011); (Kashan). Soil (Sekonji *et al.* 2011); (Region not mentioned). Body of birds or their nests (Keivani *et al.* 2012); **Yazd Province** (Region not mentioned). Soil (Dehghan *et al.* 2011); **Kerman Province** (Shahrebabak, Dehaj, KhatunAbad, Sarecheshmeh, Lashkar). Soil (Masnavipour *et al.* 2011); (Baft). Soil (Rajaei *et al.* 2011a); (Jiroft). Soil (Balooch Shahryari *et al.* 2011, 2012); (Bam). Soil (Mehrzhad. *et al.* 2012); **West Azerbaijan Province** (Salmas). Soil and plant debris of apple orchards (Alizadeh *et al.* 2011); (Urmia). Soil (Rezaie *et al.* 2011); (Khoy). Soil of sunflower fields (Taher *et al.* 2012); **Razavi Khorasan Province** (Region not mentioned). Soil of potato field crop (Baradaran *et al.* 2011); (Torbat-e Jam). Soil of orchards (Rahmdeli *et al.* 2011); (Kashmar). Soil of vineyards (Salarzahi *et al.* 2011); **Mazandaran Province** (Nowshahr). Soil (Kazemi & Ahangaran 2011); **Tehran Province** (Region not

mentioned). Soil of potato field crop (Baradaran *et al.* 2011); (Tehran, Varamin, Shahr-e Rey, Damavand). Soil and leaf litter of green spaces and orchards (Baroozeh *et al.* 2012); (Tehran). Soil, plant debris and leaf litter of green spaces (Ghasemimoghadam *et al.* 2012).

Genus *Gymnolaelaps* Berlese, 1916

Gymnolaelaps australicus (Womersley, 1956)

Distribution and habitats. **Khuzestan Province** (Ahvaz). Nest of *P. pallidula* (Nemati *et al.* 2000a).

Gymnolaelaps canestrinii (Berlese, 1903)

Distribution and habitats. **Tehran Province** (Shemiranat, Rudbar-Ghasran). Soil, litter and humus (Cheraghali *et al.* 2012); (Region not mentioned). ex. *Tetramorium caespitum* L. (Joharchi 2012).

Gymnolaelaps hospes (Berlese, 1921)

Distribution and habitats. **Khuzestan Province** (Ahvaz). Nest of *P. pallidula* (Nemati *et al.* 2000b).

Gymnolaelaps kabitae Bhattacharyya, 1968

Distribution and habitats. **Region not mentioned.** ex. *P. pallidula* (Joharchi 2012).

Gymnolaelaps laevis (Michael, 1891)

Distribution and habitats. **Region not mentioned.** ex. *T. caespitum* (Joharchi 2012).

Gymnolaelaps messor Joharchi, Halliday, Saboori & Kamali, 2011

Distribution and habitats. **Alborz Province** (Karaj). In nest of *Messor* sp. (Joharchi *et al.* 2011a, b); **Tehran Province** (Tehran). ex. *Messor* sp. (Joharchi *et al.* 2011a, b); (Shemiranat, Rudbar-Ghasran). Soil, litter and humus (Cheraghali *et al.* 2012).

Gymnolaelaps myrmecophilus (Berlese, 1892)

Distribution and habitats. **Isfahan Province** (Isfahan). Canopy, trunk especially from scolytids larval tunnels and the collar region of elm trees (Jalalizand *et al.* 2004);

Golestan Province (Gorgan). Soil (Kazemi *et al.* 2011a); **Yazd Province** (Region not mentioned). Soil (Dehghan *et al.* 2011); **Tehran Province** (Shemiranat, Rudbar-Ghasran). Soil, litter and humus (Cheraghali *et al.* 2012); **Region not mentioned**. ex. *T. caespitum* (Joharchi 2012).

Gymnolaelaps myrmophilus (Michael, 1891)

Distribution and habitats. **Khuzestan Province** (Ahvaz). Nest of *P. pallidula* (Nemati *et al.* 2000b); **Yazd Province**. Soil (Dehghan *et al.* 2011); **Region not mentioned**. ex. *Formica* sp. (Joharchi 2012).

Gymnolaelaps prestoni Joharchi, Halliday, Saboori & Kamali, 2011

Distribution and habitats. **Alborz Province** (Karaj). In nest of *Myrmica* sp. (Joharchi *et al.* 2011a, b); **Tehran Province** (Area around Tehran). ex. *Myrmica* sp. (Joharchi *et al.* 2011a, b).

Genus *Haemogamasus* Berlese, 1910

Haemogamasus pontiger (Berlese, 1904)

Distribution and habitats. **Alborz Province** (Karaj). Associated with stored products (Sayedi *et al.* 2006); **Guilan Province** (Region not mentioned). Stored rice, rice dust and debris (Noei *et al.* 2008), soil, decaying plants and stored products (Hajizadeh *et al.* 2010b, c).

Genus *Haemolaelaps* Berlese, 1910

Haemolaelaps androgynus (Bregetova, 1956)

Distribution and habitats. **Chaharmahal and Bakhtiari and Isfahan Provinces** (Region not mentioned). Body of birds or their nests (Keivani *et al.* 2012).

Haemolaelaps casalis (Berlese, 1887)

Distribution and habitats. **Region not mentioned**. Stored products (Sepasgozarian 1978); **Tehran Province** (Tehran). Associated with elm bark beetles *S. multistriatus* (Ostovan & Kamali 1997; Kamali *et al.* 2001); (Tehran, Sorkheh Hesar Forest Park). Soil (Pakyari 2008); (Shemiranat, Rudbar-Ghasran). Soil, litter and humus (Cheraghali *et al.* 2012); **Ardabil Province** (Moghan Plain). Cotton farms (Kamali *et al.* 2001); **East Azerbaijan Province** (Tabriz). Soil of orchards (Kamali *et al.* 2001); **Hamedan Province** (Region not mentioned). Associated with Fabaceae plants (Kamali *et al.* 2001); **Region not mentioned**. Rice, barley, wheat, apple, darnel, wild sainfoin and soil

(Kamali *et al.* 2001); **West Azerbaijan Province** (Urmia). House dust and predator of European red mite (Kamali *et al.* 2001); (Miandoab Plain). Foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003); (Salmas). Soil and plant debris of apple orchards (Alizadeh *et al.* 2011); (Khoy). Soil of sunflower fields (Taher *et al.* 2012); (Khoy, Salmas, Boukan, Mahabad, Urmia, Gharehziaadin). Dried fruits and nuts (Ardeshir *et al.* 2012); **Fars Province** (Kazerun). Stored onion (Kamali *et al.* 2001); (Shiraz). Soil (Montazeri *et al.* 2011), potato, zucchini, flour and the floor of insectariums (Granpayeh *et al.* 2012); (Larestan). Soil of cotton and wheat fields (Khadempour *et al.* 2012); (Marvdasht, Islamic Azad University, Fars Science and Research Branch). ex. apple bark beetles (Arabzadeh *et al.* 2012); (Sepidan, Hodayan). Associated with apple trees (Maneshi *et al.* 2012); **Alborz Province** (Karaj). Associated with stored products (Sayedi *et al.* 2006; Seiedy *et al.* 2009); **Chaharmahal and Bakhtiari Province** (Shahrekord). Soil (Nemati *et al.* 2008b); (Shahrekord). Nest of ants (Babaeian *et al.* 2010); (Region not mentioned). Nests or body of fresh and pinned museum specimens of different insects of order Coleoptera (Family Scarabaeidae, Carabidae), Hymenoptera (Formicidae) and Orthoptera (Gryllidae, Acrididae) (Nemati & Babaeian 2010); **Guilan Province** (Region not mentioned). Stored rice, rice dust and debris (Noei *et al.* 2008), soil, decaying plants and stored products (Hajizadeh *et al.* 2010b); **Isfahan Province** (Isfahan, Kashan, Golpaygan). Stored wheat, grain, chaff and dust material (Ardeshir & Nematollahi 2008); (Isfahan). Soil and litter (Ramezani & Nemati 2010); (Isfahan). Soil (Khalili-Moghadam *et al.* 2012); **Khuzestan Province** (Safiabad). Grapevine yards (Kamali *et al.* 2001; Darvishzadeh & Kamali 2009); (Region not mentioned). Nests or body of fresh and pinned museum specimens of different insects of order Coleoptera (Family Scarabaeidae, Carabidae), Hymenoptera (Formicidae) and Orthoptera (Gryllidae, Acrididae) (Nemati & Babaeian 2010); **Bushehr Province** (Region not mentioned). Nests or body of fresh and pinned museum specimens of different insects of order Coleoptera (Family Scarabaeidae, Carabidae), Hymenoptera (Formicidae) and Orthoptera (Gryllidae, Acrididae) (Nemati & Babaeian 2010); **Kerman Province** (Kerman). Cow, sheep and poultry manure (Arjomandi *et al.* 2011); (Baft). Soil (Rajaei *et al.* 2011a); (Jiroft). Soil (Balooch Shahryari *et al.* 2011, 2012); (Bam). Soil (Mehrzhad *et al.* 2012).

Haemolaelaps fenilis (Megnin, 1875)

Distribution and habitats. **Isfahan Province** (Isfahan). Soil (Khalili-Moghadam *et al.* 2012).

Haemolaelaps glasgowi (Ewing, 1925)

Distribution and habitats. **Chaharmahal and Bakhtiari Province** (Shahrekord). *M. musculus* nest (Babaeian *et al.* 2010).

Haemolaelaps hirsti Keegan, 1956

Distribution and habitats. **Khuzestan Province** (Region not mentioned). ex. *M. musculus* (Kamali *et al.* 2001).

Note. Kamali *et al.* (2001) erroneously referred to *A. histrici* (Keegan), and also there is another named species as *Haemolaelaps hystrici* Zumpt & Till, 1953 which after communication with the collector of the species, we found it belongs to *H. hirsti*.

Haemolaelaps shealsi (Costa, 1968)

Distribution and habitats. **West Azerbaijan Province** (Miandoab Plain). Foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003); **Razavi Khorasan Province** (Kashmar). Soil of vineyards (Salarzahi *et al.* 2011); **Tehran Province** (Shemiranat, Rudbar-Ghasran). Soil, litter and humus (Cheraghali *et al.* 2012); (Tehran, Varamin, Shahr-e Rey, Damavand). Soil and leaf litter of green spaces and orchards (Baroozeh *et al.* 2012); **Fars Province** (Sepidan, Homayjan). Associated with apple trees (Maneshi *et al.* 2012); (Larestan). Soil of cotton and wheat fields (Khadempour *et al.* 2012); **Sistan and Baluchestan Province** (Sistan Region). Stored product (Sayadi *et al.* 2012).

Genus *Holostaspis* Kolenati, 1858

Holostaspis obscuroides (Costa, 1968)

Distribution and habitats. **Isfahan Province** (Isfahan). Soil and litter (Ramezani & Nemati 2010); **Fars Province** (Shiraz). Soil (Montazeri *et al.* 2011).

Genus *Hypoaspis* G. Canestrini, 1884

Hypoaspis campestris (Berlese, 1887)

Distribution and habitats. **Region not mentioned.** ex. *Pentodon* sp. (Joharchi 2012).

Hypoaspis integer Berlese, 1911

Distribution and habitats. **Alborz Province** (Karaj, Nazarabad, Damavand, Shahrestanak). ex. *Polyphylla* sp.; **Yazd Province** (Yazd). ex. *Polyphylla* sp.; **Fars Province** (Shiraz). ex. *Polyphylla* sp.; **Guilan Province** (Region not mentioned). ex. *Polyphylla* sp.; **Isfahan Province** (Isfahan). ex. *Polyphylla* sp.; **West Azerbaijan Province** (Tabriz). ex. *Polyphylla* sp. (Joharchi & Halliday 2011); **Tehran Province** (Area around Tehran). ex. *Polyphylla* sp. (Joharchi *et al.* 2011b).

Hypoaspis krameri (G. & R. Canestrini, 1881)

Distribution and habitats. **Khuzestan Province** (Region not mentioned). Date palm (Modarres Awal 1997; Kamali *et al.* 2001); **West Azerbaijan Province** (Urmia). House dust (Kamali *et al.* 2001).

Hypoaspis larvicolus Joharchi & Halliday, 2011

Distribution and habitats. **Alborz Province** (Karaj). ex. *Polyphylla* sp. (Joharchi & Halliday 2011); **Tehran Province** (Tehran). ex. *Polyphylla* sp., (Joharchi *et al.* 2011b); **Isfahan Province** (Kashan). Soil (Sekonji *et al.* 2011).

Hypoaspis maryamae Joharchi & Halliday, 2011

Distribution and habitats. **Alborz Province** (Karaj). ex. *P. olivieri* (Joharchi & Halliday 2011); **Yazd Province** (Yazd). ex. *P. olivieri* (Joharchi & Halliday 2011); **Tehran Province** (Tehran). ex. *P. olivieri* (Joharchi *et al.* 2011b).

Hypoaspis melolonthae Joharchi & Halliday, 2011

Distribution and habitats. **Tehran Province** (Tehran, Savojbolagh, Taleghan). ex. *M. melolontha* (Joharchi & Halliday 2011); (Tehran). ex. *M. melolontha* (Joharchi *et al.* 2011b); **Yazd Province** (Yazd). ex. *M. melolontha* (Joharchi & Halliday 2011).

Hypoaspis neokrameri Costa, 1971

Distribution and habitats. **Fars Province** (Shiraz). Soil (Montazeri *et al.* 2011).

New records. **Mazandaran Province** (Galugah). ex. *Oryctes nasicornis* (L.), Sh. Kazemi coll., July 2006; **Golestan Province** (Shast Kola Forest). ex. *O. nasicornis*, Sh. Kazemi coll., July 2007.

Hypoaspis pentodoni Costa, 1971

Distribution and habitats. **Alborz Province** (Karaj, Nazarabad). ex. *P. olivieri* (Joharchi & Halliday 2011; Joharchi *et al.* 2011b).

Hypoaspis phyllognathi Costa, 1971

Distribution and habitats. **Fars Province** (Shiraz, Khaf). ex. *Phyllognathus* sp. (Joharchi & Halliday 2011); **Tehran Province** (Area around Tehran). ex. *P. olivieri* (Joharchi *et al.* 2011b); **Golestan Province** (Shast Kola Forest). ex. *O. nasicornis* and *P. olivieri*, (Ghorogh Forest). ex. *Phyllognathus silenus* Fabricius (Bahrami *et al.* 2011); **North Khorasan Province** (Bojnurd). Soil of farms, gardens and manures (Mahpikaran *et al.* 2012).

New record. Golestan Province (Shast Kola Forest). ex. *P. olivieri*, Sh. Kazemi coll., July 2007.

Hypoaspis polyphyllae Khanjani & Ueckermann, 2005

Distribution and habitats. Hamedan Province (Hamedan, Ganjnameh). ex. *P. olivieri* (Khanjani & Ueckermann 2005); **Kermanshah Province** (Rijab). Fruit orchards (Babakfard *et al.* 2008).

Hypoaspis terrestris (Leonardi, 1899)

Distribution and habitats. Alborz Province (Karaj, Nazarabad). ex. *Pentodon idiota* Herbst (Joharchi & Halliday 2011; Joharchi *et al.* 2011b).

Genus *Laelaps* C.L. Koch, 1836

Laelaps nuttalli (Hirst, 1955)

Distribution and habitats. Khuzestan Province. ex. *Ratus* spp. and *M. musculus* (Nemati *et al.* 2000c; Kamali *et al.* 2001); **Chaharmahal and Bakhtiari Province** (Sharekord). ex. mice (Nemati *et al.* 2008a).

Genus *Laelaspis* Berlese, 1903

Laelaspis astronomicus (C.L. Koch, 1839)

Distribution and habitats. Khuzestan Province (Region not mentioned). Soil and nest of ant *P. pallidula* (Kamali *et al.* 2001); **Guilan Province** (Region not mentioned). Soil, decaying plants and stored products (Hajizadeh *et al.* 2010b, c); **Kerman Province** (Jiroft). Soil (Balooch Shahryari *et al.* 2011, 2012); **Mazandaran Province** (Nowshahr). Soil (Kazemi & Ahangaran 2011); **Tehran Province** (Shemiranat, Rudbar-Ghasran). Soil, litter and humus (Cheraghali *et al.* 2012); **Alborz Province** (Karaj, Shahrestanak). Nest of *Tapinoma* sp. (Joharchi *et al.* 2012b).

Laelaspis calidus Berlese, 1924

Distribution and habitats. Kerman Province (Anar). Nest of *P. pallidula* (Joharchi *et al.* 2012c; Joharchi 2012).

Laelaspis dariusi Joharchi & Jalaeian, 2012

Distribution and habitats. Razavi Khorasan Province (Kalate Naderi, Laeen). Soil of apple orchard (Joharchi *et al.* 2012c; Joharchi 2012).

Laelaspis equitans (Michael, 1891)

Distribution and habitats. **Tehran Province** (Area around Tehran). ex. *Messor* sp. and *Camponotus* sp. (Joharchi *et al.* 2011b); **Alborz Province** (Karaj, Dizin). Nest of *Messor* sp., (Karaj, Damavand). Nest of *Camponotus* sp. (Joharchi *et al.* 2012a).

Laelaspis humeratus (Berlese, 1904)

Distribution and habitats. **Alborz Province** (Karaj). Nest of *T. caespitum* (Joharchi *et al.* 2012c; Joharchi 2012).

Laelaspis imitatus Reitblat, 1963

Distribution and habitats. **Chaharmahal and Bakhtiari, Khuzestan and Bushehr Provinces** (Region not mentioned). Nests or body of fresh and pinned museum specimens of different insects of order Coleoptera (Family Scarabaeidae, Carabidae), Hymenoptera (Formicidae) and Orthoptera (Gryllidae, Acrididae) (Nemati & Babaeian 2010).

Laelaspis kamalii Joharchi & Halliday, 2012

Distribution and habitats. **Alborz Province** (Karaj). Nest of *P. pallidula*, (Region not mentioned). Nest of *Tapinoma* sp. (Joharchi *et al.* 2012a; Joharchi 2012).

Laelaspis ovisugus (Berlese, 1904)

Distribution and habitats. **Region not mentioned.** ex. *T. caespitum* (Joharchi 2012).

Laelaspis pennatus Joharchi & Halliday, 2012

Distribution and habitats. **Isfahan Province** (Isfahan). Nest of *T. caespitum* (Joharchi *et al.* 2012a; Joharchi 2012).

Laelaspis persicus Joharchi & Halliday, 2012

Distribution and habitats. **Alborz Province** (Taleghan). Nest of *P. pallidula* (Joharchi *et al.* 2012a; Joharchi 2012).

Laelaspis secedens (Berlese, 1920)

Distribution and habitats. **Region not mentioned.** ex. *T. caespitum* (Joharchi 2012).

Laelaspis vitzthumi (Womersley, 1950)

Distribution and habitats. **Khuzestan Province** (Ahvaz). Nest of *T. simorthi* (Nemati *et al.* 2000b); **Fars Province** (Marvdasht, Islamic Azad University, Fars Science and Research Branch). ex. apple bark beetles (Arabzadeh *et al.* 2012).

Genus *Myrmozercon* Berlese, 1902

Myrmozercon karajensis Joharchi, Halliday, Saboori & Kamali, 2011

Distribution and habitats. **Alborz Province** (Karaj). Nest of *Camponotus* sp. (Joharchi *et al.* 2011a); **Tehran Province** (Tehran). ex. *Camponotus* sp. (Joharchi *et al.* 2011a); (Area around Tehran). ex. *Camponotus* sp. (Joharchi *et al.* 2011b).

Genus *Ololaelaps* Berlese, 1904

Ololaelaps mooiensis (Ryke, 1962)

Distribution and habitats. **Khuzestan Province** (Ahvaz). Soil (Nemati *et al.* 2000a; Kamali *et al.* 2001); (Ahvaz). Soil (Baharloo *et al.* 2006).

Ololaelaps placentula (Berlese, 1887)

Distribution and habitats. **Tehran Province** (Tehran). Soil (Joharchi *et al.* 2011b); **Kerman Province** (Bam). Soil (Mehrzhad *et al.* 2012); (Jiroft). Soil (Balooch Shahryari *et al.* 2012); **Golestan Province** (Gorgan). Soil and litter (Kazemi *et al.* 2012); **Mazandaran Province** (Nowshahr). Soil and litter (Kazemi *et al.* 2012).

Ololaelaps placidus (Banks, 1895)

Distribution and habitats. **Ardabil Province** (Moghan Plain). Cotton fields (Kamali *et al.* 2001); **East Azerbaijan Province** (Tabriz). Soil of orchards (Kamali *et al.* 2001); **Hamedan Province** (Region not mentioned). Alfalfa and wild sainfoin (Kamali *et al.* 2001).

Genus *Pneumolaelaps* Berlese, 1920

Pneumolaelaps asperatus (Berlese, 1904)

Distribution and habitats. **West Azerbaijan Province** (Miandoab Plain). Foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003); (Urmia). Soil (Rezaie *et al.* 2011); **Chaharmahal and Bakhtiari Province** (Shahrekord). (Nemati *et al.* 2008b); **Yazd Province** (Region not mentioned). Soil (Dehghan *et al.* 2011); **Isfahan Province**

(Shahreza). Soil (Kavianpour *et al.* 2011); **Fars Province** (Shiraz). Soil (Montazeri *et al.* 2011); **Kerman Province** (Baft). Soil (Rajaei *et al.* 2011a); **Razavi Khorasan Province** (Region not mentioned). Soil of potato field crop (Baradaran *et al.* 2011); (Torbat-e Jam). Soil of orchards (Rahmdeli *et al.* 2011); **Tehran Province** (Region not mentioned). Soil of potato field crop (Baradaran *et al.* 2011); (Shemiranat, Rudbar-Ghasran). Soil, litter and humus (Cheraghali *et al.* 2012); (Tehran, Varamin, Shahr-e Rey, Damavand). Soil and leaf litter of green spaces and orchards (Baroozeh *et al.* 2012); (Tehran). Soil, plant debris and leaf litters of green spaces (Ghasemimoghadam *et al.* 2012).

Pneumolaelaps azarbaijaniensis (Faraji, Abedi & Ostovan, 2008)

Distribution and habitats. **West Azerbaijan Province** (Salmas, Uleq Village). Soil mixed with wheat straw in a barn (Faraji *et al.* 2008a).

Pneumolaelaps colomboi (Evans & Till, 1966)

Distribution and habitats. **Tehran Province** (Area around Tehran). ex. *Bombus* sp. (Joharchi *et al.* 2011b).

Pneumolaelaps curtipilis (Hirschmann, 1969)

Distribution and habitats. **Khuzestan Province** (Ahvaz). Soil (Nemati *et al.* 2000a); **West Azerbaijan Province** (Urmia). Aerial plants part and soil of potato fields (Mosavi *et al.* 2004); **Fars Province** (Jahrom). Soil of citrus orchards (Khademi *et al.* 2006).

Pneumolaelaps dentipilosa (Karg, 1978)

Distribution and habitats. **Fars Province** (Jahrom). Soil of citrus orchards (Khademi *et al.* 2006); **Chaharmahal and Bakhtiari Province** (Shahrekord). Soil (Babaeian *et al.* 2010).

Pneumolaelaps hirschmanni (Karg, 1979)

Distribution and habitats. **Khuzestan Province** (Ahvaz). Nest of *P. pallidula* and colonies and deserted galleries of *Microcerotermes diversus* Silvestri and *Amitermes vilis* (Hagen) (Nemati *et al.* 2000b); **West Azerbaijan Province** (Urmia). Aerial plants part and soil of potato fields (Mosavi *et al.* 2004); **Fars Province** (Jahrom). Soil of citrus orchards (Khademi *et al.* 2006); (Larestan). Soil of cotton and wheat fields (Khadempour *et al.* 2012).

Pneumolaelaps hyatti (Evans & Till, 1966)

Distribution and habitats. **Region not mentioned.** ex. *Bombus* sp. (Joharchi 2012).

Pneumolaelaps intermedius (Bernhard, 1955)

Distribution and habitats. **Tehran Province** (Shemiranat, Rudbar-Ghasran). Soil, litter and humus (Cheraghali *et al.* 2012).

Pneumolaelaps linteyini (Samsišňák, 1964)

Distribution and habitats. **Yazd Province** (Region not mentioned). Soil (Dehghan *et al.* 2011); **Fars Province** (Shiraz). Soil (Montazeri *et al.* 2011); **Sistan and Baluchestan Province** (Sistan Region). Stored product (Sayadi *et al.* 2012).

Pneumolaelaps lubrica (Voigts & Oudemans, 1904)

Distribution and habitats. **Guilan Province** (Region not mentioned). Stored rice, rice dust and debris (Noei *et al.* 2008), soil, decaying plants and stored products (Hajizadeh *et al.* 2010b, c); **Kerman Province** (Kerman). Poultry manure (Arjomandi *et al.* 2011); **Golestan Province** (Toshan Village). ex. *Geotrupes* sp. (Bahrami *et al.* 2011).

New record. **North Khorasan Province** (Bojnord, Esfydan). ex. *Oxythrea cinctella* (Schaum), H. Hajiqanbar coll., June 2007.

Pneumolaelaps ovoidea (Hirschmann, 1969)

Distribution and habitats. **Khuzestan Province** (Ahvaz). Soil (Nemati *et al.* 2000a; Kamali *et al.* 2001); **Tehran Province** (Tehran, Shahid Beheshti University Campus). Soil (Kamali *et al.* 2004); **West Azerbaijan Province** (Urmia). Aerial plants part and soil of potato fields (Mosavi *et al.* 2004).

Pneumolaelaps sclerotarsus (Costa, 1968)

Distribution and habitats. **Khuzestan Province** (Ahvaz). Soil (Nemati *et al.* 2000a); **East Azerbaijan Province** (Tabriz). Soil of orchards (Kamali *et al.* 2001); **Hamedan Province** (Region not mentioned). Bean (*P. vulgaris*), alfalfa and *Astragalus* sp. (Khanjani & Kamali 2000b; Kamali *et al.* 2001); **Fars Province** (Kazerun). Stored rice, flour and barley (Kamali *et al.* 2001); (Shiraz). Soil (Montazeri *et al.* 2011); (Marvdasht, Islamic Azad University, Fars Science and Research Branch). ex. apple bark beetles (Arabzadeh *et al.* 2012), soil and decayed plants associated with conifers (Amirazodi & Ostovan 2012); (Larestan). Soil of cotton and wheat fields (Khadempour *et al.* 2012); (Sepidan, Homayjan). Foliage, leaf-litter, weeds and soil of apple trees (Maneshi *et al.* 2012); **Chaharmahal and Bakhtiari Province** (Shahrekord). (Nemati *et al.* 2008b); (Region not mentioned). Soil (Babaeian *et al.* 2010); **Guilan Province** (Region not

mentioned). Stored rice, rice dust and debris (Noei *et al.* 2008), soil, decaying plants and stored products (Hajizadeh *et al.* 2010b, c); **Isfahan Province** (Shahreza). Soil (Kavianpour *et al.* 2011); **Kohkiluyeh and Boyer-Ahmad Province** (Gachsaran). Soil of corn and rape seed farms (Moradian *et al.* 2011); **Zanjan Province** (Region not mentioned). Soil (Rahmani & Zare 2011); **Kerman Province** (Kerman). Sheep manure (Arjomandi *et al.* 2011); (Jiroft). Soil (Balooch Shahryari *et al.* 2011, 2012); **Tehran Province** (Tehran, Varamin, Shahr-e Rey, Damavand). Soil and leaf litter of green spaces and orchards (Baroozeh *et al.* 2012).

Genus *Promacrolaelaps* Costa, 1971

***Promacrolaelaps* sp.**

Distribution and habitats. **Fars Province** (Marvdasht, Kamfiruz). ex. *Propomacrus bimucronatus* Pallas (Joharchi & Beyzavi 2012; Joharchi 2012).

Genus *Pseudoparasitus* Berlese, 1916

***Pseudoparasitus dentatus* (Halbert, 1920)**

Distribution and habitats. **Tehran Province** (Area around Tehran). Soil (Joharchi *et al.* 2011b); **Mazandaran Province** (Ramsar, Tonekabon). Soil and litter, manure (Kazemi & Ahangaran 2011).

***Pseudoparasitus missouriensis* (Ewing, 1909)**

Distribution and habitats. **Chaharmahal and Bakhtiari Province** (Shahrekord). Nest of ants (Babaeian *et al.* 2010); **Guilan Province** (Region not mentioned). Soil, decaying plants and stored products (Hajizadeh *et al.* 2010b, c); **West Azerbaijan Province** (Salmas). Soil and plant debris of apple orchards (Alizadeh *et al.* 2011); **Alborz Province** (Karaj, Shahrestanak). Nest of *Camponotus* sp. (Joharchi *et al.* 2011a); **Golstan Province** (Gorgan). Soil (Kazemi *et al.* 2011a); **Mazandaran Province** (Nowshahr). Soil (Kazemi & Ahangaran 2011); **Tehran Province** (Shemiranat, Rudbar-Ghasran). Soil, litter and humus (Cheraghali *et al.* 2012).

Note. Hajizadeh *et al.* (2010b, c) and Alizadeh *et al.* (2011) reported *Laelaspis austriacus* Sellnick, 1935 from Guilan and West Azerbaijan Provinces, respectively which is considered as junior synonym of *P. missouriensis* (Hennessey & Farrier 1988).

***Pseudoparasitus oblongus* (Halbert, 1915)**

Distribution and habitats. **Fars Province** (Marvdasht, Islamic Azad University, Fars Science and Research Branch). ex. apple bark beetles (Arabzadeh *et al.* 2012).

Note. Kamali *et al.* (2001) recorded *Pseudoparasitus prulatus* Karg, 1989 collected from soil of orchards in Tabriz (East Azerbaijan Province), but that is regarded as a misidentified species by Joharchi *et al.* (2011a).

Genus *Reticulolaelaps* Costa, 1968

***Reticulolaelaps* sp.**

Distribution and habitats. **Isfahan Province** (Isfahan). Bark of elm trees (Ghafarian *et al.* 2011).

Genus *Stratiolaelaps* Berlese, 1916

Stratiolaelaps gurabensis (Fox, 1946)

Distribution and habitats. **Fars Province** (Region not mentioned). Stored wheat, barely and rice (Kamali *et al.* 2001).

Stratiolaelaps miles (Berlese, 1892)

Distribution and habitats. **Khuzestan Province** (Ahvaz). Soil (Nemati *et al.* 2000a); nest of birds and stored wheat (Kamali *et al.* 2001); **West Azerbaijan Province** (Urmia). Stored wheat (Kamali *et al.* 2001); **Tehran Province** (Tehran, Shahid Beheshti University Campus). Soil (Kamali *et al.* 2004); **Guilan Province** (Region not mentioned). Stored rice, rice dust and debris (Noei *et al.* 2008); (Region not mentioned), soil decaying plants and stored products (Hajizadeh *et al.* 2010b, c); **Chaharmahal and Bakhtiari Province** (Shahrekord). Soil (Babaeian *et al.* 2010); **Isfahan Province** (Isfahan). Soil (Khalili-Moghadam *et al.* 2012).

FAMILY IPHIOPSIDIDAE KRAMER, 1886

Genus *Julolaelaps* Berlese, 1916

Julolaelaps tritosternalis Moraza & Kazemi, 2012

Distribution and habitats. **Mazandaran Province** (Noor Forest Park). ex. *Ommatoiulus caspius* (Lohmander) (Moraza & Kazemi 2012).

FAMILY VARROIDAE DELFINADO & BAKER, 1974

Genus *Euvarroa* Delfinado & Baker, 1974

Euvarroa sinhai Delfinado & Baker, 1974

Distribution and habitats. **Khuzestan and other Southern Provinces** (Region not mentioned). Parasitises *Apis florea* Fabricius (Kamali *et al.* 2001).

Genus *Varroa* Oudemans, 1904

Varroa destructor Anderson & Trueman, 2000

Distribution and habitats. **Generally distributed** (Region not mentioned). Honey bee hives (Mosaddegh 1998; Kamali *et al.* 2001); **Tehran Province** (Region not mentioned). Honey bee hives (Rahmani *et al.* 2006).

Note. Anderson & Trueman (2000) demonstrated that most of previously named *V. jacobsoni* Oudemans, 1904 are a different species, *V. destructor*, that are significantly larger and their females less spherical in body shape than females of *V. jacobsoni*, and they are also reproductively isolated from females of the latter species. Likewise, they identified *V. destructor* infested Western honeybee (*Apis mellifera* L.) in Europe, the Middle East, Africa, Asia, and the Americas. Also, Rahmani *et al.* (2006) showed *A. mellifera* in Tehran Province is only infested by *V. destructor*. So, the authors following their findings removed *V. jacobsoni* from the current work.

SUPERFAMILY EVIPHIDOIDEA

FAMILY EVIPHIDIDAE BERLESE, 1913

Genus *Alliphis* Halbert, 1923

Alliphis halleri (G. & R. Canestrini, 1884)

Distribution and habitats. **Tehran Province** (Tehran, Shahid Beheshti University Campus). Soil (Kamali *et al.* 2004); **Golestan Province** (Gorgan). Soil (Kazemi *et al.* 2011a); **Kerman Province** (Baft). Soil (Rajaei *et al.* 2011b); **North Khorasan Province** (Bojnurd). Soil of farms, gardens and manures (Mahpikaran *et al.* 2012).

Previously recorded as *Alliphis siculus* (Oudemans, 1905)

Distribution and habitats. **Region not mentioned.** Honey bee hives (Ostovan & Mosaddegh 1999; Kamali *et al.* 2001); (Rafsanjan). Soil of fruit orchards (Mohammadi *et al.* 2012); **East Azerbaijan Province** (Tabriz). Soil of orchards (Kamali *et al.* 2001); **West Azerbaijan Province** (Urmia). House dust (Kamali *et al.* 2001); **Hamedan Province** (Region not mentioned). Soil of wild *Trifolium* sp. and alfalfa (Kamali *et al.* 2001); **Isfahan Province** (Najaf Abad, Goldasht, Qale'e Sefid, Zarrinshahr, Mobarake). Soil of fruit orchards (Jalaeian *et al.* 2006); **Markazi Province** (Arak). Soil (Seifori *et*

al. 2006); **Fars Province** (Marvdasht, Islamic Azad University, Fars Science and Research Branch). Soil and decayed plants associated with conifers (Amirazodi & Ostovan 2012).

Previously recorded as *Alliphis transversus* Halliday, 2010

Distribution and habitats. **Kerman Province** (Jiroft). Soil (Balooch Shahryari *et al.* 2012).

New record. **Kerman Province** (Jiroft). Soil and litter, Sh. Kazemi coll., July 2012.

Note. Kazemi (2010) stated those specimens reported as *A. siculus* from Iran belong to *A. halleri* and the senior author has examined several specimens collected from all of these collection areas, some of deposited materials which were identified as *A. siculus* and also checked drawings or photos of reported species as *A. siculus* and *A. transversus* and found all of them belong to *A. halleri*.

Genus *Copriphis* Berlese, 1910

***Copriphis cultratellus* Berlese, 1910**

Distribution and habitats. **Razavi Khorasan Province** (Sarakhs, Torbat Heydariyeh). ex. *Scarabaeus transcaspicus* Stolfa (Kazemi *et al.* 2008f).

Note. This species had been recorded under the genus *Eviphis* Berlese, 1903 previously (Kazemi *et al.* 2008f).

Genus *Cryptoseius* Makarova, 1998

***Cryptoseius khayyami* Kazemi & Moraza, 2008**

Distribution and habitats. **Razavi Khorasan Province** (Torbat Heydariyeh, Feiz Abad). ex. *S.transcaspicus* (Kazemi *et al.* 2008e).

Genus *Evimirus* Karg, 1963

***Evimirus uropodinus* (Berlese, 1903)**

Distribution and habitats. **Tehran Province** (Tehran, Sorkhe Hesar Forest Park). Soil (Pakyari *et al.* 2006a, b); **Golestan Province** (Gorgan). Soil (Kazemi *et al.* 2011a); **Golestan and Mazandaran Provinces** (Region not mentioned). Soil and litter (Kazemi *et al.* 2012).

New record. **Tehran Province** (Tehran, Deh Vanak). One female, soil and litter, Sh. Kazemi coll., Sept 2002.

Genus *Metacryptoseius* Kazemi & Moraza, 2008

Metacryptoseius khorasanicus Kazemi & Moraza, 2008

Distribution and habitats. **Mazandaran Province** (Galugah). ex. *S. transcaspicus* (Kazemi *et al.* 2008e); **Razavi Khorasan Province** (Torbat Heydariyeh, Feiz Abad, Sarakhs, Bazangan Lake coast). ex. *S. transcaspicus* (Kazemi *et al.* 2008e); **Mazandaran Province** (Galugah). ex. *S. transcaspicus* (Kazemi *et al.* 2008e).

Metacryptoseius persicus Kazemi & Moraza, 2008

Distribution and habitats. **North Khorasan Province** (Esfarayen). ex. *S. transcaspicus* (Kazemi *et al.* 2008e); **Razavi Khorasan Province** (Sarakhs, Bazangan Lake coast). ex. *Copris hispanus* L. (Kazemi *et al.* 2008e); **Golestan Province** (Golestan forest). ex. *S. transcaspicus*, (Naharkhoran Forest). ex. *Herpalus* sp., (Daland forest). ex. *Osphranteria coerulescens* Redtenbacher (Bahrami *et al.* 2011).

Genus *Scamaphis* Karg, 1976

Scamaphis equestris (Berlese, 1911)

Distribution and habitats. **Golestan Province** (Gorgan, Naharkhoran forest). ex. *Geotrupes spiniger* (Marsham) (Kazemi *et al.* in press B).

Genus *Scarabaspis* Womersley, 1956

Scarabaspis inexpectatus (Oudemans, 1903)

Distribution and habitats. **North Khorasan Province** (Esfarayen). ex. *Euonthophagus gibbosus* (Scriba) (Kazemi *et al.* 2008d); **Golestan Province** (Gorgan, Ziyarat Village). ex. *E. gibbosus* and *Caccobius schreiberi* (L.), (Gorgan, Dangelan Village). ex. *Geotrupes* sp. (Bahrami *et al.* 2011); **North Khorasan Province** (Bojnurd). Soil of farms, gardens and manures (Mahpikaran *et al.* 2012).

FAMILY MACROCHELIDAE VITZTHUM, 1930

Genus *Glyptholaspis* Filipponi & Pegazzano, 1960

Glyptholaspis americana (Berlese, 1888)

Distribution and habitats. **Tehran Province** (Tehran). Soil, leaf-litter, decomposing organic matter, manure and ex. unknown scarab beetles (Ostovan & Farzane 2004); (Tehran, Sorkhe Hesar Forest Park). Soil (Pakyari *et al.* 2008); **Mazandaran Province**

(Nowshahr). Soil (Ahangaran *et al.* 2010a); **Golestan Province** (Gorgan). Soil (Kazemi *et al.* 2011a); (Ziyarat Village). ex. *E. gibbosus* (Bahrami *et al.* 2011); (Kalale). Cow and sheep manure (Zakeri *et al.* 2011).

New record. **Fars Province** (Darab). Soil, A. Mohammadi Khoramabadi coll., July 2006.

Glyphtholaspis confusa (Foá, 1900)

Distribution and habitats. **Fars Province** (Kazerun). Putrid onion (Kamali *et al.* 2001); (Ramjerd). Manure, soil and leaf-litter (Sobhani *et al.* 2011); **Tehran Province** (Tehran). Soil, leaf-litter, decomposing organic matter, manure and ex. unknown scarab beetles (Ostovan & Farzane 2004); **Mazandaran Province** (Nowshahr). Soil (Ahangaran *et al.* 2010a); **Chaharmahal and Bakhtiari Province** (Shahrekord). Dung (Babaeian *et al.* 2011); **Golestan Province** (Ziyarat Village). ex. *E. gibbosus* (Bahrami *et al.* 2011); (Minudasht). Soil, (Kalale). Cow and sheep manure, (Gonbad Kavus). Cow manure, (Galikesh). Manure (Zakeri *et al.* 2011); **North Khorasan Province** (Bojnurd). Soil of farms, gardens and manures (Mahpikaran *et al.* 2012).

New record. **Golestan Province** (Gorgan, Shast Kola forest). ex. *P. olivieri* Castelnau, Sh. Kazemi coll., July 2007.

Genus *Holostaspella* Berlese, 1903

Holostaspella bifoliata (Trägårdh, 1952)

Distribution and habitats. **Isfahan Province** (Goldasht). Foliage of trees, weeds and soil of orchards (Jalaeian *et al.* 2004a); **Tehran Province** (Tehran). Soil, leaf-litter, decomposing organic matter, manure and ex. unidentified scarab beetles (Ostovan & Farzane 2004); **Fars Province** (Jahrom). Soil of citrus orchards (Khademi *et al.* 2006); **Guilan Province** (Manjil, Fouman, Lishavandan). Soil (Hajizadeh *et al.* 2009a); **Mazandaran Province** (Nowshahr). Soil (Ahangaran *et al.* 2010a); **Kerman Province** (Jiroft). Soil (Balooch Shahryari *et al.* 2012).

Holostaspella ornata (Berlese, 1904)

Distribution and habitats. **Fars Province** (Marvdasht, Islamic Azad University, Fars Science and Research Branch). Soil (Soleimani *et al.* 2010); (Marvdasht). Soil (Soleimani *et al.* 2011).

Genus *Longicheles* Valle, 1953

Longicheles hortorum (Berlese, 1904)

Distribution and habitats. **Tehran Province** (Tehran, Jamshidiyeh Park). Soil and litter (Kazemi 2011).

Longicheles mandibularis (Berlese, 1904)

Distribution and habitats. **Isfahan Province** (Kashan). Soil (Sekonji *et al.* 2011).

Genus *Macrholaspis* Oudemans, 1931

Macrholaspis recki (Bregetova & Koroleva, 1960)

Distribution and habitats. **Guilan Province.** (Astara). Soil from pine forest, (Ponel). Soil, (Masule, Komadur). Soil from a walnut orchard, (Hashtpar). Soil from a cherry orchard (Faraji *et al.* 2008c); (Talish, Narges Abad). Soil (Hajizadeh *et al.* 2009a); **Chaharmahal and Bakhtiari Province** (Shahrekord). Leaf-Litter (Babaeian *et al.* 2011).

Note. This species had been reported by Faraji *et al.* (2008c) and Hajizadeh *et al.* (2009a) under the genus *Macrocheles* Latreille, 1829.

Genus *Macrocheles* Latreille, 1829

Macrocheles baliensis Takaku & Hartini, 2001

Distribution and habitats. **Khuzestan Province** (Ahvaz). ex. *Copris* sp. (Babaeian *et al.* 2011).

Macrocheles cristati Costa, 1967

Distribution and habitats. **Razavi Khorasan Province** (Feiz Abad). ex. *S. transcaspicus* (Kazemi 2011).

Macrocheles glaber (Müller, 1860)

Distribution and habitats. **Region not mentioned.** Honey bee hives (Mosaddegh 1997; Kamali *et al.* 2001); **Hamedan Province** (Region not mentioned). Clover (*Trifolium* sp.) farms (Khanjani & Kamali 2000a; Kamali *et al.* 2001); **East Azerbaijan Province** (Tabriz). Soil of orchards (Kamali *et al.* 2001); **West Azerbaijan Province** (Urmia). House dust (Kamali *et al.* 2001); **Tehran Province** (Tehran). Soil, leaf-litter, decomposing organic matter, manure and ex. unidentified scarab beetles (Kamali *et al.* 2001; Ostovan & Farzane 2004); (Tehran, Sorkhe Hesar Forest Park). Soil (Pakyari *et al.* 2008); **Markazi Province** (Arak). Soil (Seifori *et al.* 2006); **Isfahan Province** (Dorcheh). Soil of fruit orchards (Jalaeian *et al.* 2006); (Isfahan). Soil (Khalili-

Moghadam *et al.* 2012); **Khuzestan Province** (Ahvaz). Soil (Baharloo *et al.* 2006); **Alborz Province** (Mohammad Shahr, Mallard). Compost (Kheradmand *et al.* 2007); **Guilan Province** (Asalem). Soil (Hajizadeh *et al.* 2009a); **Mazandaran Province** (Nowshahr). Soil (Ahangaran *et al.* 2010a); **Kerman Province** (Kerman). Cow and poultry manure (Arjomandi *et al.* 2011); (Baft). Soil (Rajaei *et al.* 2011b); (Bam). Soil (Mehrzhad *et al.* 2012); **Chaharmahal and Bakhtiari Province** (Shahrekord). Dung (Babaeian *et al.* 2011); **Fars Province** (Marvdasht). Soil (Soleimani *et al.* 2011); (Ramjerd). Manure, soil and leaf-litter (Sobhani *et al.* 2011); (Doroodzan). Soil of fields (Asadpoor *et al.* 2012); **Golestan Province** (Gorgan). Soil (Kazemi *et al.* 2011a); (Ziyarat, Bandar Torkaman, Galand). ex. *E. gibbosus*, (Roshan Abad). ex. *O. cinctella*, (Ghrogh forest). ex. unidentified cerambycid beetle (Bahrami *et al.* 2011); (Kalale). Cow manure, (Gonabad). Camel and cow manure, (Galikesh). Manure (Zakeri *et al.* 2011); **North Khorasan Province** (Bojnurd). Soil of farms, gardens and manures (Mahpikaran *et al.* 2012).

New records. **Tehran province** (Tehran, Tarbiat Modares University, Faculty of Agriculture). Cow manure, Sh. Kazemi coll., July 2006; **Golestan Province** (Gorgan, Shast Kola Forest). ex. *Geotrupes punctcollis* Malinowski, Sh. Kazemi coll., July 2007; **Mazandaran Province** (Noor Forest Park). ex. *P. olivieri* and *Onthophagus* sp., Sh. Kazemi coll., May 2007; **North Khorasan Province** (Bojnurd, Esfidan). ex. *Onthophagus* sp., Sh. Kazemi coll., May 2007.

Macrocheles insignitus (Berlese, 1981)

Distribution and habitats. **Mazandaran Province** (Nowshahr). Soil (Ahangaran *et al.* 2010a); **Chaharmahal and Bakhtiari Province** (Shahrekord). Dung (Babaeian *et al.* 2011); **Kerman Province** (Shahrehabak, Sirjan, Rafsanjan). Soil (Masnavipour *et al.* 2011); **Golestan Province** (Shast-Kola). ex. *E. gibbosus*, (Ziyarat Village). ex. *Onthophagus* sp. (Bahrami *et al.* 2011); **Zanjan Province** (Region not mentioned). Soil (Rahmani & Zare 2011); **Kerman Province** (Rafsanjan). Soil of fruit orchards (Mohammadi *et al.* 2012).

New record. **North Khorasan Province** (Mane and Samalghan, Havar Village). ex. *O. cinctella*, H. Hajiqaanbar coll., July 2006.

Macrocheles matrius (Hull, 1925)

Distribution and habitats. **Razavi Khorasan Province** (Mashhad). ex. *Pentodon* sp. (Kazemi 2011).

Macrocheles merdarius (Berlese, 1889)

Distribution and habitats. **East Azerbaijan Province** (Tabriz). Soil of orchards (Kamali *et al.* 2001); **Fars Province** (Kazerun). Stored onion (Kamali *et al.* 2001); (Jahrom). Soil of citrus orchards (Khademi *et al.* 2006); (Marvdasht). Soil (Soleimani *et*

al. 2011); (Ramjerd). Manure, soil and leaf-litter (Sobhani *et al.* 2011); (Marvdasht, Islamic Azad University, Fars Science and Research Branch). Soil and decayed plants associated with conifers (Amirazodi & Ostovan 2012); (Doroodzan). Soil of fields (Asadpoor *et al.* 2012); (Sepidan, Homayjan). Foliage, soil, leaf-litter, weeds and soil of apple trees (Maneshi *et al.* 2012); **Tehran Province** (Tehran). Soil, leaf-litter, decomposing organic matter, manure and ex. unidentified scarab beetles (Ostovan & Farzane 2004); **Markazi Province** (Arak). Soil (Seifori *et al.* 2006); **Isfahan Province** (Dorcheh, Zarrinshahr). Soil of fruit orchards (Jalaeian *et al.* 2006); (Isfahan). Soil (Khalili-Moghadam *et al.* 2012); **Sistan and Baluchestan Province** (Sistan Region). Soil (Arjmandi Nejad *et al.* 2006, 2008), stored products (Sayadi *et al.* 2012); **Alborz Province** (Shahryar). Compost (Kheradmand *et al.* 2007); **Guilan Province** (Talish, Jokandan, Fouman, Lishavandan). Stored rice, rice dust and debris (Noei *et al.* 2008); soil (Hajizadeh *et al.* 2009a); **Mazandaran Province** (Nowshahr). Soil (Ahangaran *et al.* 2010a); **Chaharmahal and Bakhtiari Province** (Shahrekord). Dung (Babaeian *et al.* 2011); **Golestan Province** (Gorgan). Soil (Kazemi *et al.* 2011a); (Dangelan Village). ex. *E. gibbosus*, (Alang Darreh Forest). ex. *P. olivieri*, (Roshan Abad). ex. *O. cinctella* (Bahrami *et al.* 2011); (Galikesh). Cow manure, (Kalale). Cow and sheep manure, (Gonbad). Manure (Zakeri *et al.* 2011); **Zanjan Province** (Region not mentioned). Soil (Rahmani & Zare 2011); **Kerman Province** (Sirjan, Pariz, Shahrehabak, Rafsanjan). Soil (Masnavipour *et al.* 2011); (Kerman). Cow, sheep and poultry manure (Arjomandi *et al.* 2011); (Baft). Soil (Rajaei *et al.* 2011b); (Bam). Soil (Mehrzhad *et al.* 2012); (Jiroft). Soil (Balooch Shahryari *et al.* 2012); **West Azerbaijan Province** (Khoy). Soil of sunflower fields (Taher *et al.* 2012); (Salmas). Soil and plant debris of apple orchards (Alizadeh & Shirdel 2012); **North Khorasan Province** (Bojnurd). Soil of farms, gardens and manures (Mahpikaran *et al.* 2012).

New records. **Golestan Province** (Gorgan, Shast Kola Forest). ex. *P. olivieri*, Sh. Kazemi coll., July 2007; **Razavi Khorasan Province** (Gonabad, Rahn Village). ex. *O. cinctella*, H. Hajiqanbar coll., May 2007.

Macrocheles muscaedomesticae (Scopoli, 1772)

Distribution and habitats. **Tehran Province** (Tehran). Honey bee hives, soil, leaf-litter, decomposing organic matter, manure and ex. unidentified scarab beetles (Mosaddegh 1997; Kamali *et al.* 2001; Ostovan & Farzane 2004); **East Azerbaijan Province** (Region not mentioned). Soil (Kamali *et al.* 2001); **Khuzestan Province** (Ahvaz). Soil (Baharloo *et al.* 2006); (Region not mentioned). Nests or body of fresh and pinned museum specimens of different Coleoptera (Scarabaeidae and Carabidae), Hymenoptera (Formicidae) and Orthoptera (Gryllidae and Acrididae) (Nemati & Babaeian 2010); **Guilan Province** (Sangar, Gil Pardehsar). Soil (Hajizadeh *et al.* 2009a); **Chaharmahal and Bakhtiari Province** (Region not mentioned). Nests or body of fresh and pinned museum specimens of different Coleoptera (Scarabaeidae and Carabidae), Hymenoptera (Formicidae) and Orthoptera (Gryllidae and Acrididae) (Nemati & Babaeian 2010); (Shahrekord). Dung (Babaeian *et al.* 2011); **Bushehr Province** (Region not mentioned). Nests or body of fresh and pinned museum specimens of different Coleoptera (Scarabaeidae and Carabidae), Hymenoptera (Formicidae) and Orthoptera (Gryllidae and Acrididae) (Nemati & Babaeian 2010); **Mazandaran Province** (Nowshahr). Soil

(Ahangaran *et al.* 2010a); **Kerman Province** (Kerman). Cow manure (Arjomandi *et al.* 2011); (Baft). Soil (Rajaei *et al.* 2011b); **Golestan Province** (Roshan Abad). ex. *Pentodon* sp. (Ali Abad Katoul, Kaboud Val). ex. *M. melolontha*, (Nasr Abad). *Geotrupes* sp. (Bahrami *et al.* 2011); (Gonbad Kavus, Galikesh). Manure (Zakeri *et al.* 2011); **Fars Province** (Ramjerd). Manure, soil and leaf-litter (Sobhani *et al.* 2011); (Shiraz). Potato, zucchini, flour and the floor of insectariums (Granpayeh *et al.* 2012); (Doroodzan). Soil of fields (Asadpoor *et al.* 2012); **North Khorasan Province** (Bojnurd). Soil of farms, gardens and manures (Mahpikaran *et al.* 2012).

Macrocheles nataliae (Bergetova & Koroleva, 1960)

Distribution and habitats. **Markazi Province** (Arak). Soil (Seifori *et al.* 2006).

Macrocheles penicilliger (Berlese, 1904)

Distribution and habitats. **East Azerbaijan Province** (Region not mentioned). Soil (Kamali *et al.* 2001); **Hamedan Province** (Region not mentioned). Vetch (Kamali *et al.* 2001); **Isfahan Province** (Khomeini Shahr). Soil of fruit orchards (Jalaeian *et al.* 2006); **Guilan Province** (Fouman, Lishavandan, Masule, Kelorm). Soil (Hajizadeh *et al.* 2009a); **Chaharmahal and Bakhtiari Province** (Shahrekord). Leaf litter (Babaeian *et al.* 2011); **Golestan Province** (Gorgan). Soil (Kazemi *et al.* 2011a); **Fars Province** (Doroodzan). Soil of fields (Asadpoor *et al.* 2012).

New record. **Tehran Province** (Tehran, Jamshidiyeh Park, Ghalamestan Park). Soil and litter, Sh. Kazemi coll., Nov. 2001.

Macrocheles peniculatus Berlese, 1918

Distribution and habitats. **Guilan Province** (Lahijan). Soil, tea garden, (Shaft). Soil under a pine tree, (Maklovan). Soil of mulberry orchard (Faraji *et al.* 2008c); (Rasht, Andishe Park, Anzali, Hasan Rud, Sangar, Gil Pardesar). Soil (Hajizadeh *et al.* 2009a); **Fars Province** (Marvdasht). Soil (Soleimani *et al.* 2011); (Ramjerd). Manure, soil and leaf-litter (Sobhani *et al.* 2011); (Marvdasht, Islamic Azad University, Fars Science and Research Branch). Soil and decayed plants associated with conifers (Amirazodi & Ostovan 2012); (Doroodzan). Soil of fields (Asadpoor *et al.* 2012).

Macrocheles perglaber Filippini & Pegazzano, 1962

Distribution and habitats. **Tehran Province** (Tehran). Soil, leaf-litter, decomposing organic matter, manure and ex. unidentified scarab beetles (Ostovan & Farzane 2004); **Isfahan Province** (Goldasht). Soil of fruit orchards (Jalaeian *et al.* 2006); **Markazi Province** (Arak). Soil (Seifori *et al.* 2006); **Mazandaran Province** (Nowshahr). Soil (Ahangaran *et al.* 2010a); **Fars Province** (Ramjerd). Manure, soil and leaf-litter (Sobhani *et al.* 2011); **Chaharmahal and Bakhtiari Province** (Shahrekord). Dung

(Babaeian *et al.* 2011); **North Khorasan Province** (Bojnurd). Soil of farms, gardens and manures (Mahpikaran *et al.* 2012).

Macrocheles robustulus (Berlese, 1904)

Distribution and habitats. **Fars province** (Region not mentioned). Stored potato (Kamali *et al.* 2001); **Tehran Province** (Tehran). Soil, leaf-litter, decomposing organic matter, manure and ex. unidentified scarab beetles (Ostovan & Farzane 2004); **Khuzestan Province** (Ahvaz). Soil (Baharloo *et al.* 2006); **Markazi Province** (Arak). Soil (Seifori *et al.* 2006); **Guilan Province** (Masule, Maklovan, Fouman, Lishavandan, Rasht, Agriculture faculty of Guilen University field, Emamzade Hashem, Shaft, Rudbar, Ganje). Soil (Hajizadeh *et al.* 2009a); **Mazandaran Province** (Nowshahr). Soil (Ahangaran *et al.* 2010a); **Chaharmahal and Bakhtiari Province** (Shahrekord). Dung (Babaeian *et al.*, 2011); **Kerman Province** (Baft). Soil (Rajaei *et al.* 2011b); **Golestan Province** (Roshan Abad). ex. *E. gibbosus* and *Geotrupes* sp.; (Naharkhoran forest). ex. *Herpalus* sp. (Bahrami *et al.* 2011); (Minudasht). Soil, (Kalale). Cow and sheep manure, (Gonbad Kavus). Camel manure, (Galikesh). Manure (Zakeri *et al.* 2011).

Macrocheles scutatus (Berlese, 1904)

Distribution and habitats. **Tehran Province** (Tehran). Soil, leaf-litter, decomposing organic matter, manure and ex. unidentified scarab beetles (Ostovan & Farzane 2004); **Fars Province** (Jahrom). Soil of citrus orchards (Khademi *et al.* 2006); **Markazi Province** (Arak). Soil (Seifori *et al.* 2006); **Isfahan Province** (Najaf Abad). Soil of fruit orchards (Jalaeian *et al.* 2006); (Isfahan). Soil (Khalili-Moghadam *et al.* 2012); **Chaharmahal and Bakhtiari Province** (Shahrekord). Dung (Babaeian *et al.* 2011); **North Khorasan Province** (Bojnurd). Soil of farms, gardens and manures (Mahpikaran *et al.* 2012); **Mazandaran Province** (Nowshahr). Soil (Ahangaran *et al.* 2010a); **Golestan Province** (Gorgan). ex. *Geotrupes* sp. (Bahrami *et al.* 2011).

Macrocheles subbadius (Berlese, 1904)

Distribution and habitats. **Fars Province** (Region not mentioned). Putrid onion (Kamali *et al.* 2001); (Marvdasht). Soil (Soleimani *et al.* 2011); (Marvdasht, Islamic Azad University, Fars Science and Research Branch). Soil and decayed plants associated with conifers (Amirazodi & Ostovan 2012); (Ramjerd). Manure, soil and leaf-litter (Sobhani *et al.* 2011); (Doroodzan). Soil of fields (Asadpoor *et al.* 2012); **Alborz Province** (Mohammad Shahr). Compost (Kheradmand *et al.* 2007); **Chaharmahal and Bakhtiari Province** (Shahrekord). Dung (Babaeian *et al.* 2011); **Golestan Province** (Roshan Abad). ex. *Geotrupes* sp. (Bahrami *et al.* 2011); (Kalale). Cow and sheep manure, (Galikesh). Cow manure, (Gonbad Kavus). Cow manure (Zakeri *et al.* 2011); **Kerman Province** (Jiroft). Soil (Balooch Shahryari *et al.* 2012).

Macrocheles sumbaensis Hartini & Takaku, 2005

Distribution and habitats. **Chaharmahal and Bakhtiari Province** (Shahrekord). Dung (Babaeian *et al.* 2011).

Macrocheles vernalis (Berlese, 1887)

Distribution and habitats. **Isfahan Province** (Goldasht). Foliage of trees, weeds and soil of orchards (Jalaeian *et al.* 2004a); **Chaharmahal and Bakhtiari Province** (Shahrekord). ex. *Scarabaeus* sp. and *Copris* sp. (Babaeian *et al.* 2011); **North Khorasan Province** (Bojnurd). Soil of farms, gardens and manures (Mahpikaran *et al.* 2012).

New records. **Mazandaran Province** (Galugah). ex. *C. hispanus*, Sh. Kazemi coll., July 2006; **Razavi Khorasan Province** (Taybad, Bakharz). ex. *S. transcaspicus*, H. Hajiqanbar coll., April & July 2006; ex. *S. transcaspicus*, H. Hajiqanbar coll., April 2007; ex. *Pleurophorus caesus* (Panzer), H. Hajiqanbar coll., April 2007; **North Khorasan Province** (Esfarayan). ex. *S. transcaspicus*, H. Hajiqanbar coll., July 2007.

Genus *Neopodocinum* Oudemans, 1902

Neopodocinum caputmedusae (Berlese, 1908)

Distribution and habitats. **Razavi Khorasan Province** (Region not mentioned). ex. *C. hispanus* (Kazemi *et al.* 2008c); **Tehran Province** (Taleghan). ex. *Copris* sp. (Faraji *et al.* 2008c); **Bushehr Province** (Region not mentioned). Nests or body of fresh and pinned museum specimens of different insects of order Coleoptera (Scarabaeidae, Carabidae), Hymenoptera (Formicidae) and Orthoptera (Gryllidae, Acrididae) (Nemati & Babaeian 2010); **Chaharmahal and Bakhtiari Province** (Region not mentioned). Nests or body of fresh and pinned museum specimens of different insects of order Coleoptera (Scarabaeidae, Carabidae), Hymenoptera (Formicidae) and Orthoptera (Gryllidae, Acrididae) (Nemati & Babaeian 2010); **Khuzestan Province** (Region not mentioned). Nests or body of fresh and pinned museum specimens of different insects of order Coleoptera (Scarabaeidae, Carabidae), Hymenoptera (Formicidae) and Orthoptera (Gryllidae, Acrididae) (Nemati & Babaeian 2010); (Ahvaz). ex. *Copris* sp. (Babaeian *et al.* 2011); **Golestan Province** (Shast Kola Forest). ex. *C. hispanus* (Bahrami *et al.* 2011).

Neopodocinum torcomonarum Petrova, 1969

Distribution and habitats. **Mazandaran Province** (Region not mentioned). ex. *S. transcaspicus* (Kazemi *et al.* 2008c).

Genus *Nothrholaspis* Berlese, 1918

Nothrholaspis carinatus (C.L. Koch, 1839)

Distribution and habitats. **Tehran Province** (Tehran). Soil, leaf-litter, decomposing organic matter, manure and ex. unidentified scarab beetles (Ostovan & Farzane 2004); **Mazandaran Province** (Nowshahr). Soil (Ahangaran *et al.* 2010a).

Nothrolaspis montanus Willmann, 1951

Distribution and habitats. **Mazandaran Province** (Nowshahr). Soil (Ahangaran *et al.* 2010a).

Note. Ostovan & Farzane (2004) and Ahangaran *et al.* (2010a) reported *Macrocheles carinatus* (Koch) and *M. montanus* (Willmann) from Iran, but Emberson (2010) transferred them to the genus *Nothrolaspis* Berlese, 1918.

Genus *Reductholaspis* Emberson, 2010

Reductholaspis analis (Hyatt & Emberson, 1988)

Distribution and habitats. **Isfahan Province** (Goldasht, Najaf Abad). Foliage of trees, weeds and soil of orchards (Jalaeian *et al.* 2004a); **Chaharmahal and Bakhtiari Province** (Shahrekord). Leaf-Litter (Babaeian *et al.* 2011).

Note. Jalaeian *et al.* (2004a) reported *Macrocheles analis* Hyatt & Emberson from Iran, but it was transferred to the genus *Reductholaspis* by Emberson (2010).

Note. Seven species of *Macrocheles* Latreille, 1829 have been shortly described by Glida *et al.* 2003 (*M. elongatum*, *M. kermani*, *M. kamalii*) and Seifoori *et al.* 2008 (*M. similiscutatus*, *M. paucipunctatum*, *M. minutum*, *M. simplex*) without referring to a distinctive collection to deposit holotypes and paratypes, so they are removed from the current checklist. Also, as Faraji *et al.* (2008c) have mentioned, *M. abbreviatus* Berlese, 1918 has not reliable situation, so we removed it from the checklist.

FAMILY PACHYLAELAPIDAE BERLESE, 1913

Genus *Olopachys* Berlese, 1910

Olopachys caucasicus Koroleva, 1976

Distribution and habitats. **Mazandaran Province** (Nowshahr). Soil (Ahangaran *et al.* 2010b).

Olopachys compositus Koroleva, 1976

Distribution and habitats. **Mazandaran Province** (Tonekabon, Konse Forest). Soil, (Nowshahr, Ecology Garden). Soil and litter, (Ramsar, Namakdarreh). Soil and sheep

manure (Kazemi & Ahangaran 2011); **Tehran Province** (Shemiranat, Rudbar-Ghasran). Soil, leaf-litter, debris of trees, ground covering plants and ant nests (Ahadiyat & Cheraghali 2012); **Guilan Province** (Region not mentioned). Citrus leaves, soil of gardens and floor weeds (Nazari-Tajani *et al.* 2012); **Golestan Province** (Region not mentioned). Soil and litter (Kazemi *et al.* 2012); (Minudasht). Soil (Zakeri *et al.* 2011).

Genus *Onchodellus* Berlese, 1904

Onchodellus alpinus (Willmann, 1953)

Distribution and habitats. **Tehran Province** (Region not mentioned). Honey bee hives (Rahmani *et al.* 2006).

Onchodellus glandularis (Moraza & Peña, 1992)

Distribution and habitats. **Tehran Province** (Shemiranat, Rudbar-Ghasran). Soil, leaf-litter, debris of trees, ground covering plants and ant nests (Ahadiyat & Cheraghali 2012).

Onchodellus karawaiewi (Berlese, 1920)

Distribution and habitats. **East Azerbaijan Province** (Region not mentioned). Soil (Kamali *et al.* 2001); **Khuzestan Province** (Safiabad). Grapevine yards (Kamali *et al.* 2001; Darvishzadeh & Kamali 2009); **Hamedan Province** (Region not mentioned). Bean (*P. vulgaris*), clover (*Trifolium* sp.), alfalfa, and sainfoin (Khanjani & Kamali 2000a, b; Kamali *et al.* 2001), soil of fruit trees and weeds (Rostami *et al.* 2010); **Kerman Province** (Region not mentioned). Soil (Ahmadi 2002); (Baft). Soil (Rajaei *et al.* 2011b); (Rafsanjan). Soil of fruit orchards (Mohammadi *et al.* 2012); **Markazi Province** (Arak). Soil (Seifori *et al.* 2006); **Kermanshah Province** (Rijab). Fruit orchards (Babakfard *et al.* 2008); **Fars Province** (Jahrom). Soil of citrus orchards (Khademi *et al.* 2006); (Marvdasht). Soil (Soleimani *et al.* 2011); (Marvdasht, Islamic Azad University, Fars Science and Research Branch). ex. apple bark beetles (Arabzadeh *et al.*, 2012); (Darab). Soil and foliage of cotton fields (Khorsand *et al.* 2012); (Doroodzan). Soil of fields (Asadpoor *et al.* 2012); **Mazandaran Province** (Nowshahr). Soil (Ahangaran *et al.* 2010b); **Chaharmahal and Bakhtiari Province** (Shahrekord). Soil and litter (Babaeian & Kazemi 2011); **Razavi Khorasan Province** (Kashmar). Soil of vineyards (Salarzahi *et al.* 2011); **West Azerbaijan Province** (Urmia). Soil (Rezaie *et al.* 2011); (Salmas). Soil and plant debris of apple orchards (Alizadeh & Shirdel 2012); **Tehran Province** (Shemiranat, Rudbar-Ghasran). Soil, leaf-litter, debris of trees, ground covering plants and ant nests (Ahadiyat & Cheraghali 2012); **North Khorasan Province** (Bojnurd). Soil of farms, gardens and manures (Mahpikaran *et al.* 2012); **Golestan Province** (Kalale). Soil (Zakeri *et al.* 2011).

New record. **Kerman Province** (Kerman, Bahonar Park). Soil and litter, Sh. Kazemi coll., July 2010.

Onchodellus procerus Mašán, 2003

Distribution and habitats. **Guilan Province** (Region not mentioned). Citrus leaves, soil of gardens and floor weeds (Nazari-Tajani *et al.* 2012).

Onchodellus siculus (Berlese, 1892)

Distribution and habitats. **Kerman Province** (Region not mentioned). Soil (Ahmadi 2002); **West Azerbaijan Province** (Miandoab Plain). Foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003); **Hamedan Province** (Region not mentioned). Soil of fruit trees and weeds (Rostami *et al.* 2010); **Chaharmahal and Bakhtiari Province** (Shahrekord). ex. *Pentodon* sp. (Babaeian & Kazemi 2011).

Onchodellus strigifer (Berlese, 1892)

Distribution and habitats. **Tehran Province** (Shemiranat, Rudbar-Ghasran). Soil, leaf-litter, debris of trees, ground covering plants and ant nests (Ahadiyat & Cheraghali 2012).

Genus *Pachylaelaps* Berlese, 1888

Pachylaelaps brachiosus Hirschmann & Krauss, 1965

Distribution and habitats. **Isfahan Province** (Goldasht, Qale'e Sefid). Soil of fruit orchards (Jalaeian *et al.* 2004b).

Pachylaelaps costai Hirschmann & Krauss, 1965

Distribution and habitats. **Isfahan Province** (Mobarake, Zarrinshahr). Soil of fruit orchards (Jalaeian *et al.* 2004b).

Pachylaelaps grandis Koroleva, 1977

Distribution and habitats. **Tehran Province** (Shemiranat, Rudbar-Ghasran). Soil, leaf-litter, debris of trees, ground covering plants and ant nests (Ahadiyat & Cheraghali 2012); **Golestan Province** (Kalale, Minudasht). Soil (Zakeri *et al.* 2011).

Pachylaelaps hispani Berlese, 1903

Distribution and habitats. **Kerman Province** (Region not mentioned). Soil (Ahmadi 2002).

Pachylaelaps imitans Berlese, 1920

Distribution and habitats. **Kerman Province** (Region not mentioned). Soil (Ahmadi 2002).

Pachylaelaps magnus Halbert, 1915

Distribution and habitats. **Kerman Province** (Region not mentioned). Soil (Ahmadi 2002).

Pachylaelaps pectinifer (G. & R. Canestrini, 1881)

Distribution and habitats. **Isfahan Province** (Najaf Abad, Mobarake). Soil of fruit orchards (Jalaeian *et al.* 2004b); (Kashan). Soil (Sekonji *et al.* 2011); **Mazandaran Province** (Nowshahr). Soil (Ahangaran *et al.* 2010b); **Chaharmahal and Bakhtiari Province** (Shahrekord). Soil and litter (Babaeian & Kazemi 2011); **Kerman Province** (Baft). Soil (Rajaei *et al.* 2011b); **West Azerbaijan Province** (Urmia). Soil (Rezaie *et al.* 2011); **Tehran Province** (Shemiranat, Rudbaar-Ghasran). Soil, leaf-litter, debris of trees, ground covering plants and ant nests (Ahadiyat & Cheraghali 2012); **Guilan Province** (Region not mentioned). Citrus leaves, soil of gardens and floor weeds (Nazari-Tajani *et al.* 2012); **Kerman Province** (Jiroft). Soil (Balooch Shahryari *et al.* 2012); **Golestan Province** (Marzankalateh). ex. *C. hispanus* (Bahrami *et al.* 2011).

Pachylaelaps resinae Karg, 1971

Distribution and habitats. **Ardabil Province** (Moghan Plain). Cotton fields (Kamali *et al.* 2001); **Hamedan Province** (Region not mentioned). Wild sainfoin (Kamali *et al.* 2001); **Kerman Province**. (Region not mentioned) Soil (Ahmadi 2002); **Kermanshah Province** (Rijab). Fruit orchards (Babakfard *et al.* 2008); **West Azerbaijan Province** (Khoy). Soil of sunflower fields (Taher *et al.* 2012); (Salmas). Soil and plant debris of apple orchards (Alizadeh & Shirdel 2012); **Guilan Province** (Region not mentioned). Citrus leaves, soil of gardens and floor weeds (Nazari-Tajani *et al.* 2012).

Genus *Pachyseius* Berlese, 1910

Pachyseius angustus Hyatt, 1956

Distribution and habitats. **Chaharmahal and Bakhtiari Province** (Shahrekord). Sandy riverbank (Babaeian & Kazemi 2011).

Genus *Pseudolaelaps* Berlese, 1916

Pseudolaelaps doderoi (Berlese, 1910)

Distribution and habitats. **Golestan Province** (Region not mentioned). Soil, decayed wood, moss and litter (Malek-Shahkouyi *et al.* 2011a); **Mazandaran Province** (Nowshahr, Narenjbon). Litter, (Chalus, Roshandarreh). Litter and humus, (Ramsar). Litter and humus (Kazemi & Ahangaran 2011).

Note. Rajaei *et al.* (2011b) reported *Pachylaelaps denticulatus* (Hirschmann & Krauss, 1965). After re-examination of the specimens, the senior author found that it does not belong to this species and removed it from the checklist.

FAMILY PARHOLASPIDIDAE EVANS, 1956

Genus *Gamasholaspis* Berlese, 1903

Gamasholaspis incisus Petrova, 1968

Distribution and habitats. **Mazandaran Province** (Nowshahr). Soil and litter (Ahangaran *et al.* 2012).

Genus *Holaspina* Berlese, 1916

Holaspina alstoni (Evans, 1956)

Distribution and habitats. **Tehran Province** (Tehran, Shahid Beheshti University Campus). Soil (Kamali *et al.* 2004); **Markazi Province** (Arak). Soil (Seifori *et al.* 2006); **Alborz Province** (Karaj). Stored products (Sayedi *et al.* 2006); **Tehran Province** (Tehran, Sorkhe Hesar Forest Park). Soil (Pakyari *et al.* 2006b, 2008); **Isfahan Province** (Khomeini Shahr). Soil of fruit trees orchards (Jalaeian *et al.* 2006); (Isfahan). Soil and litter (Ramezani & Nemati 2010; Khalili-Moghadam *et al.* 2012); **Kerman Province** (Rafsanjan, Sirjan, Dochahi, Mani). Soil (Masnavipour *et al.* 2011).

New record. **Tehran Province** (Tehran, Lale Park). Soil and litter, Sh. Kazemi coll., Nov. 2001.

Holaspina pulchella Berlese, 1916

Distribution and habitats. **Isfahan Province** (Najaf Abad, Falavarjan, Goldasht). Soil of fruit orchards (Jalaeian *et al.* 2004b).

Genus *Holaspulus* Berlese, 1904

Holaspulus tenuipes (Berlese, 1904)

Distribution and habitats. **Isfahan Province** (Isfahan). Soil and litter (Ramezani & Nemati 2010); **Mazandaran Province** (Nowshahr, Ecology Garden, Narenjbon). Litter and humus (Tonekabon). Soil and litter (Kazemi *et al.* 2012).

Genus *Lattinella* Krantz, 1960

***Lattinella* sp.**

Distribution and habitats. **Ardabil Province** (Moghan Plain). Cotton fields (Kamali *et al.* 2001).

Genus *Neparholaspis* Evans, 1956

***Neparholaspis* sp.**

Distribution and habitats. **Ardabil Province** (Moghan Plain). Cotton fields (Kamali *et al.* 2001); **Mazandaran Province** (Nowshahr, Ecology Garden). Soil and litter (Kazemi & Ahangaran 2011).

Note. Latifi *et al.* (2006) described *Holaspina persicum* without referring to a distinct collection to deposit type materials, so we excluded it from Iranian checklist of Mesostigmata.

SUPERFAMILY PHYTOSEOIDEA

FAMILY BLATTISOCIIDAE GARMAN, 1948

Genus *Blattisocius* Keegan, 1944

Blattisocius dentriticus (Berlese, 1918)

Distribution and habitats. **Region not mentioned.** Stored products (Sepasgozarian 1978; Modarres Awal 1994, 1997; Kamali *et al.* 2001); **Khuzestan Province.** Honey bee hives (Ostovan & Mosaddegh 1999; Kamali *et al.* 2001); **Fars Province** (Shiraz). Potato, zucchini, flour and the floor of insectariums (Granpayeh *et al.* 2012).

Blattisocius keegani Fox, 1947

Distribution and habitats. **West Azerbaijan Province** (Region not mentioned). Rats (Modarres Awal 1994, 1997; Sepasgozarian 1978; Kamali *et al.* 2001); (Urmia). House dust (Kamali *et al.* 2001); **Semnan Province** (Mehmandust Village). From decaying

hay (Shamsi *et al.* 2008); **Guilan Province** (Region not mentioned). Soil, plants, warehouses, manure and decaying plants (Hajizadeh *et al.* 2009b, 2010a).

Blattisocius mali (Oudemans, 1929)

Distribution and habitats. **Region not mentioned.** Stored products (Sepasgozarian 1978; Modarres Awal 1994, 1997; Kamali *et al.* 2001).

Blattisocius tarsalis (Berlese, 1918)

Distribution and habitats. **Region not mentioned.** Barley, flour, predacious on eggs and larvae of *Sitotroga* spp. and *Ephestia* spp. (Sepasgozarian 1978; Modarres Awal 1994, 1997; Ostovan & Kamali 1994; Kamali *et al.* 2001); **Guilan Province** (Region not mentioned). Soil, plants, warehouses, manure and decaying plants (Hajizadeh *et al.* 2009b, 2010a); **Golestan Province** (Gorgan). Soil (Malek-Shahkouyi *et al.* 2011b); **Fars Province** (Shiraz). Potato, zucchini, flour and the floor of insectariums (Granpayeh *et al.* 2012).

Note. Kamali *et al.* (2001) referred to *Paragarmania dentritica* (Berlese) and *P. mali* (Oudemans) under the family Uropodidae, while they belong to Blattisociidae, and the genus *Blattisocius* Keegan, 1944 is the senior synonym of *Paragarmania* Nesbitt, 1951.

Genus *Cheiroseius* Berlese, 1916

Cheiroseius bryophilus Karg, 1969

Distribution and habitats. **Guilan Province** (Region not mentioned). Soil, plants, warehouses, manure and decaying plants (Hajizadeh *et al.* 2009b, 2010a).

Cheiroseius cascadiensis (De Leon, 1964)

Distribution and habitats. **Semnan Province** (Tooyehdarvar Village). Moss at the floor of a dry sike, decaying matter of a poplar trunk and soil mixed with decaying matter of a fallen tree trunk, (Dibaj). Soil mixed with weeds at the margin of a sike (Shamsi *et al.* 2008); **Guilan Province** (Region not mentioned). Soil, plants, warehouses, manure and decaying plants (Hajizadeh *et al.* 2009b, 2010a).

Cheiroseius curtipes (Halbert, 1923)

Distribution and habitats. **Semnan Province** (Tooyehdarvar Village). Moss at the floor of a dry sike, (Cheshmeh-Ali way). Soil at the margin of Cheshmeh-Ali river near straw, (Cheshmeh-gholghol spring). Soil mixed with weeds at the margin of a spring, (Dibaj). Soil close to Imamzadeh and soil mixed with weeds near a pear tree (Shamsi *et al.*

2008); **Guilan Province** (Region not mentioned). Soil, plants, warehouses, manure and decaying plants (Hajizadeh *et al.* 2009b, 2010a).

Cheiroseius longipes (Willmann, 1951)

Distribution and habitats. **Guilan Province** (Region not mentioned). Soil, plants, warehouses, manure and decaying plants (Hajizadeh *et al.* 2009b, 2010a).

Cheiroseius necorniger (Oudemans, 1903)

Distribution and habitats. **Semnan Province** (Tooyehdarvar Village). Moss at the floor of a dry sike and soil mixed with weeds (Shamsi *et al.* 2008); **Guilan Province** (Region not mentioned). Soil, plants, warehouses, manure and decaying plants (Hajizadeh *et al.* 2009b, 2010a); **Khuzestan Province** (Ahvaz). Soil and ex. *Musca domestica* L. (Nemati *et al.* 2012c); **Chaharmahal and Bakhtiari Province** (Shahrekord). Soil (Nemati *et al.* 2012c).

Cheiroseius nepalensis (Evans & Hyatt, 1960)

Distribution and habitats. **Isfahan Province** (Zarrin Shahr). Foliage of trees, weeds and soil of orchards (Jalaeian *et al.* 2004a); **Fars Province** (Jahrom). Soil of citrus orchards (Khademi *et al.* 2006); **Khuzestan Province** (Ahvaz). Soil (Baharloo *et al.* 2006); **West Azerbaijan Province** (Salmas). Soil and plant debris of apple orchards (Alizadeh & Shirdel 2012).

Cheiroseius serratus (Halbert, 1915)

Distribution and habitats. **Semnan Province** (Cheshmeh Gholghol Spring). Soil mixed with weeds at the margin of spring, (Dibaj). Soil at the margin of a sike (Shamsi *et al.* 2008); **Golestan Province** (Gorgan). Soil (Malek-Shahkouyi *et al.* 2011b); **Kerman Province** (Bam). Soil (Mehrzaad *et al.* 2012); **Khuzestan Province** (Ahvaz). Soil (Nemati *et al.* 2012c); **Chaharmahal and Bakhtiari Province** (Shahrekord). Soil (Nemati *et al.* 2012c).

Cheiroseius sistaniensis Faraji, Arjmandi-Nezhad & Karg, 2008

Distribution and habitats. **Sistan and Baluchestan Province** (Zabol). Damp soil (Faraji *et al.* 2008b); **Semnan Province** (Damghan). Soil and debris (Faraji *et al.* 2008b); **Kerman Province** (Bam). Soil (Mehrzaad *et al.* 2012); **Fars Province** (Marvdasht, Kamfiruz). Soil and decayed plants under the oak trees (Beyzavi & Ostovan 2012); **Khuzestan Province** (Baghmalek). Soil (Nemati *et al.* 2012c).

Cheiroseius viduus (C.L. Koch, 1839)

Distribution and habitats. **Golestan Province** (Gorgan). Soil and litter (Kazemi *et al.* 2012); **Mazandaran Province** (Nowshar). Soil and litter (Kazemi *et al.* 2012).

Genus *Hoploseius* Berlese, 1914

Hoploseius bispinosetus Faraji, Sakenin-Chelav & Karg, 2006

Distribution and habitats. **Mazandaran Province** (Amol). Wood fungi and decomposing wood (Faraji *et al.* 2006a).

Genus *Lasioseius* Berlese, 1916

Lasioseius extremus (Daneshvar, 1987)

Distribution and habitats. **Guilan Province** (Region not mentioned). Sugarcane, barley, mulberry, tea, rice, fig, raspberry, sorghum, sudan grass, cereals soil, plants, warehouses, manure and decaying plants (Daneshvar 1987; Shishehbor 1991; Modarres Awal 1994, 1997; Kamali *et al.* 2001; Hajizadeh *et al.*, 2009b, 2010a); **Isfahan Provinces** (Najaf Abad, Zarrin Shahr, Falavarjan, Dorcheh). Soil of fruit trees orchards (Jalaeian *et al.* 2006).

Note. Daneshvar (1987) erected a new genus, *Indiraseius*, and defined *I. extremus* as its type species, but the new genus was regarded as junior synonym of *Lasioseius* Berlese, 1916 by Walter & Lindquist (1997).

Lasioseius frankbakkeri Faraji & Karg, 2005

Distribution and habitats. **Guilan Province** (Region not mentioned). Soil, plants, warehouses, manure and decaying plants (Hajizadeh *et al.* 2009b, 2010a).

Lasioseius inconspicuus Westerboer, 1963

Distribution and habitats. **Golestan Province** (Gorgan). Soil (Malek-Shahkouyi *et al.* 2011b).

Lasioseius krantzi Chant, 1963

Distribution and habitats. **Khuzestan Province** (Region not mentioned). Honey bee hives (Ostovan & Mosaddegh 1999; Kamali *et al.* 2001); **Kordestan Province** (Region not mentioned). Strawberry (Mansour ghazi *et al.* 2006).

Lasioseius lacunosus Westerboer, 1963

Distribution and habitats. **Mazandaran Provinces** (Amol). Soil (Sakenin Chelav *et al.* 2006a, b).

Lasioseius lawrencei Evans, 1957

Distribution and habitats. **Golestan Province** (Gorgan). Soil (Malek-Shahkouyi *et al.* 2011b); **Kohkiluyeh and Boyer-Ahmad Province** (Gachsaran). Corn and rape seed farms (Moradian *et al.* 2011).

Lasioseius mcgregori Chant, 1963

Distribution and habitats. **Sistan and Baluchestan Provinces** (Sistan Region). Soil (Arjmandi Nejad *et al.* 2006, 2008).

Lasioseius muricatus (C.L. Koch, 1839)

Distribution and habitats. **Golestan Province** (Gorgan). Soil (Malek-Shahkouyi *et al.* 2011b).

Lasioseius ometes (Oudemans, 1903)

Distribution and habitats. **Mazandaran Province** (Amol). Soil (Sakenin Chelav *et al.* 2006a, b).

Lasioseius ometisimilis (Hirschmann, 1963)

Distribution and habitats. **Fars Province** (Marvdasht, Kamfiruz). Soil and decayed plants under the oak trees (Beyzavi & Ostovan 2012).

Lasioseius paucisetosus Westerboer, 1963

Distribution and habitats. **Isfahan Provinces** (Khomeini Shahr). Soil of fruit trees orchards in (Jalaeian *et al.* 2006).

Lasioseius penicilliger (Berlese, 1916)

Distribution and habitats. **Mazandaran Province** (Region not mentioned). Honey bee hives (Mosaddegh 1997; Kamali *et al.* 2001); **Tehran, Golestan, Sistan and Baluchestan Provinces** (Region not mentioned). Bird nests (Ardeshir *et al.* 2010); **Golestan Province** (Gorgan). Soil (Malek-Shahkouyi *et al.* 2011b).

Lasioseius phytoseioides Chant, 1963

Distribution and habitats. **Khuzestan Province** (Safiabad). Grapevine yards (Kamali *et al.* 2001; Darvishzadeh & Kamali 2009).

Lasioseius qiamensis Gu & Wang, 1990

Distribution and habitats. **Fars Province** (Estahban). Soil, leaves, litter, bark and saffron bulb (Naghbinejad *et al.* 2011).

Lasioseius scapulatus Kennett, 1958

Distribution and habitats. **Fars Province** (Shiraz). Soil (Montazeri *et al.* 2011); **Khuzestan Province** (Ahvaz). Soil (Nemati *et al.* 2012c).

Lasioseius sugawarai Ehara, 1964

Distribution and habitats. **Fars Province** (Jahrom). Soil of citrus orchards (Khademi *et al.* 2006); **Mazandaran Province** (Amol). Soil (Sakenin Chelav *et al.* 2006a, b); **Alborz Province** (Eshtehard). Compost (Kheradmand *et al.* 2007); **Guilan Province** (Region not mentioned). Soil, plants, warehouses, manure and decaying plants (Hajizadeh *et al.* 2009b, 2010a); **Isfahan Province** (Shahreza). Soil (Kavianpour *et al.* 2011).

Lasioseius thermophilus Willmann, 1942

Distribution and habitats. **Golestan Province** (Gorgan). Soil (Malek-Shahkouyi *et al.* 2011b).

Lasioseius youcefi Athias-Henriot, 1959

Distribution and habitats. **Hamedan Province** (Region not mentioned). Bean (*P. vulgaris*), clover (*Trifolium* sp.), apple, alfalfa, dandelion, liquorice and chick pea (Khanjani & Kamali 2000a, b; Kamali *et al.* 2001); **East Azerbaijan Province** (Tabriz). Soil of orchards (Kamali *et al.* 2001); **West Azerbaijan Province** (Urmia). Predator of European red mite (Kamali *et al.* 2001); (Miandoab Plain). Foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003); (Salmas). Soil and plant debris of apple orchards (Alizadeh & Shirdel 2012); **Semnan Province** (Dibaj). Moss at the margin of a spring, (Cheshmeh-Ali spring). ex. *Lepidium darba*, (Tooyehdarvar Village). Soil near a pear tree, decaying trunk contents of poplar tree, soil of alfalfa farm, soil mixed with weeds at the margin of a sike, soil mixed with decaying trunk of oleaster and chicken manure, (Dibaj). Soil near a willow tree, soil near a pear tree, soil mixed with weeds at the margin of a sike and soil in alfalfa farm, (Agareh Village, Chambari's orchards).

Soil of alfalfa farm and soil mixed hairy roots of a willow near a pool of spring, (Tazareh). Decaying wood of oleaster trunk with woodborer galleries, (Astaneh Village). Soil near a pear tree at the margin of a sike, (Damghan). Soil near an olive tree, (Jafar Abad Village). Soil, (Mehmandust Village). Soil mixed with weeds at the margin of a sike, (Astaneh). Soil near a willow tree at the margin of a sike, (Cheshmeh gholghol spring). Soil near a medlar tree with chicory weed, soil mixed with the roots of a willow tree, soil in an apricot orchard, (Damghan). Soil mixed with weeds near a walnut tree, (Cheshmeh-Ali spring). Soil mixed with weeds, (Darvar Village). Soil at the margin of a sike (Shamsi *et al.* 2008); **Kermanshah Province** (Rijab). Fruit orchards (Babakfard *et al.* 2008); **Guilan Province** (Region not mentioned). Soil, plants, warehouses, manure and decaying plants (Hajizadeh *et al.* 2009b, 2010a); **Isfahan Province** (Shahreza). Soil (Kavianpour *et al.* 2011); **Golestan Province** (Gorgan). Soil (Malek-Shahkouyi *et al.* 2011b); **Fars Province** (Marvdasht, Kamfiruz). Soil and decayed plants under the oak trees (Beyzavi & Ostovan 2012); (Doroodzan). Soil of fields (Asadpoor *et al.* 2012); **Kerman Province** (Rafsanjan). Soil of fruit orchards (Mohammadi *et al.* 2012); (Jiroft). Soil (Balooch Shahryari *et al.* 2012); **Khuzestan Province** (Ahvaz). Soil (Nemati *et al.* 2012c); **Chaharmahal and Bakhtiari Province** (Shahrekord). Soil (Nemati *et al.* 2012c).

Note. Mosaddegh (1997) reported a new species belong to *Lasioseius floridensis* group. Kamali *et al.* (2001) by considering this species, referred it as a species of *L. floridensis* group and later Modarres Awal (2012) and Nemati (2012) mentioned to it as a certainly identified species (*L. floridensis* Berlese, 1916) while they referred to Mosaddegh (1997); so we removed it from the checklist until identifying the certain species name or describing a new species.

Genus *Orthadenella* Athias-Henriot, 1973

Orthadenella lawrencei (Evans, 1957)

Distribution and habitats. **Mazandaran Province** (Amol). Soil (Sakenin Chelav *et al.* 2006a, b).

Genus *Platyseius* Berlese, 1916

Platyseius italicus (Berlese, 1905)

Distribution and habitats. **Chaharmahal and Bakhtiari Province** (Shahrekord). Soil (Nemati *et al.* 2012c).

Platyseius subglaber (Oudemans, 1903)

Distribution and habitats. **Guilan Province** (Region not mentioned). Soil, plants, warehouses, manure and decaying plants (Hajizadeh *et al.* 2009b, 2010a);

Chaharmahal and Bakhtiari Province (Shahrekord). Soil of an unidentified species of ant (Nemati *et al.* 2012c).

FAMILY OTOPHEIDOMENIDAE TREAT, 1955

Genus *Hemipteroseius* Evans, 1963

Hemipteroseius alderi Costa, 1968

Distribution and habitats. **Yazd Province** (Region not mentioned). Parasite of bugs of family Pyrrhocoridae (Joharchi & Saboori 2010).

FAMILY PODOCINIDAE BERLESE, 1913

Genus *Podocinum* Berlese, 1882

Podocinum pacificum (Berlese, 1895)

Distribution and habitats. **Mazandaran Province** (Region not mentioned). Soil of forests (Ostovan & Saboori 1999; Kamali *et al.* 2001); **Golestan Province** (Gorgan). Soil (Kazemi *et al.* 2011a); (Gorgan). Soil (Malek-Shahkouyi *et al.* 2011b).

New records. **Tehran Province** (Tehran, Seyed Khandan Park). Soil and litter, Sh. Kazemi coll., July 2002; **Mazandaran Province** (Nowshahr). Soil, Y. Ahangaran coll., Sept. 2009.

SUPERFAMILY RHODACAROIDEA

FAMILY RHODACARIDAE OUDEMANS, 1902

Genus *Multidentorhodacarus* Shcherbak, 1980

Multidentorhodacarus denticulatus (Berlese, 1921)

Distribution and habitats. **Fars Province** (Shiraz). Soil of orchards (Khezri *et al.* 2006).

Multidentorhodacarus saboorii Castilho, Jalaeian & Moraes, 2012

Distribution and habitats. **Isfahan Province** (Khomeini Shahr, Najaf Abad, Dorcheh). Soil of an orchard (Castilho *et al.* 2012); **Kerman Province** (Jiroft). Soil of an orchard (Castilho *et al.* 2012).

Genus *Paragamasellekans* Loots & Ryke, 1962

***Paragamasellekans* sp.**

Distribution and habitats. **Isfahan Province** (Qale'e Sefid, Khomeini Shahr, Falavarjan, Dorcheh, Goldasht). Foliage of trees, weeds and soil of orchards (Jalaeian *et al.* 2004a).

Genus *Protogamasellopsis* Evans & Purvis, 1987

Protogamasellopsis cavernicola (Moraza, 2004)

Distribution and habitats. **Kerman Province** (Jiroft). Soil (Balooch Shahryari *et al.* 2012).

Protogamasellopsis corticalis Evans & Purvis, 1987

Distribution and habitats. **Zanjan Province** (Region not mentioned). Soil (Rahmani & Zare 2011).

Protogamasellopsis posnaniensis Wiśniewski & Hirschmann, 1991

Distribution and habitats. **Guilan Province** (Region not mentioned). Stored rice, rice dust and debris (Noei *et al.* 2008).

Genus *Rhodacarellus* Willmann, 1935

Rhodacarellus epigynialis Sheals, 1956

Distribution and habitats. **Hamedan Province** (Region not mentioned). Bean (*P. vulgaris*), alfalfa and wild sainfoin (Khanjani & Kamali 2000b; Kamali *et al.* 2001); **Ardabil Province** (Moghan Plain). Cotton fields (Kamali *et al.* 2001); **East Azerbaijan Province** (Region not mentioned). Soil (Kamali *et al.* 2001); **Khuzestan Province** (Ahvaz). Soil (Baharloo *et al.* 2006); **West Azerbaijan Province** (Urmia). Soil (Rezaie *et al.* 2011); (Salmas). Soil and plant debris of apple orchards (Alizadeh & Shirdel 2012); **Kerman Province** (Rafsanjan). Soil of fruit orchards (Mohammadi *et al.* 2012).

Rhodacarellus iraniensis Castilho, Jalaeian & Moraes, 2012

Distribution and habitats. **Isfahan Province** (Najaf Abad, Borkhar, Falavarjan, Khomeini Shahr). Soil of an orchard (Castilho *et al.* 2012).

Rhodacarellus silesiacus Willmann, 1936

Distribution and habitats. **West Azerbaijan Province** (Miandoab Plain). Foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003); **Tehran Province** (Tehran, Shahid Beheshti University Campus). Soil (Kamali *et al.* 2004); (Tehran, Sorkhe Hesar Forest Park). Soil (Pakyari *et al.* 2006b, 2008); **Kohkiluyeh and Boyer-Ahmad Province** (Gachsaran). Soil of corn and rape seed farms (Moradian *et al.* 2011); **Razavi Khorasan Province** (Kashmar). Soil of vineyards (Salarzahi *et al.* 2011); **Fars Province** (Doroodzan). Soil of fields (Asadpoor *et al.* 2012).

Genus *Rhodacarus* Oudemans, 1902

Rhodacarus longisetosus Shcherbak, 1980

Distribution and habitats. **Razavi Khorasan Province** (Kashmar). Soil of vineyards (Salarzahi *et al.* 2011).

FAMILY HALOLAE LAPIDAE KARG, 1965

Genus *Halolaelaps* Berlese & Trouessart, 1889

Halolaelaps sexclavatus (Berlese, 1921)

Distribution and habitats. **Fars Province** (Shiraz). Soil of orchards (Khezri *et al.* 2006); (Sepidan, Homayjan). Foliage, soil, leaf-litter, weeds and soil of apple trees (Maneshi *et al.* 2012); **Golestan Province** (Kordkooy forest). ex. *Herpalus* sp. (Bahrami *et al.* 2011); **Isfahan Province** (Isfahan). Soil (Khalili-Moghadam *et al.* 2012); **North Khorasan Province** (Bojnurd). Soil of farms, gardens and manures (Mahpikaran *et al.* 2012).

Note. Mosaddegh (1997) reported *Halolaelaps* cf. *saproincisus* (Hirschmann & Gotz, 1968). Kamali *et al.* (2001) and Modarres Awal (2012) erroneously mentioned to it as *H. casaproincisus*; so we removed this uncertainly identified species from the current work.

Genus *Saprolaelaps* Leitner, 1946

***Saprolaelaps* sp.**

Distribution and habitats. **Tehran Province** (Tehran, Shahid Beheshti University Campus). Soil (Kamali *et al.* 2004).

Genus *Saprosecans* Karg, 1964

Saprosecans baloghi Karg, 1964

Distribution and habitats. **Fars Province** (Marvdasht, Kamfiruz). Soil and decayed plants under the oak trees (Beyzavi & Ostovan 2012).

FAMILY DIGAMASELLIDAE EVANS, 1957

Genus *Dendrolaelaps* Halbert, 1915

Dendrolaelaps brevipilis (Leitner, 1949)

Distribution and habitats. **West Azerbaijan Province** (Miandoab Plain). Foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003).

Dendrolaelaps euepistomus Hirschmann, 1960

Distribution and habitats. **Isfahan Province** (Najaf Abad). Foliage of trees, weeds and soil of orchards (Jalaeian *et al.* 2004a).

Dendrolaelaps isochetus Shcherback & Bregetova, 1980

Distribution and habitats. **Fars Province** (Larestan). Soil of cotton and wheat fields (Khadempour *et al.* 2012).

Dendrolaelaps multidentatus (Leitner, 1949)

Distribution and habitats. **Alborz Province** (Mallard and Sharyar). Compost and mushroom (Kheradmand *et al.* 2007).

Dendrolaelaps populi Hirschmann, 1960

Distribution and habitats. **Hamedan Province** (Region not mentioned). Wild sainfoin, alfalfa and darnel (Kamali *et al.* 2001); **Ardabil Province** (Moghan Plain). Cotton fields (Kamali *et al.* 2001); **Tehran Province** (Tehran, Sorkhe Hesar Forest Park). Soil (Pakyari *et al.* 2006b, 2008); **Fars Province** (Shiraz). Soil of orchards (Khezri *et al.* 2006).

Dendrolaelaps presepum (Berlese, 1918)

Distribution and habitats. **Fars Province** (Doroodzan). Soil of fields (Asadpoor *et al.* 2012).

Dendrolaelaps zwoelferi Hirschmann, 1960

Distribution and habitats. **Hamedan Province** (Region not mentioned). Wild sainfoin, alfalfa, darnel (Kamali *et al.* 2001); **Ardabil Province** (Moghan Plain). Cotton fields (Kamali *et al.* 2001); **West Azerbaijan Province** (Miandoab Plain). Foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003); (Salmas). Soil and plant debris of apple orchards (Alizadeh & Shirdel 2012).

Genus *Dendrolaelaspis* Lindquist, 1975

Dendrolaelaspis lobatus Shcherbak & Cheleviev, 1977

Distribution and habitats. **West Azerbaijan Province** (Miandoab Plain). Foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003).

Genus *Dendroseius* Karg, 1965

Dendroseius amoliensis Faraji, Sakenin-Chelav & Karg, 2006

Distribution and habitats. **Mazandaran Province** (Amol). Soil and debris (Faraji *et al.* 2006b).

FAMILY OLOGAMASIDAE RYKE, 1962

Genus *Gamasiphoides* Womersley, 1956

***Gamasiphoides* sp.**

Distribution and habitats. **Khuzestan Province** (Ahvaz). Chicken (no more data) (Kamali *et al.* 2001).

Note. *Gamasiphoides* sp. had been reported by Kamali *et al.* (2001) as a member of the family Leptolaelapidae.

Genus *Sessiluncus* G. Canestrini, 1898

Sessiluncus aegypticus Nasr & Afifi, 1984

Distribution and habitats. **Kerman Province** (Jiroft). Stem and palm fiber (Rajaei *et al.* 2012).

Sessiluncus hungaricus Karg, 1964

Distribution and habitats. **Kohkiluyeh and Boyer-Ahmad Province** (Gachsaran). Soil of corn and rape seed farms (Moradian *et al.* 2011).

Genus *Stylochirus* G. & R. Canestrini, 1882

Stylochirus multiclavatum (Willmann, 1953)

Distribution and habitats. **Golestan Province** (Gorgan). Soil and litter (Kazemi *et al.* 2011a, 2012); **Kohkiluyeh and Boyer-Ahmad Province** (Gachsaran). Soil of corn and rape seed farms (Moradian *et al.* 2011).

Genus *Gamasiphis* Berlese, 1904

Gamasiphis lanceolatus Karg, 1987

Distribution and habitats. **Guilan Province** (Region not mentioned). Stored rice, rice dust and debris (Noei *et al.* 2008); **Golestan Province** (Gorgan). Soil (Kazemi *et al.* 2011a); **Mazandaran Province** (Region not mentioned). Soil (Kazemi & Ahangaran 2011).

Gamasiphis pulchellus (Berlese, 1887)

Distribution and habitats. **Isfahan Province** (Khomeini Shahr, Najaf Abad). Soil of fruit orchards (Jalaeian *et al.* 2004b).

SUPERFAMILY VEIGAIIOIDEA

FAMILY VEIGAIIDAE OUDEMANS, 1939

Genus *Gorirossia* Farrier, 1957

***Gorirossia* sp.**

Distribution and habitats. **Ardabil Province** (Moghan Plain). Cotton fields (Kamali *et al.* 2001).

Genus *Veigaia* Oudemans, 1905

Veigaia decurtata Athias-Henriot, 1961

Distribution and habitats. **Isfahan Province** (Goldasht). Foliage of trees, weeds and soil of orchards (Jalaeian, *et al.* 2004a).

New record. **Fars Province** (Koohmare Sorkhi). Soil and litter of oak forest, Sh. Yazdanpanah coll., Oct. 2010.

Veigaia exigua (Berlese, 1917)

Distribution and habitats. **Kerman Province** (Sirjan, Pariz). Soil (Masnavipour *et al.* 2011); **Fars Province** (Sepidan, Homayjan). Foliage, soil, leaf-litter, weeds and soil of apple trees (Maneshi *et al.* 2012).

Veigaia nemorensis (C.L. Koch, 1892)

Distribution and habitats. **Kermanshah Province** (Rijab). Fruit orchards (Babakfard *et al.* 2008); **Hamedan Province** (Region not mentioned). Soil of fruit trees and weeds (Rostami *et al.* 2010); **Kohkiluyeh and Boyer-Ahmad Province** (Gachsaran). Soil of corn and rape seed farms (Moradian *et al.* 2011).

Veigaia planicola Berlese, 1882

Distribution and habitats. **Isfahan Province** (Najaf Abad). Foliage of trees, weeds and soil of orchard (Jalaeian, *et al.* 2004a); (Kashan). Soil (Sekonji *et al.* 2011); **Tehran Province** (Tehran, Shahid Beheshti University Campus). Soil (Kamali *et al.* 2004); **Kermanshah Province** (Rijab). Fruit orchards (Babakfard *et al.* 2008); **West Azerbaijan Province** (Salmas). Soil and plant debris of apple orchards (Alizadeh & Shirdel 2012).

Note. Kamali *et al.* (2001) reported *Veigaia serrata* Willmann, 1935 from soil of orchards in East Azerbaijan Province (Tabriz), but it is a junior synonym of *Veigaia planicola* (Bregotova, 1977b).

SUBCOHORT EPICRIIAE

SUPERFAMILY EPICRIOIDEA

FAMILY EPICRIIDAE BERLESE, 1885

Genus *Epicrius* G. Canestrini & Fanzago, 1877

***Epicrius* sp.**

Distribution and habitats. **Kerman Province** (Kerman, Sirch). Soil (Jalaeian & Ahmadi 2002).

New records. **Mazandaran Province** (Amol). Soil and litter, S. Paktinat coll., April 2012.

SUPERFAMILY ZERCONOIDEA

FAMILY ZERCONIDAE BERLESE, 1892

Genus *Prozercon* Sellnick, 1943

***Prozercon* sp.**

Distribution and habitats. **Hamedan Province** (Region not mentioned). Soil (*Astragalus* sp.) (Kamali *et al.* 2001).

Genus *Zercon* C.L. Koch, 1836

***Zercon* sp.**

Distribution and habitats. **Fars Province** (Marvdasht, Kamfiruz). Soil and decayed plants under the oak trees (Beyzavi & Ostovan 2012).

SUBCOHORT PARASITIAE
(PARASITINA)

SUPERFAMILY PARASITOIDEA

FAMILY PARASITIDAE OUDEMANS, 1901

Genus *Cornigamasus* Evans & Till, 1979

Cornigamasus lunaris (Berlese, 1882)

Distribution and habitats. **Mazandaran Province** (Kelardasht, Roudbarak). Soil (Kazemi *et al.* in press A); **Kerman Province** (Kerman, Joupar). Cow manure (Kazemi *et al.* in press A); **Khorasan Province** (Taybad, Jiz Abad). Associated with an unidentified Diptera (Kazemi *et al.* in press A).

Genus *Eugamasus* Berlese, 1893

Eugamasus covernicola Trägårdh, 1912

Distribution and habitats. **Semnan and Tehran Provinces** (Region not mentioned). Nest of birds (Kamali *et al.* 2001).

Genus *Gamasodes* Oudemans, 1939

Gamasodes spiniger (Trägårdh, 1910)

Distribution and habitats. **Kohkiluyeh and Boyer-Ahmad Province** (Gachsaran). Soil of corn and rape seed farms (Moradian *et al.* 2011); **Mazandaran Province** (Tonekabon, Konseh forest). Soil and litter (Kazemi *et al.* in press A).

Genus *Holoparasitus* Oudemans, 1939

Holoparasitus minimus (Holzmann, 1955)

Distribution and habitats. **Semnan Province.** Leaf compost (Kamali *et al.* 2001); **Tehran Province.** Leaf compost (Kamali *et al.* 2001); **Golestan and Mazandaran Provinces** (Region not mentioned). Soil and litter (Kazemi *et al.* 2012); **Golestan Province** (Gorgan, Gharn Abad Forest). Rotten wood (Kazemi *et al.* in press A).

Genus *Leptogamasus* Trägårdh, 1936

Leptogamasus leruthi (Cooreman, 1951)

Distribution and habitats. **Semnan and Tehran Provinces** (Region not mentioned). Leaf compost, buttonwood and livestock manure (Kamali *et al.* 2001).

Leptogamasus bidens Sellnick, 1951

Distribution and habitats. **Tehran Province** (Tehran, Sorkheh Hesar Forest Park). Soil (Pakyari *et al.* 2006b, c).

Genus *Neogamasus* Tichomirov, 1969

Neogamasus insignis (Holzmann, 1969)

Distribution and habitats. **Semnan and Tehran Provinces** (Region not mentioned). Livestock manure (Kamali *et al.* 2001); **Tehran Province.** (Tehran, Sorkheh Hesar Forest Park). Soil (Pakyari *et al.* 2006b, c); (Tehran, Laleh Park). Soil and litter (Kazemi *et al.* in press A); **Guilan Province** (Masuleh). Soil (Kazemi *et al.* in press A);

Mazandaran Province (Nowshahr, Ecology Garden). Forest litter, (Tonekabon, Kol-Lat, Tyrom, Dimron, Konseh Forests). Soil and litter, (Ramsar, Namakdarreh). Soil and litter, (Abbas Abad, Kelar Abad). Sawdust and rotten wood (Kazemi *et al.* in press A); **Golestan Province** (Gorgan, Alangdarreh Forest). Forest litter (Kazemi *et al.* in press A).

Neogamasus islandicus (Sellnick, 1940)

Distribution and habitats. **Tehran Province** (Tehran, Sorkheh Hesar Forest Park). Soil (Pakyari *et al.* 2006b, c).

Neogamasus cervicornis (van Daele, 1975)

Distribution and habitats. **Fars Province** (Shiraz). Soil of orchards (Khezri *et al.* 2006).

Genus Parasitellus Willmann, 1939

Parasitellus fucorum (De Geer, 1778)

Distribution and habitats. **Tehran Province** (Region not mentioned). Associated with *Bombus* spp. (Yahyavinezhad *et al.* 2010); **Ardabil Province** (Moeil). Associated with *Bombus argillaceus* (Scopoli); **Mazandaran Province** (Tirtash). Associated with *Bombus* sp. (Kazemi *et al.* in press A).

Genus Parasitus Latreille, 1795

Parasitus americanus (Berlese, 1905)

Distribution and habitats. **Isfahan Province** (Region not mentioned). Alfalfa (Hatami 1991; Modarres Awal 1997; Kamali *et al.* 2001).

Parasitus cavernicolus (Trägårdh, 1952)

Distribution and habitats. **Tehran and Semnan Provinces** (Region not mentioned). Nest of birds (Kamali *et al.* 2001).

Parasitus concors Oudemans & Voigts, 1904

Distribution and habitats. **Tehran and Semnan Provinces** (Region not mentioned). Livestock manure (Kamali *et al.* 2001).

Parasitus congener Oudemans & Voigts, 1904

Distribution and habitats. **Tehran and Semnan Provinces** (Region not mentioned). Livestock manure and carcass of cow (Kamali *et al.* 2001).

Parasitus coleopratorum (Linnaeus, 1758)

Distribution and habitats. **Alborz Province** (Eshtehard, Mehrshahr). Compost and mushroom (Kheradmand *et al.* 2007); **Golestan Province** (Zyiarat Village). ex. *E. gibbosus* and *C. schreiberi*, (Roshan Abad). ex. *Geotrupes* sp. and *E. gibbosus* (Bahrami *et al.* 2011); (Gorgan, Shast Kola forest). ex. *P. olivieri*, ex. *G. puncticollis*, *O. cinctella* and *Euoniticellus pallens* (Olivier) collected in cow manure (Kazemi *et al.* in press A); **North Khorasan Province** (Bojnurd). Soil of farms, gardens and manures (Mahpikaran *et al.* 2012); **Mazandaran Province** (Galougah). ex. *Onthophagus* sp. collected in cow manure, (Rouyan, Dinkooh). Soil and litter, (Kelardasht, Derazmari). Cow manure, (Tonekabon, Dimron). Soil and litter, (Kajur, Eslam-Abad). Soil, (Nowshahr, Khirudkenar). Forest litter, (Abbas Abad, Kelar Abad). Rotten wood (Kazemi *et al.* in press A).

Parasitus consanguineus Oudemans & Voigts, 1904

Distribution and habitats. **East Azerbaijan Province** (Region not mentioned). Soil (Kamali *et al.* 2001); **Hamedan Province** (Region not mentioned). Clover (*Trifolium* sp.) and alfalfa farms (Khanjani & Kamali 2000a; Kamali *et al.* 2001); **Kerman Province** (Region not mentioned). Soil (Jalaeian & Ahmadi 2003); (Bam). Soil (Mehrzhad *et al.* 2012); (Kerman, Sirch, Sekonj, Bam). Soil, cow and sheep manure (Kazemi *et al.* 2012); **West Azerbaijan Province** (Urmia). Aerial plants part and soil of potato fields (Mosavi *et al.* 2004); (Khoy). Soil of sunflower fields (Taher *et al.* 2012); **Isfahan Province** (Goldasht, Qale'e Sefid, Flavarjan). Soil of fruit orchards (Jalaeian *et al.* 2006); (Kashan). Soil (Sekonji *et al.* 2011); (Isfahan), Soil (Khalili-Moghadam *et al.* 2012); **Tehran Province** (Tehran, Sorkheh Hesar Forest Park). Soil (Pakyari *et al.* 2006b, c); (Tehran, Ghalamestan Park). Soil and litter, (Tehran Jamshidiyeh Park). Soil and litter, (Tehran, Shahed University fields). Soil and litter, (Tehran, Shahed University greenhouses). Cow manure, (Roudehen). Soil and litter (Kazemi *et al.* in press A); **Kermanshah Province** (Rijab). Fruit orchards (Babakfard *et al.* 2008); **Golestan Province** (Gorgan). Soil (Kazemi *et al.* 2011a); (Gorgan, Tuskestan forest). Litter (Kazemi *et al.* in press A); **Kerman Province** (Sirjan, Balvard, Pariz). Soil (Masnavipour *et al.* 2011); **Chaharmahal and Bakhtiari and Isfahan Provinces** (Region not mentioned). Body of birds or their nests (Keivani *et al.* 2012); **North Khorasan Province** (Bojnurd). Soil of farms, gardens and manures (Mahpikaran *et al.* 2012); **Mazandaran Province** (Ramsar, Namakdarreh). Soil and litter; (Tonekabon, Konseh forest). Soil and litter; (Chalous, Roshandarreh). Soil and litter (Kazemi *et al.* in press A); **Razavi Khorasan Province** (Mashhad). ex. *Pentodon* sp. (Kazemi *et al.* 2012).

Parasitus fimetorum (Berlese, 1903)

Distribution and habitats. **Mazandaran Province** (Region not mentioned). Honey bee hives (Mosaddegh 1997; Kamali *et al.* 2001); (Marzan Abad). Sawdust and rotten wood; (Tonekobon, Dimron). Cow manure, (Nowshahr, Narenjbon). Soil and rotten wood, (Nowshahr, Ecology Garden). Forest litter, (Abbas Abad, Kellar-Abad). Sawdust and rotten wood (Kazemi *et al.* in press A); **Semnan and Tehran Provinces** (Region not mentioned). Livestock manure, ash, buttonwood, decaing leaf compost, nest of birds and chicken manure (Kamali *et al.* 2001); (Tehran, Laleh Park). Soil and litter, (Tehran, Jamshidiyeh Park). Soil and litter, (Tehran, Peikanshahr). Soil and litter (Kazemi *et al.* in press A); **Kerman Province** (Region not mentioned). Soil (Jalaeian & Ahmadi 2003); (Sirjan, Pariz, Balvard, Shahrehabak, Javazm). Soil (Masnavipour *et al.* 2011); (Jiroft). Soil (Balooch Shahryari *et al.* 2012); (Bam). Soil (Mehrzaad *et al.* 2012); **Khuzestan Province** (Ahvaz). Soil (Baharloo *et al.* 2006); **Alborz Province** (Mallard). Compost (Kheradmand *et al.* 2007); **Golestan Province** (Nasr Abad and Ziyarat Villages). ex. *E. gibbosus* (Bahrami *et al.* 2011); (Gorgan, Shast Kola Forest). ex. *E. pallens*; **Kohkiluyeh va Boyer-Ahmad Province** (Gachsaran). Soil of corn and rape seed farms (Moradian *et al.* 2011); **West Azerbaijan Province** (Urmia). Soil (Rezaie *et al.* 2011); **North Khorasan Province** (Bojnurd). Soil of farms, gardens and manures (Mahpikaran *et al.* 2012); **Razavi Khorasan and Markazi Provinces** (Region not mentioned). Corm of gladiole and saffron (Baradaran Anaraki *et al.* 2012); **East Azerbaijan Province** (Tabriz). Soil and litter (Kazemi *et al.* in press A); **Fars Province** (Darab). Soil (Kazemi *et al.* in press A).

Parasitus furcatus (G. & R. Canestrini, 1882)

Distribution and habitats. **Tehran and Semnan Provinces** (Region not mentioned). Soil (Kamali *et al.* 2001).

Parasitus hyalinus (Willmann, 1949)

Distribution and habitats. **Isfahan Province** (Region not mentioned). Alfalfa (Hatami 1991; Kamali *et al.* 2001); (Goldasht, Dorcheh). Soil of fruit orchards (Jalaeian *et al.* 2006); **Semnan Province** (Region not mentioned). Carcass of rat; livestock manure; nest of birds and pomegranate (Modarres Awal 1997; Kamali *et al.* 2001); **Tehran Province** (Region not mentioned). Carcass of rat; livestock manure; nest of birds and pomegranate (Modarres Awal 1997; Kamali *et al.* 2001); (Tehran, Ghalamestan Park). Soil and litter (Kazemi *et al.* in press A); **Kerman Province** (Region not mentioned). Soil (Jalaeian & Ahmadi 2003); (Baft). Soil and litter; (Sirjan). Soil of wheat fields (Kazemi *et al.* in press A); **West Azerbaijan Province** (Salmas). Soil and plant debris of apple orchards (Alizadeh & Shirdel 2012).

Parasitus lunariphilus Makarova, 1996

Distribution and habitats. **Mazandaran Province** (Noor Forest Park). ex. *Margarinotus bipustulatus* Schrank, (Abbas Abad, Kuti Bazar). Litter, (Nowshahr, Narenjbon). Litter (Kazemi *et al.* in press A).

Parasitus mammillatus (Berlese, 1905)

Distribution and habitats. **Hamedan province** (Region not mentioned). Clover (*Trifolium* sp.) and alfalfa farms (Khanjani & Kamali 2000a; Kamali *et al.* 2001); **Fars Province** (Region not mentioned). Stored onion (Kamali *et al.* 2001); (Shiraz, Abegarm, Sepidan, Lapouee). Associated with button mushroom *Agaricus bisporus* (Lange) (Keshtmand *et al.* 2011); **Kerman Province** (Region not mentioned). Soil (Jalaeian & Ahmadi 2003); **Alborz Province** (Mallard). Compost (Kheradmand *et al.* 2007); **Kermanshah Province** (Rijab). Fruit orchards (Babakfard *et al.* 2008).

Parasitus mustelarum Oudemans, 1902

Distribution and habitats. **Mazandaran Province** (Galougah). ex. *E. pallens* collected in cow manure, (Kelardasht, Derazmari). Cow manure (Kazemi *et al.* in press A).

Parasitus mycophilus Karg, 1971

Distribution and habitats. **Hamedan Province** (Region not mentioned). Bean (*P. vulgaris*) farms (Khanjani & Kamali 2000b; Kamali *et al.* 2001); **Tehran Province** (Region not mentioned). Livestock manure, rat carcass (Kamali *et al.* 2001); **Fars Province** (Kazerun). Stored onion (Kamali *et al.* 2001); (Marvdasht). Soil (Soleimani *et al.* 2011); **Kerman Province** (Region not mentioned). Soil (Jalaeian & Ahmadi 2003); (Kerman, Sekonj). Cow and sheep manure (Kazemi *et al.* in press A); **West Azerbaijan Province** (Salmas). Soil and plant debris of apple orchards (Alizadeh & Shirdel 2012); **Razavi Khorasan Province** (Mashhad). ex. *Pentodon* sp., in front of a rodent hole (Kazemi *et al.* in press A).

Parasitus nolli Karg, 1965

Distribution and habitats. **Semnan Province** (Region not mentioned). Livestock and chicken manure, leaf compost, nest of birds and pine (Kamali *et al.* 2001); **Tehran Province** (Region not mentioned). Livestock and chicken manure, leaf compost, nest of birds and pine (Kamali *et al.* 2001); **Kerman Province** (Region not mentioned). Soil (Jalaeian & Ahmadi 2003).

Prasitus numerus Karg, 1965

Distribution and habitats. **Isfahan Province** (Isfahan). Soil (Khalili-Moghadam *et al.* 2012).

Genus *Pergamasus* Berlese, 1903

Pergamasus faculiger (Berlese, 1906)

Distribution and habitats. **Fars Province** (Shiraz). Soil of orchards (Khezri *et al.* 2006).

Genus *Trachygamasus* Berlese, 1906

Trachygamasus gracilis (Karg, 1965)

Distribution and habitats. **Semnan and Tehran Provinces** (Region not mentioned). Carcass of rat (Kamali *et al.* 2001).

Genus *Vulgarogamasus* Tichomirov, 1969

Vulgarogamasus kraepelini (Berlese, 1905)

Distribution and habitats. **Mazandaran Province** (Tonekabon, Kol lat Forest). Soil and litter (Kazemi *et al.*, in press A).

Vulgarogamasus oudemansi (Berlese, 1903)

Distribution and habitats. **Kohkiluyeh and Boyer-Ahmad Province** (Gachsaran). Soil of corn and rape seed farms (Moradian *et al.* 2011).

COHORT MICROGYNIINA

SUPERFAMILY MICROGYNIOIDEA

FAMILY MICROGYNIIDAE TRÄGÅRDH, 1942

Genus *Microsejus* Trägårdh, 1942

Microsejus truncicola Trägårdh, 1942

Distribution and habitats. **Mazandaran Province** (Behshahr, Abas Abad). Rotting wood (Kazemi *et al.* 2011c).

COHORT UROPODINA

SUBCOHORT UROPODIAE

SUPERFAMILY POLYASPIDOIDEA

FAMILY DITHINOZERCONIDAE AINSCOUGH, 1979

Genus *Dithinozercon* Berlese, 1916

Dithinozercon halberti (Berlese, 1916)

Distribution and habitats. **Tehran Province** (Tarasht, Shemiranat). Soils of walnut and apple orchards (Kazemi *et al.* 2003b).

FAMILY POLYASPIDIDAE BERLESE, 1913

Genus *Polyaspis* Berlese, 1881

Polyaspis sp.

Distribution and habitats. **East Azerbaijan Province** (Tabriz). Soil of orchards (Kamali *et al.* 2001).

New data. **Mazandaran Province** (Sari). Soil and litter, Sh. Kazemi coll., July 2010.

FAMILY TRACHYTIDAE TRÄGÅRDH, 1938

Genus *Trachytes* Michael, 1894

Trachytes aegrota (C.L. Koch, 1841)

Distribution and habitats. **Kerman Province** (Region not mentioned). Soil (Jalaeian & Breitegger 2002).

Trachytes arcuatus Hirschmann & Z-Nicole, 1963

Distribution and habitats. **Kerman Province** (Region not mentioned). Soil (Jalaeian & Breitegger 2002).

Trachytes irenae Pecina, 1970

Distribution and habitats. **Kerman Province** (Region not mentioned). Soil (Jalaeian & Breitegger 2002).

Trachytes minima Trägårdh, 1910

Distribution and habitats. **Kerman Province** (Region not mentioned). Soil (Jalaeian & Breitegger 2002).

Trachytes montana Willmann, 1953

Distribution and habitats. **Kerman Province** (Region not mentioned). Soil (Jalaeian & Breitegger 2002).

SUPERFAMILY TRACHYUROPODOIDEA

FAMILY TRACHYUROPODIDAE BERLESE, 1917

Genus *Trachyuroopoda* Berlese, 1888

Trachyuroopoda sp.

New record. **Mazandaran Province** (Tonekabon, Shoroom forest). Soil and manure, Y. Ahangaran coll., May 2010; (Ramsar). Soil and litter, Y. Ahangaran coll., June 2010.

SUPERFAMILY UROPODOIDEA

FAMILY TREMATURIDAE BERLESE, 1917

Genus *Nenteria* Oudemans, 1915

Nenteria breviunguiculata (Willmann, 1949)

Distribution and habitats. **Kerman Province.** Soil (Jalaeian 2003); (Baft). Soil (Rajaei *et al.* 2011b); **Tehran Province** (Tehran). Soil and litter (Kazemi *et al.* 2003a); Soil (Kazemi *et al.* 2005); **Isfahan Province** (Dorcheh, Khomeini Shahr). Soil of fruit trees orchards (Jalaeian *et al.* 2006).

Nenteria stammeri Hirschmann & Z-Nicol, 1962

Distribution and habitats. **Golestan Province** (Zyarat Village). ex. *E. gibbosus* in horse dung (Bahrami *et al.* 2011).

Nenteria stylifera (Berlese, 1904)

Distribution and habitats. **East Azerbaijan Province** (Tabriz). Soil of orchards (Kamali *et al.* 2001); **Hamedan Province** (Region not mentioned). Wild sainfoin (Kamali *et al.* 2001); **West Azerbaijan Province** (Urmia). House dust (Kamali *et al.* 2001), soil (Rezaie *et al.* 2011); (Salmas). Soil and plant debris of apple orchards (Alizadeh & Shirdel 2012); **Tehran Province** (Tehran). Humus rich areas of orchards, Parks and lawns of the region (Kazemi *et al.* 2003a), soil (Kazemi *et al.* 2005), honey bee hives (Rahmani *et al.* 2006); (Tehran, Sorkhe Hesar Forest Park). Soil (Pakyari *et al.* 2006b, 2008); (Region not mentioned). Potato field crops (Baradaran *et al.* 2010); (Varamin Region, Mohammad Abad, Asgar Abad, Moein Abad, Pouinak, Jalil Abad, Ghalesin, Pishva roadway). Soil of crop fields including pomegranate, grape vine, eggplant, cucumber, wheat, tomato, lettuce and alfalfa (Kheradpir & Pakyari 2011); **Kerman Province** (Region not mentioned). Soil (Jalaeian 2003); (Sirjan, Pariz). Soil (Masnavipour *et al.* 2011); (Rafsanjan). Soil of fruit orchards (Mohammadi *et al.* 2012), (Jiroft). Soil (Balooch Shahryari *et al.* 2012); **Isfahan Province** (Goldasht, Khomeini Shahr). Soil of fruit trees orchards (Jalaeian *et al.* 2006); **Khuzestan Province** (Ahvaz). Soil (Baharloo *et al.* 2006); **Razavi Khorasan Provinces** (Region not mentioned). Potato field crops (Baradaran *et al.* 2010); **Golestan Province** (Gorgan). Soil (Kazemi *et al.* 2011a); **Mazandaran Province** (Sisangan Forest Park). Soil, litter, humus, cow and sheep dung (Kazemi, 2012).

Genus *Trichouropoda* Berlese, 1916

Trichouropoda bipilis (Vitzthum, 1921)

Distribution and habitats. **Tehran Province** (Region not mentioned). Associated with elm bark beetles *S. multistriatus* (Ostovan & Kamali 1997; Kamali *et al.* 2001); **Alborz Province** (Karaj and Shahriyar). ex. *Scolytus amygdali* Guerin- Meneville (Ahadiyat *et al.* 2004).

Trichouropoda elegans (Kramer, 1882)

Distribution and habitats. **Tehran Province** (Tehran). Humus rich areas of orchards, Parks and lawns of the region (Kazemi *et al.* 2003a), soil (Kazemi *et al.* 2005); **West Azerbaijan Province** (Urmia). Foliage and soil of potato fields (Mosavi *et al.* 2004); (Khoy). Soil of sunflower fields (Taher *et al.* 2012); (Salmas). Soil and plant debris of apple orchards (Alizadeh & Shirdel 2012); **Guilan Province** (Region not mentioned). Stored rice, rice dust and debris (Noei *et al.* 2008); **Golestan Province** (Naharkhoran Forest). ex. *Herpalus* sp. and *Pentodon* sp. (Bahrami *et al.* 2011); (Gorgan). Soil, litter, humus, cow and sheep dung (Kazemi 2012); **Mazandaran Province** (Sisangan Forest Park). Soil, litter, humus, cow and sheep dung (Kazemi 2012).

Trichouropoda orbicularis (C.L. Koch, 1839)

Distribution and habitats. **Region not mentioned.** Stored products (Sepasgozarian 1978; Modarres Awal 1994, 1997; Kamali *et al.* 2001); **Fars Province.** (Region not

mentioned) Flours (Shahhosseini & Kamali 1989; Modarres Awal 1994, 1997; Kamali *et al.* 2001); **Guilan Province** (Region not mentioned). Stored rice, rice dust and debris (Noei *et al.* 2008).

Trichouropoda ovalis (C.L. Koch, 1839)

Distribution and habitats. **Mazandaran Province** (Nowshahr, Sisangan Forest Park, Tonekabon, Chalus). Soil, litter, humus, cow and sheep dung (Kazemi 2012).

Trichouropoda patavina (G. Canestrini, 1885)

Distribution and habitats. **Fars Province** (Region not mentioned). Flour, rice and barely (Kamali *et al.* 2001); **West Azerbaijan Province** (Urmia). House dust (Kamali *et al.* 2001); **Razavi Khorasan Province** (Torbat Heydariyeh, Feiz Abad). ex. *Pentodon* sp. (Kazemi *et al.* 2008b); **Guilan Province** (Region not mentioned). Stored rice, rice dust and debris (Noei *et al.* 2008); **Kerman Province** (Baft). Soil (Rajaei *et al.* 2011b).

Note. Kamali *et al.* (2001) reported *Trematura jacksonia* Hughes, 1948 and *Leiodynycus krameri* Berlese, 1884 which are junior synonyms of *Trichouropoda patavina* (Mašán 2001).

FAMILY METAGYNURIDAE BALOGH, 1943

Genus *Metagynella* Berlese, 1919

Metagynella paradoxa Berlese, 1919

Distribution and habitats. **Mazandaran and Razavi Khorasan Provinces** (Region not mentioned). ex.unidentified scarabaeid beetles (Kazemi *et al.* 2008b).

FAMILY OPLITIDAE JOHNSTON, 1968

Genus *Oplitis* Berlese, 1884

Oplitis iranicus Kazemi & Kontschán, 2007

Distribution and habitats. **Yazd Province** (Abarkooh). Soil and litter, wheat fields (Kazemi & Kontschán 2007).

Oplitis paradoxa (G. Canestrini & Berlese, 1884)

Distribution and habitats. **Yazd Province** (Abarkooh). Soil from wheat fields (Kazemi *et al.* 2008a); **Fars Province** (Jahrom). Soil from citrus orchards (Kazemi *et al.* 2008a); **Kerman Province** (Jiroft). Soil (Balooch Shahryari *et al.* 2012).

FAMILY DINYCHIDAE BERLESE, 1916

Genus *Uroobovella* Berlese, 1903

Uroobovella difoveolata Hirschmann & Z-Nicole, 1969

Distribution and habitats. **Razavi Khorasan Province** (Sarakhs, Bazangan Lake coast). ex. *C. hispanus* (Kazemi *et al.* 2008b); **Mazandaran Province** (Galugah). ex. *E. pallens* (Kazemi *et al.* 2008b).

Uroobovella fimicola (Berlese, 1903)

Distribution and habitats. **Fars Province** (Region not mentioned). Birdseed and poultry bed (Kamali *et al.* 2001); (Doroodzan). Soil of fields (Asadpoor *et al.* 2012); **Tehran Province** (Tehran). Humus rich areas of orchards, Parks and lawns of the region (Kazemi *et al.* 2003a), soil (Kazemi *et al.* 2005); **Alborz Province** (Shahryar). Compost and mushroom (Kheradmand *et al.* 2007); **Razavi Khorasan and Mazandaran Provinces** (Region not mentioned). ex. unidentified scarabaeid beetles (Kazemi *et al.* 2008b); **Golestan Province** (Gorgan, Toshan Village). ex. *E. gibbosus* (Bahrami *et al.* 2011); **West Azerbaijan Province** (Khoy). Soil of sunflower fields (Taher *et al.* 2012); (Salmas). Soil and plant debris of apple orchards (Alizadeh & Shirdel 2012); **North Khorasan Province** (Bojnurd). Soil of farms, gardens and manures (Mahpikaran *et al.* 2012); **Mazandaran Province** (Sisangan and Noor Forest Parks). Soil, litter, humus, cow and sheep dung (Kazemi 2012).

Uroobovella marginata (C.L. Koch, 1839)

Distribution and habitats. **Not mentioned locality.** Stored products (Sepasgozarian 1978; Modarres Awal 1994, 1997; Kamali *et al.* 2001); **Tehran Province** (Tehran). Humus rich areas of orchards, Parks and lawns of the region (Kazemi *et al.* 2003a); Soil (Kazemi *et al.* 2005); **Kerman Province** (Region not mentioned). Soil (Jalaeian 2003); (Kerman). Cow manure (Arjomandi *et al.* 2011); (Baft). Soil (Rajaei *et al.* 2011b); (Bam). Soil (Mehrzhad *et al.* 2012); **Isfahan Province** (Najaf Abad, Dorcheh, Khomeini Shahr). Soil of fruit trees orchards (Jalaeian *et al.* 2006); **Razavi Khorasan and Mazandaran Provinces** (Region not mentioned). ex. unidentified scarabaeid beetles (Kazemi *et al.* 2008b); (Sisangan and Noor Forest Parks). Soil, litter, humus, cow and sheep dung (Kazemi 2012); **Guilan Province** (Region not mentioned). Stored rice, rice dust and debris (Noei *et al.* 2008); **Golestan Province** (Gorgan, Toshan Village). ex. *E. gibbosus* (Bahrami *et al.* 2011); **North Khorasan Province** (Bojnurd). Soil of farms, gardens and manures (Mahpikaran *et al.* 2012); **West Azerbaijan Province** (Salmas). Soil and plant debris of apple orchards (Alizadeh & Shirdel 2012).

Uroobovella obovata (G. Canestrini & Berlese, 1884)

Distribution and habitats. **Tehran Province** (Tehran). Humus rich areas of orchards, parks and lawns of the region (Kazemi *et al.* 2003a), soil (Kazemi *et al.* 2005); (Tehran, Sorkhe Hesar Forest Park). Soil (Pakyari *et al.* 2006b, 2008); **Khuzestan Province** (Ahvaz). Soil (Baharloo *et al.* 2006); **Fars Province** (Jahrom). Soil of citrus orchards (Khademi *et al.* 2006); (Marvdasht). Soil (Soleimani *et al.* 2011); (Marvdasht, Islamic Azad University, Fars Science and Research Branch). Soil and decayed plants associated with conifers (Amirazodi & Ostovan 2012); **West Azerbaijan Province** (Urmia). Soil (Rezaie *et al.* 2011); **Kerman Province** (Jiroft). Soil (Balooch Shahryari *et al.* 2012); **Mazandaran Province** (Sisangan and Noor Forest Parks). Soil, litter, humus, cow and sheep dung (Kazemi 2012).

Uroobovella pulchella (Berlese, 1904)

Distribution and habitats. **Tehran Province** (Tehran). Humus rich areas of orchards, Parks and lawns of the region (Kazemi *et al.* 2003a), soil (Kazemi *et al.* 2005).

Note. Jalaeian *et al.* (2004a) reported *Urodynichus* sp. from foliage of trees, weeds and soil of orchards (Isfahan Province, Goldasht) and also, Balooch Shahryari *et al.* (2012) reported *Urosternella* sp. from soil (Kerman Province, Jiroft) which they are synonyms of the genus *Uroobovella* Berlese, 1905 (Mašán 2001).

FAMILY UROPODIDAE KRAMER, 1881

Genus *Discourella* Berlese, 1910

Discourella modesta (Leonardi, 1899)

Distribution and habitats. **Fars Province** (Marvdasht, Kamfiruz). Soil and decayed plants under the oak trees (Beyzavi & Ostovan 2012).

Genus *Neodiscopoma* Vitzthum, 1943

Neodiscopoma persica Kazemi & Kontschán, 2007

Distribution and habitats. **Yazd Province** (Abarkooh). Soil and litter, wheat fields (Kazemi & Kontschán 2007).

Genus ***Uropoda*** Latreille, 1806

Uropoda copridis (Oudemans, 1916)

Distribution and habitats. **Golestan Province** (Shast Kola Forest). ex. *O. nasicornis*, (Shast Kola and Ghorogh Forests). ex. *C. hispanus* (Bahrami *et al.* 2011).

Note. *Uropoda afghanica* Wiśniewski & Hirschmann, 1996 reported by Kazemi *et al.* (2008b) associated with scarab beetles which had been identified based on one low quality slide. The slide was re-examined besides of several new mounted specimens from same host and locality and identified as *U. copridis*, so the previous species removed from the checklist.

***Uropoda orbicularis* (Müller, 1776)**

Distribution and habitats. **East Azerbaijan Province** (Tabriz). Soil of orchards (Kamali *et al.* 2001); **Hamedan Province** (Region not mentioned). Clover (*Trifolium* sp.) farms (Khanjani & Kamali 2000a; Kamali *et al.* 2001); **Fars Province** (Kazerun). Decaying onion (Kamali *et al.* 2001); (Jahrom). Soil of citrus orchards (Khademi *et al.* 2006); (Marvdasht). Soil (Soleimani *et al.* 2011); (Marvdasht, Islamic Azad University, Fars Science and Research Branch). Soil and decayed plants associated with conifers (Amirazodi & Ostovan 2012); (Doroodzan). Soil of fields (Asadpoor *et al.* 2012); (Sepidan, Homayjan). Foliage, soil, leaf-litter, weeds and soil of apple trees (Maneshi *et al.* 2012); **Tehran Province** (Tehran). Humus rich areas of orchards, Parks and lawns of the region (Kazemi *et al.* 2003a); (Tehran, Shahid Beheshti University Campus). Soil (Kamali *et al.* 2004); (Region not mentioned). Soil (Kazemi *et al.* 2005), honey bee hives (Rahmani *et al.* 2006); **West Azerbaijan Province** (Urmia). Aerial plants part and soil of potato fields (Mosavi *et al.* 2004); (Khoy). Soil of sunflower fields (Taher *et al.* 2012); (Salmas). Soil and plant debris of apple orchards (Alizadeh & Shirdel 2012); **Khuzestan Province** (Ahvaz). Soil (Baharloo *et al.* 2006); **North Khorasan Province** (Esfidan). ex. *C. scheriberi* and *Onthophagus* sp. (Kazemi *et al.* 2008b); (Bojnurd). Soils of farm, gardens and manures (Mahpikaran *et al.* 2012); **Golestan Province** (Gorgan). Soil (Kazemi *et al.* 2011a); **Kerman Province** (Baft). Soil (Rajaei *et al.* 2011b); (Bam). Soil (Mehrzaad *et al.* 2012); **Mazandaran Province** (Sisangan and Noor Forest Parks). Soil, litter, humus, cow and sheep dung (Kazemi 2012).

SUBORDER TRIGYNASPIDA

COHORT ANTENNOPHORINA

SUPERFAMILY ANTENNOPHOROIDEA

FAMILY ANTENNOPHORIDAE BERLESE, 1892

Genus *Antennophorus* Haller, 1877

Antennophorus foreli Wasmann, 1891

Distribution and habitats. **Isfahan and Chaharmahal and Bakhtiyari Provinces** (Region not mentioned). Soil (Nemati *et al.* 2012a).

SUPERFAMILY CELAENOPSOIDEA

FAMILY CELAENOPSIDAE BERLESE, 1892

Genus *Celaenopsis* Berlese, 1886

Celaenopsis badius C.L. Koch, 1839

Distribution and habitats. **Isfahan and Chaharmahal and Bakhtiyari Provinces** (Region not mentioned). Soil (Nemati *et al.* 2012a).

Genus *Pleuronectocelaeno* Vitzthum, 1926

Pleuronectocelaeno austriaca Vitzthum, 1926

Distribution and habitats. **Tehran, Fars and Guilan Provinces** (Region not mentioned). Galleries made by Mediterranean pine engraver beetles *Orthotomicus erosus* (Wollaston) (Ahadiyat *et al.* 2012).

Pleuronectocelaeno barbara Athias-Henriot, 1959

Distribution and habitats. **Tehran Province** (Tehran). Associated with elm bark beetles *S. multistriatus* (Ostovan & Kamali 1997; Kamali *et al.* 2001); **Tehran, Fars and Guilan Provinces** (Region not mentioned). Galleries made by Mediterranean pine engraver beetles *O. erosus* (Ahadiyat *et al.* 2012).

Note. Ostovan & Kamali (1997) and Kamali *et al.* (2001) reported *Pleuronectocelaeno drymoecetes* Kinn, 1968 before recording *P. barbara* by Ahadiyat *et al.* (2012) which is the junior synonym of the latter species (Kinn, 1991).

FAMILY DIPLOGYNIIDAE TRÄGÅRDH, 1941

Genus *Lobogynium* Trägårdh, 1950

Lobogynium sodhiri (Datta, 1985)

Distribution and habitats. **Tehran Province** (Rudehen). ex. *Atholus scutellaris* (Erichson); **Golestan Province** (Gorgan, Naharkhoran). ex. *G. spiniger*; **Fars Province** (Jari Abad Village). Dry cow dung and decaying plant material; **North Khorasan**

Province (Bojnord). Sheep and cow dung; **Razavi Khorasan Province** (Mashhad, Shandiz). ex. *A. scutellaris* (Plumari & Kazemi 2012).

Genus *Weiseronyssus* Samšínák, 1962

Weiseronyssus persicus Kazemi, Klompen & Moraza, 2008

Distribution and habitats. **Mazandaran Province** (Galugah). ex. *O. nasicornis* (Kazemi *et al.* 2008g); **Golestan Province** (Gorgan, Shast Kola Forest). ex. *O. nasicornis* (Kazemi *et al.* 2008g; Bahrami *et al.*, 2011).

COHORT CERCOMEGISTINA

SUPERFAMILY CERCOMEGISTOIDEA

FAMILY CERCOMEGISTIDAE TRÄGÅRDH, 1937

Genus *Cercoleipus* Kinn, 1970

Cercoleipus kuznetsovi Khaustov, 1997

Distribution and habitats. **Tehran Province** (Region not mentioned). ex. *O. erosus* (Ahadiyat *et al.* 2011).

SUBORDER SEJIDA

SUPERFAMILY SEJOIDEA

FAMILY ICHTHYOSTOMATOGASTERIDAE SELLNICH, 1953

Genus *Asternolaelaps* Berlese, 1923

Asternolaelaps fecundus Berlese, 1923

Distribution and habitats. **Chaharmahal and Bakhtiyari and Kohkiluyeh and Boyer-Ahmad Provinces** (Region not mentioned). Soil (Nemati & Gwiazdowicz 2011a).

FAMILY SEJIDAE BERLESE, 1885

Genus *Sejus* C.L. Koch, 1836

Sejus australis Hirschmann & Kaczmarek, 1991

Distribution and habitats. **Isfahan and Charmahal and Bakhtiari Provinces** (Region not mentioned). Soil (Nemati & Gwiazdowicz 2011b).

Sejus carolinensis Lekveishvili & Klompen, 2004

Distribution and habitats. **Kerman Province** (Jiroft). Soil (Balooch Shahryari *et al.* 2012).

Note. Darvishzadeh & Kamali (2009) reported some mesostigmatic mite species for the first time from Iran, including *Pseudoparasitus holaspis* (Oudemans, 1902), *Lasioseius matthyssei* Chant, 1963, *L. phytoseioides*, *Euseius obtectus* Khan, Chaudhri & Khan, 1992, *Amblyseius reductus* Wainstein, 1962, *Macrocheles scutatus*, *Ameroseius pavidus* (C.L. Koch, 1839), *Oplitis conspicua* (Berlese, 1903), *Uroobovella vinicolora* (Vitzthum, 1926) and *Gamasiphis hemicapillus* Karg, 1990. These species had been reported as uncertainly identified species (except *Macrocheles scutatus* and *Lasioseius phytoseioides*) in Kamali *et al.* (2001) and after personal communication with the senior author, we found the materials were not identified later and may be unavailable now. So we removed them from the checklist.

Acknowledgment

The authors wish to thank Mahdi Jalaeian, Alireza Saboori, Mohammad Hasan Shamsi, Esmaeil Babaeian, Hamidreza Hajiqanbar, Omid Joharchi, Hadi Ostovan and Iraj Darvishzadeh who give us some information about Iranian mesostigmatic mite records. Also, we thank Elham Arjomandi for her kind help when compiling a part of the current checklist.

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Received: 19 November 2012

Accepted: 24 December 2012

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فهرست مشروح کنه‌های راسته میان‌استیگمایان (Acari:Mesostigmata) ایران به جز خانواده Phytoseiidae

چکیده

فهرست حاضر نتایج حاصل از بررسی نمونه‌های جمع‌آوری و شناسایی شده در ایران (به جز خانواده Phytoseiidae) شامل ۳۴۸ گونه متعلق به ۱۲۸ جنس، ۳۹ خانواده و ۱۷ بالاخانواده است که از بین آنها یک جنس (*Trachyuropoda* Berlese, 1888) گزارشی جدید برای فون کنه‌های ایران می‌باشد. این مقاله با برخی تصحیحات در تشخیص گونه‌های پیش‌تر گزارش شده از ایران و پراکندگی جغرافیایی و زیستگاه همراه است. زیرراسته‌های *Sejida* و *Trigynaspida* به ترتیب سه و هفت گونه گزارشی شده متعلق به دو و شش جنس و زیرراسته *Monogynspida* (به جز خانواده Phytoseiidae)

۳۳۸ گونه متعلق به ۱۲۰ جنس را شامل می‌شوند. تا کنون هیچ گونه‌ای از گروه‌های *Heatherellina* و *Heterozerconina* از ایران گزارش نشده است.

تاریخ دریافت: ۱۳۹۱/۸/۲۹

تاریخ پذیرش: ۱۳۹۱/۱۰/۴