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Monograph

A catalogue of the Iranian Mesostigmata (Acari) excluding Phytoseiidae

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ABSTRACT

Here, we present a catalogue of all mesostigmatid mites (except Phytoseiidae) reported from Iran. The catalogue lists 616 species belonging to 183 genera and 51 families. Considering the number of genera and species of phytoseiid mites, which is stated to be 15 and 105, respectively, the number of mesostigmatid mite genera and species in Iran reaches 198 and 721, respectively. The suborder Monogynaspida Camin & Gorirossi is more specious than Trigynaspida Camin & Gorirossi, and the latter is more specious than the Sejida Kramer. *Oplitis inopina* (Hull, 1923) is recognized as the earliest recorded description of mesostigmatid mites from Iran in over a century. The family Laelapidae, described and recorded from Iran, has the highest number of genera (26) and species (162), followed by Phytoseiidae (15 genera and 105 species) and Ascidae (10 genera and 49 species). The most specious genera are *Gaeolaelaps* Evans & Till (30 species), *Laelaspis* Berlese (21 species), and *Macrocheles* Latreille (19 species). The highest number of described species from Iran belongs to *Gaeolalelaps* (Laelapidae) with 15 species. No description has been done for the following reported families of monogynaspid mites from Iran: Ameroseiidae, Haemogamasidae, Macronyssidae, Dermanyssidae, Spinturnysidae, Rhinonyssidae, Varroidae, Parholaspididae, Otopheidomenidae, Podocinidae, Halolaelapidae, Veigaiidae, Epicriidae, Microgyniidae, Dithinozerconidae, Polyaspididae, Trachytidae, Metagynuridae, Trachyuropodidae, Cillibidae, Dinychidae, Urodinychidae, and Urodiaspididae. For Trigynaspida (except Diplogyniidae) and Sejida (except Sejidae), no species have been described from Iran. It is worth mentioning that the superfamily Anictequoidea, family Messoracaridae, and genus *Messoracarus* Silvestri are reported for the first time in Iran. Based on the published information for each species, information about geographical distribution, taxonomic literature, and host or habitat is included. Defects in the previous checklists have been corrected, and the classification of the known species has been updated. Relevant explanations for each taxon concerning different issues are cited as note(s) under the related taxon.

KEYWORDS: Checklist, distribution, Gamasida, habitat, Iran.

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INTRODUCTION

The Mesostigmata can be found in a large number of habitats, such as soil (Ryke 1963; Lapinya 1976; Karg 1993; Lindquist *et al*. 2009; Joharchi *et al*. 2011, 2018; Kavianpour *et al*. 2013a, b; Kazemi and Rajaei 2013; Nemati and Kavianpour 2013; Nemati *et al*. 2018b), leaf litter (Wiśniewski and Hirschmann 1993; Castilho *et al*. 2012b, 2016; Kontschán *et al*. 2015), on birds, rodents and mammals (Grinbergs 1961; Hyland *et al*. 1978; Gettinger *et al*. 2005; Gwiazdowicz *et al*. 2018), and in association with arthropods or their nests (Ishikawa 1968; Hunter and Rosario 1988; Halliday 1997; Faraji and Halliday 2009; Walter and Proctor 1999; Moraes *et al*. 2022). The taxonomic history of Mesostigmata has been intense and complicated, with many species being described during the 18th and 19th centuries. Taxonomic studies on mesostigmatid mites, which document new taxa description in Iran, have been conducted for over a century. Based on the existing literature, *Oplitis inopina* (Hull, 1923) is recognized as the earliest recorded description of these mites from Iran. Some comprehensive studies have been done on some mesostigmatid mites as revisions and catalogs.

Various studies have been conducted in Iran to investigate the mesostigmatic mite fauna, particularly in the last three decades. In addition, different Ph.D. and M.Sc. theses have focused on the Iranian mite fauna over the last few decades. Furthermore, an extensive and ongoing biodiversity project is being carried out to explore and categorize this fauna by reporting new species or records from different provinces (e.g., Valizadeh *et al*. 2019; Mousavi *et al*. 2021; Hajizadeh *et al*. 2022; Mohammadi and Hajizadeh 2022a, b).

Farahbakhsh in 1961 was the first to compile a list of insects and other enemies of plants and agricultural products of economical importance in Iran. Afterwards, Sepasgosarian (1977), Modarres Awal (1997), Kamali *et al*. (2001), and Khanjani and Haddad Irani-Nejad (2006) released other lists. Kazemi and Rajaei (2013) provided a catalog for Iranian Mesostigmata, listing 348 species from 128 genera and 39 families. Later, Nemati *et al*. (2018a) published an updated catalogue reporting 371 species out of 127 genera belonging to 39 families for Mesostigmata.

Accessing and using information has been difficult due to the large number of reported species, despite the different taxonomic levels that they have been reported, and the dispersion in different sources of species, genera, and families. In addition, some studies on comprehensive systematics and taxonomic changes have been made to certain families and genera, particularly in the Ameroseiidae, Parasitidae and Laelapidae families, and they need to be taken into account in the previous catalogue. Furthermore, due to many published papers (e.g. Nemati *et al*. 2018b; Valizadeh *et al*. 2019; Mousavi *et al*. 2021; Hajizadeh *et al*. 2022; Mohammadi and Hajizadeh 2022a, b) elaborated after Nemati *et al*. (2018a), the need to update the previous catalogue is evident. Therefore, the present catalogue includes all mesostigmatid species known in Iran. By presenting all the information about these mesostigmatid mites in a systematic modern science and in a single source, becomes easier to update it in the future.

MATERIALS AND METHODS

All mesostigmatid species reported from Iran are arranged according to their taxonomic groups, superfamilies, families, and different genera in alphabetical order, based on relevant information and reported sources up to January 2024.

The classification system at the family level and related genera and species within each genus mainly follows the proposal by Lindquist *et al*. (2009), with updates from sources such as Mašán and Halliday (2009, 2013), Halliday (2010–2016), Castilho *et al*. (2012a, b; 2016), Moraes *et al*. (2016), Mašán (2017), Vinarski and Korallo-Vinarskaya (2017), Hrúzová and Fenďa (2018), and Moraes *et al*. (2022).

Collection data for each species, including the province name, specified location within the province (cited in parentheses), and the subsequent different habitats or hosts, are provided. Reports for the respective provinces are given in alphabetical order. However, it should be noted that the validity of the identification of previously recorded species cannot be confirmed, except for taxa reported or described by the authors of this paper. Additionally, the geographical coordinates (longitude and latitude) were not available for the majority of the reported species from Iran and therefore not included.

A map of Iran showing the names of the provinces is presented in Figure 1. Due to the publication of Kazemi *et al*. (2022), Phytoseiidae species are not mentioned. We have made an effort to consider all sources that have investigated mesostigmatid mites in Iran; however, it is possible that some reports may have inadvertently not been cited in this research. It is worth noting that supplementary or review articles, such as Gwiazdowicz *et al*. (2018), Joharchi and Halliday (2020), Malek-Hosseini and Zamani (2017), Sadat-Shojaei and Kazemi (2021), which provide lists of reported species from specific provinces or hosts, were ignored unless they reported a new record.

To facilitate access to the reported genera of each family, a list with the number of related species (in parentheses) is provided at the beginning of the results section. The names of related families are cited in alphabetical order, regardless of their position in higher taxonomic groups, due to different taxonomical ideas concerning uropodine mites.

Where an associated author or authors have multiple publications in the same year, the corresponding publication is shown in certain scientific names of family, genus, or species.

Figure 1. A simple map of Iran provinces.

RESULTS

According to published literature on Iranian mesostigmatid mites, 616 species have been recorded from various habitats or hosts. Considering the number of phytoseiid mite species, which is reported to be 105 species (Kazemi *et al*. 2022; Farazmand *et al*. 2023), the total number of mesostigmatid mite species in Iran reaches 721. The reported mesostigmatid families, related genera, and the number of species (in parentheses) are as follows. The number of species has not been specified for the genera that are reported based on unknown species.

Suborder Monogynaspida Camin & Gorirossi, 1955
Superfamily Ascoidea Voigts & Oudemans, 1905

Family Ameroseiidae Evans, 1961: Genus *Ameroseius* Berlese, 1903 (8), *Epicriopsis* Berlese, 1916 (2), *Kleemannia* Oudemans, 1930 (9), *Sertitympanum* Elsen & Whitaker, 1985 (3) and *Sinoseius* Bai & Gu, 1995.

Family Ascidae Oudemans, 1905: Genus *Antennoseius* Berlese, 1916: *Antennoseius* (*Antennoseius*) (14), *Antennoseius* (*Vitzthumia*) (2), *Anystipalpus* Berlese, 1911 (5), *Arctoseius* Thor, 1930 (7), *Asca* von Heyden, 1826 (3), *Gamasellodes* Athias-Henriot, 1961 (4), *Iphidozercon* Berlese, 1903 (4), *Leioseius* Berlese, 1916 (1), *Neojordensia* Evans, 1957 (1), *Protogamasellus* Karg, 1962 (6), and *Zerconopsis* Hull, 1918 (2).

Family Melicharidae Hirschmann, 1962: Genus *Melichares* Hering, 1838 (1), *Orthadenella* Athias-Henriot, 1973 (2), and *Proctolaelaps* Berlese, 1923 (13).

Superfamily Dermanyssoidea Kolenati, 1859

Family Dermanyssidae Kolenati, 1859: Genus *Dermanyssus* Dugès, 1834 (4) and *Liponyssoides* Hirst, 1913 (2).

Family Haemogamasidae Oudemans, 1926: Genus *Eulaelaps* Berlese, 1903 (2) and *Haemogamasus* Berlese, 1889 (2).

Family Iphiopsididae Kramer, 1886: Genus *Julolaelaps* Berlese, 1916 (2).

Family Laelapidae Berlese, 1892: Genus *Alloparasitus* Berlese, 1920 (2), *Androlaelaps* Berlese, 1903 (11), *Coleolaelaps* Berlese, 1914 (4), *Cosmolaelaps* Berlese, 1903 (15), *Dinogamasus* Kramer, 1898 (1), *Echinolaelaps* Ewing, 1929 (1), *Echinonyssus* Hirst, 1925 (2), *Euandrolaelaps* Bregetova, 1977 (2), *Gaeolaelaps* Evans & Till, 1966 (30), *Gymnolaelaps* Berlese, 1916 (8), *Holostaspis* Kolenati, 1858 (2), *Hypoaspis* G. Canestrini, 1884 (15) *Hypoaspisella* Bernhard, 1971 (12), *Laelaps* C.L. Koch, 1836 (5), *Laelaspis* Berlese, 1903 (21), *Myonyssus* Tiraboschi, 1904 (1), *Myrmozercon* Berlese, 1902 (7), *Ololaelaps* Berlese, 1904 (6), *Persicolaelaps* Kazemi & Beaulieu, 2016 (1), *Pogonolaelaps* Nemati & Gwiazdowicz, 2016 (3), *Pneumolaelaps* Berlese, 1920 (2), *Promacrolaelaps* Costa, 1971 (1), *Pseudoparasitus* Berlese, 1916 (3), *Reticulolaelaps* Costa, 1968 (4), *Stratiolaelaps* Berlese, 1916 (2) and *Tropilaelaps* Delfinado & Baker, 1961 (1).

Family Macronyssidae Oudemans, 1936: Genus *Macronyssus* Kolenati, 1958 (1), *Ophionyssus* Megnin, 1884 (1), *Ornitonyssus* Sambon, 1928 (3) and *Steatonyssus* Koletani, 1858 (1).

Family Pseudolaelapidae Evans & Till, 1966: Genus *Pseudolaelaps* Berlese, 1916 (4).

Family Rhinonyssidae Trouessart, 1895: Genus *Ptilonyssus* Berlese & Trouessart, 1889 (3).

Family Spinturnicidae Oudemans, 1902: Genus *Spinturnix* von Heyden, 1826 (3) and *Meristaspis* Kolenati, 1857 (1).

Family Varroidae Delfinado & Baker, 1974: Genus *Euvarroa* Delfinado & Baker, 1974 (1) and *Varroa* Oudemans, 1904 (1).

Superfamily Eviphidoidea Berlese, 1913

Family Eviphididae Berlese, 1913: Genus *Alliphis* Halbert, 1923 (4), *Copriphis* Berlese, 1910 (3), *Cryptoseius* Makarova, 1998 (1), *Eviphis* Berlese, 1903 (1), *Evimirus* Karg, 1963 (1), *Metacryptoseius* Kazemi & Moraza, 2008 (2), *Pedoniphis* Joharchi, Mašán & Babaeian, 2014 (1), *Pelethiphis* Berlese, 1911 (1), *Pseudoalliphis* Mašán & Halliday, 2009 (1), *Scamaphis* Karg, 1976 (1), *Scarabaspis* Womersley, 1956 (1) and *Uroiphis* Berlese, 1903 (1).

Family Macrochelidae Vitzthum, 1930: Genus *Geholaspis* Berlese, 1918 (1), *Glyptholaspis* Filipponi & Pegazzano, 1960 (2), *Holocelaeno* Berlese, 1910 (1), *Holostaspella* Berlese, 1903 (3), *Longicheles* Valle, 1953 (3), *Macrholaspis* Oudemans, 1931 (2), *Macrocheles* Latreille, 1829 (18), *Neopodocinum* Oudemans, 1902 (2), *Nothrholaspis* Berlese, 1918 (3) and *Reductholaspis* Emberson, 2010 (1).

Family Pachylaelapidae Berlese, 1913: Genus *Olopachys* Berlese, 1910 (6), *Onchodellus* Berlese, 1904 (8), *Pachylaelaps* Berlese, 1888 (7) and *Pachyseius* Berlese, 1910 (5).

Family Parholaspididae Evans, 1956: Genus *Gamasholaspis* Berlese, 1903 (4), *Holaspina* Berlese, 1916 (1), *Holaspulus* Berlese, 1904 (1), *Krantzolaspina* Datta & Bhattacharjee, 1989 (1), *Lattinella* Krantz, 1960, *Neparholaspis* Evans, 1956 (1) and *Parholaspulus* Evans, 1956 (1).

Superfamily Phytoseoidea Berlese, 1916

Family Blattisociidae Garman, 1948: Genus *Blattisocius* Keegan, 1944 (5), *Cheiroseius* Berlese, 1916 (13), *Hoploseius* Berlese, 1914 (1), *Lasioseius* Berlese, 1916 (19) and *Platyseius* Berlese, 1916 (3).

Family Otopheidomenidae Treat, 1955: Genus *Hemipteroseius* Evans, 1963 (1).

Family Podocinidae Berlese, 1913: Genus *Podocinum* Berlese, 1882 (2).

Superfamily Rhodacaroidea Oudemans, 1902

Family Digamasellidae Evans, 1957: Genus *Bulbolaelaps* Faraji, Zare & Rahmani, 2021 (1), *Dendrolaelaps* Halbert, 1915 (17), *Dendrolaelaspis* Lindquist, 1975 (3), *Dendroseius* Karg, 1965 (2), *Digamasellus* Berlese, 1905 (1), *Iphidodendrolaelaps* Hirschmann & Wisniewski, 1982 (1), *Multidendrolaelaps* Hirschmann, 1974 (3) and *Oligodentatus* Shcherbak, 1980.

Family Halolaelapidae Karg, 1965: Genus *Halolaelaps* Berlese & Trouessart, 1889 (3), *Leitneria* Karg, 1961 (1), *Saprolaelaps* Leitner, 1946 and *Saprosecans* Karg 1964 (1).

Family Ologamasidae Ryke, 1962: Genus *Allogamasellus* Athias-Henriot, 1961 (1), *Gamasiphis* Berlese, 1904 (3), *Gamasiphoides* Womersley, 1956, *Ologamasus* Berlese, 1888, *Periseius* Womersley, 1961, *Sessiluncus* G. Canestrini, 1898 (3) and *Stylochirus* G. & R. Canestrini, 1882 (1).

Family Rhodacaridae Oudemans, 1902: Genus *Multidentorhodacarus* Shcherbak, 1980 (3), *Paragamasellevans* Loots & Ryke, 1962, *Protogamasellopsis* Evans & Purvis, 1987 (3), *Rhodacarellus* Willmann, 1935 (3) and *Rhodacarus* Oudemans 1902 (3).

Superfamily Veigaioidea Oudemans, 1939

Family Veigaiidae Oudemans, 1939: Genus *Gamasolaelaps* Berlese, 1904 (2) and *Veigaia* Oudemans, 1905 (5).

Superfamily Epicrioidea Berlese, 1885

Family Epicriidae Berlese, 1885: Genus *Epicrius* G. Canestrini & Fanzago, 1877 (3).

Superfamily Zerconoidea Canestrini, 1891

Family Zerconidae Canestrini, 1891: Genus *Aspar* Halašková, 1977, *Prozercon* Sellnick, 1943 (5) and *Zercon* C.L. Koch, 1836 (15).

Superfamily Parasitoidea Oudemans, 1901

Family Parasitidae Oudemans, 1901: Subfamily Parasitinae Oudemans, 1901: Genus *Coprocarpais* Hrúzová and Fenďa, 2018 (2), *Cornigamasus* Evans & Till, 1979 (2), *Eugamasus*

Berlese, 1892 (2), *Gamasodes* Oudemans, 1939 (2), *Neogamasus* Tikhomirov, 1969 (3), *Parasitellus* Willmann, 1939 (1), *Parasitus* Latreille, 1795 (12), *Phorytocarpais* Athias-Henriot, 1979 (5), *Rhabdocarpais* Athias-Henriot, 1981 (3), *Trachygamasus* Berlese, 1906 (3) and *Vulgarogamasus* Tikhomirov, 1969 (3).
Subfamily Pergamasinae Juvara-Balş 1972: Genus *Ernogamasus* Athias-Henriot, 1971 (1), *Holoparasitus* Oudemans, 1936 (1), *Leptogamasus* Trägårdh, 1936 (1), *Paragamasus* Hull, 1918, *Pergamasus* Berlese, 1904 (3) and *Tomeogamasus* Athias-Henriot, 1971 (1).

Superfamily Microgynioidea Trägårdh, 1942

Family Microgyniidae Trägårdh, 1942: Genus *Microsejus* Trägårdh, 1942 (1).

Cohort Uropodina

Family Cillibidae Trägårdh, 1944: Genus *Cilliba* von Heyden, 1826 (2).

Family Dinychidae Berlese, 1916: Genus *Dinychus* Kramer, 1882 (2).

Family Dithinozerconidae Krantz, 1978: Genus *Dithinozercon* Berlese, 1916 (1).

Family Macrodinychidae Hirschmann, 1975: Genus *Macrodinychus* Berlese, 1917 (2).

Family Metagynuridae Balogh, 1943: Genus *Metagynella* Berlese, 1919 (1).

Family Oplitidae Hirschmann & Zirngiebl-Nicol, 1964: Genus *Oplitis* Berlese, 1884 (6).

Family Polyaspididae Berlese, 1913: Genus *Polyaspis* Berlese, 1881 (3).

Family Protodinychidae Berlese, 1917: Genus *Protodinychus* Evans, 1957 (1).

Family Trachytidae Trägårdh, 1938: Genus *Trachytes* Michael, 1894 (6) and *Uroseius* Berlese, 1888 (2).

Family Trachyuropodidae Berlese, 1917: Genus *Excavatatrachys* Hirschmann, 1979 (1), *Leonardiella* Berlese, 1904 (1), *Trachyuropoda* Berlese, 1888 and *Trogulotrachys* Hirschmann, 1979 (1).

Family Trematuridae Berlese, 1917: Genus *Nenteria* Oudemans, 1915 (4), *Trematurella* Trägårdh, 1942 (1) and *Trichouropoda* Berlese, 1916 (6).

Family Urodiaspididae Trägårdh, 1944: Genus *Urodiaspis* Berlese, 1916 (2).

Family Urodinychidae Berlese, 1917: Genus *Microuroobovella* Błoszyk *et al*., 2020 (1) and *Uroobovella* Berlese, 1903 (10).

Family Uropodidae Kramer, 1881: Genus *Centrouropoda* Berlese, 1916 (1), *Discourella* Berlese, 1910 (1), *Trachycilliba* Berlese, 1903 (3) and *Uropoda* Latreille, 1806 (3).

Suborder Trigynaspida Camin & Gorirossi, 1955
Superfamily Cercomegistoidea Trägårdh, 1937

Family Asternoseiidae Valle, 1954: Genus *Asternoseius* Berlese, 1910 (one unidentified species).

Family Cercomegistidae Trägårdh, 1937: Genus *Cercoleipus* Kinn, 1970 (1).

Superfamily Aenictequoidea Kethley, 1977

Family Messoracaridae Kethley, 1977: Genus *Messoracarus* Silvestri, 1912 (one unidentified species).

Superfamily Antennophoroidea Berlese, 1892

Family Antennophoridae Berlese, 1892: Genus *Antennophorus* Haller, 1877 (1).

Superfamily Celaenopsoidea Berlese, 1892

Family Celaenopsidae Berlese, 1892: Genus *Celaenopsis* Berlese, 1886 (1) and *Pleuronectocelaeno* Vitzthum, 1926 (2).

Family Diplogyniidae Trägårdh, 1941: Genus *Cingulacarus* Elsen, 1975 (1), *Lobogynium* Trägårdh, 1950 (1) and *Weiseronyssus* Samšiňák, 1962 (1).

Family Schizogyniidae Trägårdh, 1950: Genus *Euroschizogynium* Trach & Seeman, 2014 (1).

Suborder Sejida Kramer, 1885
Superfamily Sejoidea Berlese, 1885

Family Ichthyostomatogasteridae Sellnick, 1953: Genus *Asternolaelaps* Berlese, 1923 (1).

Family Sejidae Berlese, 1885: Genus *Sejus* C.L. Koch, 1836 (3).

The distribution data of different species based on their higher groups have been presented according to the alphabetically name of related provinces as follow.

Suborder Monogynaspida Camin & Gorirossi, 1955
Cohort Gamasina Kramer, 1881
Subcohort Dermanyssiae Evans & Till, 1979
(Dermanyssina)
Superfamily Ascoidea Voigts & Oudemans, 1905
Family Ameroseiidae Evans, 1961
Genus *Ameroseius* Berlese, 1904a

Ameroseius corbiculus (Sowerby, 1806)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (region not mentioned), associated with *Agricales* sp. (Khalili-Moghadam and Nemati 2014a); (Shahrekord, Boldaji, Choghakhor), soil and decaying wood (Khalili-Moghadam and Saboori 2014). **Chaharmahal va Bakhtiyari, Isfahan, Khuzestan** and **Golestan Provinces** (region not mentioned), soil, debris, soil of ants' nest and fungi (Khalili-Moghadam and Saboori 2016a). **East Azarbaijan Province** (Tabriz), soil of orchards (Kamali *et al.* 2001); (region not mentioned), soil (Hashemi Khabir *et al.* 2013). **Golestan Province** (Gorgan), leaf litter (Khalili-Moghadam and Saboori 2014). **Guilan Province** (Rostam Abad, Ganjeh, Roodbar and Manjil), soil in olive orchards (Mahjoori and Hajizadeh 2014). **North Khorasan Province** (region not mentioned), associated with the nests of *Tapinoma* sp. (Formicidae) (Rezaei *et al.* 2016). **Tehran Province** (Tehran City, Police Park), soil (Maleki *et al.* 2016). **West Azerbaijan Province** (Urmia, Rashakan), soil of apple orchard; (Shohada valley), soil and litter;

(Nazlu), soil of apple orchard; (Band), soil of apple orchard; (Marmisho), soil; (Emamzade), soil of mulberry orchard; (Sir village), soil of apple orchard; (Silvana), soil of apple orchard; (Sulik village), soil and litter (Kavianpour *et al*. 2018b). **Zanjan Province** (region not mentioned), soil, rotten wood, fungi, litter and dung (Zare *et al.* 2012a); (region not mentioned), soil (Bigdeli *et al.* 2014).

Ameroseius corniculus Karg, 1971

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

Ameroseius fungicola Mašán, 1998

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

Ameroseius furcatus Karg, 1971a

Distribution and habitats. **Chaharmahal va Bakhtiyari, Isfahan, Khuzestan,** and **Golestan Provinces** (region not mentioned), soil, debris, soil of ants' nest and fungi (Khalili-Moghadam and Saboori 2016a). **East Azarbaijan Province** (Arasbaran Forests), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016b); (Arasbaran Forests, Vaygan and Kalaleh), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016a). **Guilan Province** (Damash and Rudbar), soil (Hajizadeh *et al.* 2013a).

Ameroseius lidiae Bregetova, 1977g

Distribution and habitats. **Chaharmahal va Bakhtiyari, Isfahan, Khuzestan** and **Golestan Provinces** (region not mentioned), associated with *Agricales* sp. (Khalili-Moghadam and Nemati 2014a); (Ben, Hafshejan, Farokhshahr, Dezak, Shahrekord and Saman), soil and rotting wood (Khalili-Moghadam and Saboori 2014); (region not mentioned), soil, debris, soil of ants' nest and fungi (Khalili-Moghadam and Saboori 2016a). **Fars Province** (Jahrom), soil of citrus orchards (Khademi *et al.* 2006); (Northwestern of Province, region not mentioned), soil, debris (Abolghasemi and Kazemi 2016); (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017). **Guilan Province** (Somesara), on raspberry shrubs (*Rubus* spp.) (Tajmiri and Hajizadeh 2013); (Ganjeh), soil in Olive orchards (Mahjoori and Hajizadeh 2014); (Rasht, Isfahani Educational Institute, Pir Bazar village); wood sorrel, *Oxalis acetosella* L. leaves, infested with spider mites; (Rasht, Dalecheh village), soil; (Rasht, Lakan village), orange, *Citrus sinensis* leaves; (Rasht, Bijar Bonch village), rose, *Rosa damascene* leaves (Ghasemi and Hajizadeh 2021); (Rasht), associated with Carabidae (Hajizadeh and Hosseini 2022). **Isfahan Province** (Isfahan), soil of urban green spaces (Karbasian *et al*. 2022). **Kerman Province** (Baft), soil (Rajaei *et al.* 2011a); (Sirjan County), soil and manure (Masnavipour *et al.* 2014); (Kerman City, parks and landscapes), soil (Arjomandi and Kazemi 2014b); (Kerman County), poultry manure (Arjomandi *et al.* 2013a). **West Azarbaijan Province** (Miandoab County), soil of apple orchards (Zarei and Kazemi 2014); (Urmia, Shohada valley), soil and litter; (Nazlu dam), soil; (Kaboodan island), soil; (Shohada valley), soil and litter; (Nazlu dam), soil; (Sulik village), soil and litter (Kavianpour *et al*. 2018b). **Zanjan Province** (region not mentioned), soil, rotten wood, fungi, litter and dung (Zare *et al.* 2012a); (region not mentioned), soil (Bigdeli *et al.* 2014).

Ameroseius sculptilis Berlese, 1916a

Distribution and habitats. **Guilan Province** (Somesara), on raspberry shrubs (*Rubus* spp.) (Tajmiri

and Hajizadeh 2013).

Ameroseius ulmi Hirschmann, 1963

Cited in Westerboer and Bernhard (1963).

Distribution and habitats. **Chaharmahal va Bakhtiyari**, **Isfahan**, **Khuzestan**, and **Golestan Provinces** (region not mentioned), soil, debris, soil of ants' nest and fungi (Khalili-Moghadam and Saboori 2016a).

Ameroseius womersleyi Mašán, 2017

Distribution and habitats. **Fars Province** (Estahban), soil, leaves, litter, bark and saffron balb (Naghibinejad *et al.* 2012). **Kerman Province** (Rafsanjan), soil of fruit orchards (Mohammadi *et al.* 2012).
Note – Mašán (2017) considerd *A. womersleyi* as a junior secondary homonym for *A. ornatus* Womersley, 1956 due to the type species of *Cornubia ornata* Turk, 1943. *Cornubia* is a junior synonym of *Ameroseius*. So, the above arrangement follows here.

Genus *Epicriopsis* Berlese, 1916a

Epicriopsis horridus (Kramer, 1876)

Distribution and habitats. **Chaharmahal va Bakhtiyari, Isfahan, Khuzestan,** and **Golestan Provinces** (region not mentioned), soil, debris, soil of ant's nests and fungi (Khalili-Moghadam and Saboori 2016a). **East Azarbaijan Province** (Tabriz), soil of orchards (Kamali *et al.* 2001). **Golestan Province** (Gorgan), leaf litter (Khalili-Moghadam and Saboori 2014); soil and litter (Kazemi *et al.* 2011a, 2012). **Lorestan Province** (Bishe District), soil under willow trees (Hasanvand *et al.* 2014b); (Khorramabad County), oak forest (Hasanvand *et al.* 2015).

Epicriopsis palustris Karg, 1971b

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Saman City), litter (Khalili-Moghadam and Saboori 2016b). **Chaharmahal va Bakhtiyari, Isfahan, Khuzestan,** and **Golestan Provinces** (region not mentioned), debris (Khalili-Moghadam and Saboori 2016a). **East Azarbaijan Province** (Arasbaran Forests), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016b); (Arasbaran Forests, Garmanab), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016a). **Guilan Province** (Talesh, Shaft, Siahkal, Fuman and Rostamabad), soil (Hajizadeh *et al.* 2013a). **Kerman Province** (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020). **Mazandaran Province** (Nowshahr, Ecological (Botanical) Garden of Nowshahr), soil and litter (Saberi *et al.* 2016). **West Azarbaijan Province** (Urmia, Shohada valley), soil and litter; (Urmia University), soil and litter; (Silvana), soil of apple orchard; (Nari), soil and litter (Kavianpour *et al.* 2018b). **Zanjan Province** (region not mentioned), soil, rotten wood, fungi, litter and dung (Zare *et al.* 2012a).

Genus *Kleemannia* Oudemans, 1930

Kleemannia delicata (Berlese, 1918)

Distribution and habitats. **Northeast of Iran** (region not mentioned), associated with stored food products (Khaleghabadian *et al.* 2013). **Razavi Khorasan Province** (Mashhad), stored food products (Khaleghabadian *et al.* 2015).

Kleemannia insignis (Bernhard, 1963)

Distribution and habitats. **East Azarbaijan 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). **Guilan Province** (region not mentioned), soil, stored products, debris, plant foliage, leaves, wood, and manure (Karami *et al.* 2017b).
Note – This species was reported by some authors from Iran as *Ameroseius insignis* Bernhard, 1963.

Kleemannia nova Nasr & Abu-Awad, 1986

Distribution and habitats. **Chaharmahal va Bakhtiyari**, **Isfahan**, **Khuzestan** and **Golestan Provinces** (region not mentioned), soil, debris, soil of ants' nest and fungi (Khalili-Moghadam and Saboori 2016a). **Fars Province** (Jahrom), soil of citrus orchards (Khademi *et al.* 2006). **Kerman Province** (Jiroft), soil sample, leg. J. Hajizadeh (Mašán 2017).
Note – This species was reported as *Ameroseius nova* by the most mentioned authors.

Kleemannia parplumosa Nasr & Abu-Awad, 1986

Distribution and habitats. **Chaharmahal va Bakhtiyari, Isfahan, Khuzestan** and **Golestan Provinces** (region not mentioned), soil, debris, soil of ants' nest and fungi (Khalili-Moghadam and Saboori 2016a). **Fars Province** (Jahrom), soil of citrus orchards (Khademi *et al.* 2006). **Guilan Province** (region not mentioned), soil, stored products, debris, plant foliage, leaves, wood, and manure (Karami *et al.* 2017b); (Rasht), rice storage (Mašán 2017). **Hormozgan Province** (Minab), associated with soil under mango trees (Dolati and Ostovan 2017b). **Kerman Province** (Jiroft), soil (Mašán 2017). **Khuzestan Province** (Ahvaz and its suburbs), Cattle, buffalo, sheep and horse manure (Farahi *et al.* 2022). **Razavi Khorasan Province** (Mashhad County), soil (Abbaspour *et al.* 2017). **Zanjan Province** (region not mentioned), soil, rotten wood, fungi, litter and dung (Zare *et al.* 2012a).

Kleemannia pavida (C. L. Koch, 1839b)

Distribution and habitats. **Chaharmahal va Bakhtiyari, Isfahan, Khuzestan** and **Golestan Provinces** (region not mentioned), soil, debris, soil of ants' nest and fungi (Khalili-Moghadam and Saboori 2016a). **Guilan Province** (Somesara), on raspberry shrubs (*Rubus* spp.) (Tajmiri and Hajizadeh 2013); (Sangar City, Eslamabad Village; Shaft City, Jirdeh Village), rice hulls (Hajizadeh and Karami 2017); (region not mentioned), soil, stored products, debris, plant foliage, leaves, wood, and manure (Karami *et al.* 2017b); (Rasht), rice storage (Mašán 2017); (Rasht, Omesheh Village), soil (Ghasemi and Hajizadeh 2021). **Kerman Province** (Sekonj), poultry manure (Arjomandi *et al.* 2013a). **Northeast of Iran** (region not mentioned), associated with stored food products (Khaleghabadian *et al.* 2013).
Note – Some mentioned authors have reported this species as *Ameroseius lanceosetis* Livshitz and Mitrofanov, 1975, but it was considered as a junior synonym of *Kleemannia pavida* (C. L. Koch, 1839) by Mašán (2017).

Kleemannia plumea Oudemans, 1930

Distribution and habitats. **Chaharmahal va Bakhtiyari**, **Isfahan**, **Khuzestan** and **Golestan Provinces** (region not mentioned), soil, debris, soil of ants' nest and fungi (Khalili-Moghadam and Saboori 2016a). **Kerman Province** (Jiroft), soil (Balooch Shahryari *et al.* 2012).

Kleemannia plumigera Oudemans, 1930

Distribution and habitats. **Region not mentioned**, stored products (Sepasgozarian 1978; Modarres Awal 1994, 1997; Kamali *et al.* 2001; Hajizadeh *et al*. 2013b). **Alborz Province** (Mallard, Shahryar, Mohammad Shahr), compost and mushroom (Kheradmand *et al.* 2007). **Fars Province** (Koohmare-Sorkhi region), soil (Mašán 2017).

Kleemannia plumosa (Oudemans, 1902)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), soil (Khalili-Moghadam and Saboori 2014). **Chaharmahal va Bakhtiyari, Isfahan, Khuzestan,** and **Golestan Provinces** (region not mentioned), soil, debris, soil of ants' nest and fungi (Khalili-Moghadam and Saboori 2016a). **Isfahan Province** (Khomeini Shahr, Najaf Abad), soil of fruit orchards (Jalaeian *et al.* 2006); (Isfahan), soil of urban green spaces (Karbasian *et al*. 2022). **Kerman Province** (Bam County, Deh Bakri Region), under elytrae of *Oryctes nasicornis* (Coleoptera, Scarabaeidae) (Mašán 2017). **Khuzestan Province** (Ahvaz), soil (Baharloo *et al.* 2006). **Razavi Khorasan Province** (Mashhad County), soil (Abbaspour *et al.* 2017). **Sistan va Baluchestan Province** (Sistan Region), stored product (Sayadi *et al.* 2011). **West Azarbaijan Province** (Urmia), house dust (Kamali *et al.* 2001); (Miandoab Plain), foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003); (Urmia), soil (Rezaie *et al.* 2011); (Khoy), soil of sunflower fields (Taher *et al.* 2012); (Salmas), soil and plant debris of apple orchards (Alizadeh and Shirdel 2012); (Khoy, Salmas, Boukan, Mahabad, Urmia, Gharehziaadin), dried fruits and nuts (Ardeshir *et al.* 2012). **Zanjan Province** (region not mentioned), soil (Bigdeli *et al.* 2014).

Kleemannia pseudoplumosa (Rack, 1972)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekrod City, Lordegan City), soil, litter. **Chaharmahal va Bakhtiyari**, **Isfahan**, **Khuzestan**, and **Golestan Provinces** (region not mentioned), soil, debris, soil of ants' nest and fungi (Khalili-Moghadam and Saboori 2016b). **Fars Province** (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017); (Shiraz, green spaces and orchards of fruit trees), soil and decayed material on the soil surface (Farzaneh et al. 2021); (Darab), the soil under the trees in the northern and southern orchards of Darab city (Memarzadeh *et al*. 2022). **Guilan Province** (region not mentioned), soil, stored products, debris, plant foliage, leaves, wood, and manure (Karami *et al.* 2017b); (Rasht, Omesheh village), litter (Ghasemi and Hajizadeh 2021). **Kerman Province** (Kerman), sheep and poultry manure (Arjomandi *et al.* 2011); (Kerman County), cow manure, poultry manure and sheep manure (Arjomandi *et al.* 2013a). **Khuzestan Province** (Ahvaz City), soil of ant nest (Khalili-Moghadam and Saboori 2016b). **North Khorasan Province** (Bojnurd), soil of farms, gardens and manures (Mahpikaran *et al.* 2012). Tehran Province (Tehran Capital, Lale Park), soil (Mašán 2017). **Zanjan Province** (region not mentioned), soil, rotten wood, fungi, litter and dung (Zare *et al.* 2012a).

Note – This species was cited as *Ameroseius eumorphus* Bregetova, 1977 in some of the above-mentioned references, but it is a junior synonym of *K. pseudoplumosa* (Mašán 2017).

Genus *Sertitympanum* Elsen & Whitaker, 1985

Sertitympanum aegyptiacum Nasr & Abou-Awad, 1986

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord, Saman, Farokhshahr, Boldaji and Choghakhor), soil and decaying wood (Khalili-Moghadam and Saboori 2014). **Chaharmahal va Bakhtiyari, Isfahan, Khuzestan**, and **Golestan Provinces** (region not mentioned), soil, debris, soil of ants̀ nests and fungi (Khalili-Moghadam and Saboori 2016a). **Guilan**

Province (region not mentioned), stored rice, rice dust and debris (Noei *et al.* 2008); (Roodbar), soil in olive orchards (Mahjoori and Hajizadeh 2014); (Sangar City), rice hulls; (Sangar City, Eslamabad (Shaqaji) Village), woodchips (Hajizadeh and Karami 2017); (region not mentioned), soil, stored products, debris, plant foliage, leaves, wood, and manure (Karami *et al.* 2017b); (Rasht, Guilan University), bell pepper, *Capsicum annuum* L. leaves; (Rasht, Pasikhan Village), wood sorrel, *Oxalis acetosella* L. leaves, infested with spider mites (Ghasemi and Hajizadeh 2021). **Isfahan Province** (Isfahan), soil (Khalili-Moghadam and Saboori 2014). **Kerman Province** (Kerman County), cow manure and sheep manure (Arjomandi *et al.* 2013a). **Khuzestan Province** (Izeh), soil (Khalili-Moghadam and Saboori 2014). **Mazandaran Province** (region not mentioned), honeybee hives (Mosaddegh 1997; Kamali *et al.* 2001). **Razavi Khorasan Province** (Kashmar), soil of vineyards (Salarzehi *et al.* 2011).

***Sertitympanum nodosum* (Sheals, 1962)**

Distribution and habitats. **Fars Province** (Marvdasht), soil (Soleimani *et al.* 2011). **Markazi Province** (Arak Region), soil (Jadidi and Joharchi 2014).
Notes – 1. Mašán (2017) stated, "I have examined a large number of *Sertitympanum* specimens from Iran (received from A. Ahadiyat, J. Hajizadeh, and Sh. Kazemi). Despite certain variability in the lamellar pattern of the sculptural sclerotization (due to different pressure of the cover glass on mounted specimens) and variable shape of some sternal and ventrianal shields, I considered the specimens from Iran (excluding two mites with longer dorsal setae and identified as *Sertitympanum aegyptiacum*) as conspecific with the holotype of *Sertitympanum nodosum*". He considered *Sertitympanum nodosum* and *Sertitympanum bassolsae* as synonyms with *S. nodosum* being the senior name. Despite *S. bassolsae* being reported by different researchers from Iran, the correct name for Iranian specimens is *Sertitympanum nodosum*.**2.** This species has been reported by Kazemi and Rajaei (2013) and Khalili-Moghadam and Saboori (2014) as *Ameroseius bassolase* (sic); Hajizadeh *et al.* (2013a) as *Ameroseius* (*Kleemannia*) *bassolsae;* Jadidi and Joharchi (2014), and Nemati *et al.* (2018c) as *Kleemannia bassolase* Vargas & Polaco, 2001.

***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 and Pakyari 2011).

Genus *Sinoseius* Bai & Gu, 1995

***Sinoseius* sp.**

Mašán (2017) refers to the presence of this genus in Iran based on personal communication from Shahrooz Kazemi.

Family Ascidae Oudemans, 1905a
Genus *Antennoseius* Berlese, 1916c
***Antennoseius* (*Antennoseius*) Berlese, 1916**

***Antennoseius* (*Antennoseius*) *avius* Karg, 1977**

Distribution and habitats. **Ghazvin Province** (region not mentioned), soil (Kazemi 2018). **North Khorasan Province** (region not mentioned), soil (Kazemi 2018).

Antennoseius (*Antennoseius*) *bacatus* Athias-Henriot, 1961

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), soil (Nemati *et al.* 2012b); soil (Mohseni and Nemati 2014); (Saman City, Shahrekord Region), soil of ants' nest, *Monomorium* sp. (Hym.: Formicidae) (Khalili-Moghadam and Saboori 2015); (Lordegan County, Khanmirza Region, Salehat Village; Chahgah Village; Felard Region, Pol-e- Gharah; Poshtkouh; Dalvara; Monj Region, Goud Sardeh, Ghaleh Madreseh; Central Region, Tang Keloureh), soil from different parts of oak forests (Bagheri Kordeshami *et al.* 2015); (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2018a, 2022b). **East Azarbaijan Province** (Arasbaran Forests), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016b); (Arasbaran Forests, Vaygan, Aynalu; Garmanab), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016a). **Fars Province** (Marvdasht), soil (Soleimani *et al.* 2011); (Darab Region), sugar beet soil (Kazemi *et al*. 2011b); (Marvdasht, Kamfiruz), soil and decayed plants under the oak trees (Beyzavi and Ostovan 2012); (Koohmare-Sorkhi Region), in oak forests (Kazemi and Yazdanpanah 2013a); (Koohmare-Sorkhi Region), oak forests (Kazemi and Yazdanpanah 2013b); (Koohmare-Sorkhi Region, oak forest), soil and leaf litter (Yazdanpanah and Kazemi 2014a); (region not mentioned), soil, debris (Abolghasemi and Kazemi 2016). **Guilan Province** (region not mentioned), soil, stored products, debris, plant foliage, leaves, wood, and manure (Karami *et al.* 2017b); (Rasht, Saravan Forest), soil of forest trees (Karami *et al.* 2017a). **Isfahan Province** (Isfahan), soil of urban green spaces (Karbasian *et al*. 2022). **Kerman Province** (Kerman), soil of alfalfa fields (Kazemi *et al.* 2011b); (Kerman), sheep manure (Arjomandi *et al.* 2011); (Sirjan County), soil, leaf litter and manure (Masnavipour *et al.* 2014); (Kerman County), cow manure and sheep manure (Arjomandi *et al.* 2013a). **Khuzestan Province** (Baghmalek), soil and nest of unidentified ant (Nemati *et al.* 2012b); (Izeh), soil (Mohseni and Nemati 2014). **Kohgiluyeh va Boyer-Ahmad Province** (Gachsaran), soil of corn and rape seed farms (Moradian *et al.* 2011a, b). **Lorestan Province** (Ghalesangi and Zarinchogha Districts), soil of apple orchard and under oak trees (Hasanvand *et al.* 2014b); (Khorramabad County), orchard, oak forest and feild (Hasanvand *et al.* 2015). **Markazi Province** (Arak Region), soil (Jadidi and Joharchi 2014). **Tehran Province** (Tehran), soil (Kazemi *et al*. 2011b). **West Azarbaijan Province (**Urmia, Govarchin ghale, Kazem dashi), soil (Kavianpour *et al*. 2018b). **Yazd Province** (region not mentioned), soil (Kafi *et al.* 2014). **Zanjan Province** (region not mentioned), soil (Bigdeli *et al.* 2014).

Antennoseius (*Antennoseius*) *bacatosimilis* Karg, 1965

Distribution and habitats. **Fars Province** (Estahban), soil, leaves, litter, bark and saffron balb (Naghibinejad *et al.* 2012). **Kerman Province** (Rafsanjan), pistachio (*P. vera*) stem bark and collar soil (Mehrnejad and Ueckermann 2001).

Note – Kazemi and Rajaei (2013) classified this taxon as a doubtful species and a potential junior synonym of *Antennoseius* (*Antennoseius*) *bacatus*. They based their conclusion on the ideas of Costa (1969) and Bregetova (1977a), as well as examinations of several specimens collected from similar localities by Sh. Kazemi. In his study, Costa (1969) mentioned that he had borrowed and studied the type specimens of *A. bacatus* and *A. bacatosimilis*. He noted that the only difference between them was their size, with *A. bacatosimilis* being slightly larger (about 20%), but he did not definitively declare these species as synonyms. Costa (1969) ultimately considered *A. granulatus*, *A. bacatus*, and *A. bacatosimilis* to be a closely related species group, based on small morphological differences. Lindquist and Moraza (2009) examined the type material of *Antennoseius* (*Antennoseius*) *epicrioides* Schweizer, 1961 and confirmed its strong similarity to *A. bacatus*. They suspected that it could possibly be the senior synonym of *A. bacatus*. Based on the above information, until the status of the mentioned species is definitively clarified, we will temporarily include *A. bacatosimilis* in the list of Iranian mesostigmatid mites.

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

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

Antennoseius (*Antennoseius*) *bytinskii* Costa, 1969b

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord) and **Khuzestan Province** (Izeh), soil (Mohseni and Nemati 2014).

Antennoseius (*Antennoseius*) *gwiazdowiczi* Kavianpour & Nemati, 2018

Distribution and habitats. **Fars Province** (Koohmare-Sorkhi Region), oak forest, soil and leaf litter (Yazdanpanah and Kazemi 2014a); (Koohmare Sorkhi Region), soil of oak forests (Kazemi 2018). **Isfahan Province** (Shahreza), soil of a pomegranate orchard (Kavianpour *et al*. 2013b, Kavianpour *et al.* 2018d). **Kerman Province** (Sirch Region) under elytrae of an *Acinopus* sp. (Kazemi 2018); (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020).
Note – *Antennoseius* (*A.*) *gwiazdowiczi* was described by Kavianpour *et al.* (2013) and published online in the Iranian Journal of Entomology (Vol. 3, pp. 36–44). However, there are certain conditions that need to be met for the registration of new animal species published online. In order to be considered published, a work issued and distributed electronically: (1) must have been issued after 2011; (2) must state its date of publication within the work itself; (3) must be registered in ZooBank; (4) must contain evidence, within the work itself, of its registration in ZooBank; (5) the entry in ZooBank must include the name and internet address of a site where the work is archived (not the publisher); (6) the entry in ZooBank must include the ISSN of the electronic journal (Halliday 2013). The Iranian Journal of Entomology, however, was published solely in electronic form without permanent archiving and is currently unavailable. Additionally, it was not registered in ZooBank. Therefore, *A.* (*A.*) *gwiazdowiczi* Kavianpour & Nemati, 2013 cannot be considered available and is considered a nomen nudum. Due to this reason, the authors mentioned have provided the description in the Persian Journal of Acarology in 2018.

Antennoseius (*Antennoseius*) *hispaniensis* Bernhard, 1963

Distribution and habitats. **Kerman Province** (Kerman City, parks and landscapes), soil (Arjomandi and Kazemi 2014b); (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020). **Lorestan Province** (Khorramabad County), oak forest (Hasanvand *et al*. 2015). **Tehran Province** (agricultural fields of Faculty of Agriculture, Tarbiat Modares University), soil and litter (Kazemi and Yazdanpanah 2013a; Kazemi 2018).

Antennoseius (*Antennoseius*) *longisetus* Eidelberg, 2000

Distribution and habitats. **Mazandaran Province** (Tirtash Region), ex *Idiomelas* (s. str.) *morio* (Ménétriés). **Razavi Khorasan Province** (Mashad County), under elytra of an unknown species of Carabidae (Kazemi and Moraza 2013).

Antennoseius (*Antennoseius*) *maltzevi* Eidelberg, 1994

Distribution and habitats. **Fars Province** (Koohmare-Sorkhi Region), in oak forests (Kazemi and Yazdanpanah 2013a); (Koohmare-Sorkhi Region), oak forest, soil and leaf litter (Yazdanpanah and Kazemi 2014a). **Lorestan Province** (Khorramabad County), oak forest (Hasanvand *et al.* 2015).

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

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), soil (Nemati *et al.* 2012b); (Shahrekord), soil (Mohseni and Nemati 2014); (Saman City, Shahrekord Region), soil of ants' nest, *Monomorium* sp. (Hym.: Formicidae) (Khalili-Moghadam and Saboori 2015); (Lordegan County, Monj Region, Barz; Showarz), soil from different parts of oak forests (Bagheri Kordeshami *et al.* 2015); (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2018a); (Saman, Gharaghoosh), in rooting wood in association with *Lasius neglectus* (Khalili-Moghadam 2022). **Fars Province** (Estahban), soil, leaves, litter, bark and saffron balb (Naghibinejad *et al.* 2012). **Kerman Province** (Bam). ex. unidentified scarab and carabid beetles (Mehrzad *et al.* 2011). **Khuzestan Province** (Ghaletol), soil (Nemati *et al.* 2012b); (Izeh), soil (Mohseni and Nemati 2014). **Kohgiluyeh va Boyer-Ahmad Province** (Gachsaran), soil of corn and rape seed farms (Moradian *et al.* 2011a, b). **North Khorasan Province** (Mane and Samalghan), ex *Harpalus* (*Pseudoophonus*) *rufipes* (Degeer) (Kazemi and Moraza 2013). **Razavi Khorasan Province** (Sarakhs Region), ex *Calathus* (*Neocalathus*) *ambiguous* (Paykull). **Tehran Province** (Tehran City, Police Park), soil (Maleki *et al.* 2016).

Antennoseius (*Antennoseius*) *matalini* Eidelberg, 2001

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord) and **Khuzestan Province** (Izeh), soil (Mohseni and Nemati 2014).

Antennoseius (*Antennoseius*) *pannonicus* Willmann, 1951b

Distribution and habitats. **Golestan Province** (Naharkhoran Forest) under elytra of an unknown species of *Harpalus* Latreille (Carabidae) (Bahrami and Kazemi 2019).

Antennoseius (*Antennoseius*) *sabulicola* Bregetova, 1977a

Distribution and habitats. **Fars Province** (Darab), the soil under the trees in the northern and southern orchards of Darab city (Memarzadeh *et al*. 2022). **Kerman Province** (Kerman City, parks, and landscapes), soil (Arjomandi and Kazemi 2014b). **Lorestan Province** (Khorramabad County), oak forest (Hasanvand *et al.* 2015). **Razavi Khorasan Province** (Sarakhs Region), ex *Cymindis* (*Eremocymindis*) *pallidula* Chaudoir (Kazemi and Moraza 2013). **West Azarbaijan Province** (Urmia, Govarchin ghale, Kazem dashi), soil (Kavianpour *et al*. 2018b).

Antennoseius (*Antennoseius*) *sharonovi* Eidelberg, 1989

Distribution and habitats. **North Khorasan Province** (Mane and Samalghan), ex *Harpalus* (*Pseudoophonus*) *rufipes* (Degeer) (Kazemi and Moraza 2013).

Antennoseius sp.

Distribution and habitats. **Alborz Province** (Taleqan, Chenask), associated with a carabid beetle, *Pterostichus* sp. (Farmahiny-Farahani *et al.* 2022b).

Antennoseius (*Vitzthumia*) Thor, 1930

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 and Kazemi 2009). **Zanjan Province** (region not mentioned), soil, rotten wood, fungi, litter and dung (Zare *et al.* 2012a).

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, 1911a

Anystipalpus kazemii Lindquist & Moraza, 2009

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

Anystipalpus labiduricola Lindquist & Moraza, 2009

Distribution and habitats. **Kerman Province** (Bam), ex. unidentified scarab and carabid beetles (Mehrzad *et al.* 2011). **Khuzestan Province** (Ahvaz), soil (Nemati *et al.* 2012b). **North Khorasan Province** (Esfarayen), ex. earwig (*Labidura* sp.) (Lindquist and Moraza 2009).

Anystipalpus livshitsi (Eidelberg, 1989)

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

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, 1911a

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

Genus *Arctoseius* Thor, 1930

Arctoseius cetratus (Sellnick, 1940a)

Distribution and habitats. **Alborz Province** (Karaj, Eshtehard), compost and mushroom (Kheradmand *et al.* 2007). **Bushehr Province** (Asaluyeh Port), soil (Kazemi and Alikhani 2013). **Chaharmahal va Bakhtiyari Province** (Shahrekord), soil (Nemati *et al.* 2012b); (Saman City, Shahrekord Region), soil of ants' nest, *Monomorium* sp. (Hym.: Formicidae) (Khalili-Moghadam and Saboori 2015); (Lordegan County, Khanmirza Region, Salehat Village; Monj Region, Ghale Madreseh Village; Pal-Borideh Village), soil from different parts of oak forests (Bagheri Kordeshami *et al.* 2015); (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2018a); (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2022b). **Fars Province** (Jahrom), soil of citrus orchards (Khademi *et al.* 2006); (Estahban), soil, leaves, litter, bark and saffron balb (Naghibinejad *et al.* 2012); (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, Homayjan), foliage, soil, leaf-litter, weeds and soil of apple trees (Maneshi *et al.* 2012); (Koohmare-Sorkhi Region), oak forests (Kazemi and Yazdanpanah 2013b); (Koohmare-Sorkhi Region, oak forest), soil and leaf litter (Yazdanpanah and Kazemi 2014a); (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017); (Darab), the soil under the trees in the northern and southern orchards of Darab city (Memarzadeh *et al*. 2022). **Golestan Province** (Gorgan), soil (Malek-Shahkouyi *et al.* 2011b). **Guilan Province** (Rasht Agricultural College), soil of corn field, (Agha-Seyed Sharif Village), soil under Ulm tree, (region not mentioned), plants, warehouses, manure and decaying plants (Hajizadeh *et al.* 2009b, 2010a); (region not mentioned), associated with eriophyid mite [*Aceria geranii* (Canestrini)] (Adeli *et al.* 2013); **Hamedan Province** (region not mentioned), Darnel (Kamali *et al.* 2001). **Isfahan Province** (Shahreza), soil (Kavianpour *et al.* 2011); (region not mentioned), soil (Nemati *et al.* 2012b); (Isfahan), soil (Kadkhodaei *et al.* 2013); (Isfahan), soil of urban green spaces *(*Karbasian *et al*. 2022). **Kerman Province** (Rafsanjan), pistachio (*P. vera*) stem bark and collar soil (Mehrnejad and Ueckermann 2001); (Sirjan, Pariz, Gostueyeh, Shahrebabak, Marj), soil (Masnavipour *et al.* 2011); (Bam), soil (Mehrzad *et al.* 2012); (Jiroft), soil (Balooch Shahryari *et al.* 2012); (Sirjan County, Shahr-e-Babak County), soil and manure (Masnavipour *et al.* 2014); (Kerman City, parks and landscapes), soil (Arjomandi and Kazemi 2014b); (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020). **Khuzestan Province** (Baghmalek, Ghaletol, Izeh), soil (Nemati *et al.* 2012b). **Kohgiluyeh va Boyer-Ahmad Province** (Gachsaran), soil of corn and rape seed farms (Moradian *et al.* 2011a, b). **Lorestan Province** (Bishe and Badrabad Districts), soil of walnut trees and peach orchard (Hasanvand *et al.* 2014b); (Khorramabad County), orchard, oak forest, ant nest and feild (Hasanvand *et al.* 2015). **Markazi Province** (Saveh Region), associated with the Mediterranean pine beetle, *Orthotomicus erosus* (Wollaston) (Farmahiny Farahani *et al.* 2013); (Arak Region), soil (Jadidi and Joharchi 2014). **North East of Iran** (region not mentioned), associated with stored food products (Khaleghabadian *et al.* 2013). **Razavi Khorasan Province** (Mashhad), stored food products (Khaleghabadian *et al.* 2015); (Mashhad County), soil (Abbaspour *et al.* 2017). **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 sike, (Astaneh Village), soil near a pear trunk at the margin of a sike, (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), associated with cucumber greenhouses (Ostovan 2006a); (Tehran, Sorkhe Hesar Forest Park), soil (Pakyari *et al.* 2006b, 2008); (Tehran City, Police Park), soil (Maleki *et al.* 2016). **West Azarbaijan Province** (Miandoab Plain), foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003); (Salmas), soil and plant debris of apple orchards (Alizadeh and Shirdel 2012); (Urmia, Urmia University), soil; (Shohada valley), soil and litter; (Band), soil of apple orchard; (Sir Village, soil of apple orchard (Kavianpour *et al*. 2018b). **Yazd Province** (region not mentioned), soil (Kafi *et al.* 2014). **Zanjan Province** (region not mentioned), soil, rotten wood, fungi, litter and dung (Zare *et al.* 2012a); (region not mentioned), soil (Bigdeli *et al.* 2014).

Arctoseius idiodactylus Lindquist, 1961

Distribution and habitats. **Fars Province** (Shiraz), soil (Montazeri *et al.* 2011). **West Azarbaijan Province** (Urmia), apple orchards (Kamali *et al.* 2001; Atamehr *et al.* 2008).

Arctoseius minutus (Halbert, 1915)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2018a); (Saman, Gharaghoosh), in rooting wood in association with *Lasius neglectus* (Khalili-Moghadam 2022).

Arctoseius pristinus Karg, 1962

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2018a). **Fars Province** (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017). **Guilan Province** (region not mentioned), soil, stored products, debris, plant foliage, leaves, wood, and manure (Karami *et al.* 2017b); (Sangar City, Sarvandan Village), manure (Karami *et al.* 2017a); (Isfahan), soil of urban green spaces *(*Karbasian *et al*. 2022). **Isfahan Province** (Isfahan), soil (Kadkhodaei *et al.* 2013). **Qom Province** (region not mentioned), soil, dung, compost and plant-litters of crops, lawns, shrubs and trees in farms, forests, orchards and parks (Agha Alikhani *et al.* 2017).

Arctoseius pulvisculus (Berlese, 1920)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2018a); (Saman, Gharaghoosh), in rooting wood in association with *Lasius neglectus* (Khalili-Moghadam 2022). **Golestan Province** (Gorgan), soil (Malek-Shahkouyi *et al.* 2011b). **Mazandaran Province** (Amol), soil (Sakenin Chelav *et al.* 2006a, b). **West Azarbaijan Province** (Urmia, Shohada valley), soil and litter (Kavianpour *et al*. 2018b).
Note – Gwiazdowicz (2008) considered *Iphidozercon minutus* sensu Bregetova (1977) as a junior synonym of *Arctoseius pulvisculus*. Sakenin Chelav *et al.* (2006a, b) reported this species as *Iphidozercon minutus* and those specimens may belong to *A. pulvisculus* and we cited this report under the distribution of above--mentioned species.

Arctoseius semiscissus (Berlese, 1892c)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2018a). **East Azarbaijan Province** (Arasbaran Forests), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016b); (Arasbaran Forests, Kalaleh; Garmanab), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016a). **Fars Province** (Shiraz), soil (Montazeri *et al.* 2011). **Golestan Province** (Gorgan), soil (Malek-Shahkouyi *et al.* 2011b). **Isfahan Province** (Mobarake), foliage of trees, weeds and soil of orchards (Jalaeian *et al.* 2004a). **Kerman Province** (Shahrebabak, Marj), soil (Masnavipour *et al.* 2011); (Sirjan County), leaf litter (Masnavipour *et al.* 2014). **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). **West Azarbaijan Province** (Urmia, Sulik village), soil and litter (Kavianpour *et al*. 2018b). **Zanjan Province** (region not mentioned), soil, rotten wood, fungi, litter and dung (Zare *et al.* 2012a).

Arctoseius venustulus (Berlese, 1916a)

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

Isfahan Province (Isfahan City), soil (Kadkhodaei *et al.* 2013). **Kohgiluyeh va Boyer-Ahmad Province** (Gachsaran), soil of corn and rape seed farms (Moradian *et al.* 2011a, b). **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).

Genus *Asca* von Heyden, 1826

Asca aphidioides (Linnaeus, 1758)

Distribution and habitats. **East Azarbaijan Province** (Arasbaran Forests), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016b); (Arasbaran Forests, Kalaleh), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016a). **Golestan Province** (Gorgan), soil (Malek-Shahkouyi *et al.* 2011b). **Guilan Province** (Ganjeh, Roodbar and Manjil), soil in olive orchards (Mahjoori and Hajizadeh 2014); (region not mentioned), soil, stored products, debris, plant foliage, leaves, wood, and manure (Karami *et al.* 2017b); (Sangar City), soil (Karami *et al.* 2017a); (forests of Arasbaran Region), soil, leaf-litter and plant debris (Ordoukhanian *et al.* 2017). **Isfahan Province** (Isfahan), soil of urban green spaces *(*Karbasian *et al*. 2022). **Kohgiluyeh va Boyer-Ahmad Province** (Gachsaran), soil of corn and rape seed farms (Moradian *et al.* 2011a, b). **Mazandaran Province** (Amol), soil (Sakenin Chelav *et al.* 2006a, b).

Asca bicornis (Canestrini & Fanzago, 1877b)

Distribution and habitats. **East Azarbaijan Province** (Arasbaran Forests), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016b); (Arasbaran Forests, Kalaleh), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016a). **Guilan Province** (Rostam Abad and Roodbar), soil in olive orchard (Mahjoori and Hajizadeh 2014); (region not mentioned), soil, stored products, debris, plant foliage, leaves, wood, and manure (Karami *et al.* 2017b); (Rostamabad City, Kaluraz Village), from olive soil (Karami *et al.* 2017a).

Asca nesoica Athias-Henriot, 1961

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

Genus *Gamasellodes* Athias-Henriot, 1961

Gamasellodes bicolor (Berlese, 1918)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Lordegan County, Khanmirza Region, Salehat Village; Monj Region, Cheshmeh khani Village; Joub nesa Village), soil from different parts of oak forests (Bagheri Kordeshami *et al.* 2015); (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2018a); (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2022b). **East Azarbaijan Province** (forests of Arasbaran Region), soil, leaf-litter and plant debris (Ordoukhanian *et al.* 2017); (Southwest of the province, region not mentioned), soil (Hashemi Khabir *et al.* 2013). **Fars Province** (Kazeron), different materials of stored products (Ostovan and Kamali 1994); (Kazerun), stored onion (Kamali *et al.* 2001); (Marvdasht), soil (Soleimani *et al.* 2011); (Shiraz), soil (Montazeri *et al.* 2011); (Estahban), soil, leaves, litter, bark and saffron balb (Naghibinejad *et al*. 2012); (Doroodzan), soil of fields (Asadpoor *et al*. 2012); (Larestan), soil of cotton and wheat fields (Khadempour *et al.* 2012); (Darab), the soil under the trees in the northern and southern orchards of Darab city (Memarzadeh *et al*. 2022). **Guilan Province** (region not mentioned), soil, plants, warehouses, manure and decaying plants (Hajizadeh *et al.* 2009b, 2010a);

(Rostam Abad, Roodbar), leaf litter in olive orchards (Mahjoori and Hajizadeh 2014); (region not mentioned), soil, stored products, debris, plant foliage, leaves, wood, and manure (Karami *et al.* 2017b); (Roodbar, Nesfi Village), from weed floor of olive Garden (Karami *et al.* 2017a). **Hamedan Province** (region not mentioned), bean (*Phaseulus vulgaris* L.) and clover (*Trifolium* sp.) farms (Khanjani and Kamali 2000a; Kamali *et al.* 2001). **Isfahan Province** (Shahreza), soil (Kavianpour *et al.* 2010); (Isfahan City), soil (Kadkhodaei *et al.* 2013). **Golestan Province** (Gorgan), soil (Malek-Shahkouyi *et al.* 2011b). **Khuzestan Province** (Safiabad), grapevine yards (Kamali *et al.* 2001; Darvishzadeh and Kamali 2009); (Izeh, Baghmalek), soil (Nemati *et al.* 2012b). **Markazi Province** (Arak Region), soil (Jadidi and Joharchi 2014). **Mazandaran** and **Kordestan Provinces** (region not mentioned), shallot, potato and honeybee hives (Modarres Awal 1994; Mosaddegh 1997; Ostovan and Mosaddegh 1999; Kamali *et al.* 2001). **Razavi Khorasan Province** (Kashmar), soil of vineyards (Salarzehi *et al.* 2011). **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 sike 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). **Tehran Province** (Tehran, Shahid Beheshti University Campus), soil (Kamali *et al.* 2004); (Tehran City, Police Park), soil (Maleki *et al.* 2016). **West Azarbaijan Province** (Miandoab Plain), foliage and soil of sugarbeet fields (Haddad Irani Nejad *et al.* 2003); (Urmia, Band), soil of apple orchard (Kavianpour *et al.* 2018b). **Zanjan Province** (region not mentioned), soil (Bigdeli *et al.* 2014).

Gamasellodes insignis (Hirchmann, 1962)

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). **West Azarbaijan Province** (Urmia, Balanoj), soil of apple orchard (Kavianpour *et al*. 2018b).

Gamasellodes minor Athias-Henriot, 1961

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2022b).

Gamasellodes vulgatior Athias-Henriot, 1961

Distribution and habitats. **Qom Province** (region not mentioned), soil, dung, compost and plantlitters of crops, lawns, shrubs and trees in farms, forests, orchards and parks (Agha Alikhani *et al.* 2017).

Genus *Iphidozercon* Berlese, 1903a

Iphidozercon australis Gwiazdwicz & Halliday, 2008

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

Iphidozercon caspius Hajizadeh, Mortazavi & Nazari, 2014

Distribution and habitats. **Guilan Province** (Langarud City), soil under citrus trees (Hajizadeh *et al.* 2014).

Iphidozercon corticalis Evans, 1958

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

Iphidozercon gibbus **(Berlese, 1903a)**

Distribution and habitats. Region not mentioned, starchy materials, animal manure and humus (Modarres Awal 1997; Kamali *et al.* 2001). **Fars Province** (Kazerun), stored decaing onion (Ostovan and Kamali 1994; Kamali *et al.* 2001); (Jahrom), soil of citrus orchards (Khademi *et al.* 2006); (Estahban), soil, leaves, litter, bark and saffron balb (Naghibinejad *et al.* 2012). **Isfahan Province** (Najaf Abad), soil of fruit orchards (Jalaeian *et al.* 2006). **Kerman Province** (Shahrebabak, Marj). Soil (Masnavipour *et al.* 2011); (Shahr-e-Babak County), soil and manure (Masnavipour *et al.* 2014). **Lorestan Province** (Veisian District), soil under walnut trees (Hasanvand *et al.* 2014b); (Khorramabad County), oak forest (Hasanvand *et al.* 2015). **Tehran Province** (Tehran City, Police Park), soil (Maleki *et al.* 2016). **Zanjan Province** (region not mentioned), soil, rotten wood, fungi, litter and dung (Zare *et al.* 2012a).

Genus *Leioseius* Berlese, 1916a

Leioseius sepidehae **Kazemi, 2019**

Distribution and habitats. **Hormozgan Province** (Qeshm Island), in mangrove forests, from broken cockleshells and sand in littoral zone (Kazemi 2019).
Note – A species has been previously reported from Iran as *Leioseius bicolor* (Berlese, 1918) from Fars Province (Larestan), soil of cotton and wheat fields by Khadempour *et al.* (2012), which is in fact, a species of *Gamasellodes* genus (see its data under this genus).

Genus *Neojordensia* Evans, 1957a

Neojordensia sinuate **Athias-Henriot, 1973**

Distribution and habitats. **Golestan Province** (Gorgan), soil and litter (Kazemi *et al.* 2012). **Mazandaran Province** (Nowshahr), soil and litter (Kazemi *et al.* 2012). **West Azarbaijan Province** (Urmia, Band), soil of apple orchard (Kavianpour *et al.* 2018b).

Genus *Protogamasellus* Karg, 1962

Protogamasellus bifurcalis **Genis, Loots & Ryke, 1967**

Distribution and habitats. **Fars Province** (Jahrom Region), soil of citrus orchards (Khademi and Saboori 2013).

Protogamasellus hibernicus **Evans, 1982**

Distribution and habitats. **Fars Province** (Kazerun), stored rice and barley (Kamali *et al.* 2001). **West Azarbaijan Province** (Urmia), aerial plant parts and soil of potato fields (Mosavi *et al.* 2004; Mousavi *et al*. 2005); (Khoy), soil of sunflower fields (Taher *et al.* 2012).

Protogamasellus massula **(Athias-Henriot, 1961)**

Distribution and habitats. **Fars Province** (Larestan), soil of cotton and wheat fields (Khadempour *et al.* 2012); (Darab), the soil under the trees in the northern and southern orchards of Darab city

(Memarzadeh *et al*. 2022). **Guilan Province** (region not mentioned), associated with eriophyid mites [*Aceria oleae* (Nalepa); *Tegonotus hassani* (Keifer)] (Adeli *et al.* 2013); (Rostam Abad, Roodbar and Manjil), soil and laef litter in olive orchards (Mahjoori and Hajizadeh 2014); (Sangar City, Eslamabad (Shaqaji) Village), from Chicken manure (Karami *et al.* 2017a); (region not meniotned), soil, stored products, debris, plant foliage, leaves, wood, and manure (Karami *et al.* 2017b); (Rasht, Sima Manzar Organization), rose, *Rosa damascene* leaves; (Rasht, Isfahani Educational Institute), wood sorrel, *Oxalis acetosella* L. leaves, infested with spider mites (Ghasemi and Hajizadeh 2021). **Hormozgan Province** (Minab), associated with soil under mango trees (Dolati and Ostovan 2017b). **Isfahan Province** (Shahreza), soil (Kavianpour *et al.* 2011). **Kerman Province** (Jiroft), soil (Balooch Shahryari *et al.* 2012); (Isfahan), soil of urban green spaces *(*Karbasian *et al*. 2022). **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). **Tehran Province** (Tehran, Sorkhe Hesar Forest Park), soil (Pakyari *et al.* 2006b, 2008). **West Azarbaijan Province** (Miandoab Plain), foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003); (Salmas), soil and plant debris of apple orchards (Alizadeh and Shirdel 2012); (Urmia, Nazlu dam), soil; (Kaboodan island), soil (Kavianpour et al. 2018b). **Yazd Province** (region not mentioned), soil (Kafi *et al.* 2014).

Protogamasellus mica (Athias-Henriot, 1961)

Distribution and habitats. **Fars Province** (Jahrom), soil of citrus orchards (Khademi *et al.* 2006); (Darab), the soil under the trees in the northern and southern orchards of Darab city (Memarzadeh *et al*. 2022). **Guilan Province** (region not mentioned), soil, plants, warehouses, manure and decaying plants (Hajizadeh *et al.* 2009b, 2010a); (region not mentioned), associated with eriophyid mites [*Acaphylla distata* (Keifer); *Aculops rhodensis* (Keifer)] (Adeli *et al.* 2013); (Rostam Abad, Roodbar and Manjil), soil in olive orchards (Mahjoori and Hajizadeh 2014); (Sangar City, Eslamabad (Shaqaji) Village), from Chicken manure (Karami *et al.* 2017a); (region not mentioned), soil, stored products, debris, plant foliage, leaves, wood and manure (Karami *et al.* 2017b). **Hormozgan Province** (Qeshm Island, in mangrove forests), from broken cockleshells and sand in littoral zone (Kazemi 2019); (Minab), associated with soil under mango trees (Dolati and Ostovan, 2017b). **Isfahan Province** (Shahreza), soil (Kavianpour *et al.* 2011). **Kerman Province** (Jiroft), soil (Balooch Shahriyari *et al.* 2011); (Kerman City, Qaem pine forest), from soil and litter (Kazemi 2019). **Razavi Khorasan Province** (Kashmar), soil of vineyards (Salarzehi *et al.* 2011). **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). **West Azarbaijan Province** (Miandoab Plain), foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003).
Note – *Protogamasellus primitivus* Karg, 1962 was reported by Shamsi *et al.* (2008) from Semnan Province, but this species was considered as junior synonym of *P. mica* by Evans, 1982.

Protogamasellus scuticalis Genis, Loots & Ryke, 1967

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2018a); (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2022b). **Fars Province** (Estahban), soil, leaves, litter, bark and saffron balb (Naghibinejad *et al.* 2012).

Protogamasellus singularis (Karg, 1962)

Distribution and habitats. **Semnan Province** (Agareh Village, Sattari's Orchard), decaying matter of a willow tree (Shamsi *et al.* 2008).
Note – This species was previously reported from Iran as *Protogamasellus minor* (Karg, 1962) by Shamsi *et al.* (2008) with the above-mentioned data. Kazemi (2019) considered this species as *Protogamasellus singularis*.

Genus *Zerconopsis* Hull, 1918

Zerconopsis michaeli Evans & Hyatt, 1960

Distribution and habitats. **East Azarbaijan Province** (Arasbaran Forests), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016b); (Arasbaran Forests, Vaygan and Kalaleh), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016a). **Fars Province** (Kharameh Region), sandy clay soil under fruit trees (Alinezhad *et al*. 2023). **Golestan Province** (Gorgan), soil (Malek-Shahkouyi *et al.* 2011b; Kazemi *et al.* 2012). **Guilan Province** (Rasht, Saravan Forest), from forest soil (Karami *et al.* 2017a); (region not mentioned), soil, stored products, debris, plant foliage, leaves, wood, and manure (Karami *et al.* 2017b). **Mazandaran Province** (Amol), soil (Sakenin Chelav *et al.* 2006a, b); (Nowshahr), soil and litter (Kazemi and Ahangaran 2011; Kazemi *et al.* 2012).

Zerconopsis remiger (Kramer, 1876)

Distribution and habitats. **East Azarbaijan Province** (forests of the Arasbaran region), soil, leaflitter and plant debris (Ordoukhanian *et al.* 2017). **Guilan Province** (Langarud and Chaboksar), soil samples of citrus garden (Karami *et al.* 2017a).

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 *Orthadenella* Athias-Henriot, 1973

Orthadenella lawrencei (Evans, 1957a)

Distribution and habitats. **East Azarbaijan Province** (forests of Arasbaran Region), soil leaf-litter and plant debris (Ordoukhanian *et al.* 2017). **Guilan Province** (Rudsar), soil; (Rasht) soil (Javadpour *et al.* 2018). **Mazandaran Province** (Amol), soil (Sakenin Chelav *et al.* 2006a, b).
Notes – 1. This species has previously been reported from Iran as *Lasioseius lawrencei*. **2**. According to Nemati *et al*. (2018), the senior author (A. Nemati) observed that some specimens of *Orthadenella lawrencei*, collected from East Azarbaijan Province and some parts of northern Iran, are likely the species previously reported from Iran as *L. lawrencei* (or *Orthadenella lawrencei*). The specimens reported by Malekshahkoohi *et al*. (2011) as *L. lawrencei* actually belong to *O. multipilisaccula* Ostovan and Faraji, 2014. Therefore, the collection data cited in the publication of Ostovan and Faraji (2014), including the data of Moradian *et al*. (2011a, b), has been transferred to *Orthadenella multipilisaccula* Ostovan and Faraji, 2014 as follows.

Orthadenella multipilisaccula Ostovan & Faraji, 2014

Distribution and habitats. **Golestan Province** (Gorgan), soil (Malek-Shahkouyi *et al.* 2011b). **Kohgiluyeh va Boyer-Ahmad Province** (Gachsaran), corn and rape seed farms (Moradian *et al.* 2011a, b). **Mazandaran Province** (Babolsar), forests soil (Ostovan and Faraji 2014).

Genus *Proctolaelaps* Berlese, 1923

Proctolaelaps aurora (Vitzthum, 1925)

Distribution and habitats. **East Azarbaijan Province** (Tabriz), soil of orchards (Kamali *et al.* 2001). **Fars Province** (Jahrom), soil of citrus orchards (Khademi *et al.* 2006). **Markazi Province** (Saveh), pomegranate (Kamali *et al.* 2001).
Note – This species has been reported from Iran as *Proctolaelaps longipilis* (Chant, 1958), but it was considered a junior synonym of *P. aurora* by Halliday *et al*. (1997).

Proctolaelaps bickleyi (Bram, 1956)

Distribution and habitats. **Seventeen different Provinces in Iran**, beehives debris (Ostovan and Mossadegh 1999). **Fars Province** (Kazerun), stored onion and potato contaminated to *Schwiebia* spp. and *Rhizoglyphus* spp. (Ostovan and Kamali 1994; Kamali *et al.* 2001); (region not mentioned), honeybee hives (Modarres Awal 1997; Ostovan and Mosaddegh 1999); (Marvdasht), soil (Soleimani *et al.* 2011); (Shiraz), potato, zucchini, flour and the floor of insectariums (Granpayeh *et al.* 2012); (Shiraz), associated with insectary cultures including potato (*Solanum tuberosum* L.), zucchini (*Cucurbita pepo* L.) and wheat flour (Granpayeh and Ostovan 2014); (Darab), the soil under the trees in the northern and southern orchards of Darab city (Memarzadeh *et al*. 2022). **Markazi Province** (Arak Region), soil (Jadidi and Joharchi 2014). **Tehran Province** (Tehran), associated with elm bark beetle *Scolytus multistriatus* (Marsh) (Kamali *et al.* 2001; Ostovan and Kamali 1997).

Proctolaelaps brevipilis (Westerboer, 1963)

Distribution and habitats. **Qom Province** (region not mentioned), soil, dung, compost and plantlitters of crops, lawns, shrubs and trees in farms, forests, orchards and parks (Agha Alikhani *et al.* 2017).

Proctolaelaps cossoides Faraji, Sakenin-Chelav & Karg, 2007

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

Proctolaelaps fiseri Samšiňák, 1960

Distribution and habitats. **Fars Province** (Darab), the soil under the trees in the northern and southern orchards of Darab city (Memarzadeh *et al*. 2022). **Guilan Province** (Rasht, University of Guilan), on body of rove beetle (Staphylinidae) (Karami *et al.* 2017a); (region not mentioned), soil, stored products, debris, plant foliage, leaves, wood, and manure (Karami *et al.* 2017b).

Proctolaelaps holoventris Moraes, Britto, Mineiro & Halliday, 2016

Distribution and habitats. **Guilan Province** (Rasht, Isfahani Educational Institute), wood sorrel, *Oxalis acetosella* leaves (Ghasemi and Hajizadeh 2021); (Rasht), associated with beetles from Chrysomelidae, Carabidae, and Staphylinidae (Hajizadeh and Hosseini 2022).

Note – The above-mentioned name was considered for *Proctolaelaps orientalis* Nasr, (in Zaher, 1986) because of junior primary homonymy with *Proctolaelaps orientalis* Bhattacharyya, 1968 by Moraes *et al*. (2016).

Proctolaelaps hystricoides 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, 1959b

Distribution and habitats. **Lorestan Province** (Khorramabad), orchard and oak forest (Hasanvand *et al.* 2015). **Tehran Province** (Tehran, various Parks), associated with elm bark beetle, *S. multistriatus* (Ostovan and Kamali 1997; Kamali *et al.* 2001).
Note – Ostovan and Kamali (1997) reported *Neojordensia orientalis* Chant, 1963 from Tehran. This species was considered as a junior synonym of *Proctolaelaps intermedius* by Mineiro *et al*. (2009).

Proctolaelaps longisetosus (Postner, 1963)

Distribution and habitats. **Ardabil Province** (Meshkinshahr, Shahbil Region), associate with nest of *Bombus armeniacus* (Hymenoptera, Apidae) colony (Azhari *et al.* 2011).
Note – *Lasioseius longisetosus* Postner, 1951 is unavailable name in an unpublished thesis (Moraes *et al*. 2016).

Proctolaelaps pygmaeus (Müller, 1859)

Distribution and habitats. **Bushehr Province** (region not mentioned), nests or body of fresh and pinned museum specimens of order Orthoptera (Gryllidae) (Nemati and Babaeian 2010). **Chaharmahal va Bakhtiyari Province** (region not mentioned), nests or body of fresh and pinned museum specimens of Orthoptera (Gryllidae) (Nemati and Babaeian 2010); (region not mentioned), *Fomes* sp. (Khalili-Moghadam and Nemati 2014a); (Ben, Karsenak, Bardeh; Lordegan, Ooreh), in rooting wood in association with *L. neglectus; P. koshewnikovi; T. karavaievi* (Khalili-Moghadam 2022); (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2022b). **East Azarbaijan Province** (Arasbaran Forests, Garmanab), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016a). **Fars Province** (Kazerun), stored onion and potato contaminated to *Schwiebia* spp. and *Rhizoglyphus* spp. (Ostovan and 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 and Ostovan 2012); (Darab). Soil and foliage of cotton fields (Khorsand *et al.* 2012); (Doroodzan), soil of fields (Asadpoor *et al.* 2012); (Shiraz), associated with insectary cultures including potato (*Solanum tuberosum* L.), zucchini (*Cucurbita pepo* L.) and wheat flour (Granpayeh and Ostovan 2014); (Northwestern), soil and debris (Abolghasemi and Kazemi 2016); (Shiraz, Eram Garden), soil under different trees (Javan *et al.* 2017). (Darab), the soil under the trees in the northern and southern orchards of Darab city (Memarzadeh *et al*. 2022). **Guilan Province** (region not mentioned). Soil, plants, warehouses, manure and decaying plants (Hajizadeh *et al.* 2009b, 2010a); (Somesara), on raspberry shrubs (Rubus spp.) (Tajmiri and Hajizadeh 2013); (Rasht, Pir Kola Chah Village and Somesara), rice hulls; (Sangar, Sarvandan Village, Eslamabad (Shaqaji) Village), soil of spruce tree and manure (Karami *et al.* 2017a); (region not mentioned), soil, stored products, debris, plant foliage, leaves, wood, and manure

(Karami *et al.* 2017b); (Rasht, Omesheh village, Pir Bazar village), soil; (Rasht, Isfahani Educational Institute), wood sorrel, *Oxalis acetosella* leaves; Graniums, *Pelargonum zonale* leaves; (Bijar Bonch village), cucumber, *Cucumis sativus* L. leaves; (Keshel Varzal village), tomato, *S. lycopersicum* L. leaves (Ghasemi and Hajizadeh 2021). **Hamedan Province** (region not mentioned). Associated with Fabaceae plants (Kamali *et al.* 2001). **Isfahan Province** (Najaf Abad), soil of fruit orchards (Jalaeian *et al.* 2006); (Shahreza), soil (Kavianpour *et al.* 2011); (Isfahan), soil (Kadkhodaei *et al.* 2013); (Rezvanshahr), soil (Moradi Faradonbeh *et al.* 2018); (Isfahan), soil of urban green spaces (Karbasian *et al*. 2022). **Kerman Province** (Sirjan, Zeidabad, Gostueyeh, Mani, Sarcheshmeh, Shahrebabak). Soil (Masnavipour *et al.* 2011); (Bam). ex. unidentified scarab and carabid beetles (Mehrzad *et al.* 2011); (Bam). Soil (Mehrzad *et al.* 2012); (Rafsanjan). Soil of fruit orchards (Mohammadi *et al.* 2012); (Kerman), cow manure (Arjomandi *et al.* 2013a); (Sirjan, Rafsanjan, Shahr-e-Babak), soil, manure and leaf litter (Masnavipour *et al.* 2014); (Kerman City, parks and landscapes), soil (Arjomandi and Kazemi 2014b); (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020). **Khuzestan Province** (Dezful), citrus orchards (Malekzadeh *et al.* 2000); (region not mentioned), associated with barley and lentils (Habibpour *et al.* 2002); (region not mentioned), associated with date palm trees (Mohajeri *et al*. 2009); (region not mentioned), nests or body of fresh and pinned museum specimens of Orthoptera (Gryllidae) (Nemati and Babaeian 2010). **Lorestan Province** (region not mentioned), no more data (Kamali *et al.* 2001); (Babazeid and Mehdiabad Districts), soil of lemon orchard and vine orchard, (Hasanvand *et al.* 2014b); (Khorramabad), orchard, oak forest and manure (Hasanvand *et al.* 2015). **Mazandaran Province** (Tirtash), ex. *Gryllus* sp., under elytra (Kazemi and Rajaei 2013). **North Khorasan Province** (region not mentioned), in the nests of *Tapinoma* sp. (Formicidae) (Rezaei *et al.* 2016). **Qom Province** (region not mentioned), soil, dung, compost and plant-litters of crops, lawns, shrubs and trees in farms, forests, orchards and parks (Agha Alikhani *et al.* 2017). **Razavi Khorasan Province** (Mashhad), stored food products (Khaleghabadian *et al.* 2015); (Mashhad), soil and manure (Abbaspour *et al.* 2017). **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). **Tehran Province** (Tehran City, Police Park), soil (Maleki *et al.* 2016). **West Azarbaijan Province** (Urmia), house dust (Kamali *et al.* 2001); (Urmia), aerial plants part and soil of potato fields (Mosavi *et al.* 2004; Mousavi *et al*. 2005); (Urmia), soil (Rezaie *et al.* 2011); (Miandoab Plain), foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003). **Yazd Province** (region not mentioned), soil (Kafi *et al.* 2014). **Zanjan Province** (region not mentioned), soil, rotten wood, fungi, litter and dung (Zare *et al.* 2012a); (region not mentioned), soil (Bigdeli *et al.* 2014).

Proctolaelaps regalis De Leon, 1963

Distribution and habitats. **Alborz Province** (Karaj), associated with stored products (Sayedi *et al.* 2006). **Fars Province** (Kazerun), different materials of stored products (Ostovan and Kamali 1994; Modarres Awal 1997; Kamali *et al.* 2001). **Kuzestan Province** (region not mentioned), associated with date palm trees (Mohajeri *et al*. 2009).

Proctolaelaps scolyti Evans, 1958

Distribution and habitats. **Kordestan Province** (region not mentioned), honeybee 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, 1971a

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2022b). **Fars Province** (Shahreza), soil (Kavianpour *et al.* 2011); (Shiraz), soil (Montazeri *et al.* 2011). **Guilan Province** (region not mentioned), stored rice, rice dust and debris (Noei *et al.* 2008); (Langarud), soil of citrus garden (Karami *et al.* 2017a); (region not mentioned), soil, stored products, debris, plant foliage, leaves, wood, and manure (Karami *et al.* 2017b). **Khorasan Razavi Province** (Mashhad), stored food products (Khaleghabadian *et al.* 2015). **Khuzestan Province** (Ahvaz and its suburbs), cattle and horse manure (Farahi *et al.* 2022). **West Azarbaijan Province** (Miandoab Plain), foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003). North East of Iran (region not mentioned), stored food products (Khaleghabadian *et al.* 2013).

Superfamily Dermanyssoidea Kolenati, 1859
Family Dermanyssidae Kolenati, 1859
Genus *Dermanyssus* Dugès, 1834

Dermanyssus americanus Ewing, 1923

Distribution and habitats. **Fars Province** (Shiraz), collected from the houses of patients referred to the asthma and allergy by vacuum cleaner (Shafei *et al.* 2020). **Hormozgan Province** (Bandar-Abas), on the body of *Rattus norvegicus*, *Tatera indica* (Hanafi-Bojd *et al.* 2007).

Dermanyssus brevis Ewing, 1936

Distribution and habitats. **Khorasan Province** (Ghaen), Crested Lark *Galerida cristata* (Alaudidae) (Moodi *et al.* 2014).

Dermanyssus chelidonis Oudemans, 1939a

Distribution and habitats. **Chaharmahal va Bakhtiyari** 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), chiken and pigeon (Kamali *et al.* 2001). **Alborz Province** (Karaj), manure (Kazemi and Rajaei 2013). **Chaharmahal va Bakhtiyari** and **Isfahan Provinces** (region not mentioned), body of birds or their nests (Keivani *et al.* 2012). **Fars Province** (Shiraz), collected from the houses of patients referred to the asthma and allergy by vacuum cleaner (Shafei *et al.* 2020). **Kerman Province** (Kerman), chiken manure (Kazemi and Rajaei, 2013); cow manure and poultry manure (Arjomandi *et al.* 2013a). **Khuzestan Province** (Ahvaz and its suburbs), poultry manure (Farahi *et al.* 2022). **Northwest Iran** (region not mentioned), on *Mus musculus* (Allymehr *et al.* 2012). **West Azarbaijan Province** (Urmia), different bird nests, especially in the barn swallow (*Hirundo rustica*) nests (Mohamadi Ghalehjoughi *et al.* 2017).
Note – As an old report, *Dermanyssus gallinae* was recorded from Iran as a parasite of poultry by Maghami (1968).

Dermanyssus sp.

Distribution and habitats. **Hamedan Province** (region not mentioned), ectoparasites of urban bird (Nikbin *et al.* 2022).

Genus *Liponyssoides* Hirst, 1913

Liponyssoides muris (Hirst, 1913)

Distribution and habitats. **Hormozgan Province** (Mangrove forests and villages of Qeshm Island), ectoparasite on *Rattus rattus* (Eslami *et al*. 2018).

Liponyssoides sanguineus (Hirst, 1914)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Sharekord). ex. mice (Nemati *et al*. 2008a). **Hormozgan Province** (Bandar-Abas), on the body of *Rattus norvegicus* (Hanafi-Bojd *et al*. 2007). **Isfahan Province** (Segzi, Koohpayeh), on the body of *R. opimus* (Azarmi *et al*. 2019). **Kermanshah Province** (Sarpole-Zahab District), on *Mus musculus*, *Meriones persicus* and *Tatera indica* (Telmadarraiy *et al*. 2007). **Khuzestan Province** (Ahvaz and Hovizeh), on *R. norvegicus* (Rahdar *et al*. 2015). **Kurdistan Province** (region not mentioned), associated with stored flour and wheat (Maroufpoor and Ostovan 2017; Maroufpoor *et al*. 2017).

Family Haemogamasidae Oudemans, 1926
Genus *Eulaelaps* Berlese, 1903b

Eulaelaps oudemansi Turk, 1945

Distribution and habitats. **West Azarbaijan Province** (Urmia), house dust (Kamali *et al*. 2001).

Eulaelaps stabularis (C.L. Koch, 1840)

Distribution and habitats. **Seventeen different Provinces in Iran**, beehives debris (Ostovan and Mossadegh 1999); region not mentioned, hoeny bee hives (Shahhosseini and Kamali 1989; Kamali *et al*. 2001). **Chaharmahal va Bakhtiyari Province** (Lordegan, Ooreh; Kiar, Gahroo), in soil in association with *P. pallescens*; *T. karavaievi* (Khalili-Moghadam 2022). **Chaharmahal va Bakhtiyari** and **Isfahan Provinces** (region not mentioned). Body of birds or their nests (Keivani *et al*. 2012). **Fars Province** (Koohmare-Sorkhi Region), oak forests (Kazemi and Yazdanpanah 2013b); (Koohmare-Sorkhi Region, oak forest), soil and leaf litter (Yazdanpanah and Kazemi 2014a). **Golestan Province** (Gorgan), soil (Kazemi *et al*. 2011a, 2012). **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). **Khuzestan Province** (region not mentioned), soil (Nemati *et al*. 2017b). **West Azarbaijan 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).

Genus *Haemogamasus* Berlese, 1889

Haemogamasus hirsutus Berlese, 1889

Distribution and habitats. **Northeast of Azarbaijan Province** (Arasbaran forests), soil, humus and litter (Mohammad-Doustaresharaf *et al*. 2018b).

Haemogamasus pontiger (Berlese, 1904a)

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).

Family Iphiopsididae Kramer, 1886
Genus *Julolaelaps* Berlese, 1916d

Julolaelaps hallidayi Nemati, Riahi & Gwiazdowicz, 2015

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Brujen Region), from soil associated with mellipeds (Nemati *et al.* 2015). **Isfahan Province** (Shahreza), from soil associated with mellipeds (Nemati *et al.* 2015).

Julolaelaps tritosternalis Moraza & Kazemi, 2012

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

Family Laelapidae Canestrini, 1891
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).

Alloparasitus obscuroides (Costa, 1968a)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Saman, Shahrekord), soil (Amani *et al.* 2015); (Lordegan, Khanmirza Region, Salehat Village, Central Region, Bougar Village), soil from different parts of oak forests (Bagheri Kordeshami *et al.* 2015). **Fars Province** (Shiraz), soil (Montazeri *et al.* 2011); (Koohmare-Sorkhi Region), oak forests (Kazemi and Yazdanpanah 2013b); (Shiraz), litter (Joharchi and Halliday 2013); (Koohmare-Sorkhi Region, oak forest), soil and leaf litter (Yazdanpanah and Kazemi 2014a); (Shiraz County), soil (Keivani *et al*. 2018); (Shiraz, green spaces and orchards of fruit trees), soil and decayed material on the soil surface (Farzaneh *et al.* 2021). **Isfahan Province** (Isfahan), soil and litter (Ramezani and Nemati 2010); (Isfahan), soil of urban green spaces *(*Karbasian *et al*. 2022). **Khuzestan Province** (region not mentioned), soil (Nemati *et al.* 2017b). **Lorestan Province** (Khorramabad), soil (Hasanvand *et al.* 2014a).
Note – This species was considered as a member of *Gymnolaelaps* by Joharchi and Halliday (2013), Kazemi and Yazdanpanah (2013b), and Yazdanpanah and Kazemi (2014a). Hasanvand *et al.* (2014a) and Nemati *et al.* (2017a) reported this species in *Hypoaspis s. lat*. due to incompatibility of its morphological characters with *Gymnolaelaps* genus. This species was provisionally placed in the genus *Alloparasitus* (Moraes *et al*. 2022), and we follow it here.

Genus *Androlaelaps* Berlese, 1903b

Androlaelaps aegypticus Hafez, Elbadry & Naser, 1982

Distribution and habitats. **Fars Province** (Marvdasht, Islamic Azad University, Fars Science and Research Branch), soil (Soleimani *et al.* 2010b, 2011). **Hormozgan Province** (Minab), associated with soil under mango trees (Dolati and Ostovan 2017b). **Razavi Khorasan Province** (Kashmar), soil of vineyards (Salarzehi *et al.* 2011). **Tehran Province** (Tehran City, Police Park), soil (Maleki *et al.* 2016).

Androlaelaps androgynus (Bregetova, 1952)

Distribution and habitats. **Chaharmahal va Bakhtiyari** and **Isfahan Provinces** (region not

mentioned), body of birds or their nests (Keivani *et al.* 2012).

Androlaelaps casalis (Berlese, 1887a)

Distribution and habitats. Region not mentioned, stored products (Sepasgozarian 1978). **Alborz Province** (Karaj), associated with stored products (Sayedi *et al.* 2006; Seiedy *et al.* 2009); (region not mentioned), soil (Keshavarz Jamshidian and Babaeian 2013). **Ardabil Province** (Moghan Plain), cotton farms (Kamali *et al.* 2001). **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 and Babaeian 2010). **Chaharmahal va Bakhtiyari 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 and Babaeian 2010); (Saman), soil (Shariati *et al.* 2017); (Shahrekord), different habitats (Nemati *et al.* 2017a). **East Azarbaijan Province** (Tabriz), soil of orchards (Kamali *et al.* 2001); forests of Arasbaran Region), soil, leaf-litter and plant debris (Ordoukhanian *et al.* 2017); (Maragheh), soil in orchards (Valizadeh *et al.* 2017). **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, Homayjan), associated with apple trees (Maneshi *et al.* 2012); (Neyriz), soil (Bazrafshan *et al.* 2013); (Shiraz), associated with insectary cultures including potato (*Solanum tuberosum* L.), zucchini (*Cucurbita pepo* L.) and wheat flour (Granpayeh and Ostovan 2014); (Shiraz County), soil (Keivani *et al*. 2018); (Shiraz, green spaces and orchards of fruit trees), soil and decayed material on the soil surface (Farzaneh *et al*. 2021); (Darab), the soil under the trees in the northern and southern orchards of Darab city (Memarzadeh *et al*. 2022). **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); (Somesara), on raspberry shrubs (*Rubus* spp.) (Tajmiri and Hajizadeh 2013); (region not mentioned), soil and litter (Ramroodi *et al.* 2014b); (Rasht, Pir Bazar village), soil (Ghasemi and Hajizadeh 2021). **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). **Hormozgan Province** (Minab), associated with soil under mango trees (Dolati and Ostovan 2017b). **Isfahan Province** (Isfahan, Kashan, and Golpaygan), stored wheat, grain, chaff and dust material (Ardeshir and Nematollahi 2008); (Isfahan), soil and litter (Ramezani and Nemati 2010); (Isfahan), soil (Khalili-Moghadam *et al.* 2012). **Kerman Province** (Rafsanjan), pistachio (*P. vera*) stem bark and collar soil (Mehrnejad and Ueckermann 2001); (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 (Mehrzad *et al.* 2012); (Kerman), cow manure, poultry manure and sheep manure (Arjomandi *et al.* 2013a). **Khuzestan Province** (Safiabad), grapevine yards (Kamali *et al.* 2001; Darvishzadeh and 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 and Babaeian 2010); (Bavi, Mollasani), sheep manure; (Ahvaz, Gavmish Abad), buffalo manure; (Bavi, Naddafieh, sheep manure (Farahi *et al.* 2020); (Ahvaz and its suburbs), buffalo, and sheep manure (Farahi *et al.* 2022). **Lorestan Province** (region not mentioned), soil (Heydari *et al.* 2013); (Poledokhtar), soil (Heydari *et al.* 2014b); (Kuhdasht), soil (Heydari *et al.* 2014a). **Mazandaran Province** (Lavij Region of Nour County), soil, humus and litter (Ghasemi-Moghadam *et al.* 2014). **Qom Province** (region not mentioned), soil, dung, compost and plant-litters of crops, lawns, shrubs and trees in farms, forests, orchards and parks (Agha Alikhani *et al.* 2017). **Razavi Khorasan Province** (Mashhad), soil-litter

and associated with ants' nest (Ghafarian *et al.* 2013a); (Mashhad), stored food products (Khaleghabadian *et al.* 2015); North East of Iran (region not mentioned), associated with stored food products (Khaleghabadian *et al.* 2013); (Mashhad), soil and manure (Abbaspour *et al.* 2017). **Semnan Province** (Shahrood, Bastam, Meyami, Abarsij, Owlang Jungle, Deh Kheyr, Tuskestan), soil (Ghorani *et al.* 2016). **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); (Tehran, Varamin, Shahr-e Rey, Firouzkooh, Dmavand Region), soil, leaf litter and dung, green spaces and orchards (Baroozeh *et al.* 2013); (region not mentioned), associated with ornamental plants (Hamidi *et al.* 2013). **West Azarbaijan 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); (Urmia, Qäsemlü valley), soil and litter (Kavianpour *et al.* 2017); (Urmia University), soil (Mirfakhraie *et al*. 2017). **Zanjan Province** (region not mentioned), soil (Bigdeli *et al.* 2014).

Androlaelaps fahrenholzi (Berlese, 1911)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), *M. musculus* nest (Babaeian *et al.* 2010). **Fars Province** (Shiraz), collected from the houses of patients referred to the asthma and allergy by vacuum cleaner (Shafei *et al.* 2020). **Hormozgan Province** (Bandar-Abas), on the body of *Rattus norvegicus*, *Tatera indica* (Hanafi-Bojd *et al*. 2007). **Lorestan Province** (Khorram abad), on the body of *M. persicus*, *M. musculus*, *Mus socialis*, *Cricetulus migratorius*, *Ellobius fuscocapillus*, *Rattus rattus* (Shayan and Rafinejad 2006).

Note – This species was recorded as *Heamolaelaps glasgowi* (Ewing, 1925) by the mentioned researchers, but it was considered as a junior synonym of *Androlaelaps fahrenholzi* (Berlese, 1911) by Furman (1972).

Androlaelaps fenilis (Mégnin, 1876)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), soil of ants' nest, unknown ant (Hym.: Formicidae) (Khalili- Moghadam and Saboori 2015); (Lordegan County, Felard Region, Poshtkouh; Pole Gharah; Khanmirza Region, Salehat Village; Monj Region, Ghale Madreseh Village; Pal Borideh Village; Cheshmeh Khani Village; Joub Nesa Village), soil from different parts of oak forests (Bagheri Kordeshami *et al.* 2015). **Fars Province** (Shiraz County), soil (Keivani *et al*. 2018). **Isfahan Province** (Isfahan), soil (Khalili-Moghadam *et al.* 2012). **Khuzestan Province** (region not mentioned), soil (Nemati *et al.* 2017b). **Razavi Khorasan Province** (Northeast of Iran; region not mentioned), associated with stored food products (Khaleghabadian *et al.* 2013); (Mashhad), stored food products (Khaleghabadian *et al.* 2015). **Zanjan Province** (region not mentioned), soil (Bigdeli *et al.* 2014).

Androlaelaps hermaphrodita (Berlese, 1887b)

Distribution and habitats. **Sistan va Baluchestan Province** (Bampoor, Daman, Iranshahr District, Qasre Qand, Nikshahr), on the body of *Tetera indica*, *Meriones hurrianae*, *Meriones libycus* and *Gerbillus nanus* (Nateghpour *et al.* 2013).

Androlaelaps kifli Metwally & Ibrahim, 1985

Distribution and habitats. **Fars Province** (Shiraz), soil (Montazeri *et al.* 2011). **Isfahan Province**

(Isfahan), soil and litter (Ramezani and Nemati 2010); (Shahreza), soil (Kavianpour *et al.* 2011). **Khuzestan Province** (Ahvaz), nest of *Pheidole pallidula* Nylander and *Monomorium destructor* (Jerdon) (Nemati *et al.* 2000b; Kamali *et al.* 2001).

Note – However, we concur with Joharchi and Negm (2020) in asserting that *Androlaelaps projecta* Furman, 1972 should be regarded as a senior synonym of *A. aegypticus* Hafez, Elbadry & Naser, 1982 and *A. kifli* Metwali & Ibrahim, 1985. Nonetheles, a thorough examination of the type materials is required to substantiate this claim, as there are variations in the original descriptions of *A. aegypticus* and *A. kifli*. Consequently, until further investigation is conducted, the names of aforementioned species will be included in the inventory of Iranian mesostigmatid mites.

Androlaelaps marshalli (Berlese, 1911)

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

Androlaelaps projecta Furman, 1972

Distribution and habitats– **Khuzestan Province** (Ahvaz, Gavmish Abad), buffalo manure (Farahi *et al.* 2020); (Ahvaz and its suburbs), buffalo manure (Farahi *et al.* 2022).

Androlaelaps shealsi Costa, 1968a

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Saman and Shahrekord), soil (Amani *et al.* 2015); (Lordegan County, Khanmirza Region, Salehat Village; Monj Region, Ghale Madreseh Village; Pal Borideh Village; Cheshmeh Khani Village and Joub Nesa Village), soil from different parts of oak forests (Bagheri Kordeshami *et al.* 2015); (Saman), soil (Shariati *et al.* 2017); (Koohrang, Dashte laleh, Sodejan, Samsami (Cheri), Bazoft (Taraz); Saman, Gharaghoosh, Garmdareh and Shoorab; Ben, Karsenak; Kiar, Gahroo, Kharaji; Lordegan, Ooreh), in soil and rooting wood in association with *C. xerxes; C. fritillariae; C. kurdistanica; L. neglectus; M. caducus; M. platyceras; P. pallescens; Solenopsis* sp.*; T. karavaievi; Tetramorium* sp. (Khalili-Moghadam 2022). **East Azarbaijan Province** (Maragheh), soil in orchards (Valizadeh *et al.* 2017). **Fars Province** (Sepidan, Homayjan), associated with apple trees (Maneshi *et al.* 2012); (Larestan), soil of cotton and wheat fields (Khadempour *et al.* 2012); (Koohmare-Sorkhi Region), oak forests (Kazemi and Yazdanpanah 2013b); (Koohmare-Sorkhi Region, oak forest), soil and leaf litter (Yazdanpanah and Kazemi 2014a); (region not mentioned), soil and debris (Abolghasemi and Kazemi 2016); (Shiraz, green spaces and orchards of fruit trees), soil and decayed material on the soil surface (Farzaneh *et al*. 2021). **Guilan Province** (region not mentioned), soil (Ramroodi *et al.* 2013); (Manjil, Roodbar and Nesfi), soil in olive orchard (Mahjoori *et al.* 2014); (region not mentioned), soil and litter (Ramroodi *et al.* 2014b). **Isfahan Province** (Isfahan), soil of urban green spaces *(*Karbasian *et al*. 2022). **Kerman Province** (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020). **Khuzestan Province** (Ahvaz, Gavmish Abad), buffalo manure (Farahi *et al.* 2020); (Ahvaz and its suburbs), buffalo manure (Farahi *et al.* 2022). **Lorestan Province** (region not mentioned), soil (Heydari *et al.* 2013); (Poledokhtar District), soil (Heydari *et al.* 2014b); (Kuhdasht District), soil (Heydari *et al.* 2014a). **Razavi Khorasan Province** (Kashmar). Soil of vineyards (Salarzehi *et al.* 2011). **Semnan Province** (Shahrood, Bastam), soil (Ghorani *et al.* 2016). **Sistan and Baluchestan Province** (Sistan Region), stored product (Sayadi *et al.* 2012). **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); (Tehran, Varamin, Shahr-e Rey, Firouzkooh, Dmavand Region), soil, leaf litter and dung, green spaces and orchards (Baroozeh *et al.* 2013); (Tehran City, Police Park), soil (Maleki *et al.* 2016). **West**

Azarbaijan Province (Miandoab Plain), foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003); (Urmia. Rashkän), soil of apple orchard; (Kaboodan island), soil; (Näzlü road), soil of apple orchard (Kavianpour *et al.* 2017).

Androlaelaps schusteri Hirschmann, 1966

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Lordegan County, Khanmirza Region, Salehat Village), soil from different parts of oak forests (Bagheri Kordeshami *et al.* 2015); (Koohrang, Bazoft (Shykhali) and (Taraz); Ben, Karsenak; Saman, Gharaghoosh; Kiar, Gahroo), in soil in association with *Cataglyphis bazoftensis; Cataglyphis kurdistanica; L. neglectus; M. platyceras; P. pallescens* (Khalili-Moghadam 2022).

Androlaelaps sp.

Distribution and habitats. **Khuzestan Province (**Bavi, Talbumeh), cow manure (Farahi *et al.* 2020); (Ahvaz and its suburbs), cattle manure (Farahi *et al.* 2022).
Note – Previous catalogues of Iranian mesostigmatid mites (Kamali *et al*. 2001; Kazemi and Rajaei 2013) mentioned a species called *Androlaelaps hirsti* Keegan, 1956 that was reported from Khuzestan Province, ex. *M. musculus* (Kamali *et al*. 2001). Kazemi and Rajaei (2013) clarified that "Kamali *et al*. (2001) incorrectly referred to *A. hystrici* (Keegan), and there is another named species called *Haemolaelaps hystrici* Zumpt & Till, 1953, which, after communicating with the collector of the species, we discovered actually belongs to *H. hirsti*". This species was collected in 1998 and identified by A. Nemati. However, due to uncertainty in its identification and the unavailability of specimens for reidentification, we have chosen to exclude it from the list of Iranian mesostigmatid mites in this article.

Genus *Coleolaelaps* Berlese, 1914

Coleolaelaps asiaticus Karg, 1999

Distribution and habitats. **Alborz Province** (Karaj), ex *Polyphylla olivieri* Castelnao (Joharchi and Halliday 2011). **Fars Province** (Shiraz), ex. *P. olivieri* (Joharchi and Halliday 2011). **North Khorasan Province** (region not mentioned), on the body of *Polyphylla adspersa* Motschulsky, 1853 (Rezaei *et al.* 2016). **Tehran Province** (Tehran), ex. *P. olivieri* (Joharchi *et al.* 2011b). **Yazd Province** (Yazd), ex. *P. olivieri* (Joharchi and Halliday 2011).

Coleolaelaps costai Joharchi & Halliday, 2011

Distribution and habitats. **Alborz Province** (Karaj, Shahrestanak), ex. *P. olivieri* (Joharchi and Halliday 2011); (Karaj), associated with *Polyphylla olivieri* (Razavi Susan *et al.* 2013). **Golestan Province** (Gorgan, Kordkooy Forest), ex. *Melolontha melolontha* (L.) (Bahrami *et al.* 2011). **Tehran Province** (Tehran), ex. *P. olivieri* (Joharchi *et al.* 2011b).

Coleolaelaps ferdowsi Joharchi, 2012

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

Coleolaelaps massoumii Khanjani, Ghaedi & Ueckermann, 2013

Distribution and habitats. **Hamedan Province** (region not mentioned), from adults of *P. olivieri* on cherry trees (Khanjani *et al.* 2013).

Genus *Cosmolaelaps* Berlese, 1903b

Cosmolaelaps aegyptiacus Nasr & Momen, 2016

Distribution and habitats. **East Azarbaijan Province** (Maragheh), soil in orchards (Valizadeh *et al.* 2017).

Cosmolaelaps angustiscutatus (Willmann, 1951b)

Distribution and habitats. **Fars Province** (Marvdasht), soil (Soleimani *et al.* 2011); (Shiraz), soil, litter and humus (Soleimani and Joharchi 2012); (Darab), the soil under the trees in the northern and southern orchards of Darab city (Memarzadeh *et al*. 2022). **Guilan Province** (region not mentioned), soil and litter (Ramroodi *et al.* 2014b); (region not mentioned), soil, decaying plants and stored products (Hajizadeh *et al.* 2010b, c). **Isfahan Province** (Shahreza), soil (Kavianpour *et al.* 2011). **Kerman Province** (Jiroft), soil (Balooch Shahryari *et al.* 2012). **West Azarbaijan Province** (Urmia, Band), soil of apple orchard (Kavianpour *et al.* 2017). **Yazd Province** (region not mentioned), soil, litter and humus (Soleimani and Joharchi 2012).
Note – Some authors [e.g., Hajizadeh *et al.* (2010b, c), Soleimani *et al.* (2011), Balooch Shahryari *et al.* (2012), and Ramrrodi *et al.* (2014c)] reported this species as a member of *Gaeolaelaps* genus. This species was transferred to the *Cosmolaelaps* genus by Nemati and Gwiazdowicz (2016b). Kavianpour *et al.* (2011) reported this species as *C. acutiscutus* Teng, 1982. Ramroodi *et al.* (2014c) and Soleimani and Joharchi (2012) cited it as *Cosmolaelaps subacutiscutus* Bai & Wang, 2005; but these species were considered as junior synonyms of *C. angustiscutus* by Nemati and Gwiazdowicz (2016b).

Cosmolaelaps brevipedestra (Karg, 1985)

Distribution and habitats. **Bushehr Province** (Bushehr), soil of unknown ant nest (Nemati and Gwiazdowicz 2016b). **Fars Province** (Jahrom), soil of citrus orchards (Khademi *et al.* 2006); (Shiraz), soil of unknown ant nest (Nemati and Gwiazdowicz 2016b); (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017). **Khuzestan Province** (Ahvaz), nest of *P. pallidula* (Nemati *et al.* 2000b), nest of ant *Tapinoma simrothi* Krausse (Kamali *et al.* 2001); (Ahvaz), *Tapinoma simrothi* Krausse, in the nest of *Pheidole pallidula* Nylander and *Monomorium destructor* (Jerdon); (Izeh), soil of nest *Tapinoma* sp. (Nemati and Gwiazdowicz 2016b); (region not mentioned), soil (Nemati *et al.* 2017b); **(**Bavi, Mollasani), cow manure (Farahi *et al.* 2020); (Ahvaz and its suburbs), cattle manure (Farahi *et al.* 2022). **Yazd Province** (region not mentioned), soil (Dehghan *et al.* 2011).

Cosmolaelaps cassoidea (Karg, 1981)

Distribution and habitats. **Isfahan Province** (Isfahan city), separated from samples taken from canopy, trunk especially from Scolytids larval tunnels and the collar region of elm tree (Jalalizand *et al.* 2004); (Isfahan), soil and litter (Ramezani and Nemati 2010). **Khuzestan Province** (Ahvaz), soil (Nemati *et al.* 2000a; Kamali *et al.* 2001). **Sistan va Baluchestan Province** (Sistan Region), soil (Arjmandi Nejad *et al.* 2006, 2008). **West Azarbaijan Province** (Urmia), aerial plant's part and soil of potato fields (Mosavi *et al.* 2004; Mousavi *et al*. 2005).

Cosmolaelaps claviger (Berlese, 1882b)

Distribution and habitats. **Alborz Province** (region not mentioned), soil (Keshavarz Jamshidian and Babaeian 2013). **Fars Province** (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017). **Guilan Province** (Roodbar and Majil), soil in olive orchard (Mahjoori *et al.* 2014); (region not

mentioned), soil and litter (Ramroodi *et al.* 2014b). **Isfahan Province** (Isfahan), soil of urban green spaces *(*Karbasian *et al*. 2022)**. Tehran Province** (Tehran, Varamin, Shahr-e Rey, Firouzkooh, Dmavand Region), soil, leaf litter and dung, green spaces and orchards (Baroozeh *et al.* 2013).

Cosmolaelaps dorfakiensis Ramroodi, Hajizadeh & Joharchi, 2014

Distribution and habitats. **Guilan Province** (Astara Town, Khotbesara Village, Rasht Town, Amlash Twon), soil and leaf litter (Ramroodi *et al.* 2014a); (Amlash), soil of tea (Hajizadeh *et al.* 2020).

Cosmolaelaps leptochaetes Ma & Ling, 2009

Distribution and habitats. **Guilan Province** (region not mentioned), soil and litter (Ramroodi *et al.* 2014b).

Cosmolaelaps longus Hafez, Elbadry & Naser, 1982

Distribution and habitats. **Fars Province** (Shiraz), soil, litter and humus (Soleimani and Joharchi 2012). **Yazd Province** (region not mentioned), soil, litter and humus (Soleimani and Joharchi 2012).

Cosmolaelaps lutegiensis (Shcherbak, 1971)

Distribution and habitats. **Alborz Province** (region not mentioned), soil (Keshavarz Jamshidian and Babaeian 2013). **East Azarbaijan Province** (Arasbaran Forests), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016b); (Arasbaran Forests, Vaygan, Aynalu, Kalaleh, Garmanab), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016a); (forests of Arasbaran Region), soil, leaf-litter and plant debris (Ordoukhanian *et al.* 2017); (Maragheh Region), soil in orchards (Valizadeh *et al.* 2017). **Fars Province** (Neyriz), soil (Bazrafshan *et al.* 2013); (Shiraz County), soil (Keivani *et al*. 2018). **Guilan Province** (region not mentioned), soil, decaying plant debris and stored products (Hajizadeh *et al*. 2010b); (Roodbar, Majil, Rostamabad and Nesfi), soil in olive orchard (Mahjoori *et al.* 2014); (region not mentioned), soil and litter (Ramroodi *et al.* 2014b); (Saravan, Emamzadeh Hashem, Rostamabad, Rudbar), soil (Ramroodi *et al.* 2015a); (Tea InstituteLahijan), soil of tea (Hajizadeh *et al*. 2020); (Rasht, Imam Khomeini Institute and Pir Bazar village), soil; (Keshel Varzal village), litter (Ghasemi and Hajizadeh 2021). **Isfahan Province** (Shahreza), soil (Kavianpour *et al.* 2011); soil of urban green spaces (Karbasian *et al*. 2022). **Kerman Province** (Jiroft), soil (Balooch Shahryari *et al.* 2011, 2012); (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020). **Khuzestan Province** (region not mentioned), soil (Nemati *et al.* 2017b). **Golestan Province** (Gorgan), soil (Kazemi *et al.* 2011a). **Lorestan Province** (region not mentioned), soil (Heydari *et al.* 2013); (Poledokhtar District), soil (Heydari *et al.* 2014b). **Mazandaran Province** (Kelardasht, Tonekabon, Dimron, Nowshahr, Ramsar), soil and litter (Kazemi and Ahangaran 2011); (region not mentioned), soil (Kazemi *et al.* 2013e); (Lavij Region of Nour County), soil, humus and litter (Ghasemi-Moghadam *et al.* 2014); (Nowshahr, Ecological (Botanical) Garden), soil and litter (Saberi *et al.* 2016). **Razavi Khorasan Province** (Mashhad), soil-litter and associated with ants' nest (Ghafarian *et al.* 2013a). **Semnan Province** (Bastam, Meyghan, Meyami, Mojen, Abarsij, Owlang), soil (Ghorani *et al.* 2016). **Tehran Province** (Shemiranat, Rudbar-Ghasran), soil, litter and humus (Cheraghali *et al.* 2012); (Tehran, Varamin, Shahr-e Rey, Firouzkooh, Dmavand Region), soil, leaf litter and dung, green spaces and orchards) (Baroozeh *et al.* 2013); (Tehran City, Police Park), soil (Maleki *et al.* 2016). **West Azarbaijan Province** (Salmas), soil and plant debris of apple orchards (Alizadeh *et al.* 2011); (Khoy), soil of sunflower fields (Taher *et al.* 2012); (Urmia. Rashkän), soil of apple orchard; (Band), soil of apple orchard; (Näzlü road), soil of apple orchard (Kavianpour *et al.*

2017); (Urmia University), soil (Mirfakhraie *et al*. 2017). **Zanjan Province** (region not mentioned), soil (Bigdeli *et al.* 2014).

Cosmolaelaps malakutsilyus Rosario, 1981

Distribution and habitats. **West Azarbaijan Province** (Urmia, Rashkän), soil of apple orchard (Kavianpour *et al.* 2017).

Cosmolaelaps malmiriensis Nemati & Gwiazdowicz, 2016

Distribution and habitats. **Khuzestan Province** (Izeh), soil of ant nest (*Tapinoma* sp.) and soil of unknown ant nest (Nemati and Gwiazdowicz 2016b).

Cosmolaelaps ornatus (Berlese, 1903b)

Distribution and habitats. **Fars Province** (Neyriz), soil (Bazrafshan *et al.* 2013). **Guilan Province** (region not mentioned), soil and litter (Ramroodi *et al.* 2014b). **Mazandaran Province** (region not mentioned), soil (Kazemi *et al.* 2013e).

Cosmolaelaps pinnatus Ramroodi, Hajizadeh & Joharchi, 2014

Distribution and habitats. **East Azarbaijan Province** (Maragheh), soil in orchards (Valizadeh *et al.* 2017). **Guilan Province** (Shaft Town, Chobar Village; Rostamabad Town), soil and leaf litter (Ramroodi *et al.* 2014a). **West Azarbaijan Province** (Urmia, Band), soil of apple orchard (Kavianpour *et al.* 2017).

Cosmolaelaps rectangularis Sheals, 1962

Distribution and habitats. **Alborz Province** (Taleqan), on ant colonies (Farmahiny-Farahani *et al.* 2022a). **Chaharmahal va Bakhtiyari Province** (Lordegan County, Khanmirza Region, Salehat Village. Central Region, Tang keloureh), soil from different parts of oak forests (Bagheri Kordeshami *et al.* 2015). **East Azarbaijan Province** (Maragheh Region), soil in orchards (Valizadeh *et al.* 2017). **Guilan Province** (region not mentioned), soil and litter (Ramroodi *et al.* 2014b). **Isfahan Province** (Shahreza), soil (Kavianpour *et al.* 2011). **Khuzestan Province** (Ahvaz), soil (Nemati *et al.* 2000a). **Lorestan Province** (Kuhdasht District), soil (Heydari *et al.* 2014a); (Khorramabad), soil (Hasanvand *et al.* 2014a). **Semnan Province** (Meyami, Tuskestan, Abarsij, Owlang), soil (Ghorani *et al.* 2016). **West Azarbaijan Province** (Miandoab Plain), foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003).

Cosmolaelaps vacua (Michael, 1891)

Distribution and habitats. **Alborz Province** (region not mentioned), soil (Keshavarz Jamshidian and Babaeian 2013). **Chaharmahal va Bakhtiyari Province** (Shahrekord), nest of ants (Babaeian *et al.* 2010); (region not mentioned), associated with *Fomes* sp. (Khalili-Moghadam and Nemati 2014a); (region not mentioned), associated with ants' nest, (Khalili Moghadam and Nemati 2014b); (Shahrekord), different habitats (Nemati *et al.* 2017a). **East Azarbaijan Province** (region not mentioned), soil (Hashemi Khabir *et al.* 2013); (Arasbaran Forests), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016b); (Arasbaran Forests, Kalaleh, Garmanab), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016a); (forests of Arasbaran Region), soil, leaf-litter and plant debris (Ordoukhanian *et al.* 2017); (Maragheh Region), soil in orchards (Valizadeh *et al.* 2017).

Fars Province (Shiraz), soil (Montazeri *et al.* 2011); (Neyriz), soil (Bazrafshan *et al.* 2013); (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017); (Shiraz County), soil (Keivani *et al.* 2018); (Shiraz, green spaces and orchards of fruit trees), soil and decayed material on the soil surface (Farzaneh *et al.* 2021). **Guilan Province** (region not mentioned), soil, decaying plants and stored products (Hajizadeh *et al.* 2010b); (Majil and Rostamabad), soil in olive orchard (Mahjoori *et al.* 2014); (region not mentioned), soil and litter (Ramroodi *et al.* 2014b); (Saravan, Emamzadeh Hashem, Rostamabad and Rudbar), soil (Ramroodi *et al.* 2015); (Astaneh-ye Ashrafiyeh, Parkaposht), soil of peanut plant (Askari *et al.* 2023). **Hormozgan Province** (Minab), associated with soil under mango trees (Dolati and Ostovan 2017b). **Isfahan Province** (Isfahan), soil (Khalili-Moghadam *et al.* 2012). **Kerman Province** (Jiroft), soil (Balooch Shahryari *et al.* 2011, 2012); (Bam), soil (Mehrzad *et al.* 2012); (Rafsanjan), soil, manure and leaf litter (Masnavipour *et al.* 2014); (Kerman, parks and landscapes), soil (Arjomandi and Kazemi 2014b); (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020). **Kohgiluyeh va Boyer-Ahmad Province** (Gachsaran), soil of corn and rape seed farms (Moradian *et al.* 2011a, b). **Khuzestan Province** (region not mentioned), soil (Nemati *et al.* 2017b). **Lorestan Province** (region not mentioned), soil (Heydari *et al.* 2013); (Poledokhtar District), soil (Heydari *et al.* 2014b); (Kuhdasht District), soil (Heydari *et al.* 2014a); (Khorramabad), soil (Hasanvand *et al.* 2014a). **Mazandaran Province** (Lavij Region of Nour County), soil, humus and litter (Ghasemi-Moghadam *et al.* 2014). **North Khorasan Province** (region not mentioned), associated with the nests of ants of family Formicidae (Rezaei *et al.* 2016). **Razavi Khorasan Province** (Torbat-e Jam). Soil of orchards (Rahmdeli *et al.* 2011); (Kashmar). Soil of vineyards (Salarzehi *et al.* 2011); (Mashhad), soil-litter and associated with ants' nest (Ghafarian *et al.* 2013a). **Semnan Province** (Bastam, Kharqan, Deh Kheyr, Mojen, Abarsij, Owlang), soil (Ghorani *et al.* 2016). **Tehran Province** (Tehran, Shahid Beheshti University Campus), soil (Kamali *et al.* 2004); (Tehran, Sorkheh Hesar Forest Park), soil (Pakyari 2008); (Tehran, Varamin, Shahr-e Rey, Firouzkooh, Damavand Region), habitats such as soil, leaf litter and dung, green spaces and orchards (Baroozeh *et al.* 2013); (Tehran City, Police Park), soil (Maleki *et al.* 2016). **West Azarbaijan Province** (Urmia), soil (Rezaie *et al.* 2011). **Yazd Province** (region not mentioned), soil (Dehghan *et al.* 2011); (region not mentioned), soil (Kafi *et al.* 2014); (Urmia. Rashkän), soil of apple orchard; (Rashkän), soil of apple orchard; (Urmia University), soil; (Näzlü road), soil of apple orchard (Kavianpour *et al.* 2017). **Zanjan Province** (region not mentioned), soil (Rahmani and Zare 2011); (region not mentioned), soil (Bigdeli *et al.* 2014).

Notes – 1. *Cosmolaelaps michaeli* (Huhta & Karg, 2010) has been reported from Chaharmahal va Bakhtiyari Province (Saman and Shahrekord), in the soil of ants' nest, *Tapinoma* sp. (Formicidae) (Khalili-Moghadam and Saboori 2015). In our investigation of laelapid mites in the Berlese collection (Florence, Italy), we discovered that it is actually a junior synonym of *C. hastiger* Berlese, 1920. The details of this synonymy will be published soon. As a result, we have removed it from the list of Iranian mesostigmatid mites. **2.** *Cosmolaelaps mixta* (Shcherbak, 1971) was previously reported from Chaharmahal va Bakhtiyari Province (Shahrekord), in various habitats (Nemati *et al*. 2017a). Upon re-examination of the microslide, we determined that the specimen is more closely related to *C. vacua*. Therefore, we have removed this species from the list in our paper.

Genus *Dinogamasus* Kramer, 1898

Dinogamasus kazerunensis Joharchi, Khodaparast & Ghasemi-Moghadam, 2016

Distribution and habitats. **Fars Province** (Kazerun, Bid Zard), associated with *Xylocopa* (*Koptortosoma*) *pubescens* Spinola (Hymenoptera: Apidae) (Joharchi *et al.* 2016b).

Genus *Echinolaelaps* Ewing, 1929

Echinolaelaps echidninus (Berlese, 1887e)

Distribution and habitats. **Fars Province** (Shiraz), collected from the houses of patients referred to the asthma and allergy by vacuum cleaner (Shafei *et al.* 2020). **Hormozgan Province** (Bandar Abbas), on the body of *R. norvegicus* and *T. indica* (Hanafi-Bojd *et al.* 2007). **Mazandaran Province** (Sari), different species of rodents (Motevalli Hagghi *et al.* 2000); (Sari), on the body of *R. rattus*, *R. norvegicus*, *M. musculus*, *Glis glis*, *Apodemus sylvaticus*, *Nesokia indica* and *Arvicola terrestris* (Motevalli-Hagghi *et al.* 2002).

Genus *Echinonyssus* Hirst, 1925

Note – As mentioned in Nemati *et al*. (2018c), Domrow (1963) suggested that the genus *Hirstionyssus* be considered a junior synonym of *Echinonyssus* Hirst, 1925, a notion that was further supported by Tenorio and Radovsky in 1979. In this paper, we agree with the assertion made by Nemati *et al*. (2018c).

Echinonyssus butantanensis (Fonseca, 1932)

Distribution and habitats. Province and region not mentioned, may be on *Rattus* or *Mus* species (Herrin 1974). **Chaharmahal va Bakhtiyari Province** (Shahrekord), on the body of *Rattus* or *Mus* species and nest materials of unknown rodents (Nemati *et al.* 2012c). **Lorestan Province** (Khorramabad), soil (Hasanvand *et al.* 2014a).
Note – *Hirstionyssus latiscutatus* (de Meillon and Lavoipierre, 1944) was considered as a junior synonym of *H. butantanensis* (Fonseca, 1932) by Herrin (1974).

Echinonyssus meridianus (Zemskaya, 1955)

Distribution and habitats. **Razavi Khorasan Province** (Mashhad), associated with rodents (*Meriones libycus* Lichtenstein) (Kazemi *et al.* 2015). **Northeast of Iran**, (North, Razavi and Soth Khorasan Provinces; region not mentioned), on the body of rodent (Hamidi and Bueno-Mari 2021).
Note– Both of the above-mentioned species have been previously reported in the *Hirstionyssus* genus (see the comment under the *Echinonyssus* genus).

Genus *Euandrolaelaps* Bregetova, 1977h

Euandrolaelaps karawaiewi (Berlese, 1904c)

Distribution and habitats. **Alborz Province** (region not mentioned), soil (Keshavarz Jamshidian and Babaeian 2013). **Chaharmahal va Bakhtiyari Province** (Shahrekord), without more information (Nemati *et al.* 2008b); soil (Babaeian *et al.* 2010); (region not mentioned), associated with *Fomes* sp. (Khalili-Moghadam and Nemati 2014a); (region not mentioned), associated with ants' nest (Khalili-Moghadam and Nemati 2014b); (Saman and Shahrekord cities), soil of ants' nest, *Tapinoma* sp. (Hym.: Formicidae) and soil of ants' nest, unknown ant (Hym.: Formicidae) (Khalili- Moghadam and Saboori 2015); (Saman), soil (Amani *et al.* 2015); (Lordegan County, Felard Region, Pol-Gharah and Poshtkouh), soil from different parts of oak forests (Bagheri Kordeshami *et al.* 2015); (Kohhrang, Bazoft (Taraz), Dimeh, Samsami (Dezhdaran), Sodejan; Ben, Karsenak, Bardeh, Larak; Saman, Gharaghoosh, Shoorab, Garmdareh; Shahrekord, Chaleshtor; Kiar, Gahroo), in soil and rooting wood in association with *C. Bakhtiyariensis; C. xerxes; C. kurdistanica; L. neglectus; M. caducus; M. platyceras; P. pallescens; P. perperamus; Solenopsis* sp. *T. karavaievi; Tetramorium* sp. (Khalili-Moghadam 2022). **East Azarbaijan Province** (forests of Arasbaran Region), soil, leaf-litter and plant debris (Ordoukhanian *et al.* 2017); (Maragheh), soil in orchards (Valizadeh *et al.* 2017). **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); (Neyriz), soil (Bazrafshan *et al.* 2013); (region not mentioned), soil and debris (Abolghasemi and Kazemi 2016); (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017); (Shiraz County), soil (Keivani *et al*. 2018); (Shiraz, green spaces and orchards of fruit trees), soil and decayed material on the soil surface (Farzaneh *et al.* 2021); (Darab), the soil under the trees in the northern and southern orchards of Darab city (Memarzadeh *et al*. 2022). **Guilan Province** (region not mentioned), soil, decaying plants and stored products (Hajizadeh *et al.* 2010b); (region not mentioned), soil and litter (Ramroodi *et al.* 2014b); (Roodbar, Majil and Nesfi), soil in olive orchard (Mahjoori *et al.* 2014); (Saravan, Emamzadeh Hashem and Rostamabad), soil (Ramroodi *et al.* 2015a); (Sarash-Lahijan), soil and leaf litter of tea; (Mahvizan-Someh Sara), soil of tea (Hajizadeh *et al.* 2020); (Rasht, Pir Bazar village), soil; (Rasht, Isfahani Educational Institute), wood sorrel, *Oxalis acetosella* L. leaves (Ghasemi and Hajizadeh 2021). **Hamedan Province** (region not mentioned), apple and *Astragalus* sp. (Kamali *et al.* 2001). **Isfahan Province** (Shahreza), soil (Kavianpour *et al.* 2011); (Isfahan), soil (Khalili-Moghadam *et al.* 2012); soil of urban green spaces *(*Karbasian *et al*. 2022). **Kerman Province** (Shahrebabak, Rafsanjan), soil (Masnavipour *et al.* 2011); (Jiroft), soil (Balooch Shahryari *et al.* 2011, 2012); (Kerman), cow manure (Arjomandi *et al.* 2013a); (Sirjan), leaf litter (Masnavipour *et al.* 2014); (Kerman City, parks and landscapes), soil (Arjomandi and Kazemi 2014b). **Khorasan Razavi Province** (Mashhad), soil-litter and associated with ants' nest (Ghafarian *et al.* 2013a). **Khuzestan Province** (Ahvaz), soil (Nemati *et al.* 2000a; Kamali *et al.* 2001); (region not mentioned), soil (Nemati *et al.* 2017b). **Kohgiluyeh va Boyer-Ahmad Province** (Gachsaran), soil of corn and rape seed farms (Moradian *et al.* 2011a, b). **Lorestan Province** (region not mentioned), soil (Heydari *et al.* 2013); (Sabzevar, Zivdar, Zorandol and Veisian), soil of pomegranate orchards, raspberry shrub and apple orchards (Hasanvand *et al.* 2014b); (Poledokhtar), soil (Heydari *et al.* 2014b); (Khorramabad), soil (Hasanvand *et al.* 2014a). **Markazi Province** (region not mentioned), corm of gladiole and saffron (Baradaran Anaraki *et al.* 2012); (Arak region), soil (Jadidi and Joharchi 2014). **Mazandaran Province** (Lavij region of Nour County), soil, humus and litter (Ghasemi-Moghadam *et al.* 2014). **North Khorasan Province** (region not mentioned), associated with the nests of *Pheidole* sp. (Formicidae) (Rezaei *et al.* 2016). **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 (Salarzehi *et al.* 2011); (region not mentioned), corm of gladiole and saffron (Baradaran Anaraki *et al.* 2012). **Semnan Province** (Shahrood, Bastam, Meyghan, Meyami, Mojen, Abarsij, Owlang Jungle), soil (Ghorani *et al.* 2016). **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); (Tehran, Varamin, Shahr-e Rey, Firouzkooh, Dmavand region), soil, leaf litter and dung, green spaces and orchards (Baroozeh *et al.* 2013); (Tehran City, Police Park), soil (Maleki *et al.* 2016). **West Azarbaijan 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; Mousavi *et al.* 2005), soil (Rezaie *et al.* 2011); (Salmas), soil and plant debris of apple orchards (Alizadeh *et al.* 2011); (Urmia. Rashkän), soil of apple orchard; (Urmia University), soil and litter; (Urmia University), soil of grape orchard; (Urmia University), soil; (Band), soil of apple orchard; (Näzlü road), soil of apple orchard (Kavianpour *et al.* 2017); (Urmia University), soil (Mirfakhraie *et al*. 2017). **Yazd Province** (region not mentioned), soil (Dehghan *et al.* 2011). **Zanjan Province** (region not mentioned), soil (Rahmani and Zare 2011); (region not mentioned), soil (Bigdeli *et al.* 2014).

Euandrolaelaps sardous (Berlese, 1911)

Distribution and habitats. **East Azarbaijan Province** (Maragheh), soil in orchards (Valizadeh *et al.* 2017). **Fars Province** (Neyriz), soil (Bazrafshan *et al.* 2013). **Guilan Province** (region not mentioned), soil (Ramroodi *et al.* 2013); (Roodbar, Majil and Ganjeh), soil in olive orchard (Mahjoori *et al.* 2014); (region not mentioned), soil and litter (Ramroodi *et al.* 2014b); (Rasht, Pasikhan village), wood sorrel, *Oxalis acetosella* L. leaves (Ghasemi and Hajizadeh 2021). **Razavi Khorasan Province** (Mashhad), soil-litter and associated with ants' nest (Ghafarian *et al.* 2013a). **Semnan Province** (Shahrood, Bastam), soil (Ghorani *et al.* 2016). **Tehran Province** (Tehran, Varamin, Shahr-e Rey, Firouzkooh, Dmavand region), soil, leaf litter and dung, green spaces and orchards (Baroozeh *et al.* 2013). **Yazd Province** (region not mentioned), soil (Dehghan *et al.* 2011).

Genus *Gaeolaelaps* Evans & Till, 1966

Gaeolaelaps aculeifer (G. Canestrini, 1884a)

Distribution and habitats. **Alborz Province Alborz Province** (Karaj), rapeseed fields (Ostovan 2006b); (region not mentioned), soil (Keshavarz Jamshidian and Babaeian 2013). **Chaharmahal va Bakhtiyari Province** (Shahrekord), soil (Nemati *et al.* 2008b); (region not mentioned), soil (Babaeian *et al.* 2010); (region not mentioned), associated with ants' nest, (Khalili Moghadam and Nemati 2014b); (Saman, Boldaji, Lordegan and Shahrekord cities), soil of ants' nest, *Tapinoma* sp. and *Cataglyphis* sp. (Hym.: Formicidae) (Khalili-Moghadam and Nemati 2014b; Khalili-Moghadam and Saboori 2015); (Saman and Shahrekord), soil (Amani *et al.* 2015); (Lordegan County, Monj region, Pal Borideh Village; Cheshmeh Khani Village; Joub Nesa Village and Khanmirza region, Salehat Village), soil from different parts of oak forests (Bagheri Kordeshami *et al.* 2015); (Saman), soil (Shariati *et al.* 2017); (Shahrekord), different habitats (Nemati *et al.* 2017a). **East Azarbaijan Province** (Tabriz), soil of orchards (Kamali *et al.* 2001); (region not mentioned), soil (Hashemi Khabir *et al.* 2013); (Tabriz), soil and foliage of poplar and elm trees (Rahbar Shahlan *et al.* 2014); (Arasbaran Forests), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016b); (Arasbaran Forests, Vaygan, Aynalu, Kalaleh, Garmanab), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016a); (forests of Arasbaran region), soil, leaf-litter and plant debris (Ordoukhanian *et al.* 2017); (Maragheh region), soil in orchards (Valizadeh *et al.* 2017). **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); (Larestan), associated with date palm (leaves, fruits, trunk fiber and soil) (Majidi and Akrami 2013); (Neyriz region), soil (Bazrafshan *et al.* 2013); (Estahban), associated with fig trees (Daveshvar and Akrami 2013); (Estahban), associated with fig trees, soil, leaves, fruits, and trunk samples (Daneshnia and Akrami 2013); (Koohmare-Sorkhi region), oak forests (Kazemi and Yazdanpanah 2013b); (Shiraz), associated with insectary cultures including potato (*Solanum tuberosum* L.), zucchini (*Cucurbita pepo* L.) and wheat flour (Granpayeh and Ostovan 2014); (Koohmare-Sorkhi region, oak forest), soil and leaf litter (Yazdanpanah and Kazemi 2014a); (region not mentioned), soil and debris (Abolghasemi and Kazemi 2016); (Shiraz, Eram Garden), soil under different trees (Javan *et al.* 2017); (Shiraz County), soil (Keivani *et al.* 2018); Shiraz, green spaces and orchards of fruit trees), soil and decayed material on the soil surface (Farzaneh *et al.* 2021); (Darab), the soil under the trees in the northern and southern orchards of Darab city (Memarzadeh *et al.* 2022). **Golestan Province** (Gorgan), soil (Kazemi *et al.* 2011a); (Golestan forest). ex. *Pentodon* sp. (Bahrami *et al.* 2011). **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); (Somesara), on raspberry shrubs (*Rubus* spp.) (Tajmiri and Hajizadeh 2013); (Rostamabad, Roodbar), soil in olive orchard (Mahjoori *et al.* 2014); (region not mentioned), soil and litter (Ramroodi *et al.* 2014b); (Saravan, Emamzadeh Hashem, Rostamabad, Rudbar), soil (Ramroodi *et al.* 2015a); (Sarash-Lahijan), soil and leaf litter of tea; (Mahvizan-Someh Sara, Divshal-Langrud, Amlash, Otaghvar-Langrud, Rahimabad-Rudsar, Langrud), soil of tea (Hajizadeh *et al.* 2020); (Rasht, Pasikhan village), wood sorrel, *Oxalis acetosella* L. leaves; (Rasht, Bijar Bonch village), soil (Rasht, Pir Bazar village), strawberry, litter (Ghasemi and Hajizadeh 2021). **Hamedan Province** (region not mentioned), bean (*P. vulgaris*), clover (*Trifolium* sp.), darnel and liquorice (Khanjani and Kamali 2000a; Kamali *et al.* 2001). **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 and 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); (Isfahan), soil of urban green spaces (Karbasian *et al*. 2022). **Kerman Province** (Sirjan, Mani, Shahrebabak, Maymand, Riseh, Raviz, Rafsanjan), soil (Masnavipour *et al.* 2011); (Baft), soil (Rajaei *et al.* 2011a); (Jiroft), soil (Balooch Shahryari *et al.* 2011, 2012); (Sirjan, Rafsanjan and Shahr-e-Babak), soil and manure (Masnavipour *et al.* 2014); (Kerman City, parks and landscapes), soil (Arjomandi and Kazemi 2014b); (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020). **Khuzestan Province** (Ahvaz), soil and nest of small mammals (Nemati *et al.* 2000a; Kamali *et al.* 2001); (region not mentioned), associated with barley and pea (Habibpour *et al.* 2002); (Safiabad), grapevine yards (Kamali *et al.* 2001; Darvishzadeh and Kamali 2009); (Gachsaran), soil of corn and rape seed farms (Moradian *et al.* 2011a, b); (region not mentioned), soil (Nemati *et al.* 2017b). **Lorestan Province** (region not mentioned), soil (Heydari *et al.* 2013); (Greet District), soil of willow tree (Hasanvand *et al.* 2014b); (Poledokhtar District), soil (Heydari *et al.* 2014b); (Kuhdasht District), soil (Heydari *et al.* 2014a); (Khorramabad), soil (Hasanvand *et al.* 2014a). **Markazi Province** (region not mentioned), corm of gladiole and saffron (Baradaran Anaraki *et al.* 2012); (Arak region), soil (Jadidi and Joharchi 2014). **Mazandaran Province** (Nowshahr), soil (Kazemi and Ahangaran 2011); (region not mentioned), soil (Kazemi *et al.* 2013e); (Lavij region of Nour County), soil, humus and litter (Ghasemi-Moghadam *et al.* 2014); (Nowshahr, Ecological (Botanical) Garden), soil and litter (Saberi *et al.* 2016). **North Khorasan Province** (region not mentioned), associated with the ants' nest of family Formicidae (Rezaei *et al.* 2016). **Qom Province** (region not mentioned), soil, dung, compost and plant-litters of crops, lawns, shrubs and trees in farms, forests, orchards and parks (Agha Alikhani *et al.* 2017). **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 (Salarzehi *et al.* 2011); corm of gladiole and saffron (Baradaran Anaraki *et al.* 2012); (Mashhad), soil-litter and associated with ants' nest (Ghafarian *et al.* 2013a). **Semnan Province** (Moghan, Shahrood, Kharqan, Bastam, Meyghan, Meyami, Mojen, Abarsij, Owlang, Hezar Pich), soil (Ghorani *et al.* 2016). **Sistan va Baluchestan Province** (Sistan region), soil (Arjmandi Nejad *et al.* 2006, 2008). **Tehran Province** (Tehran, Shahid Beheshti Uuniversity Campus), soil (Kamali *et al.* 2004); (Tehran), associated with cucumber greenhouses (Ostovan 2006a); (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 and 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); (Tehran, Varamin, Shahr-e Rey, Firouzkooh, Dmavand region), habitats such as soil, leaf litter and dung, green spaces and orchards) (Baroozeh *et al.* 2013); (region not mentioned), associated with ornamental plants (Hamidi *et al.* 2013); (Tehran City, Police Park), soil (Maleki *et al.* 2016). **West Azarbaijan 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; Mousavi *et al*. 2005); 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); (Urmia. Rashkän), soil of apple orchard; (Urmia University), soil of apple orchard; (Urmia University), soil; (Qäsemlü valley), soil and litter; (Näzlü road), soil of apple orchard (Kavianpour *et al.* 2017); (Urmia University), soil (Mirfakhraie *et al*. 2017). **Yazd Province** (region not mentioned), soil (Kafi *et al.* 2014); (region not mentioned), soil (Dehghan *et al.* 2011). **Zanjan Province** (region not mentioned), soil (Rahmani & Zare 2011); (region not mentioned), soil (Bigdeli *et al.* 2014).

Gaeolaelaps ahangarani Kazemi, Rajaei & Beaulieu, 2014

Distribution and habitats. **Mazandaran Province** (Tonekabon, Tirom forest), decayed wood of beech trees (Kazemi *et al.* 2014b).

Gaeolaelaps debilis (Ma, 1996)

Distribution and habitats. **Yazd Province** (Manshad village), under the elytra of *Cetonia* sp. (Scarabaeidae) (Kafi *et al.* 2020).

Gaeolaelaps deinos (Zeman, 1982)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Monj Village), nest of *Lasius* sp. (Formicidae) (Khalili-Moghadam *et al.* 2018c). **Isfahan Province** (Isfahan), soil (Khalili-Moghadam *et al.* 2012). **Kermanshah Province** (region not mentioned), soil-litter (Kazemi *et al.* 2020). **Khuzestan Province** (region not mentioned), soil (Nemati *et al.* 2017b); (Ahvaz), soil and ants' nest; (Dezful), ants' nest in citrus orchard; (Ahvaz city), soil of ants' nest (Nemati *et al.* 2017b). **Mazandaran Province** (Lavij region of Nour County), soil, humus and litter (Ghasemi-Moghadam *et al.* 2014).

Gaeolaelaps farajii Nemati & Mohseni, 2013

Distribution and habitats. **Khuzestan Province** (Izeh), soil (Nemati and Mohseni 2013); (region not mentioned), soil (Nemati *et al.* 2017b).

Gaeolaelaps glabrosimilis (Hirschmann, Bernhard, Greim & Götz, 1969)

Distribution and habitats. **East Azarbaijan Province** (Tabriz), soil of orchards (Kamali *et al.* 2001).

Gaeolaelaps iranicus Kavianpour & Nemati, 2013

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (region not mentioned), associated with *Fomes* sp., and with ants' nest (Khalili Moghadam and Nemati 2014a); (Saman), soil of ants' nest, *Tapinoma* sp. (Hym.: Formicidae) (Khalili-Moghadam and Saboori 2015). **East Azarbaijan Province** (Arasbaran Forests), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016b); (Arasbaran Forests, Vaygan, Aynalu, Kalaleh), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016a). **Fars Province** (Shiraz County), soil (Keivani *et al.* 2018). **Guilan Province** (Rasht, Falkadeh), soil of elm tree; (Rezvanshahr, Ponel), litter; (Fuman, Ghale Rudkhan), soil (Hajizadeh and Joharchi 2018). **Isfahan Province** (Shahreza) and **Khuzestan Province** (Baghmalek, Ghaletol, Izeh), soil (Kavianpour *et al.* 2013a); (region not mentioned), soil (Nemati *et al.* 2017b).

Gaeolaelaps izajiensis Saeidi, Nemati & Khalili-Moghadam, 2016

Distribution and habitats. **Khuzestan Province** (Izeh and Ghaletol), soil (Saeidi *et al.* 2016).

Gaeolaelaps jondishapouri Nemati & Kavianpour, 2013

Distribution and habitats. **Khuzestan Province** (Ahvaz), soil and litters (Nemati and Kavianpour 2013); (region not mentioned), soil (Nemati *et al.* 2017b). **Isfahan Province** (Shahreza), soil (Nemati and Kavianpour 2014). **Kerman Province** (Jiroft), cow manure, soil and litter in a citrus orchard (Kazemi *et al.* 2014b).

Gaeolaelaps kargi (Costa, 1968a)

Distribution and habitats. **Alborz Province** (region not mentioned), soil (Keshavarz Jamshidian and Babaeian 2013). **Chaharmahal va Bakhtiyari 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); (Saman and Shahrekord), soil (Amani *et al.* 2015); (Saman), soil (Shariati *et al.* 2017); (Shahrekord), different habitats (Nemati *et al.* 2017a); [Koohrang, Bazoft (Sartang and Taraz)], in soil in association with *Lepisiota semenovi; M. platyceras* (Khalili-Moghadam 2022). **East Azarbaijan Province** (Maragheh), soil in orchards (Valizadeh *et al.* 2017). **Fars Province** (Shiraz), soil (Montazeri *et al.* 2011); (Neyriz region), soil (Bazrafshan *et al.* 2013); (Shiraz County), soil (Keivani *et al.* 2018). **Guilan Province** (region not mentioned), soil, decaying plants and stored products (Hajizadeh *et al.* 2010b); (Somesara), on raspberry shrubs (*Rubus* spp.) (Tajmiri and Hajizadeh 2013); (Rostamabad, Roodbar), soil in olive orchard (Mahjoori *et al.* 2014); (region not mentioned), soil and litter (Ramroodi *et al.* 2014b); (Saravan, Emamzadeh Hashem, Rostamabad, Rudbar), soil (Ramroodi *et al.* 2015a). **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). **Kerman Province** (Baft), soil (Rajaei *et al.* 2011a); (Jiroft), soil (Balooch Shahryari *et al.* 2011, 2012); (Kerman County), sheep manure (Arjomandi *et al.* 2013a). **Khuzestan Province** (region not mentioned), soil (Nemati *et al.* 2017b). **Lorestan Province** (region not mentioned), soil (Heydari *et al.* 2013); (Poledokhtar District), soil (Heydari *et al.* 2014b); (Khorramabad), soil (Hasanvand *et al.* 2014a). **Razavi Khorasan Province** (region not mentioned), soil of potato field crop (Baradaran *et al.* 2011); (Mashhad), soil-litter and associated with ants' nest (Ghafarian *et al.* 2013a). **Semnan Province** (Meyami, Abr Jungle, Owlang), soil (Ghorani *et al.* 2016). **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). **West Azarbaijan Province** (Urmia, Qäsemlü valley), soil and litter (Kavianpour *et al.* 2017). **Yazd Province** (region not mentioned), soil (Dehghan *et al.* 2011).

Gaeolaelaps khajooii Kazemi, Rajaei & Beaulieu, 2014

Distribution and habitats. **Kerman Province** (Baft), soil and litter at an alfalfa farm (Kazemi *et al.* 2014b). **Khuzestan Province** (Shush, Khavar-e Seyyed Khalaf), cow manure (Farahi *et al.* 2020); (Ahvaz and its suburbs), cattle manure (Farahi *et al.* 2022). **West Azarbaijan Province** (Näzlü), soil of apple orchard; (Näzlü dam), soil (Kavianpour *et al.* 2017).

Gaeolaelaps lenis Vatankhah & Nemati, 2016

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), nest of *Formica* sp. (Formicidae) (Vatankhah *et al.* 2016).

Gaeolaelaps littoralis Kazemi, 2020

Distribution and habitats. **Hormozgan Province** (Qeshm Island) in mangrove forests from soil in littoral zone (Kazemi 2020).

Gaeolaelaps minor (Costa, 1968a)

Distribution and habitats. **Bushehr and Hormozgan Provinces** (Lenge Port), soil (Kazemi and Alikhani 2013). **Chaharmahal va Bakhtiyari Province** (Shahrekord), soil (Babaeian *et al.* 2010); (Lordegan, Khanmirza region, Salehat Village; Felard region, Poshtkouh and Pol e Gharah), soil from different parts of oak forests (Bagheri Kordeshami *et al.* 2015); (Shahrekord), different habitats (Nemati *et al.* 2017a). **East Azarbaijan Province** (Maragheh region), soil in orchards (Valizadeh *et al.* 2017). **Fars Province** (Larestan), associated with date palm (leaves, fruits, trunk fiber and soil) (Majidi and Akrami, 2013); (Neyriz), soil (Bazrafshan *et al.* 2013); (Shiraz County), soil (Keivani *et al*. 2018); (Shiraz, green spaces and orchards of fruit trees), soil and decayed material on the soil surface (Farzaneh *et al.* 2021); (Darab), the soil under the trees in the northern and southern orchards of Darab city (Memarzadeh *et al*. 2022). **Guilan Province** (region not mentioned), soil, decaying plants and stored products (Hajizadeh *et al.* 2010b, c); (region not mentioned), soil and litter (Ramroodi *et al.* 2014b). **Kerman Province** (Jiroft), soil (Balooch Shahryari *et al.* 2011, 2012). **Khuzestan Province** (region not mentioned), soil (Nemati *et al.* 2017b); (Bavi, Mollasani), cow manure (Farahi *et al.* 2020); (Ahvaz and its suburbs), cattle manure (Farahi *et al.* 2022). **Lorestan Province** (region not mentioned), soil (Heydari *et al.* 2013); (Poledokhtar District), soil (Heydari *et al.* 2014b). **Qom Province** (region not mentioned), soil, dung, compost and plant-litters of crops, lawns, shrubs and trees in farms, forests, orchards and parks (Agha Alikhani *et al.* 2017). **Razavi Khorasan Province** (Kashmar), soil of vineyards (Salarzehi *et al.* 2011); (Mashhad), soil-litter and associated with ants' nest (Ghafarian *et al.* 2013a). **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 (Ghasemi Moghadam *et al.* 2012); (Tehran, Shahed University), manure (Kazemi and Rajaei 2013); (Tehran, Varamin, Shahr-e Rey, Firouzkooh, Dmavand region), soil, leaf litter and dung, green spaces and orchards (Baroozeh *et al.* 2013). **West Azarbaijan Province** (Miandoab Plain), foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003).

Gaeolaelaps mirzakhaniae Kazemi & Khalesi, 2018

Distribution and habitats. **Kerman Province** (Dosari region), soil and litter of a citrus orchard, (Jiroft region, Dolat-Abad), soil of a citrus orchard (Khalesi and Kazemi 2018).

Gaeolaelaps mossadeghi Kavianpour & Nemati, 2014

Distribution and habitats. **Isfahan Province** (Shahreza), soil of a garden (Kavianpour and Nemati 2014). **Khuzestan Province** (region not mentioned), soil (Nemati *et al.* 2017b).

Gaeolaelaps neoaculeifer (Hirschmann, 1966)

Distribution and habitats. **Isfahan Province** (Isfahan), soil of urban green spaces (Karbasian *et al*. 2022).

Gaeolaelaps nolli (Karg, 1962)

Distribution and habitats. **Alborz Province** (region not mentioned), soil (Keshavarz Jamshidian and Babaeian 2013). **Chaharmahal va Bakhtiyari, Bushehr and Khuzestan 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 and Babaeian 2010). **Chaharmahal va Bakhtiyari Province** (Koohrang, Samsami (Dezhdaran); Borujen, Boldagi (Cheghakhor)), in soil in association with *P. pallescens; T. karavaievi* (Khalili-Moghadam 2022); (region not mentioned), associated with *Fomes* sp. (Khalili-Moghadam and Nemati 2014a); (region not mentioned), associated with ants' nest (Khalili Moghadam and Nemati 2014b); (Saman, Boldaji (Cheghakhor), Lordegan and Shahrekord Cities), soil of ants' nest, *Tapinoma* sp. and *Cataglyphis* sp. (Hym.: Formicidae) (Khalili-Moghadam and Saboori 2015); (Saman, Shahrekord), soil (Amani *et al.* 2015); (Shahrekord), different habitats (Nemati *et al.* 2017a). **East Azarbaijan Province** (Tabriz), soil of orchards (Kamali *et al.* 2001); (forests of Arasbaran region), soil, leaf-litter and plant debris (Ordoukhanian *et al.* 2017); (Maragheh), soil in orchards (Valizadeh *et al.* 2017). **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); (Neyriz), soil (Bazrafshan *et al.* 2013). **Golestan Province** (Naharkhoran forest), ex. *Pentodon* sp. (Bahrami *et al.* 2011). **Guilan Province** (region not mentioned), soil, decaying plants and stored products (Hajizadeh *et al.* 2010b, c); (Roodbar), soil in olive orchard (Mahjoori *et al.* 2014); (region not mentioned), soil and litter (Ramroodi *et al.* 2014b). **Hamedan Province** (region not mentioned), clover (*Trifolium* sp.), wild sainfoin, darnel, alfalfa, vetch (Khanjani and Kamali 2000a; Kamali *et al.* 2001). **Kerman Province** (Baft), soil (Rajaei *et al.* 2011a); (Jiroft), soil (Balooch Shahryari *et al.* 2011, 2012); (Kerman), cow manure (Arjomandi *et al.* 2013a); (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020). **Khuzestan Province** (Ahvaz), soil (Nemati *et al.* 2000a; Kamali *et al.* 2001); (region not mentioned), soil (Nemati *et al.* 2017b). **Kohgiluyeh va Boyer-Ahmad Province** (Gachsaran), soil of corn and rapeseed farms (Moradian *et al.* 2011a, b). **Lorestan Province** (region not mentioned), soil (Heydari *et al.* 2013); (Poledokhtar District), soil (Heydari *et al.* 2014b); (Kuhdasht District), soil (Heydari *et al.* 2014a); (Khorramabad), soil (Hasanvand *et al.* 2014a). **Razavi Khorasan Province** (Torbat-e Jam), soil of orchards (Rahmdeli *et al.* 2011). **Semnan Province** (Bastam, Meyghan, Meyami, Owlang, Tuskestan), soil (Ghorani *et al.* 2016). **West Azarbaijan Province** (Salmas), soil and plant debris (Alizadeh *et al.* 2011); (Urmia), soil (Rezaie *et al.* 2011); (Miandoab), soil of apple orchards (Zarei and Kazemi 2014); (Urmia, Urmia University), soil and litter; (Urmia University), soil and litter; (Qäsemlü valley), soil and litter; (Band), soil of apple orchard (Kavianpour *et al.* 2017). **Yazd Province** (region not mentioned), soil (Dehghan *et al.* 2011). **Zanjan Province** (region not mentioned), soil (Bigdeli *et al.* 2014).

Gaeolaelaps orbiculatus Nemati & Mohseni, 2013

Distribution and habitats. **Khuzestan Province** (Izeh), soil (Nemati and Mohseni 2013).

Gaeolaelaps oreithyiae (Walter & Oliver, 1989)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), soil (Nemati *et al.* 2008b); (Lordegan, Khanmirza, Salehat Village), soil from different parts of oak forests (Bagheri Kordeshami *et al.* 2015) (Shahrekord), different habitats (Nemati *et al.* 2017a); (Koohrag, Dashte laleh, Bazoft (Taraz), Samsami (Dezhdaran), Bazoft (Sartang), Sodejan; Saman, Shoorab, Gharaghoosh; Kiar, Gahroo; Borujen, Boldagi (Cheghakhor)), in soil and rooting wood in association with *C. xerxes*, *C. fritillariae*, *L. neglectus*, *L. semenovi*, *M. caducus*, *M. platyceras*, *Pl. pallescens*,

Solenopsis sp., and *T. karavaievi* (Khalili-Moghadam, 2022). **Fars Province** (Shiraz County), soil (Keivani *et al*. 2018). **Kerman Province** (Bam), soil (Mehrzad *et al.* 2012); (Kerman, parks and landscapes), soil (Arjomandi and Kazemi 2014b); (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020). **West Azarbaijan Province** (Miandoab), soil of apple orchards (Zarei and Kazemi 2014); (Urmia. Urmia University), soil; (Qäsemlü valley), soil and litter; (Näzlü dam), soil; (Kaboodan island), soil (Kavianpour *et al.* 2017). **Zanjan Province** (region not mentioned), soil (Bigdeli *et al.* 2014).

Gaeolaelaps ovoideus (Greim, 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 Azarbaijan Province** (Urmia), aerial plants part and soil of potato fields (Mosavi *et al.* 2004; Mousavi *et al*. 2005).

Gaeolaelaps postreticulatus (Xu & Liang, 1996)

Distribution and habitats. **Fars Province** (Shiraz). Soil (Montazeri *et al.* 2011).
Note – Moraes *et al.* (2022), following Ma's (2006) idea, identified *Gaeolaelaps postreticulatus* as a junior synonym of *G. praesternalis*. According to personal communication from A. Nemati with W. Karg in 2013, the length of peritreme is short and extends to leg II in *G. postreticulatus*, while it is long and extends to leg I in *G. praesternalis*. Kavianpour *et al*. (2013) suspected that the specimens reported as *G. postreticulatus* (Xu & Liang) by Montazeri *et al*. (2011) could actually be *G. nolli* (Moraes *et al*. 2022).

Gaeolaelaps praesternalis (Willmann, 1949)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** [Koohrang, Bazoft (Taraz)], in soil in association with *M. platyceras* (Khalili-Moghadam, 2022). **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); (Darab), the soil under the trees in the northern and southern orchards of Darab city (Memarzadeh *et al*. 2022). **Guilan Province** (region not mentioned), soil (Ramroodi *et al.* 2013); (Roodbar), soil in olive orchard (Mahjoori *et al.* 2014); (Saravan, Emamzadeh Hashem, Rostamabad and Rudbar), soil (Ramroodi *et al.* 2015a); (Rasht), associated with beetles from Chrysomelidae (Hajizadeh and Hosseini, 2022). **Isfahan Province** (Kashan), soil (Sekonji *et al.* 2011). **Khuzestan Province** (region not mentioned), soil (Nemati *et al.* 2017b). **Lorestan Province** (region not mentioned), soil (Heydari *et al.* 2013); (Poledokhtar District), soil (Heydari *et al.* 2014b); (Kuhdasht District), soil (Heydari *et al.* 2014a). **Markazi Province** (Arak region), soil (Jadidi and Joharchi 2014). **Razavi Khorasan Province** (region not mentioned), soil of potato field crop (Baradaran *et al.* 2011); (Torbat Heydariyeh, Feiz-Abad), ex. *Pentodon* sp. (Kazemi and Rajaei 2013); (Mashhad), soil-litter and associated with ants' nest (Ghafarian *et al.* 2013a). **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, Varamin, Shahr-e Rey, Firouzkooh, Dmavand region), soil, leaf litter and dung, green spaces and orchards (Baroozeh *et al.* 2013). **West Azarbaijan Province** (Miandoab), soil of apple orchards (Zarei and Kazemi 2014). **Yazd Province** (region not mentioned), soil (Kafi *et al.* 2014).

Gaeolaelaps quadridentatus (Allred, 1970)

Distribution and habitats. **Isfahan Province** (Isfahan), soil of urban green spaces (Karbasian *et al.*

2022).

Gaeolaelaps queenslandicus (Womersley, 1956)

Distribution and habitats. **Alborz Province** (region not mentioned), soil (Keshavarz Jamshidian and Babaeian 2013). **Boushehr Province** Borazjan, soil (Nemati *et al.* 2018). **Chaharmahal va Bakhtiyari Province** (Shahrekord), (Nemati *et al.* 2008b); (Shahrekord), soil (Babaeian *et al.* 2010); body of birds or their nests (Keivani *et al.* 2012); (Shahrekord), different habitats (Nemati *et al.* 2017a); (Shahrekord), soil (Amani *et al.* 2015); (Shahrekord), soil and unknown ants' nest; (Shahrak), soil; (Laleh and Tehlijan Parks), soil and ants' nest; (different places in Shahrekord), environs from ants' nest; (Nafch and Ben), soil; (Zayanderood verge) from ants' nest; (Saman), soil in almond garden; (Borujen and Naghan), soil; (Lordegan), from different habitats (Nemati *et al.* 2018). **East Azarbaijan Province** (forests of Arasbaran region), soil, leaf-litter and plant debris (Ordoukhanian *et al.* 2017); (Maragheh), soil in orchards (Valizadeh *et al.* 2017). **Eilam Province** (Eilam), soil (Nemati *et al.* 2018). **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); (region not mentioned), soil and debris (Abolghasemi and Kazemi 2016); (Shiraz, Eram Garden), soil under different trees (Javan *et al.* 2017); (Shiraz County), soil (Keivani *et al.* 2018); (Shiraz, green spaces and orchards of fruit trees), soil and decayed material on the soil surface (Farzaneh *et al.* 2021); (Darab), the soil under the trees in the northern and southern orchards of Darab city (Memarzadeh *et al.* 2022). **Golestan Province** (Gorgan), soil (Nemati *et al.* 2018). **Guilan Province** (region not mentioned), soil, decaying plants and stored products (Hajizadeh *et al.* 2010b, c); (Somesara), on raspberry shrubs (*Rubus* spp.) (Tajmiri and Hajizadeh 2013); (Roodbar), soil in olive orchard (Mahjoori *et al.* 2014); (region not mentioned), soil and litter (Ramroodi *et al.* 2014b); (Saravan, Emamzadeh Hashem, Rostamabad and Rudbar), soil (Ramroodi *et al.* 2015a); (Talaf-Someh Sara, Vajargah-Lelachay, Amlash), soil of tea (Hajizadeh *et al.* 2020); (Moein Hotel-Fuman), soil of tea (Hajizadeh *et al.* 2020); (Rasht, Vatan Abadi greenhouse, Guilan University, Vishka Nanak Village, and Pir Bazar Village), soil; (Rasht, Bijar Bonch village), wood sorrel, *Oxalis acetosella* L. leaves; (Rasht, Isfahani Educational Institute), wood sorrel, *Oxalis acetosella* L. leaves infested with spider mites; (Rasht, Keshel Varzal village), soil, tomato, *Solanum lycopersicum* L. leaves; (Rasht, Imam Khomeini Institute), litter (Ghasemi and Hajizadeh 2021). **Isfahan Province** (Isfahan), soil and litter (Ramezani and 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); (Shahreza), soil; (Isfahan city: Khomeinishahr, Bostan Kodak Park, Atash Street; Marnan Bridge, Bostan Moshtagh, Bishe-Habib Park, Bostan Melat, Bostan Mirzakochakkhan, Bagh-Daryache Street, Vahid Street, Khayyam Street), different habitats (Nemati *et al.* 2018); (Isfahan), soil of urban green spaces (Karbasian *et al.* 2022). **Kerman Province** (Bam), associated with palm trees (Dehghan Dolati *et al.* 2011); (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 (Mehrzad. *et al.* 2012); (Sirjan, Rafsanjan and Shahr-e-Babak), soil, manure and leaf litter (Masnavipour *et al.* 2014); (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020). **Khuzestan Province** (Ahvaz), soil (Nemati *et al.* 2000a; Kamali *et al.* 2001); (region not mentioned), soil (Nemati *et al.* 2017b); (Izeh, Ghaletol and Baghmalek), soil and ants' nest; (Ahvaz, Jondishahpour University), ants' nest; (Andimeshk), ants' nest; (Masjedsoleiman), ants' nest; (Dezfoul), soil, ants' nest in citrus garden; (Roodzard), soil.; (Barangerd), ants' nest in pomegranate garden (Nemati *et al.* 2018). **Lorestan Province** (region not mentioned), soil (Heydari *et al.* 2013); (Poledokhtar District), soil (Heydari *et al.* 2014b); (Faculty of Agricultural (University of Lorestan), soil of cypress tree (Hasanvand *et al.* 2014b); (Poledokhtar District), soil (Heydari *et al.* 2014b); (Kuhdasht District), soil (Heydari *et al.* 2014a); (Khorramabad), soil (Hasanvand *et al.* 2014a).

Markazi Province (Arak region), soil (Jadidi and Joharchi 2014). **Mazandaran Province** (Nowshahr), soil (Kazemi & Ahangaran 2011); (region not mentioned), soil (Kazemi *et al.* 2013e); (Lavij region of Nour County), soil, humus and litter (Ghasemi-Moghadam *et al.* 2014); (Nowshahr, Ecological (Botanical) Garden), soil and litter (Saberi *et al.* 2016). **North Khorasan Province** (region not mentioned), associated with beetles of family Scarabaeidae (Rezaei *et al.* 2016). **Qom Province** (region not mentioned), soil, dung, compost and plant-litters of crops, lawns, shrubs and trees in farms, forests, orchards and parks (Agha Alikhani *et al.* 2017). **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); (Kashmar), soil of vineyards (Salarzehi *et al.* 2011); (Mashhad), soil-litter and associated with ants' nest (Ghafarian *et al.* 2013a); (Mashhad County), soil and manure (Abbaspour *et al.* 2017). **Semnan Province** (Moghan, Shahrood, Bastam, Meyghan, Abarsij, Abr Jungle, Tuskestan Jungle), soil (Ghorani *et al.* 2016), soil (Ghorani *et al.* 2016). **Tehran Province** (region not mentioned), soil of potato field crop (Baradaran *et al.* 2011); (Shemiranat, RudbarGhasran), 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, Varamin, Shahr-e Rey, Firouzkooh, Dmavand region), soil, leaf litter and dung, green spaces and orchards (Baroozeh *et al.* 2013); (Tehran City, Police Park), soil (Maleki *et al.* 2016). **West Azarbaijan 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); (Urmia), soil and ants' nest (Nemati *et al.* 2018); (Urmia, Urmia University), soil of apple orchard; (Urmia University), soil; (Qäsemlü valley), soil and litter; (Näzlü), soil of apple orchard; (Näzlü road), soil of apple orchard (Kavianpoue *et al*. 2017). **Yazd Province** (region not mentioned), soil (Dehghan *et al.* 2011); (region not mentioned), soil (Kafi *et al.* 2014). **Zanjan Province** (different parts of Zanjan city), soil and ants' nest (Nemati *et al.* 2018).

Note – Some authors reported this species as *Gaeolaelaps angusta* (Karg, 1965) from Iran, while it was considered as a junior synonym of *G. queenslandicus* by Nemati *et al*. (2018a).

Gaeolaelaps saboorii Joharchi & Babaeian, 2014

Distribution and habitats. **Mazandaran Province** (Polur), on *Acinopus* sp. (Joharchi and Babaeian 2014).

Gaeolaelaps scarites Joharchi and Saeidi, 2019

Distribution and habitats. **Kurdistan Province** (Garmeh Khani, Dehgolan), on *Scarites* (*Parallelomorphus*) *terricola* Bonelli (Coleoptera: Carabidae) (Saeidi *et al.* 2019).

Gaeolaelaps schusteri (Hirschmann, 1966)

Distribution and habitats. **Hormozgan Province** (Qeshm region), soil and crashed cockleshells (Khalesi and Kazemi 2018); (Qeshm region), soil and crashed cockleshells in littoral zone (Kazemi *et al*. 2020).

Gaeolaelaps tuberculatus Kazemi & Paktinat-Saeij, 2020

Distribution and habitats. **Mazandaran Province** (Amol City, Osku Mahalleh village), from soil and rotten leaves under citrus trees, (Sari City, Amreh village), from soil and rotten leaves under citrus trees (Kazemi *et al.* 2020).

Gaeolaelaps urumiensis Kavianpour, Nemati & Krimpour 2018

Distribution and habitats. **West Azarbaijan Province** (Urmia), soil, and litter (Kavianpour *et al*. 2018c).

Genus *Gymnolaelaps* Berlese, 1916b

Gymnolaelaps artavilensis Joharchi & Halliday, 2013

Distribution and habitats. **Ardabil Province** (region not mentioned), nest of *Pheidole pallidula* (Formicidae) (Joharchi and Halliday 2013). **West Azarbaijan Province (**Urmia, Band), soil of apple orchard (Kavianpour *et al.* 2017).

Gymnolaelaps kabitae Bhattacharyya, 1968

Distribution and habitats. Region not mentioned. ex. *P. pallidula* (Joharchi 2012). **Alborz Province** (Karaj), nest of *Pheidole pallidula* (Joharchi and Halliday 2013); (Karaj), in nest of *Pheidole pallidula* (Joharchi *et al.* 2020). **Chaharmahal va Bakhtiyari Province** (Shahrekord), nest materials of unknown ant (Nemati and Gwiazdowics 2016a). **Khuzestan province** (Ghaletol), nest materials of unknown ant, (Izeh), nest of *Pheidole pallidula* (Formicidae) (Nemati and Gwiazdowics 2016a).
Note. This species was considered in *Laelaspisella* and *Gymnolaelaps* genera by Joharchi *et al.* (2016a) and Nemati and Gwiazdowicz (2016a), respectively. We confirmed Nemati *et al*. (2019) and Joharchi *et al*. (2020) and believe that the generic placement of this species needs more detailed studies and, until doing such investigation, temporarily report it in this genus while lacking important morphological characters of *Gymnolaelaps*.

Gymnolaelaps laevis (Michael, 1891)

Distribution and habitats. Region not mentioned, ex. *T. caespitum* (Joharchi 2012). **Alborz Province** (Karaj). **Yazd Province** (region not mentioned), nest of *Tetramorium caespitum* (Joharchi and Halliday 2013).

Gymnolaelaps longiosetae Ramroodi, Joharchi & Hajizadeh, 2015

Distribution and habitats. **Guilan Province** (Shaft, Chobar Forest, Emamzadeh Ebrahim), in nest of *Myrmica* sp. (Formicidae) (Ramroodi *et al.* 2015b); (Emamzadeh Hashem, Rudbar), soil (Ramroodi *et al.* 2015a). **Mazandaran Province** [Nowshahr, Ecological (Botanical) Garden of Nowshahr], soil and litter (Saberi *et al.* 2016).

Gymnolaelaps messor Joharchi *et al.*, 2011

Distribution and habitats. **Alborz Province** (Karaj), in nest of *Messor* sp. (Joharchi *et al.* 2011a, b); (region not mentioned), soil (Keshavarz Jamshidian and Babaeian 2013). **Guilan Province** (region not mentioned), soil and litter (Ramroodi *et al.* 2014b); (Rasht, Sima Manzar Organization), rose, *Rosa damascene* leaves (Ghasemi and Hajizadeh 2021). **Tehran Province** (Tehran). ex. *Messor* sp. (Joharchi *et al.* 2011a, b); (Shemiranat, Rudbar-Ghasran), soil, litter and humus (Cheraghali *et al.* 2012); (Shemiranat, Rodbar Ghasran region), soil and litter (Joharchi and Halliday 2013); (Tehran City, Police Park), soil (Maleki *et al.* 2016).

Gymnolaelaps myrmophila (Michael, 1891)

Distribution and habitats. **Alborz Province** (Karaj), nest of *Tetramorium caespitum* (Joharchi and

Halliday 2013). **Chaharmahal va Bakhtiyari Province** (region not mentioned), associated with *Fomes* sp. (Khalili-Moghadam and Nemati 2014a). **Fars Province** (Shiraz County), soil (Keivani *et al*. 2018). **Guilan Province** (region not mentioned), soil and litter (Ramroodi *et al.* 2013; Ramroodi *et al.* 2014b); (Saravan, Emamzadeh Hashem, Rostamabad, Rudbar), soil (Ramroodi *et al.* 2015a); (Tea Institude Lahijan), soil of tea (Hajizadeh *et al.* 2020); (Rasht), associated with beetles from Formicidae (Hajizadeh and Hosseini 2022). **Khuzestan Province** (Ahvaz), nest of *P. pallidula* (Nemati *et al.* 2000b). **Mazandaran Province** (region not mentioned), soil (Kazemi *et al.* 2013e). **Semnan Province** (Mojen, Owlang Jungle), soil (Ghorani *et al.* 2016). **Tehran Province** (Shemiranat, Rodbar Ghasran region), soil and litter (Joharchi and Halliday 2013). **Yazd Province,** soil (Dehghan *et al.* 2011); region not mentioned. ex. *Formica* sp. (Joharchi 2012).

Gymnolaelaps myrmecophilus (Berlese, 1892d)

Distribution and habitats. **Alborz Province** (region not mentioned), soil (Keshavarz Jamshidian and Babaeian 2013); (Savojbolagh, Taleghan), nest of *Formica* sp. (Joharchi and Halliday 2013). **Chaharmahal va Bakhtiyari Province** (Saman, Shahrekord), soil (Amani *et al.* 2015; Shariati *et al.* 2017); (Saman, Gharaghoosh), in rooting wood in association with *L. neglectus* (Khalili-Moghadam 2022). **East Azarbaijan Province** (Maragheh region), soil in orchards (Valizadeh *et al.* 2017). **Golestan Province** (Gorgan), soil (Kazemi *et al.* 2011a). **Guilan Province** (Ganjeh, Majil), soil in olive orchard (Mahjoori *et al.* 2014); (region not mentioned), soil and litter (Ramroodi *et al.* 2014b); (Saravan Emamzadeh Hashem, Rostamabad, Rudbar), soil (Ramroodi *et al.* 2015a); (Rasht, Sima Manzar Organization), rose, *Rosa damascene* leaves (Ghasemi and Hajizadeh 2021). **Isfahan Province** (Isfahan), canopy, trunk especially from scolytids larval tunnels and the collar region of elm trees (Jalalizand *et al.* 2004). **Kerman Province** (Kerman County), cow manure (Arjomandi *et al.* 2013a). **Mazandaran Province** (Nowshahr, Ecological (Botanical) Garden of Nowshahr), soil and litter (Saberi *et al.* 2016). **Razavi Khorasan Province** (Mashhad), soil, litter and associated with ants' nest (Ghafarian *et al.* 2013a). **Tehran Province** (Shemiranat, RudbarGhasran), soil, litter and humus (Cheraghali *et al.* 2012); region not mentioned. ex. *T. caespitum* (Joharchi 2012); (Tehran City, Police Park), soil (Maleki *et al.* 2016). **Yazd Province** (region not mentioned), soil (Dehghan *et al.* 2011).

Gymnolaelaps prestoni Joharchi *et al*., 2011

Distribution and habitats. **Alborz Province** (Karaj), in nest of *Myrmica* sp. (Joharchi *et al.* 2011a, b). **Chaharmahal va Bakhtiyari Province** (Saman, Gharaghoosh; Shahrekord, Chaleshtor), in soil and rooting wood in association with *L. neglectus; P. perperamus* (Khalili-Moghadam 2022). **Tehran Province** (Area around Tehran), ex. *Myrmica* sp. (Joharchi *et al.* 2011a, b).
Note – *Gymnolaelaps hospes* (Berlese, 1923a) was reported from Khuzestan Province (Ahvaz), nest of *P. pallidula* (Formicidae) by Nemati *et al.* (2000b). Due to uncertainty of identification and inaccessibility of specimens for reidentification, we remove this species from the list of Iranian mesostigmatid mites as referred by Joharchi and Halliday (2013) as misidentification.

Genus *Holostaspis* Kolenati, 1858a

Holostaspis iranicus (Babaeian & Nemati, 2014)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), nest of *Messor* sp. (Babaeian *et al.* 2014b); (Taghanak), soil of ants' nest, *Formica* sp. (Khalili-Moghadam and Saboori 2015). **Yazd Province** (Taft), nest of *Messor* sp. (Babaeian *et al.* 2014b).
Note – This species was described as *Myrmozercon iranicus* Babaeian & Nemati, 2014, but it was transferred to the *Holostaspis* genus by Babaeian *et al.* (2019b).

Holostaspis michaeli (Joharchi, 2013)

Distribution and habitats. **Alborz Province** (Damavand Mountain, Karaj), in the nest of *Messor* sp. (Joharchi and Moradi 2013).
Note – This species has been described as *Myrmozercon michaeli* Joharchi, 2013, but it was transferred to the *Holostaspis* genus by Babaeian *et al.* (2019b).

Genus *Hypoaspis* G. Canestrini, 1884a

Hypoaspis alborzensis Razavi Susan & Joharchi, 2014

Distribution and habitats. **Alborz Province** (Karaj), on adult female of *Oryctes* sp. (Coleoptera: Scarabaeidae) under plane trees (Platanaceae: *Platanus* sp.) (Razavi Susan *et al.* 2014).

Hypoaspis campestris (Berlese, 1887b)

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

Hypoaspis integer Berlese, 1911a

Distribution and habitats. **Alborz Province** (Karaj, Nazarabad, Damavand, Shahrestanak), ex. *Polyphylla* sp. (Joharchi and Halliday 2011); (Karaj), associated with *Polyphylla* sp. (Razavi Susan *et al.* 2013). **Fars Province** (Shiraz), ex. *Polyphylla* sp. (Joharchi and Halliday 2011). **Guilan Province** (region not mentioned), ex. *Polyphylla* sp. (Joharchi and Halliday 2011). **Isfahan Province** (Isfahan), ex. *Polyphylla* sp. (Joharchi and Halliday 2011). **Razavi Khorasan Province** (Mashhad), soil, litter and associated with ants' nest (Ghafarian *et al.* 2013a). **Tehran Province** (area around Tehran), ex. *Polyphylla* sp. (Joharchi *et al.* 2011b). **West Azarbaijan Province** (Tabriz), ex. *Polyphylla* sp. (Joharchi and Halliday 2011). **Yazd Province** (Yazd), on *Polyphylla* sp. (Joharchi and Halliday 2011).

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

Distribution and habitats. **East Azarbaijan Provinc** (Arasbaran forests), soil, leaf-litter and plant debris (Ordoukhanian *et al.* 2017). **Khuzestan Province** (region not mentioned), date palm (Modarres Awal 1997; Kamali *et al.* 2001; Mohajeri *et al*. 2009). **West Azarbaijan Province** (Urmia), house dust (Kamali *et al.* 2001).

Hypoaspis larvicolus Joharchi & Halliday, 2011

Distribution and habitats. **Alborz Province** (Karaj), ex. *Polyphylla* sp. (Joharchi and Halliday 2011). **Isfahan Province** (Kashan), soil (Sekonji *et al.* 2011). **Tehran Province** (Tehran), ex. *Polyphylla* sp., (Joharchi *et al.* 2011b). **West Azarbaijan Province** (Urmia, Näzlü dam), soil (Kavianpour *et al.* 2017).

Hypoaspis maryamae Joharchi & Halliday, 2011

Distribution and habitats. **Alborz Province** (Karaj), ex. *P. olivieri* (Joharchi and Halliday 2011); associated with *Polyphylla* sp. (Razavi Susan *et al.* 2013); (Taleqan), under the elytra of two species of scarabaeid beetles, including *Polyphylla olivieri* (Castelnau) and *Pentodon idiota* (Herbst) (Farmahiny-Farahani *et al.* 2022a); (Ghod Ghale), under the elytra of *Oryctes* sp.; (Taleqan); associated with *Pentodon idiota* (Herbst, 1789) and *Pentodon idiota* (Herbst, 1789) (Farmahiny-

Farahani *et al.* 2022b). **Guilan Province** (Rasht), associated with beetles from Carabidae and Staphylinidae (Hajizadeh and Hosseini 2022). **Hamedan Province** (region not mentioned), from adults of *Polyphylla olivieri* Castelnau (Coleoptera: Scarabaeidae) (Khanjani *et al.* 2013). **Mazandaran Province** (Nowshahr, Ecological (Botanical) Garden of Nowshahr), soil and litter (Saberi *et al.* 2016). **Tehran Province** (Tehran), ex. *P. olivieri* (Joharchi *et al.* 2011b). **Yazd Province** (Yazd), ex. *P. olivieri* (Joharchi and Halliday 2011).
Note – Khanjani *et al*. (2013) described a species of *Hypoaspis* genus as *H. surii* Khanjani, Ghaedi & Ueckermann, 2013, but was considered as a junior synonym of *Hypoaspis maryamae* by Joharchi *et al.* (2014).

Hypoaspis melolonthae Joharchi & Halliday, 2011

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

Hypoaspis neokrameri Costa, 1971

Distribution and habitats. **Fars Province** (Shiraz), soil (Montazeri *et al.* 2011). **Golestan Province** (Shast Kola Forest), ex. *O. nasicornis*, (Kazemi and Rajaei 2013). **Mazandaran Province** (Galugah), ex. *Oryctes nasicornis* (L.) (Kazemi and Rajaei 2013).

Hypoaspis oryctes Joharchi, 2019

Distribution and habitats. **Kerman Province** (Bam), on adult female *Oryctes elegans* Prell. (Coleoptera: Scarabaeidae) (Joharchi *et al.* 2014b).
Note – This species has been described and reported from Iran as *Hypoaspis elegans* Joharchi, Ostovan & Babaeian, 2014, but its name is a junior homonym of *Hypoaspis* (*Leptolaelaps*) *elegans* Berlese, 1918. So Joharchi (2019) proposed *Hypoaspis oryctes* nom. nov. as a replacement name for it (Joharchi 2019).

Hypoaspis pentodoni Costa, 1971

Distribution and habitats. **Alborz Province** (Karaj, Nazarabad), ex. *P. olivieri* (Joharchi and Halliday 2011; Joharchi *et al.* 2011b); (Karaj), associated with *Polyphylla* sp. (Razavi Susan *et al.* 2013). **Khorasan Province** (region not mentioned), on the body of *Polyphylla* sp. Larvae (Scarabaeidae) (Rezaei *et al.* 2016).

Hypoaspis phyllognathi Costa, 1971

Distribution and habitats. **Alborz Province** (Shekarnab), associated with *Dorcus parallelipipedus* (Linnaeus, 1758) (Farmahiny-Farahani *et al.* 2022b). **Fars Province** (Shiraz, Khaf), ex. *Phyllognathus* sp. (Joharchi and Halliday 2011). **Golestan Province** (Shast Kola Forest), ex. *O. nasicornis* and *P. olivieri* (Ghorogh Forest), ex. *Phyllognathus silenus* Fabricius (Bahrami *et al.* 2011); (Shast Kola Forest), ex. *P. olivieri* (Kazemi and Rajaei 2013). **North Khorasan Province** (Bojnurd), soil of farms, gardens and manures (Mahpikaran *et al.* 2012). **Tehran Province** (Area around Tehran), ex. *P. olivieri* (Joharchi *et al.* 2011b).

Hypoaspis polyphyllae Khanjani & Ueckermann, 2005

Distribution and habitats. **Hamedan Province** (Hamedan, Ganjnameh), ex. *P. olivieri* (Khanjani and

Ueckermann 2005). **Kermanshah Province** (Rijab), Fruit orchards (Babakfard *et al.* 2008).

Hypoaspis rhinocerotis Oudemans, 1925

Distribution and habitats. **Alborz Province** (Karaj), on adult female of *Oryctes* sp. (Coleoptera: Scarabaeidae) under plane trees (Platanaceae: *Platanus* sp.) (Razavi Susan *et al.* 2014).

Hypoaspis surenai Joharchi & Shahedi, 2016

Distribution and habitats. **Yazd Province** (Taft, Kahduiyeh), on adult females of *Oryctes* sp. (Coleoptera: Scarabaeidae) (Joharchi and Shahedi 2016).

Hypoaspis terrestris (Leonardi, 1899a)

Distribution and habitats. **Alborz Province** (Karaj, Nazarabad), ex. *Pentodon idiota* Herbst (Joharchi and Halliday 2011; Joharchi *et al.* 2011b); (Karaj), associated with *P. olivieri* (Razavi Susan *et al.* 2013).

Hypoaspis sp.

Distribution and habitats. **Alborz Province** (Taleqan); associated with *Pentodon idiota* (Herbst, 1789) and *Pentodon idiota* (Herbst, 1789) (Farmahiny-Farahani *et al.* 2022b).

Genus *Hypoaspisella* Bernhard, 1962

Note – For more information concerning this genus, see Joharchi *et al.* (2018).

Hypoaspisella asperatus (Berlese, 1904b)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), (Nemati *et al.* 2008b); (region not mentioned), associated with ant nest (Khalili-Moghadam and Nemati 2014b); (Saman, Shahrekord), soil (Amani *et al.* 2015); (Saman, Shahrekord), soil of ants' nest, *Tapinoma* sp. (Khalili-Moghadam and Saboori 2015). **East Azarbaijan Province** (Arasbaran forests), soil, leaf-litter and plant debris (Ordoukhanian *et al.* 2017); (Maragheh region), soil in orchards (Valizadeh *et al.* 2017). **Fars Province** (Shiraz), soil (Montazeri *et al.* 2011); (Shiraz County), soil (Keivani *et al.* 2018); (Shiraz, green spaces and orchards of fruit trees), soil and decayed material on the soil surface (Farzaneh *et al.* 2021). **Isfahan Province** (Shahreza), soil (Kavianpour *et al.* 2011); (Isfahan), soil of urban green spaces (Karbasian *et al.* 2022). **Kerman Province** (Baft), soil (Rajaei *et al.* 2011a); (Kerman County), cow manure (Arjomandi, *et al.* 2013a). **Lorestan Province** (region not mentioned), soil (Heydari *et al.* 2013); (Poledokhtar District), soil (Heydari *et al.* 2014b); (Khorramabad), soil (Hasanvand *et al.* 2014a). **Qom Province** (region not mentioned), soil, dung, compost and plant-litters of crops, lawns, shrubs and trees in farms, forests, orchards and parks (Agha-Alikhani *et al.* 2017). **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); (Mashhad), soil, litter and associated with ants' nest (Ghafarian *et al.* 2013a); (Mashhad County), soil (Abbaspour *et al.* 2017). **Tehran Province** (region not mentioned), soil of potato field crop (Baradaran *et al.* 2011); (Shemiranat, RudbarGhasran), 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); (Tehran, Varamin, Shahr-e Rey, Firouzkooh, Dmavand region), soil, leaf litter and dung, green spaces and orchards (Baroozeh *et al.* 2013); (Tehran City, Police Park), soil (Maleki *et al.* 2016). **West**

Azarbaijan Province (Miandoab Plain), foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003); (Urmia), soil (Rezaie *et al.* 2011). **Yazd Province** (region not mentioned), soil (Dehghan *et al.* 2011). **Zanjan Province** (region not mentioned), soil (Bigdeli *et al.* 2014).
Note– This species was reported as *Pneumolaelaps asperatus* (Berlese, 1904) by some authors in above list. It was reported in *Hypoaspis s. lat*. by some authors, Valizadeh *et al.* (2017), Agha-Alikhani *et al.* (2017), Ordoukhanian *et al.* (2017), and Nemati *et al.* (2017b) due to incompatability with morphological characters of *Pneumolaelaps* genus.

Hypoaspisella azarbaijaniensis (Faraji, Abedi & Ostovan, 2008)

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

Hypoaspisella berlesei (Bernhard, 1969)

Cited in Hirschmann *et al*. (1969).
Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Saman, Lordegan, Naghan, Borujen, Farrokhshahr regions), **Isfahan Province** (Isfahan and Zarrinshahr regions). **Khuzestan Province** (region not mentioned), soil, debris, ants' nest and fungi (Khalili-Moghadam *et al.* 2016a). **West Azarbaijan Province** (Urmia University), soil; (Qäsemlü valley), soil and litter (Kavianpour *et al.* 2017).

Hypoaspisella curtipilis (Hirschmann, 1969)

Distribution and habitats. **Fars Province** (Jahrom), soil of citrus orchards (Khademi *et al.* 2006). **Khuzestan Province** (Ahvaz), soil (Nemati *et al.* 2000a). **West Azarbaijan Province** (Urmia), aerial plant's part and soil of potato fields (Mosavi *et al.* 2004; Mousavi *et al*. 2005).

Hypoaspisella golanii (Costa, 1969a)

Distribution and habitats. **Khuzestan Province** (region not mentioned), soil (Nemati *et al.* 2017b).

Hypoaspisella hirschmanni (Karg, 1979)

Distribution and habitats. **Fars Province** (Jahrom), soil of citrus orchards (Khademi *et al.* 2006); (Larestan), soil of cotton and wheat fields (Khadempour *et al.* 2012). **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 Azarbaijan Province** (Urmia), aerial plant's part and soil of potato fields (Mosavi *et al.* 2004, 2005).

Hypoaspisella intermedius (Bernhard, 1969)

Cited in Hirschmann *et al*. (1969).
Distribution and habitats. **Tehran Province** (Shemiranat, Rudbar-Ghasran), soil, litter and humus (Cheraghali *et al.* 2012).

Hypoaspisella linteyini (Samšiňák, 1964)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Lordegan, Ooreh), in soil in association with *C. fritillariae* (Khalili-Moghadam 2022). **East Azarbaijan Provinc** (Maragheh

region), soil in orchards (Valizadeh *et al.* 2017). **Fars Province** (Shiraz), soil (Montazeri *et al.* 2011). **Guilan Province** (Sangar), on leaves of citrus tress (Hajizadeh and Joharchi 2018); (Astaneh-ye Ashrafiyeh, Estakher Bijar, Abdullah Abad), soil of peanut plant (Askari *et al.* 2023). **Khuzestan Province** (region not mentioned), soil (Nemati *et al.* 2017b); (Ahvaz), horse manure, (Bavi, Mollasani), cow manure, buffalo manure, sheep manure; (Hamidieh), sheep manure; (Ahvaz, Alhaei), sheep manure; (Shush, Seyyed Abbas), buffalo manure; (Bavi, Talbumeh), cow manure; (Bavi, Naddafieh), sheep manure (Farahi *et al.* 2020); (Ahvaz and its suburbs), cattle, buffalo, sheep and horse manure (Farahi *et al.* 2022). **Sistan va Baluchestan Province** (Sistan region), stored product (Sayadi *et al.* 2012). **West Azarbaijan Province** (Urmia University), soil (Kavianpour *et al.* 2017). **Yazd Province** (region not mentioned), soil (Dehghan *et al.* 2011).

Hypoaspisella lubrica (Oudemans & Voigts, 1904)

Cited in Voigts & Oudemans (1904).
Distribution and habitats. **Fars Province** (Shiraz County), soil (Keivani *et al*. 2018). **Golestan Province** (Toshan Village), ex. *Geotrupes* sp. (Bahrami *et al.* 2011). **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); (Somesara), on raspberry shrubs (*Rubus* spp.) (Tajmiri and Hajizadeh 2013); (region not mentioned), soil and litter (Ramroodi *et al.* 2014b); (Rasht, Pir Bazar village), soil; (Rasht, Vishka Nanak village), litter (Ghasemi and Hajizadeh 2021). **Kerman Province** (Kerman), poultry manure (Arjomandi *et al.* 2011); (Kerman County), cow manure and poultry manure (Arjomandi *et al.* 2013a). **Kurdistan Province** (region not mentioned), associated with stored flour and wheat (Maroufpoor and Ostovan 2017; Maroufpoor *et al.* 2017). **Lorestan Province** (Kuhdasht District), soil (Heydari *et al.* 2014a); (Khorramabad), soil (Hasanvand *et al.* 2014a). **North Khorasan Province** (Bojnord, Esfydan), ex. *Oxythrea cinctella* (Schaum) (Kazemi and Rajaei 2013).
Note – This species was reported from Iran as *Pneumolaelaps lubrica* (Voigts & Oudemans, 1904).

Hypoaspisella lubricoidea (Karg, 1971a)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Saman, Lordegan, Naghan, Borujen, Farrokhshahr regions). **Isfahan Province** (Isfahan and Zarrinshahr regions). **Khuzestan Province** (region not mentioned), soil, debris, ants' nest and fungi (Khalili-Moghadam *et al.* 2016b).

Hypoaspisella patagoniensis (Sheals, 1962)

Distribution and habitats. **Isfahan Province** (Isfahan), soil of urban green spaces (Karbasian *et al*. 2022).

Hypoaspisella sclerotarsus (Costa, 1968a)

Distribution and habitats. **Alborz Province** (region not mentioned), soil (Keshavarz Jamshidian and Babaeian 2013). **Chaharmahal va Bakhtiyari Province** (Shahrekord), (Nemati *et al.* 2008b); (region not mentioned), soil (Babaeian *et al.* 2010); (Shahrekord), soil of unknown ants' nest (Khalili-Moghadam and Saboori 2015). **East Azarbaijan Province** (Tabriz), soil of orchards (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 and 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); (Shiraz, green spaces and orchards of fruit trees), soil and decayed material on the soil surface (Farzaneh *et*

al. 2021); (Darab), the soil under the trees in the northern and southern orchards of Darab city (Memarzadeh *et al*. 2022). **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). **Hamedan Province** (region not mentioned), bean (*P. vulgaris*), alfalfa and *Astragalus* sp. (Khanjani and Kamali 2000b; Kamali *et al.* 2001). **Isfahan Province** (Shahreza), soil (Kavianpour *et al.* 2011). **Kerman Province** (Kerman), sheep manure (Arjomandi *et al.* 2011); (Jiroft), soil (Balooch Shahryari *et al.* 2011, 2012); (Kerman County), cow manure and sheep manure (Arjomandi *et al.* 2013a); (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020); (Isfahan), soil of urban green spaces *(*Karbasian *et al*. 2022). **Khuzestan Province** (Ahvaz), soil (Nemati *et al.* 2000a); (region not mentioned), associated with stored products (Habibpour *et al.* 2002). **Kohgiluyeh va Boyer-Ahmad Province** (Gachsaran), soil of corn and rape seed farms (Moradian *et al.* 2011a, b). **Razavi Khorasan Province** (Mashhad), soil, litter and associated with ants' nest (Ghafarian *et al.* 2013a); (Mashhad County), soil (Abbaspour *et al.* 2017). **Tehran Province** (Tehran, Varamin, Shahr-e Rey, Damavand), soil and leaf litter of green spaces and orchards (Baroozeh *et al.* 2012); (Tehran, Varamin, Shahr-e Rey, Firouzkooh, Dmavand region), soil, leaf litter and dung, green spaces and orchards) (Baroozeh *et al.* 2013); (Tehran City, Police Park), soil (Maleki *et al.* 2016). **Zanjan Province** (region not mentioned), soil (Rahmani and Zare 2011).

Note – *Hypoaspisella dentipilosa* (Karg, 1978) was reported by Babaeian *et al.* (2010) from Chaharmahal va Bakhtiyari Province (Shahrekord) in soil. This species had previously been reported by Khademi *et al.* (2006) from Fars Province (Jahrom) in the soil of citrus orchards. Due to the uncertainty of identification, we remove it from the list of Iranian mite fauna. *Hypoaspisella dentipilosa* (Karg) was originally collected from Chile, Valparaiso Province (Karg 1978).

Genus *Laelaps* C.L. Koch, 1836a

Laelaps acuminata Furman, 1972

Distribution and habitats. **Sistan va Baluchestan Province** (Bampoor, Daman, Iranshahr, and Qasre Qand, Nikshahr), on the body of *Tetera indica*, *Meriones hurrianae*, *Meriones libycus* and *Gerbillus nanus* (Nateghpour *et al.* 2013).

Laelaps algericus Hirst, 1925

Distribution and habitats. **Khuzestan Province** (Ahvaz), on the body of *Rattus rattus* (Nemati *et al.* 2012c). **Northeast of Iran**, (North, Razavi and Soth Khorasan Provinces) (region not mentioned), on the body of *Mus Musculus* (Hamidi and Bueno-Mari 2021). **Razavi Khorasan Province** associated with rodents (*Mus musculus*) (Kazemi *et al.* 2015); (Mashhad), on *M. musculus* (Moravvej *et al.* 2016).

Laelaps ekstremi Zachvatkin, 1948

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), body of some unknown mice (Nemati *et al.* 2012c).

Laelaps kochi Oudemans, 1936

Distribution and habitats. **Tehran Province** (region not mentioned), on body of rodent (*Arvicola terrestris*) (Herrin and Tipton 1976).

Laelaps nuttalli Hirst, 1915

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Sharekord), ex. mice (Nemati *et*

al. 2008a). **Fars Province** (Shiraz), collected from the houses of patients referred to the asthma and allergy by vacuum cleaner (Shafei *et al.* 2020). **Golestan Province** (Gomishan and Bandar Turkmen), on *M. musculus* (Gholipoury *et al.* 2016). **Hormozgan Province** (Bandar-Abas), on the body of *Rattus norvegicus, Tatera indica* (Hanafi-Bojd *et al.* 2007); (Bandar Abbas), on *R. norvegicus, R. rattus* and *M. musculus* (Kia *et al.* 2009); (Mangrove forests and villages of Qeshm Island), ectoparasite on *Rattus rattus* (Eslami *et al*. 2018). **Kermanshah Province** (Sarpole-Zahab District), on *Mus musculus, Meriones persicus* and *Tatera indica* (Telmadarraiy *et al.* 2007). **Khuzestan Province** (Ahvaz), ex. *Ratus* spp. and *M. musculus* (Nemati *et al.* 2000c; Kamali *et al.* 2001).

Genus *Laelaspis* Berlese, 1903b

Laelaspis angustiseta Khalili-Moghadam, Saboori, Nemati & Zahedi Golpayegani, 2018

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Lordegan County), from nest of *Tapinoma erraticum*; (Kohrang County), from nest of *Tapinoma simrothi* (Khalili-Moghadam *et al.* 2018b); (Koohrang, Dashte laleh, Soodejan), in soil in association with *C. fritillariae* and *M. platyceras* (Khalili-Moghadam 2022).

Laelaspis astronomicus (C.L. Koch, 1840)

Distribution and habitats. **Alborz Province** (Karaj, Shahrestanak), nest of *Tapinoma* sp. (Joharchi *et al.* 2012c). **East Azarbaijan Province** (Arasbaran Forests), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016b); (Arasbaran Forests, Vaygan, Aynalu, Kalaleh and Garmanab), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016a); (forests of Arasbaran region), soil, leaf-litter and plant debris (Ordoukhanian *et al.* 2017). **Fars Province** (Neyriz), soil (Bazrafshan *et al.* 2013). **Guilan Province** (region not mentioned), soil, decaying plants and stored products (Hajizadeh *et al.* 2010b, c). **Hamedan Province** (Hamedan), on *M. musculus*, *R. rattus* and *R. norvegicus* (Zendehfili *et al.* 2015). **Kerman Province** (Jiroft), soil (Balooch Shahryari *et al.* 2011, 2012); (region not mentioned), soil (Ramroodi *et al.* 2013); (region not mentioned), soil and litter (Ramroodi *et al.* 2014b); (Majil), soil in olive orchard (Mahjoori *et al.* 2014); (Saravan, Emamzadeh Hashem, Rostamabad and Rudbar), soil (Ramroodi *et al.* 2015a). **Khuzestan Province** (region not mentioned), soil and nest of ant *P. pallidula* (Kamali *et al.* 2001). **Mazandaran Province** (Nowshahr), soil (Kazemi and Ahangaran 2011); (Nowshahr, Ecological (Botanical) Garden), soil and litter (Saberi *et al.* 2016). **Razavi Khorasan Province** (Mashhad), soil-litter and associated with ants' nest (Ghafarian *et al.* 2013a). **Tehran Province** (Shemiranat, Rudbar-Ghasran), soil, litter and humus (Cheraghali *et al.* 2012). **West Azarbaijan Province** (Urmia, Band), soil of apple orchard (Kavianpour *et al.* 2017). **Zanjan Province** (region not mentioned), soil (Bigdeli *et al.* 2014).

Laelaspis badrii Nasr and Nawar, 1989

Distribution and habitats. **Khuzestan Province** (Ahvaz), nest of *P. pallidula* (Nemati *et al.* 2000a).
Note – This species was collected by A. Nemati in 1998 during his M. Sc. thesis sampling. Initially identified as *Gymnolaelaps australicus* (Womersley, 1956) by W. Karg, it was reported from Iran by Nemati *et al*. (2000a), with its distribution data mentioned in Kazemi and Rajaei (2013, p. 86). Upon re-examination of the microslides, we discovered that it actually belongs to the *Laelaspis* genus. Based on important morphological characters, we identified it as *L. badrii* Nasr and Nawar, 1989. Consequently, the misidentification of *Gymnolaelaps australicus* (Womersley, 1956) is removed from the list of Iranian mesostigmatid mites, and *L. badrii* reported as a new addition to the Iranian mite fauna. In his revision of the generic concept and significant morphological attributes of the *Laelaspis* genus, Kazemi (2015) transferred this species (*L. badrii*) to the *Cosmolaelaps* genus as *C. badrii*. However, our thorough examination of two females and one male of this species confirmed

that it undeniably belongs to the *Laelaspis* genus. It possesses distinct characteristics such as the smooth anterior margin of the epistome, absence of presternal plates, position of the anterior margin of the sternal shield, widened epigynal shield posterior to coxae IV, and a unique reticulation pattern on the epigynal surface. These morphological traits, along with the shape of the dorsal shield setae and leg chaetotaxy, are crucial for identifying it in the *Laelaspis* genus, as originally described by Nasr and Nawar (1989). A detailed redescription of the female and a description of the male will be published soon. This marks the first report of this species in the Iranian mite fauna.

Laelaspis calidus Berlese, 1923a

Distribution and habitats. **Kerman Province** (Anar), nest of *P. pallidula* (Joharchi *et al.* 2012b; Joharchi 2012). **Khuzestan Province** (region not mentioned), soil (Nemati *et al.* 2017b).

Laelaspis dariusi Joharchi & Jalaeian, 2012

Distribution and habitats. **East Azarbaijan Province** (Maragheh), soil in orchards (Valizadeh *et al.* 2017). **Fars Province** (Neyriz), soil (Bazrafshan *et al.* 2013). **Guilan Province** (region not mentioned), soil (Ramroodi *et al.* 2013); (region not mentioned), soil and litter (Ramroodi *et al.* 2014b); (Roodbar, Majil), soil in olive orchard (Mahjoori *et al.* 2014); (Rudsar, Lahijan, Amlash, Fuman, Roudkhan Castle and Rostamabad), soil and leaf litter (Ramroodi *et al.* 2015b); (Saravan, Emamzadeh Hashem, Rostamabad and Rudbar), soil (Ramroodi *et al.* 2015a). **Mazandaran Province** (Lavij region of Nour County), soil, humus and litter (Ghasemi-Moghadam *et al.* 2014). **Razavi Khorasan Province** (Kalate Naderi, Laeen), soil of apple orchard (Joharchi *et al.* 2012b; Joharchi 2012). **Semnan Province** (Bastam, Owlang Jungle), soil (Ghorani *et al.* 2016).

Laelaspis elongatus Kazemi, Mehrzad & Latifi, 2016

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Farsan, Cholicheh), in soil in association with *T. karavaievi* (Khalili-Moghadam 2022). **Kerman Province** (Bam), under elytra of *Acinopus* (*Acinopus*) *picipes* (Olivier) (Col.: Carabidae). **Khuzestan Province** (Ahvaz), associated with *Pheidole pallidula* (Nylander) (Formicidae) (Kazemi *et al.* 2016a).

Laelaspis equitans (Michael, 1891)

Distribution and habitats. **Alborz Province** (Karaj, Dizin), nest of *Messor* sp. (Karaj, Damavand), nest of *Camponotus* sp. (Joharchi *et al.* 2012a). **Guilan Province** (region not mentioned), soil and litter (Ramroodi *et al.* 2014b). **Khuzestan Province** (region not mentioned), soil (Nemati *et al.* 2017b). **Tehran Province** (Area around Tehran), ex. *Messor* sp. and *Camponotus* sp. (Joharchi *et al.* 2011b). **West Azarbaijan Province** (Urmia, Band), soil of apple orchard (Kavianpour *et al.* 2017).

Laelaspis guilaniensis Ramroodi, Joharchi & Hajizadeh, 2014

Distribution and habitats. **Guilan Province** (Talesh, Gisoom forest), soil under alder trees in forest (Ramroodi *et al.* 2014c).

Laelaspis humeratus (Berlese, 1904c)

Distribution and habitats. **Alborz Province** (Karaj), nest of *T. casepitum* (Joharchi *et al.* 2012b; Joharchi 2012). **Guilan Province** (region not mentioned), soil and litter (Ramroodi *et al.* 2014b).

Khuzestan Province (region not mentioned), soil (Nemati *et al.* 2017b). **Mazandaran Province** (Nowshahr, Ecological (Botanical) Garden), soil and litter (Saberi *et al.* 2016).

Laelaspis imitatus Reitblat, 1963

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Lordegan, Ooreh; Koohrang, Dimeh), in soil in association with *C. Bakhtiyariensis; T. karavaievi* (Khalili-Moghadam 2022); **Chaharmahal va Bakhtiyari, Bushehr** and **Khuzestan 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 and 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). **Chaharmahal va Bakhtiyari Province** (Saman and Shahrekord), soil of ants' nest, *Tapinoma* sp. (Hym.: Formicidae) and soil of ants' nest, unknown ant (Hym.: Formicidae) (Khalili-Moghadam and Saboori 2015); (Lordegan County, Khanmirza region, Salehat Village), soil from different parts of oak forests (Bagheri Kordeshami *et al.* 2015); (Koohrang, Dashte laleh, Samsami (Cheri); Saman, Gharaghoosh; Kiar, Gahroo), in soil in association with *C. Bakhtiyariensis*; *L. neglectus*; *Ph. koshewnikovi* and *P. pallescens* (Khalili-Moghadam 2022). **East Azarbaijan Province** (forests of Arasbaran region), soil, leaf-litter and plant debris (Ordoukhanian *et al.* 2017). **Fars Province** (Shiraz County), soil (Keivani *et al*. 2018). **Khuzestan Province** (region not mentioned), soil (Nemati *et al.* 2017b). **Lorestan Province** (Kuhdasht), soil (Heydari *et al.* 2014a).

Laelaspis latisetus Saravani Rad *et al.*, 2019

Distribution and habitats. **Sistan va Baluchestan Province** (Zahak County), clinging to *Pheidole pallidula* (Saravani Rad *et al.* 2019).

Laelaspis morazae Kazemi, 2015

Distribution and habitats. **Isfahan Province** (Shahreza, Chaqad region), nest of unknown ant (Kazemi 2015). **Razavi Khorasan Province** (Mashad), *Lepisiota semenovi* (Ruzsky) (Formicinae) (Kazemi 2015).

Laelaspis mossadeghi Babaeian & Joharchi, 2013

Distribution and habitats. **East Azarbaijan Province** (Maragheh), soil in orchards (Valizadeh *et al.* 2017). **Guilan Province** (region not mentioned), soil and litter (Ramroodi *et al.* 2014b). **Lorestan Province** (Kuhdasht), soil (Heydari *et al.* 2014a).

Laelaspis natanziensis Masoomi, Joharchi & Jalalizand, 2016

Distribution and habitats. **Isfahan Province** (Natanz), in nest of *Tetramorium* sp. (Formicidae) (Masoomi *et al.* 2016).

Laelaspis nematii Khalili-Moghadam, 2024

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Koohrang County, Dashte

Laleh), nest materials of *Cataglyphis fritillariae* (Khalili-Moghadam 2024). **Khuzestan Province** (Ahwaz city, Shahid Chamran University campus), soil (Khalili-Moghadam 2024).

Laelaspis ovisugus (Berlese, 1903b)

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

Laelaspis pennatus Joharchi & Halliday, 2012

Distribution and habitats. **Fars Province** (Koohmare-Sorkhi, oak forest), soil and leaf litter (Yazdanpanah and Kazemi 2014a). **Guilan Province** (region not mentioned), soil (Ramroodi *et al.* 2013); (Rostamabad and Taklim), soil in olive orchard (Mahjoori *et al.* 2014); (region not mentioned), soil and litter (Ramroodi *et al.* 2014b); (Rasht, Vishka Nanak village), soil (Ghasemi and Hajizadeh 2021); (Rasht). **Isfahan Province** (Isfahan), nest of *T. casepitum* (Joharchi *et al.* 2012a; Joharchi 2012). **Lorestan Province** (Khorramabad), soil (Hasanvand *et al.* 2014a). **Semnan Province** (Bastam, Abarsij), soil (Ghorani *et al.* 2016).

Laelaspis persicus Joharchi & Halliday, 2012

Distribution and habitats. **Alborz Province** (Taleghan), nest of *P. pallidula* (Joharchi *et al.* 2012a; Joharchi 2012). **Guilan Province** (region not mentioned), soil and litter (Ramroodi *et al.* 2014b); (Rudbar), soil and leaf-litters (Ramroodi *et al.* 2015b). **Kerman Province** (Kerman City, parks and landscapes), soil (Arjomandi and Kazemi 2014b); (Kerman), nest of *Tetramorium* sp., in an alfalfa field (Kazemi 2015). **Khuzestan Province** (Dezful), soil and moss in lemon and orange orchard; (region not mentioned), soil (Nemati *et al.* 2017b). **Tehran Province** (Tehran), nest of an unknown ant (Kazemi 2015).

Laelaspis secedens (Berlese, 1920)

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

Laelaspis vitzthumi (Womersley, 1956)

Distribution and habitats. **Fars Province** (Marvdasht, Islamic Azad University, Fars Science and Research Branch), ex. apple bark beetles (Arabzadeh *et al.* 2012). **Kerman Province** (Kerman), cow manure (Arjomandi *et al.* 2013a). **Khuzestan Province** (Ahvaz), nest of *T. simorthi* (Nemati *et al.* 2000b).
Note – The above-mentioned species was recorded from Iran by some authors as *Pseudoparasitus vitzthumi*.

Genus *Myonyssus* Tiraboschi, 1904

Myonyssus gigas (Oudemans, 1912)

Distribution and habitats. **East Azarbaijan Province** (Aynalu region, Arasbaran Forests), soil and litter near an unknown small mammal nest (Kazemi and Mohammad-Doustaresharaf 2015); (Arasbaran Forests, Aynalu), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016a).

Genus *Myrmozercon* Berlese, 1902

Myrmozercon brachytrichos Joharchi, Arjomandi & Trach, 2017

Distribution and habitats. **Alborz Province** (Savojbolagh, Khoznan; Damavand Mountain), on the head of *Crematogaster inermis* Mayr (Formicidae) in the bark of grapevine (Joharchi *et al.* 2017). **Note –** This species has previously been reported as *Myrmozercon tauricus* Trach & Khaustov, 2011 from Alborz Province (Damavand Mountain), clinging to the head of *Crematogaster schmidti* (Mayr) (Formicidae) in the bark of grapevine (Joharchi and Moradi 2013). Joharchi *et al.* (2017) considered it a misidentification and described it as a new species as above.

Myrmozercon brevipes Berlese, 1902

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Saman), from the nest of *Tapinoma* sp. (Khalili-Moghadam and Nemati 2014b; Khalili-Moghadam and Saboori 2015); (Saman, Shoorab, Garmdareh; Ben, Larak; Shahrekord, Chaleshtor), in soil in association with *M. caducus; M. platyceras; T. karavaievi* (Khalili-Moghadam 2022).

Myrmozercon crinitus Joharchi, 2013

Distribution and habitats. **Alborz Province** (Karaj), on the head of soldiers of *Pheidole pallidula* (Formicidae) (Joharchi and Moradi 2013).

Myrmozercon cyrusi Ghafarian & Joharchi, 2013

Distribution and habitats. **Razavi Khorasan Province** (Mashhad County), nest of *Monomorium* sp. (Ghafarian *et al.* 2013b).

Myrmozercon hunteri Joharchi, Babaeian & Seeman, 2015

Distribution and habitats. **Alborz Province** (Savojbolagh, Khoznan), on the abdomen of soldiers of *Myrmica* sp. (Formicidae) (Joharchi *et al.* 2015).

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).

Myrmozercon sternalis Babaeian, Joharchi & Saboori, 2013

Distribution and habitats. **Alborz Province** (Karaj, Najm Abad), in the nest of *Formica* sp. (Babaeian *et al*. 2013). **Chaharmahal va Bakhtiyari Province** (Saman), associated with ant nest, (Khalili-Moghadam and Nemati 2014b; Khalili-Moghadam and Saboori 2015); [Koohrang, Dashte laleh, Sodajan, Samsami (Cheri)], in soil in association with *C. Bakhtiyariensis; Cataglyphis fritillariae; M. platyceras; P. koshewnikovi* (Khalili-Moghadam 2022).

Genus *Ololaelaps* Berlese, 1904a

Ololaelaps elongatus Babaeian, 2019

Distribution and habitats. **Kurdestan Province** (Marivan-Saghez), soil detritus (Babaeian *et al.* 2019a).

Ololaelaps mooiensis Ryke, 1962

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), soil of unknown ants' nest (Khalili-Moghadam and Saboori 2015). **East Azarbaijan Province** (Arasbaran forests), soil, leaf-litter and plant debris (Ordoukhanian *et al.* 2017); (Maragheh region), soil in orchards (Valizadeh *et al.* 2017). **Fars Province** (Shiraz County), soil (Keivani *et al*. 2018). **Golestan Province** (Gorgan region forests), soil and litter (Arjomandi and Kazemi 2014a). **Guilan Province** (region not mentioned), soil and litter (Ramroodi *et al.* 2014b); (Saravan, Emamzadeh Hashem), soil (Ramroodi *et al.* 2015a). **Khuzestan Province** (Ahvaz), soil (Nemati *et al.* 2000a; Kamali *et al.* 2001); (Ahvaz), soil (Baharloo *et al.* 2006); (region not mentioned), soil (Nemati *et al.* 2017b). **Lorestan Province** (Khorramabad), soil (Hasanvand *et al.* 2014a). **Semnan Province** (Shahrood, Abarsij, Owlang Jugle, Hezar Pich), soil (Ghorani *et al.* 2016).
Note – *Ololaelaps gamagarensis* Jordan & Loots, 1987 was considered as a junior synonym of above-mentioned species by Nemati *et al*. (2018).

Ololaelaps placentula (Berlese, 1887d)

Distribution and habitats. **East Azarbaijan Province** (Maragheh region), soil in orchards (Valizadeh *et al.* 2017). **Fars Province** (Northwestern), soil and debris (Abolghasemi and Kazemi 2016). **Golestan Province** (Gorgan), soil and litter (Kazemi *et al.* 2012); (Gorgan region forests), soil and litter (Arjomandi and Kazemi 2014a). **Kerman Province** (Bam), soil (Mehrzad *et al.* 2012); (Jiroft), soil (Balooch Shahryari *et al.* 2012). **Khuzestan Province** (region not mentioned), soil (Nemati *et al.* 2017b). **Mazandaran Province** (Nowshahr), soil and litter (Kazemi *et al.* 2012). **Razavi Khorasan Province** (Mashhad), soil, litter and associated with ants' nest (Ghafarian *et al.* 2013a). **Tehran Province** (Tehran), soil (Joharchi *et al.* 2011b).

Ololaelaps placidus (Banks, 1895)

Distribution and habitats. **Ardabil Province** (Moghan Plain), cotton fields (Kamali *et al.* 2001). **East Azarbaijan Province** (Tabriz), soil of orchards (Kamali *et al.* 2001). **Hamedan Province** (region not mentioned), alfalfa and wild sainfoin (Kamali *et al.* 2001).

Ololaelaps sellnicki Bregetova & Koroleva, 1964

Distribution and habitats. **West Azarbaijan Province** (Urmia. Näzlü), soil of apple orchard; (Näzlü dam), soil; (Band), soil of apple orchard (Kavianpour *et al.* 2017).

Ololaelaps sinensis Berlese, 1923

Distribution and habitats. **Golestan Province** (Gorgan region forests), soil and litter (Arjomandi and Kazemi 2014a). **Guilan Province** (region not mentioned), soil and litter (Ramroodi *et al.* 2013; Ramroodi *et al.* 2014b); (Roodbar, Majil), soil in olive orchard (Mahjoori *et al.* 2014).
Note– The above authors have reported this species from Iran as *Ololaelaps ussuriensis* Bregetova & Koroleva, 1964, but it was considered as a junior synonym of *O. sinensis* by Ma (2016).

Genus *Persicolaelaps* Kazemi & Beaulieu, 2016

Persicolaelaps hallidayi Kazemi & Beaulieu, 2016

Distribution and habitats. **Golestan Province** (Qarn-Abad Forest) (Kazemi and Beaulieu 2016). **Mazandaran Province** (Noor), rotten wood, soil and litter (Kazemi and Beaulieu 2016).

Genus *Pogonolaelaps* Nemati & Gwiazdowicz, 2016

Pogonolaelaps beaulieui Nemati & Gwiazdowicz, 2016

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), soil; (Shahrekord University), nest materials of unknown ant; (Saamaan, Cham-Khalifeh), walnut rooting wood (Nemati and Gwiazdowicz 2016a); (Ben, Bardeh; Saman, Gharaghoosh), in rooting wood in association with *L. neglectus* (Khalili-Moghadam 2022). **Mazandaran Province** (Nowshahr, Ecological (Botanical) Garden), soil and litter (Saberi *et al*. 2016).

Pogonolaelaps canestrinii (Berlese, 1892d)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Lordegan, Khanmirza region, Salehat Village, Central region, Abchenar Armand Village, Pol-e-Armand Village), soil from different parts of oak forests (Bagheri Kordeshami *et al.* 2015); [Boldaji (Cheghakhor)], soil of ants' nest, *Tapinoma* sp. (Hym.: Formicidae) (Khalili-Moghadam and Saboori 2015); (Shahrekord, Lordegan, Naghan and Ben), soil (Nemati and Gwiazdowicz 2016a). **East Azarbaijan Province** (Maragheh), soil in orchards (Valizadeh *et al.* 2017). **Fars Province** (Neyriz), soil (Bazrafshan *et al.* 2013); (Shiraz County), soil (Keivani *et al*. 2018). **Guilan Province** (region not mentioned), soil (Ramroodi *et al.* 2013); (region not mentioned), soil and litter (Ramroodi *et al.* 2014b); (Rostamabad and Majil), soil in olive orchard (Mahjoori *et al.* 2014); (Saravan, Emamzadeh Hashem, Rostamabad and Rudbar), soil (Ramroodi *et al.* 2015a). **Isfahan Province** (Isfahan, Kashan and Shahreza), soil (Nemati and Gwiazdowicz 2016a); (Isfahan), soil of urban green spaces (Karbasian *et al*. 2022). **Khuzestan Province** (Ahvaz), nest of unknown ant; (Baghmalek), soil; (Ghaletol), soil and nest materials of unknown ant; (Izeh and Masjed-Soleiman), soil (Nemati and Gwiazdowicz 2016a). **Lorestan Province** (Khorramabad), soil (Hasanvand *et al.* 2014a). **Mazandaran Province** (Lavij region of Nour County), soil, humus and litter (Ghasemi-Moghadam *et al.* 2014); (Nowshahr, Ecological (Botanical) Garden), soil and litter (Saberi *et al.* 2016). **North Khorasan Province** (region not mentioned), associated with the nests of *Tapinoma* sp. (Formicidae) (Rezaei *et al.* 2016). **Razavi Khorasan Province** (Mashhad), soil-litter and associated with ants' nest (Ghafarian *et al.* 2013a); (Mashhad County), soil and manure (Abbaspour *et al.* 2017). **Semnan Province** (Moghan, Shahrood, Kharqan, Deh Kheyr, Bastam, Meyami, Mojen, Abarsij, Hezar Pich), soil (Ghorani *et al.* 2016). **Tehran Province** (Shemiranat, Rudbar-Ghasran), soil, litter and humus (Cheraghali *et al.* 2012); (region not mentioned), ex. *Tetramorium caespitum* L. (Joharchi 2012); [Rodbar ghasran region (Shemiranat)], soil and litter (Joharchi and Halliday 2013); (Tehran, Varamin, Shahr-e Rey, Firouzkooh, Dmavand region), soil, leaf litter and dung, green spaces and orchards (Baroozeh *et al.* 2013); (Tehran City, Police Park), soil (Maleki *et al.* 2016). **West Azarbaijan Province** (Urmia, Rashkän), soil of apple orchard; (Band), soil of apple orchard; (Näzlü road), soil of apple orchard (Kavianpour *et al.* 2017). **Zanjan Province** (region not mentioned), soil (Bigdeli *et al.* 2014).
Note – Some authors reported this species as *Gymnolaelaps canestrinii* (Berlese, 1903), *Laelaspisella berlesei* Joharchi *et al.* (2016), and *Laelaspisella canestrinii* (Berlese, 1903) from Iran. For more information, see Joharchi *et al*. (2020).

Pogonolaelaps termitophilus Joharchi, Ramroodi & Halliday, 2020

Distribution and habitats. **Sistan va Baluchestan Province** (Zabol, Sistan region), on *Microcerotermes* sp. (Blattodea: Termitidae); (Sistan region), in nest of *Microcerotermes* sp. (Blattodea: Termitidae) (Joharchi *et al.* 2020).

Genus *Pneumolaelaps* Berlese, 1920

Pneumolaelaps colomboi (Evans & Till, 1966)

Distribution and habitats. **Ardabil Province** (Meshkinshahr, Shahbil region), associate with nest of *Bombus armeniacus* (Hymenoptera, Apidae) colony (Azhari *et al.* 2011). **Tehran Province** (Area around Tehran), ex. *Bombus* sp. (Joharchi *et al.* 2011b).

Pneumolaelaps hyatti (Evans & Till, 1966)

Distribution and habitats. **Ardabil Province** (Meshkinshahr, Shahbil region), associate with nest of *B. armeniacus* (Hymenoptera, Apidae) colony (Azhari *et al.* 2011). **Region not mentioned**, ex. *Bombus* sp. (Joharchi 2012).

Genus *Promacrolaelaps* Costa, 1971

Promacrolaelaps propomacrus Joharchi, Halliday & Beyzavi, 2013

Distribution and habitats. **Fars Province** (Kamfiruz region), on adult of *Propomacrus bimucronatus* (Joharchi and Beyzavi (2012); Joharchi *et al.* 2013).

Genus *Pseudoparasitus* Oudemans, 1902d

Pseudoparasitus hajiqanbari Kazemi, 2014

Distribution and habitats. **Golestan Province** (Gorgan, Ghorogh forest), litter (Malekshah-koohi *et al.* 2014); (Jafarabad, Forest Park), forest litter (Kazemi 2014). **Mazandaran Province** (Sisangan Forest Park), forest litter (Kazemi 2014); (Nour County, Lavij region), soil, humus and litter (Ghasemi-Moghadam *et al.* 2014). **Semnan Province** (Hezar Pich), soil (Ghorani *et al.* 2016).
Note – Malekshahkoohi *et al*. (2014) described a new species of the *Pseudoparasitus* genus, *P. talebii* Nemati, Malekshahkoohi & Afshari, 2014. The paper was initially released in electronic form on 12 January 2014 in the *Journal of Crop Protection*. Based on information from the *Journal of Crop Protection's* website, the printed edition of Malekshahkoohi *et al*.'s (2014) paper and the name *P. talebii* were published in June 2014 (volume 3, number 2). This is the publication date of *P. talebii* in its printed form. The same species was also described and published by Kazemi (2014) as *P. hajiqanbari* Kazemi, 2014, a few days later in electronic form in the *Persian Journal of Acarology* on 15 January 2014. Despite *P. talebii* being published earlier, it has been deemed a junior synonym of *P. hajiqanbari* by Nemati *et al.* (2018). Taking both electronic publications into account, the publication of Malekshahkoohi *et al*. (2014) was not registered in ZooBank. Consequently, the name *P. talebii* is not available from its electronic form and should be regarded as a nomen nudum until its printed edition is available. On the other hand, Kazemi's (2014) publication was properly registered in ZooBank on 15 January 2014, the date of publication of the name *P. hajiqanbari*. As a result, *P. hajiqanbari* is considered the senior and valid name for this species, while *P. talebii* becomes its junior synonym.

Pseudoparasitus missouriensis (Ewing, 1909)

Distribution and habitats. **Alborz Province** (Karaj, Shahrestanak), nest of *Camponotus* sp. (Joharchi *et al.* 2011a); (region not mentioned), soil (Keshavarz Jamshidian and Babaeian 2013). **Chaharmahal va Bakhtiyari Province** (Shahrekord), ants' nest (Babaeian *et al.* 2010); (Boldaji City (Cheghakhor)), soil of ants' nest, *Tapinoma* sp. (Hym.: Formicidae) (Khalili-Moghadam and Saboori 2015); (Lordegan County, Monj region, Pal Borideh Village; Joub Nesa Village; Khanmirza region,

Salehat Village), soil from different parts of oak forests (Bagheri Kordeshami *et al.* 2015). **East Azarbaijan Province** (Tabriz), soil and foliage of poplar and elm trees (Rahbar Shahlan *et al.* 2014); (Arasbaran Forests), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016b); (Arasbaran Forests, Kalaleh, Garmanab), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016a); (forests of Arasbaran Region), soil, leaf-litter and plant debris (Ordoukhanian *et al.* 2017); (Maragheh), soil in orchards (Valizadeh *et al.* 2017). **Fars Province** (Neyriz), soil (Bazrafshan *et al.* 2013). **Golstan Province** (Gorgan), soil (Kazemi *et al.* 2011a). **Guilan Province** (region not mentioned), soil, decaying plants and stored products (Hajizadeh *et al.* 2010b, c); (region not mentioned), soil and litter (Ramroodi *et al.* 2014b); (Saravan, Emamzadeh Hashem and Rostamabad), soil (Ramroodi *et al.* 2015a); (Rasht), associated with an ant from Formicidae (Hajizadeh and Hosseini 2022). **Kerman Province** (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020). **Lorestan Province** (Kuhdasht), soil (Heydari *et al.* 2014a); (Khorramabad), soil (Hasanvand *et al.* 2014a). **Mazandaran Province** (Nowshahr), soil (Kazemi and Ahangaran 2011). **North Khorasan Province** (region not mentioned), associated with the nests of *Messor* sp., *Tapinoma* sp. and *Pheidole* sp. (Formicidae) (Rezaei *et al.* 2016). **Qom Province** (region not mentioned), soil, dung, compost and plant-litters of crops, lawns, shrubs and trees in farms, forests, orchards and parks (Agha Alikhani *et al.* 2017). **Razavi Khorasan Province** (Mashhad), soil-litter and associated with ants' nest (Ghafarian *et al.* 2013a). **Tehran Province** (Shemiranat, Rudbar-Ghasran), soil, litter and humus (Cheraghali *et al.* 2012). **West Azarbaijan Province** (Salmas), soil and plant debris of apple orchards (Alizadeh *et al.* 2011). **Zanjan Province** (region not mentioned), soil (Bigdeli *et al.* 2014).

Notes – 1. The genus placement of *Pseudoparasitus missouriensis* (Ewing, 1909) is not stable in terms of choosing its appropriate genus. It is clear that most of its important morphological characteristics do not match with the characteristics of the *Pseudoparasitus*. Therefore, to determine its taxonomic position as well as some other similar and close species, it is necessary to carry out a detailed study. Until this study is done, and the new position is proposed, we temporarily report it in this genus, but we still believe that this genus is not suitable for expressing the morphological characteristics of this species. **2.** Hajizadeh *et al.* (2010b, c) and Alizadeh *et al.* (2011) reported *Laelaspis austriacus* Sellnick, 1935 from Guilan and West Azarbaijan Provinces, respectively which is considered as a junior synonym of *P. missouriensis* (Hennessey and Farrier 1988).

Pseudoparasitus ovatulus (Halbert, 1915)

Distribution and habitats. **Alborz Province** (region not mentioned), soil (Keshavarz Jamshidian and Babaeian 2013). **East Azarbaijan Province** (Arasbaran Forests), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016b); (Arasbaran Forests, Aynalu, Garmanab), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016a); (forests of Arasbaran region), soil, leaf-litter and plant debris (Ordoukhanian *et al.* 2017); (Maragheh), soil in orchards (Valizadeh *et al.* 2017). **Guilan Province** (region not mentioned), soil (Ramroodi *et al.* 2013); (Majil and Rostamabad), soil in olive orchard (Mahjoori *et al.* 2014); (region not mentioned), soil and litter (Ramroodi *et al.* 2014b); (Saravan, Emamzadeh Hashem, Rostamabad, Rudbar), soil (Ramroodi *et al.* 2015a). **Mazandaran Province** (Ramsar, Tonekabon), soil and litter, manure (Kazemi and Ahangaran 2011). **Semnan Province** (Owlang Jungle), soil (Ghorani *et al.* 2016). **Tehran Province** (Area around Tehran), soil (Joharchi *et al.* 2011b). **West Azarbaijan Province** (Urmia, Rashkän), soil of apple orchard (Kavianpour *et al.* 2017).

Notes – 1. *Pseudoparasitus dentatus* (Halbert, 1920) was previously reported in Iran by the authors mentioned above. However, Luxton, 1998, as cited in Moraes *et al*. (2022), considered this species to be a junior synonym of *P. ovatulus*. **2.** Kazemi and Rajaei, based on Joharchi *et al*. (2011a), stated that *Pseudoparasitus prulatus* Karg, 1989, which was reported by Kamali *et al*. (2001) from the soil of orchards in Tabriz (East Azarbaijan Province), is a misidentified species. A. Nemati examined one slide of the aforementioned species some years ago, and we also examined other specimens collected

from the same area. This species is closely related to *P. prulatus* but exhibits some morphological differences that may warrant its consideration as a new species for science. Based on our observations, we support the findings of Joharchi *et al*. (2011a), as well as Kazemi and Rajaei (2013), and recommend the removal of this species' name from the list of Iranian mesostigmatid mites. **3.** We excluded *Pseudoparasitus holaspis* (Oudemans, 1902) from our research. This particular species has been documented by Darvishzadeh and Kamali (2009) and was introduced as a species with ambiguous identification by Kazemi and Rajaei (2013).

Genus *Reticulolaelaps* Costa, 1968a

Reticulolaelaps costai Joharchi & Babaeian, 2015

Distribution and habitats. **Qazvin Province** (Savojbolagh, Khoznan), associated with *Tapinoma* sp. (Joharchi and Babaeian 2015).

Reticulolaelaps elsae (Joharchi, Babaeian & Jalalizand, 2016)

Distribution and habitats. **Isfahan Province** (Isfahan), bark of elm trees (Joharchi *et al.* 2016a; Nemati *et al.* 2019).
Note – This species was described as *Laelaspisella elsae* Joharchi *et al.*, 2016, but transferred to the *Reticulolaelaps* genus by Nemati *et al*. (2019).

Reticulolaelaps faini Costa, 1968a

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Lordegan). **Fars Province** (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017). **Khuzestan Province** (Izeh, Ghaletol), soil (Nemati *et al.* 2013c; Nemati *et al.* 2019); (region not mentioned), soil (Nemati *et al.* 2017b). **Lorestan Province** (Khorramabad), soil (Hasanvand *et al.* 2014a). **Razavi Khorasan Province** (Mashhad), soil, litter and associated with ants' nest (Ghafarian *et al.* 2013a).

Reticulolaelaps hallidayi Joharchi, Nemati & Babaeian, 2013

Distribution and habitats. **Alborz Province** (Taleghan), in the nest of unknown species of *Tapinoma* (Nemati *et al.* 2013c). **Chaharmahal va Bakhtiyari Province** [Kohrang (Dasht Laleh)], nest of *Messor* sp. (Formicidae), Bazoft region (Shykh Ali Village), ant nest of *Cataglyphis* sp., (Mavarz Village), ant nest of *Camponotus* sp., (Sartang Village), ant nest of *Lepisiota* sp., Samsami region (Chery Mountain), ants' nest of *Pheidole* sp. and *Tetramorium* sp. (Nemati *et al.* 2019). **Khuzestan Province** (region not mentioned), soil (Nemati *et al.* 2013c); (Izeh), soil (Nemati *et al.* 2019). **Lorestan Province** (Kuhdasht District), soil (Heydari *et al.* 2014a).

Reticulolaelaps sp.

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

Genus *Stratiolaelaps* Berlese, 1916

Stratiolaelaps miles (Berlese, 1892b)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), soil (Babaeian *et al.* 2010). **Fars Province** (region not mentioned), stored wheat, barely and rice (Kamali *et al.* 2001); (Shiraz County), soil (Keivani *et al*. 2018). **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). **Hormozgan Province** (Minab), associated with soil under mango trees (Dolati and Ostovan 2017b). **Isfahan Province** (Isfahan), soil (Khalili-Moghadam *et al.* 2012). **Kerman Province** (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020). **Khuzestan Province** (Ahvaz), soil (Nemati *et al.* 2000a); nest of birds and stored wheat (Kamali *et al.* 2001). **West Azarbaijan Province** (Urmia), stored wheat (Kamali *et al.* 2001). **Tehran Province** (Tehran, Shahid Beheshti University Campus), soil (Kamali *et al.* 2004).
Note – *Stratiolaelaps gurabensis* (Fox, 1946) was reported by Kamali *et al.* (2001) from Fars Province (with the above-mentioned data), but was considered as a junior synonym of *S. miles* by Evans and Till (1966).

***Stratiolaelaps scimitus* (Womersley, 1956)**

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), different habitats (Nemati *et al.* 2017a). **Khuzestan Province** (region not mentioned), soil (Nemati *et al.* 2017b).

Genus *Tropilaelaps* Delfinado & Baker, 1961

***Tropilaelaps clareae* Delfinado & Baker, 1961**

Distribution and habitats. Province and region not mentioned, beehives (Sammataro *et al.* 2000; Baker *et al.* 2005).

Family Macronyssidae Oudemans, 1936
Genus *Macronyssus* Kolenati, 1958b

***Macronyssus granulosus* (Kolenati, 1856)**

Distribution and habitats. **Kohgiluyeh va Boyer-Ahmad Province** (Kiler Cave, in the northwest of Yasuj), ectoparasite on bat *Miniopterus schreibersii* (Malek Hosseini *et al*. 2016).

Genus *Ophionyssus* Megnin, 1884

***Ophionyssus natricis* (Gervais, 1844)**

Distribution and habitats. **Mazandaran Province** (Sari), on the body of Python snake (Amanatfard *et al*. 2014).

Genus *Ornithonyssus* Sambon, 1928

***Ornithonyssus bacoti* (Hirst, 1913)**

Distribution and habitats. Generally distributed (region not mentioned), various species of rats, house mouse and man (Kamali *et al.* 2001). **Ardabil Province** (Meshkinshahr), *M. musculus* (Mohebali *et al.* 1997). **Chaharmahal va Bakhtiyari Province** (Sharekord), ex. mice (Nemati *et al.* 2008a). **Hormozgan Province** (Bandar Abbas), *T. indica* (Hanafi-Bojd *et al.* 2007). **Kermanshah Province** (Sarpole-Zahab District), on *M. musculus*, *M. persicus* and *T. indica* (Telmadarraiy *et al.* 2007). **Khuzestan Province** (Ahvaz), ex. *Rattus rattus* L., *Rattus norvegicus* Berkenhout and *Mus musculus* L. (Nemati *et al.* 2000c); (Ahvaz), on the body of human (Rahdar and Vazirianzadeh 2009). **Lorestan Province** (region not mentioned), *T. indica* (Rafinejad *et al.* 2005). **North Khorasan Province** (Esfarayen and Shirvan County). **Northwest of Iran** (region not mentioned), on *M. musculus* (Allymehr *et al.* 2012). **Semnan Province** (Damghan and Shahrood), on *Rhombomys opimus*

(Tajedin *et al.* 2009). **Tehran Province** (Evin, Darake, Velenjak, Darband and Dar-Abad), on *R. norvegicus* (Pakdad *et al.* 2012).

Ornithonyssus bursa (Berlese, 1888b)

Distribution and habitats. **Fars Province** (Shiraz), collected from the houses of patients referred to the asthma and allergy by vacuum cleaner (Shafei *et al.* 2020). **Mazandaran Province** (region not mentioned), breeder flock (Rahbari *et al.* 2009).

Ornithonyssus sylviarum (G. Canestrini & Fanzago, 1877a)

Distribution and habitats. **Fars Province** (Shiraz), collected from the houses of patients referred to the asthma and allergy by vacuum cleaner (Shafei *et al.* 2020). **Lorestan Province** (Zagheh, Pol-e-Horou, Shurab, Chamsangar, Keshvar and Weisian), *Meriones persicus*, (Chaghalvandi and South Beiranvand), *Calomyscus bailwardi*, (Razan), *Cricetulus migratorius* and (Taf), *Rattus rattus* (Rafinejad *et al.* 2005); (Khoram-Abad District), on rodents (Shayan and Rafinejad 2006). **North Khorasan Province** (Tandoureh National Park), on Mourning Wheatear *Oenanthe lugens* (Turdidae) (Moodi *et al.* 2014).

Ornithonyssus sp.

Distribution and habitats. **Ardabil Province** (Meshkin-Shahr County), ectoparasite on *Meriones persicus*, *Mus musculus*, and *Cricetulus migratorius* (Zarei *et al.* 2017). **Khuzestan Province** (region not mentioned), associated with honeybee hives (Mossadegh 1997).

Genus *Steatonyssus* Koletani, 1858b

Steatonyssus periblepharus Kolenati, 1858b

Distribution and habitats. **Khuzestan Province** (Ahvaz, Shahid Chamran University campus), on the body of bat (Kavianpour *et al.* 2012). **Fars Province** (Hesar), collected from body of bat *Pipistrellus kuhlii* (Benda *et al.* 2012).

Steatonyssus sp.

Distribution and habitats. **Fars Province** (Hesar), collected from the body of bat *P. pipistrellus* (Benda *et al.* 2012).

Family Pseudolaelapidae Evans & Till, 1966
Genus *Pseudolaelaps* Berlese, 1916

Pseudolaelaps doderoi (Berlese, 1910a)

Distribution and habitats. **Golestan Province** (region not mentioned). Soil, decayed wood, moss and litter (Malek-Shahkouyi *et al.* 2011a). **Lorestan Province** (Khorramabad), orchard (Hasanvand *et al.* 2015). **Mazandaran Province** (Nowshahr, Narenjbon), litter, (Chalus, Roshandarreh), litter and humus, (Ramsar), litter and humus (Kazemi and Ahangaran 2011); (Nowshahr, Ecological (Botanical), garden of Nowshahr), soil and litter (Saberi *et al.* 2016).

Pseudolaelaps laevidorsatus Mašán, Hajizadeh & Ramroodi, 2015

Distribution and habitats. **Guilan Province** (Talesh, Asalem, Fuman, Rasht), soil detritus of alder

trees (*Alnus glutinosa*); (Sangar, Shahrestan Village), soil detritus of elm forest (Ulmus carpinifolia); (Saravan), soil detritus of deciduous forest, oak forest (*Ulmus* sp., *Quercus castaneifolia*, *Alnus glutinosa* and *Parrotia persica*); (Rezvanshahr Punel Village), decomposing plant remnants of deciduous forest; (Rudsar, Kelachai, Javaher Dasht Village), soil detritus of deciduous forest (*Ulmus* sp., *Quercus* sp. and *Alnus glutinosa*); (Shaft, Chubar Village), decomposing plant remnants of deciduous forest; (Siahkal, Daylaman), soil detritus of unknown bush plant (Mašán *et al.* 2015).

***Pseudolaelaps semiduplicans* Mašán, Hajizadeh & Ramroodi, 2015**

Distribution and habitats. **Guilan Province** (Rasht, Saravan Forest), soil detritus of deciduous forest (*Ulmus* sp., *Quercus* sp., *Alnus glutinosa* and *Parrotia persica*); (Fuman), soil detritus of alder forest (*Alnus glutinosa*); (Shaft, Chubar Village), decomposing plant remnants of deciduous forest (Mašán *et al.* 2015).

***Pseudolaelaps venustulus* Mašán, Hajizadeh & Ramroodi, 2015**

Distribution and habitats. **Guilan Province** (Masal, Shanderman Village), decomposing plant remnants, soil detritus of orchard and maple forest (with *Acer platanoides*); (Rudbar, Rostamabad), soil detritus of vegetation with walnut trees (*Juglans regia*); (Rudsar), soil detritus of vegetation with hazelnut trees (*Corylus avellana*); (Talesh, Gisum Forest), moss (Mašán *et al.* 2015).

Family Rhinonyssidae Trouessart, 1895

Genus *Ptilonyssus* Berlese & Trouessart, 1889

***Ptilonyssus hirsti* (Castro & Periera, 1947)**

Distribution and habitats. **North Khorasan Province** (Kalat Nader and Bojnord), on *Passer montanus* and *Passer domesticus* (Passeridae) (Moodi *et al.* 2014).

***Ptilonyssus icteridius* Strandtmann & Furman, 1956**

Distribution and habitats. **North Khorasan Province** (Tandoureh National Park), on red-headed bunting *Emberiza bruniceps* (Emberizidae) (Moodi *et al.* 2014).

***Ptilonyssus pirangae* (Cerny, 1969)**

Distribution and habitats. **North Khorasan Province** (Shirvan), on common greenfinch *Carduelis chloris* (Fringillidae) (Moodi *et al.* 2014).

***Ptilonyssus* sp.**

Distribution and habitats. **North Khorasan Province** (Kashmar and Ghaen), on *Carduelis cannabina C. chloris and C. obsolete* (Moodi *et al.* 2014).

Family Spinturnicidae Oudemans, 1902

Genus *Meristaspis* Kolenati, 1857

***Meristaspis lateralis* (Kolenati, 1856)**

Distribution and habitats. **Fars Province** (Bishapur cave), ectoparasite of bat (Benda *et al*. 2012); (Shafagh Cave, about 75 km north-west of Jahrom city), ectoparasite on *Miniopterus schreibersii*,

Rousettus aegyptiacus and *Myotis blythii* (Malek Hosseini *et al*. 2016). **Hormozgan Province** (Bongaru, Hazarmani Mts. Podonu, Chahar Dahaneh, Zangard), ectoparasite of bat (Benda *et al*. 2012).
Note – An undetermined species of this family was also reported from Kermanshah Province (Mahi-Dasht Limy Cave) as a parasite on *Myotis blythii* by Vatandoost *et al*. (2010).

Genus *Spinturnix* von Heyden, 1826

Spinturnix andegavinus Deunff, 1977

Distribution and habitats. **Zanjan Province**, ectoparasite on lesser mouse-eared bats, *Myotis blythii* (Tomes, 1857) (Hemati *et al*. 2013).

Spinturnix myoti (Kolenati, 1856)

Distribution and habitats. **Fars Province** (Tadovan, Tadovan Cave), ectoparasite on bats *Myotis blythii* and *Myotis capaccinii* (Benda *et al.* 2012). **Golestan Province** (Ali Abad), ectoparasite on bat *Myotis blythii* (Benda *et al.* 2012). **Kohgiluyeh va Boyer-Ahmad Province** (Gakal Cave, East of Gachsaran), ectoparasite on *Myotis blythii* (Malek Hosseini *et al*. 2016).

Spinturnix psi (Kolenati, 1856)

Distribution and habitats. **Ardabil Province** (Dashkasan, Dashkahul cave), ectoparasite of bat *Miniopterus pallidus* Thomas (Benda *et al*. 2012). **Fars Province** (Tadovan cave, Bishapur: cave at the Sasan spring, Hesar), ectoparasite on *Myotis capaccinii* and *Miniopterus pallidus* (Benda *et al*. 2012); (Shafagh Cave, about 75 km north-west of Jahrom city), ectoparasite on bat *Miniopterus schreibersii* (Malek Hosseini *et al*. 2016). **Ilam Province** (Mormori), ectoparasite of bat *Miniopterus pallidus* (Benda *et al*. 2012). **Kohgiluyeh va Boyer-Ahmad Province** (Meymand), ectoparasite of bat *Miniopterus pallidus* (Benda *et al*. 2012); (Kiler Cave, in the northwest of Yasuj), ectoparasite on bat *Miniopterus schreibersii*, *Myotis blythii*, (Gakal Cave, East of Gachsaran), ectoparasite on bat *Rhinopoma microphyllum* (Malek Hosseini *et al*. 2016). **Razavi Khorasan Province** (Mina), ectoparasite of bat *Miniopterus pallidus* (Benda *et al*. 2012).

Spinturnix sp.

Distribution and habitats. This undetermined species from *acuminata* group was collected from the body of bat *Pipistrellus kuhlii* by Benda *et al*. (2012).
Note – An undetermined species of this genus (*Spinturnix* sp.) was reported from Kermanshah Province (Mahidasht Cave), Kordestan Province (Karafto Cave), and Hamadan Province (Ghaladidar Cave) (Sharifi *et al*. 2008).

Family Varroidae Delfinado & Baker, 1974
Genus *Euvarroa* Delfinado & Baker, 1974

Euvarroa sinhai Delfinado & Baker, 1974

Distribution and habitats. **Different parts of Iranian Provinces**, Beehives and colonies, (Mossadegh and Komeili 1986, Mossadegh 1991). **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), honeybee hives (Mosaddegh 1998; Kamali *et al.* 2001). **Alborz, Ardabil, Isfahan Guilan, Khorasan (Suoth, North and Razavi), Kurdestan, Mazandaran, Sistan va Balouchistan** and **Tehran Provinces** (region not mentioned), *Apis mellifera* (Farjamfar *et al.* 2017). **Ardabil, Alborz, Markazi, North Khorasan, Qazvin, Qom,** and **Semnan Provinces** (region not mentioned), from stayed apiaries without migration (Dadgostar and Nozari 2018). **Isfahan Province** (Isfahan), soil of urban green spaces *(*Karbasian et al. 2022). **Tehran Province** (region not mentioned), honeybee hives (Rahmani *et al.* 2006).

Note [quoted from Kazemi and Rajaei (2013) and follow here] **–** "Anderson & Trueman (2000) demonstrated that most of the 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 Berlese, 1913
Family Eviphididae Berlese, 1913a
Genus *Alliphis* Halbert, 1923

Alliphis carinatus Mašán & Babaeian, 2016

Distribution and habitats. **Khuzestan Province** (Ahvaz City, Shahid Chamran University), on *Copris* sp. (Mašán *et al*. 2016).

Alliphis halleri (G. & R. Canestrini, 1881)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord region, Saman City), soil of ants' nest, *Tapinoma* sp. (Hym.: Formicidae) (Khalili-Moghadam and Nemati 2014b; Khalili-Moghadam and Saboori 2015); (Koohrang, Dimeh, Samsami (Dezhdaran), Sodejan; Saman, Hoseinabad, Gharaghoosh; Shahrekord, Nafch; Ben, Bardeh, Karsenak; Kiar, Gahroo, Kharaji), in soil and rooting wood in association with *Camponotus bakhtiyariensis*; *Camponotus xerxes*; *L. neglectus*; *M. platyceras*; *P. koshewnikovi*; *Plagiolepis pallescens*; *Solenopsis* sp. (Khalili-Moghadam 2022); (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2022b). **East Azarbaijan Province** (forests of Arasbaran region), soil, leaf-litter and plant debris (Ordoukhanian *et al.* 2017). **Fars Province** (Estahban), associated with fig trees, soil, leaves, fruits, and trunk samples (Daneshnia and Akrami 2013); (Koohmare-Sorkhi region), oak forests (Kazemi and Yazdanpanah 2013b); (Koohmare-Sorkhi region, oak forest), soil and leaf litter (Yazdanpanah and Kazemi 2014a); (region not mentioned), soil and debris (Abolghasemi and Kazemi 2016); (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017). **Golestan Province** (Gorgan), soil (Kazemi *et al.* 2011a); (region not mentioned), associated with ornamental plants (Hamidi *et al.* 2013). **Hamedan Province** (Sarab Gamasiab of Nahavand vicinity), from soil and litter of Chicory, *Cichorium intybus* L. (Masoudian and Khanjani 2013). **Isfahan Province** (Kashan region, Hanjan; Jowshaqan; Niyasar and Qamsar), rose and almond plantations, turnip and tomato patches (Abutaleb Kermani *et al.* 2017); (Isfahan), soil of urban green spaces (Karbasian *et al*. 2022). **Kerman Province** (Baft), soil (Rajaei *et al.* 2011b); (Jiroft), soil and litter (Kazemi and Rajaei 2013); (Kerman), cow

manure (Arjomandi *et al.* 2013a); (Rafsanjan), soil, manure and litter (Masnavipour *et al.* 2014); (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020). **Lorestan Province** (Khorramabad), orchard, oak forest, ant nest and field (Hasanvand *et al.* 2015). **North Khorasan Province** (Bojnurd), soil of farms, gardens and manures (Mahpikaran *et al.* 2012). **Tehran Province** (Tehran, Shahid Beheshti University Campus), soil (Kamali *et al.* 2004); (Tehran City, Police Park), soil (Maleki *et al.* 2016); (Damavand County, Jilard), humus, soil, leaf litter (Damavand County, Guilavand), humus, soil, leaf litter and manure; (Damavand County, Jaban), garden soil; (Damavand County, Sorkheh Deh), farm soil, ant nest (Mousavi *et al.* 2021).
Note – Kazemi and Rajaei (2013) showed that *Alliphis transversus* Halliday, 2010 and *A. siculus* (Oudemans, 1905) do not occur in Iran, so thses species have been removed from our list in this paper.

Records of *Alliphis halleri* wich previously reported as *Alliphis siculus*.
Distribution and habitats. **Seventeen different Provinces in Iran**, beehives debris (Ostovan and Mossadegh 1999). Region not mentioned, honeybee hives (Kamali *et al.* 2001); (Rafsanjan), soil of fruit orchards (Mohammadi *et al.* 2012). **East Azarbaijan Province** (Tabriz), soil of orchards (Kamali *et al.* 2001). **Fars Province** (Marvdasht, Islamic Azad University, Fars Science and Research Branch), soil and decayed plants associated with conifers (Amirazodi and Ostovan 2012); (Darab), the soil under the trees in the northern and southern orchards of Darab city (Memarzadeh *et al*. 2022). **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). **West Azarbaijan Province** (Urmia), house dust (Kamali *et al.* 2001).

Records of *Alliphis halleri* which previously reported as *Alliphis transversus* Halliday, 2010.
Distribution and habitats. **Kerman Province** (Jiroft), soil (Balooch Shahryari *et al.* 2012).

Alliphis kargi Arutunian, 1991

Distribution and habitats. **Alborz Province** (Taleqan region), associated with *Scarabaeus pius* (Illiger, 1803) (Farmahiny-Farahani *et al.* 2022b).

Alliphis scarabaeorum Ogandzhanyan, 1969

Distribution and habitats. **Kerman, Golestan, Khuzestan, North** and **Razavi Khorasan Provinces** (regions not mentioned), associated with scarab beetles of the genus *Scarabaeus* L. (Kazemi and Payandeh 2014).

Alliphis sp.

Distribution and habitats. **Alborz Province** (Taleqan region), associated with *Scarabaeus pius* (Illiger, 1803) and *Scarabaeus typhon* (Fischer, 1823) (Farmahiny-Farahani *et al.* 2022b).

Genus *Copriphis* Berlese, 1910a

Copriphis falcinellus (R. Canestrini & G. Canestrini, 1882b)

Distribution and habitats. **Lorestan Province** (Selseleh County, Aleshtar City, Garrin Mountain, Soltan Taher region), phoretic on an unidentified dung beetle (Scarabaeidae) (Ghasemi Moghadam *et al.* 2016).

Copriphis hastatellus Berlese, 1910a

Distribution and habitats. **Kerman Province** (Jiroft), associated with beetles of *Heliocopris gigas* (L.) (Kazemi 2017).

Copriphis cultratellus Berlese, 1910a

Distribution and habitats. **Razavi Khorasan Province** (Sarakhs, Torbat Heydariyeh), ex. *Scarabaeus transcaspicus* Stolfa (Kazemi *et al.* 2008e).
Note – This species was previously recorded by Kazemi *et al.* (2008f) under the genus *Eviphis* Berlese, 1903.

Copriphis sp.

Distribution and habitats. **Alborz Province** (Taleqan region), associated with *Scarabaeus pius* (Illiger, 1803) (Farmahiny-Farahani *et al.* 2022b).

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.* 2008g).

Genus *Eviphis* Berlese, 1903a

Eviphis ostrinus (Koch, 1835)

Distribution and habitats. **Mazandaran Province** (Dimron region), soil (Kazemi and Ahangaran 2013).

Genus *Evimirus* Karg, 1963

Evimirus uropodinus (Berlese, 1903a)

Distribution and habitats. **Fars Province** (Northwestern of Province), soil and debris (Abolghasemi and Kazemi 2016); (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017). **Golestan Province** (Gorgan), soil (Kazemi *et al.* 2011a). **Golestan and Mazandaran Provinces** (region not mentioned), soil and litter (Kazemi *et al.* 2012); (Nowshahr, Ecological (Botanical) Garden), soil and litter (Saberi *et al.* 2016). **Guilan Province** (Moein Hotel-Fuman, Otaghvar-Langrud), soil of tea (Hajizadeh *et al.* 2020); (Rasht, Lakan village), soil; (Jirdeh village, Pir Bazar village), litter; (Isfahani Educational Institute), wood sorrel, *O. acetosella* leaves; (Rasht, Bijar Bonch village), soil, cucumber, *C. sativus* leaves (Ghasemi and Hajizadeh 2021). **Tehran Province** (Tehran, Sorkhe Hesar Forest Park), soil (Pakyari *et al.* 2006a, b); (Tehran, Deh Vanak), soil and litter (Kazemi and Rajaei 2013); (region not mentioned), associated with ornamental plants (Hamidi *et al.* 2013); (Tehran City, Police Park), soil (Maleki *et al.* 2016); (Damavand County, Jilard), humus, soil, leaf litter; (Damavand County, Damavand), humus soil, manure (Mousavi *et al.* 2021).

Genus *Metacryptoseius* Kazemi & Moraza, 2008

Metacryptoseius khorasanicus Kazemi & Moraza, 2008

Distribution and habitats. **Mazandaran Province** (Galugah), ex. *S. transcaspicus* (Kazemi *et al.*

2008g). **Razavi Khorasan Province** (Torbat Heydariyeh, Feiz Abad, Sarakhs, Bazangan Lake coast), ex. *S. transcaspicus* (Kazemi *et al.* 2008g).

***Metacryptoseius persicus* Kazemi & Moraza, 2008**

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

Genus *Pedoniphis* Joharchi, Mašán & Babaeian, 2014

***Pedoniphis persicus* Joharchi, Mašán & Babaeian, 2014**

Distribution and habitats. **West Azarbaijan Province** (Ardabil, Sabalan Mountains), in sandy soil (Joharchi *et al.* 2014a).

Genus *Pelethiphis* Berlese, 1911a

***Pelethiphis opucus* Koyumdjieva, 1981**

Distribution and habitats. **Khuzestan Province** (Ahvaz), from *Copris* sp. (Kazemi *et al.* 2013b).

Genus *Pseudoalliphis* Mašán & Halliday, 2009

***Pseudoalliphis sculpturatus* (Karg, 1963)**

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (region not mentioned), soil and litter (Nemati *et al.* 2014); (Ben, Larak; Koohrang, Dashte laleh, Baghchendar; Lordegan, Ooreh), in soil and rooting wood in association with ants *Cataglyphis fritillariae*; *M. platyceras*; *P. koshewnikovi*; *T. karavaievi* (Khalili-Moghadam 2022); (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2022b).

Genus *Scamaphis* Karg, 1976

***Scamaphis equestris* (Berlese, 1911a)**

Distribution and habitats. **Golestan Province** (Gorgan, Naharkhoran forest), ex. *Geotrupes spiniger* (Marsham) (Kazemi *et al.* 2013c).

Genus *Scarabaspis* Womersley, 1956

***Scarabaspis inexpectatus* (Oudemans, 1903c)**

Distribution and habitats. **Golestan Province** (Gorgan, Ziyarat Village), ex. *E. gibbosus* and *Caccobius schreiberi* (L.), (Gorgan, Dangelan Village), ex. *Geotrupes* sp. (Bahrami *et al.* 2011). **Kerman Province** (Kerman), cow manure (Arjomandi *et al.* 2013a). **North Khorasan Province** (Esfarayen), ex. *Euonthophagus gibbosus* (Scriba) (Kazemi *et al.* 2008d); (Bojnurd), soil of farms, gardens and manures (Mahpikaran *et al.* 2012). **Tehran Province** (Damavand County, Sorkheh Deh), farm soil, ant nest (Mousavi *et al.* 2021).

***Scarabasapis* sp.**

Distribution and habitats. **Alborz Province** (Taleqan region), associated with *Scarabaeus pius* (Illiger, 1803) and *Scarabaeus typhon* (Fischer, 1823) (Farmahiny-Farahani *et al.* 2022b).

Genus *Uroiphis* Berlese, 1903a

***Uroiphis scabratus* Berlese, 1903a**

Distribution and habitats. **Fars Province** (Koohmare-Sorkhi region), soil and litter of oak forests (Yazdanpanah and Kazemi 2014b).

Family Macrochelidae Vitzthum, 1930
Genus *Geholaspis* Berlese, 1918

***Geholaspis pennulatus* Babaeian, Halliday & Saboori, 2015**

Distribution and habitats. **Mazandaran Province** (Nowshahr Kheyroodkenar forest), leaf-litter (Babaeian *et al.* 2015).

Genus *Glyptholaspis* Filipponi & Pegazzano, 1960

***Glyptholaspis americana* (Berlese, 1888b)**

Distribution and habitats. **Fars Province** (Darab), soil, (Kazemi and Rajaei 2013). **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). **Mazandaran Province** (Nowshahr), soil (Ahangaran *et al.* 2010a); rotten cow dung and tea (Ahangaran *et al.* 2012); (Nowshahr, Ecological (Botanical) Garden of Nowshahr), soil and litter (Saberi *et al.* 2016). **Tehran Province** (Tehran), soil, leaf-litter, decomposing organic matter, manure and ex. unknown scarab beetles (Ostovan and Farzane 2004); (Tehran, Sorkhe Hesar Forest Park), soil (Pakyari *et al.* 2008); (region not mentioned), associated with ornamental plants (Hamidi *et al.* 2013); (Tehran City, Police Park), soil (Maleki *et al.* 2016).

***Glyptholaspis confusa* (Foá, 1900)**

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), dung (Babaeian *et al.* 2011). **Fars Province** (Kazerun), putrid onion (Kamali *et al.* 2001); (Ramjerd), manure, soil and leaf-litter (Sobhani *et al.* 2011, 2017); (Kharameh region), sandy clay soil under pistachio trees (Alinezhad *et al.* 2023). **Golestan Province** (Zyiarat 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); (Gorgan, Shast Kola forest), ex. *P. olivieri* Castelnao (Kazemi and Rajaei 2013). **Guilan Province** (Rasht, Pir Bazar village, Bijar Bonch village, and Keshel Varzal village), soil (Ghasemi and Hajizadeh 2021); (Astaneh-ye Ashrafiyeh, Kashel, Azadmahalleh), soil of peanut plant (Askari *et al.* 2023). **Khuzestan Province** (Bavi, Mollasani), cow manure, buffalo manure and sheep manure; (Ahvaz, dairy farm at Shahid Chamran University campus), cow manure; (Bavi, Shajaraat), buffalo manure; (Hamidieh), poultry manure; (Hamidieh, Gambue), cow manure and sheep manure; (Hamidieh, Pich-e Seyyed Jaber), cow manure; (Ahvaz, Alhaei), cow manure; (Shush, Seyyed Abbas), buffalo manure; (Bavi, Naddafieh), cow manure and sheep manure; (Ahvaz, Nabi-ye Akram village), cow manure; (Bavi, Veys), cow manure; (Ahvaz, Haatam village), sheep manure (Farahi *et al.* 2018); (Ahvaz and its suburbs), cattle, buffalo, sheep and poultry manure (Farahi *et al.* 2022). **Mazandaran Province** (Nowshahr), soil (Ahangaran *et al.* 2010a); horse manure, alder (*Alnus*

sp.) and *Parrotia persica* leaf litter (Ahangaran *et al*. 2012). **North Khorasan Province** (Bojnurd), soil of farms, gardens and manures (Mahpikaran *et al.* 2012). **Qom Province** (region not mentioned), soil, dung, compost and plantlitters of crops, lawns, shrubs and trees in farms, forests, orchards and parks (Agha Alikhani *et al.* 2017). **Tehran Province** (Tehran), soil, leaf-litter, decomposing organic matter, manure and ex. unknown scarab beetles (Ostovan and Farzane 2004); (Damavand County, Absard), soil, leaf litter (Mousavi *et al.* 2021).

Genus *Holocelaeno* Berlese, 1910a

Holocelaeno melisi Berlese, 1910a

Distribution and habitats. **West Azarbaijan Province** (Urmia University), soil (Mirfakhraie 2017).

Genus *Holostaspella* Berlese, 1903a

Holostaspella bifoliata (Trägårdh, 1952)

Distribution and habitats. **Fars Province** (Jahrom), soil of citrus orchards (Khademi *et al.* 2006). **Guilan Province** (Manjil, Fouman, Lishavandan), soil (Hajizadeh *et al.* 2009a). **Isfahan Province** (Goldasht), foliage of trees, weeds and soil of orchards (Jalaeian *et al.* 2004a). **Kerman Province** (Jiroft), soil (Balooch Shahryari *et al.* 2012); (region not mentioned), soil and manure (Hosseinpour and Latifi 2014); (Shahr-e-Babak), soil and manure (Masnavipour *et al.* 2014). **Mazandaran Province** (Nowshahr), soil (Ahangaran *et al.* 2010a); alder (*Alnus* sp.) and Mediterranean cypress (*Cupressus sempervirens*) leaf litter (Ahangaran *et al*. 2012). **Tehran Province** (Tehran), soil, leaf-litter, decomposing organic matter, manure and ex. unidentified scarab beetles (Ostovan and Farzane 2004).

Holostaspella exornata Filipponi & Pegazzano, 1967

Distribution and habitats. **Lorestan Province** (Selseleh, Aleshtar, Gereyrān Village), phoretic on an unidentified dung beetle (Scarabaeidae) (Ghasemi Moghadam *et al.* 2016).

Holostaspella ornata (Berlese, 1904a)

Distribution and habitats. **Fars Province** (Marvdasht, Islamic Azad University, Fars Science and Research Branch), soil (Soleimani *et al.* 2010a); (Marvdasht), soil (Soleimani *et al.* 2011). **Guilan Province** (Eshkavarat, Astara), soil of hazelnut orchard (Arjimandi-Nezhad and Babaeian 2014). **Tehran Province** (region not mentioned), associated with ornamental plants (Hamidi *et al.* 2013).

Genus *Longicheles* Valle, 1953

Longicheles hortorum (Berlese, 1904a)

Distribution and habitats. **Tehran Province** (Tehran, Jamshidiyeh Park), soil and litter (Kazemi 2011); (Damavand County, Guilavand), humus, soil, leaf litter and manure; (Damavand County, Damavand), soil; (Damavand County, Cheshmeh Ala), Garden soil; (Damavand County, Damavand), humus soil, manure; (Damavand County, Atabak), leaf litter; (Damavand County, Garmabsard), soil and leaf litter (Mousavi *et al.* 2021).

Longicheles cf. *longulus* (Berlese, 1887a)

Distribution and habitats. **East Azarbaijan Province** (Arasbaran forests region), soil, leaf-litter and

plant debris (Ordoukhanian *et al.* 2017).

Longicheles mandibularis (Berlese, 1904a)

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

Genus *Macrholaspis* Oudemans, 1931

Macrholaspis reckei (Bregetova & Koroleva, 1960)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), leaf-litter (Babaeian *et al.* 2011). **East Azarbaijan Province** (Tabriz), soil and foliage of poplar and elm trees (Rahbar Shahlan *et al.* 2014); (Arasbaran Forests, Kalaleh), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016a). **Fars Province** (Northwestern), soil and debris (Abolghasemi and Kazemi 2016); (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017). **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); (Eshkavarat, Astara), soil of hazelnut orchard (Arjimandi-Nezhad and Babaeian 2014). **Isfahan Province** (Kashan, Qamsar), apricot plantation (Abutaleb Kermani *et al.* 2017). **Kerman Province** (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020). **Tehran Province** (Damavand County, Jilard), humus, soil, leaf litter; (Damavand County, Guilavand), humus, soil, leaf litter and manure; (Damavand County, Damavand), humus soil, manure; (Damavand County, Sorkheh Deh), farm soil, ant nest; (Damavand County, Garmabsard), soil and leaf litter (Mousavi *et al.* 2021).
Note – This species has been reported by some authors under the genus *Macrocheles* Latreille, 1829.

Macrholaspis terreus (Canestrini & Fanzago, 1877a)

Distribution and habitats. **Kerman Province** (region not mentioned), soil (Hosseinpour and Latifi 2014).

Genus *Macrocheles* Latreille, 1829

Macrocheles baliensis Takaku & Hartini, 2001

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

Macrocheles caelatus Berlese, 1918

Distribution and habitats. **Kerman Province** (Kerman City, Shahid Park) in soil and litter (Saeed and Kazemi 2019).

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, Honeybee hives (Mosaddegh 1997; Kamali *et al.* 2001). **Alborz Province** (Mohammad Shahr, Mallard), compost (Kheradmand *et al.* 2007).

Chaharmahal va Bakhtiyari Province (Shahrekord), dung (Babaeian *et al.* 2011); (Saman), soil (Shariati *et al.* 2017). **East Azarbaijan Province** (Tabriz), soil of orchards (Kamaili *et al.* 2001); (Arasbaran Forests, Kalaleh, Garmanab), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016a). **Fars Province** (Marvdasht), soil (Soleimani *et al.* 2011); (Ramjerd), manure, soil and leaf-litter (Sobhani *et al.* 2011, 2017); (Doroodzan), soil of fields (Asadpoor *et al.* 2012); (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017). **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); (Gorgan, Shast Kola Forest), ex. *Geotrupes punctcollis* Malinowski (Kazemi and Rajaei 2013). **Guilan Province** (Asalem), soil (Hajizadeh *et al.* 2009a); (Eshkavarat and Astara), soil of hazelnut orchard (Arjimandi-Nezhad and Babaeian 2014); (Astaneh-ye Ashrafiyeh, Lafut-e Bala), soil of peanut plant (Askari *et al.* 2023). **Hamedan Province** (region not mentioned), clover (*Trifolium* sp.) farms (Khanjani and Kamali 2000a; Kamali *et al.* 2001). **Isfahan Province** (Dorcheh), soil of fruit orchards (Jalaeian *et al.* 2006); (Isfahan), soil (Khalili- Moghadam *et al.* 2012). **Kerman Province** (Kerman), cow and poultry manure (Arjomandi *et al.* 2011); (Baft), soil (Rajaei *et al.* 2011b); (Bam), soil (Mehrzad *et al.* 2012); (Kerman), cow manure and poultry manure (Arjomandi *et al.* 2013a). **Khuzestan Province** (Ahvaz), soil (Baharloo *et al.* 2006); (Ahvaz, Gavmish Abad), buffalo manure; (Ahvaz, dairy farm at Shahid Chamran University campus), cow manure; (Bavi, Mollasani), buffalo manure and sheep manure, poultry manure; (Ahvaz, Nabi-ye Akram Village), cow manure; (Susangerd, Abu Hamizeh), buffalo manure; (Shush, Khoyes), cow manure; (Bavi, Talbumeh), cow manure; (Ahvaz, Alhaei), cow manure (Farahi *et al.* 2018); (Ahvaz and its suburbs), cattle, buffalo, sheep, horse and poultry manure (Farahi *et al.* 2022). **Markazi Province** (Arak), soil (Seifori *et al.* 2006); (Arak region), soil (Jadidi and Joharchi 2014). **Mazandaran Province** (Nowshahr), soil (Ahangaran *et al.* 2010a); cow manure, maple (*Acer*), alder (*Alnus*) and beech (*Fagus* sp.) leaf litter (Ahangaran *et al*. 2012); (Noor Forest Park), ex. *P. olivieri* and *Onthophagus* sp. (Kazemi and Rajaei 2013). **North Khorasan Province** (Bojnurd), soil of farms, gardens and manures (Mahpikaran *et al.* 2012); (Bojnurd, Esfidan), ex. *Onthophagus* sp. (Kazemi and Rajaei 2013). **Razavi Khorasan Province** (Mashhad), soil (Abbaspour *et al.* 2017). **Tehran Province** (Tehran), soil, leaf-litter, decomposing organic matter, manure and ex. unidentified scarab beetles (Kamali *et al.* 2001; Ostovan and Farzane 2004); (Tehran), associated with cucumber greenhouses (Ostovan 2006a); (Tehran, Sorkhe Hesar Forest Park), soil (Pakyari *et al.* 2008); (Tehran, Tarbiat Modares University, Faculty of Agriculture), cow manure (Kazemi and Rajaei 2013); (Damavand County, Jilard), humus, soil, leaf litter; (Damavand County, Veliran), soil and humus; (Damavand County, Damavand), soil; (Damavand County, Ureh and Garmabsard), soil and leaf litter; (Damavand County, Damavand), humus soil, manure; (Damavand County, Absard), soil, leaf litter; (Damavand County, Jaban), garden soil (Mousavi *et al.* 2021). **West Azarbaijan Province** (Urmia), house dust (Kamali *et al.* 2001).

Macrocheles insignitus Berlese, 1918

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), dung (Babaeian *et al.* 2011); (Saman), soil (Shariati *et al.* 2017). **East Azarbaijan Province** (Southwest), soil (Hashemi Khabir *et al.* 2013). **Fars Province** (Shiraz, Eram Garden), soil under different trees (Javan *et al.* 2017). **Golestan Province** (Shast-Kola), ex. *E. gibbosus*; (Zyiarat Village), ex. *Onthophagus* sp. (Bahrami *et al.* 2011). **Guilan Province** (Eshkavarat, Astara), soil of hazelnut orchard (Arjimandi-Nezhad and Babaeian 2014); (Rasht; Omesheh village), soil (Ghasemi and Hajizadeh 2021); (Rasht), associated with beetles from Chrysomelidae, Carabidae, Staphylinidae and Formicidae (Hajizadeh and Hosseini 2022); (Astaneh-ye Ashrafiyeh, Kiashahr), soil of peanut plant (Askari *et al.* 2023). **Isfahan Province** (Kashan, Qamsar), apricot plantation (Abutaleb Kermani *et al.* 2017); (Isfahan), soil of urban green spaces (Karbasian *et al*. 2022). **Kerman Province** (Shahrebabak, Sirjan,

Rafsanjan), soil (Masnavipour *et al.* 2011); (Rafsanjan), soil of fruit orchards (Mohammadi *et al.* 2012); (region not mentioned), soil and manure (Hosseinpour and Latifi 2014); (Sirjan, Rafsanjan, Shahr-e-Babak), soil and manure (Masnavipour *et al.* 2014). **Lorestan Province** (Khorramabad), manure (Hasanvand *et al.* 2015). **Mazandaran Province** (Nowshahr), soil (Ahangaran *et al.* 2010a); horse manure (Ahangaran *et al.* 2012). **North Khorasan Province** (Mane and Samalghan, Havar Village), ex. *O. cinctella* (Kazemi and Rajaei 2013). **Tehran Province** (Tehran City, Police Park), soil (Maleki *et al.* 2016). **Zanjan Province** (region not mentioned), soil (Rahmani and Zare 2011).

Macrocheles mammifer Berlese, 1918

Distribution and habitats. **Guilan Province** (Eshkavarat, Astara), soil of hazelnut orchard (Arjimandi-Nezhad and Babaeian 2014). **Markazi Province** (Sāveh County, Āveh region), vermicompost (Ahadiyat *et al.* 2014a). **Tehran Province** (Tehran City, District 18 and 19 of Tehran Municipality, Moallem Boulevard, Ghāem Park and Khordād Street), vermicompost (Ahadiyat *et al.* 2014a).

Macrocheles matrius Hull, 1925

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

Macrocheles merdarius (Berlese, 1889)

Distribution and habitats. **Northeast of Iran** (region not mentioned), stored food products (Khaleghabadian *et al.* 2013). **Alborz Province** (Shahryar), compost (Kheradmand *et al.* 2007). **Chaharmahal va Bakhtiyari Province** (Shahrekord), dung (Babaeian *et al.* 2011); (Saman), soil (Shariati *et al.* 2017). **East Azarbaijan 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, 2017); (Marvdasht, Islamic Azad University, Fars Science and Research Branch), soil and decayed plants associated with conifers (Amirazodi and 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); (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017). **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); (Gorgan, Shast Kola Forest), ex. *P. olivieri* (Kazemi and Rajaei 2103). **Guilan Province** (Talish, Jokandan, Fouman, Lishavandan), stored rice, rice dust and debris (Noei *et al.* 2008); soil (Hajizadeh *et al.* 2009a); (Eshkavarat, Astara), soil of hazelnut orchard (Arjimandi-Nezhad and Babaeian 2014); (Rasht, Pasikhan village), soil; (Rasht, Imam Khomeini Institute and Pir Bazar village), litter (Ghasemi and Hajizadeh 2021); (Astaneh-ye Ashrafiyeh, Kashel, Azadmahalleh, Nabi Dehga, Salestan), soil of peanut plant (Askari *et al.* 2023). **Hormozgan Province** (Minab), associated with soil under mango trees (Dolati and Ostovan 2017b). **Isfahan Province** (Dorcheh, Zarrinshahr), soil of fruit orchards (Jalaeian *et al.* 2006); (Isfahan), soil (Khalili-Moghadam *et al.* 2012); (Jowshaqan, Kashan), empty pastures and vineyards (Abutaleb Kermani *et al.* 2017). **Kerman Province** (Sirjan, Pariz, Shahrebabak, Rafsanjan), soil (Masnavipour *et al.* 2011); (Kerman), cow, sheep and poultry manure (Arjomandi *et al.* 2011); (Baft), soil (Rajaei *et al.* 2011b); (Bam), soil (Mehrzad *et al.* 2012); (Jiroft), soil (Balooch Shahryari *et al.* 2012); (Kerman County), cow manure and poultry manure (Arjomandi *et al.* 2013a); (Kerman City, parks and landscapes), soil (Arjomandi and Kazemi 2014b); (region not mentioned), soil and manure (Hosseinpour and Latifi 2014); (Sirjan, Rafsanjan, Shahre-Babak), soil, manure and decaying wood (Masnavipour *et al.* 2014); (Mahan City), soil of gardens, field and green

space (Mojaz and Kazemi 2020). **Khuzestan Province** (Bavi, Mollasani), sheep manure, cow manure, and buffalo manure; (Ahvaz, dairy farm at Shahid Chamran University campus), buffalo manure and cow manure); (Ahvaz, Gavmish Abad), cow manure; (Ahvaz, Daghagheleh), cow manure; (Ahvaz, Jassaniyeh-ye Bozorg), cow manure; (Hamidieh, Gambue), cow manure; (Hamidieh), sheep manure and buffalo manure; (Shushtar, Arab Hassan), cow manure; (Ahvaz, Alhaei), cow manure; (Shush, Seyyed Abbas); cow manure, (Shush, Abdolkhan), cow manure; (Shushtar, Band-e Qir), cow manure; (Ahvaz, Ebadeh), sheep manure; (Hamidieh, Pich-e Seyyed Jaber), buffalo manure; (Hamidieh, Tarrahiyeh), buffalo manure; (Bavi, Veys), cow manure; (Ahvaz, Gavmish Abad), buffalo manure; (Bavi, Gabir), cow manure; (Ahvaz, Nabi-ye Akram village), poultry manure; (Bavi, Shajaraat), cow manure; (Bavi, Naddafieh), sheep manure (Farahi *et al.* 2018); (Ahvaz and its suburbs), cattle, buffalo, sheep, horse and poultry manure (Farahi *et al.* 2022). **Lorestan Province** (Khorramabad), orchard, oak forest, ant nest and manure (Hasanvand *et al.* 2015). **Markazi Province** (Arak), soil (Seifori *et al.* 2006); (Arak region), soil (Jadidi and Joharchi 2014). **Mazandaran Province** (Nowshahr), soil (Ahangaran *et al.* 2010a); horse and cow manure (Ahangaran *et al*. 2012). **North Khorasan Province** (Bojnurd), soil of farms, gardens and manures (Mahpikaran *et al.* 2012); (region not mentioned), associated with *Onthophagus* sp. (Scarabaeidae) and *Xylocopa* sp. (Apidae) (Rezaei *et al.* 2016). **Qom Province** (region not mentioned), soil, dung, compost and plant-litters of crops, lawns, shrubs and trees in farms, forests, orchards and parks (Agha Alikhani *et al.* 2017). **Razavi Khorasan Province** (Gonabad, Rahn Village), ex. *O. cinctealla* (Kazemi and Rajaei 2103); (Mashhad), stored food products (Khaleghabadian *et al.* 2015). **Sistan and Baluchestan Province** (Sistan region), soil (Arjmandi Nejad *et al.* 2006, 2008); (Sistan region), stored products (Sayadi *et al.* 2012). **Tehran Province** (Tehran), soil, leaf-litter, decomposing organic matter, manure and ex. unidentified scarab beetles (Ostovan and Farzane 2004). **West Azarbaijan Province** (Khoy), soil of sunflower fields (Taher *et al.* 2012); (Salmas), soil and plant debris of apple orchards (Alizadeh and Shirdel 2012). **Zanjan Province** (region not mentioned), soil (Rahmani and Zare 2011).

Macrocheles muscaedomesticae (Scopoli, 1772)

Distribution and habitats. **Northeast of Iran** (region not mentioned), associated with stored food products (Khaleghabadian *et al.* 2013). **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 and Babaeian 2010). **Chaharmahal va Bakhtiyari 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 and Babaeian 2010); (Shahrekord), dung (Babaeian *et al.* 2011); (Saman), soil (Shariati *et al.* 2017). **East Azarbaijan Province** (region not mentioned), soil (Kamali *et al.* 2001). **Fars Province** (Ramjerd), manure, soil and leaf-litter (Sobhani *et al.* 2011, 2017); (Shiraz), potato, zucchini, flour and the floor of insectariums (Granpayeh *et al.* 2012); (Doroodzan), soil of fields (Asadpoor *et al.* 2012); (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017); (Darab), the soil under the trees in the northern and southern orchards of Darab city (Memarzadeh *et al*. 2022). **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). **Guilan Province** (Sangar, Gil Pardehsar), soil (Hajizadeh *et al.* 2009a); (Eshkavarat, Astara), soil of hazelnut orchard (Arjimandi-Nezhad and Babaeian 2014); (Rasht, Omesheh village), soil; (Rasht, Imam Khomeini Institute and Bijar Bonch village), litter (Ghasemi and Hajizadeh 2021); (Astaneh-ye Ashrafiyeh, Kashel, Azadmahalleh, Lafut-e Bala), soil of peanut plant (Askari *et al.* 2023). **Isfahan Province** (Kashan region (Jowshaqan and Qamsar)), empty pastures and tomato patches (Abutaleb Kermani *et al.* 2017). **Kerman Province** (Kerman), cow manure (Arjomandi *et al.* 2011); (Baft), soil (Rajaei *et al.* 2011b);

(Kerman County), cow manure and poultry manure (Arjomandi *et al.* 2013a); (region not mentioned), soil and manure (Hosseinpour and Latifi 2014). **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 and Babaeian 2010); (Ahvaz, dairy farm at Shahid Chamran University campus), cow manure; (Bavi, Mollasani), poultry manure, cow manure, buffalo manure, and sheep manure; (Ahvaz), horse manure; (Ahvaz, Gavmish Abad), buffalo manure; (Shush, Khavar-e Seyyed Khalaf), cow manure, cow manure; (Bavi, Shajaraat), buffalo manure; (Ahvaz, Ebadeh), cow manure; (Bavi, Gabir), sheep manure and cow manure; (Shush, Beyt-e Juhi), cow manure; (Ahvaz; Jassaniyeh-ye Kuchak), cow manure; (Hamidieh), cow manure and buffalo manure; (Ahvaz, Jassaniyehye Bozorg), cow manure; (Ahvaz, Daghagheleh), cow manure; (Hamidieh, Gambue, cow manure; (Dasht-e Azadegan, Susangerd), sheep manure and cow manure; (Shushtar, Arab Hassan), sheep manure; (Hamidieh, Tarrahiyeh), cow manure; (Hamidieh, Pich-e Seyyed Jaber), cow manure; (Shush, Khoyes), buffalo manure and cow manure; (Ahvaz, Alhaei), cow manure; (Shush, Seyyed Abbas), buffalo manure and cow manure; (Shushtar, Band-e Qir), cow manure and sheep manure; (Bavi, Talbumeh), cow manure; (Susangerd, Abu Hamizeh), cow manure; (Bavi, Veys), cow manure; (Bavi, Naddafieh), sheep manure (Farahi *et al.* 2018); (Ahvaz and its suburbs), cattle, buffalo, sheep, horse and poultry manure (Farahi *et al.* 2022). **Mazandaran Province** (Nowshahr), soil (Ahangaran *et al.* 2010a); cow manure, rotten tea and beech (*Fagus* sp.) leaf litter (Ahangaran *et al.* 2012). **North Khorasan Province** (Bojnurd), soil of farms, gardens and manures (Mahpikaran *et al.* 2012). **Razavi Khorasan Province** (Mashhad), stored food products (Khaleghabadian *et al.* 2015). **Tehran Province** (Tehran), honeybee hives (Mosaddegh 1997); associated with cucumber greenhouses (Ostovan 2006a); soil, leaf-litter, decomposing organic matter, manure and ex. unidentified scarab beetles (Kamali *et al.* 2001; Ostovan and Farzane 2004); (Tehran City, Police Park), soil (Maleki *et al.* 2016); (Damavand County, Jilard), humus, soil, leaf litter; (Damavand County, Damavand), humus soil, manure, leaf litter (Mousavi *et al.* 2021).

Macrocheles nataliae Bergetova & Koroleva, 1960

Distribution and habitats. **Hormozgan Province** (Minab), associated with soil under mango trees (Dolati and Ostovan 2017b). **Isfahan Province** (Kashan region (Abyaneh and Aran and Bidgol)), enriched soil and pomegranate plantation (Abutaleb Kermani *et al.* 2017). **Markazi Province** (Arak); soil (Seifori *et al.* 2006).

Note – Abutaleb Kermani *et al.* (2017) reported this species as *Macrocheles* cf. *nataliae* (Koroleva, 1960).

Macrocheles penicilliger (Berlese, 1904a)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), leaf litter (Babaeian *et al.* 2011). **East Azarbaijan Province** (region not mentioned), soil (Kamali *et al.* 2001). **Fars Province** (Doroodzan), soil of fields (Asadpoor *et al.* 2012). **Golestan Province** (Gorgan), soil (Kazemi *et al.* 2011a). **Guilan Province** (Fouman, Lishavandan, Masule, Kelorm), soil (Hajizadeh *et al.* 2009a); (Rasht, Dalecheh village and Imam Khomeini Institute), litter (Ghasemi and Hajizadeh 2021); (Astaneh-ye Ashrafiyeh), soil of peanut plant (Askari *et al.* 2023). **Hamedan Province** (region not mentioned), Vetch (Kamali *et al.* 2001). **Isfahan Province** (Khomeini Shahr), soil of fruit orchards (Jalaeian *et al.* 2006). **Tehran Province** (Tehran, Jamshidiyeh Park, Ghalamestan Park), soil and litter (Kazemi and Rajaei 2013); (Damavand County, Jilard), humus, soil, leaf litter; (Guilavand), humus ans soil; (Damavand County, Guilavand and Damavand), humus, soil, leaf litter and manure; (Damavand County, Damavand), humus soil, manure, leaf litter; (Damavand County, Jaban), apple garden soil; (Damavand County, Garmabsard), soil and leaf litter (Mousavi *et al.* 2021).

Macrocheles peniculatus Berlese, 1918

Distribution and habitats. **Fars Province** (Marvdasht), soil (Soleimani *et al.* 2011); (Ramjerd), manure, soil and leaf-litter (Sobhani *et al.* 2011, 2017); (Marvdasht, Islamic Azad University, Fars Science and Research Branch), soil and decayed plants associated with conifers (Amirazodi and Ostovan 2012); (Doroodzan), soil of fields (Asadpoor *et al.* 2012); (Darab), the soil under the trees in the northern and southern orchards of Darab city (Memarzadeh *et al*. 2022). **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); (Moein Hotel-Fuman), soil of tea (Hajizadeh *et al.* 2020); (Astaneh-ye Ashrafiyeh, Salestan), soil of peanut plant (Askari *et al.* 2023). **Markazi Province** (Arak region), soil (Jadidi and Joharchi 2014). **Tehran Province** (Tehran City, Police Park), soil (Maleki *et al.* 2016).

Macrocheles perglaber Filipponi & Pegazzano, 1962b

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), dung (Babaeian *et al.* 2011). **Fars Province** (Ramjerd), manure, soil and leaf-litter (Sobhani *et al.* 2011, 2017). **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); cow manure, maple (*Acer*) and alder (*Alnus*) leaf litter (Ahangaran *et al*. 2012). **North Khorasan Province** (Bojnurd), soil of farms, gardens and manures (Mahpikaran *et al.* 2012). **Tehran Province** (Tehran), soil, leaf-litter, decomposing organic matter, manure and ex. unidentified scarab beetles (Ostovan and Farzane 2004).

Macrocheles robustulus (Berlese, 1904a)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), dung (Babaeian *et al.* 2011). **Fars Province** (region not mentioned), stored potato (Kamali *et al.* 2001); (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017). **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). **Guilan Province** (Masule, Maklovan, Fouman, Lishavandan, Rasht, Agriculture faculty of Guilen University field, Emamzade Hashem, Shaft, Rudbar, Ganje), soil (Hajizadeh *et al.* 2009a); (Eshkavarat, Astara), soil of hazelnut orchard (Arjimandi-Nezhad and Babaeian 2014); (Omesheh village), soil; (Pir Bazar village), cotton *S. codiaeum variegatum* leaves (Ghasemi and Hajizadeh 2021). **Kerman Province** (Baft), soil (Rajaei *et al.* 2011b); (region not mentioned), soil and manure (Hosseinpour and Latifi 2014). **Khuzestan Province** (Ahvaz), soil (Baharloo *et al.* 2006). **Lorestan Province** (Badrabad District), soil under cedar trees (Hasanvand *et al.* 2014b); (Khorramabad), orchard and oak forest (Hasanvand *et al.* 2015). **Markazi Province** (Arak), soil (Seifori *et al.* 2006). **Mazandaran Province** (Nowshahr), soil (Ahangaran *et al.* 2010a); chicken manure (Ahangaran *et al*. 2012). **Qom Province** (region not mentioned), soil, dung, compost and plant-litters of crops, lawns, shrubs and trees in farms, forests, orchards and parks (Agha Alikhani *et al.* 2017). **Tehran Province** (Tehran), soil, leaf-litter, decomposing organic matter, manure and ex. unidentified scarab beetles (Ostovan and Farzane 2004); (region not mentioned), associated with ornamental plants (Hamidi *et al.* 2013); (Tehran City, Police Park), soil (Maleki *et al.* 2016).

Macrocheles scutatus (Berlese, 1904a)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), dung (Babaeian *et al.* 2011). **Fars Province** (Jahrom), soil of citrus orchards (Khademi *et al.* 2006). **Golestan Province**

(Gorgan), ex. *Geotrupes* sp. (Bahrami *et al.* 2011). **Guilan Province** (Rasht), associated with beetles from Chrysomelidae, and Staphylinidae (Hajizadeh and Hosseini 2022). **Hormozgan Province** (Minab), associated with soil under mango trees (Dolati and Ostovan 2017b). **Isfahan Province** (Najaf Abad), soil of fruit orchards (Jalaeian *et al.* 2006); (Isfahan), soil (Khalili-Moghadam *et al.* 2012). **Khuzestan Province** (Ahvaz, Gavmish Abad), buffalo manure; (Bavi, Shajaraat), cow manure; (Bavi, Mollasani), buffalo manure and cow manure; (Hamidieh), cow manure and buffalo manure; (Ahvaz, Alhaei), cow manure; (Shush, Seyyed Abbas), buffalo manure; (Shush, Khoyes), sheep manure; (Bavi, Talbumeh), cow manure; (Hamidieh, Pich-e Seyyed Jaber), cow manure; (Hamidieh, Tarrahiyeh), buffalo manure; (Bavi, Veys), cow manure; (Bavi, Naddafieh), sheep manure (Farahi *et al.* 2018); (Ahvaz and its suburbs), cattle, buffalo, and sheep manure (Farahi *et al.* 2022). **Lorestan Province** (Khorramabad), oak forest, field and manure (Hasanvand *et al.* 2015). **Markazi Province** (Arak), soil (Seifori *et al.* 2006). **Mazandaran Province** (Nowshahr), soil (Ahangaran *et al.* 2010a); maple (*Acer*), alder (*Alnus*) and *Parrotia persica* leaf litter (Ahangaran *et al*. 2012). **North Khorasan Province** (Bojnurd), soil of farms, gardens and manures (Mahpikaran *et al.* 2012). **Tehran Province** (Tehran), soil, leaf-litter, decomposing organic matter, manure and ex. unidentified scarab beetles (Ostovan and Farzane 2004).

Macrocheles subbadius (Berlese, 1904a)

Distribution and habitats. **Alborz Province** (Mohammad Shahr), compost (Kheradmand *et al.* 2007). **Chaharmahal va Bakhtiyari Province** (Shahrekord), dung (Babaeian *et al.* 2011); (Saman), soil (Shariati *et al.* 2017). **Fars Province** (region not mentioned), putrid onion (Kamali *et al.* 2001); (Marvdasht), soil (Soleimani *et al.* 2011); (Marvdasht, Islamic Azad Uinversity, Fars Science and Research Branch), soil and decayed plants associated with conifers (Amirazodi and Ostovan 2012); (Ramjerd), manure, soil and leaf-litter (Sobhani *et al.* 2011, 2017); (Doroodzan), soil of fields (Asadpoor *et al.* 2012). **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). **Guilan Province** (Eshkavarat, Astara), soil of hazelnut orchard (Arjimandi-Nezhad and Babaeian 2014); (Rasht, Deh Baneh-ye, Eslamabad village and Pasikhan village, Bijar Bonch village), soil; (Keshel Varzal village); tomato *S. lycopersicum* leaves; (Bijar Bonch village, Jirdeh village, and Pir Bazar village), litter (Ghasemi and Hajizadeh 2021); (Astaneh-ye Ashrafiyeh, Lafut-e Bala, Nabi Dehga, Abdullah Abad, Estakher Bijar, Kashel, Azadmahalleh, Salestan, Safra Basteh), soil of peanut plant (Askari *et al.* 2023). **Kerman Province** (Jiroft), soil (Balooch Shahryari *et al.* 2012). **Khuzestan Province** (Bavi, Mollasani), sheep manure and cow manure); (Ahvaz, dairy farm at Shahid Chamran University campus), cow manure; (Seyyed Abbas), buffalo manure (Farahi *et al.* 2018); (Ahvaz and its suburbs), cattle, buffalo, and sheep manure (Farahi *et al.* 2022). **Markazi Province** (Arak region), soil (Jadidi and Joharchi 2014).

Macrocheles sumbaensis Hartini & Takaku, 2005

Cited in Hartini *et al*. (2005).

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), dung (Babaeian *et al.* 2011). **Khuzestan Province (**Ahvaz), horse manure; (Bavi, Mollasani), poultry manure and cow manure; (Ahvaz, dairy farm at Shahid Chamran University campus), cow manure; (Ahvaz, Jassaniyeh-ye Bozorg), cow manure; (Hamidieh), buffalo manure; (Ahvaz, Alhaei), sheep manure; (Shushtar, Band-e Qir), cow manure; (Shushtar, Arab Hassan), cow manure; (Bavi, Talbumeh), cow manure; (Bavi, Naddafieh), sheep manure; (Shush, Khoyes), sheep manure (Farahi *et al.* 2018).

Macrocheles vernalis (Berlese, 1887c)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), ex. *Scarabaeus* sp.

and *Copris* sp. (Babaeian *et al.* 2011). **Isfahan Province** (Goldasht), foliage of trees, weeds and soil of orchards (Jalaeian *et al.* 2004a). **Mazandaran Province** (Galugah), ex. *C. hispanus* (Kazemi and Rajaei 2013). **North Khorasan Province** (Bojnurd), soil of farms, gardens and manures (Mahpikaran *et al.* 2012); (Esfarayen), ex. *S. transcaspicus* (Kazemi and Rajaei 2013). **Razavi Khorasan Province** (Taybad, Bakharz), ex. *S. transcaspicus*; ex. *S. transcaspicus*; ex. *Pleurophorus caesus* (Panzer) (Kazemi and Rajaei 2013).

Genus *Neopodocinum* Oudemans, 1902

Neopodocinum caputmedusae (Berlese, 1908)

Distribution and habitats. **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 and Babaeian 2010). **Chaharmahal va Bakhtiyari 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 and Babaeian 2010). **Golestan Province** (Shast Kola Forest), ex. *C. hispanus* (Bahrami *et al.* 2011). **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 and Babaeian 2010); (Ahvaz), ex. *Copris* sp. (Babaeian *et al.* 2011). **Razavi Khorasan Province** (region not mentioned), ex. *C. hispanus* (Kazemi *et al.* 2008c). **Tehran Province** (Taleghan), ex. *Copris* sp. (Faraji *et al.* 2008c).

Neopodocinum turcomonarum Petrova, 1970

Cited in Bregetova (1977e).

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

Genus *Nothrholaspis* Berlese, 1918

Nothrholaspis carinatus (C.L. Koch, 1839b)

Distribution and habitats. **Guilan Province** (Eshkavarat, Astara), soil of hazelnut orchard (Arjimandi-Nezhad and Babaeian 2014). **Mazandaran Province** (Nowshahr), soil (Ahangaran *et al.* 2010a); beech leaf litter (Ahangaran *et al*. 2012). **Tehran Province** (Tehran), soil, leaf-litter, decomposing organic matter, manure and ex. unidentified scarab beetles (Ostovan and Farzane 2004).

Nothrholaspis montanus Willmann, 1951a

Distribution and habitats. **Guilan Province** (Eshkavarat, Astara), soil of hazelnut orchard (Arjimandi-Nezhad and Babaeian 2014). **Mazandaran Province** (Nowshahr), soil (Ahangaran *et al.* 2010a); beech leaf litter (Ahangaran *et al*. 2012); (Nowshahr, Ecological (Botanical) Garden of Nowshahr), soil and litter (Saberi *et al.* 2016).
Note– Above mentioned species was reported under the genus *Macrocheles* by Ostovan and Farzane (2004) and Ahangaran *et al.* (2010a, 2012). The reported data for each author can be seen in the above information.

Nothrholaspis saboorii Babaeian & Joharchi, 2014

Distribution and habitats. **Alborz Province** (Karaj), soil (Babaeian *et al.* 2014a). **Tehran Province**

(Damavand County, Guilavand), humus, soil, leaf litter and manure (Mousavi *et al.* 2021).

Genus *Reductholaspis* Emberson, 2010

Reductholaspis analis (Hyatt & Emberson, 1988)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), leaf-litter (Babaeian *et al.* 2011). **Guilan Province** (Bijar Bonch village), soil; (Pir Bazar village), litter (Ghasemi and Hajizadeh 2021). **Isfahan Province** (Goldasht, Najaf Abad), foliage of trees, weeds and soil of orchards (Jalaeian *et al.* 2004a); (Kashan), soil (Abutaleb Kermani *et al.* 2017). **Mazandaran Province** (Nowshahr, Ecological (Botanical) Garden of Nowshahr), soil and litter (Saberi *et al.* 2016). **Tehran Province** (Damavand County, Damavand), soil; (Damavand County, Garmabsard), soil and leaf litter (Mousavi *et al.* 2021).
Notes – 1. *Macrocheles analis* Hyatt & Emberson was transferred to the genus *Reductholaspis* by Emberson (2010). **2.** Some species of Iranian macrochelid mites as follows that have been described as new for science, due to undetermined type materials deposition in the original description were considered as unavailable name here and removed by Faraji *et al*. (2008) and Kazemi and Rajaei (2013) from the Iranian macrochelid mites. This issue also has been referred in Ahadiyat *et al*. (2014) – *Macrocheles elongatum* Glida, Latifi, Bertrand & Saboori, 2003 (Sahradabad); *Macrocheles kamalli* Glida, Latifi, Bertrand & Saboori, 2003 (Karaj, Niavaran, Charan); *Macrocheles kermani* Glida, Latifi, Bertrand & Saboori, 2003 (Karaj) (Glida *et al.* 2003); *Macrocheles minutum* Seifori, Glida, Saboori & Bertrand, 2008 (Nuestan) in soil and dung; *Macrocheles paucipunctatum* Seifori, Glida, Saboori & Bertrand, 2008 (Malekabad), in soil; *Macrocheles similiscutatus* Seifori, Glida, Saboori & Bertrand, 2008 (Hossein Abaj), in soil and dung; *Macrocheles simplex* Seifori, Glida, Saboori & Bertrand, 2008 (Baghdady), in soil and dung (Seifoori *et al.* 2008).

Family Pachylaelapidae Berlese, 1913a
Genus *Olopachys* Berlese, 1910a

Olopachys caucasicus Koroleva, 1976

Distribution and habitats. **East Azarbaijan Province** (Arasbaran forests, Vaygan, Aynalu Kalaleh, Garmanab), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016a, b). **Guilan Province** (Saravan Forest), soil under pine trees; (Rezvanshahr-Talesh Gisoum forest), moss of oak tree; (Guilan University pine forest), soil under pine tree (Mojahed *et al.* 2017); (Saravan Forest and Emamzadeh Hashem), soil (Mojahed *et al.* 2018); (Langarud), soil under citrus tree (Hajizadeh and Hosseini 2020); (Moein Hotel-Fuman, Otaghvar-Langrud, Rahimabad-Rudsar), soil of tea (Hajizadeh *et al.* 2020). **Mazandaran Province** (Nowshahr), soil (Ahangaran *et al.* 2010b); leaf litter of different forest trees, horse manure and humus (Ahangaran *et al*. 2012); (Nowshahr, Ecological (Botanical) Garden of Nowshahr), soil and litter (Saberi *et al.* 2016).

Olopachys compositus Koroleva, 1976

Distribution and habitats. **Golestan Province** (region not mentioned), soil and litter (Kazemi *et al.* 2012); (Minudasht), soil (Zakeri *et al.* 2011). **Guilan Province** (region not mentioned), Citrus leaves, soil of gardens and floor weeds (Nazari-Tajani *et al.* 2012); (Saravan Forest), soil under pine and oak trees; (Emamzadeh Hashem (forest area)), soil under poplar trees (Mojahed *et al.* 2017); (Saravan Forest and Emamzadeh Hashem), soil (Mojahed *et al.* 2018); (Langarud, Otaqvar; Chaboksar, Siahkalroud), soil under citrus tree (Hajizadeh and Hosseini 2020); (Bijar Bonch village), soil; (Vishka Nanak village), litter (Ghasemi and Hajizadeh 2021). **Mazandaran Province** (Tonekabon, Konse Forest), soil; (Nowshahr, Ecology Garden), soil and litter; (Ramsar, Namakdarreh), soil and

sheep manure (Kazemi and Ahangaran 2011); (Nowshahr), leaf litter of hornbeam (*Carpinus betulus*), box-tree (*Buaxux* sp.), *Parrotia persica*, pomegranate and *Zelkova* (Ahangaran *et al*. 2012). **North Khorasan Province** (region not mentioned), in the nests of *Tapinoma* sp. (Formicidae) (Rezaei *et al.* 2016). **Tehran Province** (Shemiranat, Rudbar-Ghasran), soil, leaf-litter, debris of trees, ground covering plants and ants' nest (Ahadiyat and Cheraghali 2012); (Damavand County, Jilard), humus, soil, leaf litter; (Damavand County, Guilavand), humus, soil, leaf litter and manure; (Damavand County, Damavand), humus soil, manure, leaf litter; (Damavand County, Jaban), apple garden soil and garden soil (Mousavi *et al.* 2021).

***Olopachys hallidayi* (Özbek, 2014)**

Distribution and habitats. **East Azarbaijan Province** (Maragheh region, Chekan village), soil of walnut tree and plum tree; (Chay Baghi village), soil of walnut tree; (Maragheh region, Agh Kand village), leaf-litter; (Maragheh region, Nova village), soil of plum tree; (Maragheh region, Alavian village), soil of plum tree; (Maragheh region, Tazeh Kand village), soil of walnut tree; (Maragheh region, Tazeh Kand village), manure of almond tree; (Maragheh region, Ozbak village), soil of walnut tree; (Maragheh region, Ashan village), soil of sour cherry tree; (Maragheh region, Kahaq village, soil of walnut tree near river; (Maragheh region, Kahaq village), soil of apple tree; (Maragheh region, Senowkesh village), soil of quince tree; (Maragheh region, Esfestanaj village), soil of walnut tree (Valizadeh *et al.* 2019). **Tehran Province** (Damavand County, Damavand), leaf litter and manure (Mousavi *et al.* 2021).

***Olopachys iraniensis* Mojahed *et al.* 2019**

Distribution and habitats. **Guilan Province** (Rasht County, Emamzadeh Hashem), soil under poplar and pine trees; (Langrud County), soil under citrus trees (Mojahed *et al.* 2019); (Langarud, Otaqvar), soil under orange trees [*Citrus sinensis* (L.)] (Hajizadeh and Hosseini 2020).

***Olopachys magnoexudatus Moghimi et al*., 2019**

Distribution and habitats. **Mazandaran Province** (natural forests of Behshahr), soil and litter (Moghimi *et al.* 2019).

***Olopachys masani* Hajizadeh & Hosseini, 2020**

Distribution and habitats. **Guilan Province** (region not mentioned), soil under citrus trees (Hajizadeh and Hosseini 2020).

***Olopachys* sp.**

Distribution and habitats. **Guilan Province** (Otaghvar-Langrud), soil of tea (Hajizadeh *et al.* 2020).

Genus *Onchodellus* Berlese, 1904c

***Onchodellus alpinus* (Willmann, 1953a)**

Distribution and habitats. **Guilan Province** (Saravan Forest), soil under pine tree (Mojahed *et al.* 2017); (Moein Hotel-Fuman, Vajargah-Kelachay), soil of tea (Hajizadeh *et al.* 2020); (Pasikhan Village), litter (Ghasemi and Hajizadeh 2021). **Tehran Province** (region not mentioned), honeybee hives (Rahmani *et al.* 2006).

Note – Ahangaran *et al*. (2012) reported a species as *O. cf. alpinus* from Mazandaran Province (Nowshahr), beech leaf litter.

Onchodellus anovillosus (Berlese, 1920)

Distribution and habitats. **Isfahan Province** (Mobarake, Zarrinshahr), soil of fruit orchards (Jalaeian *et al.* 2004b).
Note – Jalaeian *et al*. (2004b) reported the above species as *Pachylaelaps costai* Hirschmann & Krauss, 1965, but Ahadiyat *et al*. (2021) considered this species as *O. anovillosus*.

Onchodellus hispani (Berlese, 1908)

Distribution and habitats. **East Azarbaijan Province** (Arasbaran Protected Area, Khoda Afarin County, Khomarlu City), phoretic on the body of an adult unidentified scarabaeid beetle (probably of the genus *Copris* Müller, 1764) (Ahadiyat *et al.* 2020). **Guilan Province** (Saravan Forest), soil under pine tree (Mojahed *et al.* 2017). **Kerman Province** (region not mentioned), soil (Ahmadi 2002).
Note – This species was reported by Ahmadi (2002) as *Pachylaelaps hispani* Berlese, 1903 from Kerman Province.

Onchodellus karawaiewi (Berlese, 1920)

Distribution and habitats. **Alborz Province** (Karaj County, Karaj City, Sichall Mountainous Area, Dizin), ant's nest; (Karaj County, Chalus Road, Asara District, Adaran Rural District, Kushk-e Bala Village), ants' nest (Ahadiyat *et al.* 2020). **Chaharmahal va Bakhtiyari Province** (Shahrekord), soil and litter (Babaeian and Kazemi 2011). **East Azarbaijan Province** (region not mentioned), soil (Kamali *et al.* 2001); (Southwest), soil (Hashemi Khabir *et al.* 2013); (Arasbaran Forests, Vaygan, Kalaleh), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016a). **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); (Shiraz), associated with insectary cultures including potato (*Solanum tuberosum* L.), zucchini (*Cucurbita pepo* L.) and wheat flour (Granpayeh and Ostovan 2014); (Northwestern), soil and debris (Abolghasemi and Kazemi 2016); (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017); (Shiraz, green spaces and orchards of fruit trees), soil and decayed material on the soil surface (Farzaneh *et al.* 2021); (Darab), the soil under the trees in the northern and southern orchards of Darab city (Memarzadeh *et al*. 2022). **Golestan Province** (Kalale), soil (Zakeri *et al.* 2011). **Hamedan Province** (region not mentioned), bean (*P. vulgaris*), clover (*Trifolium* sp.), alfalfa, and sainfoin (Khanjani and Kamali 2000a, b; Kamali *et al.* 2001); soil of fruit trees and weeds (Rostami *et al.* 2010). **Isfahan Province** (Kashan, Hanjan), persimons plantation and fava beans fields (Abutaleb Kermani *et al.* 2017); (Isfahan), soil of urban green spaces (Karbasian *et al*. 2022). **Kerman Province** (region not mentioned), soil (Ahmadi 2002); (Baft), soil (Rajaei *et al.* 2011b); (Rafsanjan), soil of fruit orchards (Mohammadi *et al.* 2012); (Kerman, Bahonar Park), soil and litter (Kazemi and Rajaei 2013); (Shahr-e-Babak), soil and manure (Masnavipour *et al.* 2014); (Kerman City, parks and landscapes), soil (Arjomandi and Kazemi 2014b); (Baft City), soil and manure in croft; (Rafsanjan City), soil of orchard; (Zarand City), soil (Ahadiyat *et al.* 2020); (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020). **Kermanshah Province** (Rijab), soil (Babakfard *et al.* 2007); fruit orchards (Babakfard *et al.* 2008). **Khuzestan Province** (Safiabad), Grapevine yards (Kamali *et al.* 2001; Darvishzadeh and Kamali 2009); (Ahvaz and its suburbs), sheep manure (Farahi *et al.* 2022). **Lorestan Province** (Bishe and Sabzevar Districts), soil of walnut trees and soil of peach orchard (Hasanvand *et al.* 2014b); (Badrabad District), soil under

cedar trees (Hasanvand *et al.* 2014b); (Khorramabad), orchard, oak forest, ant nest and field (Hasanvand *et al.* 2015). **Markazi Province** (Arak), soil (Seifori *et al.* 2006). **Mazandaran Province** (Nowshahr), soil (Ahangaran *et al.* 2010b); leaf litter of Mediterranean cypress (*Cupressus sempervirens*), cow and sheep manure (Ahangaran *et al.* 2012). **North Khorasan Province** (Bojnurd), soil of farms, gardens and manures (Mahpikaran *et al.* 2012). **Razavi Khorasan Province** (Kashmar), soil of vineyards (Salarzehi *et al.* 2011); (Mashhad), soil (Abbaspour *et al.* 2017). **South Khorasan Province** (Tabas County, Deyhuk District, Deyhuk City), soil (Ahadiyat *et al.* 2020). **Tehran Province** (Shemiranat, Rudbaar-Ghasran), soil, leaf-litter, debris of trees, ground covering plants and ants' nest (Ahadiyat and Cheraghali 2012); (region not mentioned), associated with ornamental plants (Hamidi *et al.* 2013); (Tehran City, Police Park), soil (Maleki *et al.* 2016); (Tehran City, Qeytariyeh Park), soil; (Shemiranat County, Rudbar-e Qasran District, Rudbar-e Qasran Rural District, Zaygan Village), leaf-litter of common ivy; (Shemiranat County, Rudbar-e Qasran District, Rudbar-e Qasran Rural District, Garmabdar Village), soil of walnut trees (Ahadiyat *et al.* 2020); (Damavand County, Jilard), humus, soil, leaf litter; (Damavand County, Guilavand), humus and soil; (Damavand County, Guilavand), humus, soil, leaf litter and manure; (Damavand County, Absard), soil, leaf litter; (Damavand County, Seyyedabad), soil (Mousavi *et al.* 2021). **West Azarbaijan Province** (Urmia), soil (Rezaie *et al.* 2011); (Salmas), soil and plant debris of apple orchards (Alizadeh and Shirdel 2012). **Yazd Province** (Taft County, Taft City), soil of pomegranate trees; (Taft County, Shirkuh Rural District, Tezerjan Village), soil of walnut and almond trees; (Taft County, Shirkuh Rural District, Deh-e Bala Village), soil of walnut trees; (Mehriz County, Miankuh Rural District, Fakhr-abad Village), soil of walnut tree; (Mehriz County, Miankuh Rural District, Ebrahim- abad Village), soil of pomegranate tree; (Mehriz County, Miankuh Rural District, Banadak Sadat Village), soil of orchard; (Mehriz County, Miankuh Rural District, Manshad Village), soil; (Mehriz County, Khormiz Rural District, Khormizat Village), soil; (Ardakan County, Kharanaq District, Sarv Park), soil (Ahadiyat *et al.* 2020).

Onchodellus masani Ahadiyat, Ghasemi Moghadam & Abutaleb Kermani, 2020

Distribution and habitats. **Yazd Province** (Taft County, Shirkuh Rural district, Deh-e Bala village), soil of walnut tree; (Meybod, Baharan Park), soil (Ahadiyat *et al.* 2020).

Onchodellus procerus Mašán, 2007

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

Note – Ahadiyat *et al*. (2020) removed this species from the list of the Iranian *Onchodellus* species due to no success in communication with authores of the paper (Nazari-Tajani *et al.* 2012) to check the specimen(s), and because this species was a rare endemic mite found in Slovakia that described by only three female specimens by Mašán (2007). Because the above-mentioned reasons are not completely convincing for removing this species from Iranian mite fauna, we temporarily put it in the list until a more detailed investigation has been done.

Onchodellus siculus (Berlese, 1892a)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), ex. *Pentodon* sp. (Babaeian and Kazemi 2011). **Guilan Province** (Emamzadeh Hashem (forest area)), soil under poplar tree; (Astaneh-Ashrafieh Safrabasteh forest), soil under oak tree (Mojahed *et al.* 2017). **Hamedan Province** (region not mentioned), soil of fruit trees and weeds (Rostami *et al.* 2010). **Kerman Province** (region not mentioned), soil (Ahmadi 2002). **West Azarbaijan Province** (Miandoab Plain), foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003).

Onchodellus strigifer (Berlese, 1892a)

Distribution and habitats. **Alborz Province** (Sharestanak), ants' nest; (Taleqan, Mehran Village), ant's nest (Ahadiyat *et al.* 2020). **Guilan Province** (Saravan Forest), soil under oak tree (Mojahed *et al.* 2017). **Tehran Province** (Shemiranat, Rudbar-Ghasran), soil, leaflitter, debris of trees, ground covering plants and ants' nest (Ahadiyat and Cheraghali 2012); (Damavand County, Guilavand), humus, soil, leaf litter and manure; (Damavand County, Atabak), soil (Mousavi *et al.* 2021). **Qazvin Province** (Abyek County, Ziaran Rural District, Khoznan Village), humus (Ahadiyat *et al.* 2020). **Yazd Province** (Taft City, Deh-e Bala Village), soil of walnut tree (Ahadiyat *et al.* 2020).
Notes – 1. *Onchodellus glandularis* (Moraza & Peňa, 2005) has been reported from Tehran Province (Shemiranat, Rudbar-Ghasran), soil and leaf-litter, debris of trees, ground covering plants and ants' nest by Ahadiyat and Cheraghali (2012). In the recent work, Ahadiyat *et al*. (2020) reported that this species seems to belong to a closely related species, *O. strigifer*. So, the previous species name (*O. glandularis*) removed from the Iranian mite species. **2.** *Onchodellus squamosus* (Koroleva, 1977) was reported from Guilan Province [Emamzadeh Hashem (forest area)] from soil under poplar tree (Mojahed *et al.* 2017), but has been removed from the list of the species of this genus by Ahadiyat *et al*. (2020), and we follow it here. **3.** *Pachylaelaps brachiosus* Hirschmann & Krauss, 1965 which is a species of the genus *Onchodellus* reported from Isfahan Province (Goldasht, Qale'e Sefid), soil of fruit orchards by Jalaeian *et al.* (2004b), here we follow Ahadiyat *et al*. (2020), and removed it from the list of the Iranian species.

Genus *Pachylaelaps* Berlese, 1888b

Pachylaelaps grandis Koroleva, 1977

Distribution and habitats. **Golestan Province** (Kalale, Minudasht), soil (Zakeri *et al.* 2011). **Guilan Province** (Shaft Chubar forest), soil under pine, oak and poplar trees; (Astaneh-Ashrafieh Safrabasteh forest), soil under oak trees; (Saravan Forest), soil under ironwood (*Parrotia persica*, Hamamelidaceae), oak, hawthorn trees and pine trees; (Rezvanshahr-Talesh Gisoum forest), soil and moss under pine trees; (Guilan University pine forest), soil under pine trees (Mojahed *et al.* 2017); (Rasht County. Astaneh-e Ashrafiyyeh Town, Safrabasteh Forest), soil under oak tree (*Quercus castaneifolia*); (Emamzadeh Hashem Forest), soil under poplar tree (*Populus caspica*); (Rasht City, Guilan University), soil under pine (*Pinus halepensis*); (Saravan Forest), soil under Persian ironwood tree (*Parrotia persica*), hawthorn tree (*Crataegus pentagyna*), and oak tree (*Q. castaneifolia*); (Shaft County, Chubar Forest), soil under pine tree (*P. halepensis*), oak tree (*Q. castaneifolia*), and poplar tree (*P. caspica*) (Mašán *et al.* 2018); (Lahijan, Kumeleh-Langrud, Mahvizan-Someh SaraMoein Hotel-Fuman, Otaghvar-Langrud, Rahimabad-Rudsar, Amlash), soil of tea (Hajizadeh *et al.* 2020); (Bijar Bonch village), litter (Ghasemi and Hajizadeh 2021). **Mazandaran Province** (Nowshahr, Ecological (Botanical) Garden of Nowshahr), soil and litter (Saberi *et al.* 2016). **Tehran Province** (Shemiranat, Rudbar-Ghasran), soil, leaflitter, debris of trees, ground covering plants and ants' nest (Ahadiyat and Cheraghali 2012); (Damavand County, Ureh), soil and leaf litter (Mousavi *et al.* 2021).

Pachylaelaps imitans Berlese, 1920

Distribution and habitats. **Kerman Province** (region not mentioned), soil (Ahmadi 2002). **Guilan Province** (Saravan Forest), soil under ironwood (Mojahed *et al.* 2017).

Pachylaelaps insularis (Berlese, 1883)

Distribution and habitats. **Lorestan Province** (Khorramabad), orchard (Hasanvand *et al.* 2015). **Mazandaran Province** (Nowshahr), leaf litter of box-tree (*Buaxux*), hornbeam (*Carpinus betulus*)

and beech (*Fagus*) trees and animal manure (Ahangaran *et al.* 2012).

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

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), soil and litter (Babaeian and Kazemi 2011); (Saman), soil (Shariati *et al.* 2017). **East Azarbaijan Province** (Southwest), soil (Hashemi Khabir *et al.* 2013). **Fars Province** (Northwestern), soil and debris (Abolghasemi and Kazemi 2016); (Shiraz, Eram Garden), soil under different trees (Javan *et al.* 2017); (Shiraz, green spaces and orchards of fruit trees), soil and decayed material on the soil surface (Farzaneh *et al.* 2021). **Golestan Province** (Marzankalateh), ex. *C. hispanus* (Bahrami *et al.* 2011). **Guilan Province** (region not mentioned), Citrus leaves, soil of gardens and floor weeds (Nazari-Tajani *et al.* 2012); (Astaneh-Ashrafieh Safrabasteh forest), soil under oak trees; (Shaft Chubar forest), soil under pine and oak trees (Mojahed *et al.* 2017); (Chaboksar, Siahkalroud, Chaykhansar), soil under citrus trees (Hajizadeh and Hosseini 2020). **Isfahan Province** (Najaf Abad, Mobarake), soil of fruit orchards (Jalaeian *et al.* 2004b); (Kashan), soil (Sekonji *et al.* 2011); (Kashan, Niyasar), roadside soil (Abutaleb Kermani *et al.* 2017). **Kerman Province** (Baft), soil (Rajaei *et al.* 2011b); (Jiroft), soil (Balooch Shahryari *et al.* 2012); (Shahr-e-Babak), soil and manure (Masnavipour *et al.* 2014); (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020). **Lorestan Province** (Shirkhani District), soil of apricot orchard (Hasanvand *et al.* 2014b); (Khorramabad), orchard, oak forest, ant nest and field (Hasanvand *et al.* 2015). **Mazandaran Province** (Nowshahr), soil (Ahangaran *et al*. 2010b); chicken and animal manure (Ahangaran *et al*. 2012). **Tehran Province** (Shemiranat, Rudbaar-Ghasran), soil, leaf-litter, debris of trees, ground covering plants and ants' nest (Ahadiyat and Cheraghali 2012); (Damavand County, Guilavand), humus, soil, leaf litter and manure; (Damavand County, Damavand), soil; (Damavand County, Ureh), soil and leaf litter; (Damavand County, Damavand), soil, leaf litter, manure and humus; (Damavand County, Damavand), humus soil, manure; (Damavand County, Jaban), garden soil (Mousavi *et al.* 2021). **West Azarbaijan Province** (Urmia), soil (Rezaie *et al.* 2011).

Pachylaelaps prodigiosus Mašán *et al.*, 2018

Distribution and habitats. **Guilan Province** (Rasht County, Saravan Forest), soil under Persian ironwood tree (*Parrotia persica*), soil under hawthorn tree (*Crataegus pentagyna*), soil under oak tree (*Quercus castaneifolia*), and pine tree (*Pinus halepensis*) (Mašán *et al.* 2018).

Pachylaelaps resinae Karg, 1971a

Distribution and habitats. **Ardabil Province** (Moghan Plain), cotton fields (Kamali *et al.* 2001). **Guilan Province** (region not mentioned), Citrus leaves, soil of gardens and floor weeds (Nazari-Tajani *et al.* 2012); (Chaboksar, Qasemabad), soil under citrus trees (Hajizadeh and Hosseini 2020). **Hamedan Province** (region not mentioned), wild sainfoin (Kamali *et al.* 2001). **Kerman Province** (region not mentioned), soil (Ahmadi 2002). **Kermanshah Province** (Rijab), soil (Babakfard *et al.* 2007); fruit orchards (Babakfard *et al.* 2008). **Mazandaran Province** (Nowshahr), leaf litter of box-tree (*Buaxux*), hornbeam (*Carpinus betulus*), Mediterranean cypress (*Cupressus sempervirens*) and *Zelkova* (Ahangaran *et al*. 2012). **West Azarbaijan Province** (Khoy), soil of sunflower fields (Taher *et al.* 2012); (Salmas), soil and plant debris of apple orchards (Alizadeh and Shirdel 2012).

Pachylaelaps vicarius Mašán, 2007

Distribution and habitats. **Alborz Province** (Karaj), in nest of *Tapinoma* sp. (Shahrestānak), in nest of unknown *Camponotus* species (Ahadiyat *et al.* 2014b). **Tehran Province** (Shemirānāt County,

Roodbār Ghasrān region, Fasham, Shāhed Boulevard, Ahār Village, Igel Village), soil under cherry tree, willow tree debris and humus, soil near root collar of willow tree (Ahadiyat *et al.* 2014b); (Damavand County, Jilard), humus, soil, leaf litter; (Damavand County, Guilavand), humus, soil, leaf litter and manure; (Damavand County, Cheshmeh Ala), garden soil; (Damavand County, Ureh), soil and leaf litter; (Damavand County, Damavand), leaf litter and manure (Mousavi *et al.* 2021).
Notes – 1. *Pachylaelaps longisetis* Halbert, 1915 reported from Chaharmahal va Bakhtiyari Province (Saman) from soil by Shariati *et al.* (2017), but not confirmed by Ahadiyat *et al*. (2020) and not listed here. **2.** *Pachylaelaps magnus* Halbert, 1915 reported by Ahmadi (2002) from Kerman Province (region not mentioned), soil and have removed from the Iranian mite list by Ahadiyat *et al*. (2020), which follow here. **3.** *Pachylaelaps denticulatus* (Hirschmann & Krauss, 1965) reported by Rajaei *et al.* (2011b), but after re-examination of the specimens by Sh. Kazemi it was removed from the list of this family by Kazemi and Rakaei (2013), and we follow it.

Genus *Pachyseius* Berlese, 1910a

Pachyseius angustoides Babaeian & Mašán, 2016

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord, Saman, Dashti Village), soil and leaf litter (Babaeian *et al.* 2016).

Pachyseius angustus Hyatt, 1956

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), Sandy riverbank (Babaeian and Kazemi 2011).
Note – However, the above-mentioned species has been removed from the Iranian mite fauna by Babaeian *et al*. (2016a) and it was followed by Ahadiyat *et al*. (2020), but until doing a precise study on type materials of close related species, including *P. angustoides*, *P. masani* Ozbek & Halliday, 2014 and *P. mašánisimilis* Ahadiyat & Ghasemi Moghadam, 2016 we include it in the list of this genus in Iran.

Pachyseius humeralis Berlese, 1910a

Distribution and habitats. **Fars Province** (Eghlid region), soil of apple trees (Gholami and Ostovan, 2013).

Pachyseius mašánisimilis Ahadiyat & Ghasemi Moghadam, 2016

Distribution and habitats. **East Azarbaijan Province** (Arasbaran forests), soil, leaf-litter and plant debris (Ordoukhanian *et al.* 2017). **Tehran Province** (Shemirānāt, Rudbāre Qasrān District, Fasham City, Shemshak City, and Garmābdar Village), soil, humus and leaf litter (Ahadiyat *et al.* 2016).
Note – Specimens of *Pachyseius mašánisimilis* Ahadiyat & Ghasemi Moghadam, 2016 from some parts of Iran, including the places where the type specimen was collected, have been examined with type material of *P. masani* Ozbek & Halliday, 2014 by A. Nemati and no authentic morphological differences was observed. We believe those are very close species and may be possible to consider as synonym. A more detailed study is necessary for checking the type materials of *P. masanisimilis*, so until doing such investigation, we include it in the list of Iranian mite fauna.

Pachyseius persicus Babaeian & Mašán, 2016

Distribution and habitats. **Mazandaran Province** (Nowshahr City, Koliak Village), in leaf litter and soil detritus (Babaeian *et al.* 2016a).

Family Parholaspididae Evans, 1956
Genus *Gamasholaspis* Berlese, 1904a

Gamasholaspis akimotoi (Ishikawa, 1966)

Distribution and habitats. **Guilan Province** (Tea Research Institute-Lahijan, Rasht, Bazar Jomeh), soil; (Rasht, Keshel Varzal Village), bell pepper, *Capsicum annuum* L. (Solanaceae) leaves; (Rasht, Pasikhan Village), litter (Hajizadeh 2022b).

Gamasholaspis browningi (Bregetova & Koroleva, 1960)

Distribution and habitats. **Guilan Province** (Rudbar, Rostamabad, Naqlabar village), soil (Hajizadeh 2022b).

Gamasholaspis gamasoides Berlese, 1904a

Distribution and habitats. **Guilan Province** (Rasht, Pasikhan village), litter; (Rasht, Pir Bazar village), soil (Ghasemi and Hajizadeh 2021); (Rasht, Pasikhan Village), litter; (Rasht, Pir Bazar Village), soil (Hajizadeh 2022b). **Tehran Province** (region not mentioned), ornamental plants (Hamidi *et al.* 2013); (Tehran City, Police Park), soil (Maleki *et al.* 2016).

Gamasholaspis incisus Petrova, 1968

Distribution and habitats. **Guilan Province** (Tea Research Institute-Lahijan), soil of tea (Hajizadeh *et al*. 2020); (Rasht, Bijar Bonch village), soil; (Rasht, Pasikhan village), litter; (Rasht, Keshel Varzal village), bell pepper, *C. annuum* leaves (Ghasemi and Hajizadeh 2021). **Mazandaran Province** (Nowshahr), leaf litter and soil under ginkgo or maidenhair tree (*Ginkgo biloba*) (Ahangaran *et al*. 2012); (region not mentioned), soil and litter (Kazemi *et al.* 2014a); (Nowshahr, Ecological (Botanical) Garden of Nowshahr), soil and litter (Saberi *et al.* 2016). **Tehran Province** (Damavand County, Damavand), leaf litter and manure (Mousavi *et al.* 2021).

Genus *Holaspina* Berlese, 1916

Holaspina muscorum (Ewing, 1909)

Distribution and habitats. **Isfahan Province** (Najaf Abad, Falavarjan, Goldasht), soil of fruit orchards (Jalaeian *et al.* 2004b).
Notes – 1. This species was reported by Jalaeian *et al*. (2004b) as *Holaspina pulchella* Berlese, 1916, while it was considered as a junior synonym of *Holaspins muscorum* by Hennessey and Farrier (1988). **2.** Latifi *et al.* (2006) described *Holaspina persicus* from Tehran Province (Jamshidieh), from soil samples. Kazemi and Rajaei (2013) excluded it from Iranian checklist of Mesostigmata due to indistinct location of type materials. Quintero-Gutiérrez and Halliday (2021) considered this name as a *nomen nudum* (ICZN Article 16.4.2.) for the same reason. Hajizadeh (2023) confirmed this idea as we also follow it here.

Genus *Holaspulus* Berlese, 1904

Holaspulus tenuipes (Berlese, 1904a)

Distribution and habitats. **Guilan Province** (Rasht, Jirdeh village), litter; (Rasht, Bijar Bonch village), soil; (Rasht, Isfahani Educational Institute), wood sorrel, *O. acetosella* leaves (Ghasemi and Hajizadeh 2021); (Rasht, Jirdeh Village), litter; (Rasht, wood sorrel, *Oxalis acetosella* L.

(Oxalidaceae) leaves; (Bijar Boneh Village), soil (Hajizadeh 2022b). **Isfahan Province** (Isfahan), soil and litter (Ramezani and Nemati 2010). **Mazandaran Province** (Nowshahr, Ecology Garden, Narenjbon), litter and humus; (Tonekabon), soil and litter (Kazemi *et al.* 2012); (region not mentioned), soil and litter (Kazemi *et al.* 2014a); (Nowshahr, Ecological (Botanical) Garden of Nowshahr), soil and litter (Saberi *et al.* 2016).

Genus *Krantzolaspina* Datta & Bhattacharjee, 1989

Krantzolaspina angustatus (Ishikawa, 1987)

Distribution and habitats. **Isfahan Province** (Isfahan), soil (Kadkhodaei *et al.* 2013). **Kerman Province** (Jiroft), soil and litter at the base of *Phoenix dactylifera* (Arecaceae), of *Medicago sativa* (Fabaceae), and of *Citrus sinensis* Osbeck (Rutaceae) (Hajizadeh *et al.* 2017).
Note – Kadkhodaei *et al*. (2013) reported the species mentioned above as *Proparholaspulus angustatus* Ishikawa, 1987. This species was later described as a new species by Hajizadeh *et al*. (2017) and named *Indutolaelaps jiroftensis* (Leptolaelapidae) from Kerman Province (Jiroft). Quintero-Gutiérrez *et al*. (2020) transferred *P. angustatus* to the genus *Krantzolaspina* and also synonymized *Indutolaelaps jiroftensis* with *Krantzolaspina angustatus* (Ishikawa, 1987). While we agree with Quintero-Gutiérrez *et al*.'s (2020) idea about the synonymy, we do not agree with the transfer of *Proparholaspulus angustatus* to *Krantzolaspina* Datta & Bhattacharjee, 1989. We will be publishing our opposing viewpoint on this issue soon.

Genus *Lattinella* Krantz, 1960

Lattinella sp.

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

Genus *Neparholaspis* Evans, 1956

Neparholaspis arcuatus Petrova, 1977

Distribution and habitats. **Guilan Province** (Otaghvar-Langrud, Moein Hotel-Fuman, Amlash, Vajargah-Kelachay, Rahimabad-Rudsar), soil of tea (Hajizadeh *et al.* 2020); (Rasht, Bijar Bonch village, Keshel Varzal village), litter; (Rasht, Jirdeh village), soil (Ghasemi and Hajizadeh 2021); (Fuman, Otaghvar, Langarud, Vajargah, Kelachay, Rahimabad, Rudsar, Amlash), soil; (Rasht, Keshel Varzal Village, Rasht, Bijar Boneh Village), litter (Hajizadeh 2022b); (Astaneh-ye Ashrafiyeh, Kashel, Azadmahalleh), soil of peanut plant (Askari *et al.* 2023). **Mazandaran Province** (region not mentioned), soil and litter (Kazemi *et al.* 2014a); (Nowshahr, Ecological (Botanical) Garden of Nowshahr), soil and litter (Saberi *et al.* 2016).

Neparholaspis sp.

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

Genus *Parholaspulus* Evans, 1956

Parholaspulus alstoni Evans, 1956

Distribution and habitats. **Alborz Province** (Karaj), stored products (Sayedi *et al.* 2006). **Fars Province** (Shiraz, Eram Garden), soil under different trees (Javan *et al.* 2017). **Guilan Province** (Tea

Research Institute-Lahijan, Vajargah-Kelachay) soil of tea; (Rahimabad-Rudsar), soil and leaf litter of tea (Hajizadeh *et al.* 2020); (Tea Research Institute-Lahijan, Vajargah-Kelachay), soil; (Rahimabad-Rudsar), soil and leaf litter (Hajizadeh 2022b). **Isfahan Province** (Khomeini Shahr), soil of fruit trees orchards (Jalaeian *et al.* 2006); (Isfahan), soil and litter (Ramezani and Nemati 2010; Khalili-Moghadam *et al.* 2012). **Kerman Province** (Rafsanjan, Sirjan, Dochahi, Mani), soil (Masnavipour *et al.* 2011); (Rafsanjan), soil, manure and litter (Masnavipour *et al.* 2014). **Markazi Province** (Arak), soil (Seifori *et al.* 2006). **Mazandaran Province** (Nowshahr), leaf litter and soil under ginkgo or maidenhair tree (*Ginkgo biloba*) (Ahangaran *et al*. 2012); (region not mentioned), soil and litter (Kazemi *et al.* 2014a); (Nowshahr, Ecological (Botanical) Garden of Nowshahr), soil and litter (Saberi *et al.* 2016). **Tehran Province** (Tehran, Shahid Beheshti University Campus), soil (Kamali *et al.* 2004); (Tehran, Lale Park); (Tehran, Sorkhe Hesar Forest Park), soil (Pakyari *et al.* 2006b, 2008); soil and litter (Kazemi and Rajaei 2013); (region not mentioned), ornamental plants (Hamidi *et al.* 2013); (Tehran City, Police Park), soil (Maleki *et al.* 2016); (Damavand County, Damavand), soil, leaf litter, manure, humus (Mousavi *et al.* 2021). **Zanjan Province** (region not mentioned), soil (Bigdeli *et al.* 2014).

Superfamily Phytoseoidea Berlese, 1916
Family Blattisociidae Garman, 1948
Genus *Blattisocius* Keegan, 1944

Blattisocius damghaniae Shams, Kazemi & Saboori, 2016

Distribution and habitats. **Semnan Province** (Damghan City, Agareh Village), rotting sawdust (Shams *et al.* 2016).

Blattisocius dentriticus (Berlese, 1918)

Distribution and habitats. **Seventeen different Provinces in Iran**, beehives debris (Ostovan and Mossadegh 1999). (Province and region not mentioned), stored products (Sepasgozarian 1978; Modarres Awal 1994, 1997; Kamali *et al.* 2001). **Fars Province** (Shiraz), Potato, zucchini, flour and the floor of insectariums (Granpayeh *et al.* 2012); (Shiraz), associated with insectary cultures including potato (*Solanum tuberosum* L.), zucchini (*Cucurbita pepo* L.) and wheat flour (Granpayeh and Ostovan 2014). **Guilan Province** (Sangar), from rice bran; (Rasht), from colony of *Ephestia* sp. (Javadpour *et al.* 2018). **Khuzestan Province** (region not mentioned), honeybee hives (Kamali *et al.* 2001).

Blattisocius keegani Fox, 1947

Distribution and habitats. **Guilan Province** (region not mentioned), soil, plants, warehouses, manure and decaying plants (Hajizadeh *et al.* 2009b, 2010a); (Rasht, Jafarabad village), collected from rice warehouse; (Sangar), from rice bran; (Shaft, Aqa Sayyed Sharif village), from rice bran; (Rasht, University of Guilan), from warehouse rice and colony of *Ephestia* sp.; (Rasht), from horse manure and rice plant remnants, rice bran; (KuchIsfahan), from apple leaves; (Khomam), from rice bran; (Ziabar), from Sawdust (Javadpour *et al.* 2018); (Rasht), on, white petunia [*Petunia axillaris* (Lam.)] flower (Hajizadeh and Salarzehi 2018). **Kurdistan Province** (region not mentioned), associated with stored flour and wheat (Maroufpoor and Ostovan 2017; Maroufpoor *et al.* 2017). **Semnan Province** (Mehmandust Village), from decaying hay (Shamsi *et al.* 2008). **West Azarbaijan Province** (region not mentioned), rats (Modarres Awal 1994, 1997; Sepasgozarian 1978; Kamali *et al.* 2001); (Urmia), house dust (Kamali *et al.* 2001).

Blattisocius mali (Oudemans, 1929)

Distribution and habitats. (Province and region not mentioned), stored products (Sepasgozarian 1978; Modarres Awal 1994, 1997; Kamali *et al.* 2001). **Zanjan Province** (Zanjan County), soil, rotten wood, fungi, litter, and dung (Zare *et al.* 2012b).

Blattisocius tarsalis (Berlese, 1918)

Distribution and habitats. (Province and region not mentioned), barley, flour, predacious on eggs and larvae of *Sitotroga* spp. and *Ephestia* spp. (Sepasgozarian 1978; Modarres Awal 1994, 1997; Ostovan and Kamali 1994; Kamali *et al.* 2001). **Fars Province** (Kazeron), different materials of stored products (Ostovan and Kamali 1994); (Shiraz), potato, zucchini, flour and the floor of insectariums (Granpayeh *et al.* 2012); (Shiraz), associated with insectary cultures including potato (*Solanum tuberosum* L.), zucchini (*Cucurbita pepo* L.) and wheat flour (Granpayeh and Ostovan 2014); (Shiraz), collected from the houses of patients referred to the asthma and allergy by vacuum cleaner (Shafei *et al.* 2020). **Guilan Province** (region not mentioned), soil, plants, warehouses, manure and decaying plants (Hajizadeh *et al.* 2009b, 2010a); (Rasht, University of Guilan), from colony of *Plodia* sp.; (Saravan), soil; (Rasht), from stored rice; (Sowme'eh-Sara), from rice bran; (Emamzadeh Hashem), from straw (Javadpour *et al.* 2018); (Kelachay), on cleavers (*Galium aparine* L.) flower (Hajizadeh and Salarzehi 2018). **Golestan Province** (Gorgan), soil (Malek-Shahkouyi *et al.* 2011b). **Isfahan Province** (Isfahan), soil of urban green spaces (Karbasian *et al*. 2022).

Genus *Cheiroseius* Berlese, 1916a

Cheiroseius borealis (Berlese, 1904a)

Distribution and habitats. **West Azarbaijan Province** (Urmia, Band), soil of apple orchard; (Urmia University), soil of cypress yard (Kavianpour et al. 2018b). **Zanjan Province** (Zanjan County), soil, rotten wood, fungi, litter, and dung (Zare *et al.* 2012b); (Zanjan. region not mentioned), soil (Bigdeli *et al.* 2014).

Cheiroseius bryophilus (Karg, 1969)

Distribution and habitats. **Guilan Province** (region not mentioned), soil, plants, warehouses, manure and decaying plants (Hajizadeh *et al.* 2009b, 2010a); (Rasht, Saravan Forest), from soil of oak forest; (Ziabar, Bahambar village), from soil of rice farm; (Rudsar), from soil of hazelnut garden; (Hashtpar), soil; (Rezvanshahr), soil; (Rostamabad), soil; (Lasht-e-nesha), soil; (Astaneh ye Ashrafiyeh), forest soil; (Daylaman), forest soil; (Chubar), forest soil; (Rezvanshahr) soil (Javadpour *et al.* 2018). **West Azarbaijan Province** (Urmia, Band), soil of apple orchard (Kavianpour *et al.* 2018b).

Cheiroseius cascadensis (De Leon, 1964)

Distribution and habitats. **Guilan Province** (region not mentioned), soil, plants, warehouses, manure and decaying plants (Hajizadeh *et al.* 2009b, 2010a); (Langarud), soil of alder and elm forests (Javadpour *et al.* 2018). **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).

Cheiroseius curtipes (Halbert, 1923)

Distribution and habitats. **Guilan Province** (region not mentioned), soil, plants, warehouses, manure

and decaying plants (Hajizadeh *et al.* 2009b, 2010a); (Taklim), collected from soil and soil under olive trees (Mahjoori *et al.* 2015); (Rasht, Saravan Forest), soil (Javadpour *et al.* 2018); (Rasht County), wood sorrel, *Oxalis acetosella* L. (Oxalidaceae) 1eaves infested with spider mites (Ghasemi and Hajizadeh 2020). **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). **West Azarbaijan Province** (Urmia, Band), soil of apple orchard; (Sulik village), soil and litter (Kavianpour et al. 2018b).

Cheiroseius longipes (Willmann, 1949)

Distribution and habitats. **Guilan Province** (region not mentioned), soil, plants, warehouses, manure and decaying plants (Hajizadeh *et al.* 2009b, 2010a); (region not mentioned), associated with eriophyid mite [*Aceria granati* (Canestrini and Massalongo)] (Adeli *et al.* 2013); (Manjil), collected from foliage, soil under olive trees (Mahjoori *et al.* 2015); (Langarud), soil of alder and elm forests, (Rasht, Saravan Forest), soil (Javadpour *et al.* 2018); (Rasht County, Jirdeh Village), soil (Ghasemi and Hajizadeh 2020). **West Azarbaijan Province** (Urmia, Shohada valley), soil and litter; (Band), soil of apple orchard (Kavianpour et al. 2018b).

Cheiroseius manouchehrii Shamsi & Saboori, 2013

Distribution and habitats. **Semnan Province** (Damghan, Agareh Village), soil mixed with the hairy roots of a willow tree near the pool of a stream (Shamsi and Saboori 2013).

Cheiroseius necorniger (Oudemans, 1903a)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), soil (Nemati *et al.* 2012d). **Guilan Province** (region not mentioned), soil, plants, warehouses, manure and decaying plants (Hajizadeh *et al.* 2009b, 2010a); (Fuman city, Komadul village), soil of rice farm (Javadpour *et al.* 2018). **Kerman Province** (Kerman City, parks, and landscapes), soil (Arjomandi and Kazemi 2014b). **Khuzestan Province** (Ahvaz), soil and ex. *Musca domestica* L. (Nemati *et al.* 2012d). **Lorestan Province** (Shirkhani District), soil under walnut trees (Hasanvand *et al.* 2014b). **Semnan Province** (Tooyehdarvar Village), moss at the floor of a dry sike and soil mixed with weeds (Shamsi *et al.* 2008). **Zanjan Province** (Zanjan County), soil, rotten wood, fungi, litter, and dung (Zare *et al.* 2012b).

Cherioseius nepalensis (Evans & Hyatt, 1960)

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

Cheiroseius samani Mehranian, 2014

Distribution and habitats. **Razavi Khorasan Province** (Neyshabur), moist soil and litter in an apple orchard (Mehranian 2014).

Cheiroseius serratus (Halbert, 1915)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), soil (Nemati *et al.*

2012d). **Golestan Province** (Gorgan), soil (Malek-Shahkouyi *et al.* 2011b). **Kerman Province** (Bam), soil (Mehrzad *et al.* 2012). **Khuzestan Province** (Ahvaz), soil (Nemati *et al.* 2012d). **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). **West Azarbaijan Province** (Urmia, Band), soil of apple orchard; (Nari), soil and litter (Kavianpour *et al*. 2018b).

***Cheiroseius sistaniensis* Faraji, Arjmandi-Nezhad & Karg, 2008**

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

***Cheiroseius viduus* (C.L. Koch, 1839a)**

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

***Cheiroseius unguiculatus* (Berlese, 1887f)**

Distribution and habitats. **Golestan Province** (Ziarat Village), leaf litter (Arjomandi *et al.* 2013b).

Genus *Hoploseius* Berlese, 1914

***Hoploseius bispinosetus* Faraji, Sakenin-Chelav & Karg, 2006**

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (region not mentioned), associated with *Fomes* sp. (Khalili-Moghadam and Nemati 2014a); (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2022b). **Mazandaran Province** (Amol), wood fungi and decomposing wood (Faraji *et al.* 2006a). **Zanjan Province** (Zanjan County), soil, rotten wood, fungi, litter, and dung (Zare *et al.* 2012b).

Genus *Lasioseius* Berlese, 1916

***Lasioseius berlesei* (Oudemans, 1938)**

Distribution and habitats. **Zanjan Province** (Zanjan County), soil, rotten wood, fungi, litter, and dung (Zare *et al.* 2012b).

***Lasioseius confusus* Evans, 1958**

Distribution and habitats. **East Azarbaijan Province** (forests of Arasbaran region), soil, leaf-litter and plant debris (Ordoukhanian *et al.* 2017).

***Lasioseius dentatus* (Fox, 1946)**

Distribution and habitats. **Fars Province** (Shiraz), soil (Montazeri *et al.* 2011); (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017). **Guilan Province** (Lowshan), soil of olive garden (Javadpour *et al.* 2018); (Rasht County, Bijar Boneh Village), wood sorrel, *Oxalis acetosella* L. (Oxalidaceae) 1eaves infested with spider mites; (Pir Bazar Village), litter (Ghasemi and Hajizadeh

2020). **Kerman Province** (Kerman City, parks, and landscapes), soil (Arjomandi and Kazemi 2014). **Khuzestan Province** (Ahvaz), soil (Nemati *et al.* 2012d).
Note – This species was reported by all mentioned authors as *Lasioseius scapulatus* Kennett, 1958, but Lindquist (1964) considered it as junior synonym of *L. dentatus* (cited in Moraes *et al.* 2016).

Lasioseius floridensis Berlese, 1916a

Distribution and habitats. **Guilan Province** (Rasht, University of Guilan), rotten wood; (Rasht), soil of loquats fruit tree; (Ziabar), from Sawdust; (Lahijan), soil of geranium herb (*Pelargonium* sp.) (Javadpour *et al.* 2018).

Lasioseius formosus Westerboer, 1963

Distribution and habitats. **Guilan Province** (Rasht, Saravan Forest), soil (Mohammadi and Hajizadeh 2022a).

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); (region not mentioned), associated with eriophyid mites [*Aceria ficus* (Cotte); *Aculus epiphyllus* (Nalepa); *Calepitrimerus baileyi* Keifer; *Colomerus vitis* (Pagenstecher); *Diptacus giganorhynchus* (Nalepa)] (Adeli *et al.* 2013); (Somesara), on raspberry shrubs (*Rubus* spp.) (Tajmiri and Hajizadeh 2013); (Roodbar), soil; (Rostamabad), on the olive leaves (Mahjoori *et al.* 2015); (Ziabar, Bahambar village), apple leaves; (KuchIsfahan), from mint leaves and from apple leaves; (Khomam), from mint leaves; (Rasht), mushroom soil and rotten fruits (Javadpour *et al.* 2018).

Lasioseius inconspicuus Westerboer, 1963

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

Lasioseius krantzi Chant, 1963

Distribution and habitats. **Seventeen different Provinces in Iran**, beehives debris (Ostovan and Mossadegh 1999). **Khuzestan Province** (region not mentioned), honeybee hives (Kamali *et al.* 2001). **Kordestan Province** (region not mentioned), strawberry (Mansour Ghazi *et al.* 2006).

Lasioseius lacunosus Westerboer, 1963

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

Lasioseius muricatus (C.L. Koch, 1839a)

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

Lasioseius ometes (Oudemans, 1903b)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2022b). **Mazandaran Province** (Amol), soil (Sakenin Chelav *et al.* 2006a, b). **West Azarbaijan Province** (Urmia, Shohada valley), soil and litter

(Kavianpour et al. 2018b). **Zanjan Province** (Zanjan County), soil, rotten wood, fungi, litter, and dung (Zare *et al.* 2012b).

Lasioseius ometisimilis Hirschmann, 1962

Distribution and habitats. **Fars Province** (Marvdasht, Kamfiruz), soil and decayed plants under the oak trees (Beyzavi and Ostovan 2012); (Shiraz, green spaces and orchards of fruit trees), soil and decayed material on the soil surface (Farzaneh *et al.* 2021).
Note – *Zercoseius ometisimilis* Hirschmann, 1951 is an unavailable name in an unpublished thesis (Moraes *et al*. 2016).

Lasioseius parberlesei Bhattacharyya, 1968

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2022b). **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); (region not mentioned), associated with eriophyid mite [*Calepitrimerus baileyi* Keifer] (Adeli *et al.* 2013); (Masuleh), rice farm; (Daylaman), soil (Javadpour *et al.* 2018); (Rasht County, Keshel Varzal Village, wood sorrel, *Oxalis acetosella* L. (Oxalidaceae) 1eaves infested with spider mites; (Ashrafi Isfahani Educational Institute), rose, *Rosa damascena* (Rosaceae) 1eaves infested with spider mites (Ghasemi and Hajizadeh 2020); (Vajargah-Kelachay), from soil of tea orchards (Hajizadeh *et al.* 2020); (Bandar Anzali), on *Citrus* sp., infested with *Chrysomphalus dictyospermi* (Morgan) (Navaran and Hajizadeh 2021); (Rasht), associated with beetles from Staphylinidae, Chrysomelidae and an ant from Formicidae (Hajizadeh and Hosseini 2022). **Isfahan Province** (Najaf Abad, Zarrin Shahr, Falavarjan, Dorcheh), soil of fruit trees orchards (Jalaeian *et al.* 2006).
Note – *Indiraseius* Daneshvar, 1987 was considered a junior synonym of *Lasioseius* Berlese, 1916 (Walter and Lindquist 1997). The above-mentioned species was reported as *L. extremus* (Daneshvar, 1987). Nemati *et al.* (2012) proposed the correct name as *L. parberlesei*, and Moraes *et al.* (2015) considered *L. extremus* as a junior synonym of *L. parberlesei*.

Lasioseius penicilliger Berlese, 1916a

Distribution and habitats. **Golestan Province** (Gorgan), soil (Malek-Shahkouyi *et al.* 2011b). **Mazandaran Province** (region not mentioned), honeybee hives (Mosaddegh 1997; Kamali *et al.* 2001). **Tehran, Golestan, Sistan and Baluchestan Provinces** (region not mentioned), bird nests (Ardeshir *et al.* 2010).

Lasioseius phytoseioides Chant, 1963

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

Lasioseius qianensis Gu & Wang, 1990

Distribution and habitats. **Fars Province** (Estahban), soil, leaves, litter, bark and saffron balb (Naghibinejad *et al.* 2012).

Lasioseius sugawarai Ehara, 1964

Distribution and habitats. **Alborz Province** (Eshtehard), compost (Kheradmand *et al.* 2007). **Fars Province** (Jahrom), soil of citrus orchards (Khademi *et al.* 2006). **Guilan Province** (region not mentioned), soil, plants, warehouses, manure and decaying plants (Hajizadeh *et al.* 2009b, 2010a); (Manjil), soil and on the olive leaves (Mahjoori *et al.* 2015); (Lahijan), from tea and mulberry leaves; (Emamzadeh Hashem), from Alder soil; (Langarud), soil, soil of loquats fruit garden; (Astanehye Ashrafiyeh), from citrus leaves; (Rezvanshahr), soil; (Rasht), from rotten fruits; (Chaboksar), from soil of citrus garden (Javadpour *et al.* 2018); (Rahimabad-Rudsar), soil and leaf litter of tea; (Parashkuh-Langarud), soil (Hajizadeh *et al.* 2020); (Rasht County, Pir Bazar Village), litter and soil; (Ashrafi Isfahani Educational Institute), litter; (Omesheh Village), soil; (Dalecheh Village), dwarf umbrella tree, *Schefflera arboricola* (Araliaceae) 1eaves infested with mealybugs; (Pasikhan Village), wood sorrel, *Oxalis acetosella* L. (Oxalidaceae) 1eaves infested with spider mites; (Jirdeh Village), soil; (Bijar Boneh Village), *Rosa damascena* (Rosaceae) 1eaves infested with spider mites (Ghasemi and Hajizadeh 2020). **Isfahan Province** (Shahreza), soil (Kavianpour *et al.* 2011); (Isfahan City), soil (Kadkhodaei *et al.* 2013). **Mazandaran Province** (Amol), soil (Sakenin Chelav *et al.* 2006a, b).

Lasioseius thermophilus Willmann, 1942

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

Lasioseius youcefi Athias-Henriot, 1959b

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), soil (Nemati *et al.* 2012d); (region not mentioned), associated with *Fomes* sp. (Khalili-Moghadam and Nemati 2014a); (Boldaji City (Cheghakhor) and Shahrekord), soil of ants' nest, *Tapinoma* sp. (Formicidae) (Khalili-Moghadam and Saboori 2015); (Lordegan County, Khanmirza region, Salehat Village), soil from different parts of oak forests (Bagheri Kordeshami *et al.* 2015). **East Azarbaijan Province** (Tabriz), soil of orchards (Kamali *et al.* 2001); (region not mentioned), soil (Hashemi Khabir *et al.* 2013). **Fars Province** (Marvdasht, Kamfiruz), soil and decayed plants under the oak trees (Beyzavi and Ostovan 2012); (Doroodzan), soil of fields (Asadpoor *et al.* 2012); (Northwestern of Fars) (region not mentioned), soil, debris (Abolghasemi and Kazemi 2016); (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017). **Golestan Province** (Gorgan), soil (Malek-Shahkouyi *et al.* 2011b). **Guilan Province** (region not mentioned), soil, plants, warehouses, manure and decaying plants (Hajizadeh *et al.* 2009b, 2010a); (region not mentioned), associated with eriophyid mite [*Eriophyes pyri* (Pagenstecher)] (Adeli *et al.* 2013); (Chaboksar), soil; (Rudsar), soil; (Chaboksar), soil of citrus and pomegranate garden (Javadpour *et al.* 2018); (Rasht County, Bijar Boneh Village), litter; (Pir Bazar Village), wood sorrel, *Oxalis acetosella* L. (Oxalidaceae) 1eaves infested with spider mites (Ghasemi and Hajizadeh 2020). **Hamedan Province** (region not mentioned), bean (*P. vulgaris*), clover (*Trifolium* sp.), apple, alfalfa, darnel, liquorice and chickpea (Khanjani and Kamali 2000a, b; Kamali *et al.* 2001); (Sarab Gamasiab of Nahavand vicinity), from soil and litter of Russian knapweed, *Acroptilon repens* (L.) (Masoudian and Khanjani 2013). **Isfahan Province** (Khomeini Shahr), soil of fruit trees orchards (Jalaeian *et al.* 2006); (Shahreza), soil (Kavianpour *et al.* 2011); (Isfahan City), soil (Kadkhodaei *et al.* 2013). **Kerman Province** (Rafsanjan), soil of fruit orchards (Mohammadi *et al.* 2012); (Jiroft), soil (Balooch Shahryari *et al.* 2012); (Sirjan County), soil, leaf litter and manure (Masnavipour *et al.* 2014); (Kerman City, parks and landscapes), soil (Arjomandi and Kazemi 2014b). **Kermanshah Province** (Rijab), soil of plum trees (Babakfard *et al.* 2007); fruit orchards (Babakfard *et al.* 2008). **Khuzestan Province** (Ahvaz), soil (Nemati *et al.* 2012d). **Lorestan Province** (Kakareza District), soil of apple orchard (Hasanvand *et al.* 2014b). **Qom Province** (region

not mentioned), soil, dung, compost and plant-litters of crops, lawns, shrubs and trees in farms, forests, orchards and parks (Agha Alikhani *et al.* 2017). **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). **Sistan va Baluchestan Province** (Sistan region), soil (Arjmandi Nejad *et al.* 2006, 2008). **Tehran Province** (Tehran City, Police Park), soil (Maleki *et al.* 2016). **West Azarbaijan 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 and Shirdel 2012); (Urmia, Rashakan), soil of apple orchard; (Urmia University, soil; (Nazlu dam), soil; (Band), soil of apple orchard; (Marmisho), soil; (Emamzade), soil of mulberry orchard; (Shohada valley), soil and litter; (Silvana), soil of apple orchard; (Nari, soil and litter; (Sulik village), soil and litter (Kavianpour *et al.* 2018b). **Zanjan Province** (Zanjan County), soil, rotten wood, fungi, litter, and dung (Zare *et al.* 2012b); (Region not mentioned), soil (Bigdeli *et al.* 2014).

Notes – 1. *Lasioseius mcgregori* Chant, 1963 was reported by Arjmandi Nejad *et al.* (2006, 2008) from Sistan va Baluchestan Province (see the above data), but this species has been considered as a junior synonym of *L. youcefi* by Walter & Lindquist (1989). **2.** *Lasioseius paucisetosus* Westerboer, 1963 was reported by Jalaeian *et al.* (2006) from Isfahan Province (see the above data), but this species has been considered as a junior synonym of *L. youcefi* by Bregetova (1977c). **3.** We have excluded *Lasioseius matthyssei* Chant from our study. This species was documented by Darvishzadeh and Kamali (2009) and initially mentioned with an uncertain identification by Kazemi and Rajaei (2013).

Genus *Platyseius* Berlese, 1916

Platyseius italicus (Berlese, 1905)

Distrubution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), soil (Nemati *et al.* 2012d).

Platyseius persicus Kazemi, Payandeh & Saberi, 2016

Distribution and habitats. **Mazandaran Province** (Nowshahr County), soil and litter (Kazemi *et al.* 2016c). **Razavi Khorasan Province** (Kashmar County), soil and litter (Kazemi *et al.* 2016c).

Platyseius tendens (Schrank, 1803)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), soil nest of an unidentified ant (Nemati *et al.* 2012d). **Guilan Province** (region not mentioned), soil, plants, warehouses, manure and decaying plants (Hajizadeh *et al.* 2009b, 2010a); (Rasht, Saravan Forest), soil (Javadpour *et al.* 2018).

Note – The above species was reported as *Platyseius subglaber* (Oudemans, 1903) from Iran, but it has been considered as a junior synonym of *P. tendens* by Oudemans (1936) (cited in Moraes *et al.* 2016).

Family Otopheidomenidae Treat, 1955
Genus *Hemipteroseius* Evans, 1963

Hemipteroseius adleri Costa, 1968b

Distribution and habitats. **Yazd Province** (region not mentioned), parasite of bugs of family Pyrrhocoridae (Joharchi and Saboori 2010).

Family Podocinidae Berlese, 1913a
Genus *Podocinum* Berlese, 1882a

Podocinum pacificum (Berlese, 1895)

Distribution and habitats. **Golestan Province** (Gorgan), soil (Kazemi *et al.* 2011a); (Gorgan), soil (Malek-Shahkouyi *et al.* 2011b). **Guilan Province** (Rasht County, Ashrafi Isfahani Educational Institute), litter (Ghasemi and Hajizadeh 2020). **Lorestan Province** (Veisian District), soil under sycamore (Hasanvand *et al.* 2014b). **Mazandaran Province** (region not mentioned), soil of forests (Ostovan and Saboori 1999; Kamali *et al.* 2001); (Nowshahr), soil, (Kazemi and Rajaei 2013); (Nowshahr, Ecological (Botanical) Garden of Nowshahr), soil and litter (Saberi *et al.* 2016). **Tehran Province** (Tehran, Seyed Khandan Park), soil and litter (Kazemi and Rajaei 2013).

Podocinum sagax (Berlese, 1882c)

Distribution and habitats. **Guilan Province** (Rasht County, Ashrafi Isfahani Educational Institute), litter; (Dalecheh Village), litter; (Lakan Village), soil; (Bijar Boneh Village), Wood sorrel, *Oxalis acetosella* L. (Oxalidaceae) 1eaves infested with spider mites (Ghasemi and Hajizadeh 2020).

Superfamily Rhodacaroidea Oudemans, 1902
Family Digamasellidae Evans, 1957a
Genus *Bulbolaelaps* Faraji, Zare & Rahmani, 2021

Bulbolaelaps bossei Faraji, Zare and Rahmani, 2021

Distribution and habitats. **Zanjan Province** (Chiyar), fruiting bodies of gilled fungi on a tree runk (Faraji *et al.* 2021).

Genus *Dendrolaelaps* Halbert, 1915

Dendrolaelaps arenarius Karg, 1971a

Distribution and habitats. **Isfahan Province** (Rezvanshahr), soil (Moradi Faradonbeh *et al.* 2018).

Dendrolaelaps brevipilis (Leitner, 1949)

Distribution and habitats. **East Azarbaijan Province** (Southwest part, region not mentioned), soil (Hashemi Khabir *et al.* 2013). **Guilan Province** (Rudbar County, Pa Rudbar Village), manure (Mohammadi and Hajizadeh, 2023). **West Azarbaijan Province** (Miandoab Plain), foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003).

Dendrolaelaps brevipiloides Hirschmann & Wiśniewski, 1982

Distribution and habitats. **Guilan Province** (Rudbar County, Pa Rudbar Village), manure (Mohammadi and Hajizadeh 2023).

Dendrolaelaps foveolatus (Leitner, 1949)

Distribution and habitats. **Fars Province** (Darab), the soil under the trees in the northern and southern orchards of Darab city (Memarzadeh *et al*. 2022). **Isfahan Province** (Rezvanshahr), soil (Moradi Faradonbeh *et al.* 2018). **Kerman Province** (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020).

Dendrolaelaps isochetus Shcherback & Bregetova, 1980

Distribution and habitats. **Fars Province** (Larestan), soil of cotton and wheat fields (Khadempour *et al.* 2012); (Shiraz, green spaces and orchards of fruit trees), soil and decayed material on the soil surface (Farzaneh *et al*. 2021). **Guilan Province** (Rudbar County, Sangrud village), manure (Mohammadi and Hajizadeh 2023).

Dendrolaelaps latior (Leitner, 1949)

Distribution and habitats. **Guilan Province** (Rudbar County, Damash village), manure; (Rudbar County, Rostamabad District), manure (Mohammadi and Hajizadeh 2023).

Dendrolaelaps lignicolus Mohammadi & Hajizadeh, 2023

Distribution and habitats. **Guilan Province** (Rasht County, Saravan Forest Park), from rotten stump of Persian ironwood (*Parrotia persica*) (Mohammadi and Hajizadeh 2023).

Dendrolaelaps longiusculus (Leitner, 1949)

Distribution and habitats. **Fars Province** (Northwestern part, gardens of Komher region), soil and debris (Abolghasemi and Kazemi 2016). **Guilan Province** (Astaneh-ye Ashrafiyeh, Safra Basteh), soil of peanut plant (Askari *et al.* 2023); (Rasht County, Sangar District, Baz Qaleh village), cow manure and on Scarabaeid beetle (Mohammadi and Hajizadeh 2023).

Dendrolaelaps markewitschi Shcherbak, 1980

Distribution and habitats. **Mazandaran Province** (Ramsar County), chicken manure (Mohammadi and Hajizadeh 2023).

Dendrolaelaps paradoxa Shcherbak, 1982

Distribution and habitats. **Guilan Province** (Rasht County, University of Guilan), manure; (Rasht County, Talem Seh Shanbeh village), cow manure; (Rasht County, Sangar District, Baz Qaleh village), cow manure; (Rasht County, Bijar Pes village) manure; (Rasht County, Sangar District, Sa Kacha village), manure; (Rasht County, Saravan Forest Park), soil under coniferous trees; (Rasht County, Pir Kola Chah village), cow manure; (Rasht County, Lasht-e Nesha District), rice husks;

(Rasht County, Saravan Forest), rotten stump; (Rasht County, Keshavarz Park), manure; (Siahkal County, Deylaman District, Asiabar village), manure (Mohammadi and Hajizadeh 2023).

Dendrolaelaps populi Hirschmann, 1960

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

Dendrolaelaps presepum (Berlese, 1918)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), soil (Nemati *et al.* 2012c); (Ben, Bardeh; Kiar, Kharaji; Farsan, Cholicheh), in soil and rooting wood in association with ants *L. neglectus; Messor platyceras; Tapinomakaravaievi* (Khalili-Moghadam 2022); (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2022b). **Fars Province** (Doroodzan), soil of fields (Asadpoor *et al.* 2012). **Guilan Province** (Rasht County, Saravan Forest Park), soil under coniferous trees; (Rasht County, University of Guilan), manure; (Rudbar County, Damash village), manure; (Rudbar County, Tutkabon village) manure; (Astaneh-ye Ashrafiyeh County, Abdol-abad village), manure (Mohammadi and Hajizadeh 2023). **Kerman Province** (Kerman), cow manure, poultry manure and sheep manure (Arjomandi *et al.* 2013a). **Khuzestan Province** (Izeh and Baghmalek), soil (Nemati *et al.* 2012c); (Dasht-e Azadegan, Susangerd), buffalo manure; (Hamidieh), buffalo manure; (Bavi, Mollasani), sheep manure (Farahi *et al.* 2018); (Ahvaz and its suburbs), buffalo and sheep manure (Farahi *et al.* 2022).

Dendrolaelaps punctatulus Hirschmann, 1960

Distribution and habitats. **Guilan Province** (Rudbar County, Shir Kuh village), rotten stump (Mohammadi and Hajizadeh 2023).

Dendrolaelaps saprophilus (Huhta, 1982)

Distribution and habitats. **Guilan Province** (Kiashahr), soil of peanut plant (Askari *et al.* 2023); (Rasht County, University of Guilan), manure; (Department of Parks and green spaces of Rasht), wood chips (Mohammadi and Hajizadeh 2023).

Dendrolaelaps stammeriformis Hirschmann & Wiśniewski, 1982

Distribution and habitats. **Guilan Province** (Rudbar County, Sangrud village), manure; (Rudbar County, Shir Kuh village), manure (Mohammadi and Hajizadeh 2023).

Dendrolaelaps cf. *willmanni* Hirschmann, 1960

Distribution and habitats. **Bushehr Province** (Asaluyeh Port), soil (Kazemi and Alikhani 2013).

Dendrolaelaps zwoelferi Hirschmann, 1960

Distribution and habitats. **Ardabil Province** (Moghan Plain), cotton fields (Kamali *et al.* 2001). **Guilan Province** (Sarash-Lahijan), soil of tea (Hajizadeh *et al.* 2020); (Rasht, Imam Khomeini Institute), plant debris; (Guilan University), soil (Ghasemi and Hajizadeh 2021). **Hamedan Province**

(region not mentioned), wild sainfoin, alfalfa, darnel (Kamali *et al.* 2001). **Kerman Province** (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020). **West Azarbaijan Province** (Miandoab Plain), foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003); (Salmas), soil and plant debris of apple orchards (Alizadeh and Shirdel 2012); (Miandoab), soil of apple orchards (Zarei and Kazemi 2014).

Genus *Dendrolaelaspis* Lindquist, 1975

Dendrolaelaspis angulosus (Willmann, 1936)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), soil (Nemati *et al.* 2012c); (Ben, Bardeh; Kiar, Kharaji; Farsan, Cholicheh), in soil and rooting wood in association with ants *L. neglectus; Messor platyceras; Tapinomakaravaievi* (Khalili-Moghadam 2022); (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2022b).

Dendrolaelaspis lindquisti (Shcherbak, 1978)

Distribution and habitats. **Fars Province** (Koohmare-Sorkhi, oak forest), soil and leaf litter (Yazdanpanah and Kazemi 2014a). **West Azarbaijan Province** (Miandoab), soil of apple orchards (Zarei and Kazemi 2014).

Dendrolaelaspis lobatus Shcherbak & Cheleviev, 1977

Distribution and habitats. **East Azarbaijan Province** (Southwest of part, region not mentioned), soil (Hashemi Khabir *et al.* 2013). **Fars Province** (Darab), the soil under the trees in the northern and southern orchards of Darab city (Memarzadeh *et al*. 2022). **West Azarbaijan 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. **Guilan Province** (Rasht County, Saravan Forest), rotten wood (Mohammadi and Hajizadeh 2022b). **Mazandaran Province** (Amol), soil and debris (Faraji *et al.* 2006b).

Dendroseius vulgaris Ma, Ho & Wang, 2014

Distribution and habitats. **Guilan Province** (Rasht County), livestock manure and decayed rice bran; (KuchIsfahan district), decayed rice bran; (Lashtnesha district), livestock manure and decayed rice bran; (Khomam district), decayed rice bran; (Sangar district), livestock manure and decayed rice bran (Mohammadi and Hajizadeh 2022b); (Astaneh-ye Ashrafiyeh, Tamchal), soil of peanut plant (Askari *et al.* 2023).

Genus *Digamasellus* Berlese, 1905

Digamasellus punctum (Berlese, 1904a)

Distribution and habitats. **Kermanshah Province** (Javanrood region), cow manure (Hosseini *et al.* 2019).

Genus *Iphidodendrolaelaps* Hirschmann & Wisniewski, 1982

Iphidodendrolaelaps quadrisetus (Berlese, 1921)

Distribution and habitats. **Markazi and Tehran Province** (Saveh and Mahallat region), associated with the mediterranean pine beetle, *Orthotomicus erosus* (Wollaston) (Farmahiny Farahani *et al.* 2013).

Genus *Multidendrolaelaps* Hirschmann, 1974

Multidendrolaelaps acriluteus (Athias-Henriot, 1961)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord), soil (Nemati *et al.* 2012c). **Khuzestan Province** (Bavi, Mollasani), sheep manure and cow manure; (Ahvaz, Gavmish Abad), buffalo manure; (Ahvaz, dairy farm at the Shahid Chamran University campus), cow manure; (Hamidieh), buffalo manure; (Shushtar, Arab Hassan), cow manure; (Shush, Khavar-e Seyyed Khalaf), cow manure (Farahi *et al.* 2018); (Ahvaz and its suburbs), cattle, buffalo, sheep and horse manure (Farahi *et al.* 2022).

Multidendrolaelaps euepistomus Hirschmann, 1960

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

Multidendrolaelaps multidentatus (Leitner, 1949)

Distribution and habitats. **Alborz Province** (Mallard and Sharyar), compost and mushroom (Kheradmand *et al.* 2007). **Khuzestan Province** (Bavi, Mollasani), buffalo manure; (Ahvaz, dairy farm at the Shahid Chamran University campus), cow manure; (Hamidieh), buffalo manure; (Shush, Abdolkhan), cow manure; (Shushtar, Arab Hassan), cow manure; (Shushtar, Band-e Qir), cow manure; (Shush, Khoyes), cow manure; (Hamidieh, Tarrahiyeh), cow manure; (Hamidieh, Pich-e Seyyed Jaber), buffalo manure (Farahi *et al.* 2018); (Ahvaz and its suburbs), cattle, buffalo, sheep and horse manure (Farahi *et al.* 2022).

Genus *Oligodentatus* Shcherbak, 1980

Oligodentatus sp.

Distribution and habitats. **Razavi Khorasan Province** (region not mentioned), collected from orchards (Jalaeian *et al.* 2013).

Family Halolaelapidae Karg, 1965

Genus *Halolaelaps* Berlese & Trouessart, 1889

Halolaelaps curvisetosus (Leitner, 1946)

Distribution and habitats. **Kerman Province** (Anbar-Abad region, Jiroft County), soil and litter samples collected in a citrus orchard (Kazemi *et al*. 2018a).

Halolaelaps saproincisus Hirschmann & Götz, 1968

Distribution and habitats. **Azarbaijan Province** (region not mentioned), bee hive debris (Mossadegh

1997). **Razavi Khorasan Province** (Sarakhs region), under elytra of an unidentified species of *Aphodius* Illiger; (Mashhad region), under elytra of an unidentified species of scarab and Geotrupidae beetles; (Torbat Heydarieh region), removed from an unidentified species of Staphylinidae beetle (Kazemi *et al*. 2018a).

Note – Mosaddegh (1997) reported *Halolaelaps* cf. *saproincisus* (Hirschmann & Gotz, 1968) in the debris of beehives from Azarbaijan Province. We checked some of those specimens and found this species, so we are keeping it on our list. Kamali *et al.* (2001) and Modarres Awal (2012) mistakenly wrote the species name and reported it incorrectly. This was due to a combination of the species name and the abbreviation "ca" (circa = about) when writing the name, resulting in the name appearing as "*casaproincisus*" instead of "ca *casaproincisus*". Therefore, considering that the species introduced by Mossadegh (1997) was correct, in this work, we have corrected the name mentioned in Kamali *et al*. (2001) and Modarres Awal (2012) as mentioned above.

***Halolaelaps sexclavatus* (Berlese, 1921)**

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Lordegan, Ooreh; Ben, Hoseinabad, Larak; Saman, Gharaghoosh; Koohrang, Dashte laleh, Bazoft (Taraz)), in soil and rooting wood in association with *C. xerxes; C. fritillariae; L. neglectus; M. platyceras; T. karavaievi* (Khalili-Moghadam 2022). **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). **Kerman Province** (Kerman), cow manure and sheep manure (Arjomandi *et al.* 2013a); (Sirjan), soil and leaf litter (Masnavipour *et al.* 2014); (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020). **Khuzestan Province** (Ahvaz), horse manure; (Ahvaz, dairy farm at Shahid Chamran University campus), cow manure; (Bavi, Mollasani, buffalo manure; (Ahvaz, Alhaei), cow manure; (Shush, Abdolkhan), cow manure; (Shush, Seyyed Abbas), buffalo manure; (Shushtar, Band-e Qir), cow manure; (Shushtar, Arab Hassan), cow manure; (Bavi, Naddafieh), cow manure (Farahi *et al.* 2018); (Ahvaz and its suburbs), cattle, buffalo and horse manure (Farahi *et al.* 2022). **North Khorasan Province** (Bojnurd), soil of farms, gardens and manures (Mahpikaran *et al.* 2012). **Zanjan Province** (region not mentioned), soil (Bigdeli *et al.* 2014).

Genus *Leitneria* Karg, 1961

***Leitneria pugio* (Karg, 1961)**

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Ben, Bardeh; Lordegan, Ooreh), in rooting wood in association with *L. neglectus; T. karavaievi* (Khalili-Moghadam 2022). **Kerman Province** (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020). **Khuzestan Province** (Ahvaz), horse manure (Farahi *et al.* 2018); (Ahvaz and its suburbs), horse manure (Farahi *et al.* 2022).

Genus *Saprolaelaps* Leitner, 1946

***Saprolaelaps* sp.**

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

Note – Another unknown species of this genus has been reported from Tehran Province (Tehran City, Police Park) in soil by Maleki *et al.* (2016).

Genus *Saprosecans* Karg, 1964

Saprosecans baloghi Karg, 1964

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

Family Ologamasidae Ryke, 1962
Genus *Allogamasellus* Athias-Henriot, 1961

Allogamasellus castilhoi Nemati & Vatankhah, 2016

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Lordegan, Felard region, Poshtkouh; Khanmirza region, Salehat Village), soil from different parts of oak forests (Bagheri Kordeshami *et al.* 2015); (Shahrekord environs), nest of *Formica* sp. (Formicidae) (Nemati and Vatankhah 2016); (Ben, Larak), in soil in association with *M. platyceras* (Khalili-Moghadam 2022); (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2022b).
Note – Bagheri Kordeshami *et al.* (2015) reported *Allogamasellus* sp., and our observation showed that those belong to the mentioned species.

Genus *Gamasiphis* Berlese, 1904a

Gamasiphis furcatus Karg, 1990

Distribution and habitats. **Hormozgan Province** (Minab), associated with soil under mango trees (Dolati and Ostovan 2017b). **Kerman Province** (Dosari region), soil and litter (Khalesi and Kazemi 2017).

Gamasiphis lanceolatus Karg, 1987

Distribution and habitats. **Fars Province** (Northwestern), soil and debris (Abolghasemi and Kazemi 2016). **Golestan Province** (Gorgan), soil (Kazemi *et al.* 2011a). **Guilan Province** (region not mentioned), stored rice, rice dust and debris (Noei *et al.* 2008); (Sarash-Lahijan, Siahkal, Lahijan, Tea Research Institute-Lahijan, Parashkuh-Langrud, Otaghvar-Langrud, Amlash, Vajargah-Kelachay, Kulmeleh-Langrud, Mahvizan and Talaf-SomehSara), soil of tea; (Moein Hotel-Fuman), soil and leaf of tea (Hajizadeh *et al.* 2020); (Rasht, Isfahani Educational Institute, Sima Manzar Organization, Pir Bazar village), wood sorrel, *O. acetosella* leaves; (Rasht, Rice research Institute, Imam Khomeini Institute, Deh Baneh-ye, Eslamabad village; Omesheh village), soil; (Rasht, Pir Bazar village), soil and litter; (Rasht, Bijar Bonch village), soil, litter, cucumber, *C. sativus* leaves; (Rasht, Vishka Nanak village, Dalecheh village), litter; (Rasht, Pasikhan village), wood sorrel, *O. acetosella* leaves infested with spider mites; (Rasht, Keshel Varzal village), tomato, *S. lycopersicum* leaves (Ghasemi and Hajizadeh 2021); (Astaneh-ye Ashrafiyeh, Kashel, Azadmahalleh), soil of peanut plant (Askari *et al.* 2023). **Kerman Province** (Kerman County), cow manure (Arjomandi *et al.* 2013a); (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020). **Mazandaran Province** (region not mentioned), soil (Kazemi and Ahangaran 2011); (Nowshahr, Ecological (Botanical) Garden of Nowshahr), soil and litter (Saberi *et al.* 2016). **North Khorasan Province** (region not mentioned), in the nests of *Tapinoma* sp. (Formicidae) (Rezaei *et al.* 2016).

Gamasiphis pulchellus (Berlese, 1887e)

Distribution and habitats. **Fars Province** (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017); (Shiraz, green spaces and orchards of fruit trees), soil and decayed material on the soil

surface (Farzaneh *et al.* 2021); (Darab), the soil under the trees in the northern and southern orchards of Darab city (Memarzadeh *et al*. 2022). **Isfahan Province** (Khomeini Shahr, Najaf Abad), soil of fruit orchards (Jalaeian *et al.* 2004b); (Rezvanshahr), soil (Moradi Faradonbeh *et al.* 2018). **Tehran Province** (Tehran City, Police Park), soil (Maleki *et al.* 2016).
Note – We have excluded *Gamasiphis hemicapillus* Karg, 1990 from our study. This species was documented by Darvishzadeh and Kamali (2009) and initially mentioned with an uncertain identification by Kazemi and Rajaei (2013).

Genus *Gamasiphoides* Womersley, 1956

Gamasiphoides sp.

Distribution and habitats. **Khuzestan Province** (Ahvaz), chicken (no more data) (Kamali *et al.* 2001).
Note – *Gamasiphoides* sp. has been reported as a member of the family Leptolaelapidae by Kamali *et al.* (2001).

Genus *Ologamasus* Berlese, 1888b

Ologamasus sp.

Distribution and habitats. **Guilan Province** (Somesara), on raspberry shrubs (*Rubus* spp.) (Tajmiri and Hajizadeh 2013).

Genus *Sessiluncus* G. Canestrini, 1898

Sessiluncus aegypticus Nasr & Afifi, 1986

Distribution and habitats. **Kerman Province** (Jiroft), stem and palm fiber (Rajaei *et al.* 2012); (Anbar-Abad County), soil litter and date palm fibers (Kazemi *et al*. 2021).

Sessiluncus colchicus Bregetova, 1977d

Distribution and habitats. **Hormozgan Province** (Minab), associated with soil under mango trees (Dolati and Ostovan 2017a).

Sessiluncus hungaricus Karg, 1964

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Lordegan, Khanmirza region, Salehat Village; Monj region, Pal Borideh Village, Cheshmeh khani Village), soil from different parts of oak forests (Bagheri Kordeshami *et al.* 2015); (Ben, Larak; Koohrang, Dashte laleh, Baghchendar), in soil in association with *C. fritillariae; M. platyceras; P. koshewnikovi* (Khalili-Moghadam 2022); (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2022b). **Fars Province** (Koohmare-Sorkhi region), oak forests (Kazemi and Yazdanpanah 2013b). **Gorgan Province** (Baran Kouh), soil-litter (Kazemi *et al*. 2021). **Kohgiluyeh va Boyer-Ahmad Province** (Gachsaran), soil of corn and rape seed farms (Moradian *et al.* 2011a, b). **Mazandaran Province** (Gaem Shahr, Chalous County), soil-litter (Kazemi *et al.* 2021).

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

Stylochirus multiclavatum (Willmann, 1953)

Distribution and habitats. **Golestan Province** (Gorgan), soil and litter (Kazemi *et al.* 2011a, 2012).

Kohgiluyeh va Boyer-Ahmad Province (Gachsaran), soil of corn and rape seed farms (Moradian *et al.* 2011a).

Genus *Periseius* Womersley, 1961

Periseius sp.

Distribution and habitats. **Hormozgan Province** (mangrove forests of Qeshm Island), soil (Kazemi *et al.* 2018b).

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); (Shiraz, green spaces and orchards of fruit trees), soil and decayed material on the soil surface (Farzaneh *et al.* 2021); (Darab), the soil under the trees in the northern and southern orchards of Darab city (Memarzadeh *et al*. 2022). **Guilan Province** (Tea Research institute-Lahijan, Siahkal), soil of tea (Hajizadeh *et al.* 2020). **Mazandaran Province** (Nowshahr, Ecological (Botanical) Garden of Nowshahr), soil and litter (Saberi *et al.* 2016). **Razavi Khorasan Province** (Mashhad), soil (Abbaspour *et al.* 2017).
Note – Some authors reported this species as *Rhodacarus denticulatus* from Iran.

Multidentorhodacarus saboorii Castilho, Jalaeian & Moraes, 2012

Distribution and habitats. **Fars Province** (Larestan), leaves, fruits, trunk fiber and soil of date palm (Majidi and Akrami 2013). **Isfahan Province** (Khomeini Shahr, Najaf Abad, Dorcheh), soil of an orchard (Castilho *et al.* 2012a). **Kerman Province** (Jiroft), soil of an orchard (Castilho *et al.* 2012a). **Razavi Khorasan Province** (region not mentioned), orchards (Jalaeian *et al.* 2013). **Yazd Province** (region not mentioned), soil (Kafi *et al.* 2014).

Multidentorhodacarus sogdianus (Shcherbak, 1980)

Distribution and habitats. **Guilan Province** (Otaghvar-Langrud, Amlash), soil of tea (Hajizadeh *et al.* 2020); (Rasht, Keshel Varzal village), soil (Ghasemi and Hajizadeh 2021). **Tehran Province** (region not mentioned), ornamental plants (Hamidi *et al.* 2013).

Genus *Paragamasellevans* Loots & Ryke, 1962

Paragamasellevans 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. **Isfahan Province** (Rezvanshahr), soil (Moradi Faradonbeh *et al.* 2018). **Zanjan Province** (region not mentioned), soil (Rahmani and 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, 1935b

Rhodacarellus epigynialis Sheals, 1956

Distribution and habitats. **Ardabil Province** (Moghan Plain), cotton fields (Kamali *et al.* 2001). **East Azarbaijan Province** (region not mentioned), soil (Kamail *et al.* 2001); (Southwest), soil (Hashemi Khabir *et al.* 2013). **Guilan Province** (Rasht, Bijar Bonch village), soil (Ghasemi and Hajizadeh 2021). **Hamedan Province** (region not mentioned), bean (*P. vulgaris*), alfalfa and wild sainfoin (Khanjani and Kamali 2000b; Kamali *et al.* 2001). **Kerman Province** (Rafsanjan), soil of fruit orchards (Mohammadi *et al.* 2012). **Khuzestan Province** (Ahvaz), soil (Baharloo *et al.* 2006). **West Azarbaijan Province** (Urmia), soil (Rezaie *et al.* 2011); (Salmas), soil and plant debris of apple orchards (Alizadeh and Shirdel 2012); (Urmia University), soil (Mirfakhraie *et al*. 2017).

Rhodacarellus iraniensis Castilho, Jalaeian & Moraes, 2012

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2022b). **Fars Province** (Larestan), leaves, fruits, trunk fiber and soil of date palm (Majidi and Akrami 2013); (Koohmare-Sorkhi region, oak forest), soil and leaf litter (Yazdanpanah and Kazemi 2014a). **Guilan Province** (Astaneh-ye Ashrafiyeh, Kiashahr), soil of peanut plant (Askari *et al.* 2023). **Isfahan Province** (Najaf Abad, Borkhar, Falavarjan, Khomeini Shahr), soil of an orchard (Castilho *et al.* 2012a). **Razavi Khorasan Province** (region not mentioned), orchards (Jalaeian *et al.* 2013).
Note – A species was reported as *Rhodacarellus* cf. *iraniensis* by Kazemi and Yazdanpanah (2013b) from Fars Province (Koohmare-Sorkhi region), oak forests.

Rhodacarellus silesiacus Willmann, 1936

Distribution and habitats. **Fars Province** (Doroodzan), soil of fields (Asadpoor *et al.* 2012); (Northwestern), soil and debris (Abolghasemi and Kazemi 2016); (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017); (Darab), the soil under the trees in the northern and southern orchards of Darab city (Memarzadeh *et al*. 2022). **Kerman Province** (Kerman City, parks and landscapes), soil (Arjomandi and Kazemi 2014b); (Sirjan), soil and leaf litter (Masnavipour *et al.* 2014). **Kohgiluyeh va Boyer-Ahmad Province** (Gachsaran), soil of corn and rape seed farms (Moradian *et al.* 2011a, b). **Mazandaran Province** (Nowshahr, Ecological (Botanical) Garden of Nowshahr), soil and litter (Saberi *et al.* 2016). **Razavi Khorasan Province** (Kashmar), soil of vineyards (Salarzehi *et al.* 2011). **Tehran Province** (Tehran, Shahid Beheshti University Campus), soil (Kamali *et al.* 2004); (Tehran, Sorkhe Hesar Forest Park), soil (Pakyari *et al.* 2006b, 2008); (region not mentioned), ornamental plants (Hamidi *et al.* 2013). **West Azarbaijan Province** (Miandoab Plain), foliage and soil of sugarbeet fields (Haddad Irani-Nejad *et al.* 2003); (Miandoab), soil of apple orchards (Zarei and Kazemi 2014). **Yazd Province** (region not mentioned), soil (Kafi *et al.* 2014).

Genus *Rhodacarus* Oudemans, 1902

Rhodacarus coronatus (Berlese, 1921)

Distribution and habitats. **Kerman Province** (Sirjan), soil and leaf litter (Masnavipour *et al.* 2014).

Rhodacarus longisetosus Shcherbak, 1980

Distribution and habitats. **Razavi Khorasan Province** (Kashmar), soil of vineyards (Salarzehi *et al.* 2011).

Rhodacarus olgae Shcherbak, 1975

Distribution and habitats. **Isfahan Province** (Rezvanshahr), soil (Moradi Faradonbeh *et al.* 2018).

Superfamily Veigaioidea Oudemans, 1939
Family Veigaiidae Oudemans, 1939a
Genus *Gamasolaelaps* Berlese, 1904e

Gamasolaelaps excisus (Koch, 1879)

Distribution and habitats. **Guilan Province** (Rasht, Bijar Bonch village), soil (Ghasemi and Hajizadeh 2021); (Rasht, Bijar Boneh village), soil (Hajizadeh 2022a).

Gamasolaelaps whartoni (Farrier, 1957)

Distribution and habitats. **Guilan Province** (Lahijan), soil of tea (*Camellia sinensis* (L.)) garden (Hajizadeh 2022a). **Mazandaran Province** (Nowshahr, Ecological (Botanical) Garden of Nowshahr), soil and litter (Saberi *et al.* 2016).

Gamasolaelaps sp.

Note – Kamali *et al.* (2001) reported an unknown species of the genus *Gorirossia* Farrier, 1957 from Ardabil Province (Moghan Plain), cotton fields, and this species was documented in Kazemi and Rajaei (2013). The mentioned genus was considered a junior synonym of the genus *Gamasolaelaps* Berlese, 1904 by Evans (1959).

Genus *Veigaia* Oudemans, 1905b

Veigaia decurtata Athias-Henriot, 1961

Distribution and habitats. **Fars Province** (Koohmare Sorkhi), soil and litter of oak forest (Kazemi and Rajaei 2013); (Koohmare-Sorkhi region), oak forests (Kazemi and Yazdanpanah 2013b); (Koohmare-Sorkhi region, oak forest), soil and leaf litter (Yazdanpanah and Kazemi 2014a). **Isfahan Province** (Goldasht), foliage of trees, weeds and soil of orchards (Jalaeian *et al.* 2004a). **Yazd Province** (region not mentioned), soil (Kafi *et al.* 2014).

Veigaia exigua (Berlese, 1917)

Distribution and habitats. **East Azarbaijan Province** (Arasbaran forests), soil, leaf-litter and plant debris (Ordoukhanian *et al.* 2017). **Fars Province** (Sepidan, Homayjan), foliage, soil, leaf-litter, weeds and soil of apple trees (Maneshi *et al.* 2012). **Guilan Province** (Mahvizan-Someh Sara,

Divshal-Langrud), soil of tea (Hajizadeh *et al.* 2020); (Mahvizan-Someh Sara), soil of tea (*Camellia sinensis* (L.)) garden; (Divshal-Langrud), soil of tea garden (Hajizadeh 2022a). **Kerman Province** (Sirjan, Pariz), soil (Masnavipour *et al.* 2011); (Sirjan), soil and leaf litter (Masnavipour *et al.* 2014); (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020).

Veigaia nemorensis (C.L. Koch, 1892)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (region not mentioned), ants nest and *Fomes* sp. (Khalili-Moghadam and Nemati 2014a); (Saman), soil of ants' nest, *Tapinoma* sp. (Hym. Formicidae) (Khalili- Moghadam and Saboori 2015); (Saman, Gharaghoosh; Ben, Bardeh, Karsenak), in soil and rooting wood in association with *L. neglectus; P. koshewnikovi* (Khalili-Moghadam 2022); (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2022b). **East Azarbaijan Province** (Arasbaran forests, Vaygan, Aynalu, Kalaleh, Garmanab), soil and plant debris, leaf-litter (Mohammad-Doustaresharaf *et al.* 2016a, b; Ordoukhanian *et al.* 2017). **Fars Province** (Koohmare-Sorkhi region), oak forests (Kazemi and Yazdanpanah 2013b); (KoohmareSorkhi region, oak forest), soil and leaf litter (Yazdanpanah and Kazemi 2014a); (Northwestern), soil and debris (Abolghasemi and Kazemi 2016). **Hamedan Province** (region not mentioned), soil of fruit trees and weeds (Rostami *et al.* 2010); (Sarab Gamasiab of Nahavand vicinity; Ganjnameh region), from soil and litter of Chicory, *Cichorium intybus* L. (Masoudian and Khanjani 2013). **Kermanshah Province** (Rijab), soil of plum trees (Babakfard *et al.* 2007); fruit orchards (Babakfard *et al.* 2008). **Kohgiluyeh va Boyer-Ahmad Province** (Gachsaran), soil of corn and rape seed farms (Moradian *et al.* 2011a, b). **Lorestan Province** (Makhmalkooh District), soil under willow tree (Hasanvand *et al.* 2014b). **Zanjan Province** (region not mentioned), soil (Bigdeli *et al.* 2014).

Veigaia planicola Berlese, 1892b

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Lordegan, Khanmirza region, Salehat Village; Monj region, Ghale Madreseh, Pal Borideh, Cheshmeh Khani Villages), soil from different parts of oak forests (Bagheri Kordeshami *et al.* 2015); (Saman), soil (Shariati *et al.* 2017); (Saman, Gharaghoosh; Ben, Bardeh, Karsenak; Koohrang, Dimeh, Bazoft (Sartang), Dashte laleh; Ben, Hoseinabad; Lordegan, Ooreh; Kiar, Kharaji), in soil and rooting wood in association with *C. Bakhtiyariensis; L. neglectus; P. koshewnikovi; L. semenovi; M. platyceras; T. karavaievi* (Khalili-Moghadam 2022). **East Azarbaijan Province** (Tabriz), soil and foliage of poplar and elm trees (Rahbar Shahlan *et al.* 2014); (Arasbaran Forests, Vaygan, Aynalu, Kalaleh, Garmanab), soil, leaf-litter and plant debris (Mohammad-Doustaresharaf *et al.* 2016 a, b; Ordoukhanian *et al.* 2017). **Fars Province** (Northwestern), soil and debris (Abolghasemi and Kazemi 2016). **Guilan Province** (Siahkal, Amlash, Otaghvar-Langrud, Rahimabad-Rudsar), soil of tea (Hajizadeh *et al.* 2020); (Siahkal, Amlash, Rahimabad-Rudsar, Lahijan, Rasht- Lakan village), soil of tea garden; (Otaghvar-Langrud, Rasht- Savaran forest park, Soumeh-e Sara- Baham bar village), soil; (Fuman-Masouleh village, soil of malnut tree; (Talesh, Chubar village), soil of pine tree; (Khomam), soil of elm garden; (Langrud- Parashkuh village), soil of citrus and tea garden; (Rudsar-Qasemabad village), soil of citrus garden; (Rasht, Fuman-Masouleh), soil of mulberry garden (Hajizadeh 2022a). **Isfahan Province** (Najaf Abad), foliage of trees, weeds and soil of orchard (Jalaeian, *et al.* 2004a); (Kashan), soil (Sekonji *et al.* 2011); (Isfahan), soil of urban green spaces (Karbasian *et al*. 2022). **Kerman Province** (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020). **Kermanshah Province** (Rijab), fruit orchards (Babakfard *et al.* 2008). **Lorestan Province** (Bishe District), soil under cedar tree (Hasanvand *et al.* 2014b). **Mazandaran Province** (Nowshahr, Ecological (Botanical) Garden of Nowshahr), soil and litter (Saberi *et al.* 2016). **North Khorasan Province** (region not mentioned), in the nests of *Tapinoma* sp. (Formicidae) (Rezaei *et al.* 2016). **Tehran**

Province (Tehran, Shahid Beheshti University Campus), soil (Kamali *et al.* 2004). **West Azarbaijan Province** (Salmas), soil and plant debris of apple orchards (Alizadeh and Shirdel 2012).
Notes – 1. We examined specimens of *Veigaia* sp. nr. *indica* [Fars Province (Estahban), soil, leaves, fruits, and trunk of fig trees], which was recorded by Daneshnia and Akrami (2013) and determined it as *V. planicola*. **2.** Kamali *et al.* (2001) reported *Veigaia serrata* Willmann, 1935 from soil of orchards in East Azarbaijan Province (Tabriz), but it is a junior synonym of *Veigaia planicola* (Bregetova, 1977b).

***Veigaia uncata* Farrier, 1957**

Distribution and habitats. **Mazandaran Province** (Nowshar and Ecological (Botanical) Garden of Nowshahr), soil and litter (Saberi *et al.* 2014; Saberi *et al.* 2016).

Subcohort Epicriiae Kramer, 1885
Superfamily Epicrioidea Berlese, 1885
Family Epicriidae Berlese, 1885
Genus *Epicrius* G. Canestrini & Fanzago, 1877a

***Epicrius* cf. *bulgaricus* Balogh, 1958**

Distribution and habitats. **East Azarbaijan Province** (Arasbaran Forests), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016b); (Arasbaran Forests, Aynalu, Garmanab), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016a).

***Epicrius canestrinii* (Haller, 1881)**

Distribution and habitats. **Guilan Province** (Rasht, Pir Bazar village), weed leaves (Ghasemi and Hajizadeh 2021).

***Epicirus tauricus* Bregetova, 1977f**

Distribution and habitats. **Mazandaran Province** (Amol), soil and forest litter (Kazemi and Paktinat Saeej 2013b).

***Epicrius* sp.**

Distribution and habitats. **Kerman Province** (Kerman, Sirch), soil (Jalaeian and Ahmadi 2002). **Mazandaran Province** (Amol), soil and litter (Kazemi and Rajaei 2013).

Superfamily Zerconoidea Canestrini, 1891
Family Zerconidae Canestrini, 1891
Genus *Aspar* Halašková, 1977

***Aspar* sp.**

Distribution and habitats. **Mazandaran Province** (Behshahr County), soil (Kazemi and Samanipour 2018).

Genus *Prozercon* Sellnick, 1943

***Prozercon bircanae* Urhan, 1998**

Distribution and habitats. **East Azarbaijan Province** (Kaleybar), moss from soil layer (Karaca *et al.*

2017).

Prozercon caspiansis Moghimi *et al.*, 2021

Distribution and habitats. **Mazandaran Province** (from different forestland areas), soil (Moghimi *et al.* 2021).

Prozercon dominiaki Błaszak, 1979

Distribution and habitats. **East Azarbaijan Province** (Kaleybar), leaf-litter from mixed forest, moss from soil layer (Karaca *et al.* 2017); (Arasbaran Forest), leaf-litter under oak (*Quercus* sp.), humus and moss, soil under raspberry (*Rubus* sp.), grassland and soil (Mohammad-Doustaresharaf *et al*. 2023). **Guilan Province** (Langrud, Divshal-Langrud), soil of tea (Hajizadeh *et al.* 2020). **Mazandaran Province** (Rudbarak), litter from beech forest with hornbeam trees (Błaszak 1979); (Shahsavar), litter from sheer limestone rock with mosses and herbaceous vegetation, litter from beech forest with sycamore and lime trees, litter from limestone rocks (Błaszak 1979); (from different forestland areas), soil (Moghimi *et al.* 2021).

Prozercon iranensis Ujvári, 2013

Distribution and habitats. **Kohgiluyeh va Boyer-Ahmad Province** (Gachsaran), soil of corn field (Ujvári *et al.* 2013).

Prozercon norae Ujvári, 2011

Distribution and habitats. **East Azarbaijan Province** (Tabriz), soil and foliage of poplar and elm trees (Rahbar Shahlan *et al.* 2014); (Arasbaran Forests, Vaygan, Aynalu, Kalaleh, Garmanab), soil and plant debris (Mohammad-Doustaresharaf *et al*. 2016a, b).
Note – Unknown species of *Prozercon* was reported from Hamedan Province in soil under *Astragalus* sp. by Kamali *et al*. (2001) and Isfahan Province (Rezvanshahr) in soil by Moradi Faradonbeh *et al.* (2018).

Genus *Zercon* C.L. Koch, 1836b

Zercon adoxyphes Błaszak, 1979

Distribution and habitats. **Mazandaran Province** (Shahsavar), litter from beech forest with sycamore and lime trees (Błaszak 1979).

Zercon agnostus Błaszak, 1979

Distribution and habitats. **East Azarbaijan Province** (Arasbaran Forest), soil under raspberry (*Rubus* sp.), grassland and soil (Mohammad-Doustaresharaf *et al*. 2023).

Zercon ahadiyati Mohammad-Doustaresharaf, Karaca, Bagheri & Urhan, 2023

Distribution and habitats. **West Azarbaijan Province** (Mirabad, Piranshahr County, Alvatan Forest), leaf litter under azerole (*Crataegus azarolus*) (Mohammad-Doustaresharaf *et al*. 2023).

Zercon andrei Sellnick, 1958

Distribution and habitats. **East Azarbaijan Province** (Arasbaran Forest), humus and moss

(Mohammad-Doustaresharaf *et al.* 2023).

Zercon apladellus Błaszak, 1979

Distribution and habitats. **West Azarbaijan Province** (Kavelan, Mahabad), soil under oak (*Quercus* sp.) (Mohammad-Doustaresharaf *et al*. 2023).

Zercon azerbaijanensis Mohammad-Doustaresharaf, Karaca, Bagheri & Urhan, 2023

Distribution and habitats. **West Azarbaijan province** (Urmia, Dalamper, Sheykh Zard Village, Margavar rural district, Silvaneh district), soil and leaf-litter under milk vetch (*Astragalus* sp.), grassland (Mohammad-Doustaresharaf *et al*. 2023).

Zercon berlesei Sellnick, 1958

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Shahrekord, Lordegan), soil (Nemati *et al.* 2012c). **Khuzestan Province** (Baghmalek), soil (Nemati *et al.* 2013b).

Zercon colligans Berlese, 1920

Distribution and habitats. **East Azarbaijan Province** (Hamneshin, Khoda Afarin), leaf-litter from mixed forest, moss from soil layer (Karaca *et al.* 2017); (Arasbaran Forest), soil under raspberry (*Rubus* sp.), grassland (Mohammad-Doustaresharaf *et al*. 2023). **West Azarbaijan Province** (Urmia city), soil (Kavianpour *et al.* 2018a); (Dalamper, Urmia), soil and leaf-litter under milk vetch (*Astragalus* sp.); (Urmia, Khan Darace), soil under oleaster (*Pyrus* sp.); (Mir Abad Forest), soil under hawthorn (*Crataegus* sp.) (Mohammad-Doustaresharaf *et al.* 2023).

Zercon michejdai Błaszak, 1979

Distribution and habitats. **East Azarbaijan Province** (Kaleybar), moss from soil layer (Karaca *et al*. 2017); (Arasbaran Forest), leaf-litter under oak (*Quercus* sp.) (Mohammad-Doustaresharaf *et al*. 2023). **Mazandaran Province** (Rudbarak), litter from beech forest with hornbeam trees; (Shahsavar), litter from beech forest with sycamore and lime trees, litter from sheer limestone rock with mosses and herbaceous vegetation (Błaszak 1979).

Zercon notabilis Błaszak, 1979

Distribution and habitats. **East Azarbaijan Province** (Kaleybar), moss from soil layer (Karaca *et al*. 2017); (Arasbaran Forest), soil (Mohammad-Doustaresharaf *et al*. 2023). **Lorestan Province** (Amir), leaf-litter from mixed forest, moss from soil layer (Karaca *et al.* 2017). **West Azarbaijan Province** (Urmia city), soil (Kavianpour et al. 2018a); (Kavelan, Mahabad), soil under oak (*Quercus* sp.) (Mohammad-Doustaresharaf *et al*. 2023).

Zercon ostovani Javan, Karaca & Urhan, 2018

Distribution and habitats. **Fras Province** (Shiraz city, Eram botanical garden), from litter and soil under red horse chestnut (Javan *et al*. 2018).

Zercon ozkani Urhan & Ayyıldız, 1994

Distribution and habitats. **East Azarbaijan Province** (Arasbaran Forest), leaf-litter under oak

(*Quercus* sp.) (Mohammad-Doustaresharaf *et al*. 2018a, 2023).

Zercon persicus Kavianpour, Karaca, Karimpour & Urhan, 2018

Distribution and habitats. **West Azarbaijan Province** (Urmia city), soil (Kavianpour et al. 2018a); (Dalamper, Urmia), soil and leaf-litter under milk vetch (*Astragalus* sp.); (Marmisho, Urmia), soil under oak (*Quercus* sp.) (Mohammad-Doustaresharaf *et al*. 2023).

Zercon tabrizensis Mohammad-Doustaresharaf, Karaca, Bagheri & Urhan, 2023

Distribution and habitats. **East Azarbaijan province** (Arasbaran Forest, Abbasabad Village, Minjavan Gharbi rural district, Minjavan district, Khoda Afarin County), humus and moss, (Arasbaran Forest, Kalale Olya Village, Minjavan Gharbi rural district, Minjavan district, Khoda Afarin County), soil (Mohammad-Doustaresharaf *et al.* 2023).

Zercon turcicus Urhan & Ayyıldız, 1994

Distribution and habitats. **East Azarbaijan Province** (Khoda Afarin, Kaleybar), leaf-litter from mixed forest, moss from soil layer (Karaca *et al.* 2017). **West Azarbaijan Province** (Urmia city), soil (Kavianpour *et al*. 2018a).

Zercon sp.

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

Subcohort Parasitiae (Parasitina) Evans & Till, 1979
Superfamily Parasitoidea Oudemans, 1901
Family Parasitidae Oudemans, 1901
Subfamily Parasitinae Oudemans, 1901
Genus *Coprocarpais* Hrúzová and Fenďa, 2018

Coprocarpais copridis (Costa, 1963)

Distribution and habitats. **East Azarbaijan Province** (Arasbaran forests, Aynalu, Garmanab), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016a, b).
Note – Mohammad-Doustaresharaf *et al.* (2016a, b) reported this species as *Parasitus copridis* Costa, 1963, but this species was considered as the type species for describing a new genus as above.

Coprocarpais 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.* 2013a).
Note – Kazemi *et al.* (2013a) reported this species as *Parasitus lunariphilus* Makarova, 1996, but it was considered as a species of *Coprocarpais* Hrúzová and Fenďa.

Genus *Cornigamasus* Evans & Till, 1979

Cornigamasus ocliferius Skorupski & Witaliński, 1997

Distribution and habitats. **Khuzestan Province** (Ahvaz, Gavmish Abad), buffalo manure; (Bavi,

Mollasani), cow manure, buffalo manure, and sheep manure; (Shush, Khavar-e Seyyed Khalaf), buffalo manure, cow manure; (Ahvaz, dairy farm at Shahid Chamran University campus), cow manure; (Shush, Beyt-e Juhi), cow manure; (Ahvaz, Jassaniyeh-ye Kuchak), cow manure; (Ahvaz), horse manure; (Hamidieh), buffalo manure; (Ahvaz, Nabi-ye Akram village), cow manure; (Ahvaz, Alhaei), cow manure; (Shush, Abdolkhan), cow manure; (Shushtar, Band-e Qir), cow manure; (Hamidieh, Pich-e Seyyed Jaber), buffalo manure; (Hamidieh, Tarrahiyeh), buffalo manure; (Ahvaz, Daghagheleh), cow manure (Farahi *et al.* 2020); (Ahvaz and its suburbs), cattle, buffalo, and sheep manure (Farahi *et al.* 2022).

***Cornigamasus lunaris* (Berlese, 1882c)**

Distribution and habitats. **Guilan Province** (Roudsar, Kelachay), soil, debris, litters and plant foliage (Nazari and Hajizadeh 2013); (Rasht, Pasikhan village), soil (Ghasemi and Hajizadeh 2021). **Kerman Province** (Kerman, Joupar), cow manure (Kazemi *et al.* 2013a); (Kerman), cow manure (Arjomandi *et al.* 2013a). **Khorasan Provinvce** (Taybad, Jiz Abad), associated with an unidentified Diptera (Kazemi *et al.* 2013a). **Mazandaran Province** (Kelardasht, Roudbarak), soil (Kazemi *et al.* 2013a).

Genus *Eugamasus* Berlese, 1892b

***Eugamasus berlesei* (Willmann, 193a5)**

Distribution and habitats. **Guilan Province** (Lahijan; Fouman, Makluwan; Rasht, Khomam, Sangar, Talem Seshanbeh, Rasht, University), soil, debris, litters and plant foliage (Nazari and Hajizadeh 2013); (Rasht, Vishka Nanak village, Keshel Varzal village, Pasikhan village, Pir Bazar village and Lakan village), litter; (Deh Baneh-ye, Eslamabad village, Bijar Bonch village), soil; (Isfahani Educational Institute), wood sorrel, *O. acetosella* leaves (Ghasemi and Hajizadeh 2021).

***Eugamasus covernicolus* (Trägårdh, 1912)**

Distribution and habitats. **Guilan Province** (University of Guilan; Rasht, Saravan, Khomam, Lahijan, Roudsar, Roudbar, Rostamabad, Noghlebar, Fuman, Masouleh, Rasht, Emamzadeh Hashem), soil, debris, litters and plant foliage (Nazari and Hajizadeh 2013); (Divhal-Langrud), soil of tea (Hajizadeh *et al.* 2020); (Rasht, Pasikhan village), litter; (Rasht, Guilan University, Deh Baneh-ye, Eslamabad village), soil; (Rasht, Isfahani Educational Institute), wood sorrel, *O. acetosella* leaves; (Pir Bazar village), strawberry, *Fragaria ananassa* leaves and soil; (Bijar Bonch village), soil, litter, cucmber, *C. sativus* leaves (Ghasemi and Hajizadeh 2021). **Semnan and Tehran Provinces** (region not mentioned), nest of birds (Kamali *et al.* 2001).

Genus *Gamasodes* Oudemans, 1939b

***Gamasodes fimbriatus* Karg, 1971a**

Distribution and habitats. **Guilan Province** (Somesara, Kelidbar, Roudbar, Rostamabad), soil, debris, litters and plant foliage (Nazari and Hajizadeh 2013); (Rasht, Bijar Bonch village), soil (Ghasemi and Hajizadeh 2021); (Astaneh-ye Ashrafiyeh, Abdol Abad), not mentioned (Askari *et al.* 2023).

***Gamasodes spiniger* (Oudemans, 1936)**

Distribution and habitats. **East Azarbaijan Province** (Arasbaran Forests, Vaygan, Kalaleh), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016a, b). **Fars Province** (Shiraz, Eram Garden), soil

under different trees (Javan *et al*. 2017). **Guilan Province** (Chaboksar), soil, debris, litters and plant foliage (Nazari and Hajizadeh 2013); (Rasht, Keshel Varzal village and Pasikhan village), litter; (Rasht, Isfahani Educational Institute), wood sorrel, *O. acetosella* leaves (Ghasemi and Hajizadeh 2021). **Kohgiluyeh va Boyer-Ahmad Province** (Gachsaran), soil of corn and rape seed farms (Moradian *et al.* 2011a, b). **Mazandaran Province** (Tonekabon, Konseh forest), soil and litter (Kazemi *et al.* 2013a).

Genus *Neogamasus* Tikhomirov, 1969

Neogamasus cervicornis (Van Daele, 1975)

Distribution and habitats. **Fars Province** (Shiraz), soil of orchards (Khezri *et al.* 2006); (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017). **Tehran Province** (Tehran City, Police Park), soil (Maleki *et al.* 2016). **Yazd Province** (region not mentioned), soil (Kafi *et al.* 2014).

Neogamasus insignis (Holzmann, 1969)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Saman), soil (Shariati *et al.* 2017). **Golestan Province** (Gorgan, Alangdarreh Forest), forest litter (Kazemi *et al.* 2013a). **Guilan Province** (Masuleh), soil (Kazemi *et al.* 2013a). **Mazandaran Province** (Nowshahr, Ecology Garden), forest litter; (Tonekabon, KolLat, Tyrom, Dimron, Konseh Forests), soil and litter; (Ramsar, Namakdarreh), soil and litter; (Abbas Abad, Kelar Abad), sawdust and rotten wood (Kazemi *et al.* 2013a); (Nowshahr, Ecological (Botanical) Garden of Nowshahr), soil and litter (Saberi *et al.* 2016); (Moaein Hotel-Fuman, Someh Sara, Vajargah-Kelachay), soil of tea (Hajizadeh *et al.* 2020); (Rasht, Pir Bazar village, Lakan village, Imam Khomeini Institute), soil; (Rasht, Bijar Bonch village), soil, litter, wood sorrel, *O. acetosella* leaves; (Rasht, Isfahani Educational Institute), wood sorrel, *O. acetosella* leaves; (Rasht, Pasikhan village, Keshel Varzal village), litter, soil; (Rasht, Dalecheh village, Omesheh village, Vishka Nanak village), litter (Ghasemi and Hajizadeh 2021). **Semnan Province** (region not mentioned), livestock manure (Kamali *et al.* 2001). **Tehran Province** (Region not mentioned), livestock manure (Kamali *et al.* 2001); (Tehran, Sorkheh Hesar Forest Park), soil (Pakyari *et al.* 2006b, c); (Tehran, Laleh Park), soil and litter (Kazemi *et al.* 2013a).

Neogamasus islandicus (Sellnick, 1940b)

Distribution and habitats. **Kohgiluyeh va Boyer-Ahmad Province** (Gachsaran), soil of corn and rapeseed farms (Moradian *et al.* 2011b). **Tehran Province** (Tehran, Sorkheh Hesar Forest Park), soil (Pakyari *et al.* 2006b, c).

Genus *Parasitellus* Willmann, 1939

Parasitellus fucorum (De Geer, 1778)

Distribution and habitats. **Ardabil Province** (Meshkinshahr, Shahbil region), associated with nest of *B. armeniacus* (Hymenoptera, Apidae) colony; (Moeil), associated with *Bombus argillaceus* (Scopoli) (Azhari *et al.* 2011). **Mazandaran Province** (Tirtash), associated with *Bombus* sp. (Kazemi *et al.* 2013a). **Tehran Province** (region not mentioned), associated with *Bumbus* spp. (Yahyavinezhad *et al.* 2010).

Genus *Parasitus* Latreille, 1795

Parasitus coleoptratorum (Linaeus, 1758)

Distribution and habitats. **Alborz Province** (Eshtehard, Mehrshahr), compost and mushroom

(Kheradmand *et al.* 2007). **Chaharmahal va Bakhtiyari Province** (Saman), soil (Shariati *et al.* 2017). **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.* 2013a). **Guilan Province** (Rasht, Sangar, Shahrestan, Amlash), soil, debris, litters and plant foliage (Nazari and Hajizadeh 2013). **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.* 2013a). **North Khorasan Province** (Bojnurd), soil of farms, gardens and manures (Mahpikaran *et al.* 2012).

Parasitus concors Oudemans & Voigts, 1904

Distribution and habitats. **Semnan and Tehran Provinces** (region not mentioned), livestock manure (Kamali *et al.* 2001).

Parasitus congener Oudemans & Voigts, 1904

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

Parasitus evertsi Oudemans, 1902

Distribution and habitats. **Guilan Province** (Rasht, Keshel Varzal village), litter (Ghasemi and Hajizadeh 2021).

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

Distribution and habitats. **Semnan and Tehran Provinces** (region not mentioned), soil (Kamali *et al.* 2001).

Parasitus hyalinus (Willmann, 1949)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2022b). **Isfahan Province** (region not mentioned), alfalfa (Hatami 1991; Kamali *et al.* 2001); (Goldasht, Dorcheh), soil of fruit orchards (Jalaeian *et al.* 2006). **Guilan Province** (Shaft, Choubar, Fuman, Masouleh, Makluwan), soil, debris, litters and plant foliage (Nazari and Hajizadeh 2013); (Rasht, Bazar Jomeh city), soil, wood sorrel, *O. acetosella* leaves (Ghasemi and Hajizadeh 2021). **Kerman Province** (region not mentioned), soil (Jalaeian and Ahmadi 2003); (Baft), soil and litter; (Sirjan), soil of wheat fields (Kazemi *et al.* 2013a); (region not mentioned), cow manure (Arjomandi *et al.* 2013a). **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.* 2013a); (region not mentioned), ornamental plants (Hamidi *et al.* 2013). **West Azarbaijan Province** (Salmas), soil and plant debris of apple orchards (Alizadeh and Shirdel 2012); (Urmia University), soil (Mirfakhraie *et al*. 2017).

Parasitus insignis (Holzmann, 1969)

Distribution and habitats. **Guilan Province** (Rasht, Sangar, Shahrestan, Saravan, Hashtpar, Asalem,

Langarud, Fuman, Masouleh, Makluwan, Somesara, Gysum, University of Guilan, Aqa Seyyed Sharif, Falakdeh, KuchIsfahan, Jafarabad, Emamzadeh Ebrahim, Lahijan, Roudsar, Kelachay, Vajargah, Chaboksar, Siahkalroud, Ghasemabad), soil, debris, litters and plant foliage (Nazari and Hajizadeh 2013).

***Parasitus kempersi* Oudemans, 1902**

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Saman), soil (Shariati *et al.* 2017). **Guilan Province** (Shaft, Rasht, KuchIsfahan, Aqa Seyyed Sharif, Lulaman, Lahijan, Roudsar, Rahimabad, Chaboksar, Kelachay, Vajargah, Langarud, Siahkalroud), soil, debris, litters and plant foliage (Nazari and Hajizadeh 2013); (Rasht, Pir Bazar village, Imam Khomeini Institute, Omesheh village), soil, litter; (Rasht, Deh Baneh-ye, Eslamabad village), paperflower, *Bougainvillea glabra* leaves; (Vishka Nanak village), soil; (Rasht, Keshel Varzal village), litter, tomato, *S. lycopersicum* leaves; (Pasikhan village), litter, wood sorrel, *O. acetosella* leaves; (Rasht, Jirdeh village), litter; (Rasht, Isfahani Educational Institute, Bijar Bonch village), litter, wood sorrel, *O. acetosella* leaves (Ghasemi and Hajizadeh 2021); (Rasht), associated with an ant from Formicidae (Hajizadeh and Hosseini 2022); (Astaneh-ye Ashrafiyeh, Salestan), soil of peanut plant (Askari *et al.* 2023).

***Parasitus loricatus* (Wankel, 1861)**

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Saman), soil (Shariati *et al.* 2017). **Guilan Province** (Rasht, Falakdeh, Saravan, Somesara, Behanbar, Khomam, Chapar Khaneh, Sangar, Chaboksar, Shanderman, Aqa Seyyed Sharif, Fuman, Lishavandan, Masouleh, Lavandevil), soil, debris, litters and plant foliage (Nazari and Hajizadeh 2013).

***Parasitus mustelarum* Oudemans, 1902**

Distribution and habitats. **Guilan Province** (Rasht, Bijar Bonch village), litter (Ghasemi and Hajizadeh 2021). **Mazandaran Province** (Galougah), ex. *E. pallens* collected in cow manure; (Kelardasht, Derazmari), cow manure (Kazemi *et al.* 2013a).

***Parasitus nolli* (Karg, 1965)**

Distribution and habitats. **Kerman Province** (region not mentioned), soil (Jalaeian and Ahmadi 2003). **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).

***Prasitus numerus* (Karg, 1965)**

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

***Parasitus* sp.**

Distribution and habitats. **Khuzestan Province** (Ahvaz and its suburbs), cattle, buffalo, sheep and horse manure (Farahi *et al.* 2022).

Genus *Phorytocarpais* Athias-Henriot, 1979

***Phorytocarpais americanus* (Berlese, 1906)**

Distribution and habitats. **Isfahan Province** (region not mentioned), alfalfa (Hatami 1991; Modarres Awal 1997; Kamali *et al.* 2001).
Note – This species was previously reported from Iran as *Parasitus americanus* (Berlese, 1906).

Phorytocarpais beta (Oudemans and Voigts, 1904)

Distribution and habitats. **Guilan Province** (Rasht, Bijar Bonch village), litter (Ghasemi and Hajizadeh 2021). **Khuzestan Province** (Ahvaz, Gavmish Abad), buffalo manure; (Bavi, Gabir), sheep manure; (Bavi, Shajaraat), buffalo manure; (Ahvaz, dairy farm at Shahid Chamran University campus), cow manure, buffalo manure; (Bavi, Mollasani), cow manure, buffalo manure, sheep manure, (Ahvaz, Jassaniyeh-ye Kuchak), cow manure; (Hamidieh), cow manure, buffalo manure; (Ahvaz), horse manure, (Ahvaz, Nabi-ye Akram village), cow manure; (Hamidieh, Tarrahiyeh), cow manure; (Shush, Abdolkhan), buffalo manure; (Shushtar, Arab Hassan), cow manure; (Shush, Beyt-e Juhi), cow manure; (Bavi, Talbumeh), cow manure; (Susangerd, Abu Hamizeh), buffalo manure; (Bavi, Veys), cow manure (Farahi *et al.* 2020); (Ahvaz and its suburbs), cattle, buffalo, and sheep manure (Farahi *et al.* 2022).
Note – This species was previously reported from Iran as *Parasitus beta*.

Phorytocarpais eta (Oudemans & Voigts, 1904)

Distribution and habitats. **Alborz Province** (Karaj), rapeseed fields (Ostovan 2006b).
Note– This species was previously reported from Iran as *Parasitus eta*.

Phorytocarpais fimetorum (Berlese, 1904e)

Distribution and habitats. **Alborz Province** (Mallard), compost (Kheradmand *et al.* 2007). **East Azarbaijan Province** (Tabriz), soil and litter (Kazemi *et al.* 2013a). **Fars Province** (Darab), soil (Kazemi *et al.* 2013a); (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017). (Kharameh region), sandy clay soil under pistachio trees (Alinezhad *et al*. 2023). **Golestan Province** (Nasr Abad and Zyiarat Villages), ex. *E. gibbosus* (Bahrami *et al.* 2011); (Gorgan, Shast Kola Forest), ex. *E. pallens*. **Guilan Province** (Manjil, Talesh, Hovigh, Sangar, Rudbar, Lowshan, Rostamabad, Langarud, Hashtpar, Asalem, Roudsar, Rahimabad), soil, debris, litters and plant foliage (Nazari and Hajizadeh 2013); (Rasht, Isfahani Educational Institute, Pasikhan village), wood sorrel, *O. acetosella* leaves; (Rasht, Sima Manzar Organization, Imam Khomeini Institute, Vishka Nanak village, Omesheh village), soil; (Jirdeh village), soil, hollyhocks, *Alcea biennis* leaves; (Pir Bazar village), cotton, *C. variegatum* leaves; (Ghasemi and Hajizadeh 2021). **Kerman Province** (region not mentioned), soil (Jalaeian and Ahmadi 2003); (Sirjan, Pariz, Balvard, Shahrebabak, Javazm), soil (Masnavipour *et al.* 2011); (Jiroft), soil (Balooch Shahryari *et al.* 2012); (Bam), soil (Mehrzad *et al.* 2012); (Kerman), sheep manure, cow manure and poultry manure (Arjomandi *et al.* 2013a); (Kerman City, parks and landscapes), soil (Arjomandi and Kazemi 2014b); (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020). **Khuzestan Province** (Ahvaz), soil (Baharloo *et al.* 2006); (Bavi, Mollasani), sheep manure, cow manure, buffalo manure; (Ahvaz, Gavmish Abad), buffalo manure; (Bavi, Gabir), sheep manure, poultry manure; (Ahvaz, dairy farm at Shahid Chamran University campus), cow manure; (Bavi, Shajaraat), buffalo manure; (Shush, Beyt-e Juhi), poultry manure; cow manure; (Shushtar, Arab Hassan), sheep manure; (Hamidieh, Tarrahiyeh), buffalo manure; (Ahvaz, Nabi-ye Akram village), cow manure; (Ahvaz, Alhaei), cow manure; (Shush, Abdolkhan), buffalo manure; (Shushtar, Band-e Qir), cow manure; (Shush, Beyt-e Jazayer), cow manure; (Ahvaz, Ebadeh), cow manure; (Bavi, Talbumeh), cow manure; (Hamidieh, Pich-e Seyyed Jaber), cow manure; (Susangerd, Abu Hamizeh), buffalo manure; (Ahvaz, Gavmish Abad), buffalo manure; (Bavi, Naddafieh), sheep manure (Farahi *et al.* 2020); (Ahvaz and its suburbs), cattle,

buffalo, sheep, poultry and horse manure (Farahi *et al.* 2022). **Kohgiluyeh va Boyer-Ahmad Province** (Gachsaran), soil of corn and rape seed farms (Moradian *et al.* 2011a, b). **Lorestan Province** (Bishe, Chamseyedi Districts), soil and litter (Hasanvand *et al.* 2014b). **Markazi Province** (region not mentioned), corm of gladiole and saffron (Baradaran Anaraki *et al.* 2012). **Mazandaran Province** (region not mentioned), honeybee 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, Kelar-Abad), sawdust and rotten wood (Kazemi *et al.* 2013a). **North Khorasan Province** (Bojnurd), soil of farms, gardens and manures (Mahpikaran *et al.* 2012). **Razavi Khorasan Province** (region not mentioned), corm of gladiole and saffron (Baradaran Anaraki *et al.* 2012); (Mashhad), soil and manure (Abbaspour *et al.* 2017). **Semnan Province** (region not mentioned), livestock manure, ash, buttonwood, decaing leaf compost, nest of birds and chicken manure (Kamali *et al.* 2001). **Tehran Province** (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.* 2013a). **West Azarbaijan Province** (Urmia), soil (Rezaie *et al.* 2011); (Miandoab), soil of apple orchards (Zarei and Kazemi 2014).
Note – This species was previously reported from Iran as *Parasitus fimetorum*.

Phorytocarpais mishdaghensis **Farahi & Witaliński, 2023**

Distribution and habitats. **Khuzestan Province** (Hamidieh), buffalo manure (Frahi and Witaliński 2023).

Genus *Rhabdocarpais* Athias-Henriot, 1981

Rhabdocarpais consanguineus **(Oudemans & Voigts, 1904)**

Distribution and habitats. **Chaharmahal va Bakhtiyari and Isfahan Provinces** (region not mentioned), body of birds or their nests (Keivani *et al.* 2012); (region not mentioned), associated with ants' nest (Khalili Moghadam and Nemati 2014b); (Saman), soil of ants' nest, *Tapinoma* sp. (Hym: Formicidae) (Khalili Moghadam and Saboori 2015); (Saman), soil (Shariati *et al.* 2017); (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2022b). **East Azarbaijan Province** (region not mentioned), soil (Kamali *et al.* 2001). **Fars Province** (Koohmare-Sorkhi region), oak forests (Kazemi and Yazdanpanah 2013b); (Koohmare Sorkhi region, oak forest), soil and leaf litter (Yazdanpanah and Kazemi 2014a); (Northwestern), soil and debris (Abolghasemi and Kazemi 2016); (Shiraz, Eram Garden), soil under different trees (Javan *et al.* 2017); (Kharameh region), sandy loam soil under fruit trees (Alinezhad *et al.* 2023). **Golestan Province** (Gorgan), soil (Kazemi *et al.* 2011a); (Gorgan, Tuskestan forest), litter (Kazemi *et al.* 2013a). **Guilan Province** (Rasht, Aqa Seyyed Sharif, Fuman, Lishavandan, Masouleh, Makluwan, Rudbar, Lowshan, Langarud), soil, debris, litters and plant foliage (Nazari and Hajizadeh 2013); (Rasht, Bijar Bonch village), soil; (Pasikhan village, Pir Bazar village and Vishka Nanak village), litter (Ghasemi and Hajizadeh 2021). **Hamedan Province** (region not mentioned), clover (*Trifolium* sp.) and alfalfa farms (Khanjani and Kamali 2000a; Kamali *et al.* 2001). **Hormozgan Province** (Minab), associated with soil under mango trees (Dolati and Ostovan 2017b). **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). **Kerman Province** (region not mentioned), soil (Jalaeian and Ahmadi 2003); (Sirjan, Balvard, Pariz), soil (Masnavipour *et al.* 2011); (Bam), soil (Mehrzad *et al.* 2012); (Kerman, Sirch, Sekonj, Bam), soil, cow and sheep manure (Kazemi *et al.* 2012); (Kerman), cow manure (Arjomandi *et al.* 2013a); (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020). **Kermanshah Province** (Rijab), fruit orchards (Babakfard *et al.* 2008). **Mazandaran Province** (Ramsar, Namakdarreh), soil and litter; (Tonekabon, Konseh forest), soil and litter; (Chalous, Roshandarreh),

soil and litter (Kazemi *et al.* 2013a); (Nowshahr, Ecological (Botanical) Garden of Nowshahr), soil and litter (Saberi *et al.* 2016). **North Khorasan Province** (Bojnurd), soil of farms, gardens and manures (Mahpikaran *et al.* 2012). **Razavi Khorasan Province** (Mashhad), ex. *Pentodon* sp. (Kazemi *et al.* 2012); (Mashhad), soil (Abbaspour *et al.* 2017). **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.* 2013a). **West Azarbaijan Province** (Urmia), aerial plants part and soil of potato fields (Mosavi *et al.* 2004; Mousavi *et al*. 2005); (Khoy), soil of sunflower fields (Taher *et al.* 2012); (Miandoab), soil of apple orchards (Zarei and Kazemi 2014); (Urmia University), soil (Mirfakhraie *et al*. 2017). **Zanjan Province** (region not mentioned), soil (Bigdeli *et al.* 2014).
Note – All the above-mentioned references cited this species under *Parasitus* genus.

***Rhabdocarpais mammillatus* (Berlese, 1904f)**

Distribution and habitats. **Alborz Province** (Mallard), compost (Kheradmand *et al.* 2007). **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). **Guilan Province** (Astaneh-ye Ashrafiyeh, Lafut-e Bala), soil of peanut plant (Askari *et al.* 2023). **Hamedan Province** (region not mentioned), clover (*Trifolium* sp.) and alfalfa farms (Khanjani and Kamali 2000a; Kamali *et al.* 2001). **Kerman Province** (region not mentioned), soil (Jalaeian and Ahmadi 2003). **Kermanshah Province** (Rijab), soil at base of cherry, walnut, grape and apricot (Babakfard *et al.* 2007); (Rijab), fruit orchards (Babakfard *et al.* 2008). **Khuzestan Province** (Bavi, Mollasani), sheep manure, buffalo manure); (Ahvaz, Gavmish Abad), buffalo manure; (Ahvaz, dairy farm at Shahid Chamran University campus), cow manure; (Shush, Khavar-e Seyyed Khalaf), buffalo manure; (Shush, Khoyes), buffalo manure; (Shush, Abdolkhan), buffalo manure; (Shush, Beyt-e Juhi), cow manure; (Ahvaz, Hatam village), sheep manure (Farahi *et al.* 2020); (Ahvaz and its suburbs), cattle, buffalo, and sheep manure (Farahi *et al.* 2022).
Note – This species was reported as a member of *Parasitus* genus in most above references.

***Rhabdocarpais mycophilus* (Karg, 1971a)**

Distribution and habitats. **Fars Province** (Kazerun), stored onion (Kamali *et al.* 2001); (Marvdasht), soil (Soleimani *et al.* 2011); (Darab), the soil under the trees in the northern and southern orchards of Darab city (Memarzadeh *et al*. 2022). **Hamedan Province** (region not mentioned), bean (*P. vulgaris*) farms (Khanjani and Kamali 2000b; Kamali *et al.* 2001). **Isfahan Province** (Isfahan), soil of urban green spaces (Karbasian *et al*. 2022). **Kerman Province** (region not mentioned), soil (Jalaeian and Ahmadi 2003); (Kerman, Sekonj), cow and sheep manure (Kazemi *et al.* 2013a); (Kerman), sheep manure (Arjomandi *et al.* 2013a). **Razavi Khorasan Province** (Mashhad), ex. *Pentodon* sp., rodent hole (Kazemi *et al.* 2013a). **Tehran Province** (region not mentioned), livestock manure, rat carcass (Kamali *et al.* 2001); (Tehran City, Police Park), soil (Maleki *et al.* 2016). **West Azarbaijan Province** (Salmas), soil and plant debris of apple orchards (Alizadeh and Shirdel 2012). **Yazd Province** (region not mentioned), soil (Kafi *et al.* 2014).
Note – This species was previously reported from Iran as *Parasitus mycophilus*.

Genus *Trachygamasus* Berlese, 1906

***Trachygamasus ambulacralis* (Willmann, 1949)**

Distribution and habitats. **Guilan Province** (Astaneh-ye Ashrafiyeh, Estakher Bijar), soil of peanut plant (Askari *et al.* 2023). **Kerman Province** (Northwestern, Bam, Mani region), soil, litter;

(Sekahour region), *Oryctes elegans* Prell (Mehrzad *et al.* 2013).

***Trachygamasus gracilis* (Karg, 1965)**

Distribution and habitats. **Semnan and Tehran Provinces** (region not mentioned), carcass of rat (Kamali *et al.* 2001).

***Trachygamasus karuni* Farahi & Witaliński, 2019**

Distribution and habitats. **Khuzestan Province** (Ahvaz and its suburbs), cattle, buffalo, sheep and horse manure (Farahi *et al.* 2019).

Genus *Vulgarogamasus* Tikhomirov, 1969

***Vulgarogamasus kraepelini* (Berlese, 1905)**

Distribution and habitats. **Guilan Province** (Rasht, Somesara, Ziabar, Roudsar, Shanderman, Emamzadeh Hashem, Shaft, Choubar), soil, debris, litters and plant foliage (Nazari and Hajizadeh 2013); (Rasht, Bijar Bonch village, Deh Baneh-ye, Eslamabad village), soil (Ghasemi and Hajizadeh 2021). **Mazandaran Province** (Tonekabon, Kol lat Forest), soil and litter (Kazemi *et al.* 2013a).

***Vulgarogamasus oudemansi* (Berlese, 1904a)**

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Saman), soil (Shariati *et al.* 2017). **Guilan Province** (Rasht, Asalem, Lowshan, Emamzadeh Hashem, Anzali), soil, debris, litters and plant foliage (Nazari and Hajizadeh 2013); (Rasht, Bijar Bonch village), soil (Ghasemi and Hajizadeh 2021). **Kohgiluyeh va Boyer-Ahmad Province** (Gachsaran), soil of corn and rape seed farms (Moradian *et al.* 2011a, b).

***Vulgarogamasus trouessarti* (Berlese, 1892e)**

Distribution and habitats. **Guilan Province** (Rasht, Bijar Bonch village), soil; (Rasht, Isfahani Educational Institute), wood sorrel, *O. acetosella* leaves (Ghasemi and Hajizadeh 2021).

Subfamily Pergamasinae Juvara-Balş 1972
Genus *Ernogamasus* Athias-Henriot, 1971

***Ernogamasus leruthi* (Cooreman, 1951)**

Distribution and habitats. **Semnan and Tehran Provinces** (region not mentioned), leaf compost, buttonwood and livestock manure (Kamali *et al.* 2001).
Note – This species was previously reported from Iran as *Leptogamasus leruthi*.

Genus *Holoparasitus* Oudemans, 1936

***Holoparasitus minimus* (Holzmann, 1955)**

Distribution and habitats. **Golestan Province** (Gorgan, Gharn Abad Forest), rotten wood (Kazemi *et al.* 2013a); (region not mentioned), soil and litter (Kazemi *et al.* 2012). **Mazandaran Province** (region not mentioned), soil and litter (Kazemi *et al.* 2012). **Semnan Province**, leaf compost (Kamali *et al.* 2001). **Tehran Province**, leaf compost (Kamali *et al.* 2001).

Genus *Leptogamasus* Trägårdh, 1936

***Leptogamasus bidens* (Sellnick, 1951)**

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

Genus *Paragamasus* Hull, 1918

***Paragamasus* sp.**

Distribution and habitats. **Guilan Province** (Rasht, KuchIsfahan, Jafarabad, Rasht, Lahijan), soil, debris, litters and plant foliage (Nazari and Hajizadeh 2013).

Genus *Pergamasus* Berlese, 1904e

***Pergamasus brevicornis* Berlese, 1904a**

Distribution and habitats. **Mazandaran Province** (Nowshahr, Ecological (Botanical) Garden of Nowshahr), soil and litter (Saberi *et al.* 2016).

***Pergamasus crassipes* (Linnaeus, 1758)**

Distribution and habitats. **Tehran Province** (Tehran City, Police Park), soil (Maleki *et al.* 2016).

***Pergamasus quisquiliarum* (G. & R. Canestrini, 1882b)**

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Saman, Gharaghoosh), in rooting wood in association with ant (*L. neglectus*) (Khalili-Moghadam 2022); (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2022b). **Kerman Province** (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020).

Genus *Tomeogamasus* Athias-Henriot, 1971

***Tomeogamasus falculiger* Berlese, 1906**

Distribution and habitats. **Fars Province** (Shiraz), soil of orchards (Khezri *et al*. 2006); (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017). **Razavi Khorasan Province** (Mashhad), manure (Abbaspour *et al.* 2017). **Tehran Province** (Tehran City, Police Park), soil (Maleki *et al.* 2016).
Note – This species was previously reported from Iran as *Pergamasus falculiger*.

Cohort Microgyniina Trägårdh, 1942
Superfamily Microgynioidea Trägårdh, 1942
Family Microgyniidae Trägårdh, 1942b
Genus *Microsejus* Trägårdh, 1942b

***Microsejus truncicola* Trägårdh, 1942b**

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

Cohort Uropodina Kramer, 1881

There are different taxonomical manners for the placement of genera and families and even for higher groups of Uropodina classification as the number of families varied in different taxonomical publication leading to place the same genus in different families by different authors (Halliday 2015, 2016). Some authors have avoided this problem by not placing genera into families and families into superfamilies. For this reason we do not specify the placement of different families of this group, so the names of families have been cited in alphabetically order as follows.

Family Cillibidae Trägårdh, 1944
Genus *Cilliba* von Heyden, 1826

Cilliba erlangensis (Hirschmann & Zirngiebl-Nicol, 1964b)

Distribution and habitats. **Mazandaran Province** (Nowshahr City, Garazbon), leaf litter; (Namkhaneh), soil and dead wood; (Namkhaneh), in leaf litter; (Paatam), in dead wood; (Garazbon), soil and leaf litter (Babaeian *et al.* 2018).

Cilliba sellnicki (Hirshmann & Zirngiebl-Nicol, 1964b)

Distribution and habitats. **Guilan Province** (Rasht, Bijar Bonch village), *Cucumis salivus* L. leaves; (Rasht, Vishka Nanak village), litter; (Rasht, Lakan village), soil, tomato, *Solanum lycopersicum* leaves; (Rasht, Dalecheh village, Pir Bazar village), litter; (Rasht, Pasikhan village, Lakan village), soil (Ghasemi and Hajizadeh 2021).

Family Dinychidae Berlese, 1916b
Genus *Dinychus* Kramer, 1882

Dinychus bincheaecarinatus Hirschmann, Wagrowska-Adamczyk & Zirngiebl-Nicol, 1984

Distribution and habitats. **Mazandaran Province** (Nowshahr, Kheyroud forest), leaf-litter, dead wood (Babaeian *et al.* 2017).

Dinychus woelkei Hirschmann & Zirngiebl-Nicol, 1969

Distribution and habitats. **Golestan Province** (Gorgan, Qarn-Abad Forest), decaying trunk (Arjomandi and Kazemi 2015).

Family Dithinozerconidae Krantz, 1978
Genus *Dithinozercon* Berlese, 1916c

Dithinozercon halberti (Berlese, 1916c)

Distribution and habitats. **Fars Province** (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017); (Shiraz, green spaces and orchards of fruit trees), soil and decayed material on the soil surface (Farzaneh *et al*. 2021). **Tehran Province** (Tarasht, Shemiranat), soils of walnut and apple orchards (Kazemi *et al.* 2003b).

Family Macrodinychidae Kontschán, 2017
Genus *Macrodinychus* Berlese, 1917

Macrodinychus bregetovaae (Hirschmann, 1975)

Distribution and habitats. **East Azarbaijan Province** (Arasbaran Forests, Vaygan, Kalaleh), soil and

plant debris (Mohammad-Doustaresharaf *et al.* 2016a). **Guilan Province** (Sangar), soil of rice filed, (Sowme'e–Sara, Behambar village), soil of poplar (*Populus alba* L.) garden; (Asalem), soil of walnut (*Juglans regia* L.) garden; (Amlash), soil of elm (*Ulmus carpinifolia* Gleditsch) garden; (Roudsar), soil under Caspian honey locust tree (*Gleditschia caspica* Desf), soil of rice field and soil of walnut garden; (Shanderman), soil of poplar garden; (Shaft), soil of rice filed, (Shahrestan), soil of walnut garden; (Kuchesfahān), soil of elm garden; (Rasht, Falak Deh village), soil of elm garden (Kontschan and Hajizadeh 2013); (Astaneh-ye Ashrafiyeh, Lafut-e Bala, Nabi Dehga, Tamchal), soil of peanut plant (Askari *et al.* 2023). **Mazandaran Province** (Nowshahr, Kheyroud forest), soil, dead wood, nest of *Crematogaster* sp. (Babaeian *et al.* 2017).

Macrodinychus iranicus Babaeian & Khalili-Moghadam, 2021

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Samsami region, Dejdaran Valley), in nest soil of *Tetramorium* sp. under rock (Khalili-Moghadam and Babaeian 2021).

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 Hirschmann & Zirngiebl-Nicol, 1964a
Genus *Oplitis* Berlese, 1884

Oplitis exopodi Hunter & Farrier, 1975

Distribution and habitats. **Mazandaran Province** (Nowshahr, Kheyrood- Kenar forest), leaf-litter (Babaeian *et al.* 2016b).

Oplitis inopina (Hull, 1923)

Distribution and habitats. **Iran** (region not mentioned), on the hairs and spurs of *Messor meridionalis* (Formicidae) (Hull 1923).

Oplitis iranicus Kazemi & Kontschán, 2007

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

Oplitis paradoxa (G. Canestrini & Berlese, 1884)

Distribution and habitats. **Fars Province** (Jahrom), soil from citrus orchards (Kazemi *et al.* 2008a). **Kerman Province** (Jiroft), soil (Balooch Shahryari *et al.* 2012). **Khuzestan Province** (Shush, Beyt-e Jazayer), cow manure; (Bavi, Mollasani), sheep manure (Farahi *et al.* 2018); (Ahvaz and its suburbs), cattle, and sheep manure (Farahi *et al.* 2022). **Yazd Province** (Abarkooh), soil from wheat fields (Kazemi *et al.* 2008a).

Oplitis quadrigenitalis Babaeian, 2018

Distribution and habitats. **Alborz Province** (Taleghan region), in the nest of *Lasius neglectus*

(Hymenoptera: Formicidae) (Babaeian and Nozad 2018).

Oplitis sarcinulus Hunter & Farrier, 1976

Distribution and habitats. **Mazandaran Province** (Nowshahr, Kheyrood- Kenar forest), leaf-litter (Babaeian *et al.* 2016b).
Note – We have excluded *Oplitis conspicua* (Berlese, 1903) from our study. This species was documented by Darvishzadeh and Kamali (2009) and initially mentioned with an uncertain identification by Kazemi and Rajaei (2013).

Family Polyaspididae Berlese, 1913a
Genus *Polyaspis* Berlese, 1881

Polyaspis berlesei (Camin, 1954)

Distribution and habitats. **Hormozgan Province** (Minab), associated with soil under mango trees (Dolati and Ostovan 2017a).

Polyaspis patavinus Berlese, 1881

Distribution and habitats. **Fars Province** (Northwestern), soil and debris (Abolghasemi and Kazemi 2016). **Golestan, Guilan and Mazandaran Provinces** (region not mentioned), forest litter (Babaeian *et al.* 2017). **Lorestan Province** (Khorramabad), soil and litter of oak forests (Kazemi *et al.* 2013c). **Mazandaran Province** (Nowshahr, Kheyroud forest), leaf-litter, dead wood, nest of *Lucanus* sp. (Babaeian *et al.* 2017).

Polyaspis repandus Berlese, 1904a

Distribution and habitats. **Fars Province** (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017). **Kerman Province** (Anbar Abad), soil and debris (Khalesi and Kazemi 2016).
Note – Unknown species of the *Polyaspis* genus were reported by Kamali *et al.* (2001) from East Azarbaijan Province (Tabriz), soil of orchards and by Kazemi and Rajaei (2013) from Mazandaran Province (Sari), soil and litter.

Family Protodinychidae Berlese, 1917
Genus *Protodinychus* Evans, 1957b

Protodinychus ahangarani Kazemi & Klompen, 2022

Distribution and habitats. **Gilan Province** (Anzali City), soil under broad leaves trees (Hajizadeh *et al.* 2021). **Mazandaran Province** (Tonekabon County, Dimarun Village,), soil-litter mixed with cow manure under *Prunus cerasifera* (Rosaceae) (Kazemi and Klompen 2022); (Kheyroud-Kenar Forest), soil-litter (Babaeian 2016).
Note – The above species was previously reported from Iran as *Protodinychus punctatus* Evan, 1957, but described by Kazemi and Klompen (2022) as new for science.

Family Trachytidae Trägårdh, 1938
Genus *Trachytes* Michael, 1894

Trachytes aegrota (C.L. Koch, 1841)

Distribution and habitats. **Kerman Province** (region not mentioned), soil (Jalaeian and Breitegger

2002).

Note – A species was reported as *Trachytes* cf. *aegrota* by Mohammad-Doustaresharaf *et al.* (2016a, b) from East Azarbaijan Province (Arasbaran Forests, Vaygan, Aynalu, Kalaleh, Garmanab), soil and plant debris.

Trachytes arcuatus Hirschmann & Zirngiebl-Nicol, 1969

Distribution and habitats. **Kerman Province** (region not mentioned), soil (Jalaeian and Breitegger 2002).

Trachytes baloghi Hirschmann & Zirngiebl-Nicol, 1969

Distribution and habitats. **Kerman Province** (Jupar), cow manure (Arjomandi *et al.* 2013a). **Mazandaran Province** (Nowshahr, Kheyroud forest), leaf-litter (Babaeian *et al.* 2017).

Trachytes irenae Pečina, 1970

Distribution and habitats. **Kerman Province** (region not mentioned), soil (Jalaeian and Breitegger 2002).

Trachytes minima Trägårdh, 1910

Distribution and habitats. **Kerman Province** (region not mentioned), soil (Jalaeian and Breitegger 2002).

Trachytes montana Willmann, 1953

Distribution and habitats. **Kerman Province** (region not mentioned), soil (Jalaeian and Breitegger 2002).

Genus *Uroseius* Berlese, 1888a

Uroseius infirmus Berlese, 1887a

Distribution and habitats. **Fars Province** (Northwestern), soil and debris (Abolghasemi and Kazemi 2016).

Uroseius traegardhi Hirschmann & Zimgieble-Nicol, 1969

Distribution and habitats. **Isfahan Province** (Isfahan), soil (Kadkhodaei *et al.* 2013).

Family Trachyuropodidae Berlese, 1917
Genus *Excavatatrachys* Hirschmann, 1979

Excavatatrachys excavata (Wasmann, 1899)

Distribution and habitats. **Guilan Province** (Mahvizan-Someh Sara), soil of tea (Hajizadeh *et al.* 2020); (Rasht), associated with beetles from Carabidae, and Staphylinidae and an ant from Formicidae (Hajizadeh and Hosseini 2022). **Mazandaran Province** (Nowshahr, Botanical Garden), soil and litter (Kazemi *et al.* 2016b).

Note – This species was reported in *Urojanetia* Berlese, 1913 (Berlese, 1913b) as *U. excavata* (Wasmann, 1899) from Iran, but we followed Kontschan and Ermilov (2023) and considered it under the *Excavatatrachys* genus.

Genus *Leonardiella* Berlese, 1904c

Leonardiella riccardiana (Leonardi, 1895)

Distribution and habitats. **Kerman Province** (Kerman, parks and landscapes), soil (Arjomandi and Kazemi 2014b).

Genus *Trachyuropoda* Berlese, 1888b

Trachyuropoda sp.

Distribution and habitats. **Mazandaran Province** (Tonekabon, Shoroom forest), soil and manure; (Ramsar), soil and litter (Kazemi and Rajaei 2013).

Genus *Trogulotrachys* Hirschmann, 1979

Trogulotrachys hirschmanni (Pečina, 1980)

Distribution and habitats. **Guilan Province** (Rasht), associated with an ant from Formicidae (Hajizadeh and Hosseini 2022). **Mazandaran Province** (Tonekabon, Shorum forest), soil, litter and cow manure (Kazemi *et al.* 2016b).
Note – This species was reported as *Trachyuropoda hirschmanni* Pečina, 1980 from Iran, but we followed Kontschan and Ermilov (2023) and considered it under the *Trogulotrachys* genus.

Family Trematuridae Berlese, 1917

Genus *Nenteria* Oudemans, 1915

Nenteria bastanii Kazemi & Abolghasemi, 2016

Distribution and habitats. **Fars Province** (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017); (Kharameh region), sandy loam soil under olive trees (Alinezhad *et al*. 2023). **Guilan Province** (Astaneh-ye Ashrafiyeh, Estakher Bijar), soil of peanut plant (Askari *et al*. 2023). **Kerman Province** (Kerman, Shora Park), soil (Kazemi and Abolghasemi 2016). **Tehran Province** (Tehran, Taleghani Park), soil and litter (Kazemi and Abolghasemi 2016).

Nenteria breviunguiculata (Willmann, 1949)

Distribution and habitats. **Isfahan Province** (Dorcheh, Khomeini Shahr), soil of fruit trees orchards (Jalaeian *et al.* 2006). **Kerman Province** (region not mentioned), soil (Jalaiean 2003); (Baft), soil (Rajaei *et al.* 2011b). **Tehran Province** (Tehran), soil and litter (Kazemi *et al.* 2003a); Soil (Kazemi *et al.* 2005).

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 Azarbaijan Province** (Tabriz), soil of orchards (Kamali *et al*. 2001); (Arasbaran Forests), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016a, b). **Fars Province** (Northwestern), soil and debris (Abolghasemi and Kazemi 2016); (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017); (Shiraz, green spaces and orchards of fruit trees), soil and decayed material on the soil surface (Farzaneh *et al.* 2021); (Kharameh region), sandy loam soil under pomegranate tree (Alinezhad *et al.* 2023). **Golestan Province** (Gorgan), soil (Kazemi *et al.* 2011a). **Guilan Province** (Bandar Anzali), on *Citrus* sp., infested with *Toxoptera citricida* (Kirkaldy) (Navaran and Hajizadeh 2021); (Rasht, Vishka Nanak village, Omesheh village), soil; (Rasht, Deh Baneh-ye, Eslamabad village, Pir Bazar village), litter (Ghasemi and Hajizadeh 2021); (Astaneh-ye Ashrafiyeh, Lafut-e Bala, Nabi Dehga, Abdullah Abad, Kinchah, Estakher Bijar, Tamchal, Salestan, Kashel, Azadmahalleh, Safra Basteh, Parkaposht, Bijar Mahalleh), soil of peanut plant (Askari *et al.* 2023). **Hamedan Province** (region not mentioned), wild sainfoin (Kamali *et al.* 2001). **Isfahan Province** (Goldasht, Khomeini Shahr), soil of fruit trees orchards (Jalaeian *et al.* 2006). **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); (Kerman), cow manure and sheep manure (Arjomandi *et al.* 2013a); (Kerman, parks and landscapes), soil (Arjomandi and Kazemi 2014b); (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020). **Khuzestan Province** (Ahvaz), soil (Baharloo *et al.* 2006). **Lorestan Province** (Faculty of Agricultural, University of Lorestan), soil of cypress trees (Hasanvand *et al.* 2014b). **Mazandaran Province** (Sisangan Forest Park), soil, litter, humus, cow and sheep dung (Kazemi 2012). **Razavi Khorasan Province** (region not mentioned), potato field crops (Baradaran *et al.* 2010). **Tehran Province** (Tehran), humus rich areas of orchards, Parks and lawns of the region (Kazemi *et al.* 2003a); soil (Kazemi *et al.* 2005); honeybee 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 and Pakyari 2011); (regions not mentioned), ornamental plants (Hamidi *et al.* 2013); (Tehran City, Police Park), soil (Maleki *et al.* 2016). **West Azarbaijan Province** (Urmia), house dust (Kamali *et al.* 2001); soil (Rezaie *et al.* 2011); (Salmas), soil and plant debris of apple orchards (Alizadeh and Shirdel 2012); (Miandoab), soil of apple orchards (Zarei and Kazemi 2014).

Genus *Trematurella* Trägårdh, 1942a

Trematurella elegans (Kramer, 1882)

Distribution and habitats. **East Azarbaijan Province** (Arasbaran forests, Aynalu, Kalaleh), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016a). **Fars Province** (Kharameh region), sandy clay soil under fig trees (Alinezhad *et al.* 2023). **Golestan Province** (Naharkhoran Forest), ex. *Herpalus* sp. and *Pentodon* sp. (Bahrami *et al.* 2011); (Gorgan), soil, litter, humus, cow and sheep dung (Kazemi 2012). **Guilan Province** (region not mentioned), stored rice, rice dust and debris (Noei *et al.* 2008). **Mazandaran Province** (Sisangan Forest Park), soil, litter, humus, cow and sheep dung (Kazemi 2012). **Tehran Province** (Tehran), humus rich areas of orchards, Parks and lawns of the region (Kazemi *et al.* 2003a); soil (Kazemi *et al.* 2001, 2005); (Tehran City, Police Park), soil (Maleki *et al.* 2016). **West Azarbaijan Province** (Urmia), foliage and soil of potato fields (Mosavi *et al.* 2004; Mousavi *et al*. 2005); (Khoy), soil of sunflower fields (Taher *et al.* 2012); (Salmas), soil and plant debris of apple orchards (Alizadeh and Shirdel 2012).

Note – This species was reported as *Trichouropoda elegans* (Kramer, 1882) from Iran, but we followed Błoszyk *et al*. (2018) and transferred it to the *Trematurella* genus.

Genus *Trichouropoda* Berlese, 1916b

Trichouropoda bipilis (Vitzthum, 1921)

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

Trichouropoda hispanica Hirschmann & Zirngiebl-Nicol, 1961

Distribution and habitats. **Alborz Province** (Taleghan), in the nest of *Messor* sp. (Babaeian and Nozaad 2017).

Trichouropoda orbicularis (C.L. Koch, 1839c)

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 and 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. **Chaharmahal va Bakhtiyari Province** (Koohrang, Dashte laleh; Lordegan, Ooreh), in soil and rooting wood in association with *C. fritillariae; T. karavaievi* (Khalili-Moghadam 2022). **East Azarbaijan Province** (Arasbaran forests, Vaygan, Aynalu, Kalaleh, Garmanab), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016a, b). **Mazandaran Province** (Nowshahr, Sisangan Forest Park, Tonekabon, and Chalus), soil, litter, humus, cow and sheep dung (Kazemi 2012); (Nowshahr, Kheyroud forest), soil, leaf-litter and dead wood (Babaeian *et al.* 2017).

Trichouropoda patavina (G. Canestrini, 1884b)

Distribution and habitats. **Fars Province** (region not mentioned), flour, rice and barely (Kamali *et al.* 2001). **Guilan Province** (region not mentioned), stored rice, rice dust and debris (Noei *et al.* 2008). **Kerman Province** (Baft), soil (Rajaei *et al*. 2011b); (Kerman), poultry manure (Arjomandi *et al.* 2013a). **Razavi Khorasan Province** (Torbat Heydariyeh, Feiz Abad), ex. *Pentodon* sp. (Kazemi *et al.* 2008b). **West Azarbaijan Province** (Urmia), house dust (Kamali *et al.* 2001); (Miandoab), soil of apple orchards (Zarei and Kazemi 2014).
Note – Kamali *et al.* (2001) reported *Trematura jacksonia* Hughes, 1948 and *Leiodinycus krameri* Berlese, 1884 which are junior synonyms of *Trichouropoda patavina* (Mašán 2001).

Trichouropoda spatulifera (Moniez, 1892)

Distribution and habitats. **Mazandaran Province** (Tonekabon, Jasid forest), soil and litter (Kazemi and Kontschán 2014).

Family Urodiaspididae Trägårdh, 1944
Genus *Urodiaspis* Berlese, 1916a

Urodiaspis pannonica Willmann, 1951b

Distribution and habitats. **East Azarbaijan Province** (Arasbaran Forests), soil and litter (Kazemi *et al.* 2016b).

Urodiaspis tecta (Kramer, 1876)

Distribution and habitats. **East Azarbaijan Province** (Arasbaran Forests), soil and litter (Kazemi *et al.* 2016b).

Family Urodinychidae Berlese, 1917
Genus *Microuroobovella* Błoszyk, Adamski & Napierała, 2020

Microuroobovella olszanowskii Błoszyk, Adamski & Napierała, 2020

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Lordegan County, Oureh), in nest of *Tapinoma karavaievi* Emery, 1925, in rooting wood (Khalili-Moghadam and Babaeian 2021).

Genus *Uroobovella* Berlese, 1903a

Uroobovella difoveolata Hirschmann & Z-Nicole, 1962

Distribution and habitats. **Fars Province** (Northwestern), soil and debris (Abolghasemi and Kazemi 2016). **Kerman Province** (Kerman), cow manure and sheep manure (Arjomandi *et al.* 2013a); (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020). **Khuzestan Province** (Ahvaz, dairy farm at the Shahid Chamran University campus), cow manure; (Bavi, Shajaraat), buffalo manure; (Shush, Beyt-e Juhi), cow manure; (Mollasani), sheep manure, cow manure, sheep manure; (Hamidieh), cow manure; (Ahvaz, Nabi-ye Akram village), cow manure; (Hamidieh, Tarrahiyeh), cow manure; (Hamidieh), sheep manure; (Ahvaz, Gavmish Abad), buffalo manure; (Ahvaz, Alhaei), sheep manure; (Shush, Abdolkhan), cow manure; (Shushtar, Arab Hassan), cow manure; (Shush, Khoyes), cow manure; (Bavi,Talbumeh), cow manure; (Ahvaz, Daghagheleh), cow manure; (Shushtar, Band-e Qir), cow manure; (Shush, Seyyed Abbas), cow manure (Farahi *et al.* 2018); (Ahvaz and its suburbs), cattle, buffalo, sheep and horse manure (Farahi *et al.* 2022). **Lorestan Province** (Veisian and Rashnoo Districts), soil of walnut trees and vine orchard (Hasanvand *et al.* 2014b). **Mazandaran Province** (Galugah), ex. *E. pallens* (Kazemi *et al.* 2008b). **Razavi Khorasan Province** (Sarakhs, Bazangan Lake coast), ex. *C. hispanus* (Kazemi *et al.* 2008b).

Uroobovella fimicola (Berlese, 1903a)

Distribution and habitats. **Alborz Province** (Shahryar), compost and mushroom (Kheradmand *et al.* 2007). **Fars Province** (region not mentioned), birdseed and poultry bed (Kamali *et al.* 2001); (Doroodzan), soil of fields (Asadpoor *et al.* 2012); (Shiraz, Eram Garden), soil under different trees (Javan *et al.* 2017). **Golestan Province** (Gorgan, Toshan Village), ex. *E. gibbosus* (Bahrami *et al.* 2011). **Guilan Province** (Rasht, Pir Bazar village), soil (Ghasemi and Hajizadeh 2021). **Khuzestan Province** (Ahvaz, Gavmish Abad), buffalo manure; (Shush, Seyyed Abbas), buffalo manure; (Bavi, Mollasani), sheep manure, buffalo manure, cow manure; (Ahvaz, dairy farm at the Shahid Chamran University campus), cow manure (Farahi *et al.* 2018); (Ahvaz and its suburbs), cattle, buffalo, sheep, poultry and horse manure (Farahi *et al.* 2022). **Mazandaran Province** (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). **North Khorasan Province** (Bojnurd), soil of farms, gardens and manures (Mahpikaran *et al.* 2012). **Razavi Khorasan Province** (region not mentioned), ex. unidentified scarabaeid beetles (Kazemi *et al.* 2008b). **Tehran Province** (Tehran), humus rich areas of orchards, Parks and lawns of the region (Kazemi *et al.* 2003a); soil (Kazemi *et al.* 2005). **West Azarbaijan Province** (Khoy), soil of sunflower fields (Taher *et al.* 2012); (Salmas), soil and plant debris of apple orchards (Alizadeh and Shirdel 2012).

Uroobovella flagelliger (Berlese, 1910b)

Distribution and habitats. **Mazandaran Province** (Nowshahr, Kheyroud forest), leaf-litter, dead wood (Babaeian *et al.* 2017).

Uroobovella fracta (Berlese, 1916)

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Koohrang, Bazoft (Taraz), Dashte laleh; Lordegan, Ooreh), in soil and rooting wood in association with *C. fritillariae*, *T. karavaievi* (Khalili-Moghadam 2022). **Mazandaran Province** (Nowshahr, Kheyroud forest), leaf-litter, dead wood (Babaeian *et al.* 2017).

Uroobovella marginata (C.L. Koch, 1839c)

Distribution and habitats. **Region not mentioned**, stored products (Sepasgozarian 1978; Modarres Awal 1994, 1997; Kamali *et al.* 2001). **Fars Province** (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017). **Golestan Province** (Gorgan, Toshan Village), ex. *E. gibbosus* (Bahrami *et al.* 2011). **Guilan Province** (region not mentioned), stored rice, rice dust and debris (Noei *et al.* 2008). **Isfahan Province** (Najaf Abad, Dorcheh, Khomeini Shahr), soil of fruit trees orchards (Jalaeian *et al.* 2006). **Kerman Province** (region not mentioned), soil (Jalaeian 2003); (Kerman), cow manure (Arjomandi *et al.* 2011); (Baft), soil (Rajaei *et al.* 2011b); (Bam), soil (Mehrzad *et al.* 2012); (Kerman), cow manure and poultry manure (Arjomandi *et al.* 2013a); (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020). **Khuzestan Province** (Ahvaz, Gavmish Abad), buffalo manure; (Ahvaz, Alhaei), sheep manure, cow manure; (Bavi, Mollasani), cow manure, sheep manure, poultry manure, buffalo manure; (Ahvaz, dairy farm at the Shahid Chamran University campus), cow manure; (Bavi, Shajaraat), cow manure; (Shush, Beyt-e Juhi), poultry manure; (Ahvaz, Jassaniyeh-ye Kuchak), cow manure; (Hamidieh), cow manure; (Ahvaz, Nabi-ye Akram Village), cow manure; (Hamidieh, Gambue), cow manure; (Shushtar, Arab Hassan), sheep manure; (Hamidieh, Tarrahiyeh), buffalo manure; (Shush, Abdolkhan), (buffalo manure); (Shushtar, Arab Hassan), cow manure; (Bavi, Talbumeh), cow manure; (Hamidieh, Pich-e Seyyed Jaber), cow manure; (Ahvaz, Ebadeh), cow manure; (Shushtar, Band-e Qir), sheep manure; (Ahvaz, Haatam village), sheep manure); (Bavi, Naddafieh), sheep manure (Farahi *et al.* 2018); (Ahvaz and its suburbs), cattle, buffalo, sheep, quail, poultry and horse manure (Farahi *et al.* 2022). **Mazandaran Province** (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). **North Khorasan Province** (Bojnurd), soil of farms, gardens and manures (Mahpikaran *et al.* 2012). **Razavi Khorasan Province** (region not mentioned), ex. unidentified scarabaeid beetles (Kazemi *et al.* 2008b); (Mashhad City), soil and leaf litter (Abbaspour *et al.* 2017). **Sistan va Baluchestan Province** (Mehrestan), *Rhynchophorus ferrugineus* (Coleoptera: Curculionidae) (Farmahiny Farahani *et al.* 2016). **Tehran Province** (Tehran), humus rich areas of orchards, Parks and lawns of the region (Kazemi *et al.* 2003a); Soil (Kazemi *et al.* 2005); (Tehran City, Police Park), soil (Maleki *et al.* 2016). **West Azarbaijan Province** (Salmas), soil and plant debris of apple orchards (Alizadeh and Shirdel 2012).

Uroobovella obovata (G. Canestrini & Berlese, 1884)

Cited in Berlese (1884).

Distribution and habitats. **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 and Ostovan 2012); (Larestan), leaves, fruits, trunk fiber and soil of date palm (Majidi and Akrami 2013); (Northwestern), soil and debris (Abolghasemi and Kazemi 2016); (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017); (Kharameh region), sandy clay soil under pistachio trees (Alinezhad *et al*. 2023). **Guilan Province** (Rasht, Pasikhan village, Lakan village), soil; (Keshel Varzal village), litter, soil, tomato, *S. lycopersicum* (Ghasemi and Hajizadeh 2021). **Hormozgan Province** (Minab), associated with soil under mango trees (Dolati and Ostovan 2017b). **Kerman Province** (Jiroft), soil (Balooch Shahryari *et al.* 2012). **Khuzestan Province** (Ahvaz), soil (Baharloo *et al.* 2006). **Mazandaran Province** (Sisangan and Noor Forest Parks), soil, litter, humus, cow and sheep dung (Kazemi 2012). **Tehran Province** (Tehran), humus rich areas of orchards, parks and lawns of the region (Kazemi *et al.* 2003a), soil (Kazemi *et al.* 2001, 2005); (Tehran, Sorkhe Hesar Forest Park), soil (Pakyari *et al.* 2006b, 2008); (regions not mentioned), ornamental plants (Hamidi *et al.* 2013); (Tehran City, Police Park), soil (Maleki *et al.* 2016). **West Azarbaijan Province** (Urmia), soil (Rezaie *et al.* 2011).

Uroobovella pulchella (Berlese, 1904d)

Distribution and habitats. **Fars Province** (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017). **Tehran Province** (Tehran), humus rich areas of orchards, Parks and lawns of the region (Kazemi *et al.* 2003a); soil (Kazemi *et al.* 2001, 2005).

Note – Jalaeian *et al.* (2004a) reported *Urodynichus* sp. from the foliage of trees, weeds, and soil of orchards (Isfahan Province, Goldasht). 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).

Uroobovella similiobovata Hirschmann & Zirngiebl-Nicol, 1962

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (Saman County: Kahkesh village, Markadeh village, Gharagoosh village, Garmdareh village), in the nest of *Lasius neglectus* in rooting wood; (Koohrang County: Dashte Laleh), soil of *Cataglyphis fritillariae* (Formicidae) nest; (Shahrekord County: Daneshgah), in the nest of *Lasius neglectus* in rooting wood; (Nafch County), in nest of *Lasius neglectus* in rooting wood; (Ben County: Bradeh), in the nest of *Cataglyphis kurdistanica* Pisarski in rooting wood (Khalili-Moghadam and Babaeian 2021).

Uroobovella varians Hirschmann & Zirngiebl-Nicol, 1962

Distribution and habitats. **Khuzestan Province** (Shushtar, Band-e Qir), cow manure (Farahi *et al.* 2018); (Ahvaz and its suburbs), cattle manure (Farahi *et al.* 2022).

Uroobovella vinicolora (Vitzthum, 1926)

Distribution and habitats. **Mazandaran Province** (Nowshahr, Kheyroud forest), leaf-litter, dead wood (Babaeian *et al.* 2017).

Family Uropodidae Kramer, 1881
Genus *Centrouropoda* Berlese, 1916b

Centrouropoda almerodai Wisniewski, Hirschmann & Hiramatsu, 1992

Distribution and habitats. **Sistan va Baluchestan Province** (Mehrestan), *Rhynchophorus ferrugineus* (Coleoptera: Curculionidae) (Farmahiny Farahani *et al.* 2016).

Genus *Discourella* Berlese, 1910b

Discourella modesta (Leonardi, 1899b)

Distribution and habitats. **East Azarbaijan Province** (Tabriz), soil and foliage of poplar and elm trees (Rahbar Shahlan *et al.* 2014); (Arasbaran Forests, Vaygan Aynalu Kalaleh Garmanab), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016a, b). **Fars Province** (Marvdasht, Kamfiruz), soil and decayed plants under the oak trees (Beyzavi and Ostovan 2012); (Koohmare-Sorkhi region), oak forests (Kazemi and Yazdanpanah 2013b); (Koohmare-Sorkhi region, oak forest), soil and leaf litter (Yazdanpanah and Kazemi 2014a); (Northwestern), soil and debris (Abolghasemi and Kazemi 2016). **Lorestan Province** (Badrabad District), soil under cedar trees (Hasanvand *et al.* 2014b).

Genus *Trachycilliba* Berlese, 1903a

Trachycilliba abantica (Bal & Özkan, 2007)

Distribution and habitats. **Mazandaran Province** (Ecological Garden of Nowshahr), soil and litter (Kazemi and Abolghasemi 2016).

Trachycilliba persica (Kazemi & Kontschán, 2007)

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

Trachycilliba splendida (Kramer, 1882)

Distribution and habitats. **Fars Province** (Kharameh region), sandy clay soil under olive trees (Alinezhad *et al.* 2023). **Guilan Province** (Sarash-Lahijan, Moein Hotel-Fuman, Mahvizan-Someh Sara, Divshal-langrud, Otaghvar- Langrud), soil of tea (Hajizadeh *et al.* 2020); (Rasht, Bijar Bonch village), soil; (Rasht, Vishka Nanak village), litter (Ghasemi and Hajizadeh 2021). **Mazandaran Province** (Chalous, Roshandarreh forest; Tonekabon, Jasid, Dimron forest; Nowshahr, Sisangan Forest Park), soil and litter (Kazemi and Kontschán 2014). **Mazandaran Province** (Nowshahr, Kheyroud forest), leaf-litter and dead wood (Babaeian *et al.* 2017).
Note – For most of the above authors except Babaeian *et al*. (2017), the report of species has been done in *Neodiscopoma* Vitzthum, 1943 genus [*Neodiscopoma splendida* (Kramer, 1882)].

Trachycilliba sp.

Distribution and habitats. **Guilan Province** (Lahijan, Mahvizan-Someh Sara, Tataf-Someh Sara), soil of tea; (Moein Hotel-Fuman), leaf and soil of tea (Hajizadeh *et al.* 2020).
Note – This unknown species was previously reported from Iran as a species of *Neodiscopoma*.

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 – Kazemi and Rajaei (2013) stated that "*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". This idea was followed in this paper.

Uropoda fumicola (Schweizer, 1961)

Distribution and habitats. **East Azarbaijan Province** (Arasbaran Forests, Kalaleh Garmanab), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016a). **Mazandaran Province** (Tonekabon, Dimron and Tonekabon, Jasid, forest), soil, litter (Kazemi and Kontschán 2014).

Uropoda orbicularis (Müller, 1776)

Distribution and habitats. **East Azarbaijan Province** (Tabriz), soil of orchards (Kamali *et al.* 2001); (Tabriz), soil and foliage of poplar and elm trees (Rahbar Shahlan *et al.* 2014). **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 and 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); (Koohmare-Sorkhi region), oak forests (Kazemi and Yazdanpanah 2013b); (Koohmare-Sorkhi region, oak forest), soil and leaf litter (Yazdanpanah and Kazemi 2014a); (Northwestern), soil and debris (Abolghasemi and Kazemi 2016); (Shiraz, Eram Garden), soil under different trees (Javan *et al*. 2017); (Shiraz, green spaces and orchards of fruit trees), soil and decayed material on the soil surface (Farzaneh *et al.* 2021); (Darab), the soil under the trees in the northern and southern orchards of Darab city (Memarzadeh *et al*. 2022). **Golestan Province** (Gorgan), soil (Kazemi *et al.* 2011a). **Guilan Province** (Bandar Anzali), on *Phragmites australis* (Cav.)., infested with aphids (Navaran and Hajizadeh 2021); (Rasht, Pasikhan village), wood sorrel, *Oxalis acetosella* L. leaves; (Vishka Nanak village), litter (Ghasemi and Hajizadeh 2021). **Hamedan Province** (region not mentioned), clover (*Trifolium* sp.) farms (Khanjani & Kamali 2000a; Kamali *et al.* 2001). **Kerman Province** (Baft), soil (Rajaei *et al.* 2011b); (Bam), soil (Mehrzad *et al.* 2012); (Mahan City), soil of gardens, field and green space (Mojaz and Kazemi 2020). **Khuzestan Province** (Ahvaz), soil (Baharloo *et al.* 2006); (Shush, Abdolkhan), cow manure; (Bavi, Mollasani), cow manure; (Ahvaz, Haatam village), sheep manure; (Ahvaz, Alhaei), cow manure (Farahi *et al.* 2018); (Ahvaz and its suburbs), cattle and sheep manure (Farahi *et al.* 2022). **Lorestan Province** (Ghalesangi District), soil of apple orchard (Hasanvand *et al.* 2014b). **Mazandaran Province** (Sisangan and Noor Forest Parks), soil, litter, humus, cow and sheep dung (Kazemi 2012); (Nowshahr, Kheyrood- Kenar forest), dead wood, leaf-litter, *Lucanus* sp. (Babaeian *et al.* 2017). **North Khorasan Province** (Esfidan), ex. *C. scheriberi* and *Onthophagus* sp. (Kazemi *et al.* 2008b); (Bojnurd), soil of farm, gardens and manures (Mahpikaran *et al.* 2012). **Razavi Khorasan Province** (Mashhad), soil (Abbaspour *et al.* 2017). **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), honeybee hives (Rahmani *et al.* 2006); (Tehran City, Police Park), soil (Maleki *et al.* 2016). **West Azarbaijan Province** (Urmia), aerial plants part and soil of potato fields (Mosavi *et al.* 2004;

Mousavi *et al*. 2005); (Khoy), soil of sunflower fields (Taher *et al.* 2012); (Salmas), soil and plant debris of apple orchards (Alizadeh and Shirdel 2012).

Suborder Trigynaspida Camin & Gorirossi, 1955
Cohort Antennophorina Camin & Gorirossi, 1955
Superfamily Aenictequoidea Kethley, 1977
Family Messoracaridae Kethley, 1977
Genus *Messoracarus* Silvestri, 1912

Messoracarus sp.

Distribution and habitats. **Khuzestan Province** (Shoshtar County), nest of *Formica* sp., coll. Seihaei, 2016.
Note – This superfamily and related taxa (family and genus) are reported for the first time from Iran.

Superfamily Antennophoroidea Berlese, 1892
Family Antennophoridae Berlese, 1892e
Genus *Antennophorus* Haller, 1877

Antennophorus foreli Wasmann, 1902

Distribution and habitats. **Chaharmahal va Bakhtiyari and Isfahan Provinces** (region not mentioned), soil (Nemati *et al.* 2012a); (regions not mentioned), ant nest (Khalili-Moghadam and Nemati 2014b); (Saman, Shahrekord), *Plagiolepis* sp. (Hym. Formicidae) (Khalili-Moghadam and Saboori 2015); (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2022a).

Superfamily Celaenopsoidea Berlese, 1892
Family Celaenopsidae Berlese, 1892a
Genus *Celaenopsis* Berlese, 1886

Celaenopsis badius C.L. Koch, 1840

Distribution and habitats. **Chaharmahal va Bakhtiyari and Isfahan Provinces** (region not mentioned), soil (Nemati *et al.* 2012a); (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2022a). **East Azarbaijan Province** (Arasbaran Forests), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016b); (Arasbaran Forests, Aynalu, Kalaleh), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016a).

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, 1959a

Distribution and habitats. **Fars Province** (region not mentioned), galleries made by Mediterranean pine engraver beetles *O. erosus* (Ahadiyat *et al.* 2012). **Guilan Province** (region not mentioned), galleries made by Mediterranean pine engraver beetles *O. erosus* (Ahadiyat *et al.* 2012). **Markazi Province** (Saveh and Mahallat region), associated with the mediterranean pine beetle, *Orthotomicus*

erosus (Wollaston) (Farmahiny Farahani *et al.* 2013). **Tehran Province** (Tehran), associated with elm bark beetles *S. multistriatus* (Ostovan & Kamali 1997; Kamali *et al.* 2001); (region not mentioned), galleries made by Mediterranean pine engraver beetles *O. erosus* (Ahadiyat *et al.* 2012).
Note– *Pleuronectocelaeno drymoecetes* Kinn, 1968 was reported by Ostovan & Kamali (1997) and Kamali *et al.* (2001) before recording *P. barbara* by Ahadiyat *et al.* (2012) which Kinn (1991) considered it as a junior synonym of the latter as cited in Kazemi and Rajaei (2013).

Family Diplogyniidae Trägårdh, 1941
Genus *Cingulacarus* Elsen, 1975

Cingulacarus kermanensis Kazemi & Klompen, 2024

Distribution and habitats. **Kerman Province** (Jiroft and Bam County), under elytra of *Oryctes elegans* (Col., Scarabaeidae) (Kazemi and Klompen 2024).

Genus *Lobogynium* Trägårdh, 1950

Lobogynium sodhiri (Datta, 1985)

Distribution and habitats. **Fars Province** (Jari Abad Village), dry cow dung and decaying plant material (Plumari and Kazemi 2012). **Golestan Province** (Gorgan, Naharkhoran), ex. *G. spiniger* (Plumari and Kazemi 2012). **Khuzestan Province** (Bavi, Mollasani), cow manure, sheep manure and buffalo manure); (Ahvaz, Jassaniyeh-ye Kuchak), cow manure; (Ahvaz, dairy farm at the Shahid Chamran University campus), cow manure; (Ahvaz, Nabi-ye Akram village), cow manure; (Ahvaz, Alhaei), sheep manure; (Shush, Beyt-e Juhi), cow manure; (Bavi, Shajaraat), cow manure; (Bavi, Naddafieh), sheep manure; (Ahvaz, Haatam village), sheep manure (Farahi *et al.* 2018); (Ahvaz and its suburbs), cattle, buffalo, and sheep manure (Farahi *et al.* 2022). **North Khorasan Province** (Bojnord), sheep and cow dung (Plumari and Kazemi 2012). **Razavi Khorasan Province** (Mashhad, Shandiz), ex. *A. scutellaris* (Plumari and Kazemi 2012). **Tehran Province** (Rudehen), ex. *A. scutellaris* (Erichson) (Plumari and Kazemi 2012).

Genus *Weiseronyssus* Samšiňák, 1962

Weiseronyssus persicus Kazemi, Klompen & Moraza, 2008

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

Family Schizogyniidae Trägårdh, 1950
Genus *Euroschizogynium* Trach & Seeman, 2014

Euroschizogynium calvum Trach & Seeman, 2014

Distribution and habitats. **Khuzestan Province** (Ahvaz), on the body of some members of Carabidae (Coleoptera) (Nemati *et al.* 2012a); (Ahvaz), separated from around mouth parts of carabid beetles *Scarites* sp. (Coleoptera: Carabidae) (Nemati and Khalili-Moghadam 2018).
Note – Nemati *et al.* (2012) reported this species as an unidentified taxa of the genus *Schizogynium* Trägårdh, 1950.

Cohort Cercomegistina Camin & Gorirossi, 1955
Superfamily Cercomegistoidea Trägårdh, 1938
Family Asternoseiidae Valle, 1954
Genus *Asternoseius* Berlese, 1910b

Asternoseius sp.

Distribution and habitats. **Mazandaran Province** (Amol), soil and forest litter (Kazemi and Paktinat Saeej 2013a).

Family Cercomegistidae Trägårdh, 193
Genus *Cercoleipus* Kinn, 1970

Cercoleipus kuznetsovi Khaustov, 1997

Distribution and habitats. **Markazi Province** (Saveh region), associated with *Orthotomicus erosus* (Wollaston) (Farmahiny Farahani *et al.* 2013). **Tehran Province** (region not mentioned), ex. *O. erosus* (Ahadiyat *et al.* 2011).

Suborder Sejida Kramer, 1885
Superfamily Sejoidea Berlese, 1885
Family Ichthyostomatogasteridae Sellnick, 1953
Genus *Asternolaelaps* Berlese, 1923

Asternolaelaps fecundus Berlese, 1923

Distribution and habitats. **Chaharmahal va Bakhtiyari Province** (region not mentioned), soil (Nemati and Gwiazdowicz 2011a); (region not mentioned), ants and soil of their nest (Khalili-Moghadam *et al.* 2022a). **Kohgiluyeh va Boyer-Ahmad Province** (region not mentioned), soil (Nemati and Gwiazdowicz 2011a).

Asternolaelaps sp.

Distribution and habitats. **Fars Province** (Kamfiruz region), soil under oak trees (Ostovan and Beyzavi 2010).

Family Sejidae Berlese, 1913c
Genus *Sejus* C.L. Koch, 1836b

Sejus australis Hirschmann & Kaczmarek, 1991

Cited in Hirschmann, Wisniewski and Kaczmarek (1991).

Distribution and habitats. **Isfahan and Charmahal va Bakhtiyari Provinces** (region not mentioned), soil (Nemati and Gwiazdowicz 2011b). **Khuzestan Province** (Ahvaz, dairy farm at the Shahid Chamran University campus), cow manure; (Ahvaz, Nabi-ye Akram village), cow manure (Farahi *et al.* 2018); (Ahvaz and its suburbs), cattle manure (Farahi *et al.* 2022).

Sejus carolinensis Lekveishvili & Klompen, 2004

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

Sejus persicus Babaeian & Gwiazdowicz, 2021

Distribution and habitats. **Mazandaran Province** (Kheyroud forest), leaf-litter (Babaeian and

Gwiazdowicz 2021).

Sejus sp.

Distribution and habitats. **East Azarbaijan Province** (Arasbaran Forests, Garmanab), soil and plant debris (Mohammad-Doustaresharaf *et al.* 2016a). **Fars Province** (Larestan), leaves, fruits, trunk fiber and soil of date palm (Majidi and Akrami 2013). **Guilan Province** (Sarash-Lahijan), soil of tea (Hajizadeh *et al.* 2020).

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کاتالوگ هرناهای میان‌سفت ایران به جز خانوادهٔ Phytoseiidae

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چکیده

در این تک‌نگاشت، کاتالوگی از تمام هرناهای میان‌سُفت گزارش شده از ایران (به جز Phytoseiidae) ارایه می‌شود. این کاتالوگ ٦١٦ گونه متعلق به ۱۸۳ جنس و ۵۱ خانواده را فهرست می‌کند. با توجه به تعداد جنس‌ها و گونه‌های فیتوزئید گزارش شده از ایران که به ترتیب ۱۵ و ۱۰۵ عدد اعلام شده است، تعداد جنس‌ها و گونه‌های میان‌سُفتیان در ایران به ترتیب به ۱۹۸ و ۷۲۱ می‌رسد. تعداد گونه‌های زیرراستهٔ Monogynaspida Camin & Gorrirossi بیشتر از Trigynaspida Camin & Gorrirossi است و دومی از Sejida Kramer بیشتر می‌باشد. گونهٔ *Oplitis inopina* (Hull, 1923) به عنوان نخستین توصیف از کنه‌های میان‌سفتیان از ایران محسوب می‌شود که بیش از یک قرن قدمت دارد. خانوادهٔ Laelapidae دارای بیشترین تعداد جنس (۲٦) و گونه (۱٦۲) گزارش شده از ایران است و پس از آن Phytoseiidae (۱۵ جنس و ۱۰۵ گونه) و سپس Ascidae (۱۰ جنس و ٤۹ گونه) قرار دارند. جنس‌های *Gaeolaelaps* Evans & Till (۳۰ گونه)، *Laelaspis* Berlese (۲۱ گونه) و *Macrocheles* Latreille (۱۹ گونه) دارای بیشترین تعداد گونه در ایران هستند. بیشترین تعداد گونه توصیف شده از ایران متعلق به *Gaeolalelaps* (Laelapidae) با ۱۵ گونه است. هیچ توصیفی از آرایهٔ جدید برای خانواده‌های Ameroseiidae، Haemogamasidae، Macronyssidae، Dermanyssidae، Spinturnysidae، Rhinonyssidae، Varroidae، Parholaspididae، Otopheidomenidae، Podocinidae، Halolaelapidae، Veigaiidae، Epicriidae، Microgyniidae، Dithinozerconidae، Polyaspididae، Trachytidae، Metagynuridae، Trachyuropodidae، Cillibidae، Dinychidae، Urodinychidae و Urodiaspididae از ایران انجام نشده است. برای Trigynaspida (به جز Diplogyniidae) و Sejida (به جز Sejidae) تاکنون هیچ گونه‌ای از ایران توصیف نشده است. شایان ذکر است که بالاخانواده Anictequoidea، خانوادهٔ Messoracaridae و جنس *Messoracarus* Silvestri برای نخستین بار از ایران گزارش می‌شوند. بر اساس اطلاعات منتشر شده، برای هر گونه، اطلاعات مربوط به پراکنش جغرافیایی، منابع آرایه‌شناسی و میزبان یا زیستگاه ذکر شده است. ایرادات کاتالوگ‌های قبلی اصلاح شده و رده‌بندی گونه‌های شناخته شده، به روز شده است. توضیحات لازم برای هر آرایه در مورد مسایل مختلف به عنوان یادداشت(هایی) در زیر آرایهٔ مربوطه ذکر شده است.

واژگان کلیدی: فهرست، پراکنش، میان‌سُفتیان، زیستگاه، ایران.

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