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Catalogue of the Mesostigmata mites in Finland

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This catalogue of Mesostigmata found in Finland is based on published records, material deposited in the Zoological Museum of Turku University, and collections by the author, deposited in the Zoological Museum of Helsinki University. The total number of recorded species is 451, including 15 unidentified or undescribed species. 121 of the identified species were not previously reported from Finland. General distribution in Finland and preferred habitats of the species are given, or of rare species the details of the records.

Introduction

The mesostigmatid mites have been a neglected animal group in Finland until the 1970´s. The first published records are those of Schulze et al. (1938). These were based on the unpublished ”Monographia Acarorum” by F. D. Wasastjerna in the 1800’s, of which descriptions and drawings were later (early 1900’s) sent to C. Willman for comments. Willman was able to recognize many of the species, but many others remained unidentified. Further, there are no records about when and where they were collected – if at all in Finland – and the original material has disappeared. Therefore I have omitted Wasastjerna’s species from the catalogue.

Nordberg (1936) published his dissertation on the invertebrate fauna of bird nests. There is doubt among acarologists about the validity of the identifications in this study. Uusitalo (1993), after a careful consideration, concluded that Nordberg’s identifications must be regarded as unreliable. As to Mesostigmata, many of the reported species may well occur in bird nests, but some of them are highly doubtful. Further, the original material does not exist, there is no mention whether the identifications were checked by an expert acarologist, and when and where the samples were collected. Consequently, I have decided to discard also Nordberg’s species.

Mrciak & Brander (1965, 1967 a,b), Mrciak & Nyholm (1967) and Edler & Mrciak (1975) have studied mite parasites on small mammals, bats, birds and insects. Lehtinen (1987) has published a list of Uropodina, Zerconidae and a few minor taxa associated with ants. Kropczynska & Tuovinen (1988) and Tuovinen (1993) have studied Phytoseiid mites in apple orchards and surroundings. All other published studies, apart from a few occasional records, are those of the present author. Based on ecological field experiments the soil fauna of certain sites and habitats became relatively well known by 2005 (Huhta et al. 1979, 1986, 2005, Huhta 1996), while virtually no data on Mesostigmata have been available from other areas and habitats.

Thanks to the Finnish ”PUTTE-Project” (Research Program of Deficiently Known and Threatened Forest Species), supported by the Ministry of Environment in 2003-2007 (Juslén et al. 2008), a comprehensive basic analysis of the soil fauna (Acarina, Collembola and Enchytraeidae) of Finland became possible (Huhta et al. 2010). 15 different habitat or microhabitat types were listed,

eleven sampling areas were selected with geographical coverage of the country, and a systematic sampling was carried out at ca. 500 sites all over Finland. The work has been later continued on a small budget in the framework of the ”Working group for Arachnida”, whereby more material has been collected from habitats that were poorly represented in the earlier data. Some ecological field studies have also been performed recently (Huhta et al. 2012 a,b). Further, the comprehensive material of Mesostigmata, mainly collected and partly identified by P. T. Lehtinen and deposited in the Zoological Museum of Turku University, was investigated.

As a result, our knowledge about the mesostigmatid mites in Finland has been markedly increased during the last ten years. Currently (December 2016) the data include 451 species, which number has continued to increase annually. Several new species have been found and described (Karg & Huhta 2009, 2012, 2014, Huhta & Karg 2010, Huhta & Ujvári 2015, Makarova & Huhta in prep). 15 species are yet unidentified or undescribed, most of them represented by a single specimen. Because a great part of the material is unpublished, and some published data (Huhta et al. 2010, 2012b) did not include rare species, 121 species are now reported for the first time in Finland. In addition, the omitted data (Nordberg 1936, Schulze et al. 1938), include 11 species that are not found on the list.

In the following catalogue, the system of Mesostigmata is according to Krantz & Walter (2009). Nomenclature of genera and species is mainly according to Lundqvist (2013) and Demite et al. (2016) (Phytoseiidae). In the families Macrocheleidae and Pachylaelapidae I have followed Mašán (2003, 2008), in parasitic Laelapidae Mašán & Fendă (2010), in the families Ascidae, Blattisociidae and Melicharidae de Moraes et al. (2016), and in the subfamily Pergamasinae Karg (1993). Synonyms are given if published in Finland with other names, or if the current name deviates from Karg (1989, 1993). In some cases I have included more than one species in the same taxon; this was done if I could not make a difference, or suspect the species to be identic. Asterisks (*) denote the first records in Finland. Species that still need to be checked are marked with (?). Museums where the material is deposited (in addition to the published records): Hki = Zool. Mus. Univ. Helsinki (mainly collected by the author), Tku = Zool. Mus. Univ. Turku (mainly collected by P. T. Lehtinen). VH = Veikko Huhta (leg.), PTL = Pekka T. Lehtinen, RP = Ritva Penttinen, AS-P = Anne Siira-Pietikäinen.

Catalogue

MESOSTIGMATA

SEJINA

Sejidae Berlese, 1895

Sejus C.L.Koch, 1836

Sejus togatus C.L.Koch 1836
Lehtinen 1987, Huhta et al. 2010, 2012a, Kamczyc et al. 2014, Tku. In dead wood, scattered records.

ANTENNOPHORINA

Antennophoridae Berlese, 1892

Antennophorus Haller, 1887

Antennophorus pubescens Wasmann 1897
Lehtinen 1987 (no sample). Turku 1984, in nest of *Lasius* (Formicidae) (M. Saaristo).

Celaenopsidae Berlese, 1892

Celaenopsis Berlese, 1886

Celaenopsis badius (C.L.Koch 1839)
Huhta 2012a, Tku, Hki. In dead wood and ant nests, southern Finland.

MICROGYNIINA

Microgyniidae Trägårdh, 1942

Microsejus Trägårdh, 1942

Microsejus truncicola Trägårdh 1942
Huhta et al. 1986, 2010, 2012a, Lehtinen 1987, Tku. In dead wood and ant nets, all country.

Microgynium Trägårdh, 1942

Microgynium rectangulatum Trägårdh 1942
Huhta 2010, 2012a, Tku. In dead wood, all country.

UROPODINA

Polyaspidoidea Evans, 1972

Trachytidae Trägårdh, 1938

Trachytes Michael, 1894

Trachytes aegrota (C.L.Koch 1841)
Huhta et al. 1979, 1986, 1996, 2005, 2010, 2012a,b, Lehtinen 1987, Kamczyc et al. 2014, Tku, Hki. Forest and grassland soil, all country.

****Trachytes edleri*** Hutu 1983
Kolari 2005, spruce swamp; Kuusamo 2005, spruce forest and fell meadow (VH).

Trachytes hirschmanni Hutu 1973
Huhta et al. 2010, Tku, Hki. Deciduous forest soil, northern Finland

****Trachytes oudemansi*** Hirschmann & Z.-Nicol 1969
Kerava 2004, Tammela 2016, grasslands; Utsjoki Kevo 2014, birch stand (VH).

Trachytes pauperior (Berlese 1914)
Krogerus 1960 (as *T. minimus*), Huhta et al. 1986, 1996, 2005, 2010, 2012a,b, Lehtinen 1987 (as *T. minima*), Kamczyc 2014, Tku, Hki. Forest soil, all country.

****Trachytes pecinai*** Hutu 1983
Hki. Jyväskylä 1977, dog feces in garden (VH).

Trachytes sp.
Hki. Muonio 2014, shore bank, dry pine stand (VH).

Polyaspididae Berlese, 1917

Polyaspis Berlese, 1881

Polyaspis sansonei Berlese 1916 (?)
Lehtinen 1987 (as *Dipolyaspis testaceus*), Tku. In dead wood.

Dithinozerconidae

Uroseius Berlese, 1888

****Uroseius acuminatus*** (C.L. Koch 1847)
Tku. In compost and dung, SW Finland.

****Uroseius hunzikeri*** Schweizer 1922
Tku, Hki. Oravainen 1985, mink feces (PTL); Kuhmalahti 2014, on carcass (VH).

****Uroseius infirmus*** (Berlese 1887)
Tku. Organic wastes, SW Finland.

Uroseius cf. koehleri Wisniewski 1979
Lehtinen 1987, Tku. Pöytyä 1983, Kärkölä 1986, ant hills (PTL).

Uropodoidea Evans, 1957

Uropodidae Berlese, 1900

Uropoda Latreille, 1806

Uropoda hamulifera (Michael 1894)
Lehtinen 1987 (as *Phaulodinychus*), Tku, Hki. In dead wood and ant nests, south and central Finland.

Uropoda minima Kramer 1882
Lehtinen 1987 (as *Microcylliba*), Huhta et al. 2010, 2012b, Tku, Hki. In dead wood and various habitats, SW Finland.

Uropoda orbicularis (Müller 1776)
Huhta et al. 1979 (as *Phaulocylliba*), 2010, 2012b, Tku, Hki. Composts, seashores etc., south and central Finland.

****Uropoda parva*** (Schweizer 1961)
Tku. Hanko Tvärminne 2014, on seashore (VH).

Uropoda repleta (Berlese 1903)
Huhta 2010, Tku, Hki. In seashore debris, SW Finland.

Uropoda spinosula (Kneissl 1916)
Lehtinen 1987 (as *Phaulodinychus*), Tku. Turku 1985, in nest of *Lasius* (Formicidae).

Uropoda undulata Hirschmann & Z.-Nicol 1969
Huhta et al. 2010. Wetlands, south and central Finland.

Uropoda ventricosa (Berlese 1903)
Krogerus 1960 (as *Phaulocylliba*), Tku. Karjalohja, peat bog; Kaarina 1982, on poultry manure; Oravainen 1985, Munsala 1986, on mink wastes.

Uropoda sp.
Tammela 2016, manure heap (VH)

Cilliba Heyden, 1826

Cilliba cassidea (Hermann 1804)
Huhta et al. 2010, 2012a (as *Uropoda*), Tku. Shores and forest soil, southern Finland.

Discourella Berlese, 1910

****Discourella baloghi*** Hirschmann & Z.-Nicol 1969
Tku. Korppoo 1985, in dead wood; Rymättylä 1985, ant nest in dead wood (PTL); Turku 2011, tree hollow (M. Landvik).

Discourella cordieri (Berlese 1916)
Huhta 2012b, Hki. Mäntsälä 2011, Turku 2012, lawn and garden soil (VH).

****Discourella dubiosa*** (Schweizer 1961)
Ilomantsi 2004, compost; Järvenpää 2014, cereal field (VH)

Discourella modesta Leonardi 1899
Huhta et al. 1979, 2010, 2012b, Lehtinen 1987, Tku, Hki. Grasslands etc., south and central Finland.

Dinychidae Berlese, 1917

Dinychus Kramer, 1882

Dinychus arcuatus (Trägårdh 1943)
Lehtinen 1987, Huhta et al. 2005, 2010, 2012a, Tku, Hki. Forest soil, dead wood, compost, all country.

Dinychus bincheaecarinatus Hirschmann et al. 1984
Krogerus 1960 (as *Urodinychus carinatus*), Lehtinen 1987 (as *D. carinatus*), Huhta et al. 2010, 2012a, Tku, Hki. Dead wood, compost etc., south and central Finland.

Dinychus crassus (Trägårdh 1910)
Huhta 2010, Tku, Hki. Forest and grassland soil, dead wood, north and central Finland.

Dinychus inermis (C.L.Koch 1841)
Huhta et al. 2010, Tku, Hki. Seashores and meadows, southern and western Finland.

Dinychus perforatus Kramer 1882
Huhta et al. 1979 (as *Phyllodinychus cf. tetraphyllus*), 1996, 2005, 2010, 2012a,b, Tku, Hki. Forest and grassland soils, shores, all counry.

Dinychus septentrionalis (Trägårdh 1943)
Huhta et al 1979 (as *Phyllodinychus*), 2005, 2010, 2012a, Lehtinen 1987, Tku. In dead wood and ant nests, all country.

Dinychus sublaevis (Trägårdh 1943)
Huhta 2010, 2012a, Hki. In dead wood and compost, north and central Finland.

Dinychus undulatus Sellnick 1945
Huhta et al. 2010, Hki. Wetlands, all country.

Dinychus woelkei Hirschmann & Z.-Nicol 1969
Huhta 2012a, Tku, Hki. In dead wood, southern Finland.

Urodiaspis Berlese, 1916

Urodiaspis tecta (Kramer 1876)
Krogerus 1960, Huhta et al. 1986, 2005, 2010, 2012a,b, Lehtinen 1987, Tku, Hki. Forest and grassland soil, all country.

Uroobovella Berlese, 1905

Uroobovella difoveolata Hirschmann & Z.-Nicol 1962
Huhta et al. 1979 (as *Urosternella cf. foraminifera*), Tku. In organic waste, southern Finland.

Uroobovella fimicola (Berlese 1903)
Huhta et al. 1979 (as *Prodinychus*), 2010, Tku. Scattered records in compost and dung.

Uroobovella flagelliger (Berlese 1910)
Lehtinen 1987 (as *Prodinychus*), Tku, Hki. In dead wood, phoretically on beetles, scattered records.

****Uroobovella fracta*** (Berlese 1916)
Tku. Turku 2011, tree hollow (M. Landvik).

****Uroobovella kneissli*** Hirschmann & Z.-Nicol 1962
Tku. Ilomantsi 1983, birch stump; Hirvensalmi 1985, *Formica* nest (PTL).

Uroobovella marginata (C.L.Koch 1839)
Mrciak & Brander 1967b (as *Fuscuropoda*), Huhta et al. 1979 (as *Fuscuropoda*), Tku, Hki. In organic wastes, all country.

****Uroobovella mrciaki*** Mašán 1999
Hki. Anjalankoski 2004, ant hill (VH).

****Uroobovella nova*** (Oudemans 1902)
Hki. Jyväskylä 2013, 2014, Kangasala 2014, on carrions (VH).

Uroobovella obovata (Canestrini & Berlese 1884)
Lehtinen 1979, Tku, Hki. Dead wood and ant nests, all country.

Uroobovella pulchella (Berlese 1904)
Lehtinen 1987 (as *Dinychopsis catula*), Huhta et al. 2012a, Tku. In dead wood, SW Finland.

Uroobovella pyriformis (Berlese 1920)
Lehtinen 1987 (as *Trachyxenura*), Huhta et al. 2010, Tku. In composts, south and central Finland.

****Uroobovella rackei*** (Oudemans 1912)
Tku. Parainen 1984, bottom of hay barn (PTL).

Uroobovella varians Hirschmann & Z.-Nicol 1962
Huhta et al. 1979, Tku. 4 records from organic waste, southern Finland.

Uroobovella vinicolora (Vitzthum 1926)
Huhta et al. 1979 (as *Pseudouropoda*), Tku, Hki. Dead wood, bark beetle galleries, ant nests, phoretically on beetles, all country.

Trematuridae Berlese, 1917

Trichouropoda Berlese, 1916

Trichouropoda beckwithi Wisniewski 1980
Lehtinen 1987 (as *Oodinychus spatuliferus* ssp. *beckwithi*), Tku. Scattered records in nests of the ant *Camponotus* (PTL); Kiiminki 2004, dead wood (VH).

****Trichouropoda dalarnaensis*** (Sellnick 1952)
Tku. Lieksa 2009, phoretically on bark beetles (H. Viiri)

Trichouropoda dialveolata Hirschmann & Z.-Nicol 1961 (incl. *T. calcarata* Hirschm. & Z.-Nicol 1961)
Lehtinen 1987 (as *Ipiduropoda*), Huhta et al. 1986, 2010, Huhta 1996 (as *Ipiduropoda*), Tku, Hki. Forest soil, south and central Finland.

Trichouropoda elegans (Kramer 1882)
Lehtinen 1987 (as *Trematurella*), Tku. In dead wood and ant nests, SW Finland.

****Trichouropoda obscura*** (C.L.Koch 1836)
Tku. In dead wood, south and central Finland.

****Trichouropoda orbicularis*** (C.L.Koch 1839)
Tku. In dead wood and organic waste, southern and western Finland.

Trichouropoda ovalis (C.L.Koch 1839)
Krogerus 1960 (as *Uropoda tarsale*), Lehtinen 1987 (as *Oodinychus*, *Ipiduropoda interstructura* ?), Huhta et al. 2005, 2010, 2012a,b, Tku, Hki. In dead wood and deciduous forest soil, south and central Finland.

****Trichouropoda pecinaituberosa*** Hirschmann & Wisniewski 1987
Suomusjärvi 2005, dead wood (VH); Turku 2011, tree hollow (M. Landvik).

Trichouropoda polyctenaphila Wisniewski & Hirschmann 1986
Huhta et al. 2010. In ant hills (*Formica polyctena*).

****Trichouropoda scherbakae*** Hirschmann 1972
Tku. Turku 2009, ant hill (JS & RP); Turku 2011, tree hollow (M. Landvik).

****Trichouropoda schweizeri*** Hirschmann 1978
Hki. Espoo 2004, lake shore (VH)

****Trichouropoda structura*** Hirschmann & Z.-Nicol 1961
Kuhmo 1982, shore (PTL); Kittilä 2005, compost; Korsholm Valassaaret 2007, dry meadow (VH).

Nenteria Oudemans, 1915

Nenteria breviunguiculata (Willmann 1949)
Huhta et al. 1979 (as *Pseudouropoda*), 2010, 2012b, Tku, Hki. On seashores and organic waste, southern Finland.

****Nenteria hirschmanni*** Wisnievski 1979
Tku. In bird nests and organic waste, northern Finland.

****Nenteria oudemansi*** Hirschmann & Z.-Nicol 1964
Tku. Parainen 1982, Kaarina 1983, in decaying hay (PTL).

****Nenteria ritzemai*** (Oudemans 1903)
Paimio 1982, in manure; Mynämäki 1986, garden soil; Merikarvia 1986, forest floor (PTL); Kurikka 2014, in dung (VH).

Nenteria stammeri Hirschmann & Z.-Nicol 1962
Huhta et al. 1979 (as *Pseudouropoda*), 2010, Tku. In compost, dung and dead wood, all country.

Trachyuropodidae Berlese, 1917

Trachyuropoda Berlese, 1888

Trachyuropoda coccinea (Michael 1891)
Lehtinen 1987 (as *Urojanetia*), Huhta et al. 2010, Tku. In ant nests, whole country.

Trachyuropoda excavata (Wasmann 1899)
Lehtinen 1987 (as *Urojanetia*), Tku. In ant nests, SW Finland.

Trachyuropoda formicaria (Lubbock 1881) (incl. *T. formicariasimilis* Hirshmann 1975)
Lehtinen 1987 (as *Urotrachytes*), Tku, Hki. In ant nests, south and central Finland.

Trachyuropoda hirschmanni (Pecina 1980)
Lehtinen 1987 (as *Urojanetia*), Tku. Hanko 1985, 1986, nest of *Lasius* (Formicidae) (M.Saaristo, PTL).

****Trachyuropoda poppi*** Hirschmann & Z.-Nicol 1969
Hki. Hamina 2004, deciduous forest (VH).

Trachyuropoda wasmanniana Berlese 1903
Lehtinen 1987 (as *Urojanetia*). One record, in ant nest (no sample).

Oplitidae

Oplitis Berlese, 1884

Oplitis alophora (Berlese 1903)
Lehtinen 1987 (as *Urodiscella*), Tku. Turku 1986, ant nest (M. Saaristo).

Oplitis minutissima (Berlese 1903)
Lehtinen 1987 (as *O. villosella*), Tku, Hki. 5 records; forest soil, ant nests, grasslands.

Oplitis paradoxa (Canestrini & Berlese 1884)
Lehtinen 1987 (as *O. pandata*), Tku, Hki. Ant nests, south and central Finland.

Oplitis pecinai Hirschmann 1984
Lehtinen 1987 (as *O. ovatula*), Tku. 4 records from ant nests.

Oplitis philoctena (Trouessart 1902)
Lehtinen 1987 (as *Urodiscella*), Tku. Hanko 1985, ant nests (PTL?).

Oplitis stammeri Hirschmann & Z.-Nicol 1961
Lehtinen 1987, Tku, Hki. 4 records from ant nests.

Oplitis wasmanni (Kneissl 1907)
Lehtinen 1987 (as *Urodiscella*), Tku. Ant nets and deciduous forest, south and central Finland.

GAMASINA

Epicrioidea

Epicriidae Berlese, 1885

Epicrius Canestrini & Fanzago 1877

Epicrius resinae Karg 1971
Huhta et al. 1986 (as *E. reticulatus*), 1996, 2005, 2012a, Hki. Pine bogs and forest soil, south and central Finland.

Zerconoidea

Zerconidae Berlese, 1892

Parazercon Trägårdh, 1931

Parazercon radiatus (Berlese 1910)
Huhta et al. 1979 (as *P. sarekensis*), 1986, 1996, 2005, 2010, 2012a,b, Lehtinen 1987, Kamczyc et al. 2014, Tku, Hki. Forest soil, all country.

Prozercon Sellnick, 1943

Prozerzon kochi Sellnick 1943
Lehtinen 1987, Huhta et al. 1986, 1996, 2005, 2010, 2012a,b, Kamczyc et al. 2014, Tku, Hki. Forest soil, grasslands and wetlands, all country.

Prozercon traegardhi (Halbert 1923)
Lehtinen 1987, Huhta et al. 2010, 2012b, Tku, Hki. Scattered records in deciduous forest, grasslands, dead wood and ant nests.

Boreozercon Díaz-Aguilar & Ujvári, 2010

Boreozercon emendi Díaz-Aguilar & Ujvári 2010
Huhta et al. 1986, 1996, 2010, (as *Prozercon "serlachii"*), Tku. Forest soil, central and northern Finland.

Mixozercon Halašková, 1963

Mixozercon sellnicki (Schweizer 1948)
Huhta et al. 2005, 2010, Tku, Hki. Deciduous forest, grasslands and shores, all country.

Zercon C.L.Koch, 1836

Zercon berlesei Sellnick 1958
Huhta et al. 2012a, Hki. Lammi 2010, decaying spruce trunk; Kangasala 2016, commonly on fungi on dead wood (VH).

Zercon bothnicus Huhta & Ujvári 2015
Huhta & Ujvári 2015. One record: Lohtaja 2010, sand dune (RP).

Zercon carpathicus Sellnick 1958 (incl. *Z. storkani* Halasková 1970)
Huhta et al. 2010, 2012b, Tku, Hki. In various habitats, all country.

Zercon curiosus Trägårdh 1910
Lehtinen 1987, Huhta et al. 2010, 2012a, Kamczyc et al. 2014, Tku, Hki. In dead wood, ant nests and coniferous forests, all country.

Zercon forsslundi Sellnick 1958
Lehtinen 1987 (as *Z. solenites*), Huhta et al. 2010, 2012b, Tku. Forest soil, dead wood and ant nests, northern Finland.

****Zercon joduthae*** Sellnick 1944
Hki. Grasslands and shores, few records in northern Finland (VH).

Zercon lindrothi Lundquist & Johnston 1986
Lehtinen 1987 (as *Z. colligans*), Hki. In various habitats, southern and western Finland.

****Zercon pinicola*** Halaskova 1969
Tku. One record: Utsjoki 1983, river shore meadow (R. Roine)

Zercon spatulatus C. L. Koch 1839
Lehtinen 1987, Tku, Hki. In various habitats, southern and western Finland.

Zercon triangularis C.L.Koch 1836 (incl. *Z. vagabundus* Karg 1971)
Krogerus 1960, Huhta et al. 2010, 2012a,b, Tku, Hki. Grasslands, forest soil etc., southern and central Finland.

Zercon zelawaiensis Sellnick 1944
Huhta et al. 1979, 2010, Kamczyc et al. 2014,Tku, Hki. Coniferous forests and peat bogs, all country.

Parasitoidea

Parasitidae Oudemans, 1901

Pergamasinae Juvara-Bals, 1972

Holoparasitus Oudemans, 1936

Holoparasitus calcaratus (C.L.Koch 1839)
Krogerus 1960 (as *Ologamasus pollicipatus*), Huhta et al. 1979 (as *H. excipuliger*), 2010, 2012a,b, Hki, Tku. Grasslands, shores and moist forests, south and central Finland.

****Holoparasitus excisus*** (Berlese 1905) (incl. *H. stramenti,* Karg 1971, 1993)
Tku. Turku 1976, Korppoo 1980, Hanko 2014, deciduous forests; Parainen 1982, dead wood (PTL, VH).

****Holoparasitus inornatus*** (Berlese 1906)
Tku, Hki. Korppoo 1980, deciduous forest (PTL); Maarianhamina 2007, dead wood (VH); Pyhtää Kaunissaari 2009, grassland (RP).

****Holoparasitus tirolensis*** (Sellnick 1968)
Hki. Sipoo 2007, decaying wood (AS-P)

Pergamasus Berlese, 1904

Pergamasus brevicornis Berlese 1903
Krogerus 1960, Huhta et al. 1979, 1986, 1996, 2005, 2010, 2012a,b, Kamczyz et al. 2014, Tku, Hki. Various habitats, mainly forests, all country.

Pergamasus crassipes (Linnaeus 1758)
Krogerus 1060, Mrciak & Brander 1965, Huhta et al. 1979 (as *P. longicornis*), 2010, Hki. Seashores and various habitats, south and central Finland.

****Pergamasus mediocris*** Berlese 1904
Hki. Suomusjärvi 2005, dry meadow (VH)

Pergamasus norvegicus (Berlese 1905)
Krogerus 1960 (as *Amblygamasus septentrionalis*), Huhta et al. 1979, 2005, 2010, 2012b, Tku, Hki. Grasslands, shores and deciduous forests, south and central Finland.

Pergamasus quisquiliarum (G. & R. Canestrini 1882)
Huhta et al. 1979, 2005, 2010, 2012b, Tku, Hki. Grasslands, shores, deciduous forests and composts, south and central Finland.

Amblygamasus Berlese, 1903

****Amblygamasus mirabilis*** Willmann 1951
Hki. Jurmo 2012, seashore wrack (VH).

Amblygamasus stramenis Karg 1971
Huhta et al. 2010, 2012b. Deciduous forests and grasslands, southern Finland.

Leptogamasus Trägårdh, 1936

Leptogamasus suecicus (Trägårdh 1936)
Huhta et al. 1979 (as *Pergamasus*), 2005, 2010, 2012a,b, Kamczyc et al. 2014, Hki. Coniferous forests and grasslands, south and central Finland.

Leptogamasus succineus (Witalinski 1973)
Hki. Helsinki 2012, deciduous forest (VH)

Paragamasus Hull, 1918

Paragamasus diversus (Halbert 1915)
Hki. Turku 2005, spruce marsh (VH)

Paragamasus robustus (Oudemans 1902)
Huhta et al. 2010, Hki. Northern Lapland, several records in various habitats.

Paragamasus similis (Willmann 1953)
Huhta et al. 1986, 2010, 2012a, Kamczyz et al. 2014 (as *Pergamasus*), Tku, Hki. Forest floor, southern Finland.

Paragamasus sp.
Korppoo Jurmo 2012, seashore debris (VH)

Lysigamasus Karg, 1971 (*Paragamasus* in Huhta et al. 2010, 2012)

Lysigamasus armatus (Halbert 1915)
Hki. Espoo 2004, shore; Mäntsälä 2011, garden soil; Helsinki 2012, seashore (VH).

Lysigamasus celticus (Bhattacharyya 1963)
Huhta et al. 2010, Hki. Seashores, meadows and deciduous forests, all country.

Lysigamasus digitulus (Karg 1963) (incl. *L. cambriensis* (Bhattacharyya 1963))
Huhta et al. 2010, 2012b, Hki. Grasslands and composts, southern Finland.

Lysigamasus lapponicus (Trägårdh 1910)
Krogerus 1960 (as *Pergamasus*), Huhta et al. 1986 (as *Pergamasus*), 1996, 2005, 2010, 2012a,b, Tku, Hki. Forests, wetlands, ant hills etc, all country.

Lysigamasus misellus (Berlese 1904)
Huhta et al. 2005, 2010, 2012b, Hki. Grasslands and deciduous forest, southern and central Finland.

Lysigamasus nasellus (Karg 1968)
Huhta et al. 2010. Laihia and Isokyrö 2004, shore; Leivonmäki 2004, pine bog.

Lysigamasus parrunciger (Bhattacharyya 1963)
Huhta et al. 1986 (as *Pergamasus*), 2005, 2010, 2012a,b, Hki. Forests and wetlands, south, central and western Finland.

Lysigamasus pratincola (Athias-Henriot 1967) (incl. *L. solitarius* Karg 1968)
Huhta et al. 2010, Hki. Dry meadows, southern Finland.

Lysigamasus runcatellus (Berlese 1903)
Huhta et al. 2010, 2012a,b, Tku, Hki. Grasslands, composts and shores, south and central Finland.

Lysigamasus runciger (Berlese 1904)
Huhta et al. 2010, Hki. Seashores and grasslands, south, central and western Finland.

Lysigamasus schweizeri (Bhattacharyya 1963)
Huhta et al. 2010, Tku, Hki. Forests, meadows and wetlands, northern Finland.

Lysigamasus truncus (Schweizer 1961)
Huhta et al. 1979 (as *Pergamasus*), 2010, 2012a, Tku, Hki. Grasslands, deciduous forests etc, southern and western Finland.

Lysigamasus vagabundus (Karg 1968)
Huhta et al. 1979 (as *Pergamasus*), 2005, 2010, 2012a,b, Tku, Hki. Various habitats, all country.

Pergamasinae sp.
Tku. Pyhtää Kaunissaari 2009, seashore dune (RP).

Parasitinae Oudemans, 1901

Neogamasus Tichomirov, 1969

Neogamasus insignis (Holzmann 1969)
Kamczyk et al. 2014 (as *Parasitus*). Jokioinen 2011, in pine stand, stumps and soil.

Eugamasus Berlese, 1892

Eugamasus cavernicolus Trägårdh 1912
Huhta et al. 2005, Hki. Uurainen 1998, birch forest; Ilomantsi 2004, dry meadow; 2011, deciduous forest (VH).

Eugamasus crassitarsis (Halbert 1923)
Hki. Järvenpää 2014, cereal field soil (VH).

Eugamasus sp.
Mäntsälä 2011, deciduous forest soil (VH).

Parasitellus Willmann, 1939

Parasitellus fucorum (De Geer 1778)
Mrciak & Brander 1967b (as *Parasitus*), Tku. On bumblebees.

Cornigamasus Evans & Till, 1979

Cornigamasus lunaris (Berlese 1882)
Huhta et al. 1979 (as *Parasitus*), 2010, Tku, Hki. Organic waste and compost, all country.

Trachygamasus Berlese, 1904

Trachygamasus ambulacris (Willmann 1949)
Huhta et al. 2010, Tku. Vaasa, Jyväskylä and Kuusamo 2004, in dung and compost (VH).

Trachygamasus gracilis (Karg 1965)
Huhta et al. 1979 (as *Saprogamasus*), 2010. Vantaa 1975, compost soil; Jyväskylä 2004, Tammela 2016, dung (VH).

Trachygamasus medianus Tichomirov 1977
Hki. Kouvola 2004, Kuusamo 2004, composts; Tammela 2016, manure heap (VH).

Trachygamasus sp.
Sipoo 2011, deciduous forest soil (VH).

Poecilochirus G. & R. Canestrini, 1882

Poecilochirus carabi G. & R. Canestrini 1882
Mrciak 1964, Mrciak & Brander 1965, (as *P. necrophori*), Tku. On small mammals and carcasses, phoretic on *Necrophorus*.

Gamasodes Oudemans, 1939

Gamasodes bispinosus (Halbert 1915)
Huhta et al. 2010, Tku, Hki. On seashores and carcass, south and central Finland.

****Gamasodes spiniger*** (Trägårdh 1910)
Tku, Hki. Kuusamo 1982, on decaying straw (PTL); Kangasala 2015, commonly on carcass (VH).

Parasitus Latreille, 1795

Parasitus beta Oudemans & Voigts 1904 (incl. *P. nolli* Karg 1965).
Huhta et al. 1979 (*P. cf. distinctus, P. cf. nolli*), 2010, 2012b, Tku, Hki. Vantaa 1975, Laihia and Oulu 2005, grasslands (VH).

Parasitus coleoptratorum (Linnaeus 1758)
Mrciak & Brander 1967b , Huhta et al. 1979, 2010, Tku, Hki. In compost, organic waste and carcasses, south and central Finland.

Parasitus consanguines Oudemans & Voigts, 1904
Krogerus 1960 (as *Eugamasus*), Huhta et al. 1979 (as *P. cf. consanguineus*). Ekenäs, peat bog; Vantaa 1975, heap of crushed bark.

Parasitus fimetorum (Berlese 1904)
Huhta et al. 1979 (as *P. cf. fimetorum*), 2010, 2012a, Tku, Hki. In composts, organic waste and carcasses, all country.

****Parasitus halophilus*** (Sellnick 1957)
Hki. Kalajoki 2010, Hanko 2015, seashore (VH).

Parasitus hyalinus (Willman 1949)
Huhta et al. 1979 (as *P. cf. hyalinus*). Vantaa 1975, compost soil (VH).

****Parasitus kempersi*** Oudemans 1902
Tku. Korppoo 1982, seashore debris (PTL).

Parasitus loricatus (Wankel 1861)
Huhta et al. 1979 (as *Paracarpais niveus*), Hki. Commonly on carrions; Vantaa 1975, compost soil (VH).

Parasitus lunulatus (Müller 1859)
Edler & Mrciak 1975, Lapland, on a shrew; Huhta et al. 2012a, Lammi 2007, old forest soil (AS-P).

Parasitus mammillatus (Berlese 1904)
Huhta et al. 1979 (as *P. cf. tichomirovi*). Vantaa 1977, compost soil, Jyväskylä 1979, heap of crushed bark (VH).

Parasitus sp.
Hki. Kangasala 2013, under grouse carcass (VH).

Vulgarogamasus Tichomirov, 1969

Vulgarogamasus kraepelini (Berlese 1905)
Edler & Mrciak 1975, Huhta et al. 1979 (as *Parasitus*), 1986, 1996, 2005, 2010, 2012a,b, Kamczyk et al. 2014, Tku, Hki. Forest soil and various habitats, all country.

****Vulgarogamasus oudemansi*** (Berlese 1904)
Tku, Hki. Kuusamo 1982, bottom of hay barn (PTL); Kolari 2005, compost; Järvenpää 2014, wood store (VH).

Vulgarogamasus remberti (Oudemans 1912)
Mrciak & Brander 1965 (as *Eugamasus*), Edler & Mrciak 1975 (as *Parasitus*), Huhta et al. 1979 (as *Parasitus*), Hki. On small mammals, in nests and organic waste.

Veigaioidea

Veigaiidae Berlese, 1904

Gamasolaelaps Berlese, 1904

Gamasolaelaps excisus (C.L.Koch 1879)
Huhta et al. 2012a,b, Tku, Hki. Scattered records; ant nest, compost, carcass, garden soil.

****Gamasolaelaps multidentatus*** Karg 1965
In a laboratory experiment on forest soil, Jyväskylä 1995 (J. Laakso, det. VH) (no sample).

Veigaia Oudemans, 1905

Veigaia cerva (Kramer 1876)
Huhta et al. 1979, 1986, 1996, 2005, 2010, 2012a,b, Kamczyc et al. 2014, Hki. Forests and various habitats, all country.

Veigaia exigua (Berlese 1916)
Huhta et al. 1979, 1986, 1996, 2005, 2010, 2012a,b, Hki. Forests and grasslands, all country.

Veigaia kochi (Trägårdh 1901)
Krogerus 1960, Huhta et al. 1979, 1986, 1996, 2005, 2010, 2012a, Hki, Tku. In various habitats, all country.

****Veigaia mollis*** Karg 1971 (?)
Korppoo Jurmo 2012, deciduous forest (VH; no sample).

Veigaia nemorensis (C.L.Koch 1839)
Huhta et al. 1979, 1986, 1996, 2005, 2010, 2012a,b, Kamczyc et al. 2014, Hki, Tku. Forests and various habitats, all country.

****Veigaia planicola*** (Berlese 1892)
Korppoo Jurmo 2012, dry meadow soil (VH).

Veigaia sibiriba Bregetova 1961
Huhta et al. 2010. Four records: Kuusamo 2005, forest soil; Lapland 2005, 2007, fell moor (VH).

Veigaia transisalae (Oudemans 1902)
Huhta et al. 2010, 2012a. Wetlands, all country.

Rhodacaroidea

Rhodacaridae Oudemans, 1902

Rhodacarus Oudemans, 1902

Rhodacarus calcarulatus Berlese 1921
Huhta et al. 2012b, Hki. Four records: Turku 2005, spruce marsh; Turku 2010, meadow; Sipoo 2011, lawn; Mäntsälä 2011, garden (VH).

****Rhodacarus clavulatus*** Athias-Henriot 1961
Hki. Helsinki 2012, sandy meadow on seashore (VH).

Rhodacarus coronatus Berlese 1921
Huhta et al. 1979, 1986, 2010. Vantaa 1975, lawn; Saarijärvi 1980, spruce forest; Suomusjärvi 2005, meadow (VH).

Rhodacarus haarlovi Scherbak 1977
Huhta et al. 2010, 2012b, Hki. Dry meadow soils, western Finland.

Rhodacarus mandibularis Berlese 1921
Huhta et al. 2010, 2012b, Tku, Hki. Dry meadows soils, southern and western Finland.

****Rhodacarus roseus*** Oudemans 1902
Hki. Mäntsälä 2011, garden soil (VH).

Rhodacarellus Willmann, 1935

Rhodacarellus epigynalis Sheals 1956
Huhta et al. 2010. Kerava 2005, deciduous forest; Pyhtää 2004, dry meadow; Turku 2005, meadow.

Rhodacarellus kreuzi Karg 1965
Huhta et al. 2005, 2010. Deciduous forest and meadow soils, south and central Finland.

Rhodacarellus silesiacus Willmann 1935
Huhta et al.1979, 1986, 2010, Hki. In various habitats, southern and western Finland.

Cyrtolaelaps Berlese, 1887

Cyrtolaelaps mucronatus (G. & R. Canestrini 1881)
Mrciak & Brander 1965, Edler & Mrciak 1975, Tku, Hki. On small mammals; Parainen 1982, bottom of straw shed (PTL); Jyväskylä 2013, under carcass (VH).

Digamasellidae Evans, 1957

Digamasellus Berlese, 1905

Digamasellus punctum (Berlese 1904)
Huhta et al. 1979 (as *Dendrolaelaps*), Hki. Vantaa 1975, compost soil; Kolari 2005, compost; Tammela 2016, manure heap (VH).

Dendrolaelaps Halbert, 1915 ***s. lat.,***
incl. *Dendrolaelaspis, Punctodendrolaelaps, Cornodendrolaelaps, Multidendrolaelaps* and *Insectolaelaps* sensu Karg 1993

(***Dendrolaelaspis*** Lindquist, 1975)

****Dendrolaelaps angulosus*** (Willmann 1936)
Hki. Leivonmäki 2004, Helsinki 2012, meadow soils (VH).

(***Dendrolaelaps*** Halbert, 1915, sensu Karg 1993)

****Dendrolaelaps brevipilis*** (Leitner 1949)
Hki. Miehikkälä 2004, ant hill (VH).

Dendrolaelaps casualis Huhta & Karg 2010
Huhta & Karg 2010. Kittilä 2005, in compost (VH).

****Dendrolaelaps cornutus*** (Kramer 1886) (incl. *D. nostricornutus* and *D. vitzhumicornutus* Hirschmann & Wisniewski 1982)
Hki, Tku. In decaying wood, SW Finland.

Dendrolaelaps foveolatus (Leitner 1949)
Huhta et al. 1979, 1986, 2005, 2010, Tku, Hki. Forest and grassland soil, south and central Finland.

Dendrolaelaps oudemansi Halbert 1915 (incl. *D. septentrionalis* Sellnick 1958 and *D. acornutosimilis* Hirschmann 1960)
Huhta et al. 2010, 2012a, Hki. On shores, in dead wood, southern and western Finland.

Dendrolaelaps procornutus Hirschmann 1960
Kamczyc et al. 2014, Hki. Järvenpää 2004, meadow soil (VH); Jokioinen 2011, pine stump and soil (Kamczyc et al. 2014).

****Dendrolaelaps samsinaki*** Hirschmann & Wisniewski 1982
Hki. Oulunsalo 2005, seashore meadow (VH).

Dendrolaelaps stammeri Hirschmann 1960
Huhta et al. 1979, Hki. Vantaa 1995, compost soil; Isokyrö 2004, compost (VH).

****Dendrolaelaps willmanni*** Hirschmann 1960
Tammela 2016, manure heap (VH).

Dendrolaelaps zwoelferi Hirschmann 1960
Huhta et al. 1979, 2010, Tku. In various habitats, southern and western Finland.

(***Punctodendrolaelaps*** Hirschmann & Wisniewski, 1982, sensu Karg 1993; also in Huhta et al. 1996–2012)

Dendrolaelaps arvicolus (Leitner 1940) (incl. *D. insignis* Hirschmann 1960)
Huhta et al. 1979, 1986, 2005, 2010, 2012a, Tku, Hki. Dead wood, forest soil, compost soil, south and central Finland.

Dendrolaelaps fallax (Leitner 1949) (incl. *P. fallacoides* Hirschm. & Wisniewski 1982)
Huhta et al. 2010, 2012a. Decaying wood, compost and dung, all country.

Dendrolaelaps formicarius (Huhta & Karg 2010)
Huhta & Karg 2010, Huhta et al. 2010. Isokyrö and Viitasaari 2004, Kisko 2005, ant hills.

Dendrolaelaps longifallax Hirschmann 1960
Hki. Kuusamo 2005, pine forest; Kangasala 2016, fungi on rotten wood (VH).

Dendrolaelaps punctatulus Hirschmann 1960
Huhta et al. 2010. Viitasaari and Leivonmäki 2004, ant hills.

Dendrolaelaps rotundus Hirschmann 1960
Huhta et al. 1986, 1996, 2005, 2010, 2012a, Tku. Forest soil, all country.

Dendrolaelaps saprophilus Huhta 1982
Huhta et al. 1979 (as *Dendrolaelaps* n.sp.), Huhta 1982. Vantaa 1977, bark + sludge mixtures.

Dendrolaelaps sellnicki Hirschmann 1960 (incl. *P. sellnickiformis* Hirschm. & Wisniewski 1982)
Huhta et al. 2010, Tku. Ant hills, southern and western Finland.

Dendrolaelaps strenzkei Hirschmann 1960 (incl. *P. strenzkeiformis* Hirschmann & Wisniewski 1982)
Huhta et al. 1979, 2010, Hki, Tku. Scattered records in grasslands, ant nests and compost.

Dendrolaelaps trapezoides Hirschmann 1960
Huhta et al. 2010, 2012a, Tku. Decaying wood, central and northern Finland.

(***Cornodendrolaelaps*** Hirschmann & Wisniewski, 1982, sensu Karg 1993; also in Huhta 2010, 2012a)

Dendrolaelaps cornutulus Hirschmann 1960
Huhta et al. 2010, 2012a, Tku. In decaying wood, southern and western Finland.

****Dendrolaelaps myrmecophilus*** Hirschmann 1960
Hki. Vihti 2004, Kolari 2005, ant hills (VH).

Dendrolaelaps presepum (Berlese 1918)
Huhta et al. 2010. Scattered records in composts.

Dendrolaelaps puncatosimilis Hirschmann 1960
Huhta et al. 1979. Vantaa 1977, compost soil (VH).

Dendrolaelaps undulatus Hirschmann 1960
Huhta et al. 1979, Hki. Vantaa 1977, compost soil; Sipoo 2004, decaying wood (VH).

(***Multidendrolaelaps*** Hirschmann, 1974, sensu Karg 1993; also in Huhta 2012a)

Dendrolaelaps euepistomus Hirschmann 1960
Huhta et al. 2012a, Tku, Hki. Parainen 1982, under bark (PTL); Kirkkonummi 2004 (VH), Lammi 2007 (AS-P), dead wood.

Dendrolaelaps putte (Huhta & Karg 2010)
Huhta & Karg 2010, Huhta et al. 2012a. Lammi 2007, decaying aspen trunk (AS-P).

**Dendrolaelaps spinosus* Hirschmann 1960 (incl. *D. bispinosus* Karg 1971)
Hki. Kuusamo 2005, in dead wood (VH).

Dendrolaelaps subcorticalis (Huhta & Karg 2010)
Huhta & Karg 2010, Tku. Parainen 1983, scolytid galleries in decaying pine (PTL).

Dendrolaelaps tetraspinosus Hirschmann 1960
Huhta et al. 2012a. Sipoo 2007, in decaying wood (AS-P).

(***Insectolaelaps*** Scherbak, 1980, sensu Karg 1993)

****Dendrolaelaps quadrisetus*** Berlese 1920
Tku. Kuhmo Koli 2007, on scolytid *Ips typographus* (H. Viiri).

Ologamasidae Ryke, 1962

Gamasellus Berlese, 1892

Gamasellus montanus (Willmann 1936)
Huhta et al. 2010, Tku, Hki. Forest soil, dead wood and ant hills, northern Finland.

Stylochirus G. & R. Canestrini, 1882

Stylochirus minor Willmann 1953
Huhta 1996, Tku, Hki. Saarijärvi 1980, Kuusisto 1982, spruce forest soil (PTL); Brändö 2013, deciduous forest (VH).

Halolaelapidae Karg, 1965

Saprosecans Karg, 1964

Saprosecans baloghi Karg 1964
Huhta et al. 1979, 1986, 1996. Scattered records in forest soil and organic waste.

Halolaelaps Berlese & Trouessart, 1889

****Halolaelaps porulus*** (Götz 1952)
Hki. Kuusamo 2005, in compost (VH).

Halolaelaps punctulatus (Leitner 1946)
Huhta et al. 1979, 2010, Hki. Composts and seashore wrack, all country.

****Halolaelaps quadricavatus*** (Götz 1952)
Hki. Kangasala 2013, under carcass (VH).

****Halolaelaps cf. sculpturatus*** Sellnick 1940
Tku, Hki. Kuusisto 1982, in poultry manure (PTL); Kangasala 2014, under carcass (VH).

Halolaelaps sexclavatus (Oudemans 1902)
Huhta et al. 1979, Hki. Vantaa 1975, compost soil; Toivakka 2004, dung (VH).

Eviphidoidea Karg, 1965

Eviphididae Berlese, 1913

Thinoseius Halbert, 1920

****Thinoseius spinosus*** Willmann 1939
Hki. Aland Lemland 2007, Aland Signilskär 2013, Luvia Säppi 2014, seashore debris (VH).

Eviphis Berlese, 1903

Eviphis ostrinus (C.L.Koch 1836)
Huhta et al. 1979, 1986, 1996, 2005, 2010, 2012a,b, Tku, Hki. Forest and grassland soils, all country.

Iphidosoma Berlese, 1892

****Iphidosoma fimetarium*** (Müller 1859)
Tku. Kumlinge 2013, deciduous litter (RP).

Iphidosoma physogastris Karg 1971
Huhta et al. 1996, 2012a, Hki. Jyväskylä 1994 (VH), Lammi 2007, old forest soil (AS-P); Mustasaari 2014, parasitic on spiders in cellar (N. Fritzén); Tammela 2016, peat bog (VH).

Alliphis Halbert, 1923

Alliphis siculus (Oudemans 1905)
Huhta et al. 1979, 2005, 2010, 2012b, Tku, Hki. In organic debris and meadow soil, southern and western Finland.

Macrochelidae Vitzhum, 1930

Geholaspis Berlese, 1918

Geholaspis s. str.

Geholaspis longispinosus (Kramer 1876)
Huhta et al. 1986, 1996 (as *G. longisetosus*), 2005, 2010, 2012a, Tku, Hki. Forest soil, southern and central Finland.

Geholaspis (***Longisetis*** Valle, 1953)

****Geholaspis hortorum*** (Berlese 1904)
Hki. Sipoo 2011, lawn soil; Hanko 2014, deciduous forest (VH).

****Geholaspis mandibularis*** (Berlese 1904)
Tku, Hki. Pyhtää Kaunissaari 2009 (RP); Turku 2012, Helsinki 2012 (VH), deciduous forest soils.

Macrocheles Latreille, 1829

Macrocheles (***Scleritholaspis*** Mašán, 2003)

Macrocheles montanus (Willmann 1951)
Huhta et al. 2005, 2010, Tku, Hki. Deciduous forests etc., south and central Finland.

Macrocheles tardus (C.L.Koch 1841) (*M. tridentinus* in Karg 1993)
Huhta et al. 2012a, Tku, Hki. Vaasa 2004, Lammi 2007, Helsinki 2012, Korppoo Jurmo 2012, in various habitats (VH).

Macrocheles s. str.

****Macrocheles ancyleus*** Krauss 1970
Hki. Ilomantsi 2004, in compost (VH)

****Macrocheles decoloratus*** (C.L. Koch 1839)
Tku. Parainen 1982, nest of sand martin (PTL).

Macrocheles glaber (Müller 1860) (incl. *M. perglaber* Filipponi & Pegazzano 1962)
Mrciak & Brander 1967b, Huhta et al. 1979, 2010, Tku, Hki. In organic waste, south and central Finland.

Macrocheles insignitus (Berlese 1918)
Huhta et al. 1979, Hki. Vantaa 1977, compost soil; Hamina 2004, compost; Ilomantsi 2011, deciduous forest (VH); Tammela 2016, manure heap (VH).

Macrocheles mammifer Berlese 1918
Huhta et al. 1979, Hki. Vantaa 1975, compost; Järvenpää 2014, manure (VH).

Macrocheles matrius (Hull 1925)
Mrciak & Brander 1965. Lammi 1962, on vole *Apodemus* (T. Brander)

Macrocheles merdarius (Berlese 1889)
Huhta et al. 1979, 2010, Hki. In compost, dung and other organic waste, all country.

Macrocheles muscaedomesticae (Scopoli 1772)
Mrciak & Brander 1965, 1967b, Hki. Somero 1962, on house fly (T. Brander); Ilomantsi 2004, in compost (VH).

****Macrocheles robustulus*** (Berlese 1904)
Hki. Järvenpää 2014, in manure (VH).

Macrocheles rotundiscutis Bregetova & Koroleva 1960
Huhta et al. 1979, 2010, 2012b, Tku. In organic wastes, south and central Finland.

Macrocheles subbadius (Berlese 1904)
Huhta et al. 2010, Hki. Scattered records in composts.

Glyptholaspis Filipponi & Pegazzano, 1960

****Glyptholaspis confusa*** (Foà 1900) (*Macrocheles* in Karg 1993)
Hki. Järvenpää 2014, in manure (VH).

Holostaspella Berlese, 1903

Holostaspella exornata Filipponi & Pegazzano 1967
Huhta et al. 1979 (as *H. ornata*), Hki. Vantaa 1977, compost soil; Ilomantsi 2004, compost; Kolari 2005, fell soil (VH).

****Holostaspella ornata*** (Berlese 1904)
Hki. Kouvola 2004, in household compost (VH).

Holostaspella subornata Bregetova & Koroleva 1960
Huhta et al 2010, Tku. Sonkajärvi 1982 (PTL); Isokyrö, Korpilahti and Kiiminki 2004 (VH), on freshwater shores.

Parholaspulus Evans, 1956

Parholaspulus alstoni Evans 1956
Huhta et al. 2012b, Tku. Turku 1982, root knots in greenhouse (M. Yli-Pietilä); Sipoo 2011, garden soil (VH).

Pachylaelapidae Berlese, 1913

Pachyseius Berlese, 1010

****Pachyseius humeralis*** Berlese 1910
Hki. Jyväskylä 2004, deciduous forest; Järvenpää 2014, wood store (VH).

Pachyseius wideventris Afifi & Nasr 1984
Huhta et al. 2010, 2012a,b, Tku, Hki. Deciduous forests and grasslands, south and central Finland.

Pachylaelaps Berlese, 1888

****Pachylaelaps littoralis*** Halbert 1915
Tku, Hki. Grasslands and deciduous forests, southern Finland.

Pachylaelaps longisetis Halbert 1915 (?)
Huhta et al. 2012b, Tku, Hki. In various habitats, south and central Finland.

Onchodellus Berlese, 1904 (*Pachylaelaps* in Karg 1993)

Onchodellus alpinus (Willmann 1953)
Huhta et al. 2010, Hki. Seashores and grasslands, southern and western Finland.

Onchodellus bibulus Mašán 2007
Huhta et al. 2010, Tku, Hki. Seashores and meadows, coastal areas, SW Finland.

****Onchodellus falcifer*** (Hirschmann & Krauss 1965) (*Pachylaelaps jurassicus*? in Karg 1993)
Hki. Sipoo 2004, lake shore; Mäntsälä 2011, meadow (VH).

****Onchodellus reticulatus*** (Berlese 1904)
Tku. Nauvo 1984, ant nest (M. Saaristo)

****Onchodellus siculus*** (Berlese 1892)
Hki, Tku. Vaasa 1976, seabird nests (anon.); Sipoo and Kotka 2004, seashores; Mäntsälä 2011, meadow (VH).

****Onchodellus slovacus*** Mašán 2007
Hki. Turku 2007, 2013, dry meadow; Korppoo Jurmo 2012, seashore wrack (VH).

Onchodellus sp.
Järvenpää 2004, meadow (VH).

Pachydellus Mašán, 2007

Pachydellus furcifer (Oudemans 1903) (*Pachylaelaps laeuchlii* in Karg 1993)
Huhta & al. 2005 (as *Pachylaelaps*), 2010, 2012a,b, Tku, Hki. Deciduous forest and grassland soils, south and central Finland.

Pachydellus hades (Halliday 2001) (?) (*Pachylaelaps ineptus*? in Karg 1993)
Huhta et al. 2012b. Mäntsälä 2011, lawn and garden soil (VH).

Pachydellus problematicus Mašán 2007
Huhta et al. 2012a,b, Tku, Hki. Deciduous forest and grassland soils, south and SW Finland.

****Pachydellus sculptus*** (Berlese 1920)
Tku, Hki. Sipoo 2011, Helsinki 2012, Brändö 2013, Aland Signilskär 2013, grasslands and deciduous forests (VH).

Ascoidea Karg, 1965

Ameroseiidae Evans, 1963

Epicriopsis Berlese, 1916

Epicriopsis horridus (Kramer, 1876)
Krogerus 1960, Huhta et al. 2012b, Tku, Hki. Kuusisto 1983, in sawdust (PTL); Jyväskylä 1984, shore (anon.); Mäntsälä 2011, deciduous forest (VH).

****Epicriopsis rivus*** Karg 1971
Tku. Kuusisto 1983, in sawdust (PTL).

****Epicriopsis suedus*** Karg 1971
Tku. Laitila 2014, peat bog (RP).

Ameroseius Berlese, 1903

****Ameroseius apodius*** Karg 1971
Tku. Hki. Nykarleby 1986, mink farm waste (PTL); Kolari 2005, compost (VH).

Ameroseius corbiculus (Sowerby 1806)
Huhta et al. 1979, 2010, 2012b, Hki. Scattered records in composts and seashore debris.

****Ameroseius imparsetosus*** Westerboer 1963
Hki. Kangasala 2016, on fungus on dead wood (VH).

Ameroseius lehtineni Huhta & Karg 2010
Huhta & Karg 2010. Kuusisto 1983, sawdust under barn (PTL).

Ameroseius longitrichus Hirschmann 1963
Huhta et al. 2012a, Hki. Lammi 2007, aspen stump (AS-P); Kangasala 2016, polypore fungus on dead wood (VH).

****Ameroseius plumea*** Oudemans 1930
Tku. Houtskari 1985, decaying ash log (PTL).

Sinoseius Bai & Bu, 1995

Sinoseius pinnatus Huhta & Karg 2010
Huhta & Karg 2010, Tku. Parainen 1982, strawshed; Pöytyä 1982, garden soil (PTL).

Melicharidae

Proctolaelaps Berlese, 1923

Proctolaelaps fiseri Samšiňák 1960
Kamczyk et al. 2014, Tku. Lieksa 2005-08, galleries of Ips typogrphus (H. Viiri); Jokioinen 2007, pine stumps (Kamczyk et al.).

Proctolaelaps jüradeus (Schweizer 1949)
Huhta et al. 1986, 1996 (as *P. robustus*), 2005, 2010, Tku. Coniferous forsest soil, south and central Finland.

****Proctolaelaps pini*** (Hirschmann 1963)
Hki, Tku. Scattered records in pine forest soil and ant hills.

Proctolaelaps pomorum (Oudemans 1929)
Tku. Nykarleby 1986, mink farm waste (PTL).

Proctolaelaps pygmaeus (Müller 1860)
Mrciak & Brander 1965, Edler & Mrciak 1975, Huhta et al. 1979, 2010, 2012b, Tku. Scattered recods in various habitats.

Proctolaelaps stammeri (Westerboer 1963)
Tku. Kuusamo 1982, bottom of hay barn (PTL).

Proctolaelaps xyloteri Samšiňák 1960
Huhta et al. 2012a. Lammi 2010, 2011, birch bark (VH).

Proctolaelaps sp.
Tku. Kuusamo 1982, birch stump with ant nest (PTL).

Orthadenella Evans 1958

Orthadenella lawrencei (Evans 1958) (*Lasioseius* in Karg 1993)
Huhta et al. 1996, 2005, 2010, 2012a (as *Lasioseius*), Hki. Forest soils, central Finland.

Ascidae Oudemans, 1905

Arctoseiinae

Arctoseius Thor, 1930

Arctoseius "ambiguus" n.sp. (Makarova & Huhta in prep.)
Huhta 1996 (as *A. venustulus*), Hki. Korpilahti 1994, pine stand; Kolari 2005, spruce marsh (VH).

Arctoseius brevichelis Karg 1969
Huhta et al. 2010, Hki. Grassland soil, all country.

Arctoseius cetratus (Sellnick 1940)
Huhta et al. 1979, 1996, 2010, 2012b, Tku, Hki. Organic wastes, seashores and grasslands, all country.

Arctoseius dendrophilus Karg 1969
Huhta et al. 1979, 2012a (as *Iphidonopsis*), Tku, Hki. Decaying wood, southern Finland.

****Arctoseius haarlovi*** Lindquist & Makarova 2011
Hki. Enontekiö Kilpisjärvi 2007, mountain birch and moor soil (VH).

Arctoseius insularis (Willmann 1952)
Huhta et al. 1979 (as *Iphidozercon minutus*), 2010, 2012a,b, Hki. Grasslands, shores etc., all country.

****Arctoseius magnanalis*** Evans 1958
Hki. Utsjoki Kevo 2007, fell moor (RP); Utsjoki 2014, shore meadow (VH).

Arctoseius pristinus Karg 1962
Huhta et al. 2010, Tku. Parainen 1982, bottom of straw shed (PTL); Jyväskylä 2007, in dung (VH).

Arctoseius semiscissus (Berlese 1892)
Huhta 1996, Huhta et al. 2010, Tku. Scattered records in grasslands, ant nests etc.

Arctoseius cf. ***semiscissus***
Huhta 1996 (as *A. venustulus*). Korpilahti 1994, pine stand (VH).

Iphidonopsis Gwiazdowicz, 2004

****Iphidonopsis sculptus*** Gwiadzowicz 2004
Hki. Ilomantsi 2004, heap of bark (VH).

Iphidozercon Berlese, 1903

Iphidozercon corticalis Evans 1958
Huhta et al. 1979 (as *Arctoseius elegans*). Vantaa 1997, compost soil; Tammela 2016, dung heap (VH).

Iphidozercon gibbus (Berlese 1903)
Huhta et al. 1979, 1986, 1996, 2010, 2012a,b, Hki. Shores, composts, garden and forest soil, all country.

Zerconopsis Hull, 1918

****Zerconopsis michaeli*** Evans & Hyatt 1960
Hki. Aland Lemland 2007, dead wood (VH).

****Zerconopsis remiger*** (Kramer 1876)
Hki. Kangasala 2013, 2014, under carcass in forest (VH).

Ascinae

Asca von Heyden, 1826

Asca aphidioides (Linnaeus 1758)
Huhta et al. 1986, 2010, 2012a,b, Hki. Ant hills, dry meadows and forests, southern Finland.

Asca bicornis (Canestrini & Fanzago 1887)
Huhta et al. 2012b, Tku, Hki. Scattered records in grasslands and parks.

Leioseius Berlese, 1916

Leioseius elongatus Evans 1958
Huhta et al. 2005 (as *L. montanulus*), 2010. Scattered records in forest soils.

Neojordensia Evans, 1957

****Neojordensia levis*** (Oudemans & Voigts 1904)
Hki, Tku. Vaasa 1976, seabird nests; Nauvo 1982, wrack bed (PTL); Kolari 2005, meadow (VH).

Neojordensia meritricha Athias-Henriot 1973
Huhta et al. 2010, 2012b, Tku, Hki. Grasslands and shores, central and northern Finland.

Neojordensia sinuata Athias-Henriot 1973
Huhta et al. 2010, Tku, Hki. Grasslands and shores, southern and central Finland.

Antennoseius Berlese, 1916

****Antennoseius bacatus*** Athias-Henriot 1961 (incl. *A. bacatosimilis* Karg 1965)
Hki. Dry meadows and dunes on seashores, western Finland (VH).

****Antennoseius bullitus*** Karg 1969
Hki. Aland Signilskär 2013, dry meadow (VH).

Gamasellodes Athias-Henriot, 1961

Gamasellodes bicolor (Berlese 1918) (*Leioseius* in Karg 1993)
Huhta et al. 1979, 1986, 2005 (as *Leioseius*), 2010, 2012a, Hki. Forest soil, grasslands and dead wood, south and central Finland.

Phytoseoidea Karg, 1965

Phytoseiidae Berlese, 1916

Amblyseiinae Muma, 1961

Amblyseius Berlese, 1914

Amblyseius bidens Karg 1970
Karg & Huhta 2009, Tku, Hki. On seashores and grasslands.

Amblyseius fennicus Karg & Huhta 2012
Karg & Huhta 2012, Huhta et al. 2012a. Lammi 2011, Jyväskylä 2011, on trunks of old trees (VH).

Amblyseius neobernhardi Athias-Henriot 1966
Karg & Huhta 2009, Hki. On seashores and grasslands (VH); Kuhmoinen 2007, nest of wagtail (J. Nieminen).

Amblyseius obtusus (C.L.Koch 1839)
Huhta et al. 2005, 2010, 2012b, Hki. Scattered records in soil and litter of various habitats.

****Amblyseius silvaticus*** (Chant 1959)
Tku. Kuusamo 1982, ant nest; Parainen 1983, scotylid galleries (PTL).

Amblyseius similifloridanus (Hirschmann 1962)
Karg & Huhta 2009, Huhta et al. 2010, Tku, Hki. Scattered records in soil and litter of various habitats.

Amblyseius tavasticus Karg & Huhta 2009
Karg & Huhta 2009, Huhta et al. 2012a, Hki. Lammi 2007, decaying wood (AS-P); Sumiainen 2007, nest of *Mergus* (K.T.).

Amblyseius valsoensis Karg & Huhta 2009
Karg & Huhta 2009, Hki. Mustasaari Valassaaret 2007, *Cladonia* moor (VH).

Transeius Chant & McMurtry, 2004

Transeius herbarius (Wainstein 1960)
Tuovinen 1993 (as *Amblyseius tenuis*). Juva, on strawberry (T. Tuovinen); Aland Signilskär 2013, rock wetland (VH).

Proprioseiopsis Muma, 1961

Proprioseiopsis jugortus (Athias-Henriot 1966)
Huhta et al. 1986, Hki. Pine forest soil and litter, all country.

Proprioseiopsis messor (Wainstein 1960) (?)
Huhta et al. 1986, pine forest soil (VH; no sample).

Proprioseiopsis okanagensis (Chant 1957)
Tuovinen 1993. Juva, on strawberry; Aland, on *Ribes*.

Proprioseiopsis savonicus Karg & Huhta 2009
Karg & Huhta 2009, Tku. Kuopio 1975, forest litter (O. Lindquist).

****Proprioseiopsis sororculus*** (Wainstein 1960)
Hki. Lohtaja and Kalajoki 2010, seashore dune (VH).

Proprioseiopsis umidus Karg 1989
Karg & Huhta 2009, Tku. Piikkiö 1979, *Cladonia* moor (PTL).

Euseius Wainstein, 1962

Euseius finlandicus (Oudemans 1915)
Oudemans 1915, Kropczynska & Tuovinen 1988, Tuovinen 1993. On deciduous trees and bushes.

Neoseiulus Hughes, 1948 (*Amblyseius* (*Neoseiulus*) in Karg 1993, Huhta et al. 1979, 2010, Tuovinen 1993)

****Neoseiulus agrestis*** (Karg 1960)
Hki. Hanko 2015, cow feces on seashore (VH).

Neoseiulus alpinus (Schweizer 1922)
Huhta et al. 2012b, Tku, Hki. Scattered records on grasslands.

Neoseiulus barkeri Hughes 1948
Kropczynska & Tuovinen 1988, Tuovinen 1993. In greenhouses (imported).

Neoseiulus cucumeris (Oudemans 1930)
Kropczynska & Tuovinen 1988, Tuovinen 1993. Orchards and greenhouses.

Neoseiulus reductus (Wainstein 1962)
Tuovinen 1993. In trees, bushes and gardens.

Neoseiulus subsolidus (Begljarov 1960)
Kropczynska & Tuovinen 1988 (as *A. canadensis*), Tuovinen 1993. On deeciduous trees.

Neoseiulus zwoelferi (Dosse 1957)
Huhta et al. 1979, Tuovinen 1993, Hki. Scattered records in gardens and various habitats.

Neoseiulus sp.
Tammela 2016, peat bog (VH).

Phytoseiulus Evans, 1952

Phytoseiulus persimilis Athias-Henriot 1957
Tuovinen 1993. Paimio, on apple tree.

Typhlodromips De Leon, 1965 (*Amblyseius* (*Typhlodromips*) in Karg 1993, Karg & Huhta 2014, Tuovinen 1993).

Typhlodromips jurmoensis (Karg & Huhta 2014)
Karg & Huhta 2014. Korppoo Jurmo 2012, *Calluna* moor (VH).

Typhlodromips sp.
Hanko 2014, seashore wrack (VH).

Phytoseiinae Berlese, 1916

Phytoseius Wainstein, 1959 (*Dubininellus* in Karg 1993)

Phytoseius echinus Wainstein & Arutunjan 1970
Karg & Huhta 2009, Tku. Pöytyä 1983, garden grassland (PTL).

Phytoseius juvenis Wainstein & Arutunjan 1970
Tuovinen 1993. Kokemäki and Aland, in gardens.

Phytoseius macropilis (Banks 1909)
Kropczynska & Tuovinen 1988, Tuovinen 1993. On deciduous trees and bushes.

Phytoseius spoofi (Oudemans 1915)
Oudemans 1915. Turku, on *Salix*.

Phytoseius turiacus Wainstein & Kolodochka, 1976
Karg & Huhta 2009. Nauvo 1983, decaying alder (PTL).

Typhlodrominae Scheuten, 1857

Paraseiulus Muma, 1961

Paraseiulus soleiger (Ribaga 1904)
Kropczynska & Tuovinen 1988, Tuovinen 1993. On deciduous trees and bushes, all country.

Paraseiulus talbii (Athias-Henriot 1960)
Tuovinen 1993. On garden trees and strawberry.

Paraseiulus triporus (Chant & Yoshida-Shaul 1982)
Tuovinen 1993. On deciduous trees, bushes and herbs.

Neoseiulella Muma, 1961

Neoseiulella aceri (Collyer 1957)
Tuovinen 1993 (as *Seiulus*). On forest maple.

Typhlodromus Scheuten, 1857

Typhlodromus (***Anthoseius***) De Leon, 1959 (*Anthoseius* in Karg 1003, Huhta et al. 2012a, Tuovinen 1993)

Typhlodromus bakeri (Garman 1948)
Tuovinen 1993, Karg & Huhta 2009, Tku. In gardens.

Typhlodromus rhenanus (Oudemans 1905)
Kropczynska & Tuovinen 1988 (as *Anthoseius*), Tuovinen 1993, Karg & Huhta 2009, Tku. On deciduous trees, bushes and herbs.

Typhlodromus richteri Karg 1970
Kropczynska & Tuovinen 1988, Tuovinen 1993, Huhta et al. 2012a, Hki. On trees in parks and gardens; Oulu 1988, on spruce.

Typhlodromus suecicus (Sellnick 1958)
Kropzynska & Tuovinen 1988 (as *T. gilvus*), Tuovinen 1993. Mietoinen and Pälkäne 1985, on apple trees.

Typhlodromus viktorovi (Wainstein 1975)
Tuovinen 1993. Pälkäne, on apple tree.

Typhlodromus (***Typhlodromus***) Scheuten, 1857

Typhlodromus andrei Karg 1982
Tuovinen 2003, on a park tree.

Typhlodromus corticis Herbert 1958
Karg & Huhta 2009, Tku. Nauvo 1982, pile of straw; Pöytyä 1983, garden grassland (PTL).

Typhlodromus eucervix Karg & Edland 1987
Karg & Huhta 2009, Hki. Hirvensalmi 2006, nest of flycatcher (A. Oikari); Sipoo and Jyväskylä 2010, on tree trunks (VH).

Typhlodromus laurae Arutunjan 1974
Tuovinen 1993. Piikkiö, on black currant.

Typhlodromus pyri Scheuten 1857
Tuovinen 1993. Aland, on currants.

Blattisociidae Garman, 1948

Blattisocius Keegan, 1944

Blattisocius dendriticus (Berlese 1918) (*Paragarmania* in Karg 1993)
Huhta et al. 1986. Tuusula 1980, pine forest soil (VH).

****Blattisocius keegani*** Fox 1947
Hki. Kuhmoinen 2007, nest of wagtail (A. Oikari).

Blattisocius sp.
Kangasala 2016, fungus on dead wood (VH).

Lasioseius Berlese, 1916

****Lasioseius allii*** Chant 1958 (may be conspecific with *L. bispinosus*; de Moraes et al. 2016)
Hki. Jyväskylä 2007, in compost (VH).

****Lasioseius berlesei*** (Oudemans 1938)
Tku. Pöytyä 1983, lawn soil (PTL); Mustasaari and Tammela 2016, grassland (VH).

Lasioseius bispinosus Evans 1958
Huhta et al. 2010. Grasslands, compost etc., southern and western Finland (VH).

Lasioseius confusus Evans 1958
Huhta et al. 1979 (as *L. fimetorum*), Tku, Hki. Vantaa 1975, bark heap (VH); Sonkajärvi 1982, river shore (PTL); Pori 2010, seashore (VH).

****Lasioseius floridensis*** Berlese 1916 (*L. fimetorum* in Karg 1993)
Hki. Suomusjärvi 2005, deacaying wood; Kangasala 2016, repeatedly on polypore fungi on dead wood (VH).

****Lasioseius inconspicuus*** Westerboer 1963
Tku, Hki. Pöytyä 1982, ant hill (PTL); Kangasala 2007, nest of flycatcher (VH).

Lasioseius muricatus (C.L.Koch 1839) (*Aceoseius* in Karg 1993)
Huhta et al. 2005 (as *Aceoseius*), Hki. Scattered records in southern and central Finland, mainly on dead wood (VH).

Lasioseius ometes (Oudemans 1903)
Huhta et al. 2010, 2012a. Kirkkonummi 2004, Kisko 2005 (VH); Sipoo and Lammi 2007 (AS-P), decaying wood.

Lasioseius youcefi Athias-Henriot 1957
Huhta et al. 2012b, Hki. Scattered records in grasslands and gardens.

Cheiroseius Berlese, 1916

Cheiroseius (***Cheiroseius***)

Cheiroseius borealis (Berlese 1904)
Huhta et al. 1979, 2010, 2012b, Tku, Hki. Grasslands and seashores, all country.

****Cheiroseius bryophilus*** Karg 1969
Hki. Ylikiiminki 2004, Kuusamo 2005, open bogs (VH).

****Cheiroseius viduus*** (C.L.Koch 1839)
Hki. Isokyrö 2004, river shore (VH).

Cheiroseius (***Posttrematus***) Karg, 1981

****Cheiroseius aequalis*** (Schweizer 1949)
Mustasaari 2016, seashore (VH).

Cheiroseius cassiteridium (Evans & Hyatt 1960)
Huhta et al. 2010, Hki. Shores and grasslands, southern and western Finland.

Cheiroseius curtipes (Halbert 1923)
Huhta et al. 2010, Tku, Hki. Scattered records on shores.

Cheiroseius laelaptoides (Berlese 1887)
Huhta et al. 2010. Wetlands, northern Finland.

Cheiroseius longipes (Willmann 1951)
Huhta et al. 2010, Tku, Hki. Seashores, wetlands and grasslands, all country.

Cheiroseius mutilus (Berlese 1916)
Huhta et al. 2010. On bogs and shores, southern and western Finland.

Cheiroseius necorniger (Oudemans 1903)
Huhta et al. 2010, Tku, Hki. Scattered records on seashores and meadows.

****Cheiroseius nepalensis*** (Evans & Hyatt 1960)
Hki. Ilomantsi 2004, open bog (VH).

****Cheiroseius salicorniae*** (Willmann 1940)
Hki. Pori Säppi 2014, abundantly in seashore wrack, also on meadow (VH).

****Cheiroseius serratus*** (Halbert 1915)
Tku, Hki. On sandy seashores, garden and meadow soil, southern and western Finland.

****Cheiroseius unguiculatus*** (Berlese 1887)
Hki. Aland Signilskär 2013, seashore wrack (VH).

Platyseius Berlese, 1916

Platyseius italicus (Berlese 1905) (*Plesiosejus* in Karg 1993)
Huhta et al. 2010, Tku. Scattered records on shores and open bogs.

****Platyseius subglaber*** (Oudemans 1903)
Tku. Nauvo 1982 (RP), Parainen 1982 (PTL), myddy pond shores.

Zercoseius Berlese, 1916

Zercoseius spathuliger (Leonardi 1899)
Huhta et al. 2010. Maarianhamina 2007, deciduous forest, dry meadow and dead wood (VH).

Dermanyssoidea Kolenati, 1859

Laelapidae Trägårdh, 1908

Hypoaspidinae Vizthum, 1941

Ololaelaps Berlese, 1904 (*Pseudoparasitus* (*Ololaelaps*) in Karg 1993, Huhta et al. 2010, 2012a)

Ololaelaps placentulus (Berlese 1887)
Huhta et al. 1979, 2010, 2012a, Tku, Hki. In various habitats, all country.

Ololaelaps sellnicki Bregetova & Koroleva 1964
Huhta et al. 2010, Tku, Hki. Wetlands, grasslands and shores, all country.

****Ololaelaps venetus*** (Berlese 1904)
Tku. Piikkiö 1979, *Cladonia* moor (PTL).

(***Hypoaspis*** s. lat. Canestrini, 1884, including *Cosmolaelaps, Alloparasitus, Geolaelaps, Pneumolaelaps, Holostaspis* and *Laelaspis*)

Hypoaspis Canestrini, 1885 ***s. str.***

Hypoaspis krameri (G & R Canestrini 1881)
Huhta et al. 1979. Vantaa 1975, compost soil.

Cosmolaelaps Berlese, 1903 (*Hypoaspis* (*Cosmolaelaps*) in Karg 1993, also in Huhta et al. 2005–2012)

****Cosmolaelaps cuneifer*** (Michael 1891)
Tku. Nauvo 1983, ant nest (PTL),

****Cosmolaelaps miles*** (Berlese 1892)
Tku, Hki. Nauvo 1982, seashore wrack (PTL); Turku 1988, in flower pots (V. Välikäki); Vaasa 2004, compost (VH).

Cosmolaelaps neocuneifer (Evans & Till 1966)
Huhta et al. 2010, Tku. Scattered records in ant nests; Aland Kumlinge 2013, deciduous forest (VH).

Cosmolaelaps vacua (Michael 1891)
Huhta et al. 2005, 2010, 2012a; Huhta & Karg 2010, Huhta et al. 2012b (as *H. michaeli*) (***new synonyme***), Tku, Hki. In ant nests and various habitats, all country.

Alloparasitus Berlese, 1920 (*Hypoaspis* (*Alloparasitus*) in Karg 1993, also in Huhta et al. 2010, 2012)

Alloparasitus oblonga (Halbert 1915)
Huhta et al 2010, 2012a, Tku, Hki. Scattered records in ant nests and various habitats.

Alloparasitus pratensis Huhta & Karg 2010
Huhta & Karg 2010, Huhta et al. 2010, 2012b, Hki. On grasslands, southern and western Finland.

****Alloparasitus sardoa*** (Berlese 1911)
Tku. Parainen 1982, bottom of straw shed (PTL).

Geolaelaps Trägårdh 1952 (*Hypoaspis* (*Geolaelaps*) in Karg 1993, also in Huhta et al. 1979–2012)

Geolaelaps aculeifer (Canestrini 1883)
Huhta et al. 1979, 1986, 1996, 2005, 2010, 2012a,b, Kamczyc et al. 2014, Hki. Forests, grasslands and ant hills, south and central Finland.

****Geolaelaps angustiscutatus*** (Willmann 1951)
Hki. Sipoo 2004, Helsinki 2012, dry meadow soil (VH).

Geolaelaps elegantulus (Berlese 1904) (incl. *G. brevipilis* (Bernhard 1955)
Huhta et al. 2012a (as *H. brevipilis*), Hki. Scattered records in dead wood.

Geolaelaps fishtowni (Ruf & Koehler 1993)
Huhta et al. 2010, Hki. Deciduous forests and grasslands, central Finland.

Geolaelaps nolli (Karg 1962)
Huhta et al. 2010, 2012b, Tku, Hki. Grasslands, shores and wetlands, all country.

Geolaelaps praesternalis (Willmann 1949)
Huhta et al. 2012b, Hki. Sipoo, Helsinki, Turku and Korppoo Jurmo 2011–2012, grasslands (VH).

Geolaelaps similisetae (Karg 1965)
Huhta et al. 2010, Hki. Scattered records on grasslands and shores.

Melittiphinae

Pneumolaelaps Berlese, 1920 (*Hypoaspis* (*Pneumolaelaps*) in Karg 1993, also in Huhta et al. 2010–2012.

Pneumolaelaps curtipilis (Hirschmann 1969)
Huhta et al. 2010, 2012a, Hki. In dead wood and ant nests, central Finland.

Pneumolaelaps giffordi (Evans & Till 1966)
Huhta et al. 2010, 2012a, Tku, Hki. In decaying wood and ant nests, all country.

****Pneumolaelaps heyi*** (Karg 1962)
Tku, Hki. Parainen 1982, straw shed (PTL); Järvenpää 2014, barn and stable (VH).

****Pneumolaelaps heterosetosa*** (Hirschmann 1969)
Tku. Korppoo 1982, ant nest; Parainen 1982, bottom of straw shed (PTL).

****Pneumolaelaps hirschmanni*** (Karg 1979)
Hki. Sipoo 2010, meadow and garden soil (VH).

****Pneumolaelaps karawaievi*** (Berlese 1903)
Tku, Hki. Korppoo 1982, ant nest (PTL); Korppoo Jungfruskär 2010, Korppoo Jurmo 2012, dry meadows (VH).

Pneumolaelaps lubrica (Voigt & Oudemans 1904)
Edler & Mrciak 1975, Lapland, on a forest lemming (A. Edler); Parainen 1982, nest of sand martin (PTL).

Pneumolaelaps lubricoides (Karg 1971)
Huhta et al. 2010, 2012a, Hki. Scattered records in various habitats.

****Pneumolaelaps procera*** (Karg 1965)
Hki. Korsholm Valassaaret 2007, *Calluna* moor (VH).

Pneumolaelaps saana (Huhta & Karg 2010)
Hki. Huhta et al. 2010. Enontekiö 2008, fell moor.

Holostaspis Kolenati, 1858 (*Hypoaspis* (*Holostaspis*) in Karg 1993)

Holostaspis collina (Huhta & Karg 2010)
Huhta et al. 2010 (as *Hypoaspis* (*Pneumolaelaps*) *collina*), Tku. Kuusamo 1982, under wood pile and in ant nest (PTL); Hailuoto 2004, in compost (VH).

****Holostaspis isotricha*** Kolenati 1858
Tku. Korppoo 1982 (PTL); Ii 1986, ant nests (M. Saaristo).

Holostaspis montana (Berlese 1904)
Krogerus 1960, Huhta et al. 2010 (as *Hypoaspis* (*Pneumolaelaps*) *montana*), Tku. Scattered records in ant nests.

Laelaspis Berlese, 1903 (*Hyposapis* (*Laelaspis*) in Karg 1993, also in Huhta et al. 2010, 2012)

Laelaspis astronomica (C.L.Koch 1839)
Huhta et al. 2010, Tku, Hki. Scattered records in various habitats.

Laelaspis austriaca Sellnick 1935
Huhta et al. 2010, 2012b, Tku, Hki. Dry meadows etc., southern and western Finland.

****Laelaspis equitans*** (Michael 1891)
Nauvo 1984, ant nest (M. Saaristo).

Haemogamasinae Oudemans, 1926

Haemogamasus Berlese, 1889

Haemogamasus ambulans (Thorell 1872)
Edler & Mrciak 1975, Tku. Lapland, commonly on small mammals (A. Edler); Kuusamo 1971, on voles (anon.); Parainen 1982, nest of sand martin (PTL).

Haemogamasus hirsutus Berlese 1889
Mrciak & Brander 1965. Helsinki 1955, on mole.

Haemogamasus horridus Michael 1892
Mrciak & Brander 1965, Edler & Mrciak 1975. Lapland, on small mammals, particularly shrews; Helsinki 1955, on mole; Urjala 1962, on forest vole.

Haemogamasus liponyssoides Ewing 1925
Edler & Mrciak 1975, Hki. On small mammals in Lapland, particularly on shrews; Kuhmoinen 2016, on forest vole (H. Henttonen).

Haemogamasus nidi Michael 1892
Mrciak & Brander 1965, Edler & Mrciak 1975, Tku. On small mammals, whole country.

Haemogamasus nidiformes Bregetova 1955
Edler & Mrciak 1975. Commonly on small mammals in Lapland, particularly *Clethrionomys* spp.

Haemogamasus pontiger (Berlese 1904)
Mrciak & Brander 1965 (as *Groschaftella*), Hki, Tku. Urjala 1963, on squirrel; Tarvasjoki 1991, in cloths (anon.); Keitee 2006, nest of flycatcher (M. Boucelham).

Eulaelaps Berlese, 1903

Eulaelaps stabularis (C.L.Koch 1836)
Mrciak & Brander 1965, Edler & Mrciak 1975, Tku. on small mammals, also in ant nests, whole country.

Laelapinae Berlese, 1892

Androlaelaps Berlese, 1903

Androlaelaps casalis (Berlese 1887)
Huhta et al. 2010, Tku. In bird nests and various habitats, central and northern Finland.

Androlaelaps myrmecophila (Evans & Till 1966)
Huhta et al. 2010, Huhta & Karg 2010, Tku. Scattered records from ant nests.

Laelaps C.L.Koch, 1836

Laelaps agilis C.L.Koch 1836
Mrciak & Brander 1965, Tku. On small mammals.

Laelaps clethrionomydis Lange 1955
Edler & Mrciak 1975, Hki. Common in Lapland on small mammals, particularly *Clethrionomys* spp (A. Edler, H. Henttonen).

Laelaps muris (Ljungh 1799)
Mrciak & Brander 1965, Tku. On water vole and ermine.

Laelaps hilaris C.L.Koch 1836
Mrciak & Brander 1965, Edler & Mrciak 1975, Tku. Commonly on small mammals, all country.

Laelaps lemmi Grube1851
Mrciak & Brander 1965, Hki. Enontekiö 1966 (anon.), Enontekiö 2015 (H. Henttonen), on lemming.

Laelaps micromydis Zachvatkin 1948
Mrciak & Brander 1965. Särkisalo 1961, on *Micromys minutus*.

Hyperlaelaps Zakhvatkin, 1948

Hyperlaelaps amphibia (Zachvatkin 1948)
Mrciak & Brander 1965. Urjala and Siilinjärvi 1962, on water vole.

Hyperlaelaps microti (Ewing 1933)
Mrciak & Brander 1965 (as *H. arvalis*), Edler & Mrciak 1975, Tku. On small mammals, all country.

Ondatralaelaps Evans & Till, 1965

Ondatralaelaps multispinosa (Banks1909)
Mrciak & Brander 1965 (as *Laelaps*), Tku. On muskrat.

Myonyssinae Bregetova, 1956

Myonyssus Tiraboschi, 1904

Myonyssus ingricus Bregetova 1956
Mrciak & Brander 1965, Edler & Mrciak 1975. Lapland 1973, Urjala 1962, Vesanto 1963, on shrews.

Hirstionyssinae

Hirstionyssus Fonseca, 1948

Hirstionyssus isabellinus (Oudemans 1913)
Mrciak & Brander 1965. On small mammals.

Hirstionyssus sciurinus (Hirst 1921)
Mrciak & Brander 1965, Tku. Jokioinen and Särkisalo 1961, on squirrel.

Hirstionyssus soricis (Turk 1945)
Edler & Mrciak 1975. On small mammals in Lapland, particularly on shrews.

Hirstionyssus sunci Wang 1962 (?) (taxonomic notes: see Mašán & Fendă 2010)
Mrciak & Brander 1965 (as *H. musculi*), Edler & Mrciak 1975 (as *H. latiscutatus*). Lapland 1973, on house mouse and forest vole; Vesanto 1961, on weasel.

Hirstionyssus gudauricus Razumova 1957
Edler & Mrciak 1975 (as *H. tatricus*), Hki. On voles in Lapland.

Spinturnicidae Oudemans, 1901

Spinturnix Heyden, 1826

Spinturnix carnifex (C.L.Koch 1839)
Mrciak & Nyholm 1967 (as *S. kolenatii*), Tku. Rautalampi 1957, on bat *Plecotus auritus;* Nauvo 1975 and Korppoo 2002, on *Eptesicus nilssoni.*

Spinturnix myoti (Kolenati 1856)
Mrciak & Nyholm 1967. Rautalampi 1952, on bat *Myotis daubentoni.*

Spinturnix mystacinus (Kolenati 1857)
Mrciak & Nyholm 1967, Tku. Rautalampi 1956 (E. Nyholm), Turku 2002 (A. Karhilahti), on bats *Myotis.*

Spinturnix plecotinus (C.L.Koch 1839)
Tku. Turku 1984, on bat *Eptesicus nilssoni;* Evitskog 2002, on bat (anon.).

Spinturnix psi (Kolenati 1856)
Tku. Asikainen 2002, on bat *Myotis brandi* (P. Vihervaara).

Halarachnidae Oudemans, 1906

Pneumonyssoides Fain, 1955

Pneumonyssoides caninum (Chandler & Rhue 1940)
Parasite on dogs.

Dermanyssidae Kolenati,1859

Dermanyssus De Geer, 1778

Dermanyssus gallinae De Geer 1778
Tku, Hki. Common parasite on birds.

Dermanyssus hirundinis (Hermann 1804)
Mrciak & Brander 1967, Tku, Hki. On birds and bird nests.

Macronyssidae Oudemans, 1936

Ornithonyssus Sambon, 1928

Ornithonyssus sylviarum (Canestrini & Fanzago 1877)
Mrciak & Brander 1967, Tku. On birds.

Ophionyssus Megnin, 1884

Ophionyssus saurarum (Oudemans 1901)
Tku, Hki. Aland 1975, on snake (anon.); Kuopio 1992, in snake terrarium (anon.).

Varroidae Delfinado & Baker, 1974

Varroa Oudemans,1904

Varroa jacobsoni Oudemans 1904
Parasitic on bees and bee nests

Species incertae:

In Schulze et al. (1938):
Scarabaspis inexpectatus (Oudemans 1903)
Spinturnix vespertilionis (Scopoli 1763)

In Nordberg (1936):
Antennophorus foreli Wasmann
Uropoda vegetans (Linnaeus 1758)
Phaulodinychus nidicola Ng.
Pseudoparasitus meridionalis Canestrini 1882
Pseudoparasitus myrmecophilus (Berlese 1892)
Eulaelaps novus Vitzthum 1925
Ptilonyssus echinatus Berl. & Trouessart 1889
Ptilonyssus nudus Berl. & Trouessart 1889
Parasitus chortophilus (Berlese 1903)

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References

Demite, P. R., Moraes, G. J. de, McMurtry, J. A., Denmark, H. A. & Castilho, R. C. 2016: Phytoseiidae Database. — Available from: www.lea.esalq.usp.br/phytoseiidae (accessed 01/04/2016).

Moraes, G. J. de, Britto, E. P. J., Mineiro, J. L. de C. & Halliday, B. 2016: Catalogue of the mite families Ascidae Voigts & Oudemans, Blattisociidae Garman and Melicharidae Hirschmann (Acari: Mesostigmata). — Zootaxa 4112 (1):1–299.

Edler, A. & Mrciak, M. 1975: Gamasina mites (Acarina) from small mammals in northernmost Fennoscandia. — Entomol. Tidskr. 167–177.

Huhta, V. 1996: Community of Mesostigmata (Acari) in experimental habitat patches of forest floor. — Eur. J. Soil Biol. 32: 99–105.

Huhta, V. & Karg, W. 2010: Ten new species in genera Hypoaspis (s. lat.) Canestrini, 1884, Dendrolaelaps (s. lat.) Halbert, 1915, and Ameroseius Berlese, 1903 (Acari: Gamasina) from Finland. — Soil Organisms 82: 325–349.

Huhta, V. & Ujvári, Z. 2015: Zercon bothnicus, a new species of Zerconidae from Finland. — Acarina 23: 69–73.

Huhta, V., Ikonen, E. & Vilkamaa, P. 1979: Succession of invertebrate populations in artificial soil made of sewage sludge and crushed bark. — Ann. Zool. Fennici 16: 223–270.

Huhta, V., Hyvönen, R., Kaasalainen, P., Koskenniemi, A., Muona, J., Mäkelä, I., Sulander, M. & Vilkamaa, P. 1986: Soil fauna of Finnish coniferous forests. — Ann. Zool. Fennici 23. 345–360.

Huhta, V., Räty, M., Ahlroth, P., Hänninen, S.-M., Mattila, J., Penttinen, R. & Rintala, T. 2005: Soil fauna of deciduous forests in central Finland. — Memoranda Soc. Fauna Flora Fennica 81: 52–70.

Huhta, V., Siira-Pietikäinen, A., Penttinen, R. & Räty, M. 2010: Soil fauna of Finland: Acarina, Collembola and Enchytraeidae. — Memoranda Soc. Fauna Flora Fennica 86: 59–82.

Huhta, V., Siira-Pietikäinen, A. & Penttinen, R. 2012a: Importance of dead wood for soil mite (Acarina) com-

munities in boreal old-growth forests. — Soil Organisms 84: 499–512.

Huhta, V., Penttinen, R. & Pitkänen, E. 2012b: Cultural factors in the distribution of soil mites in Finland. — Memoranda Soc. Fauna Flora Fennica 88: 1–6.

Juslén, A. et al. (eds.) 2008: Research Programme of Deficiently Known and Threatened Forest Species 2003-2007 (PUTTE). — Suomen Ympäristö 1/2008, 146 pp. (in Finnish, English summary).

Kamczyc, J., Gwiazdowicz, D.J., Teodorowicz, E. & Strzymińska, K. 2014: Mites (Acari, Mesostigmata) in boreal Scots pine forest floors: effect of distance to stumps. — Exp. Appl. Acarology 64: 61–71.

Karg, W. 1989: Acari (Acarina) Milben, Unterordnung Parasitiformes (Anactinochaeta). Uropodina Kramer, Schildkrötenmilben. — Tierwelt Deutschlands 67: 1–203.

Karg, W. 1993: Acari (Acarina) Milben, Parasitiformes (Anactinochaeta) Cohors Gamasina Leach: Raubmilben. — Tierwelt Deutschlands 59: 1–523.

Karg, W. & Huhta, V. 2009: Taxonomic remarks on Phytoseiidae Berlese (Acari: Mesostigmata), with description of three new species from Finland. — Int. J. Acarology 35: 511–520.

Karg, W. & Huhta, V. 2012: Amblyseius fennicus sp. n. (Acarina, Gamasina: Phytoseiidae) from Finland, with a key to the A. americanus group. — Entomologica Fennica 23: 193–198.

Karg, W. & Huhta, V. 2014: A new soil inhabiting species of Typhlodromips de Leon, 1965 from Finland. — Arthropoda Selecta 23: 189–193.

Kranz, G.W. & Walter, D.E. (eds.) 2009: A manual of acarology (3th ed.). — Texas Tech. Univ. Press, 807 pp.

Krogerus, R. 1960: Ökologische Studien über nordische Moorarthropoden. I. — Comment. Biol. 21(3):1–238.

Kropczynska, D. & Tuovinen, T. 1988: Occurrence of phytoseiid mites (Acari: Phytoseiidae) on apple trees in Finland. — Ann. Agric. Fennici 27: 305–314.

Lehtinen, P. T. 1987: Association of uropodid, prodinychid, polyaspidid, antennophorid, sejid, microgynid, and zerconid mites with ants. — Entomol. Tidskr. 108: 13–20.

Lundqvist, L. 2013: Mesostigmata. — Fauna Europaea version 2.6, http://www.fauna-eu.org.

Mašán, P. 2003: Macrochelid mites of Slovakia (Acari, Mesostigmata, Macrochelidae). — Institute of Zoology, Slovak Acad. Sci., Bratislava. 146 pp.

Mašán, P. 2008: A review of the family Pachylaelapidae in Slovakia, with systematics and ecology of European species (Acari: Mesostigmata: Eviphioidea). — Institute of Zoology, Slovak Acad. Sci., Bratislava. 146 pp.

Mašán, P. & Fendă, P. 2010: A review of the laelapid mites associated with terrestrial mammals in Slovakia, with a key to the European species (Acari, Mesostigmata, Dermanyssoidea). — Inst. Zool. Slovak Acad. Sci., Bratislava. 187 pp.

Mrciak, M. & Brander, T. 1965: Beitrag zur Kenntnis der Milben (Acarina) einiger Säugetiere in Finnland. — Lounais-Hämeen Luonto 17: 3–13.

Mrciak, M. & Brander, T. 1967a: Milbenfunde an Vögeln in einigen Gebieten Finnlands. — Lounais-Hämeen Luonto 25: 1-6.

Mrciak, M. & Brander, T. 1967b: Beitrag zur Fauna der an Arthropoden vorkommenden Milben. — Lounais-Hämeen Luonto 25: 7-11.

Mrciak, M. & Nyholm, E.S. 1967: Beitrag zur Kenntnis der Milben der Familie Spinturnicidae im Gebiet von Rautalampi (Finnland). — Lounais-Hämeen Luonto 25: 12–13.

Nordberg, S. 1936: Biologisch-ökologische Untersuchungen über die Vogelnidicolen. — Acta Zool. Fennici 21: 1–168.

Oudemans, A. C. 1915: Acarologische Anteekeningen. LVI. — Entomol. Berichten 4: 180–188.

Schulze, P., Viets, K. & Willman, C. 1938: Mitteilungen über F. D. Wasastjernas Monographia Acarorum. — Memoranda Soc. Fauna Flora Fennica 13: 116–125.

Tuovinen, T. 1993. Identification and occurrence of phytoseiid mites (Gamasina: Phytoseiidae) in Finnish apple plantations and their surroundings. — Entomol. Fennica 4: 95–114.

Uusitalo, M. 1993: The identification of mites (Acari) from birds' nests by Nordberg (1936) – revaluation. — EURAAC Newsletter: 5–9.