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Checklist of oribatid mites (Acari: Oribatida) of Canada and Alaska

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Table of Contents

Abstract	4
Introduction	5
Historical Overview of Research on Oribatida in Canada and Alaska	5
Materials and methods	7
Infraorder Palaeosomata	12
Family Acaronychidae	12
Family Archeonothridae	12
Family Palaeacaridae	12
Family Aphelacaridae	12
Family Ctenacaridae	12
Infraorder Enarthronota	13
Family Brachychthoniidae	13
Family Atopochthoniidae	20
Family Pterochthoniidae	20
Family Eniochthoniidae	20
Family Hypochthoniidae	21
Family Mesoplophoridae	22
Family Cosmochthoniidae	22
Family Haplochthoniidae	23
Family Sphaerochthoniidae	23
Family Arborichthoniidae	23
Family Trichthoniidae	23
Infraorder Parhyposomata	23
Family Gehypochthoniidae	24
Family Parhypochthoniidae	24
Infraorder Mixonomata	24
Family Eulohmanniidae	24
Family Perlohmanniidae	25
Family Epilohmanniidae	25
Family Euphthiracaridae	26
Family Oribotritiidae	30
Family Synichotritiidae	32
Family Phthiracaridae	33
Infraorder Desmonomata	39
Hyporder Nothrina	39
Family Crotoniidae	39
Family Hermanniidae	44
Family Malaconothridae	45
Family Nanhermanniidae	47
Family Nothridae	48
Family Trhypochthoniidae	50
Hyporder Brachypylina	52
Family Hermanniellidae	52
Family Plasmobatidae	53
Family Neoliodidae	53
Family Gymnodamaeidae	53
Family Licnodamaeidae	56
Family Plateremaeidae	56
Family Damaeidae	56
Family Cepheidae	62
Family Nodocephidae	64
Family Podopterotegaeidae	64
Family Polypterozetidae	65
Family Microzetidae	65
Family Ameridae	65
Family Caleremaeidae	65
Family Damaeolidae	66
Family Eremobelbidae	66
Family Eremulidae	66
Family Hungarobelbidae	66
Family Eremaeidae	67
Family Megeremaeidae	72

Family Astegistidae	73
Family Gustaviidae	74
Family Kodiakellidae	74
Family Liacaridae	75
Family Peloppiidae	77
Family Tenuialidae	81
Family Carabodidae	82
Family Autognetidae	85
Family Machuellidae	86
Family Oppiidae	86
Family Quadroppiidae	93
Family Thyrisomidae	94
Family Suctobelbidae	95
Family Tectocephidae	98
Family Hydrozetidae	100
Family Limnozidae	100
Family Podacaridae	102
Family Ameronothridae	102
Family Selenoribatidae	103
Family Tegeocranellidae	103
Family Cymbaeremaeidae	103
Family Dendroeremaeidae	105
Family Licneremaeidae	105
Family Passalozetidae	105
Family Scutoverticidae	105
Family Phenopelopidae	106
Family Unduloribatidae	108
Family Achipteriidae	108
Family Tegoribatidae	112
Family Oribatellidae	113
Family Haplozetidae	117
Family Mochlozetidae	121
Family Oribatulidae	121
Family Oripodidae	125
Family Parakalummidae	125
Family Scheloribatidae	126
Family Ceratokalummidae	130
Family Ceratozetidae	130
Family Chamobatidae	144
Family Euzetidae	144
Family Humerobatidae	145
Family Punctoribatidae	145
Family Zetomimidae	152
Family Galumnidae	153
Discussion	157
Acknowledgements	158
References	158

Abstract

This checklist of the oribatid fauna of Canada and Alaska (excluding Astigmata) includes 580 identified species in 249 genera and 96 families. The known fauna of Canada includes 556 identified species in 247 genera, and that of Alaska includes 182 species in 95 genera; 39 of the 42 oribatid superfamilies are represented. We further list ~ 300 species that are currently unidentified, and possibly undescribed. In addition, we list 42 genera that are represented only by unidentified and probably undescribed species. For each species we give combinations and synonymies, specific locations in Alaska and the Provinces and Territories of Canada, habitats, and biogeography.

There are 182 identified species known for Alaska, 152 for Yukon, 122 for Northwest Territories, 58 for Nunavut; 210 for British Columbia, 213 for Alberta, 15 for Saskatchewan, 84 for Manitoba, 167 for Ontario, 210 for Québec, 110 for Nova Scotia, 77 for New Brunswick, 84 for Newfoundland and 6 for Prince Edward Island. The known fauna of Canada is smaller than that of Austria, and is approximately equivalent to that of the Czech Republic. As these countries are much smaller in size than Canada and less ecologically diverse, we consider the Canadian and Alaskan fauna are at most 25%

known. The paucity of these data reflects the absence of taxonomic and faunistic studies on Oribatida in State, Provinces or Territories, and especially in the Canadian and Alaskan National Park systems and the hundreds of Provincial Parks.

Despite the almost 90% increase in described species since the catalogue of Marshall *et al.* (1987), there is a need for focussed, coordinated research on Oribatida in the natural regions throughout Canada and Alaska, and for monographs on families and genera with large numbers of undescribed species, such as Brachychthoniidae, Damaeidae, Cepheidae, Liacaridae, Oppiidae, Suctobelbidae, Hydrozetidae, Phenopelopidae, Scheloribatidae, Haplozetidae and Galumnidae.

Key words: Synonyms, Distribution, Habitat, Nearctic, Canadian Arctic Islands

Introduction

The acarine suborder Oribatida (also called Cryptostigmata) is one of the most numerically dominant arthropod groups in the organic horizons of most soils. Globally, over 10,000 species are described (Subías 2019); this is considered to represent from a third to a tenth of the true diversity (Walter & Proctor 2013). Oribatida have traditionally been and remain one of the better-known soil acarine groups in Canada and Alaska due to historically concerted taxonomic efforts (Lumley *et al.* 2013, Beaulieu *et al.* 2019). These efforts have been summarized several times during the last decades. Marshall, in Lindquist *et al.* (1979), summarized the Oribatida of Canada and reported 71(+10 expected) families and 354 described species, with an estimated total diversity of approximately 1554 species. Published records of Oribatida of Canada and Alaska up to 1986 were captured in the *Catalogue of the Oribatid Mites of Canada and the USA* (Marshall *et al.* 1987), where authors listed ~300 spp. in Canada and ~200 from Alaska, from 160 genera. Updates to species and distributional records by Canadian province and for Alaska, through the early 2000s, are available online through the *The Diversity of Oribatida in Canada* (DOC) (Behan-Pelletier & Eamer 2004).

Recently, the Acari of Canada were summarized to the family level (Beaulieu *et al.* 2019), where the authors documented 84 oribatid families and 592 described species vs. 354 reported by Lindquist *et al.* (1979), and ~300 reported by Marshall *et al.* (1987). With almost twice as many species reported in 2019, we consider that an updated Checklist of Oribatida of Canada and Alaska will be a useful tool for taxonomic, biological and ecological studies. Furthermore, since 1999, the Territory of Nunavut has been separated from Northwest Territories. It has a larger surface area than Alaska, is the largest Territory or Province in Canada and includes most of the Canadian Arctic Archipelago, but its oribatid mite fauna has not yet been distinguished in a catalogue or checklist.

The scope of this checklist includes Canada and Alaska, a contiguous North American landmass of almost 36.7 million km² (Canada: 35.5 million km²; Alaska: 1.178 million km²). It represents the northern part of the Nearctic Region, excluding Greenland (Natural Resources Canada (accessed March, 2019): <https://www.nrcan.gc.ca/earth-sciences/geography/atlas-canada/reference-maps/16846#provincial-and-territorial-outline>). It encompasses a range of temperate to arctic ecozones (Commission for Environmental Cooperation (accessed July, 2019): <http://www.cec.org/tools-and-resources/map-files/terrestrial-ecoregions-level-i>), including temperate rainforest, montane cordillera, grasslands, boreal forest, eastern temperate deciduous and coniferous forest, taiga and arctic. This checklist provides a complete update of Marshall *et al.* (1987) for Canada and Alaska and adds new records, as of March 2019. It provides information on synonyms and combinations for the species recorded as well as ecological information on the habitats where they were collected. In contrast to Marshall *et al.* (1987), Behan-Pelletier & Eamer (2004), and Lindo & Clayton (2011), which provided only coarse distributional data—State, Canadian Province or Territory—we present site specific information for taxa in geographic subunits, similar to that given in the Almanac of Alberta Oribatida (Walter *et al.* 2014). Following tradition, the Hyporder Astigmata is not treated in this checklist because their life-history traits differ from those of other Oribatida (Norton 1998; Norton & Behan-Pelletier 2009).

Historical Overview of Research on Oribatida in Canada and Alaska

Study of the oribatid mite fauna of Canada and Alaska was initiated in the late 19th and early 20th Century with the great American acarologist, Nathan Banks (Banks 1899, 1902, 1906, 1909, 1919, 1923); these contributions are captured in Marshall *et al.* (1987). Subsequent to this there was a break until the pioneering treatments of the fauna in northern Canada and Alaska by Hammer (1952a, b, 1953, 1955a, b, 1967), and that of southern Québec and Ontario

by Marshall (1968, 1972). Following from these publications and that of Hammer's research in Greenland (1952c, 1953, 1954), Oribatida were reported from the polar desert region of Ellef Rignes Island, Canada (McAlpine 1964, 1965) and habitats in Alaska (Hurd & Lindquist 1958, Block 1966, Bohnsack 1968, 1973).

During 1960–1980, research on Oribatida was primarily biome or habitat based diversity and ecological studies, including: in the arctic, Oliver (1963), Danks & Byers (1972), Douce (1976), Douce & Crossley (1977), Behan (1978a, b), Behan & Hill (1978, 1980), MacLean *et al.* (1978), Danks (1980); in British Columbia, Conroy & Scudder (1975); in southeastern Manitoba, Oswald & Minty (1970, 1971); in Saskatchewan, Conroy (1974); in aspen woodland in the Rockies, Carter & Cragg (1976, 1977), Mitchell (1973, 1975, 1977a, b, 1978, 1979a, b), Mitchell & Parkinson (1976); from gull nests, Freitag & Ryder (1973), Freitag *et al.* (1974); from tree associated fungi, Powell (1971), Powell *et al.* (1972), Powell & Skaley (1975), Pielou (1966), Pielou & Matthewman (1966), Pielou & Verma (1968); from apple orchards, Rasmy & McPhee (1970), Forest *et al.* (1972). Other studies looked at the effects of various chemical disturbances on the oribatid fauna: urea fertilizer (Marshall 1974; Behan *et al.* 1978); insecticides (Smith 1978; Smith *et al.* 1980; Marshall 1979; Broadbent & Tomlin 1980) and agriculture (Broadbent & Tomlin 1979). Block (1979) showed that Oribatida from the Alaskan taiga could supercool. Taxonomic, biogeographic and species-specific studies, although limited, highlighted interesting components of the oribatid fauna, e.g., Woolley & Higgins (1968a, b), Marshall & Reeves (1970), Reeves & Marshall (1971), Mitchell (1975, 1976, 1977a), Mitchell & Parkinson (1976), Bulanova-Zachvatkina (1979), Norton (1978, 1979a, b, c, 1980), and Behan (1978a).

From 1981–present, R.A. Norton contributed extensively to knowledge of the oribatid fauna of northern North America in taxonomic and systematic studies, and in clarifying misidentifications and misinterpretations (Norton 1977, 1978a, b, 1979a–c, 1982, 1983, 1984; Norton & Behan-Pelletier 1986, 2007; Norton & Kethley 1990; Norton *et al.* 1988, 1996, 2010). R.M. Reeves contributed to the knowledge of North American Carabodidae (Reeves 1987, 1988, 1990, 1991, 1992, 1998; Reeves & Behan-Pelletier 1998). Building on the opportunity presented by the Alberta Biodiversity Monitoring Institute (ABMI), D.E. Walter (DEW) greatly expanded our knowledge of oribatid mites of Alberta, as well as developing a rich source of keys, illustrations, scanning electron micrographs and general taxonomic information, which transformed knowledge of the Oribatida of Alberta and provided a key resource for their study throughout the Prairies, the Boreal Plains and the Montane Cordillera (Walter & Latonas 2012; Walter *et al.* 2014). He also clarified the taxonomy of North American Gymnodamaeidae (Walter 2009) and that of *Protoribates* (Walter & Latonas 2013). Behan-Pelletier contributed broadly to knowledge of Oribatida of Canada and Alaska in taxonomic and biogeographic treatments of Damaeidae (Behan-Pelletier & Norton 1983, 1985), Ceratozetidae (Behan-Pelletier 1984, 1985, 1986, 2000; Behan-Pelletier & Eamer 2009; Behan-Pelletier & Schatz 2010), Punctoribatidae (Behan-Pelletier 1988a, 1994a; Behan-Pelletier & Ryabinin 1991; Behan-Pelletier & Eamer 2005, 2008; Behan-Pelletier *et al.* 2001), Zetomimidae (Behan-Pelletier 1996; Behan-Pelletier & Eamer 2003), Cymbaeremaeidae (Behan-Pelletier 1987a, 1988b, 1989b), Tegeocranellidae (Behan-Pelletier 1997a), Limnozetestidae (Behan-Pelletier 1989a), Eremaeidae (Behan-Pelletier 1993b), Megeremaeidae (Behan-Pelletier 1990; Sidorchuk & Behan-Pelletier 2017), Autognetidae (Behan-Pelletier 2015), Dendroeremaeidae (Behan-Pelletier *et al.* 2005), Schelorbitidae (Behan-Pelletier *et al.* 2002), Unduloribatidae (Behan-Pelletier & Walter 2009), Oribatelidae (Behan-Pelletier 2011, 2013; Behan-Pelletier & Eamer 2010; Behan-Pelletier & Walter 2012), and Tegoribatidae (Behan-Pelletier 2017; Behan-Pelletier & Walter 2013). Lindo completed taxonomic treatments on Achipteridae (Lindo *et al.* 2008a), and Peloppiidae (Lindo *et al.* 2010; Lindo 2011, 2015a, 2018). Other taxonomic revisions encompassing the Canadian and Alaskan fauna include fossil *Hydrozetes* (Baker & Wighton 1983), ptyctimous mites (Niedbala 2002, 2007a, b), *Camisia* (Colloff 1993; Olszanowski *et al.* 2001, 2002), *Hololohmannia* (Kubota & Aoki 1998), *Gymnodampia* (Chen *et al.* 2004) and *Paraleius* (Knee 2017; Knee *et al.* 2013).

Habitat or biome based diversity and ecological studies on Oribatida of Canada and Alaska from 1980 to the present included: on arctic arthropods (Danks 1981), in peatlands (Behan-Pelletier & Bissett 1994; Finnamore 1994; Barreto & Lindo 2018), in Mixedwood Plains Ecozone (Smith *et al.* 1998), Montane Cordillera Ecozone (Smith *et al.* 2011), Atlantic Maritime Ecozone (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987), in grasslands (Behan-Pelletier & Kanashiro 2010), along the Alaskan pipeline route (Behan 1978a; Thomas & MacLean 1988), in Yukon (Behan-Pelletier 1997b), on Ellesmere Island (Brodo 2000), in coniferous forests of mainland British Columbia (Battigelli & Berch 2002; Battigelli *et al.* 1994; Berch *et al.* 2001, 2007; Lindo & Stevenson 2007), in arboreal and terrestrial habitats of temperate rainforests of Vancouver Island, British Columbia (Fagan *et al.* 2005; Lindo 2010; Lindo & Winchester 2006, 2007a–c, 2009, 2010; Lindo *et al.* 2008a, b; Winchester & Behan-Pelletier 1999; Winchester *et al.* 2008, 2009), in forest stands in Québec (Tousignant & Coderre 2002; Tousignant *et al.* 1988; Sylvain

& Buddle 2010) and Ontario (Rousseau *et al.* 2018), from Sable Island, Nova Scotia (Majka *et al.* 2007) and in Balsam fir forests of Newfoundland (Dwyer *et al.* 1997, 1998).

Other studies looked at the effects of various disturbances on the oribatid fauna, including: vehicle tracks in the arctic (Kevan *et al.* 1995), crop rotation in Alberta (Osler *et al.* 2008), forest soil compaction (Battigelli *et al.* 2004), harvesting and decaying logs (Bird & Chatarpaul 1986, 1988, Déchéne & Buddle 2009, 2010), partial and clear-cut harvesting (Vlug & Borden 1973; Lindo & Visser 2003, 2004; Meehan *et al.* 2019), mine-tailings (St. John *et al.* 2002), earthworm introduction (McLean & Parkinson 1998, 2000); climate warming (Lindo 2015) and oil sands mining (McAdams *et al.* 2018). Ecological research on specific oribatid species include Norton *et al.* (1988) on *Mucronothrus nasalis* (Willmann), McLean *et al.* (1996) on *Oppiella nova* (Oudemans), and Princz *et al.* (2010) on *Oppia nitens* C.L. Koch.

Materials and methods

This checklist contains all published records of oribatid mites in Canada and Alaska known to the authors. The list of species was compiled primarily from scientific papers, and monographs issued up to March 2019. We do not include unpublished theses, except for Behan (1978a), which, although captured in Danks (1981) and Marshall *et al.* (1987) remains the only source of information on taxonomic provenance for many arctic and subarctic geographical subunits, and Newton (2013) which dealt with the fauna of native grasses in Alberta. We include occasional unpublished (unpubl.) records from the Canadian National Collection of Insects, Arachnids and Nematodes (CNC) and the collections of Zoë Lindo (ZL) where these represent the only records of a particular taxon for Canada.

The checklist is organized according to the classification used in Norton & Behan-Pelletier (2009) and Schatz *et al.* (2011). Within each infraorder or hyporder, superfamilies and families are alphabetized, as is the order of genera in families and that of species in genera. Authorship is given for genera and species; authors of higher taxa are given in Subías (2004–2019). We do not include taxonomic changes and synonymies that are solely indicated in online updates of Subías (2004). We follow Schatz (2018) in not including subgenera as used in Subías (2004–2019), which were mainly proposed as identifications tools. We include records of oribatid mites with identification to species and also species identified as “near”, “nr.”, “cf.”, “aff.” and “?”; these follow the corresponding identified species in the text. We also include records of oribatid mites with identification to “sp.” and indicate the number of unidentified species in parenthesis when these are more than one. Species with uncertain identification, subsequently confirmed by authors, are listed with the relevant species.

For each identified species the following information is presented.

1. **Species name** and author.
2. **Original name:** This is given when it differs from the current taxonomic name, and is followed by the source of the combination which is given in parenthesis.
3. **Combination and Synonymy:** The names given are those generally recognized in the literature and are based on Marshall *et al.* (1987), and updated primarily from Norton & Kethley (1990), and Weigmann (2006). Listed combinations and synonyms focus on those used in Canadian and Alaskan records. For some species further combinations and synonyms are recorded in Niedbała (2002, 2007a, b), Subías (2004), Arroyo *et al.* (2017) and Fredes (2018). For combinations, references in parentheses give the source of the combination and are preceded by a semicolon. For species synonymy, references in parentheses give the source of synonymic information and are preceded by a colon. Multiple combinations and synonymy are separated by commas.
4. **Geographic location:** Includes records in Alaska and in the Provinces and Territories of Canada. Within these political regions, the geographical location is given as in the original source, thus, coordinates are in the original formats. Locations include National Parks (NP), Provincial Parks (PP), Natural Wildlife Areas (NWA), Mountains (Mtns), Island or Islands (Is.), Highway (Hwy) and research sites of taxonomic surveys, for many of which there is further information (see Table 1). Information on Alberta Biodiversity Monitoring Institute (ABMI) sites, which are mainly digital latitude and longitudes, is given when available in publications. Site information available only in Walter & Latonas (2012), Walter *et al.* (2014) and Meehan *et al.* (2019) are given as “ABMI Sites”. Additional information about these sites can be obtained from the ABMI

Raw Data browser at <https://www.abmi.ca/home/data-analytics/da-top/da-product-overview/Species-Habitat-Data.html> (accessed July 8, 2019).

Records for State, Provinces and Territories are abbreviated and in the following order, trending from north-west to east: **AK**: Alaska; **YT**: Yukon; **NT**: Northwest Territories; **NU**: Nunavut; **BC**: British Columbia; **AB**: Alberta; **SK**: Saskatchewan; **MB**: Manitoba; **ON**: Ontario; **QC**: Québec; **NB**: New Brunswick; **NS**: Nova Scotia; **NL**: Newfoundland; **PE**: Prince Edward Island. References for multiple records from a given location are listed in chronological order, as far as possible and separated by a semicolon. Geographic locations of long-term study sites (e.g., Barrow, Alaska, Morgan Arboretum, Québec), are listed by State, Province and Territory in Table 1, as these are sometimes sites of multiple publications.

Geographic name changes since Marshall *et al.* (1987) are: Nunavut (**NU**)—officially separated from Northwest Territories (**NT**) on April 1, 1999; Utqiagvik—official name for Barrow (71°18'N, 156°41'W), Alaska, although we retain Barrow in the checklist. The city of Iqaluit, the capital of Nunavut, was formerly called Frobisher Bay. Records from northern Québec in Behan (1978a) were incorrectly associated with Newfoundland in Marshall *et al.* (1987); this is corrected herein.

5. **Habitat**: This is a summary based on the habitats in Canada and Alaska from which a species was reported. Geographic location and Habitat are combined when there is a single record from Canada and/or Alaska or when taxa are not identified to species. Common names of trees and shrubs are usually employed in the checklist; to avoid misunderstanding, their scientific names are given here:

Common Name	Latin Name
Trembling aspen	<i>Populus tremuloides</i> Michx.
hybrid poplar clones	<i>Populus deltoides</i> x <i>Populus nigra</i>
Balsam poplar	<i>Populus Balsamifera</i> L.
Paper birch or white birch	<i>Betula papyrifera</i> Marshall
Yellow birch	<i>Betula lutea</i> Michx. f.
American beech	<i>Fagus grandifolia</i> Ehrenberg
Sugar maple	<i>Acer saccharum</i> Marshall
Red maple	<i>Acer rubrum</i> L.
Red oak	<i>Quercus rubra</i> L.
Garry oak	<i>Quercus garryana</i> Douglas ex Hook.
Black cherry	<i>Prunus serotina</i> Ehrh.
Black ash	<i>Fraxinus nigra</i> Marsh.
Black locust	<i>Robinia pseudoacacia</i> L.
hybrid White spruce (interior spruce)	<i>Picea engelmannii glauca</i> (Moench) Voss
Sitka spruce	<i>Picea sitchensis</i> (Bong) Carr.
Norway spruce	<i>Picea abies</i> L.
Black spruce	<i>Picea mariana</i> (Mill.) B.S.P.
White spruce	<i>Picea glauca</i> (Moench) Voss
Subalpine fir	<i>Abies lasiocarpa</i> (Hook.) Nutt.
Lodgepole pine	<i>Pinus contorta</i> Dougl. ex Loud. var. <i>latifolia</i> Engelm.
Red pine	<i>Pinus resinosa</i> Solander and Aiton
White pine	<i>Pinus strobus</i> L.
Jack pine	<i>Pinus banksiana</i> Lamb.
Ponderosa pine	<i>Pinus ponderosa</i> Laws.
Douglas-fir	<i>Pseudotsuga menziesii</i> (Mirb.) Franco
Hemlock	<i>Tsuga canadensis</i> (L.) Carr.
Western hemlock	<i>Tsuga heterophylla</i> (Rafn.) Sarg.
Balsam fir	<i>Abies balsamea</i> (L.) Mill.
Silver fir	<i>Abies amabilis</i> (Dougl.) Forb.
Western redcedar	<i>Thuja plicata</i> D. Don

6. **Distribution:** This is the general distribution of the given species based on our data and that of Subías (2019).
 7. **Remarks:** Where relevant, ad hoc taxonomic information is presented.

TABLE 1. Locations of long-term or large-scale studies on Oribatida in Canada and Alaska.

Alaska	Barrow (71°18'N, 156°41'W)	Hammer 1955; Hurd & Lindquist 1958; Bohnsack 1968, 1973; Douce 1976; MacLean <i>et al.</i> 1977; Behan 1978a; Behan & Hill 1978
Arctic Canada	YT: Richardson Mountains (about 68°24'N, 135°37'W). About 610m high and falls steeply towards Mackenzie delta. Vegetation: <i>Cassiope</i> , or heath-like with <i>Rhododendron</i> , <i>Dryas</i> , <i>Salix</i> , <i>Diapensia</i> , <i>Betula</i> , <i>Empetrum</i> , <i>Vaccinium</i> , mosses and lichens. Also, scattered cushions of <i>Salix</i> and <i>Oxytropis</i> among stones and gravel. NT: Reindeer Station (68°42'N, 134°08'W). Vegetation: dwarf-birch scattered among dense tussocks of <i>Eriophorum</i> , <i>Pedicularis</i> , mosses and lichens. Yellowknife (about 62°40'N, 114°20'W), north side of Great Slave Lake: area with sparse spruce trees. In many places soil consists almost of pure sand, in more low-lying areas soil is swampy and boggy. NU: Coppermine (67°50'N, 115°05'W), flat sandy beach with scattered vegetation of <i>Elymus</i> sp. After the beach - narrow belt with luxuriant vegetation of <i>Lupinus</i> , <i>Dryas</i> , <i>Papaver</i> , <i>Epilobium</i> , grasses; further inland - swampy meadows with <i>Eriophorum</i> sp., <i>Carex</i> , mosses, liverwort. MB: Churchill (58°48'N, 94°11'W), peninsula bordered by Hudson Bay and Churchill River: flat tundra.	Hammer 1952
British Columbia - Mainland	North of Kamloops (50.30°N, 120.24°W), in a Douglas-fir Forest Zone. Sites were a 100-year old forest of mainly Douglas-fir, with small components of Ponderosa pine and Lodgepole pine.	Marshall 1979
British Columbia - Mainland	Haynes Lease Ecological Reserve: 101 ha strip of land extending from the northeast corner of Osoyoos Lake north to the cliffs of Inkaneep Mountain. The reserve is dominated by sandy soil and antelope bush, <i>Purshia tridentata</i> .	Behan-Pelletier 1987b
British Columbia - Mainland	Interior (SBS) biogeoclimatic zone in the central interior of British Columbia. Climax tree species: hybrid White spruce, Subalpine fir, Lodgepole pine, Douglas-fir, Trembling aspen, Paper birch. Sites: (i) Log Lake: near Prince George (54°21'N, 122°37'W); (ii) Topley: near Topley (54°37'N, 126°18'W); (iii) Skulow Lake: near Williams Lake (52°20'N, 121°55'W).	Battigelli <i>et al.</i> 2004
British Columbia - Mainland	Sicamous Creek Silvicultural Systems site (50°49'N, 119°54'W), located in a 350-year-old Engelmann spruce and Subalpine fir forest. Soils on the site are predominantly sandy loam-textured Orthic Humo Ferric Podzols. Forest floor depths average 4cm throughout the site (range: 1–14 cm) and contain approximately 10–30% decayed wood.	Berch <i>et al.</i> 2007
British Columbia - Mainland	Isaiah Creek study site (52°39'N, 120°57'W) located in the Central Cariboo Forest District on the North Arm of Quesnel Lake, in the wet cool subzone of the Interior Cedar-Hemlock (ICH) biogeoclimatic zone. The site is at an elevation of 1100–1240m. Western redcedar and Western hemlock are the dominant canopy tree species, with lesser amounts of Douglas-fir, hybrid and Subalpine fir. Stand age is estimated at 325–425 years.	Lindo & Stevenson 2007

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TABLE 1. (Continued)

British Columbia – Vancouver Island	Upper Carmanah Valley drainage (48°44'N, 124°37'W). The valley lies within the Coastal Western Hemlock Biogeoclimatic Zone. Study sites: ancient forest canopy, ancient forest floor, transition zone (edge between ancient forest and clear-cut) and clear-cut. Dominant trees > 700 years of age: Western hemlock, Sitka spruce, Pacific silver fir, and Western redcedar.	Behan-Pelletier & Winchester 1998; Winchester <i>et al.</i> 1999
British Columbia – Vancouver Island	Upper Klanawa Mainline site of the Ministry of Forests, near Franklin River (48°49'N, 124°47'W). Located in the Submontane Very Wet Maritime Coastal Western Hemlock. Site of Western hemlock, Western redcedar, amabilis fir, and occasional Douglas-fir and Sitka spruce logged in 1960/1961 and planted in 1962. Plantings of Western redcedar, Douglas-fir, and Sitka spruce sampled in 1995.	Berch <i>et al.</i> 2001
British Columbia – Vancouver Island	Mt. Cain Coastal Montane Biodiversity Project on northern Vancouver Island, (50°13'N, 126°18'W). Amabilis fir was the focal tree species.	Fagan <i>et al.</i> 2005
British Columbia – Vancouver Island	Temperate rainforest, Walbran Valley, southwest coast of Vancouver Island, (48°39'N, 124°35'W). The valley lies within the Coastal Western Hemlock biogeoclimatic zone. Dominant trees include Western hemlock, Sitka spruce, Amabilis fir, and Western redcedar.	Lindo & Winchester 2006, 2007a, b, 2008; Lindo <i>et al.</i> 2008
British Columbia – Vancouver Island	Victoria: intact moss (<i>Racomitrium</i> spp.) carpets from rock faces in forest canopy of Garry Oak and Douglas fir.	Shackelford <i>et al.</i> 2018
Alberta	ABMI: Annual sampling of sites across Alberta since 2007, covering all natural regions of the Province (https://www.abmi.ca/home.html)	Walter <i>et al.</i> 2014; Walter & Latonas 2012, 2013; Behan-Pelletier & Walter 2012, 2013; Meehan <i>et al.</i> 2019
Alberta	Kananaskis Valley of Alberta, (51°02'N, 105°01'W; 1400 m elevation). The dominant overstory vegetation is Trembling aspen and Balsam poplar. Soil was an Orthic Gray with distinct litter (L), fermentation (F), and humus (H) horizons.	Mitchell 1977, 1978, 1979, Mitchell & Parkinson 1976
Alberta	90-year old Lodgepole pine forest in the Kananaskis Valley of SW Alberta, Canada.	McLean & Parkinson 1997b, 1998, 2000; McLean <i>et al.</i> 1996
Alberta	Site: Ecosystem Management Emulating Natural Disturbance (EMEND) research site, approximately 90 km northwest of Peace River (56°46.13'N, 118°22.28'W) in the Upper Boreal – Cordilleran ecoregion. Soils are predominantly fine-textured lacustrine Luvisols. Trees are White spruce and Trembling aspen. Treatments sampled: clearcut, partial-cut patch (patch), partial-cut corridor (corridor), and uncut control.	Lindo & Visser 2004
Alberta	Crop rotations established in 1997 on site in agricultural production for more than 50 years, near Lethbridge Research Centre (49°48'N, 112°54'W).	Osler <i>et al.</i> 2008
Alberta	Forest stand in northeastern Alberta (54°36'N, 110°59'W) dominated by Trembling aspen and White spruce. Mesocosms of soil and litter established in buckets.	Cameron <i>et al.</i> 2013
Alberta	Two sites: North Saskatchewan River in Edmonton (53°31'46"N, 113°31'24"W). The site's overstory is dominated by Trembling aspen and Balsam poplar with smaller amount of White spruce. Roy Berg Kinsella Research Ranch near Kinsella, Alberta (53°1'14"N, 111°32'21"W). The area consists of native fescue grassland with pockets of aspen woodland.	Walter & Latonas 2012; Newton & Proctor 2013
Alberta	Lamont County, Moose Pasture Research Site, 8 km W Chipman, (53.656667, -112.759444); an area of aspen forest, meadows, and ponds in the kettle & knob country east of Elk Island National Park	Walter & Latonas 2012; Walter <i>et al.</i> 2014

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TABLE 1. (Continued)

Alberta	35 km north of Fort McMurray (56°43'N, 111°21'W) in the Central Mixedwood subregion of the Boreal Forest region of Alberta. Dominant tree species include White spruce, Black spruce, Jack pine, and Trembling aspen.	McAdams <i>et al.</i> 2018
Manitoba	Eighteen sites in southeastern Manitoba; twelve sites were in forested areas either in organic terrain or in sandy soils overlain by a shallow litter layer (Oswald & Minty 1970). Six sites constituted a transect from near the water line of the Whitemouth River up and over the river bank (Oswald & Minty 1971).	Oswald & Minty (1970, 1971)
Ontario	Petawawa National Forestry Institute, Chalk River, Ontario (45°58'N, 77°23'W) in a mixed conifer-hardwood forest with Red pine, Trembling aspen, and White pine as dominant overstorey species and Red maple in the understorey.	Marshall 1972; Bird & Chatarepa 1986, 1988
Ontario	Cornfield, Arkell Research Station, 3 km south of Guelph; London pasture	Broadbent & Tomlin 1979
Ontario	INCO's tailings are located about 12 km west of Sudbury. Soils were sampled at four tailings sites at various stages of restoration and four control sites. The four control sites had been affected by acid precipitation and metal deposition.	St. John <i>et al.</i> 2002
Ontario	Boreal peatland near White River, northern Ontario (48.21°N, 85.21°W)	Barreto & Lindo 2018
Ontario	Island Lake Biomass Harvest Experiment near Chapleau, (47°42'N, 83°36'W) in the boreal forest of the Ontario Shield Ecoregion. The area was harvested by clear-cutting in 1959 and replanted with Jack pine in 1962. In 2011, 49.2 ha was harvested again, but approximately 8 ha of uncut forest (control) was left in the southeast portion of the study area.	Rousseau <i>et al.</i> 2018
Québec	Gatineau Park: samples of <i>Fomes fomentarius</i> sporophores from yellow and white birch. Trees were 40 or 50 ft in height and less than 1 ft in diameter, and had been killed by flooding caused by beaver; nearly all were dead or almost dead (99%).	Matthewman & Pielou 1971
Québec	McGill University's Morgan Arboretum, the western tip of the island of Montreal (45°25'N, 73°56'W). Dominant forest cover is American beech and Sugar maple, with interspersed stands of Red pine and Norway spruce.	Marshall 1968; Sylvain & Buddle 2010
Québec	Mont Tremblant, pure, even aged, 78 year old stand of Black spruce of fire origin. Humus layer about 8cm over podsollic soil profile of pH 3.5.	Behan <i>et al.</i> 1978
Québec	Apple orchards in southwestern Québec: Frelighsburg-Dunham, Franklin-Hemmingford, Rouville, Deux-Montagnes and in the region of Saint-Jean. Sampling was of leaves, twigs and organic material at the base of tree trunks.	Forest <i>et al.</i> 1982
Québec	Mirabel municipality south of Belle-Rivière (74°04'N, 45°37'W). Experimental plantations of 5 year old American beech on abandoned fields.	Tousignant <i>et al.</i> 1988; Tousignant & Coderre 1992
Québec	Abitibi, Québec (48°28–29'N, 79°24–26'W) 45 km NW Rouyn-Noranda in the boreal mixedwood forest (sylviculture et aménagement forestiers écosystémique (SAFE) research site. Aspen dominated (67%) stands undisturbed by fire since 1923. Forest floor is a thin mor (2–7 cm thick)	Déchêne & Buddle 2009, 2010
Québec	St-Paulin (46°27'6"N, 72°59'26"E), in southwestern Québec. Experimental area established in 2004 with Red oak, Black cherry, and two hybrid poplar clones. From 2009 to 2012 intercropping was composed of a mix of Timothy-grass and red clover under organic cultivation.	Doblas-Miranda <i>et al.</i> 2014
Québec	Boreal claybelt region of Western Québec, (49°00'–50°00'N; 78°30'–79°30'W), Black spruce stands of 60–718 years since fire.	Doblas-Miranda & Work 2015
Newfoundland	Southwestern Newfoundland Ecoregion of the Boreal Shield Ecozone, between Comer Brook and Little Grand Lake (48°38'N, 57°47'W). Sites located in areas of commercially used Balsam fir forest at the base of and along the western portion of the Long Range Mountains. Forest types were: Balsam fir -fern (<i>Dryopteris</i> spp.) (average pH 3.8); and Balsam fir - horsetail (<i>Equisetum</i>). (pH 5.8).	Dwyer <i>et al.</i> 1997, 1998

Infraorder **Palaeosomata**
Superfamily **Acaronychoidea**
Family **Acaronychidae**
Genus *Acaronychus* Grandjean, 1932

Acaronychus ? traegardhi Grandjean, 1932

Geographic Location and Habitats: BC: Vancouver Is., Bamfield, coastal temperate rainforest (Lindo & Clayton 2011).

Family **Archeonothridae**
Genus *Zachvatkinella* Lange, 1954

Zachvatkinella sp.

Geographic Location and Habitats: BC: Vancouver Is., Walbran Valley (ZL, unpublished record).

Superfamily **Palaeacaroidae**
Family **Palaeacaridae**
Genus *Palaeacarus* Trägårdh, 1932

Palaeacarus hystricinus Trägårdh, 1932

Geographic Location: AK: Denali NP; Fairbanks Region (Behan 1978a); YT: Coast Mtns (Behan 1978a, Behan-Pelletier 1997b); NT: Mackenzie Delta (Behan 1978a); BC: Interior (Battigelli *et al.* 2004); Sicamous Creek (Berch *et al.* 2007); Isaiah Creek study site (Lindo & Stevenson 2007); Vancouver Is., Walbran Valley (Lindo & Winchester 2006, 2007); ON: Chalk River (Marshall 1972); QC: Morgan Arboretum (Marshall 1968); Timmins 54°60'N, 67°00'W (Behan 1978a); Mont Tremblant (Behan *et al.* 1978); Abitibi (Déchêne & Buddle 2009, 2010); NF: between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: shrub tundra; mixedwood boreal forest litter including hemlock, Balsam fir, beech and aspen; Western redcedar canopy suspended soil.

Distribution: Holarctic; Oriental.

Palaeacarus sp.

Geographic Locations and Habitats: AK: shrub tundra (Behan 1978a); YT: Ivvavik NP, British Mtns (Behan-Pelletier 1997b); QC: Morgan Arboretum (Marshall 1968); Mont Tremblant (Behan *et al.* 1978); St. Clet (Smith 1978); NS: Cape Breton Highlands NP (Behan-Pelletier 2010, Behan-Pelletier *et al.* 1987).

Superfamily **Ctenacaroidae**
Family **Aphelacaridae**
Genus *Aphelacarus* Grandjean, 1932

Aphelacarus acarinus (Berlese, 1910)

Original name: *Parhypochthonius acarinus* Berlese, 1910 (Grandjean 1932b)

Synonymy: *Aphelacarus rossicus* Zachvatkin, 1945: (Subías 2004).

Geographic Location: BC: Vancouver Is., Bamfield (Lindo & Winchester 2006); AB: (Marshall *et al.* 1987); Roy Berg Kinsella Research Ranch (Walter & Latonas 2012).

Habitats: coastal Western redcedar-hemlock forest litter; parkland.

Distribution: Cosmopolitan.

Family **Ctenacaridae**
Genus *Beklemishevia* Zachvatkin, 1945

Beklemishevia sp.

Geographic Locations and Habitats: ON: Windsor Airport, runway (CNC, unpublished record).

Infraorder **Enarthronota**

Superfamily **Brachychthonioidea**

Family **Brachychthoniidae**

Genus *Brachychthonius* Berlese, 1910

Brachychthonius berlesei Willmann, 1928

Combination: *Brachychochthonius berlesei* (Willmann, 1928); (Jacot 1938a).

Geographic Location: NU: Ellesmere Is. (Behan 1978a); AB: EMEND Site, (as nr. *berlesei*) (Lindo & Visser 2004); Lethbridge (Osler *et al.* 2008).

Habitats: tundra; Trembling aspen litter; fescue prairie.

Distribution: Semicosmopolitan.

Brachychthonius nr. *berlesei* Willmann, 1928

Geographic Location and Habitats: BC: Isaiah Creek study site (Lindo & Stevenson 2007).

Brachychthonius berlesei erosus (Jacot, 1938)

Original Name: *Brachychochthonius berlesei erosus* Jacot, 1938 (Marshall 1968)

Geographic Location: QC: Morgan Arboretum (Marshall 1968).

Habitats: maple and hemlock woodland litter.

Distribution: Nearctic.

Brachychthonius bimaculatus Willmann, 1936

Combination: *Brachychochthonius bimaculatus* (Willmann, 1936); (Moritz, 1963).

Synonymy: *Brachychthonius helveticus* Schweizer, 1956: (Moritz 1976b).

Geographic Location: BC: North of Kamloops (Marshall 1979); Interior (Battigelli *et al.* 2004); AB: Kananaskis Valley (McLean & Parkinson 1998); Lethbridge (Osler *et al.* 2008); Canola fields near Lethbridge (49.684619, -112.749009) (Walter & Latonas 2012); QC: Morgan Arboretum (Marshall 1968).

Habitats: coniferous litter including of Douglas fir, spruce, Lodgepole pine, and hemlock; fescue prairie.

Distribution: Holarctic.

Brachychthonius impressus Moritz, 1976

Synonymy: *Brachychochthonius subericoides* Balogh and Mahunka, 1979: (Subías 2004).

Geographic Location: BC: Interior (Battigelli *et al.* 2004); Sicamous Creek (Berch *et al.* 2007).

Habitat: Boreal.

Distribution: Holarctic.

Brachychthonius jugatus (Jacot, 1938)

Original name: *Brachychochthonius jugatus* Jacot, 1938 (Strenzke 1955)

Geographic Location: NU: Baffin Is.; Ellesmere Is. (Behan 1978a); AB: Lethbridge (as nr *jugatus*) (Osler *et al.* 2008); QC: Morgan Arboretum (Marshall 1968); St. Clet (Smith 1978).

Habitats: tundra; maple, beech and hemlock litter.

Distribution: Nearctic.

Brachychthonius pius Moritz, 1976

Synonymy: *Brachychochthonius berlesei erosus* sensu Hammer (1952a): (Moritz 1976b).

Geographic Location: NT: Yellowknife (Hammer 1952a); NU: Coppermine (Hammer 1952a); AB: Lethbridge (Osler *et al.* 2008).

Habitats: subarctic meadow with *Rubus*, *Myrica*, *Eriophorum*, *Carex*, *Betula* and *Salix*; *Dryas*, *Lupinus*,

Salix, *Luzula* and moss; fescue prairie.

Distribution: Holarctic.

Brachychthonius sp.

Geographic Location: **AK:** Elliott Highway Burn, (65°19'N, 149°06'W) (Thomas & McLean 1988); **BC:** Vancouver Is., Walbran Valley (3 spp.) (Lindo & Winchester 2006); Mainland, Interior (Battigelli *et al.* 2004); **AB:** Lethbridge (Osler *et al.* 2008); **ON:** Chalk River (Marshall 1972); **QC:** Morgan Arboretum (Marshall 1968); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010, Behan-Pelletier *et al.* 1987).

Genus *Eobrachychthonius* Jacot, 1936

Eobrachychthonius borealis Forsslund, 1942

Geographic Location: **AK:** Brooks Range (Behan 1978a); **YT:** Richardson Mtns (Behan-Pelletier 1997b); **NT:** Banks Is. (Behan 1978a).

Habitats: arctic and subarctic wet meadow with *Salix*, *Ledum*, *Vaccinium*.

Distribution: Holarctic.

Eobrachychthonius latior (Berlese, 1910)

Original Name: *Brachychthonius latior* Berlese, 1910 (Jacot 1936b)

Synonymy: *Brachychthonius brevis glabra* Thor, 1930: (Niedbala 1972), *Eobrachychthonius sexnotatus* Jacot, 1936: (Forsslund 1957), *Brachychthonius grandis* Sellnick, 1944: (Niedbala 1972).

Geographic Location: **AK:** Atqasuk (Behan 1978a); **YT:** Richardson Mtns (Hammer 1952a); Ivvavik NP, British Mtns; Ogilvie Mtns (Behan-Pelletier 1997b); **NT:** Mackenzie Delta; Tuktoyaktuk; Keewatin (Behan 1978a); **AB:** Moose Pasture Research Site (Walter *et al.* 2014); **MB:** southeast (Oswald & Minty 1970); **QC:** Timmins 54°60'N, 67°00'W (Behan 1978a); Mont Tremblant (Behan *et al.* 1978).

Habitats: arctic and subarctic tundra; forest litter.

Distribution: Holarctic.

Eobrachychthonius oudemansi van der Hammen, 1952

Synonymy: *Eobrachychthonius argentinensis* Hammer, 1958: (Hammer 1962b), *Brachychthonius laetepictus* sensu Willmann (1931): (Subías 1977).

Geographic Location: **AK:** Brooks Range; Chugach Mtns; Kenai Peninsula; Atqasuk; northwest coastal plain; Pribilof Islands (Behan 1978a); **NT:** Tuktoyaktuk (Behan 1978a); **NU:** Baffin Is. (Behan 1978a).

Habitats: moist rich tundra.

Distribution: Holarctic.

Eobrachychthonius sp.

Geographic Location and Habitats: **AK:** Cape Thompson (Watson *et al.* 1966); Elliott Highway Burn, (65°19'N, 149°06'W), tussock heath (Thomas & McLean 1988); **BC:** Vancouver Is., Walbran Valley (Lindo & Winchester 2006, 2007a); **ON:** Sudbury, mixed deciduous coniferous forest (St. John *et al.* 2002).

Genus *Liochthonius* van der Hammen, 1959

Liochthonius brevis (Michael, 1888)

Original name: *Hypochthonius brevis* Michael, 1888 (Moritz 1976b)

Combination: *Brachychthonius brevis* (Michael, 1888); (van der Hammen 1959).

Synonymy: *Brachychthonius perpusillus* Berlese, 1910: (Moritz 1976b), *Brachychthonius latus* Jacot, 1936, *Liochthonius perpusillus* (Berlese, 1910): (van der Hammen 1959).

Geographic Location: **AK:** Brooks Range (Behan 1978a); Elliott Highway Burn, (65°19'N, 149°06'W) (Thomas & McLean 1988); **NT:** Reindeer Station (Hammer 1952a); Mackenzie Delta, subarctic (Behan 1978a); **NU:** Ellesmere Is. (Behan 1978a); **BC:** Interior (Battigelli *et al.* 2004); Sicamous Creek (Berch *et*

al. 2007); **QC**: northern subarctic (Behan 1978a).

Habitats: tundra; tussock heath; forest litter.

Distribution: Holarctic.

Liochthonius nr. *brevis* (Michael, 1888)

Geographic Location: **BC**: Isaiah Creek study site (Lindo & Stevenson 2007); **AB**: EMEND Site (Lindo & Visser 2004); **QC**: Abitibi (Déchéne & Buddle 2009, 2010).

Habitats: White spruce and Trembling aspen litter; boreal mixedwood forest.

Liochthonius forsslundi (Hammer, 1952)

Original name: *Brachychthonius forsslundi* Hammer, 1952 (Marshall *et al.* 1987)

Geographic Location: **AK**: Atqasuk (Behan 1978a); **YT**: Ogilvie Mtns (Behan-Pelletier 1997b); **NT**: Yellowknife (Hammer 1952a).

Habitats: wet moss in meadow with *Equisetum* and *Epilobium*.

Distribution: Holarctic.

Liochthonius hystericinus (Forsslund, 1942)

Original name: *Brachychthonius hystericinus* Forsslund, 1942 (Moritz 1976a)

Synonymy: *Brachychthonius ocellatus* Hammer, 1952: (Moritz 1976b).

Geographic Location: **NT**: Yellowknife (Hammer 1952a); **QC**: Morgan Arboretum (Marshall 1968).

Habitats: hemlock forest litter; meadow with *Myrica*, *Betula nana*, *Arctostaphylos*, *Carex*, moss.

Distribution: Holarctic.

Liochthonius lapponicus (Trägårdh, 1910)

Original name: *Hypochthonius brevis lapponicus* Trägårdh, 1910 (Strenzke 1951)

Combination: *Brachychthonius lapponicus* (Trägårdh, 1910); (Strenzke, 1951).

Synonymy: *Liochthonius perpusillus* sensu Pérez-Íñigo (1968) non Berlese (1910): (Moritz 1976b).

Geographic Location: **AK**: Anaktuvuk Pass (Hammer 1955a); **YT**: Richardson Mtns (Hammer 1952a); **NT**: Yellowknife; Reindeer Station (Hammer 1952a); Mackenzie Delta; Banks Is. (Behan 1978a); **NU**: Coppermine (Hammer 1952a); Igloolik Is.; North Kent Is.; Ward Hunt Is. (Behan 1978a); Ellesmere Is., Quttinirpaaq NP, Hazen Camp (Behan 1978a; Kevan *et al.* 1995); **BC**: Interior (Battigelli *et al.* 2004); **AB**: Banff; Mount Robson PP; Jasper (Hammer 1952a); Lethbridge (Osler *et al.* 2008); Dinosaur PP (Walter & Latonas 2012); **MB**: Churchill (Hammer 1952a); **ON**: Sudbury (St. John *et al.* 2002); **QC**: Abitibi (Déchéne & Buddle 2009, 2010); **NL**: between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: tundra; mixed deciduous coniferous forest; Balsam fir forest; fescue prairie.

Distribution: Holarctic.

Liochthonius nr. *lapponicus* (Trägårdh, 1910)

Geographic Location: **AB**: Kananaskis Valley (McLean & Parkinson 1998); **QC**: Abitibi (Déchéne & Buddle 2009, 2010).

Liochthonius leptaleus Moritz, 1976

Geographic Location: **AB**: Lethbridge (Osler *et al.* 2008).

Habitats: fescue prairie.

Distribution: Holarctic.

Liochthonius muscorum Forsslund, 1964

Geographic Location: **BC**: Interior (Battigelli *et al.* 2004).

Habitats: coniferous forest litter.

Distribution: Holarctic.

Liochthonius nr. *muscorum* Forsslund, 1964

Geographic Location: **BC:** Isaiah Creek study site (Lindo & Stevenson 2007); **AB:** EMEND Site (Lindo & Visser 2004).

Liochthonius sellnicki (Thor, 1930)

Original name: *Brachychthonius sellnicki* Thor, 1930 (McAlpine 1965)

Combination: *Liochthonius sellnicki* Thor (misidentified); (McAlpine 1964).

Synonymy: *Brachychthonius scalaris* Forsslund, 1942: (Ghilarov 1975), *Brachychthonius brevis* (Michael, 1888) sensu Hammer (1944): (Moritz 1976b), *Brachychthonius nodosus* Willmann, 1952: (Moritz 1976b).

Geographic Location: **AK:** Fort Richardson; Anchorage (Hammer 1955a); Barrow (Hurd & Lindquist 1958; Bohnsack 1968, 1973; MacLean *et al.* 1977); Cape Thompson (Watson *et al.* 1966); Brooks Range; northern coastal plain (Behan 1978a); Elliott Highway Burn, (65°19'N, 149°06'W) (Thomas & McLean 1988); **YT:** Richardson Mtns (Hammer 1952a); coastal plain; Ogilvie Mtns (Behan-Pelletier 1997b); **NT:** Reindeer Station (Hammer 1952a); **NU:** Coppermine (Hammer 1952a); Ellef Rignes Is. (McAlpine 1964, 1965); Devon Is. (Ryan 1977); King Christian Is.; Somerset Is. (Behan 1978a); Ellesmere Is., Slidre Fjord (Hammer 1953); Quttinirpaaq NP, Hazen Camp (Kevan *et al.* 1995); **BC:** Sicamous Creek (Berch *et al.* 2007); **AB:** EMEND Site (Lindo & Visser 2004); **MB:** Churchill (Hammer 1952a); **QC:** Mont Tremblant (Behan *et al.* 1978).

Habitats: dry and moist tundra habitats with mixed vegetation; White spruce, Engelmann spruce and subalpine fir litter.

Distribution: Holarctic.

Liochthonius simplex (Forsslund, 1942)

Original name: *Brachychthonius simplex* Forsslund, 1942 (Niedbala 1972)

Geographic Location: **AK:** Barrow (Douce 1976); northern coastal plain; Brooks Range; Aleutian Is.; Pribilof Is. (Behan 1978a); **YT:** Herschel Is. (Behan 1978a); **NT:** Mackenzie Delta arctic and subarctic; Tuktoyaktuk; Keewatin; Banks Is. (Behan 1978a); **NU:** Baffin Is.; Devon Is.; Ellesmere Is.; Ward Hunt Is.; Victoria Is.; King Christian Is.; Somerset Is. (Behan 1978a); **BC:** Interior (Battigelli *et al.* 2004); **QC:** Timmins 54°60'N, 67°00'W; northern subarctic (Behan 1978a).

Habitats: tundra; coniferous forest litter.

Distribution: Holarctic.

Liochthonius nr. *simplex* (Forsslund, 1942)

Geographic Location: **AB:** EMEND Site (Lindo & Visser 2004) coniferous forest litter.

Liochthonius tuxeni Forsslund, 1957

Geographic Location: **BC:** Mainland, Interior (Battigelli *et al.* 2004).

Habitats: coniferous forest litter.

Distribution: Holarctic.

Liochthonius sp. ? *altimonticola* (Hammer, 1958)

Geographic Location: **QC:** Morgan Arboretum (Marshall 1968).

Liochthonius nr. *clavatus* (Forsslund, 1942)

Geographic Location: **AB:** EMEND Site (Lindo & Visser 2004).

Liochthonius sp. ? *latus* (Jacot, 1936)

Geographic Location: **QC:** Morgan Arboretum (Marshall 1968).

Liochthonius spp.

Geographic Location and Habitats: **BC:** North of Kamloops, Douglas fir litter (3 spp.) (Marshall 1979);

Interior (Battigelli *et al.* 2004); Mt. Cain, forest floor under Amabilis fir (Fagan *et al.* 2005); Vancouver Is., Walbran Valley (4 spp.) (Lindo & Winchester 2006, 2007; Lindo *et al.* 2008; Lindo 2010); **AB**: Kananaskis, Lodgepole pine forest (McLean & Parkinson 1998); Lethbridge, fescue prairie (3 spp.) (Osler *et al.* 2008); **MB**: coniferous (Jack pine, Black spruce) forest litter (Oswald & Minty 1970); **QC**: Abitibi, boreal mixedwood forest (D  ch  ne & Buddle 2009, 2010); **NB**: peatlands (Behan-Pelletier & Bissett 1994); **NS**: Cape Breton Highlands NP (Behan-Pelletier 2010, Behan-Pelletier *et al.* 1987).

Genus *Mixochthonius* Niedbała, 1972

Mixochthonius pilosetosus (Forsslund, 1942)

Original name: *Brachychthonius pilosetosus* Forsslund, 1942 (Niedbała 1974)

Combination: *Liochthonius pilosetosus* (Forsslund, 1942); (Sitnikova 1962).

Geographic Location: **QC**: Morgan Arboretum (Marshall 1968).

Habitats: mixed deciduous, coniferous forest litter.

Distribution: Holarctic.

Mixochthonius nr. *concaus* (Chinone, 1974)

Geographic Location and Habitats: **AB**: EMEND Site, White spruce litter (Lindo & Visser 2004).

Genus *Neobrachychthonius* Moritz, 1976

Neobrachychthonius sp.

Geographic Location and Habitats: **BC**: Isaiah Creek study site (2 spp.) (Lindo & Stevenson 2007).

Genus *Neoliochthonius* Lee, 1982

Neoliochthonius occultus (Niedbała, 1971)

Original name: *Liochthonius occultus* Niedbała, 1971 (Balogh & Mahunka 1983)

Combination: *Paraliochthonius occultus* (Niedbała, 1971); (Moritz 1976a).

Geographic Location and Habitats: **BC**: Sicamous Creek Engelmann spruce and Subalpine fir litter (Berch *et al.* 2007).

Distribution: Holarctic.

Neoliochthonius nr. *occultus* (Niedbała, 1971)

Geographic Location and Habitats: **AB**: EMEND Site, White spruce litter (under *Paraliochthonius*) (Lindo & Visser 2004).

Neoliochthonius piluliferus (Forsslund, 1942)

Original name: *Brachychthonius piluliferus* Forsslund, 1942 (Lee, 1982)

Combination: *Liochthonius piluliferus* (Forsslund, 1942); (Reeves, 1969), *Paraliochthonius piluliferus* (Forsslund, 1942); (Moritz, 1976a).

Geographic Location and Habitats: **AB**: Lethbridge, fescue prairie (Osler *et al.* 2008).

Distribution: Holarctic.

Neoliochthonius sp.

Geographic Location and Habitats: **AB**: Kananaskis Valley, Lodgepole pine forest (McLean & Parkinson 1998).

Genus *Poecilochthonius* Balogh, 1943

Poecilochthonius spiciger (Berlese, 1910)

Original name: *Brachychthonius brevis spiciger* Berlese, 1910 (Moritz 1976b)

Combination: *Brachychthonius italicus spiciger* (Berlese, 1910); (Jacot 1936b).
Synonymy: *Brachychthonius rapoportii* Balogh and Mahunka, 1968: (Moritz 1976b).
Geographic Location: **ON:** Sudbury, (St. John *et al.* 2002); **QC:** Morgan Arboretum (Marshall 1968); Abitibi (Déchéne & Buddle 2009, 2010).
Habitats: boreal and temperate mixed deciduous coniferous forest; hemlock litter.
Distribution: Holarctic.

Poecilochthonius nr. *spiciger* (Berlese, 1910)

Geographic Location and Habitats: **AB:** EMEND Site, Trembling aspen litter (Lindo & Visser 2004).

Genus *Sellnickochthonius* Krivolutsky, 1964

Sellnickochthonius furcatus (Weis-Fogh, 1948)

Original name: *Brachychthonius furcatus* Weis-Fogh, 1948 (Weigmann 2006)

Combination: *Brachychochthonius furcatus* (Weis-Fogh, 1948); (Moritz 1976b).

Geographic Location: **AB:** Lethbridge (Osler *et al.* 2008).

Habitats: prairie.

Distribution: Holarctic.

Sellnickochthonius immaculatus (Forsslund, 1942)

Original name: *Brachychochthonius immaculatus* Forsslund, 1942 (Krivolutsky 1964)

Combination: *Brachychthonius immaculatus* (Forsslund, 1942); (Jacot 1937c).

Synonymy: *Brachychthonius arcticus* (Hammer, 1952a): (Krivolutsky, 1966), *Brachychochthonius arcticus* Hammer, 1952: (Ghilarov 1975), *Brachychthonius semiornatus* Evans, 1952: (Ghilarov 1975), *Brachychthonius striatus* Willmann, 1956: (Moritz 1976b), *Brachychthonius gygeri* Bader, 1963: (Moritz 1976b), *Brachychthonius obscurus* Krivolutsky, 1966: (Ghilarov 1975).

Geographic Location: **AK:** Elliott Highway Burn, (65°19'N, 149°06'W) (Thomas & McLean 1988); **YT:** Richardson Mtns (Hammer 1952a); **NT:** Yellowknife (Hammer 1952a); **NU:** Coppermine (Hammer 1952a); Ellesmere Is. (Behan 1978a); **BC:** Interior (Battigelli *et al.* 2004); **AB:** Mount Robson PP (Hammer 1952a); **QC:** Morgan Arboretum (Marshall 1968); St. Clet (Smith 1978).

Habitats: tussock heath; spruce and deciduous forest litter.

Distribution: Holarctic.

Sellnickochthonius nr. *immaculatus* (Forsslund, 1942)

Geographic Location and Habitats: **ON:** Sudbury, 20-year tailing site with moss, lichens, grasses, Trembling aspen, Black locust, Jack pine and Red pine (St. John *et al.* 2002).

Sellnickochthonius lydiae (Jacot, 1938)

Original name: *Brachychochthonius lydiae* Jacot, 1938 (Marshall *et al.* 1987)

Combination: *Brachychthonius lydiae* (Jacot, 1938); (Strenzke 1955).

Geographic Location and Habitats: **QC:** Morgan Arboretum, hemlock litter (Reeves & Marshall 1971); peatlands (Behan-Pelletier & Bissett 1994).

Distribution: Nearctic; Japan.

Sellnickochthonius rostratus (Jacot, 1936)

Original name: *Brachychthonius rostratus* Jacot, 1936 (Krivolutsky 1962)

Combination: *Brachychochthonius rostratus* (Jacot, 1936); (Jacot 1938c).

Geographic Location: **YT:** Richardson Mtns (Hammer 1952a); **NT:** MacKenzie Delta (Behan 1978a); **AB:** EMEND Site (Lindo & Visser 2004); **QC:** Morgan Arboretum (Marshall 1968); Abitibi (Déchéne & Buddle 2009, 2010).

Habitats: boreal and temperate mixedwood coniferous and deciduous litter.

Distribution: Holarctic.

Sellnickochthonius suecicus (Forsslund, 1942)

Original name: *Brachyochthonius jugatus suecicus* Forsslund, 1942 (Ghilarov 1975)

Combination: *Brachychthonius jugatus suecica* (Forsslund, 1942); (Evans 1952b), *Brachychthonius suecica* (Forsslund, 1942); (van der Hammen, 1952), *Brachyochthonius suecica* (Forsslund, 1942); (Moritz 1963).

Synonymy: *Brachychthonius jugatus* sensu Niedbala (1972) non Jacot (1938): (Moritz 1976b).

Geographic Location: **YT:** Porcupine Plain (Behan-Pelletier 1997b); **NT:** Yellowknife; Reindeer Station (Hammer 1952a); **NU:** Baffin Is.; Ellesmere Is. (Behan 1978a); **BC:** Isaiah Creek study site (Lindo & Stevenson 2007); Interior (Battigelli *et al.* 2004); **AB:** EMEND Site (Lindo & Visser 2004); Kananaskis Valley (McLean & Parkinson 1998); **ON:** Sudbury (St. John *et al.* 2002); **QC:** St. Clet (Smith 1978).

Habitats: tundra; coniferous forest litter including White spruce and Lodgepole pine, deciduous forest litter including White birch and Trembling aspen.

Distribution: Holarctic.

Sellnickochthonius nr. *suecicus* (Forsslund, 1942)

Geographic Location: **BC:** Interior (Battigelli *et al.* 2004); **AB:** Lethbridge (Osler *et al.* 2008).

Habitats: spruce forest litter; fescue prairie.

Sellnickochthonius zelawaiensis (Sellnick, 1928)

Original name: *Brachychthonius zelawaiensis* Sellnick, 1928 (Krivolutsky 1964)

Combination: *Brachyochthonius zelawaiensis* (Sellnick, 1928); (Jacot 1938f).

Geographic Location: **ON:** Sudbury (St. John *et al.* 2002); **QC:** Morgan Arboretum (Marshall 1968).

Habitats: mixed deciduous coniferous forest.

Distribution: Holarctic.

Sellnickochthonius nr. *zelawaiensis* (Sellnick, 1928)

Geographic Location and Habitats: **BC:** Vancouver Is., Walbran Valley (Lindo & Winchester 2006).

Sellnickochthonius sp.

Geographic Location and Habitats: **BC:** Vancouver Is., Walbran Valley, Western redcedar-hemlock forest floor (Lindo & Winchester 2006); **AB:** Lethbridge, fescue prairie (Osler *et al.* 2008); **ON:** Sudbury, tailing sites and mixed deciduous coniferous forest (St. John *et al.* 2002); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010, Behan-Pelletier *et al.* 1987).

Genus *Synchthonius* van der Hammen, 1952

Synchthonius crenulatus (Jacot, 1938)

Original Name: *Brachyochthonius crenulatus* Jacot, 1938 (Mahunka 1966)

Synonymy: *Synchthonius boschmai* van der Hammen, 1952: (Ghilarov 1975).

Geographic Location: **BC:** Interior (Battigelli *et al.* 2004); Isaiah Creek study site (Lindo & Stevenson 2007); Sicamous Creek (Berch *et al.* 2007); Vancouver Is., Walbran Valley (Lindo & Winchester 2007a); **AB:** Lethbridge; Meanook; Moose Pasture Research Site (Walter *et al.* 2014); **QC:** Morgan Arboretum (Marshall 1968); peatlands (Behan-Pelletier & Bissett 1994); **NL:** between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: mixed deciduous coniferous litter; Western redcedar trunk; Balsam fir litter.

Distribution: Holarctic.

Synchthonius elegans Forsslund, 1957

Geographic Location and Habitats: **AK:** Aleutian Is. (Behan 1978a); **BC:** Isaiah Creek study site (Lindo & Stevenson 2007); forest litter Interior (Battigelli *et al.* 2004).

Distribution: Holarctic.

Synchthonius sp.

Geographic Location and Habitats: BC: Vancouver Is., Walbran Valley, Western redcedar canopy and trunk (Lindo & Winchester 2007a; Lindo *et al.* 2008).

Genus *Verachthonius* Moritz, 1976

Verachthonius montanus (Hammer, 1952)

Original name: *Eobrachychthonius montanus* Hammer, 1952 (Lee 1982)

Geographic Location: AB: Jasper (Hammer 1952a); Lethbridge (Osler *et al.* 2008); Moose Pasture Research Site; Rocky Mtns near Jasper (Walter & Latonas 2012); ON: Sudbury (St. John *et al.* 2002).

Habitats: fescue prairie; mixed deciduous coniferous forest litter.

Distribution: Holarctic.

Verachthonius sp.

Geographic Location and Habitats: BC: forest litter Interior (Battigelli *et al.* 2004).

Superfamily **Atopochthonioidea**

Family **Atopochthoniidae**

Genus *Atopochthonius* Grandjean, 1949

Atopochthonius artiodactylus Grandjean, 1949

Geographic Location: BC: Upper Klanawa Mainline site, near Franklin River (Berch *et al.* 2001); Interior (Battigelli *et al.* 2004); Isaiah Creek study site (Lindo & Stevenson 2007); Vancouver Is., Walbran Valley (Lindo & Winchester 2006); ON: Chalk River (Marshall 1972); NS: Cape Breton Highlands NP (Behan-Pelletier 2010, Behan-Pelletier *et al.* 1987).

Habitats: boreal and temperate coniferous forest litter.

Distribution: Holarctic; Oriental.

Family **Pterochthoniidae**

Genus *Pterochthonius* Berlese, 1913

Pterochthonius angelus (Berlese, 1910)

Original name: *Cosmochthonius (Pterochthonius) angelus* Berlese, 1910 (Grandjean 1947)

Geographic Location: BC: Isaiah Creek study site (Lindo & Stevenson 2007); Interior (Battigelli *et al.* 2004); AB: EMEND Site (Lindo & Visser 2004); Moose Pasture Research Site (Walter *et al.* 2014); QC: Morgan Arboretum (Marshall 1968).

Habitats: mixed deciduous coniferous litter; coniferous forest litter; Trembling aspen litter.

Distribution: Holarctic; Oriental.

Superfamily **Hypochthonioidea**

Family **Eniochthoniidae**

Genus *Eniochthonius* Grandjean, 1933 (= *Hypochthoniella*)

Remarks: Subías (2004) retains *Hypochthoniella*.

Eniochthonius crosbyi (Ewing, 1909)

Original name: *Hypochthonius crosbyi* Ewing, 1909 (Marshall *et al.* 1987)

Combination: *Hypochthoniella crosbyi* (Ewing 1909); (Johnston 1965).

Synonymy: *Eniochthonius borealis* Jacot, 1939; (Marshall *et al.* 1987).

Geographic Location: AB: ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); ON: St. Lawrence

Islands NP (Norton & Behan-Pelletier 2007); near Chapleau (Rousseau *et al.* 2018); **QC**: Gaspesie NP (Norton & Behan-Pelletier 2007); **NB**: Kouchibouguac NP (Norton & Behan-Pelletier 2007); **NS**: Cape Breton Highlands NP (Norton & Behan-Pelletier 2007; Behan-Pelletier 2010); **NL**: Gros Morne NP; 2 mi N Eddies Cove; Pasadena; 40 mi W St. John's (Norton & Behan-Pelletier 2007).

Habitats: Muskeg; coniferous and deciduous litter including fir, beech, spruce, and maple; moss; bract fungus on dead Sugar maple.

Distribution: Nearctic.

Eniochthonius mahunkai Norton and Behan-Pelletier, 2007

Geographic Location: **AB**: ABMI Sites (Walter *et al.* 2014); **NB**: Kouchibouguac NP (Norton & Behan-Pelletier 2007); **NS**: Cape Breton Highlands NP (Norton & Behan-Pelletier 2007).

Habitats: mixed semi-forested peatlands with *Sphagnum* and *Rhododendron* litter.

Distribution: Nearctic.

Eniochthonius cf. mahunkai Norton and Behan-Pelletier, 2007

Geographic Location and Habitats: **ON**: near White River (Barreto & Lindo 2018).

Eniochthonius minutissimus (Berlese, 1903)

Original name: *Hypochthonius minutissimus* Berlese, 1903 (van der Hammen 1959)

Combination: *Hypochthoniella minutissima* (Berlese 1903); (Marshall 1968).

Synonymy: *Hypochthonius pallidulus* sensu Michael (1888) non C.L. Koch (1836): (van der Hammen 1952), *Arthrochthonius pallidulus* sensu Ewing (1917), *Eniochthonius pallidulus* sensu Grandjean (1933a): (van der Hammen 1952), *Eniochthonius grandjeani* van der Hammen, 1952 (replacement name for *Hypochthonius pallidulus* sensu Michael (1888): (Marshall *et al.* 1987).

Geographic Location: **NT**: peatlands (Behan-Pelletier & Bissett 1994); **BC**: Vancouver Is., Walbran Valley (Lindo & Winchester 2006); **AB**: ABMI Sites (Meehan *et al.* 2019); Moose Pasture Research Site; Narrow Lake (Walter *et al.* 2014); **MB**: forest litter, riparian litter (Oswald & Minty 1970, 1971); peatlands (Behan-Pelletier & Bissett 1994); **ON**: Chalk River (Marshall 1972); near Chapleau (Rousseau *et al.* 2018); **QC**: Timmins 54°60'N, 67°00'W (Behan 1978a); Mirabel municipality south of Belle-Rivière (Tousignant *et al.* 1988; Tousignant & Coderre 1992); Morgan Arboretum (Marshall 1968; Sylvain & Buddle 2010); Parc National de Frontenac (Norton & Behan-Pelletier 2007); Abitibi, (Déchêne & Buddle 2009, 2010); St-Paulin (Doblas-Miranda *et al.* 2014); boreal claybelt region of Western Québec (Doblas-Miranda & Work 2015); **NB**: Kouchibouguac NP (Norton & Behan-Pelletier 2007); **NS**: Liscombe Mills Camp; Cape Breton Highlands NP (Norton & Behan-Pelletier 2007); **NL**: Gros Morne NP; Terra Nova NP; Avalon Peninsula; 2 mi N Eddies Cove; (Norton & Behan-Pelletier 2007); between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: peatland (*Larix*, *Ledum*, *Vaccinium*, *Viburnum* litter); muskeg; coniferous (hemlock, Jack pine, Black spruce) and deciduous (maple, beech) litter.

Distribution: Semicosmopolitan.

Eniochthonius sp.

Geographic Location and Habitats: **AB**: ABMI sites (Meehan *et al.* 2019); **QC**: Mont Tremblant, Black spruce forest floor (Behan *et al.* 1978; as *Hypochthoniella* sp.).

Family **Hypochthoniidae**

Genus *Hypochthonius* C.L. Koch, 1835

Hypochthonius luteus Oudemans, 1917

Geographic Location and Habitats: **AB**: Edmonton River Valley (53.32N, 113.31W); Moose Pasture Research Site (Walter *et al.* 2014).

Distribution: Holarctic.

Hypochthonius rufulus C.L. Koch, 1836

Synonymy: *Hypochthonius pallidulus* C.L. Koch, 1835, non Michael (1888): (Marshall *et al.* 1987).

Geographic Location: **AK:** Fort Richardson (Hammer 1955a); Kodiak Is. (Hammer 1967); **YT:** coastal plain (Behan-Pelletier 1997b); **NT:** Yellowknife (Hammer 1952a); (Behan-Pelletier & Bissett 1994); **AB:** ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); Edmonton River Valley (53.32N, 113.31W); Moose Pasture Research Site (Walter *et al.* 2014); **MB:** Churchill (Hammer 1952a); (Oswald & Minty 1970; Behan-Pelletier & Bissett 1994); **ON:** Chalk River (Marshall 1972); Waterloo (Klironomos & Kendrick 1995); **QC:** Northern Québec; Timmins 54°60'N, 67°00'W (Behan 1978a); St. Clet (Smith 1978); Morgan Arboretum (Marshall 1968; Sylvain & Buddle 2010); Abitibi (Déchéne & Buddle 2009, 2010); boreal claybelt region of Western Québec (Doblas-Miranda & Work 2015); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010, Behan-Pelletier *et al.* 1987); **NL:** between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: arctic meadow; maple, beech and hemlock woodland litter; boreal mixedwood forest; Balsam fir forest; peatlands, bogs.

Distribution: Semicosmopolitan.

Hypochthonius sp.

Geographic Location and Habitats: **BC:** Upper Klanawa Mainline site, near Franklin River (Berch *et al.* 2001); **SK:** Matador IBP Site, dry mixed prairie (Willard 1974); **ON:** Sudbury, 20-year tailing site with moss, lichens, grasses, Trembling aspen, Black locust, Jack pine and Red pine (St. John *et al.* 2002); **QC:** Mont Tremblant (Behan *et al.* 1978).

Family **Mesoplophoridae**

Genus *Archoplophora* van der Hammen, 1959

Archoplophora rostralis (Willmann, 1930)

Original name: *Phthiracarulus rostralis* Willmann, 1930 (Niedbała 1984)

Synonymy: *Phthiracarulus laevis* Jacot, 1938: (Niedbała 1984), *Archoplophora villosa* Aoki, 1980: (Niedbała 1984).

Geographic Location: **BC:** Ilgachug Mtns, Pan Creek Moraine, (Niedbała 2002); **MB:** southeast, forest habitats, riparian habitats (Oswald & Minty 1970, 1971); Seven Sisters Grassland Project (Niedbała 2002); **ON:** Chalk River (Marshall 1972); White Lake; Rondeau PP, Tulip Trail (Niedbała 2002); **QC:** Parc National du Frontenac; Parc National du Mont-Orford (Niedbała 2002); Morgan Arboretum (Sylvain & Buddle 2010); **NB:** Kouchibouguac NP (Niedbała 2002); **NS:** Cape Breton Highlands NP: North Mountain Bog; Lone Shieling; Pleasant Bay; Mackintosh Brook Trail (Niedbała 2002).

Habitats: Lodgepole pine litter; grassland vegetation; mixed deciduous and coniferous litter.

Distribution: Semicosmopolitan.

Genus *Mesoplophora* Berlese, 1904

Mesoplophora japonica Aoki, 1970

Combination: *Mesoplophora* sp. nr. *japonica* Aoki, 1970; (Marshall *et al.* 1987).

Geographic Location and Habitats: **AK:** Atqasuk (Behan 1978a; as sp. nr.); **ON:** Ottawa, maple wood, phoretic on beetle (Niedbała 2002).

Distribution: Holarctic (western Nearctic and Japan).

Mesoplophora sp.

Geographic Location and Habitats: **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010).

Superfamily **Protoplophoroidea**

Family **Cosmochthoniidae**

Genus *Cosmochthonius* Berlese, 1910

Cosmochthonius nr. *lanatus* (Michael, 1885)

Geographic Location: BC: Cordillera (Lindo & Clayton 2011).

Cosmochthonius sp.

Geographic Location: BC: Osoyoos, Haynes Lease (Behan-Pelletier *et al.* 1987b); ON: 3 km south of Guelph (Broadbent & Tomlin 1979).

Family **Haplochthoniidae**

Genus *Haplochthonius* Willmann, 1930

Haplochthonius sp.

Geographic Location and Habitats: AB: Lethbridge, fescue prairie (Osler *et al.* 2008).

Family **Sphaerochthoniidae**

Genus *Sphaerochthonius* Berlese, 1910

Sphaerochthonius cf. *splendidus* (Berlese, 1904)

Geographic Location and Habitats: AB: Dinosaur PP (Walter *et al.* 2014).

Sphaerochthonius sp.

Geographic Location and Habitats: AB: Lethbridge, fescue prairie (Osler *et al.* 2008).

Superfamily **Heterochthonioidea**

Family **Arborichthoniidae**

Genus *Arborichthonius* Norton, 1982

Arborichthonius styosetosus Norton, 1982

Geographic Location and Habitats: ON: St. Lawrence Islands NP, Thwartway Is., moist soil beneath moss (Norton 1982).

Distribution: Nearctic; Japan; China.

Family **Trichthoniidae**

Genus *Gozmanyina* Balogh and Mahunka, 1983

Gozmanyina majestus (Marshall and Reeves, 1970)

Original name: *Trichthonius majestus* Marshall and Reeves, 1970 (Balogh & Mahunka 1983)

Geographic Location: MB: Winnipeg (Marshall & Reeves 1970); ON: Sudbury (St. John *et al.* 2002); QC: Morgan Arboretum (Marshall 1968, as *Heterochthonius* n.sp.); NS: Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987); NL: between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: peat under Black spruce, Balsam fir, hemlock litter; mixed deciduous coniferous forest.

Distribution: Nearctic.

Infraorder Parhyposomata

Superfamily **Parhypochthonioidea**

Family **Gehypochthoniidae**

Genus **Gehypochthonius** Jacot, 1936

Gehypochthonius gracilis Pankov, 2002

Geographic Location: **AB:** ABMI Sites; Moose Pasture Research Site (Walter *et al.* 2014).

Distribution: Nearctic; eastern Palaearctic.

Gehypochthonius rhadamanthus Jacot, 1936

Geographic Location: **YT:** British Mtns (Behan-Pelletier 1997b); **ON:** Sudbury (St. John *et al.* 2002); **QC:** Morgan Arboretum (Marshall 1968).

Habitats: subarctic; mixed deciduous and coniferous forest.

Distribution: Semicosmopolitan.

Gehypochthonius sp.

Geographic Location and Habitats: **BC:** Vancouver Is., Walbran Valley (Lindo & Winchester 2006); **AB:** Roy Berg Kinsella Research Ranch (Newton 2013).

Family **Parhypochthoniidae**

Genus **Parhypochthonius** Berlese, 1904

Parhypochthonius aphidinus Berlese, 1904

Geographic Location: **AB:** Onoway (53.77N, 114.6W); Gopher Hill (53°42'0"N, 112°45'17") (Walter *et al.* 2014); **ON:** peatlands (Behan-Pelletier & Bissett 1994); Chalk River (Marshall 1972); **QC:** peatlands (Behan-Pelletier & Bissett 1994).

Habitats: peatlands; forest litter.

Distribution: Semicosmopolitan.

Parhypochthonius aphidinus octofilamentis Jacot, 1938

Geographic Location: **QC:** Morgan Arboretum (Marshall 1968).

Habitats: mixed deciduous coniferous forest.

Distribution: Nearctic.

Parhypochthonius aphidinus sp. nr. *octofilamentis* Jacot, 1938

Geographic Location: **BC:** Vancouver Is., Walbran Valley (Lindo & Winchester 2006).

Parhypochthonius sp.

Geographic Location: **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Infraorder **Mixonomata**

Superfamily **Eulohmannioidea**

Family **Eulohmanniidae**

Genus **Eulohmannia** Berlese, 1910

Eulohmannia ribagai (Berlese, 1910)

Original Name: *Lohmannia (Eulohmannia) ribagai* Berlese, 1910 (Willmann 1931)

Synonymy: *Arthronothrus biunguiculatus* Trägårdh, 1910: (Berlese 1916).

Geographic Location: **AK:** Fairbanks (Hammer 1955a); northern coastal plain; Fairbanks Region (Behan 1978a); Elliott Highway Burn, (65°19'N, 149°06'W) (Thomas & McLean 1988); **YT:** coastal plain; porcupine plain; Ogilvie Mtns (Behan-Pelletier 1997b); **NT:** Reindeer Station (Hammer 1952a); **BC:** Upper

Klanawa Mainline site, near Franklin River (Berch *et al.* 2001); **MB**: southeast (Oswald & Minty 1971); **ON**: Chalk River (Marshall 1972); **QC**: Morgan Arboretum (Marshall 1968); **NS**: Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Habitats: tussock heath; riparian litter; mixed deciduous and coniferous litter.

Distribution: Holarctic; Oriental.

Superfamily **Perlohmannioidea**

Family **Perlohmanniidae**

Genus ***Hololohmannia*** Kubota and Aoki, 1998

Hololohmannia alaskensis Kubota and Aoki, 1998

Geographic Location: **AK**: Eagle Summit, 65°30'N, 145°W (Kubota & Aoki 1998).

Habitat: alpine tundra from mosses, lichens and fern growing on rocks.

Distribution: Alaska.

Genus ***Perlohmannia*** Berlese, 1916

Perlohmannia sp. nr. ***coiffaiti*** Grandjean, 1961

Geographic Location: **AK**: Denali NP; Fairbanks Region; Aleutian Islands (Behan 1978a); Elliott Highway Burn (65°19'N, 149°06'W), Chandalar (68°00'N, 149°45'W), (Thomas & McLean 1988); **YT**: Porcupine Plain; Richardson Mtns; Ogilvie Mtns (Behan-Pelletier 1997b); **NT**: Mackenzie Delta (Behan 1978a; Behan & Hill 1978); **NS**: Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Perlohmannia sp.

Geographic Location: **BC**: Vancouver Is., Clayoquot Sound UNESCO Biodiversity Reserve (Lindo & Winchester 2009).

Superfamily **Epilohmannioidea**

Family **Epilohmanniidae**

Genus ***Epilohmannia*** Berlese, 1910

Epilohmannia cylindrica (Berlese, 1904)

Original name: *Lohomannia [sic] cylindrica* Berlese, 1904 (Sellnick 1960)

Synonymy: *Lesseria szanisloi* Oudemans, 1917: (van der Hammen 1959), *Epilohmannia verrucosa* Jacot, 1934: (Aoki 1965a), *Eulohmannia skrjabini* Bashkirova, 1958: (Ghilarov 1975), *Epilohmannia szanisloi* (Oudemans, 1917): (Schuster 1960).

Geographic Location and Habitats: **QC**: Morgan Arboretum, mixed deciduous coniferous litter (Marshall 1968).

Distribution: Semicosmopolitan.

Epilohmannia sp. nr. ***cylindrica*** (Berlese, 1904)

Geographic Location and Habitats: **QC**: Morgan Arboretum, mixed deciduous coniferous litter (Marshall 1968).

Epilohmannia sp. nr. ***spathulata*** Aoki, 1970

Geographic Location and Habitats: **BC**: Upper Klanawa Mainline site, near Franklin River (Berch *et al.* 2001).

Epilohmannia sp. nr. *styriaca* Schuster, 1960

Geographic Location and Habitats: ON: 3 km south of Guelph, cornfield (Broadbent & Tomlin 1979).

Epilohmannia sp.

Geographic Location and Habitats: YT: Ivavik NP, British Mtns (Behan-Pelletier 1997b); BC: Vancouver Is., Walbran Valley, Western redcedar canopy suspended soil and cedar-hemlock forest floor (Lindo & Winchester 2006; Lindo & Winchester 2007; Lindo 2010); AB: Lethbridge, fescue prairie (Osler *et al.* 2008); SK: Matador IBP Site, dry mixed prairie (Willard 1974).

Superfamily **Euphthiracaroidae**

Family **Euphthiracaridae**

Genus *Acrotritia* Jacot, 1923 (= *Rhysotritia* Märkel & Meyer, 1959)

Remarks: See Remarks on this synonymy in Marshall *et al.* (1987).

Acrotritia ardua (C.L. Koch, 1841)

Original name: *Hoplophora ardua* C.L. Koch, 1841 (Rajski 1961)

Combination: *Oribotritia ardua* (C.L. Koch, 1841); (Sellnick 1928), *Phthiracarus arduus* (C.L. Koch, 1841); (Oudemans 1900a), *Pseudotritia ardua* (C.L. Koch, 1841); (Jacot 1930), *Rhysotritia ardua* (C.L. Koch, 1841); (Rajski 1961), *Tritia ardua* (C.L. Koch, 1841); (Sellnick 1923),

Synonymy: *Noplophora arctata* Riley, 1874: (Jacot 1938c), *Phthiracarus canestrinii* Michael, 1898: (van der Hammen 1959), *Phthiracarus americanus* Ewing, 1909: (Jacot 1938c), *Acrotritia americanus* (Ewing, 1909): (Jacot 1923), *Phthiracarus pectinatus* Ewing, 1917: (Jacot 1930), *Acrotritia sinensis* Jacot, 1923: (Marshall *et al.* 1987), *Oribotritia loricata* sensu Willmann (1931): (van der Hammen 1952).

Geographic Location: YT: km 141 Dempster Hwy. above Blackstone R. (Niedbala 2002); Coast Mountains (Behan-Pelletier 1997b); NT: Yellowknife (Hammer 1952a); Bernard Harbour (Niedbala 2002); BC: peatlands (Behan-Pelletier & Bissett 1994); AB: Wagner Natural Area, 8km W Edmonton, 53°34'N, 113°47'W, (Finnamore 1994); Writing-on-Stone PP (Niedbala 2002); ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); 35 km north of Fort McMurray (McAdams *et al.* 2018); SK: Big Muddy Badlands (Niedbala 2002); MB: Churchill (Hammer 1952a); southeast (Oswald & Minty 1970); Seven Sisters Grassland Project (Niedbala 2002); ON: Ottawa; North Gower; Waba; Normandale Valley; White Lake; Long Sault; Braeside, TP 35; Rondeau PP, Rondeau Trail, Tulip Trail; Long Point NWA, Little Creek Ridges; Chaffey Locks, Hebert Bog (Niedbala 2002); near Chapleau (Rousseau *et al.* 2018); QC: Gatineau Park, Old Chelsea; Drummondville; Kazabazua; Val des Monts; Lac Cleremont, 45°38'N, 75°35'W; Rawcliffe (Niedbala 2002); Aylmer (Niedbala 2007); Abitibi (Déchéne & Buddle 2009, 2010); Morgan Arboretum, (Sylvain & Buddle 2010); boreal claybelt region of Western Québec (Doblas-Miranda & Work 2015); NB: Kouchibouguac NP, Kollock Creek Trail; South Kouchibouguac campground (Niedbala 2002, 2007); NS: Cape Breton Highlands NP: North Mountain Bog; nr. Ingonish; Pleasant Bay; nr. Sammy's Barren; Aspy River Trail; Mackintosh Brook Trail; Clyburn Brook; Skyline Trail; Paquettes Lake; Glasgow Lake hill; Lone Shieling; Black Brook Trail to Neils Harbour; Pleasant Bay (Niedbala 2002, 2007); NL: between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998); peatlands (Behan-Pelletier & Bissett 1994).

Habitats: peatlands including muskeg; deciduous (beech, birch, ash, Trembling aspen, serviceberry and rosebush) litter; coniferous (White spruce, Black spruce, Jack pine, Balsam fir, ground juniper) litter; grassland litter; moss; debris from inside beaver house; sedge at edge of lake; phoretic on beetle.

Distribution: Cosmopolitan.

Acrotritia comteae (Mahunka, 1983)

Original name: *Rhysotritia comteae* Mahunka, 1983

Synonymy: *Rhysotritia anchistea* Niedbala, 1998: (Niedbala 2000), *Rhysotritia bifurcata* Niedbala, 1993: (Niedbala 2000).

Geographic Location and Habitats: ON: Long Point NWA, Squires Ridge, oak litter in oak-Red pine and spruce woodland (Niedbala 2002).

Distribution: Pantropical.

Remarks: According to Niedbała (2002) this species is Pantropical, but can be introduced; its occurrence in Ontario is so unusual that it requires verification.

Acrotritia curticephala (Jacot, 1938)

Original name: *Pseudotritia ardua curticephala* Jacot, 1938 (Marshall *et al.* 1987)

Combination: *Rhysotritia curticephala* (Jacot, 1938); (Marshall *et al.* 1987).

Synonymy: *Rhysotritia lucida* Niedbała, 1998: (Niedbała 2001).

Geographic Location: **ON:** Long Point NWA, 42°34'N, 80°24'W (Niedbała 2002); **NB:** Kent Co., Kouchibouguac NP (Niedbała 2002); **NS:** Cape Breton Highlands NP, Aspy Trail (Niedbała 2007b).

Habitats: Red pine litter.

Distribution: Semicosmopolitan.

Acrotritia diaphoros (Niedbała, 2002)

Original Name: *Rhysotritia diaphoros* Niedbała, 2002

Geographic Location: **AB:** ABMI Site (Walter *et al.* 2014); **ON:** Rondeau PP, Rondeau Trail, Tulip Trail; Long Point NWA, Little Creek Ridges (Niedbała 2002).

Habitats: coniferous and deciduous litters including Silver maple, Sugar maple, Red cedar, birch and Black ash.

Distribution: Nearctic, Neotropical.

Acrotritia parareticulata (Niedbała, 2002)

Original Name: *Rhysotritia parareticulata* Niedbała, 2002

Geographic Location: **ON:** Cedar Grove, 5.5 mi SW North Gower (Niedbała 2002); **NS:** Cape Breton Highlands NP: Cape Rouge, Corney Brook Camp; Black Brook Trail to Neils Harbour; Mica Mountain Barren; Dingwall, Gypsum Cliffs (Niedbała 2007b).

Habitats: mixed southern boreal forest with Striped maple and birch, oak, maple, spruce, and *Shepherdia* (buffaloberry) litter, low ground cover including moss, *Empetrum* and *Juniperus* litter.

Distribution: Canada.

Acrotritia scotti (Walker, 1965)

Original Name: *Rhysotritia scotti* Walker, 1965

Geographic Location and Habitats: **BC:** Upper Klanawa Mainline site, near Franklin River (Berch *et al.* 2001).

Distribution: Western Nearctic.

Acrotritia sp.

Geographic Location and Habitats: **AK:** Anchorage (Hammer 1955a; as *Pseudotritia* sp.); **AB:** Lethbridge, fescue prairie (Osler *et al.* 2008); **QC:** Mont Tremblant (Behan *et al.* 1978; as *Rhysotritia*).

Genus *Euphthiracarus* Ewing, 1917

Euphthiracarus cernuus Walker, 1965

Geographic Location: **BC:** Hwy. 6.14., 7 mi N Burton; Manning PP, Sapello Grove (Niedbała 2002); Interior (Battigelli *et al.* 2004); Isaiah Creek study site (Lindo & Stevenson 2007); Vancouver Is., Walbran Valley, (Lindo *et al.* 2008; Lindo 2010); Pacific Rim NP, Broken Group Islands: N side Capstan Is., 48°57'N, 125°17'W; between Jacques and Jarvis Is., 48°55'N, 125°17'W; Little Qualicum Falls PP; Englishman River Falls PP; Vancouver, Cedar District: approximately 5 mi. S of Nanaimo; Vancouver Is.: McMillan PP, Cathedral Grove; Kootenay District: 22 mi. E of Christiana Lake, 10 mi. W Rossland; Hwy. 6, 2.4 mi. S of Silverton, 2250' (Niedbała 2007b); **NS:** Cape Breton Highlands NP, Mica Mt. Barren (Niedbała 2007b).

Habitats: mixed temperate deciduous and coniferous forests; maple, Douglas fir litter; cedar, hemlock; Western redcedar; *Empetrum*, moss, lichens, and *Vaccinium* litter.

Distribution: Nearctic.

Euphthiracarus crassisetae Jacot, 1938

Synonymy: *Euphthiracarus polytretos* Walker, 1965: (Niedbała 2002).

Geographic Location and Habitats: **BC:** Vancouver Is., McMillan PP, Cathedral Grove, 49°18'N, 124°40'W, Douglas fir litter; Big-leaf maple, fern, redcedar litter (Niedbała 2002).

Distribution: Nearctic.

Euphthiracarus cribrarius (Berlese, 1904)

Original name: *Phthiracarus cribrarius* Berlese, 1904 (van der Hammen 1959)

Combination: *Oribotritia cribraria* (Berlese, 1904); (Willmann 1931).

Synonymy: *Phthiracarus punctulatus* Berlese, 1913: (Bernini 1970).

Geographic Location: **BC:** Barkley Sound, Crawford Lake, 48°57.5'N 125°15.3'W; Hwy. 6.14. 7 mi N Burton (Niedbała 2002); Pacific Rim NP, Broken Group Islands: Jacques Is., 48°55'N, 125°16'W; Englishman River Falls PP; Kootenay District: 22 mi. E of Christiana Lake, 10 mi. W of Rossland (Niedbała 2007b). **AB:** Cypress Hills PP, S of Elkwater (Niedbała 2002); **MB:** Seven Sisters Grassland Project (Niedbała 2002); **NS:** Cape Breton Highlands NP, Sammy's Barren (Niedbała 2002).

Habitats: mixed deciduous and coniferous forest litter, including from cedar, hemlock, spruce, and poplar litter; peatland.

Distribution: Holarctic.

Euphthiracarus depressculus Jacot, 1924

Geographic Location: **BC:** Haida Gwaii, Cape St. James, weather station (Niedbała 2007b); **NB:** Kouchibouguac NP, South Kouchibouguac campground (Niedbała 2007b); **NS:** Cape Breton Highlands NP: nr. Ingonish; Beulach Ban Falls; Fishermans Cove (Niedbała 2002, 2007b).

Habitats: spruce litter; mixed deciduous coniferous litter; Red oak, beech, and maple litter; *Rhododendron*, *Vaccinium* litter.

Distribution: Nearctic.

Euphthiracarus flavus (Ewing, 1908)

Original name: *Phthiracarus flavus* Ewing, 1908 (Ewing 1917)

Geographic Location: **BC:** Manning PP, Sapello Grove (Niedbała 2002); Pacific Rim NP, Broken Group Islands, SE end of Jarvis Is., 48°55.4'N, 125°16.7'W (Niedbała 2007b); **AB:** 35 km north of Fort McMurray (McAdams *et al.* 2018); ABMI Sites (Meehan *et al.* 2019); **MB:** Seven Sisters Grassland Project (Niedbała 2002); **QC:** 4 km N of Kazabazua (Niedbała 2002); Morgan Arboretum (Marshall 1968; Sylvain & Buddle 2010); **NS:** Cape Breton Highlands NP, Ingonish Beach (Niedbała 2002).

Habitats: southern boreal and temperate habitats; moss and dead wood from Redcedar; grassland litter; beech litter; beaver lodge; boreal forest with White spruce, Black spruce, Jack pine and Trembling aspen.

Distribution: Nearctic.

Euphthiracarus cf. *flavus* (Ewing, 1908)

Geographic Location and Habitats: **AB:** ABMI Sites (Walter *et al.* 2014).

Euphthiracarus fulvus (Ewing, 1909)

Original name: *Phthiracarus fulvus* Ewing, 1909 (Marshall *et al.* 1987)

Combination: *Euphthiracarus fulvum* (Ewing, 1909); (Jacot 1930).

Geographic Location and Habitats: **QC:** 4 km N of Kazabazua, birch and cedar litter (Niedbała 2002).

Distribution: Nearctic.

Euphthiracarus nr. *fulvus* (Ewing, 1909)

Geographic Location and Habitats: **AB:** ABMI Sites (Walter *et al.* 2014; as 'cf'); **QC:** Abitibi, boreal mixedwood forest (Déchêne & Buddle 2009, 2010).

Euphthiracarus longirostralis Walker, 1965

Geographic Location: BC: Vancouver Is., Pacific Rim NP, Broken Group Islands, S side of Nettle Is., 48°55.9'N, 125°15.1'W; bay on SE corner of Nettle Is., 48°55.7'N, 125°14.8'W; Jacques Is., 48°55'N, 125°16'W (Niedbała 2002, 2007b).

Habitats: temperate forest litter, including spruce and cedar.

Distribution: Nearctic.

Euphthiracarus monodactylus (Willmann, 1919)

Original name: *Tritia (Pseudotritia) monodactyla* Willmann, 1919 (Märkel 1964)

Combination: *Pseudotritia monodactyla* (Willmann, 1919); (van der Hammen 1959).

Synonymy: *Tritia aequipunctata* Berlese, 1923: (van der Hammen 1959).

Geographic Location: ON: Rondeau PP, Rondeau Trail; Long Point NWA, Little Creek Ridges; Backus Woods Conservation Area, 42°39'N, 80°28'W (Niedbała 2002).

Habitats: Silver maple and Black ash litter; Redcedar and birch litter; Sugar maple-oak litter.

Distribution: Holarctic.

Euphthiracarus monyx Walker, 1965

Geographic Location and Habitats: BC: Upper Klanawa Mainline site, near Franklin River (Berch *et al.* 2001); Vancouver Is., Walbran Valley (Lindo & Winchester 2006; Lindo 2010).

Habitats: temperate coniferous forest; Western redcedar litter.

Distribution: Nearctic.

Euphthiracarus pulchrus Jacot, 1930

Original name: *Euphthiracarus flavum pulchrum* Jacot, 1930 (Jacot 1939a).

Synonymy: *Euphthiracarus pulchrus pishahi* Jacot, 1939: (Niedbała 2002).

Geographic Location and Habitats: ON: Normandale Valley; Backus Woods Conservation Area, 42°39'N, 80°28'W, base of decaying tree stump in Sugar maple-oak forest (Niedbała 2002); QC: Aylmer, mixed forest litter (Niedbała 2007b).

Distribution: Nearctic.

Euphthiracarus punctulatus Jacot, 1930

Geographic Location and Habitats: NS: Cape Breton Highland NP, Ingonish Beach, Beaver lodge (Niedbała 2002).

Distribution: Nearctic.

Euphthiracarus nr. *vicinus* Niedbała, 2002

Geographic Location and Habitats: QC: Abitibi, boreal mixedwood forest (Déchéne & Buddle 2009, 2010).

Euphthiracarus sp.

Geographic Location and Habitats: AB: Trembling aspen, White spruce mesocosm (Cameron *et al.* 2013); MB: southeast (Oswald & Minty 1970); ON: 3 km south of Guelph, Cornfield (Broadbent & Tomlin 1979); Sudbury, 20-year tailing site with moss, lichens, grasses, Trembling aspen, Black locust, Jack pine and Red pine (St. John *et al.* 2002); NL: between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer *et al.* 1997, 1998).

Genus *Microtritia* Märkel, 1964

Microtritia minima (Berlese, 1904)

Original name: *Phthiracarus minimus* Berlese, 1904 (Märkel 1964)

Combination: *Pseudotritia minima* (Berlese, 1904); (Willmann 1931), *Rhysotritia minima* (Berlese, 1904); (Rockett & Woodring 1963).

Synonymy: *Tritia (Pseudotritia) minuta* Willmann, 1919: (van der Hammen 1959).

Geographic Location: **BC:** Pacific Rim NP, Broken Group Islands: Keith Is., 48°54.75'N, 125°17'W; N side Capstan Is., 48°57'N, 125°17'W; Kootenay District: 22 mi. E Christiana Lake, 10 mi. W Rossland (Niedbala 2007b); **ON:** Sudbury (St. John *et al.* 2002); **QC:** Morgan Arboretum (Marshall 1968); **NS:** Cape Breton Highlands NP, Fishermans Cove (Niedbala 2007b).

Habitats: mixed deciduous coniferous forest litter including from Trembling aspen, Black locust, Jack pine and Red pine; hemlock, Red oak, and Sugar maple litter.

Distribution: Holarctic.

Microtritia simplex (Jacot, 1930)

Original name: *Pseudotritia simplex* Jacot, 1930 (Marshall *et al.* 1987)

Combination: *Rhysotritia simplex* (Jacot, 1930); (Lions 1964).

Geographic Location: **NT:** Bernard Harbour (Niedbala 2002); **BC:** Vancouver Is., McMillan PP, Cathedral Grove (Niedbala 2002); **MB:** Sandilands Provincial Forest (Niedbala 2002); **QC:** Parc Frontenac (Niedbala 2002); Abitibi (Déchéne & Buddle 2009, 2010); **NS:** Cape Breton Highlands NP, Fishermans Cove; nr. Sammy's Barren (Niedbala 2002).

Habitats: Douglas fir litter; peatland; boreal mixedwood forest; Red oak, Sugar maple, alder litter.

Distribution: Nearctic, Central America.

Family **Oribotritiidae**

Genus *Mesotritia* Forsslund, 1963

Mesotritia flagelliformis (Ewing, 1909)

Original name: *Phthiracarus flagelliformis* Ewing, 1909 (Niedbala 2001)

Synonymy: *Mesotritia testacea* Forsslund, 1963: (Niedbala 2001), *Mesotritia (Entomotritia) flagelliformis* (Ewing, 1909): (Marshall *et al.* 1987).

Geographic Location: **ON:** North Gower; Normandale Valley; Long Point NWA, Little Creek Ridges, (Niedbala 2002); **QC:** Parc Frontenac; Aylmer (Niedbala 2002); **NS:** Cape Breton Highlands NP, Sammy's Barren; Pleasant Bay; Ingonish Beach (Niedbala 2002); Aspy Trail (Niedbala 2007b).

Habitats: deciduous and coniferous litter; moss on dead logs; bracken litter; debris associated with beaver lodge.

Distribution: Nearctic.

Mesotritia nuda (Berlese, 1887)

Original name: *Tritia nuda* Berlese, 1887 (Balogh & Mahunka 1983)

Combination: *Oribotritia nuda* (Berlese, 1887); (van der Hammen 1959).

Synonymy: *Oribotritia brachytrix* Walker, 1965: (Niedbala 2001), *Mesotritia elastica* Sergienko, 1988: (Niedbala 1993), *Mesotritia pifflii* Märkel, 1964: (Niedbala 1993).

Geographic Location: **BC:** Vancouver Is., McMillan PP, Cathedral Grove, 49°18'N, 124°40'W, (Niedbala 2002); Walbran Valley (Lindo & Winchester 2006; Lindo *et al.* 2008; Lindo 2010); **AB:** Waterton Lakes NP, Red Rock Canyon (Niedbala 2002); ABMI Sites (Walter *et al.* 2014); **ON:** Waba (Niedbala 2002); **QC:** Aylmer (Niedbala 2007b); **NB:** Kouchibouguac NP, Kelly's beach (Niedbala 2002).

Habitats: Big-leaf maple, Western redcedar litter; moss; salt marsh vegetation.

Distribution: Nearctic.

Mesotritia sp.

Geographic Location and Habitats: **BC:** Walbran Valley, Western redcedar trunk (Lindo & Winchester 2007); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987); **NL:** between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer *et al.* 1997, 1998).

Genus *Maerkelotritia* Hammer, 1967

Maerkelotritia cryptopa (Banks, 1904)

Original name: *Phthiracarus cryptopus* Banks, 1904 (Marshall *et al.* 1987)

Synonymy: *Oribotritia gibbera* Walker, 1965: (Niedbala 2002), *Phthiracarus maximus* Ewing, 1913: (Niedbala 2002).

Geographic Location: **BC:** North Broughton Is., Tracey Harbour; Blunden Harbour, E of Tomlinson Point (Niedbala 2002); Pacific Rim NP, Broken Group Islands, bay on SE corner of Nettle Is., 48°55.7'N, 125°14.8'W; Jacques Is., 48°55'N, 125°16'W; Little Qualicum Falls PP; Englishman River Falls PP (Niedbala 2007b).

Habitats: coastal temperate forests with mixed litters (e.g. Douglas-fir, hemlock, and cedar litter; wet moss, and maple); semi-aquatic habitats associated with riffles in stream.

Distribution: Nearctic.

Maerkelotritia kishidai (Aoki, 1958)

Original name: *Oribotritia kishidai* Aoki, 1958 (Aoki 1980)

Synonymy: *Maerkelotritia alaskensis* Hammer, 1967: (Aoki 1980), *Oribotritia sellnicki* Walker, 1965: (Aoki 1980).

Geographic Location: **AK:** Anchorage (Hammer 1955a; as *Oribotritia? loricata* (Rathke, 1799); Kodiak Is. (Hammer 1967); Chugach Mtns; Kenai Peninsula; Denali NP (Behan 1978a); Aleutian Islands; Pribilof Islands (Behan 1978a); Kenai Peninsula, Tern Lakes; Skilak Lake; Seward, Salmon Creek; Clam Gulch, 23 mi. SW Soldotna; Lowell Point (Niedbala 2002); **BC:** Vancouver Is., Pacific Rim NP, Broken Group Is. S side of Nettle Is. 48°55.9'N, 125°15.1'W; between Jacques and Jarvis Is., 48°55'N, 125°17'W; Barkley Sound, below Crawford lake, 48°57.5'N, 125°15.3'W; McMillan PP, Cathedral Grove, 49°18'N, 124°40'W (Niedbala 2002, 2007b).

Habitats: temperate and subarctic forests including spruce, Douglas-fir, hemlock, and maple; semi-aquatic habitats associated with seasonal stream bed.

Distribution: Holarctic.

Maerkelotritia sp. nr. *kishidai* (Aoki, 1958)

Geographic Location and Habitats: **BC:** Walbran Valley, Western redcedar litter (Lindo 2010; sub *alaskensis*).

Maerkelotritia sp.

Geographic Location and Habitats: **BC:** Walbran Valley, Western redcedar trunk (Lindo & Winchester 2007a); **QC:** Timmins 54°60'N, 67°00'W (Behan 1978a; as nr. *Maerkelotritia*).

Genus *Oribotritia* Jacot, 1924

Oribotritia banksi (Oudemans, 1916)

Original name: *Tritia banksi* Oudemans, 1916 (Jacot 1930)

Synonymy: *Tritia glabrata* sensu Banks (1895): (Niedbala 2002).

Geographic Location and Habitats: **NS:** Cape Breton Highlands NP, nr Ingonish, *Alder*, *Rosa*, *Shepherdia* litter; beaver lodge (Niedbala 2002; Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Distribution: Holarctic.

Oribotritia carolinae Jacot, 1930

Combination: *Indotritia carolinae* (Jacot, 1930); (Märkel 1964).

Geographic Location and Habitats: **QC:** Morgan Arboretum, beech, maple, conifer litter (Sylvain & Buddle 2010).

Distribution: Nearctic.

Oribotritia henicos Niedbała, 2002

Geographic Location and Habitats: QC: Abitibi, boreal mixedwood forest (Déchêne & Buddle 2009, 2010).

Distribution: Nearctic.

Oribotritia megale (Walker, 1965)

Original name: *Plesiotritia megale* Walker, 1965 (Grandjean 1967)

Geographic Location and Habitats: BC: coastal temperate rainforest (Lindo & Clayton 2011).

Distribution: Nearctic.

Oribotritia paracarolinae Niedbała, 2007

Geographic Location: BC: Vancouver Is., Englishman River Falls PP (Niedbała 2007a, b); NS: Cape Breton Highlands NP, Beulach Ban Falls (Niedbała 2007a, b).

Habitats: mixed coniferous and deciduous litter including maple, Douglas fir, Red oak, and beech.

Distribution: Canada.

Oribotritia sp.

Geographic Location: BC: Vancouver Is., Walbran Valley (Lindo & Winchester 2006).

Genus *Protoribotritia* Jacot, 1938

Protoribotritia canadaris Jacot, 1938

Geographic Location: YT: Dempster Hwy km 172 N, Sulphur Spring (Niedbała 2002); AB: Waterton Lakes NP, Red Rock Canyon (Niedbała 2002); ON: Sudbury (Niedbała 2002); QC: boreal claybelt region of Western Québec (Doblas-Miranda & Work 2015); NS: Cape Breton Highlands NP, Lone Shieling (Niedbała 2007b); NL: between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: coniferous (White spruce, Balsam fir) and deciduous (maple) litter.

Distribution: Western Nearctic.

Protoribotritia oligotricha Märkel, 1963

Geographic Location: YT: Richardson Mtns, Summit Lake, 67°43'N, 136°30'W (Niedbała 2002); BC: 7 mi N Burton (Niedbała 2002); AB: Cypress Hills PP (Niedbała 2002); ON: near Chapleau (Rousseau *et al.* 2018); QC: Abitibi, (Déchêne & Buddle 2009, 2010).

Habitats: boreal mixedwood forest including cedar, hemlock, spruce, Jack pine and poplar litter; tundra litter.

Distribution: Holarctic; Oriental.

Protoribotritia sp. nr. *oligotritia* Märkel, 1963

Geographic Location and Habitats: BC: Vancouver Is., Walbran Valley (Lindo & Winchester 2006).

Protoribotritia sp.

Geographic Location and Habitats: YT: Ogilvie Mtns (Behan-Pelletier 1997b); BC: Interior, forest litter (Battigelli *et al.* 2004); Isaiah Creek study site (as *Archiphthiracarus* sp.) (Lindo & Stevenson 2007); AB: EMEND Site, Trembling aspen litter (Lindo & Visser 2004); ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); QC: Mont Tremblant (Behan *et al.* 1978).

Family *Synichotritiidae*

Genus *Synichotritia* Walker, 1965

Synichotritia caroli Walker, 1965

Geographic Location: BC: Pacific Rim NP, Broken Group Islands, Keith Is., 48°54'N, 125°17'W, hemlock

litter; N. side Capstan Is.; between Jacques and Jarvis Is., under Douglas fir; SE end Jarvis Is.; Marchant Is.; SE corner of Nettle Is.; Little Qualicum Falls PP; Barkley Sound, 50' from beach near ruins below Crawford Lake, 48°57'N, 125°15.3'W (Niedbala 2007b).

Habitats: temperate rainforest, hemlock, cedar, Douglas fir, and salal litter.

Distribution: Nearctic.

Synichotritia spinulosa Walker, 1965

Geographic Location: BC: Upper Klanawa Mainline site, near Franklin River (Berch *et al.* 2001); Vancouver Is., Pacific Rim NP, Broken Group Islands, Keith Is. 48°54'N, 125°17'W; Jacques Is. 48°55'N, 125°16'W; Pinkerton Is., 48°57.5'N, 125°16'.W; Barkley Sound, beach below Crawford Lake, 48°57.5'N, 125°15.3 W (Niedbala 2002).

Habitats: temperate rainforest, hemlock, cedar, and alder litter.

Distribution: Nearctic; eastern Palaearctic.

Superfamily **Phthiracaroidea**

Family **Phthiracaridae**

Genus *Atropacarus* Ewing, 1917

Atropacarus striculus (C. L. Koch, 1835)

Original name: *Hoplophora stricula* C.L. Koch, 1835 (Sengbusch 1957)

Combination: *Phthiracarus stricula* (C.L. Koch, 1835); (Oudemans 1903).

Synonymy: *Steganacarus diaphanus* Jacot, 1930: (Kamill & Baker 1980), *Steganacarus senex* Aoki, 1958: (Fujikawa 1972), *Steganacarus striculus insularis* Weigmann, 1976: (Kamill & Baker 1980), *Steganacarus trichosus* Mahunka, 1982: (Niedbala 1986).

Geographic Location: YT: Porcupine Plain (Behan-Pelletier 1997b); Richardson Mtns, Summit Lake 67°43'N, 136°30'W, (Niedbala 2002); NT: Yellowknife (Hammer 1952a); BC: 12 km N Grand Forks (Niedbala 2002); AB: Waterton Lakes NP, Rowe Lake, (Niedbala 2002); ABMI Sites; Dinosaur PP (Walter *et al.* 2014; Meehan *et al.* 2019); 35 km north of Fort McMurray (McAdams *et al.* 2018); MB: Southeast (Oswald & Minty 1970); Seven Sisters Grassland Project (Niedbala 2002); ON: Chalk River (Marshall 1972); Rondeau PP, Rondeau Trail; White Lake SW of Ottawa; North Gower; Cedar Grove, SW North Gower; Carp; Waba; Normandale Valley; Backus Woods Conservation Area, 42°39'N, 80°28'W; Long Point NWA, Squires Ridge; Courtright Ridge (Niedbala 2002); QC: Morgan Arboretum (Marshall 1968); Parc National du Mont-Orford; Cedarville; N Kazabazua (Niedbala 2002); Aylmer (Niedbala 2007b); boreal claybelt region of Western Québec (Doblas-Miranda & Work 2015); NB: Kouchibouguac NP, Kelly's beach; Kollock Creek Trail (Niedbala 2002); NS: Cape Breton Highlands NP, Lone Shieling; North Mountain Bog; nr.Ingonish; Skyline Trail; Aspy River, North Branch; Pleasant Bay; Black Brook Trail to Neils Harbour; Mackintosh Brook Trail; Beulach Ban Falls; La Prairie Trail, floodplain of Cheticamp River; French Mt., (Niedbala 2002; Behan-Pelletier 2010).

Habitats: boreal forest, taiga and tundra; both coniferous (White spruce, Black spruce, Jack pine) and deciduous or mixedwood (Trembling aspen, Silver maple, Black ash, Yellow birch, beech, basswood) litters; dry alpine; salt marsh; grassland vegetation; moss habitats including on trunk of maple, on rocks at edge of waterfall, and at base of decaying log; sedges and fern litter in floodplain; mixed debris in beaver house.

Distribution: Semicosmopolitan.

Genus *Hoplophthiracarus* Jacot, 1933

Hoplophthiracarus histricinus (Berlese, 1908)

Original name: *Hoplophthiracarus histricinus* Berlese, 1908 (Jacot 1933)

Combination: *Phthiracarus histricinus* (Berlese, 1908); (Lombardini 1936), *Steganacarus histricinus* (Berlese, 1908); (Jacot 1930), *Hoplophthiracarus histricinus* var. *nitidior* (Berlese, 1923); (van der Hammen 1959).

Synonymy: *Hoplophthiracarus robustior* Jacot, 1933: (Niedbala 2001).

Geographic Location: **ON:** Algonquin PP; Long Point NWA, Little Creek Ridges (Niedbala 2002); near White River (Barreto & Lindo 2018).

Habitats: pine and cedar litter; boreal peatland.

Distribution: Holarctic; northern Neotropical.

Hoplophthiracarus illinoisensis (Ewing, 1909)

Original name: *Hoplophthiracarus illinoisensis* Ewing, 1909 (Marshall *et al.* 1987)

Combination: *Atropacarus illinoisensis* (Ewing, 1909); (Ewing 1917), *Steganacarus illinoisensis* (Ewing, 1909); (Jacot 1930).

Synonymy: *Hoplophthiracarus paludis* Jacot, 1938: (Niedbala 1994), *Hoplophthiracarus vanderhammeni* Niedbala, 1991: (Niedbala 2001), *Hoplophthiracarus pavidus* (Berlese, 1913) sensu van der Hammen (1963): (Niedbala 2001).

Geographic Location: **YT:** Dempster Hwy, km 172 N, Sulphur Spring (Niedbala 2002); **AB:** ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); **MB:** southeast (Oswald & Minty 1970); **ON:** White Lake, SW of Ottawa; Rondeau PP, Tulip Trail; Chaffey Locks, Hebert Bog (Niedbala 2002); near White River (Barreto & Lindo 2018); **QC:** Cedarville; Parc Frontenac (Niedbala 2002); **NB:** Kouchibouguac NP (Niedbala 2002); peatlands (Behan-Pelletier & Bissett 1994); **NS:** Cape Breton Highlands NP, nr. Ingonish; North Mountain (Niedbala 2002).

Habitats: boreal forest; peatlands; White spruce, cedar, and pine litter; Sugar maple, dwarf larch litter.

Distribution: Holarctic.

Remarks: Niedbala (2002) considered that records in North America of *Hoplophthiracarus pavidus* (Berlese, 1913) and *Calyptophthiracarus pavidus* Mahunka & Mahunka-Papp (1995) were doubtful. He considered that Nearctic records on *H. pavidus* in Marshall *et al.* (1987) refer to *H. illinoisensis*.

Hoplophthiracarus sp.

Geographic Location and Habitats: **ON:** near White River (Barreto & Lindo 2018); **QC:** Timmins 54°60'N, 67°00'W, Black spruce, moss, lichen (Behan & Hill 1978).

Genus *Hoplophorella* Berlese, 1923

Hoplophorella cucullata (Ewing, 1909)

Original name: *Hoplophthiracarus cucullatum* Ewing, 1909 (Berlese 1923)

Combination: *Hoplophorella cucullata* (Ewing, 1909); *Steganacarus cucullatum* (Ewing, 1909); (Ewing 1917), *Hoplophorella cucullata cuculoides* Jacot, 1933; (Niedbala 2001).

Synonymy: *Hoplophthiracarus lincophorum* Berlese, 1913: (Jacot 1933).

Geographic Location and Habitats: **ON:** Algonquin PP; Braeside, TP 35, old White pine bark (Niedbala 2002).

Distribution: Pantropical; Canada.

Hoplophorella sp.

Geographic Location: **MB:** Southeast (Oswald & Minty 1970); **QC:** Mont Tremblant (Behan *et al.* 1978); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Genus *Phthiracarus* Perty, 1841

Phthiracarus aliquantus Niedbala, 1988

Geographic Location: **YT:** Ogilvie Mtns, 65°12'N, 138°32'W, (Niedbala 2002); **BC:** Pacific Rim NP, Broken Group Is., Capstan Is., 48°57'N, 125°17'W; Nettle Is., 48°55,7'N, 125°14.8'W; Keith Is., 48°54.75'N, 125°17'W; Jacques Is., 48°55'N, 125°16'W (Niedbala 2002, 2007b).

Habitats: *Draba* litter; cedar and hemlock litter.

Distribution: Nearctic.

Phthiracarus borealis (Trägårdh, 1910)

Original name: *Hoploclerisma boreale* Trägårdh, 1910 (Willmann 1931)

Combination: *Paraphthiracarus borealis* (Trägårdh, 1910); (Aoki 1980).

Geographic Location: **AK:** Anchorage (Hammer 1955a); **ON:** near White River (Barreto & Lindo 2018).

Habitats: peatland.

Distribution: Holarctic.

Phthiracarus nr. *borealis* (Trägårdh, 1910)

Geographic Location and Habitats: **AB:** EMEND Site, Trembling aspen litter (Lindo & Visser 2004); ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); 35 km north of Fort McMurray (McAdams *et al.* 2018; as “cf.”).

Phthiracarus boresetosus Jacot, 1930

Synonymy: *Phthiracarus dudichi* Mahunka, 1982: (Niedbała 1984), *Phthiracarus kaszabi* Mahunka, 1981: (Balogh & Mahunka 1983), *Phthiracarus minimarginatus* Woolley, 1954: (Niedbała 1986), *Phthiracarus tenuis* Hammer, 1977: (Niedbała 1984).

Geographic Location: **YT:** Ivavik NP, British Mtns, 69°09'N, 140°10'W; 69°10'N, 140°18'W; Richardson Mtns, Summit Lake, 67°43'N, 136°30'W; Dempster Hwy, km 172 N, Sulphur Spring (Niedbała 2002); **BC:** Hwy 6, N Burton; Manning PP, Sapello Grove (Niedbała 2002); **AB:** Cypress Hills PP, S. Elkwater, (Niedbała 2002); ABMI Sites (Meehan *et al.* 2019); ABMI sites, Moose Pasture Research Site (Walter *et al.* 2014); 35 km north of Fort McMurray (McAdams *et al.* 2018); **MB:** Seven Sisters Grassland Project (Niedbała 2002); **ON:** Carp; Waba; Long Point NWA, Little Creek Ridges; Chaffey Locks, Hebert Bog; Cedar Grove, 5.5 mi SW North Gower (Niedbała 2002); **QC:** Parc Frontenac; 4 km N Kazabazua (Niedbała 2002); Abitibi (Déchêne & Buddle 2009, 2010); Morgan Arboretum (Sylvain & Buddle 2010); **NB:** Kouchibouguac NP; Kollock Creek Trail (Niedbała 2002); **NS:** Cape Breton Highlands NP, North Mountain Bog; Skyline Trail; nr. Ingonish; Aspy River, North Branch; Pleasant Bay; Black Brook Trail to Neils Harbour; Aspy Trail; Sammy's Barren; Beulach Ban Falls; La Prairie Trail; floodplain of Cheticamp River; Buttereau Trail; Corney Brook Camp; Clyburn Brook; Mackintosh Brook Trail (Niedbała 2002); **NL:** between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: mixed vegetation in taiga; mixed tundra; boreal deciduous (Trembling aspen, birch, beech, maple, oak) and coniferous (White spruce, Black spruce, Jack pine, cedar, hemlock) forest litter; decaying Western redcedar; sedges and fern litter; grassland litter; moss and bog vegetation; beaver lodge.

Distribution: Holarctic.

Phthiracarus brevisetae Jacot, 1930

Synonymy: *Phthiracarus restrictus* Jacot, 1937: (Niedbała 2001).

Geographic Location and Habitats: **QC:** Gatineau Park, Old Chelsea (Notch Rd.), bark from dead elm (Niedbała 2002); Aylmer, mixed forest litter (Niedbała 2007b).

Distribution: Nearctic.

Phthiracarus bryobius Jacot, 1931

Original name: *Phthiracarus setosellum bryobium* Jacot, 1930 (Jacot 1938c)

Synonymy: *Phthiracarus crinitosimilis* Willmann, 1939: (Niedbała 1986b), *Archiphthiracarus crinitosimilis* (Willmann, 1939): (Balogh & Mahunka 1980a), *Archiphthiracarus gobiensis* Mahunka, 1981: (Niedbała 1986b), *Phthiracarus lanatus* Feider & Suciú, 1957: (Krivolutsky 1975), *Archiphthiracarus lanatus* (Feider & Suciú, 1957): (Balogh & Mahunka 1980a), *Phthiracarus pilosus* Sergienko, 1987: (Niedbała 1992), *Archiphthiracarus hungaricus* Balogh et Mahunka, 1979: (Niedbała 1992).

Geographic Location and Habitats: **BC:** William's Lake, forest litter (Battigelli *et al.* 2004).

Distribution: Holarctic.

Phthiracarus cognatus Niedbala, 1988

Synonymy: *Phthiracarus rafalskii* Niedbala, 1997: (Niedbala 2002).

Geographic Location: **BC:** Vancouver Is, Brooks Peninsula, "Lagoon"; Pacific Rim NP, Broken Group Is., Keith Is. 48°54'N, 125°17'; Jacques Is., 48°55'N, 125°16'W; bay on S side of Nettle Is., 48°55.9'N, 125°15.1'W; Marchant Is., 48°55'N, 125°18'W; N side Capstan Is., 48°57'N, 125°17'W; S of Nanaimo; McMillan PP, Cathedral Grove; Barkley Sound, below Crawford Lake, 48°57.5'N, 125°15.3'W; Barkley Sound, Pinkerton Is., 48°57.5'N, 125°16'W; Englishman River Falls PP; Little Qualicum Falls PP; Haida Gwaii, Cape St. James, Weather Station, S side of Island; Rivers Inlet; Manning PP, Sapello Grove (Niedbala 2002); **SK:** Saskatoon, Semipermanent Pond (Niedbala 2002); **ON:** Rondeau PP, Rondeau Trail; Long Point NWA, Squires Ridge (Niedbala 2002).

Habitats: coastal temperate forest litter including from fern, hemlock, spruce, Douglas fir, Western redcedar, salal and mixed alder, Big-leaf maple litter, and wet moss; debris in cedar stump pockets; Silver maple, Black ash litter, oak litter.

Distribution: Nearctic.

Phthiracarus compressus Jacot, 1930

Original name: *Phthiracarus compressum* Jacot, 1930

Geographic Location and Habitats: **NL:** between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer *et al.* 1997, 1998).

Distribution: Nearctic.

Phthiracarus globosus (C.L. Koch, 1841)

Original name: *Hoplophora globosa* C.L. Koch, 1841 (Michael 1898).

Combination: *Phthiracarus globosum* (C.L. Koch, 1841); (Willmann 1931).

Synonymy: *Phthiracarus globus* Parry, 1979: (Kamill 1981), *Phthiracarus rotundus* Ewing, 1908: (Niedbala 2001), *Phthiracarus sphaerulum* (Banks, 1895): (Jacot 1930).

Geographic Location: **BC:** Vancouver Is, Barkley Sound, below Crawford Lake, 48°57.5'N, 125°15.3'W (Niedbala 2002); **MB:** Southeast (Oswald & Minty 1978); Seven Sisters Grassland Project (Niedbala 2002); **ON:** Waba, TP6; White Lake; Morris Is., TP 43; Backus Woods Conservation Area, 42°39'N, 80°28'W; Rondeau PP, Rondeau Trail; Long Point NWA, Squires Ridge (Niedbala 2002); **QC:** Morgan Arboretum (Marshall 1968); **NS:** Cape Breton Highlands NP: nr. Ingonish; Skyline Trail; North Mountain; Pleasant Bay; Lone Shieling; Fishermans Cove (Niedbala 2002).

Habitats: deciduous forest litter including aspen, Silver maple, Sugar maple, Black ash, oak, alder, cherry litters, and moss under beech; grassland litter; spruce litter; fern litter; bog vegetation.

Distribution: Holarctic; Neotropical.

Phthiracarus irreprehens Niedbala, 1988

Geographic Location and Habitats: **BC:** Vancouver Is, Englishman River Falls PP, wet moss (Niedbala 2002).

Distribution: Western Nearctic.

Phthiracarus japonicus Aoki, 1958

Combination: *Archiphthiracarus japonicus* (Aoki, 1958); (Balogh & Mahunka 1983).

Synonymy: *Phthiracarus miyamaensis* Fujikawa, 2004: (Niedbala 2001).

Geographic Location: **BC:** Vancouver Is, Cedar District, S of Nanaimo; Little Qualicum Falls PP; Englishman River Falls PP; McMillan PP, Cathedral Grove, 49°18'N, 124°40'W (Niedbala 2002); **ON:** Alfred Bog (Niedbala 2002); **NS:** Cape Breton Highlands NP, North Mt. Bog; Sammy's Barren; nr. Ingonish; Aspy Trail; La Prairie Trail; floodplain of Cheticamp R.; Pleasant Bay (Niedbala 2002).

Habitats: mixed temperate forest litter; bog vegetation; beaver lodge; moss, fungi, and decaying wood from dead, fallen birch; sedges and fern litter.

Distribution: Holarctic.

Phthiracarus lentulus (C.L. Koch, 1841)

Original name: *Hoplophora lentula* C.L. Koch, 1841

Combination: *Tritia lentula* (C.L. Koch, 1841); (Berlese 1887).

Synonymy: *Phthiracarus rotundus* Berlese, 1923: (Subías 2004), *Phthiracarus angolensis* Mahunka, 1984: (Niedbala 2001).

Geographic Location: **ON:** Cedar Grove, North Gower, (Niedbala 2002); **QC:** Parc Frontenac (Niedbala 2002); Aylmer (Niedbala 2007b); **NS:** Cape Breton Highlands NP, Aspy Trail; Pleasant Bay (Niedbala 2002).

Habitats: mixed forest litter; moss; lichens from bark and branches of tamarack; decaying birch wood; decaying vegetation and moss by stream.

Distribution: Holarctic; Ethiopian.

Phthiracarus ligneus Willmann, 1931

Combination: *Archiphthiracarus ligneus* (Willmann, 1931); (Balogh & Mahunka 1983), *Paraphthiracarus ligneus* (Willmann, 1931); (Aoki 1980).

Synonymy: *Phthiracarus sellnicki* Feider and Suciú, 1957: (Ghilarov 1975).

Geographic Location: **AK:** Fort Richardson (Hammer 1955a).

Habitats: Grass with roots and soil.

Distribution: Holarctic.

Phthiracarus longulus (C.L. Koch, 1841)

Original name: *Hoplophora longula* C.L. Koch, 1841 (Oudemans 1937)

Synonymy: *Phthiracarus apiculatus* Jacot, 1939: (Niedbala 2001), *Phthiracarus flexisetosus* Parry, 1979: (Niedbala 1986), *Phthiracarus hortobagyensis* Mahunka, 1982: (Niedbala 1986), *Phthiracarus montium* Jacot, 1939: (Niedbala 2001), *Phthiracarus mundus* Niedbala, 1983: (Niedbala 1986b), *Phthiracarus prior* Jacot, 1937: (Niedbala 2001), *Phthiracarus setosellus* Jacot, 1929: (Niedbala 1986), *Phthiracarus tardus* Forsslund, 1956: (Kamill 1981).

Geographic Location: **BC:** Interior (Battigelli *et al.* 2004); **QC:** Abitibi (Déchéne & Buddle 2009, 2010); Morgan Arboretum (Marshall 1968; Sylvain & Buddle 2010).

Habitats: boreal mixedwood forest litter including from spruce, beech, and maple.

Distribution: Holarctic; Neotropics.

Phthiracarus luridus (Ewing, 1909)

Original name: *Hoploderma lurida* Ewing, 1909 (Jacot 1938c)

Combination: *Ginglymacarus lurida* (Ewing, 1909); (Ewing 1917), *Archiphthiracarus luridus* (Ewing, 1909); (Déchéne & Buddle 2009).

Geographic Location: **BC:** Manning PP, Sapello Grove (Niedbala 2002); **QC:** Parc National du Mont-Orford (Niedbala 2002); Abitibi (Déchéne & Buddle 2009, 2010).

Habitats: Western redcedar litter; beech litter; boreal mixedwood forest litter.

Distribution: Nearctic.

Phthiracarus modestus Niedbala, 1988

Geographic Location: **BC:** Vancouver Is., Pacific Rim NP, Broken Group Islands, Jacques Is. 48°55'N 125°16'W; Haida Gwaii, Cape St. James, Weather Station (Niedbala 2002).

Habitats: coastal temperate forest floor under cedar, spruce and rocks.

Distribution: Nearctic.

Phthiracarus nitidus Niedbala, 1986

Geographic Location: **BC:** Vancouver Is, Englishman River Falls PP; Barkley Sound, Pinkerton Is., 48°57.5'N, 125°16'W; Broken Group Islands, Keith Is., 48°54.75'N, 125°17'W, (Niedbala 2002); **QC:** Aylmer (Niedbala 2007b); **NS:** Cape Breton Highlands NP, North Mountain (Niedbala 2002).

Habitats: mixed forest litter and wood debris including from rotten fir log, alder litter, and debris in cedar

stump.

Distribution: Nearctic.

Phthiracarus olivaceus Jacot, 1929

Combination: *Notophthiracarus (Calyptophthiracarus) olivaceus* (Jacot, 1929); (Subías 2004).

Synonymy: *Phthiracarus erinaceum* Jacot, 1930: (Niedbala 1986).

Geographic Location: **ON:** Waba, TP6; White Lake; Braeside, TP 35 (Niedbala 2002); **QC:** Morgan Arboretum (Marshall 1968); Gatineau Pk., Old Chelsea (Notch Rd); Ogden, Cedarville; 4 km N Kazabazua (Niedbala 2002).

Habitats: mixed deciduous and coniferous litter; moss on stones; ant nest; bark of White pine, under bark of dead elm and dead beech.

Distribution: Nearctic.

Phthiracarus piger (Scopoli, 1763)

Original name: *Acarus piger* Scopoli, 1763 (Willmann 1931)

Synonymy: *Phthiracarus contractilis* Perty, 1841: (Ghilarov 1975).

Geographic Location: **AK:** Fort Richardson; Anchorage (Hammer 1955a).

Habitats: Grass with roots.

Distribution: Holarctic.

Remarks: According to Marshall *et al.* (1987) Jacot (1930) considered *Acarus piger* Scopoli, 1763 to be unrecognizable and certainly not a *Phthiracarus*; he assigned it to what is now considered the Euphthiracaroida.

Phthiracarus setosus (Bank, 1895)

Original name: *Hoplophora setosa* Banks, 1895 (Jacot 1930)

Combination: *Hoplophora setosum* (Banks, 1895); (Ewing 1909).

Synonymy: *Metaphthiracarus bacillatus* Aoki, 1980: (Niedbala 1986), *Phthiracarus falcatus* Hammer, 1977: (Niedbala 1986).

Geographic Location: **NT:** Bernard Harbour (Niedbala 2002); **ON:** White Lake; Backus Woods Conservation Area, 42°39'N, 80°28'W; Chaffey Locks, Hebert Bog (Niedbala 2002); **QC:** Gatineau Park, Old Chelsea (Notch Rd), (Niedbala 2002); **NS:** Cape Breton Highlands NP, nr. Ingonish; Sammy's Barren; North Mountain, La Prairie Trail; floodplain of Cheticamp R. (Niedbala 2002).

Habitats: deciduous litter; *Rosa*, sedge, and fern litter; moss under beech; *Sphagnum* bogs; bark of dead elm; ant nest.

Distribution: Holarctic.

Phthiracarus validus Niedbala, 1986

Geographic Location: **AK:** Kenai Peninsula, Skilak Lake (Niedbala 2002); **BC:** Vancouver Is., McMillan PP, Cathedral Grove, 49°18'N, 124°40'W; Little Qualicum Falls PP; Cedar District, South of Nanaimo; Manning PP, Sapello Grove, Rhododendron Flats; Ilgachug Mtns., Pan Creek, Moraine Gravel; Hwy 6, 2.4 mi South Silverton (Niedbala 2002); **AB:** Waterton Lakes NP, Bertha Trail; Jasper NP, Sunawapta Falls; Johnson Canyon (Niedbala 2002); ABMI Sites (Walter *et al.* 2014); **ON:** Backus Woods Conservation Area, 42°39'N, 80°28'W; Cedar Grove, SW North Gower (Niedbala 2002); **QC:** Gatineau Park, Old Chelsea (Notch Rd.); Parc National du Mont-Orford; Parc National de Frontenac; Cedarville; 4 km N Kazabazua (Niedbala 2002); **NB:** Kouchibouguac NP (Niedbala 2002); **NS:** Cape Breton Highlands NP, North Mountain Bog; nr. Ingonish; Aspy River, North Branch; Skyline Trail; Pleasant Bay; Lone Shieling; Sammy's Barren; Aspy River Trail, Buttereau Trail; Corney Brook Camp; Clyburn Brook (Niedbala 2002).

Habitats: coastal forests (Douglas fir, Big-leaf maple, Western redcedar, hemlock, mixed maple and alder litter); fern litter; mixedwood boreal forests (pine, Red pine, lodgepole, spruce, Yellow birch, maple, beech, basswood, alder, litter); bear dung; moss; tamarack litter with *Rhododendron*, *Vaccinium*; lichens.

Distribution: Nearctic.

Phthiracarus sp.

Geographic Location and Habitats: **BC:** Upper Klanawa Mainline site, near Franklin River (Berch *et al.* 2001); Isaiah Creek study site (Lindo & Stevenson 2007; as *Archiphthiracarus* sp.); Sicamous Creek (Berch *et al.* 2007); Vancouver Is., Walbran Valley, Western redcedar trunk (Lindo & Winchester 2006, 2007; Lindo *et al.* 2008; as *Archiphthiracarus* sp., 2 spp.); Western redcedar litter traps (Lindo 2010; as *Archiphthiracarus* sp.); **AB:** Trembling aspen, White spruce mesocosm (Cameron *et al.* 2013); **ON:** Petawawa National Forestry Institute, Chalk River mixed conifer-hardwood forest (Bird & Chatarpaul 1986; as *Archiphthiracarus* sp.); **QC:** Morgan Arboretum (Marshall 1968); Abitibi (Déchéne & Buddle 2009, 2010; as *Archiphthiracarus* sp.); boreal claybelt region of Western Québec (Doblas-Miranda & Work 2015); **NL:** between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer *et al.* 1997, 1998).

Genus *Steganacarus* Ewing, 1917

Steganacarus granulatus (Banks, 1902)

Original name: *Hoploderma granulata* Banks, 1902 (Jacot 1930)

Combination: *Hoplophorella granulata* (Banks, 1902); (Marshall *et al.* 1987).

Geographic Location and Habitats: **ON:** Ottawa (Banks 1902); Harrington (Jarvis 1910).

Distribution: Nearctic.

Steganacarus thoreau Jacot, 1930

Combination: *Hoplophorella thoreau* (Jacot, 1930); (Jacot 1933).

Geographic Location: **NT:** Bernard Harbour (Niedbała 2002); **ON:** White Lake (Niedbała 2002); **QC:** Parc National de Frontenac; Drummondville (Niedbała 2002); **NB:** Kouchibouguac NP (Niedbała 2002); **NS:** Cape Breton Highlands NP, North Mountain; Skyline Trail; Sammy's Barren; Paquettes Lake Trail; Aspy River, North Branch; Pleasant Bay; Lone Shieling; Beulach Ban Falls; Buttereau Trail; nr. Ingonish Beach; Clyburn Brook (Niedbała 2002); **NL:** between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: arctic beach litter; tamarack litter with *Ledum*, *Vaccinium*, *Viburnum*; peatlands; mixed Boreal forest litter including spruce, beech, maple, Sugar maple, Red oak, Balsam fir; lichens on rocks; mixed grasses and sedges moss and herbaceous plants in old prairie.

Distribution: Nearctic.

Steganacarus sp.

Geographic Location: **QC:** Mont Tremblant, Black spruce, Jack pine forest (Behan *et al.* 1978).

Infraorder **Desmonomata**

Hyporder **Nothrina**

Superfamily **Crotonioidea**

Family **Crotoniidae**

Genus *Camisia* von Heyden, 1826

Camisia abdosensilla Olszanowski and Clayton, 2002

Geographic Location and Habitats: **BC:** 25km SW Campbell River, 49°50'53"N, 125°26'20"W, branches of Pacific silver fir and Western hemlock (Olszanowski *et al.* 2002).

Distribution: Canada.

Camisia nr. *abdosensilla* Olszanowski and Clayton, 2002

Geographic Location and Habitats: **BC:** Vancouver Is., Walbran Valley (Lindo & Winchester 2006).

Camisia biurus (C.L. Koch, 1839)

Original name: *Nothrus biurus* C.L. Koch, 1839 (van der Hammen 1959)

Synonymy: *Nothrus segnis* sensu C.L. Koch (1839) non Hermann (1804): van der Hammen, 1959, *Nothrus furcatus* C.L. Koch, 1839: (Colloff 1993), *Nothrus pigerrimus* C.L. Koch, 1844: (Colloff 1993), *Camisia exuvialis* Grandjean, 1939: (van der Hammen, 1959), *Uronothrus kochi* Willmann, 1943: (van der Hammen, 1959).

Geographic Location: **AK:** Fort Richardson; Anchorage (Hammer 1955a); Kodiak Is. (Hammer 1967); **YT:** Ivvavik NP, British Mtns, 69°17'N, 140°37'W (Colloff 1993); Porcupine Plain; Ogilvie Mtns (Behan-Pelletier 1997b); **NT:** Keewatin (Behan 1978a); Reindeer Station (Hammer 1952a; Colloff 1993); Richardson and Ogilvie Mtns (Behan-Pelletier 1997b); **NU:** Coppermine (Hammer 1952a); **AB:** Kananaskis Valley (Powell 1971); Cypress Hills PP, Firetower Plateau, (Colloff 1993); peatlands (Behan-Pelletier & Bissett 1994); Wagner Natural Area, 8km W Edmonton, 53°34'N, 113°47'W, fen (Finnamore 1994); ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); **QC:** Timmins 54°60'N, 67°00'W (Behan 1978a); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987); **NL:** between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: rich, mixed tundra vegetation; arctic meadows; cankers of comandra blister rust; Lodgepole pine litter; Balsam fir forest.

Distribution: Holarctic.

Camisia sp. nr. *biurus* (C.L. Koch, 1839)

Geographic Location and Habitats: **MB:** Southeast (Oswald & Minty 1970).

Camisia biverrucata (C.L. Koch, 1839)

Original name: *Nothrus biverrucata* C.L. Koch, 1839 (Willmann 1931)

Synonymy: *Camisia fischeri* Oudemans, 1900: (van der Hammen 1952), *Nothrus horridus* sensu Nicolet (1855): (van der Hammen 1959).

Geographic Location: **AK:** Fort Richardson; Anchorage (Hammer 1955a); **AB:** ABMI Sites; Writing-on-Stone PP; Cypress Hills PP; Moose Pasture Research Site (Walter *et al.* 2014); ABMI Sites (Meehan *et al.* 2019).

Habitats: Moss, lichens.

Distribution: Holarctic.

Camisia dictyna Colloff, 1993

Geographic Location: **YT:** Ivvavik NP, British Mtns, 69°27'N, 140°25'W; kilometre 155, Dempster Highway (Colloff 1993; Behan-Pelletier 1997b); **NU:** Ellesmere Is. (Colloff 1993).

Habitats: *Draba*, *Saxifraga oppositifolia*, *Salix arctica* litter; lichen, moss among rocks; dolomite scree.

Distribution: Nearctic.

Camisia foveolata Hammer, 1955

Geographic Location: **AK:** Barrow (Hammer 1955a); northern coastal plain; Brooks Range; Fairbanks Region; Denali NP (Behan 1978a); **YT:** Richardson Mtns (Behan-Pelletier 1997b).

Habitats: coastal tundra.

Distribution: Holarctic; Chile.

Camisia horrida (Hermann, 1804)

Original name: *Notaspis horridus* Hermann, 1804 (Michael 1988)

Synonymy: *Nothrus mutilis* C.L. Koch, 1839: (Michael 1888), *Nothrus bistriatus* C.L. Koch, 1839: (Michael 1888), *Nothrus sinuatus* C.L. Koch, 1839: (Michael 1888), *Nothrus runeinatus* C.L. Koch, 1839: (Michael 1888), *Nothrus angulatus* C.L. Koch: sensu Berlese (1885): (Michael 1888), *Nothrus rugulosus* Banks, 1895: (Norton 1979b).

Geographic Location: **AK:** Barrow (Hammer 1955a; Hurd & Lindquist 1978; Bohnsack 1968, 1973); Fort Richardson (Hammer 1955a); Cape Thompson (Watson *et al.* 1966); northern coastal plain; Brooks Range;

Fairbanks Region; Chugach Mtns; Kenai Peninsula; Atqasuk; Denali NP; Aleutian Islands (Behan 1978a); **YT**: Richardson Mtns (Hammer 1952a); Coastal Plain; Porcupine Plain; Ogilvie Mtns (Behan-Pelletier 1997b); **NT**: Yellowknife (Hammer 1952a); Mackenzie Delta; Banks Is.; Victoria Is. (Behan 1978a); **NU**: Coppermine (Hammer 1952a); Devon Is. (Ryan 1977); Ellesmere Is.; Igloodik Is. (Behan 1978a); Ellesmere Is., Quttinirpaaq NP, Hazen Camp (Kevan *et al.* 1995); **BC**: Cathedral PP, Cathedral Rim; Manning PP, Skyline Trail (Colloff 1993); **AB**: Kananaskis Valley (Powell & Skaley 1975); ABMI Sites; Cypress Hills PP; Jasper to 7000' (Walter *et al.* 2014); **MB**: Churchill (Hammer 1952a); **NB**: Maritime Lowlands (Pielou & Verma 1968); **NS**: Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Habitats: arctic and subarctic mosses, lichens, and mixed vegetation, *Silene*, *Antennaria*, *Saxifraga*, *Potentilla*, *Dryas*; moist willow litter; bogs; Douglas fir litter; Lodgepole pine litter; *Polyporus* bracket fungi.

Distribution: Holarctic; Ethiopian; Neotropical.

Camisia lapponica (Trägårdh, 1910)

Original name: *Nothrus lapponicus* Trägårdh, 1910 (Willmann 1943).

Synonymy: *Camisia labradorica* Behan, 1978: (Colloff 1993).

Geographic Location: **NT**: Yellowknife (Hammer 1952a); **BC**: Interior (Battigelli *et al.* 2004); **QC**: Timmins 54°60'N, 67°00'W (Behan 1978a, b); Mont Tremblant (Behan *et al.* 1978); boreal claybelt region of Western Québec (Doblas-Miranda & Work 2015); **NL**: between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: Black spruce litter; Balsam fir forest.

Distribution: Holarctic.

Camisia oregonae Colloff, 1993

Geographic Location and Habitats: **BC**: coastal temperate rainforest (Lindo & Clayton 2011).

Distribution: Nearctic.

Camisia orthogonia Olszanowski, Szywilewska and Norton, 2001

Geographic Location: **BC**: Glacier NP (Olszanowski *et al.* 2001); **AB**: Banff (Walter *et al.* 2014).

Habitats: litter in conifer forest of *Picea engelmanni*, *Abies*.

Distribution: Western Nearctic.

Camisia segnis (Hermann, 1804)

Original name: *Notaspis segnis* Hermann, 1804 (Grandjean 1936)

Combination: *Uronothrus segnis* (Hermann, 1804); (Berlese 1913).

Synonymy: *Nothrus bicarinatus* C.L. Koch, 1839: (van der Hammen, 1952), *Camisia bicarinata* (C.L. Koch, 1839): (Willmann 1931), *Nothrus rostratus* C.L. Koch, 1839: (Michael, 1888), *Nothrus ventricosus* C.L. Koch, 1844: (Michael, 1888), *Nothrus excisus* Banks, 1895: (Norton 1979b).

Geographic Location: **AK**: Fort Richardson (Hammer 1955a); Chugach Mtns; Kenai Peninsula; Denali NP; Aleutian Islands (Behan 1978a); **NT**: MacKenzie Delta (Behan 1978a; Behan & Hill 1978); peatlands (Behan-Pelletier & Bissett 1994); **BC**: Isaiah Creek study site (Lindo & Stevenson 2007); Vancouver Is., Walbran Valley (Lindo 2010); Nook Knoll (Walter *et al.* 2014); **AB**: Moose Pasture Research Site (Walter *et al.* 2014); **ON**: Guelph (Jarvis 1910); Rondeau PP, South Point Trail (Colloff 1993); **QC**: Mont Tremblant (Behan *et al.* 1978); Apple orchard (Forest *et al.* 1982); peatlands (Behan-Pelletier & Bissett 1994); **NB**: (Pielou & Verma 1968); peatlands (Behan-Pelletier & Bissett 1994); **NS**: Southwest Nova Scotia Uplands; apple orchards (Rasmy & McPhee 1970); peatlands (Behan-Pelletier & Bissett 1994).

Habitats: Tundra heath; Western redcedar litter; fungi and moss; *Polyporus* bracket fungi.

Distribution: Semicosmopolitan.

Camisia spinifer (C.L. Koch, 1835)

Original Name: *Nothrus spinifer* C.L. Koch, 1835 (Nicolet 1855)

Synonymy: *Nothrus echinatus* C.L. Koch, 1835: (Colloff 1993); *Nothrus sordidus* C.L. Koch, 1839:

(Colloff 1993); *Nothrus taurinus* Banks, 1906: (Norton 1979b).

Geographic Location: **AK:** Fort Richardson; Fairbanks; Anchorage (Hammer 1955a); **YT:** Richardson Mtns, 67°58'N, 136°29'W; Ivvavik NP, British Mtns (Colloff 1993); Ogilvie Mtns (Behan-Pelletier 1997b); **BC:** Interior (Battigelli *et al.* 2004); **AB:** peatlands (Behan-Pelletier & Bissett 1994); Wagner Natural Area, 8km W Edmonton, 53°34'N, 113°47'W (Finnamore 1994); ABMI Sites (Walter *et al.* 2014); **ON:** Long Point NWA, Little Creek Ridges (Colloff 1993).

Habitats: mixed tundra vegetation; spruce forest litter; White pine-cedar parkland.

Distribution: Semicosmopolitan.

Camisia sp.

Geographic Location and Habitats: **BC:** Haynes Lease, *Purshia*, *Aristida*, *Bromus*, *Opuntia*, *Pinus*, *Agropyron* (Behan-Pelletier 1987b); Vancouver Is., Mt. Cain, Amabilis fir canopy specialist (Fagan *et al.* 2005); Walbran Valley (Lindo & Winchester 2006); **AB:** Kananaskis Valley, forest litter under Lodgepole pine infected with comandra blister rust (Powell & Skaley 1975); ABMI Sites (as DEW sp. 1 nr. *solhoeyi* Colloff, 1993) (Walter *et al.* 2014); **MB:** southeast (Oswald & Minty 1970); **ON:** near Chapleau (as sp. 1) (Rousseau *et al.* 2018); **QC:** Mont Tremblant (Behan *et al.* 1978); boreal claybelt region of Western Québec, (Doblas-Miranda & Work 2015; as *Camisia* sp. 2); **NB:** Maritime Lowlands (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Genus *Heminothrus* Berlese, 1913

Heminothrus longisetosus Willmann, 1925

Combination: *Heminothrus paolianus* Berl. var. *longisetosus* Willmann, 1925; (Hammer 1955a).

Geographic Location: **AK:** Fort Richardson; Fairbanks; Anchorage (Hammer 1955a); Kodiak Is. (Hammer 1967); Brooks Range (Behan 1978a); **YT:** Ogilvie Mtns (Behan-Pelletier 1997b); **BC:** Interior (Battigelli *et al.* 2004); **AB:** Moose Pasture Research Site; Cypress Hills PP, Lodgepole pine; ABMI sites (Walter *et al.* 2014; Meehan *et al.* 2019); **QC:** northern region (Behan 1978a); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987); **NL:** between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: boreal spruce and Balsam fir forest; subarctic peatlands.

Distribution: Holarctic.

Heminothrus minor Aoki, 1969

Geographic Location: **AB:** EMEND Site (Lindo & Visser 2004).

Habitats: White spruce litter.

Distribution: Eastern Palaearctic; Nearctic.

Heminothrus targionii (Berlese, 1885)

Original name: *Nothrus targionii* Berlese, 1885 (Willmann 1931)

Synonymy: *Nothrus princeps* Berlese, 1916: (Norton & Kethley 1990).

Geographic Location and Habitats: **AB:** ABMI Sites (Walter *et al.* 2014); **QC:** Mont Tremblant, Black spruce litter (Behan *et al.* 1978).

Distribution: Holarctic.

Heminothrus yamasakii Aoki, 1958

Geographic Location and Habitats: **AB:** ABMI sites; Moose Pasture Research Site (Walter *et al.* 2014); **ON:** Carleton Place (Walter *et al.* 2014); ABMI Sites (Meehan *et al.* 2019); **NB:** Kouchibouguac NP (Walter *et al.* 2014).

Distribution: Nearctic; Eastern Palaearctic.

Heminothrus sp.

Geographic Location and Habitats: **BC:** Isaiah Creek study site (Lindo & Stevenson 2007); **ON:** near

Chapleau (Rousseau *et al.* 2018; as *Heminothrus (Platynothrus)* sp. 1 (nr. *thori*); **QC**: Mont Tremblant Black spruce litter (2 spp.) (Behan *et al.* 1978); **NS**: Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Genus *Neonothrus* Forsslund, 1955

Neonothrus humicola Forsslund, 1955

Combination: *Heminothrus humicola* (Forsslund, 1955), *Heminothrus (Platynothrus) humicola* (Forsslund, 1955); (Balogh & Mahunka 1983).

Geographic Location and Habitats: **AK**: Brooks Range; Denali NP; Fairbanks Region; Aleutian Islands (Behan 1978a); **BC**: Interior, forest litter (Battigelli *et al.* 2004); **AB**: ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019).

Distribution: Holarctic; Iran.

Genus *Platynothrus* Berlese, 1913

Platynothrus banksi (Michael, 1898)

Original name: *Nothrus banksi* Michael, 1898 (Norton 1979b)

Geographic Location and Habitats: **BC**: coastal temperate rainforest (Lindo & Clayton 2011).

Distribution: Western Nearctic; eastern Palaearctic.

Platynothrus capillatus (Berlese, 1914)

Original name: *Angelia capillata* Berlese, 1914 (Weigmann 2006)

Synonymy: *Platynothrus septentrionalis* (Sellnick, 1944): (Olszanowski 1996).

Geographic Location and Habitats: **BC**: Sicamous Creek (Berch *et al.* 2007; as *P. septentrionalis*); Interior, forest litter (Battigelli *et al.* 2004; as *P. septentrionalis*).

Distribution: Holarctic.

Platynothrus sp. nr. *capillatus* (Berlese, 1914)

Geographic Location and Habitats: **BC**: Interior, forest litter (Battigelli *et al.* 2004; as nr. *septentrionalis*); Isaiah Creek study site (Lindo & Stevenson 2007; as nr. *septentrionalis*).

Platynothrus peltifer (C.L. Koch, 1839)

Original name: *Nothrus peltifer* C.L. Koch, 1839 (Willmann 1931).

Combination: *Heminothrus peltifer* (C.L. Koch, 1839); (Balogh & Mahunka 1983).

Synonymy: *Nothrus palliatus* C.L. Koch, 1839: (van der Hammen 1959), *Angelia palliata* (C.L. Koch, 1839): (Berlese 1896), *Nothrus bistriatus* Nicolet, 1855; non C.L. Koch (1839): (Michael 1884-1888), *Nothrus cirrosus* Canestrini and Fanzago, 1876: (Michael 1884-1888).

Geographic Location: **AK**: Fort Richardson; Anchorage (Hammer 1955a); Kodiak Is., (Hammer 1967); Brooks Range (Behan 1978a); **YT**: Porcupine Plain; Richardson Mtns; Ogilvie Mtns (Behan-Pelletier 1997b); **NT**: Reindeer Station (Hammer 1952a); peatlands (Behan-Pelletier & Bissett 1994); **NU**: Baffin Is., Cumberland Peninsula (Bushnell & Byron 1979); **BC**: Interior (Battigelli *et al.* 2004); Upper Klanawa Mainline site, near Franklin River (Berch *et al.* 2001); Sicamous Creek (Berch *et al.* 2007); Isaiah Creek study site (Lindo & Stevenson 2007); Mt. Cain (Fagan *et al.* 2005); **AB**: Wagner Natural Area, 8km W Edmonton, 53°34'N, 113°47'W (Finnamore 1994); EMEND Site (Lindo & Visser 2004); peatlands (Behan-Pelletier & Bissett 1994); ABMI Sites; Waterton Lakes NP; Banff NP; Cypress Hills PP; Kananaskis (Walter *et al.* 2014); ABMI Sites (Meehan *et al.* 2019); **ON**: Lake Superior, Granite Is., Black Bay, ring-billed gull nests (Freitag & Ryder 1973); peatlands (Behan-Pelletier & Bissett 1994); **QC**: Timmins 54°60'N, 67°00'W (Behan 1978a); Morgan Arboretum (Sylvain & Buddle 2010); peatlands (Behan-Pelletier & Bissett 1994); **NS**: peatlands (Behan-Pelletier & Bissett 1994); Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987); **NL**: between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: Arctic meadow; Boreal; coniferous (spruce, Amabilis fir, White spruce, Balsam fir) and deciduous

(beech) litter.

Distribution: Semicosmopolitan.

Platynothrus punctatus (L. Koch, 1879)

Original name: *Nothrus punctatus* L. Koch, 1879 (Willmann 1943)

Combination: *Heminothrus punctatus* (L. Koch, 1879); (Balogh & Mahunka 1983).

Synonymy: *Hermannia carinata* Kramer, 1897: (Seyd 1970), *Heminothrus valentianus* Hull, 1916: (Seyd 1970), *Neoliodes peltifer* sensu Michael (1898) non C.L. Koch (1839): (Seyd 1970).

Geographic Location and Habitats: **AK:** Cape Thompson (Watson *et al.* 1966); northern coastal plain; Brooks Range; Fairbanks Region; Atkasuk (Behan 1978a); Seward Peninsula, near to Cape Espenberg, 66°28'22"N, 163°56'56"W, greyish tephra from Aniakchak eruption (Blackford *et al.* 2014); **YT:** (Hammer & Wallwork 1974); Porcupine Plain; Richardson Mtns; Ogilvie Mtns (Behan-Pelletier 1997b); **NT:** Mackenzie Delta, subarctic (Behan 1978a); **NU:** Coppermine (Hammer 1952a); Baffin Is. (Behan 1978a); **MB:** Churchill (Hammer 1952a); **NS:** Sable Is., pond margin (Majka *et al.* 2007).

Habitats: wet meadows with thick moss.

Distribution: Holarctic.

Platynothrus sibiricus Sitnikova, 1975

Combination: *Heminothrus sibiricus* (Sitnikova 1975); (Balogh and Mahunka 1983).

Geographic Location: **AK:** Fairbanks Region; Aleutian Islands (Behan 1978a); **BC:** Sicamous Creek (Berch *et al.* 2007); **AB:** ABMI Sites (Walter *et al.* 2014).

Distribution: eastern Palaearctic; western Nearctic; Central America.

Platynothrus thori (Berlese, 1904)

Original name: *Angelia thori* Berlese, 1904 (Sellnick 1955)

Combination: *Heminothrus thori* (Berlese, 1904); (Willmann 1931), *Nothrus (Heminothrus) thori* (Berlese, 1904); (Berlese 1913), *Heminothrus (Capillonothrus) thori* (Berlese, 1904); (Kunst 1971).

Geographic Location: **AB:** peatlands (Behan-Pelletier & Bissett 1994); Wagner Natural Area, 8km W Edmonton, 53°34'N, 113°47'W, fen (Finnamore 1994); ABMI Sites (Walter *et al.* 2014); **MB:** Churchill (Hammer 1952a); Southeast, forest litter (Oswald & Minty 1970); peatlands (Behan-Pelletier & Bissett 1994); **QC:** Timmins 54°60'N, 67°00'W (Behan 1978a); Abitibi, boreal mixedwood forest (Déchêne & Buddle 2009, 2010); **NL:** peatlands (Behan-Pelletier & Bissett 1994).

Habitats: boreal peatlands and mixedwood forest; moist meadows with grass, moss, *Pinguicula*, *Vaccinium*, *Andromeda*.

Distribution: Holarctic; Oriental.

Platynothrus sp.

Geographic Location and Habitats: **AK:** Barrow (Hurd & Lindquist 1958); **AB:** northeastern (Cameron *et al.* 2013); ABMI Sites (Walter *et al.* 2014); **QC:** Mont Tremblant (Behan *et al.* 1978); Abitibi, boreal mixedwood forest (Déchêne & Buddle 2009, 2010); **NB:** Maritime lowlands (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Family **HermannIIDae**

Genus **Hermannia** Nicolet, 1855

Hermannia gibba (C. L. Koch, 1839)

Original name: *Nothrus gibbus* C.L. Koch, 1839 (Willmann 1931)

Synonymy: *Hermannia crassipes* Nicolet, 1855: (Woas 1978), *Angelia piceus* sensu Berlese (1885) non C.L. Koch (1840), *Nothrus piceus* sensu Berlese (1886) non C.L. Koch (1840), *Hermannia picea* sensu Berlese (1896) non C.L. Koch (1840), *Hermannia convexa* sensu Michael (1898) non C.L. Koch (1840): (Woas 1978).

Geographic Location: **AK:** Chugach Mtns; Kenai Peninsula; Aleutian Islands; Nunivak Is. (Behan 1978a); **BC:** Vancouver Is., Walbran Valley (Lindo & Winchester 2006, 2007; Lindo *et al.* 2008).
Habitats: Western redcedar litter; coniferous forest litter.
Distribution: Holarctic; Seychelles.

Hermannia hokkaidensis Aoki and Ohnishi, 1974

Geographic Location: **YT:** Coastal Plain (Behan-Pelletier 1997b).
Habitats: coastal tundra; beach wrack.
Distribution: Canada; Japan.

Hermannia reticulata Thorell, 1871

Synonymy: *Hermannia quadriseriata* Banks, 1899: (Seyd 1981).
Geographic Location and Habitats: **AK:** Barrow (Hammer 1955a; Hurd & Lindquist 1958; Bohnsack 1973; Behan & Hill 1978); Cape Thompson (Watson *et al.* 1966; Behan & Hill 1978); northern coastal plain; Fairbanks Region (Behan 1978a); **YT:** Coastal plain (Behan-Pelletier 1997b); **NT:** Mackenzie Delta, arctic and subarctic (Behan 1978a); Tuktoyaktuk (Behan & Hill 1978); **NU:** Coppermine (Hammer 1952a); **QC:** northern region (Behan 1978a).
Habitats: coastal tundra; beach wrack; tussock tundra; *Carex* polygon.
Distribution: Holarctic.

Hermannia scabra (L. Koch, 1879)

Original name: *Nothrus scabra* L. Koch, 1879 (Hammer 1944)

Combination: *Lohmannia scabra* (L. Koch, 1879); (Banks 1923).
Geographic Location: **AK:** Fort Richardson; Anchorage (Hammer 1955a); Barrow (Douce 1976); Cape Thompson (Watson *et al.* 1966); Fairbanks Region; Pribilof Islands (Behan 1978a); North Slope, Atkasuk (Behan & Hill 1978); **NU:** Ellesmere Is., Hot Weather Creek (Brodo 2000).
Habitats: tussock tundra.
Distribution: Holarctic.

Hermannia subglabra Berlese, 1910

Synonymy: *Hermannia pulchella* Willmann, 1952: (van der Hammen 1959).
Geographic Location: **AK:** Barrow (Hammer 1955a; Hurd & Lindquist 1958; Bohnsack 1973); Anaktuvuk Pass (Hammer 1955a); Cape Thompson (Watson *et al.* 1966); Brooks Range; Aleutian Islands (Behan 1978a); **YT:** Coastal plain (Behan-Pelletier 1997b); **NT:** Banks Is. (Behan & Hill 1978); **NU:** Devon Is. (Ryan 1977); Somerset Is.; Baffin Is.; Axel Heiberg Is.; Igloodik Is. (Behan 1978a; Behan & Hill 1978); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).
Habitats: *Salix*; shrub tundra; wet meadows.
Distribution: Holarctic.

Hermannia sp.

Geographic Location and Habitats: **QC:** boreal claybelt region of Western Québec (Doblas-Miranda & Work 2015); **NS:** Southwest Nova Scotia Uplands, from apple orchards (Rasmy & McPhee 1970).

Family **Malaconothridae**

Genus *Malaconothrus* Berlese, 1904

Malaconothrus mollisetosus Hammer, 1952

Geographic Location: **AK:** Fort Richardson (Hammer 1955a); Fairbanks Region (Behan 1978a); **YT:** Porcupine Plain; Ogilvie Mtns (Behan-Pelletier 1997b); **NT:** Yellowknife (Hammer 1952a); **AB:** ABMI Sites (Meehan *et al.* 2019); **MB:** Churchill (Hammer 1952a); **QC:** northern region; Timmins 54°60'N, 67°00'W (Behan 1978a).

Habitats: muskeg.

Distribution: Holarctic.

Remarks: This species was considered a junior synonym of *M. monodactylus* (Michael, 1888) by Subías (2004), but was retained as a distinct species by Colloff (2013).

Malaconothrus cf. *mollisetosus* Hammer, 1952

Geographic Location and Habitats: **AB:** ABMI Sites (Walter *et al.* 2014); **ON:** boreal peatland near White River, northern Ontario (Baretto & Lindo 2018).

Malaconothrus sp.

Geographic Location: **AK:** Aleutian Islands (Behan 1978a); Seward Peninsula, near to Cape Espenberg, 66°28'22"N, 163°56'56"W, greyish tephra from Aniakchak eruption (Blackford *et al.* 2014); **BC:** Vancouver Is., Walbran Valley (Lindo & Winchester 2006); **MB:** southeast (Oswald & Minty 1970); **ON:** Chalk River (Marshall 1972); **QC:** Gatineau Park (Pielou & Matthewman 1966); Morgan Arboretum (Marshall 1968); **NB:** Northeast of Ludlow, 46°33'N, 66°14'W (Pielou & Verma 1968); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987); **NL:** between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Genus *Tyrphonostrus* Knülle, 1957 (= *Trimalaconothrus*)

Tyrphonostrus foveolatus (Willmann, 1931)

Original name: *Trimalaconothrus foveolatus* Willmann, 1931 (Colloff 2013)

Geographic Location: **AK:** Gulf of Alaska, Samovar Hills, 60°17'N, 140°37'W (Block 1966); **AB:** ABMI Sites (Walter *et al.* 2014); **ON:** near White River (Barreto & Lindo 2018); **NB:** Southern New Brunswick Uplands (Behan-Pelletier 2010).

Habitats: Sphagnum peatlands.

Distribution: Holarctic; Oriental.

Tyrphonostrus maior (Berlese, 1910)

Original name: *Malaconothrus maior* Berlese, 1910 (Colloff 2013)

Synonymy: *Malaconothrus novus* Sellnick, 1921, *Trimalaconothrus novus* (Sellnick, 1921): (Norton & Kethley 1990), *Camisia monodactylus* sensu Oudemans (1925): (van der Hammen 1952), *Trimalaconothrus tardus* sensu Buitendijk (1945) non Michael (1888): (Colloff 2013).

Geographic Location: **AK:** Fort Richardson (Hammer 1955a); Gulf of Alaska, Samovar Hills, 60°17'N 140°37'W (Block 1966); Brooks Range; Denali NP; Fairbanks Region; Atqasuk (Behan 1978a); Seward Peninsula, near to Cape Espenberg, 66°28'22"N, 163°56'56"W, greyish tephra from Aniakchak eruption (Blackford *et al.* 2014); **NT:** Yellowknife (Hammer 1952a); Tuktoyaktuk; MacKenzie Delta, subarctic (Behan 1978a); peatlands (Behan-Pelletier & Bissett 1994); **NU:** Coppermine (Hammer 1952a); Baffin Is.; Ellesmere Is. (Behan 1978a); **AB:** ABMI sites (Walter *et al.* 2014; Meehan *et al.* 2019); **ON:** near White River (Barreto & Lindo 2018); **QC:** Timmins 54°60'N, 67°00'W (Behan 1978a); **NB:** peatlands (Behan-Pelletier & Bissett 1994); Southern New Brunswick Uplands (Behan-Pelletier 2010); **NS:** peatlands (Behan-Pelletier & Bissett 1994); Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987); **NL:** peatlands (Behan-Pelletier & Bissett 1994).

Habitats: Muskeg; tundra; peatlands.

Distribution: Cosmopolitan.

Tyrphonostrus sp. (All as *Trimalaconothrus* sp.)

Geographic Location and Habitats: **AK:** northern coastal plain; Brooks Range; Chugach Mtns; Kenai Peninsula; Denali NP; Fairbanks Region; Atqasuk (Behan 1978a); **AB:** ABMI sites (2 spp.) (Walter *et al.* 2014); (1 sp.) (Meehan *et al.* 2019); **MB:** Riding Mountain NP (Conroy 1974); **QC:** Morgan Arboretum (Marshall 1968); **NB:** peatlands (Behan-Pelletier & Bissett 1994); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010, Behan-Pelletier *et al.* 1987).

Family **Nanhermanniidae Sellnick, 1928**

Genus *Nanhermannia* Berlese, 1913

Nanhermannia dorsalis (Banks, 1896)

Original name: *Carabodes dorsalis* Banks, 1896 (Jacot 1936)

Synonymy: *Nanhermannia coronata* Berlese, 1913: (Norton & Kethley 1990), but see Remarks below.

Geographic Location: **AK:** Aleutian Islands (Behan 1978a); **YT:** (Behan 1978a); **NT:** peatlands (Behan-Pelletier & Bissett 1994); **ON:** Chalk River (Marshall 1972); **QC:** Timmins 54°60'N, 67°00'W (Behan 1978a). **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Habitats: peatlands; coniferous litter.

Distribution: Holarctic; Neotropical; China.

Remarks: Synonymy of *N. coronata* with *N. dorsalis* needs further study with reexamination of type specimens (R.A. Norton pers. comm. 2019) (Weigmann 2006). *N. dorsalis* is a forest species, whereas *N. coronata* is a peatland and bog species in Europe. It is probable that all peatland species from Canada and Alaska are *N. coronata*.

Nanhermannia cf. *dorsalis* (Banks, 1896)

Geographic Location and Habitats: **ON:** near White River (Barreto & Lindo 2018).

Nanhermannia elegantula Berlese, 1913

Geographic Location: **BC:** Upper Klanawa Mainline site, near Franklin River (Berch *et al.* 2001); Isaiah Creek study site (Lindo & Stevenson 2007); Vancouver Is., Walbran Valley (Lindo & Winchester 2006, 2007); **QC:** Morgan Arboretum, (Sylvain & Buddle 2010); boreal claybelt region of Western Québec (Doblas-Miranda & Work 2015); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Habitats: Western redcedar trunk; beech litter; Black spruce litter.

Distribution: Holarctic.

Nanhermannia nana (Nicolet, 1855)

Original name: *Nothrus nanus* Nicolet, 1855 (Ghilarov 1975)

Combination: *Hermannia nana* (Nicolet, 1855); (Berlese 1885).

Synonymy: *Nanhermannia elegantula* sensu Sellnick (1928), non Berlese (1913): (van der Hammen 1959), *Nanhermannia dorsalis elegantula* Jacot, 1937: (Marshall *et al.* 1987).

Geographic Location: **MB:** Southeast (Oswald & Minty 1970); **QC:** Morgan Arboretum (Marshall 1968).

Habitats: forest litter.

Distribution: Semicosmopolitan.

Nanhermannia sp. nr. *comitalis* Berlese, 1916

Geographic Location and Habitats: **BC:** Vancouver Is., Walbran Valley (Lindo & Winchester 2006).

Nanhermannia sp.

Geographic Location and Habitats: **YT:** Coastal plain (Behan-Pelletier 1997b); **AB:** Wagner Natural Area, 8km W Edmonton, 53°34'N, 113°47'W, fen (Finnamore 1994); Trembling aspen, White spruce mesocosm (Cameron *et al.* 2013); peatlands (Behan-Pelletier & Bissett 1994); ABMI Sites (Meehan *et al.* 2019); **MB:** southeast, forest litter (Oswald & Minty 1970); **QC:** Mont Tremblant (Behan *et al.* 1978); Abitibi (Déchéne & Buddle 2009, 2010); peatlands (Behan-Pelletier & Bissett 1994); boreal claybelt region of Western Québec (Doblas-Miranda & Work 2015); **NS:** Southwest Nova Scotia Uplands; Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987); **NL:** between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer *et al.* 1997, 1998); peatlands (Behan-Pelletier & Bissett 1994).

Family **Nothridae**

Genus *Nothrus* C.L. Koch, 1836

Nothrus anauniensis Canestrini and Fanzago, 1876

Synonymy: *Camisia biciliatus* sensu Oudemans (1902), non Koch (1841), *Nothrus biciliatus* sensu Sellnick & Forsslund (1955), non C.L. Koch (1841): (Grandjean 1965).

Geographic Location: **AK:** Fairbanks (Hammer 1955a); **BC:** Interior (Battigelli *et al.* 2004); **AB:** ABMI Sites; Edmonton (Parkallen), Meanook (Walter *et al.* 2014); **ON:** Petawawa National Forestry Institute, Chalk River (Bird & Chatarpaul 1986); Waterloo (Klironomos & Kendrick 1995, 1996); **QC:** Morgan Arboretum, (Sylvain & Buddle 2010); peatlands (Behan-Pelletier & Bissett 1994); St. Clet (Smith 1978); **NL:** between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: mixed coniferous and deciduous forest litter including from spruce, Sugar maple, Balsam fir forest.

Distribution: Semicosmopolitan.

Remarks: Grandjean (1965) suggested that *Nothrus biciliatus* C.L. Koch, 1841 was an unrecognizable species and that it would be preferable to use the name *Nothrus anauniensis* Canestrini and Fanzago, 1876 for the *biciliatus* of authors. According to Marshall *et al.* (1987), some North American records of this species might be confused with *N. monodactylus* (Berlese, 1910), *N. terminalis* Banks, 1910 and *N. truncatus* Banks, 1895, all similar species.

Nothrus borussicus Sellnick, 1928

Synonymy: *Nothrus biciliatus* sensu Trägårdh (1904) non C.L. Koch (1841): (Hammer 1946), *Nothrus silvestris* sensu Jorgensen (1934) non Nicolet (1855): (Hammer 1946).

Geographic Location: **AK:** Kodiak Is. (Hammer 1967); Brooks Range (Behan 1978a); **YT:** Richardson Mtns (Hammer 1952a); Porcupine Plain, Richardson Mtns; Ogilvie Mtns (Behan-Pelletier 1997b); **NT:** Reindeer Station; Yellowknife (Hammer 1952a); Keewatin; Mackenzie Delta, subarctic (Behan 1978a); **BC:** Interior (Battigelli *et al.* 2004); **AB:** ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); **MB:** Churchill (Hammer 1952a); **QC:** Morgan Arboretum (Sylvain & Buddle 2010).

Habitats: Gravel near water in *Calamagrostis canadensis* zone; spruce and other conifer litter.

Distribution: Holarctic; northern Neotropical.

Nothrus monodactylus (Berlese, 1910)

Original name: *Angelia anauniensis monodactylus* Berlese, 1910 (Jacot 1937d)

Synonymy: *Nothrus terminalis* Banks, 1910: (Norton & Kethley 1990), *Nothrus terminalis carolinae* Banks, 1910: (Norton & Kethley 1990).

Geographic Location: **QC:** Morgan Arboretum (Sylvain & Buddle 2010).

Habitats: beech, conifer litter.

Distribution: Nearctic.

Nothrus palustris C.L. Koch, 1839

Combination: *Angelia palustris* (C.L. Koch, 1839); (André 1925).

Geographic Location: **AK:** Kodiak Is. (Hammer 1967); **AB:** Wagner Natural Area, 8km W Edmonton, 53°34'N, 113°47'W (Finnamore 1994); **QC:** Morgan Arboretum (Sylvain & Buddle 2010); **NL:** between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: *Calamagrostis canadensis* zone near water; deciduous, coniferous litter; Balsam fir forests; peatlands; fen.

Distribution: Holarctic; Oriental.

Nothrus parvus Sitnikova, 1975

Geographic Location and Habitats: **AB:** ABMI Sites (Walter *et al.* 2014).

Distribution: Holarctic.

Nothrus pratensis Sellnick, 1928

Geographic Location and Habitats: **AK:** Fairbanks (Hammer 1955a); Gulf of Alaska, Samovar Hills, 60°17'N, 140°37'W (Block 1966); Kodiak Is., (Hammer 1967); Fairbanks (Behan & Hill 1978); **YT:** Coast Mtns (Behan-Pelletier 1997b); **NT:** Yellowknife; Reindeer Station (Hammer 1952a); Keewatin, MacKenzie Delta (Behan 1978a; Behan & Hill 1978); **NU:** Baffin Is. (Behan 1978a); Baker Lake (Behan & Hill 1978); **AB:** ABMI Sites (Meehan *et al.* 2019); **QC:** Timmins 54°60'N, 67°00'W (Behan 1978a; Behan & Hill 1978); Morgan Arboretum (Sylvain & Buddle 2010).

Habitats: tundra with birch, lichen; boreal muskeg and peatlands; boreal coniferous (Black spruce) and deciduous (beech) litter and lichen.

Distribution: Holarctic.

Nothrus cf. pratensis Sellnick, 1928

Geographic Location and Habitats: **AB:** ABMI Sites (Walter *et al.* 2014).

Nothrus silvestris Nicolet, 1855

Combination: *Angelia silvestris* (Nicolet, 1855); (Berlese 1896).

Synonymy: *Nothrus anauniensis* sensu Berlese (1885) non Canestrini & Fanzago (1876): (van der Hammen 1959), *Angelia anauniensis* sensu Lombardini (1936) non Canestrini & Fanzago (1876): (van der Hammen 1959).

Geographic Location: **BC:** Upper Klanawa Mainline site, near Franklin River (Berch *et al.* 2001); Interior (Battigelli *et al.* 2004); **MB:** Southeast (Oswald & Minty 1970); **ON:** Chalk River (Marshall 1972; Bird & Chatarpaul 1986); Sudbury (St. John *et al.* 2002); near Chapleau (Rousseau *et al.* 2018); **QC:** Mont Tremblant (Behan *et al.* 1978); Abitibi (Déchêne & Buddle 2009, 2010); Morgan Arboretum (Sylvain & Buddle 2010).

Habitats: temperate and boreal coniferous (spruce, mixed conifer, Jack pine), deciduous (White birch, Trembling aspen, beech, maple, mixed hardwood) litter.

Distribution: Holarctic.

Nothrus sp. nr. *silvestris* Nicolet, 1855

Geographic Location and Habitats: **BC:** Vancouver Is., Walbran Valley (Lindo & Winchester 2006); **ON:** Petawawa National Forestry Institute, Chalk River, mixed conifer-hardwood forest (Bird & Chatarpaul 1986).

Nothrus truncatus Banks, 1895

Geographic Location and Habitats: **QC:** Mirabel municipality south of Belle-Rivière (Tousignant *et al.* 1988; Tousignant & Coderre 1992).

Distribution: Nearctic.

Nothrus sp. ? *truncatus* Banks, 1895

Geographic Location and Habitats: **QC:** Morgan Arboretum, mixed forest litter (Marshall 1968).

Nothrus sp. cf. *biciliatus* Koch, 1841

Geographic Location and Habitats: **QC:** Apple orchard (Forest *et al.* 1982).

Nothrus sp. nr. *pulchellus* (Berlese, 1910)

Geographic Location and Habitats: **BC:** Interior (Battigelli *et al.* 2004).

Nothrus sp.

Geographic Locations and Habitats: **AK:** Seward Peninsula, near to Cape Espenberg, 66°28'22"N, 163°56'56"W, greyish tephra from Aniakchak eruption (Blackford *et al.* 2014); **AB:** Roy Berg Kinsella Research Ranch (Newton & Proctor 2013); ABMI Sites; Moose Pasture Research Site (Walter *et al.* 2014); ABMI Sites (Meehan *et al.* 2019); **ON:** Lake Superior, Granite Is., Black Bay, ring-billed gull nests

(Freitag & Ryder 1973); **QC**: boreal claybelt region of Western Québec (Doblas-Miranda & Work 2015); **NB**: peatlands (Behan-Pelletier & Bissett 1994); **NS**: Cape Breton Highlands NP; southwest Nova Scotia uplands (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987); **PE**: (Behan-Pelletier 2010, Behan-Pelletier *et al.* 1987).

Family **Trhypochthoniidae**

Genus *Mainothrus* Choi, 1996

Mainothrus badius (Berlese, 1905)

Original name: *Tripochthonius [sic] badius* Berlese, 1905 (Willmann 1931)

Combination: *Trhypochthonius badius* Berlese, 1905; (Willmann 1931), *Trhypochthoniellus badius* (Berlese, 1905); (van der Hammen 1959).

Geographic Location: **AB**: peatlands (Behan-Pelletier & Bissett 1994); Wagner Natural Area, 8km W Edmonton, 53°34'N, 113°47'W (Finnamore 1994); ABMI sites; Waterton Lakes (edge of Belly River); Jasper (Walter *et al.* 2014); ABMI Sites (Meehan *et al.* 2019); **MB**: Churchill (Hammer 1952a); peatlands (Behan-Pelletier & Bissett 1994); **ON**: near White River (Barreto & Lindo 2018); **QC**: Mont Tremblant (Behan *et al.* 1978); peatlands (Behan-Pelletier & Bissett 1994).

Habitats: bogs, peatlands.

Distribution: Holarctic.

Genus *Mucronothrus* Trägårdh, 1931

Mucronothrus nasalis (Willmann, 1929)

Original name: *Malaconothrus (?) nasalis* Willmann, 1929 (Willmann 1933)

Synonymy: *Mucronothrus rostratus* Trägårdh, 1931: (Hammer 1965).

Geographic Location: **BC**: 10 km NW of Oliver; Lake Cowichan, North Shore Road (Norton *et al.* 1996); **AB**: Cypress Hills PP, Lodgepole Pine Campground, 1 mi S Elkwater (Norton *et al.* 1988, 1996); ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); **SK**: Cypress Hills PP, Rippling Waters Trail (Norton *et al.* 1988, 1996); **ON**: Scarborough Campus, University of Toronto, Valley spring (43°45'N, 79°15'W) (Norton *et al.* 1988); Parry Sound District, Georgian Bay, profundal zone; Peterborough Co., Warsaw, Warsaw Caves Conservation Area (Norton *et al.* 1988, 1996); **QC**: Parc des Laurentides, Montmorency Forest, small stream (Norton *et al.* 1988, 1996); **NB**: Kent Co., Kouchibouguac NP, La Source Picnic Area (Norton *et al.* 1988, 1996); **NL**: Terra Nova NP, 'trout pond' (Norton *et al.* 1988); Gros Morne NP, Green Point Picnic Area (Norton *et al.* 1988, 1996).

Habitat: Cold streams, seepages.

Distribution: Worldwide.

Genus *Trhypochthoniellus* Willmann, 1928

Trhypochthoniellus longisetus (Berlese, 1904)

Original name: *Trhypochthonius longisetus* Berlese, 1904 (Balogh & Mahunka 1983)

Synonymy: *Camisia excavata* Willmann, 1919, *Trhypochthoniellus excavatus* (Willmann, 1919): (Grandjean 1939), *Nothrus crassus* Warburton & Pearce, 1905, *Trhypochthonius crassus* (Warburton & Pearce, 1905): (Luxton 1987), *Hydronothrus crispus* Aoki, 1964: (Weigmann 2006).

Geographic Location: **AB**: Wagner Natural Area, 8km W Edmonton, 53°34'N, 113°47'W (Finnamore 1994).

Habitat: fen.

Distribution: Cosmopolitan.

Trhypochthoniellus setosus canadensis Hammer, 1952

Geographic Location: **AK**: Brooks Range (Behan 1978a); **YT**: Ogilvie Mtns (Behan-Pelletier 1997b); **NT**:

Yellowknife (Hammer 1952a); peatlands (Behan-Pelletier & Bissett 1994); **AB**: peatlands (Behan-Pelletier & Bissett 1994); Wagner Natural Area, 8km W Edmonton, 53°34'N, 113°47'W (Finnamore 1994); ABMI Sites; Moose Pasture Research Site; Lake Wabamun (Walter *et al.* 2014); **NB**: peatlands (Behan-Pelletier & Bissett 1994); **NS**: Sable Is. (Majka *et al.* 2007); **NL**: peatlands (Behan-Pelletier & Bissett 1994).

Habitats: Peatlands; moss along lake margins.

Distribution: Nearctic.

Remarks: Weigmann (1999) considered *Trhypochthoniellus longisetus* to be polymorphic in Europe and proposed *T. trichosus* (Schweizer) and *T. setosus* Willmann as junior synonyms. Subías (2004) recombined *T. setosus canadensis* as *T. longisetus canadensis*. We retain *T. setosus canadensis* herein as North American specimens have not been the subject of morphometric analysis.

Genus *Trhypochthonius* Berlese, 1904

Trhypochthonius americanus (Ewing, 1908)

Original name: *Tumidulus americanus* Ewing, 1908 (Banks 1915)

Geographic Location: **ON**: near Chapleau (Rousseau *et al.* 2018); **QC**: Abitibi (Déchéne & Buddle 2009, 2010).

Habitats: Jack pine forest; boreal mixedwood forest.

Distribution: Nearctic.

Trhypochthonius cladonicola (Willmann, 1919)

Original name: *Camisia cladonicola* Willmann, 1919 (Willmann 1931)

Geographic Location: **AB**: ABMI sites (Meehan *et al.* 2019); **QC**: Schefferville (ZL, unpublished record).

Habitats: lichen in taiga; forest floor with significant patches of *Cladonia*.

Distribution: Holarctic.

Trhypochthonius cf. *cladonicola* (Willmann, 1919)

Geographic Location: **AB**: ABMI sites (Walter *et al.* 2014).

Trhypochthonius cf. *nigricans* Willmann, 1928

Geographic Location: **AB**: ABMI sites (Walter *et al.* 2014).

Trhypochthonius tectorum (Berlese, 1896)

Original name: *Hypochthonius tectorum* Berlese, 1896 (Berlese 1904)

Combination: *Nothrus tectorum* (Berlese, 1896); (Warburton & Pearce 1905).

Geographic Location: **AK**: Fort Richardson; Fairbanks (Hammer 1955a); Fairbanks Region (Behan 1978a); **YT**: Richardson Mtns (Hammer 1952a); subarctic (Behan 1978a); Porcupine Plain; Richardson Mtns; Ogilvie Mtns (Behan-Pelletier 1997b); **NT**: Yellowknife (Hammer 1952a); Mackenzie Delta (Behan 1978a); peatlands (Behan-Pelletier & Bissett 1994); **BC**: North of Kamloops, in Douglas-fir Forest Zone (Marshall 1979); Interior (Battigelli *et al.* 2004); Vancouver Is.: Walbran Valley, (Lindo & Winchester 2006; Lindo *et al.* 2008; Lindo 2010); Victoria (Shackelford *et al.* 2018); peatlands (Behan-Pelletier & Bissett 1994); **AB**: Mount Robson PP (Hammer 1952a); Kananaskis Valley (McLean & Parkinson 1998); EMEND Site (Lindo & Visser 2004); Roy Berg Kinsella Research Ranch (Newton & Proctor 2013); ABMI sites (Walter *et al.* 2014; Meehan *et al.* 2019); 35 km north of Fort McMurray (McAdams *et al.* 2018); **MB**: Churchill (Hammer 1952a); southeast (Oswald & Minty 1970); peatlands (Behan-Pelletier & Bissett 1994); **ON**: near White River (Barreto & Lindo 2018); **QC**: northern (Behan 1978a); Mont Tremblant (Behan *et al.* 1978); St. Clet (Smith 1978); Morgan Arboretum (Marshall 1968; Sylvain & Buddle 2010); peatlands (Behan-Pelletier & Bissett 1994); boreal claybelt region of Western Québec (Doblas-Miranda & Work 2015); **NS**: Annapolis-Minas Lowlands; Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Habitats: subarctic; tussock tundra; coastal temperate forest with Douglas fir, spruce and Western redcedar

litter; canopy of Western redcedar; boreal coniferous (Lodgepole pine, White spruce, Black spruce, Jack pine) and deciduous (Trembling aspen, beech) forest litter; peatlands.

Distribution: Semicosmopolitan.

Trhypochthonius sp. nr. *tectorum* Berlese, 1896

Geographic Location and Habitats: **ON:** Lake Superior, Granite Is., Black Bay, ring-billed gull nests (Freitag & Ryder 1973).

Trhypochthonius sp.

Geographic Location and Habitats: **BC:** Osoyoos, Haynes Lease, *Purshia*, *Aristida*, *Bromus*, *Opuntia*, *Pinus*, *Agropyron* (Behan-Pelletier 1987b); **AB:** Lethbridge, fescue prairie (Osler *et al.* 2008); **ON:** Sudbury, Jack pine and White birch litter (St. John *et al.* 2002); **NB:** peatlands (Behan-Pelletier & Bissett 1994); Southern New Brunswick Uplands; Maritime Lowlands (Behan-Pelletier 2010); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Hyporder **Brachypyliina**

Superfamily **Hermannielloidea**

Family **Hermanniellidae**

Genus *Hermanniella* Berlese, 1908

Hermanniella picea (C.L. Koch, 1839)

Original name: *Nothrus piceus* C.L. Koch, 1839 (Willmann 1931)

Synonymy: *Hermanniella punctulata* Berlese, 1908: (Grandjean 1931c).

Geographic Location and Habitats: **BC:** Interior, forest litter (Battigelli *et al.* 2004).

Distribution: Holarctic; Oriental.

Hermanniella occidentalis Ewing, 1918

Combination: *Hermanniella punctulata occidentalis* Ewing, 1918; (Woolley 1957a).

Geographic Location: **BC:** Isaiah Creek study site (Lindo & Stevenson 2007); Vancouver Is., Walbran Valley (Lindo *et al.* 2008; as “sp. nr.”) (Lindo & Winchester 2006; Lindo 2010); **QC:** Morgan Arboretum, (Sylvain & Buddle 2010).

Habitats: Western redcedar litter; beech litter.

Distribution: Nearctic.

Hermanniella robusta Ewing, 1918

Geographic Location: **BC:** Upper Carmanah Valley (CNC unpublished record); **AB:** peatlands (Behan-Pelletier & Bissett 1994); Wagner Natural Area, 8km W Edmonton, 53°34'N, 113°47'W (Finnamore 1994); 35 km north of Fort McMurray (McAdams *et al.* 2018); ABMI Sites; Moose Pasture Research Site (Walter *et al.* 2014); ABMI Sites (Meehan *et al.* 2019).

Habitats: Coastal temperate forest; litter under Sitka spruce; Boreal forest; peatlands.

Distribution: Nearctic.

Hermanniella subnigra (Ewing, 1909)

Original name: *Hermannia subnigra* Ewing, 1909

Synonymy: *Hermanniella punctulata columbiana* Berlese, 1910: (Marshall *et al.* 1987).

Geographic Location and Habitats: **BC:** (Sellnick 1959).

Distribution: Nearctic.

Hermanniella sp.

Geographic Location and Habitats: **AB:** Trembling aspen, White spruce mesocosm (Cameron *et al.* 2013); **QC:** Gatineau Park, *Fomes* sporophores (Matthewman & Pielou 1971); Mont Tremblant (Behan

et al. 1978); Abitibi, boreal mixedwood forest (Déchêne & Buddle 2009, 2010); **NS**: Maritime Lowlands (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987); **NL**: between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer *et al.* 1997, 1998).

Family **Plasmobatidae**

Genus *Plasmobates* Grandjean, 1961

Plasmobates sp.

Geographic Location and Habitats: **QC**: Morgan Arboretum (Marshall 1968).

Superfamily **Neoliodoidea**

Family **Neoliodidae**

Genus *Platyliodes* Berlese, 1916

Platyliodes macroprius Woolley and Higgins, 1969

Geographic Location: **BC**: Vancouver Is., Walbran Valley (Lindo & Winchester 2007; Lindo 2010).

Habitats: Western redcedar trunk and other arboreal habitats.

Distribution: Western Nearctic; Japan.

Platyliodes scaliger (C.L. Koch, 1839)

Original name: *Nothrus scaliger* C.L. Koch, 1839 (Willmann 1931)

Geographic Location: **AB**: peatlands (Behan-Pelletier & Bissett 1994); Wagner Natural Area, 8km W Edmonton, 53°34'N, 113°47'W (Finnamore 1994); Edmonton River Valley (Walter *et al.* 2014).

Habitat: moss and bark in mesophilous habitats; peatlands.

Distribution: Holarctic.

Platyliodes sp.

Geographic Location and Habitats: **QC**: Gatineau Park, *Fomes* polypores (Pielou & Matthewman 1966); Mont Tremblant (Behan *et al.* 1978); **NB**: Northeast of Ludlow, 46°33'N, 66°14'W, *Polyporus* bracket fungi (Pielou & Verma 1968).

Genus *Teleoliodes* Grandjean, 1934

Teleoliodes sp.

Geographic Location and Habitats: **BC**: Vancouver Is., Walbran Valley (Lindo & Winchester 2006).

Superfamily **Plateremaeoidea**

Family **Gymnodamaeidae**

Genus *Adrodamaeus* Paschoal, 1982

Adrodamaeus magnisetosus (Ewing, 1909)

Original name: *Damaeus magnisetosus* Ewing, 1909 (Paschoal 1984)

Combination: *Heterodamaeus magnisetosus* (Ewing, 1909); (Ewing 1917).

Geographic Location: **ON**: Pinery PP, Lake Huron; Shaw Woods Nature Reserve; St Lawrence Islands NP, Grenadier Is.; Sudbury region: 46°31.51N, 81°6.10E (Walter 2009); **QC**: Morgan Arboretum (Sylvain & Buddle 2010).

Habitats: moss on sand dunes; mixed forest (birch, beech) litter; moss.

Distribution: Nearctic.

Genus *Gymnodamaeus* Kulczynski, 1902

Gymnodamaeus bicostatus (C.L. Koch, 1835)

Original name: *Damaeus bicostatus* C.L. Koch, 1835 (André 1925)

Geographic Location and Habitats: **AB:** Kananaskis Valley, forest litter under Lodgepole pine (Powell & Skaley 1975).

Distribution: Holarctic.

Remarks: This species does not occur in North America according to Paschoal (1982) and a specimen from Alberta was used as the holotype of *Gymnodamaeus taedaceus* Paschoal, 1982. However, the type of *G. taedaceus* is badly smashed and Paschoal's description has numerous misinterpretations according to Walter (2009).

Gymnodamaeus sp. nr. *bicostatus* (C.L. Koch, 1835)

Geographic Location and Habitats: **MB:** Southeast, riparian litter (Oswald & Minty 1971).

Gymnodamaeus ornatus Hammer, 1952

Combination: *Allodamaeus ornatus* (Hammer, 1952); (Aoki & Fujikawa 1971), *Gymnodamaeus* cf. *ornatus* Hammer, 1952 (Walter *et al.* 2014).

Geographic Location: **YT:** Porcupine Plain; Ogilvie Mtns (Behan-Pelletier 1997b); Dempster Highway km 141N; Richardson Mts, Summit Lake (67°43'N, 136°50'W); (67°57.5'N, 136°26'W) (Walter 2009); **NT,** Reindeer Station (Hammer 1952a); **BC:** Manning PP, Spruce Bay Beach (Walter 2009); **AB:** Roy Berg Kinsella Research Ranch (Newton & Proctor 2013); (57.45488358 N, -111.054222 W), (56.36729431 N, -110.807022 W), (56.55817032 N, -117.017921 W), (56.43681717 N, -117.657349 W), (56.38592148 N, -117.012878 W), (55.97986221 N, -112.605103 W), (55.85299301 N, -112.605179 W), (55.02651978 N, -112.013039 W), (54.97646332 N, -111.730118 W), (54.8119545 N, -111.665276 W), (54.64096451 N, -111.759758 W), (54.85365 N, -111.62854 W), (55.8536644 N, -114.960381 W), (55.68632126 N, -114.670769 W), (55.06543732 N, -118.975967 W), (55.09334183 N, -118.651749 W), (54.89818954 N, -118.988976 W), (54.32518005 N, -115.914856 W), (54.11553574 N, -115.737389 W), (53.48584366 N, -113.120331 W), (53.39312744 N, -113.735886 W), (52.65173721 N, -110.923225 W), (52.66613007 N, -110.693031 W), (55.54247 N, -114.82111 W), (55.04704 N, -111.64944 W); Onoway (53°77'N, 114°06'W); Lamont Co. near Chipman (53°39'N, 112°06'W); Waterton Lakes NP (Walter 2009); ABMI sites (Walter *et al.* 2014; Meehan *et al.* 2019); **ON:** St Lawrence Islands NP, Grenadier Is.; Shaw Woods Nature Reserve (Walter 2009); Sudbury (St. John *et al.* 2002); **QC:** Morgan Arboretum (Sylvain & Buddle 2010).

Habitats: mixed tundra vegetation; subarctic and boreal deciduous (birch, aspen, beech) litter; mixedwood and coniferous (Douglas fir, Western hemlock, spruce) litter; White spruce litter with grass and *Empetrum*.

Distribution: Canada.

Remarks: *Gymnodamaeus ornatus* and *G. bicostatus* are very similar (Weigmann & Mourek 2008) and may be conspecific. Walter (2009) accepted Woas' (1992) diagnosis of *G. bicostatus* as having a narrow anogenital bridge and referred the very similar mite that lacks the anogenital bridge to *G. cf. ornatus* Hammer, 1952. We retain *G. ornatus* herein.

Gymnodamaeus cf. *ornatus* Hammer, 1952

Geographic Location and Habitats: **AB:** 35 km north of Fort McMurray (McAdams *et al.* 2018).

Gymnodamaeus sp. nr. *taedaceus* Paschoal, 1982

Geographic Location and Habitats: **BC:** Interior, forest litter (Battigelli *et al.* 2004).

Gymnodamaeus sp.

Geographic Location and Habitats: **AK:** Brooks Range (Behan 1978a); **BC:** Vancouver Is.: Mt. Cain, Amabilis fir canopy specialist (Fagan *et al.* 2005); Walbran Valley, Western redcedar trunk (Lindo & Winchester 2007; Lindo 2010); Isaiah Creek study site (Lindo & Stevenson 2007); **AB:** Roy Berg Kinsella Research Ranch (Newton & Proctor 2013); Trembling aspen, White spruce mesocosm (Cameron *et al.*

2013); Kananaskis Valley, Lodgepole pine (Powell & Skaley 1975); **SK**: Matador IBP Site, dry, mixed prairie (Willard 1974); **ON**: Chalk River (Marshall 1972); Sudbury, Jack pine and white birch (St. John *et al.* 2002); **NS**: Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Genus *Jacotella* Banks, 1947

Jacotella quadricaudicula (Jacot, 1937)

Original name: *Gymnodamaeus quadricaudiculus* Jacot, 1937 (Banks 1947)

Synonymy: *Gymnodamaeus minor* Banks, 1947: (Paschoal 1983).

Geographic Location: **AB**: (55.06543732 N, -118.975967 W), SW of Grande Prairie; Waterton Lakes NP; Cypress Hills PP (Walter 2009); ABMI sites (Walter *et al.* 2014); **ON**: Shaw Woods Nature Preserve; St Lawrence Islands NP, Thwartway Is. (Walter 2009); **NB**: Maritime Lowlands (Paschoal 1983, Walter 2009).

Habitats: moss, lichens; *Eriogonum* in grassy area; kinnikinnick mat and soil; mixed poplar, White birch, pine litter; dry soil beneath moss.

Distribution: Nearctic.

Genus *Joshuella* Paschoal, 1983

Joshuella agrosticula Paschoal, 1983

Geographic Location: **YT**: Klondike Highway, ca 108 km north of intersection with Alaska Highway (Walter 2009); **AB**: (51.15811539 N, -112.060234 W), (50.18216705 N, -110.118004 W); One Four Agriculture Canada Station; Writing-on-Stone PP (Walter 2009); ABMI Sites (Walter *et al.* 2014).

Habitats: *Artemisia frigida* on slope; *Opuntia* and grass; prairie grass and sod.

Distribution: Nearctic.

Joshuella sp.

Geographic Location and Habitats: **BC**: Vancouver Is., North of Kamloops, Douglas fir litter (Marshall 1979); **AB**: Roy Berg Kinsella Research Ranch (Newton 2013).

Genus *Odontodamaeus* Paschoal, 1982

Odontodamaeus veriornatus (Higgins, 1961)

Original name: *Gymnodamaeus veriornatus* Higgins, 1961 (Paschoal 1982)

Geographic Location and Habitats: **BC**: Cathedral PP, mixed vegetation among rocks with *Silene*, *Antennaria*, *Saxifraga*, *Potentilla* (Walter 2009).

Distribution: Nearctic.

Odontodamaeus sp.

Geographic Location and Habitats: **BC**: Osoyoos, Haynes Lease, *Purshia*, *Aristida*, *Bromus*, *Opuntia*, *Pinus*, *Agropyron* (Behan-Pelletier 1987b); **NS**: Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Genus *Pleodamaeus* Paschoal, 1983

Pleodamaeus plokosus (Woolley and Higgins, 1973)

Original name: *Gymnodamaeus plokosus* Woolley and Higgins, 1973 (Paschoal, 1983)

Geographic Location: **AB**: Cypress Hills PP; Writing-on-Stone PP (Walter 2009); ABMI sites (Walter *et al.* 2014); **SK**, Matador IBP site, 35 km SE Kyle, (Walter 2009); Waterton Lakes NP (Walter *et al.* 2014).

Habitats: litter in thicket of *Pinus* and *Rosa*; grassland soil.

Distribution: Nearctic.

Pleodamaeus sp.

Geographic Location and Habitats: **YT:** Ogilvie Mtns (2 spp.) (Behan-Pelletier 1997b); **AB:** 35 km north of Fort McMurray (as sp. 1 DEW) (McAdams *et al.* 2018); Moose Pasture Research Site; Onoway (53°77'N, 114°06'W); Edmonton River Valley; ABMI sites (Walter *et al.* 2014; as sp.1 DEW).

Genus *Roynortonella* Walter, 2009

Roynortonella gildersleeveae (Hammer, 1952)

Original name: *Gymnodamaeus gildersleeveae* Hammer, 1952 (Walter 2009)

Combination: *Nortonella gildersleeveae* (Hammer, 1952); (Paschoal 1982), *Paschoalia gildersleeveae* (Hammer, 1952); (Özdikmen 2008).

Geographic Location: **AK:** Barrow (Hurd & Lindquist 1958; Bohnsack 1973); **YT:** Ogilvie Mtns (Behan-Pelletier 1997b); **NT:** Yellowknife, near Great Slave lake (Hammer 1952a); **AB:** Kananaskis Valley, Lodgepole pine (Powell & Skaley 1975); Lamont County (53°39'N, 112°46'W) Edmonton River Valley; ABMI site 330 (57.66861725 N, -110.962219 W); site 618 (56.38592148 N, -117.012878 W) (Walter 2009); ABMI Sites; Moose Pasture Research Site (Walter *et al.* 2014); **MB:** Southeast (Oswald & Minty 1970); **ON:** Sudbury (St. John *et al.* 2002).

Habitats: depression among rocks under spruce with moss, liverworts, lichens; dry litter on SW slope; mixed deciduous coniferous forest.

Distribution: Nearctic.

Roynortonella victoriae (Paschoal, 1982)

Original name: *Gymnodamaeus victoriae* Paschoal, 1982 (Walter 2009)

Geographic Location and Habitats: **BC:** Victoria, Garry oak litter; Campbell River (49°50'53"N, 125°26'20"W), foliose lichen in upper canopy of *Abies amabilis* (Walter 2009).

Distribution: Canada.

Roynortonella sp.

Geographic Location: **AB:** ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019).

Family **Licnodamaeidae**

Genus *Licnodamaeus* Grandjean, 1931

Licnodamaeus sp.

Geographic Location and Habitats: **AB:** Roy Berg Kinsella Research Ranch (Walter & Latonas 2012); **NS:** Cape Breton Highlands NP (Marshall *et al.* 1987; Behan-Pelletier 2010).

Family **Plateremaeidae**

Genus *Allodamaeus* Banks, 1947

Allodamaeus sp.

Geographic Location and Habitats: **AK:** Fairbanks Region (Behan 1978a); **MB:** Southeast, forest litter (Oswald & Minty 1970); **ON:** Chalk River (Marshall 1972); **QC:** Morgan Arboretum, deciduous litter (Marshall 1968); Mont Tremblant, Black spruce litter (Behan *et al.* 1978); Timmins 54°60'N, 67°00'W (Behan 1978a); boreal claybelt region of Western Québec (Doblas-Miranda & Work 2015).

Superfamily **Damaeoidea**

Family **Damaeidae**

Genus *Belba* von Heyden, 1826

Belba sp.

Geographic Location and Habitats: **AK:** Fort Richardson (as *Belba* sp.? *clavipes* (Hermann, 1804), Anaktuvuk Pass (2 spp.) (Hammer 1955a); Brooks Range; Fairbanks Region (Behan 1978a); **BC:** Walbran Valley, Western redcedar trunk (Lindo & Winchester 2006, 2007); Western redcedar canopy litter traps (Lindo 2010); Mainland, North of Kamloops (Marshall 1979); Interior (Battigelli *et al.* 2004); **AB:** Kananaskis Valley, Lodgepole pine (Powell & Skaley 1975); ABMI Sites (2 spp.); Dinosaur PP (Walter *et al.* 2014); **QC:** Morgan Arboretum, forest litter (Marshall 1968); Timmins 54°60'N, 67°00'W (Behan 1978a); St. Clet (Smith 1978); Abitibi (Déchêne & Buddle 2009, 2010); boreal claybelt region of Western Québec (Doblas-Miranda & Work 2015).

Belba (Protobelba) californica (Banks, 1904)

Original name: *Oribata californica* Banks, 1904 (Norton 1979a)

Combination: *Damaeus californica* (Banks, 1904); (Ewing 1909a).

Geographic Location and Habitats: **BC:** Vancouver Is., Walbran Valley, Western redcedar litter (Lindo & Winchester 2006).

Distribution: Western Nearctic.

Genus *Belbodamaeus* Bulanova-Zachvatkina, 1960

Belbodamaeus sp.

Geographic Location and Habitats: **YT:** Richardson Mtns; Ogilvie Mtns (Behan-Pelletier 1997b); **BC:** Upper Klanawa Mainline site, near Franklin River (Berch *et al.* 2001).

Genus *Caenobelba* Norton, 1980

Caenobelba alleganiensis Norton, 1980

Combination: *Belba (Caenobelba) alleganiensis* (Norton, 1980); (Subías 2004).

Geographic Location: **AK:** Denali NP (Behan 1978a, Norton 1980b); **YT:** Eastern Plateau (Behan-Pelletier 1997b); **BC:** Lumby (Norton 1980b); **ON:** Wellington Co. (Norton 1980b).

Habitats: Mixed hardwood-coniferous litter in cool, moist areas; often associated with either Eastern or Western hemlock.

Distribution: Nearctic.

Genus *Damaeus* C.L. Koch, 1835

Damaeus sp. nr. *geniculatus* C.L. Koch, 1835

Geographic Location and Habitats: **NU:** Ellesmere Is., Quttinirpaaq NP, Hazen Camp (Oliver 1963).

Damaeus sp. nr. *gracilipes* Kulczynski, 1902

Geographic Location and Habitats: **QC:** St. Clet (Smith 1978).

Remarks: Smith's record is sub *Belba* nr. *gracilipes* Kulczal [sic], 1902.

Genus *Dyobelba* Norton, 1979

Dyobelba sp.

Geographic Location and Habitats: **BC:** Osoyoos, Haynes Lease, *Purshia*, *Aristida*, *Bromus*, *Opuntia*, *Pinus*, *Agropyron* (Behan-Pelletier 1987b); **AB:** ABMI Sites; Edmonton River Valley (3 spp.) (Walter *et al.* 2014).

Genus *Epidamaeus* Bulanova-Zachvatkina, 1957

Epidamaeus arcticolus (Hammer, 1952)

Original name: *Belba arctica* Hammer, 1952 (Ghilarov 1975)

Geographic Location: **AK:** Fort Richardson; Anchorage (Hammer 1955a); Cape Thompson (Watson *et al.* 1966); northern coastal plain; Brooks Range; Chugach Mtns; Kenai Peninsula; Denali NP; Fairbanks Region; Atkasuk; Aleutian Islands (Behan 1978a); Elliott Highway Burn, (65°19'N, 149°06'W), Atigun, (68°16'N, 149°24'W) (Thomas & McLean 1988); Denali NP; Fairbanks, S. of Chena Ridge; Kanuti River; Brooks Range; Sukakpak Mt.; S. of Chandalar; Toolik Lake; Atkasuk; Cape Thompson (Behan-Pelletier & Norton 1983); **YT:** Ivavik NP; Coastal and Porcupine Plains; British Mtns; Richardson Mtns; Ogilvie Mtns (Behan-Pelletier 1997b); **NT:** Reindeer Station; (Hammer 1952a); Mackenzie Delta (Behan 1978a; Behan-Pelletier & Norton 1983); **NU:** Coppermine (Hammer 1952a); Baffin Is. (Behan 1978a); **BC:** Mainland, Interior (Battigelli *et al.* 2004); **AB:** ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019).

Habitats: arctic and alpine tundra, including tussock heath and northern coastal plain; moist bog litter; boreal forest litter.

Distribution: Nearctic; eastern Palaearctic.

Epidamaeus bakeri (Hammer, 1952)

Original name: *Belba bakeri* Hammer, 1952 (Behan 1978a)

Geographic Location: **AK:** Fort Richardson; Fairbanks (Hammer 1955a); Northwest coastal plain; Denali NP; Fairbanks Region; Atkasuk; Brooks Range; (Behan 1978a); Denali NP, Moose Creek; Fort Yukon; Brooks Range; Sukakpak Mt.; pingo near Franklin Bluffs; Atkasuk; Wainwright (Behan-Pelletier & Norton 1983); **YT:** Richardson Mtns (Hammer 1952a); near Spring River, 69°10' N, 138°30' W (Behan-Pelletier & Norton 1985); Coastal, Porcupine and Eagle Plains; Richardson Mtns; Ogilvie Mtns (Behan-Pelletier 1997b); **NT:** Reindeer Station (Hammer 1952a); Mackenzie Delta (Behan 1978a; Behan-Pelletier & Norton 1983); East of Mount Goodenough, 68°N, 135°15' W (Behan-Pelletier & Norton 1985).

Habitats: alpine tundra; moss in willow thicket along brook; spruce and Paper birch litter.

Distribution: Nearctic; eastern Palaearctic.

Epidamaeus canadensis (Banks, 1909)

Original name: *Oribata canadensis* Banks, 1909 (Norton 1979a)

Synonymy: *Damaeus michaeli* sensu Woolley (1957c); non Ewing (1909): (Marshall *et al.* 1987).

Geographic Location and Habitats: **ON:** Guelph, under bark of ironwood (Banks 1909; Jarvis 1910); **QC:** southwestern, Apple orchards (Forest *et al.* 1982); Morgan Arboretum, beech litter (Sylvain & Buddle 2010).

Distribution: Nearctic.

Epidamaeus cf. *canadensis* (Banks, 1909)

Geographic Location and Habitats: **AB:** Edmonton River Valley (Walter *et al.* 2014).

Epidamaeus coxalis (Hammer, 1952)

Original name: *Belba coxalis* Hammer, 1952 (Ghilarov 1975)

Geographic Location: **AK:** Fairbanks, N. of Smith Lake; Chena Ridge (Behan-Pelletier & Norton 1983); **YT:** Porcupine Plain; Richardson Mtns; Ogilvie Mtns; Eastern Plateau (Behan-Pelletier 1997b); **NT:** Reindeer Station (Hammer 1952a); MacKenzie Delta (Behan 1978a; Behan-Pelletier & Norton 1985); **AB:** ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019).

Habitats: tussock tundra; humus layer in *Betula*, *Equisetum* forest.

Distribution: Nearctic; eastern Palaearctic.

Epidamaeus sp. nr. *coxalis* (Hammer, 1952)

Geographic Location and Habitats: **BC:** Interior, forest litter (Battigelli *et al.* 2004).

Epidamaeus floccosus Behan-Pelletier and Norton, 1985

Geographic Location: **AK:** Kenai Peninsula, about 20 miles north of Homer (Behan-Pelletier & Norton 1985); **YT:** Porcupine Plain (Behan-Pelletier 1997b); **BC:** Vancouver Is., Walbran Valley (Lindo *et al.*

2008); **AB**: 35 km north of Fort McMurray (McAdams *et al.* 2018); ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019).

Habitats: boreal and temperate forest litter including from White spruce and redcedar.

Distribution: Nearctic.

Epidamaeus sp. nr. *floccosus* Behan-Pelletier and Norton, 1985

Geographic Location and Habitats: **BC**: Western redcedar trunk (Lindo & Winchester 2006, 2007); Western redcedar canopy litter traps (Lindo 2010); Interior (Battigelli *et al.* 2004).

Epidamaeus fortispinosus Hammer, 1967

Geographic Location: **AK**: Kodiak Is., shore of Bare Lake (Hammer 1967); Old Chevak (Behan-Pelletier & Norton 1983); Pribilofs, St. Paul's Is., (Behan-Pelletier & Norton 1985); **YT**: Coastal Plain; Porcupine Plain (Behan-Pelletier 1997b); **ON**: Sudbury (St. John *et al.* 2002); **QC**: Timmins 54°60'N, 67°00'W (Behan-Pelletier & Norton 1983).

Habitats: mixed boreal forest litter; *Betula nana* and mosses.

Distribution: Nearctic; eastern Palaearctic.

Epidamaeus cf. *fortispinosus* Hammer, 1967

Geographic Location and Habitats: **AB**: ABMI Sites (Walter *et al.* 2014); 35 km north of Fort McMurray (McAdams *et al.* 2018).

Epidamaeus gibbofemoratus (Hammer, 1955)

Original name: *Belba gibbofemorata* Hammer, 1955 (Behan 1978a)

Geographic Location: **AK**: Fort Richardson; Anchorage (Hammer 1955a); northern coastal plain; Brooks Range; Fairbanks Region (Behan 1978a); **YT**: (Behan 1978a); **NT**: Mackenzie Delta (Behan 1978a).

Habitats: *Sphagnum*, moss, spruce needles.

Distribution: Nearctic.

Epidamaeus hammerae Behan-Pelletier and Norton, 1983

Geographic Location and Habitats: **BC**: Sicamous Creek (Berch *et al.* 2007).

Distribution: Nearctic; eastern Palaearctic.

Epidamaeus hastatus Hammer, 1967

Geographic Location and Habitats: **AK**: Kodiak Is., shore of Bare Lake; sterile gravel near the water, *Calamagrostis canadensis* zone above (Hammer 1967); Aleutian Islands, Adak Is. (Behan-Pelletier & Norton 1985).

Distribution: Alaska.

Epidamaeus kodiakensis Hammer, 1967

Geographic Location: **AK**: Kodiak Is., west of Pinguicula Lake (Hammer 1967); Old Chevak; Seward Peninsula, Wales; Brooks Range; Pribilofs, St. George Is.; Semidi Is.; Aleutian Islands: Buildir Is.; Adak Is. (Behan-Pelletier & Norton 1983).

Habitats: peatlands with patches of *Sphagnum* and in between, *Empetrum*, *Betula nana*, *Oxycoccus*, *Rubus chamaemorus*; upland tundra.

Distribution: western Nearctic; eastern Palaearctic.

Epidamaeus sp. nr. *kodiakensis* Hammer, 1967

Geographic Location and Habitats: **BC**: Interior, forest litter (Battigelli *et al.* 2004).

Epidamaeus koyukon Behan-Pelletier and Norton, 1985

Synonymy: *Belba tatraca* (Kulczynski) sensu Hammer (1952a, 1955a) and Behan (1978a): (Behan-Pelletier & Norton, 1985).

Geographic Location: **AK:** Fort Richardson; Anchorage (Hammer 1955a); Chugach Mtns, Thompson Pass, Blueberry Lake; Fairbanks, Chena Ridge; Denali NP, Ridge northeast of Tolklak (Behan-Pelletier & Norton 1985); Brooks Range (Behan 1978a); **YT:** Old Crow, south facing silt bluff overlooking Porcupine River; Kluane NP: Christmas Bay, Kluane Lake; Duke River, Duke meadow (Behan-Pelletier & Norton 1985); Porcupine Plain; Richardson Mtns; Ogilvie Mtns; Eastern Plateau (Behan-Pelletier 1997b); **NT:** Reindeer Station; Yellowknife (Hammer 1952a); Mackenzie Delta, subarctic; Keewatin (Behan 1978a); **BC:** Interior (Battigelli *et al.* 2004); **AB:** ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); **QC:** Timmins 54°60'N, 67°00'W (Behan 1978a).

Habitats: tussock tundra; *Alnus*, *Betula*, *Populus tremuloides* litter; spruce forest.

Distribution: western Nearctic.

Epidamaeus longitarsalis (Hammer, 1952)

Original name: *Belba longitarsalis* Hammer, 1952 (Behan 1978a)

Geographic Location: **AK:** Cape Thompson (Watson *et al.* 1966); northwest coastal region; Atkasuk; Brooks Range; Denali NP; Fairbanks Region (Behan 1978a); **YT:** Coastal Plain; Porcupine Plain; Richardson Mtns; Ogilvie Mtns (Behan-Pelletier 1997b); **NT:** Reindeer Station (Hammer 1952a); Mackenzie Delta arctic, subarctic (Behan 1978a); **NU:** Bathurst Is. (Behan 1978a; Danks 1980); **NL:** between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: tussock tundra; Balsam fir forests.

Distribution: Holarctic.

Epidamaeus mackenziensis (Hammer, 1952)

Original name: *Belba mackenziensis* Hammer, 1952 (Behan 1978a)

Geographic Location: **AK:** Fort Richardson; Anchorage (Hammer 1955a); Cape Thompson (Watson *et al.* 1966); Washington Creek, about 48 km north of Fairbanks; Chugach Mtns., Blueberry Lake at Thompson Pass; Bushkana River; Denali NP; Brooks Range; Toolik Lake (Behan-Pelletier & Norton 1983); **YT:** Richardson Mtns. (Hammer 1952a); Porcupine Plain; Richardson Mtns; Ogilvie Mtns (Behan-Pelletier 1997b); **NT:** Reindeer Station (Hammer 1952a); Mackenzie Delta (Behan 1978a).

Habitats: herb and sedge litters (*Vaccinium*, *Carex*, *Dryas*); lichens; coniferous (spruce) and deciduous (Paper birch, *Alnus*) litter.

Distribution: Nearctic.

Epidamaeus nasutus Behan-Pelletier and Norton, 1985

Synonymy: *Belba bakeri* sensu Hammer (1955a), non Hammer (1952a): (Behan-Pelletier & Norton, 1985).

Geographic Location: **AK:** Fort Richardson; Fairbanks (Hammer 1955a); Fairbanks, north of Smith Lake; Chena Ridge at Fairbanks; Rooster Creek (Behan-Pelletier & Norton, 1985); **YT:** Kluane NP, Kluane Lake, Christmas Bay, (Behan-Pelletier & Norton, 1985); Ogilvie Mtns (Behan-Pelletier 1997b).

Habitats: peat layer under mosses in White spruce forest; mosses in Black spruce forest; deciduous forest litter from Trembling aspen, birch, alder.

Distribution: western Nearctic.

Epidamaeus puritanicus (Banks, 1906)

Original name: *Oribata puritanica* Banks 1906 (Marshall *et al.* 1987)

Combination: *Damaeus puritanicus* (Banks, 1906); (Ewing 1909a).

Synonymy: *Epidamaeus grandjeani* Bulanova-Zachvatkina, 1957: (Golosova *et al.* 1983).

Geographic Location and Habitats: **MB:** forest litter (Norton 1979a); **ON:** forest litter (Norton 1979a).

Distribution: Holarctic.

Epidamaeus tenuissimus Hammer, 1967

Geographic Location: **AK:** Kodiak Is. (Hammer 1967); Mount Blunt, 2 miles south of Lituya Bay; Seward Peninsula, Deering (Behan-Pelletier & Norton 1985); **BC:** Haida Gwaii, Graham Is., Mount Needham (Behan-Pelletier & Norton 1985).

Habitats: arctic meadows; litter at treeline.

Distribution: Nearctic.

Epidamaeus sp. nr. *tenuissimus* Hammer, 1967

Geographic Location and Habitats: YT: mid Wisconsinan fossils (Matthews & Telka 1997).

Epidamaeus tritylos Behan-Pelletier and Norton, 1983

Geographic Location: AK: Fort Yukon (Behan-Pelletier & Norton 1983); Dalton Highway, N. Fairbanks (Behan-Pelletier & Norton 1985); YT: Coastal Plain; Porcupine Plain; Richardson Mtns; Eagle Plain; Ogilvie Mtns (Behan-Pelletier 1997b); NT: near Beaver House Creek, MacKenzie Delta, 68°22' N, 135°30' W (Behan-Pelletier & Norton 1985); AB: ABMI Sites (Walter *et al.* 2014).

Habitats: willow and alder litter; moss.

Distribution: Western Nearctic; eastern Palaearctic.

Epidamaeus sp.

Geographic Location and Habitats: YT: mid Wisconsinan fossils (Matthews & Telka 1997); Porcupine Plain; Richardson Mtns (as *E. (Akrodamaeus)* sp.) (Behan-Pelletier 1997b); NU: Bathurst Is. (Danks & Byers 1972); BC: Osoyoos, Haynes Lease, *Purshia*, *Aristida*, *Bromus*, *Opuntia*, *Pinus*, *Agropyron* (Behan-Pelletier 1987b); Isaiah Creek study site (Lindo & Stevenson 2007); Vancouver Is., Walbran Valley (2 spp.) (Lindo & Winchester 2006); AB: Kananaskis Valley, Lodgepole pine litter (Powell & Skaley 1975); Lodgepole pine forest (McLean & Parkinson 1998); EMEND Site, White spruce and Trembling aspen litter (3 spp.) (Lindo & Visser 2004); Roy Berg Kinsella Research Ranch (Newton & Proctor 2013); Trembling aspen, White spruce mesocosm (Cameron *et al.* 2013); 35 km north of Fort McMurray (2 spp.) (McAdams *et al.* 2018); ABMI Sites (10 spp.) (Walter *et al.* 2014); (5 spp.) (Meehan *et al.* 2019); SK: Matador IBP Site, dry, mixed prairie (Willard 1974); MB: southeast, riparian (Oswald & Minty 1971); ON: Lake Superior, Granite Is., Black Bay, ring-billed gull nests (Freitag & Ryder 1973); Algonquin Park, *Polyporus* bracket fungi (Pielou & Verma 1968); Sudbury, Jack pine and White birch (St. John *et al.* 2002); QC: Timmins 54°60'N, 67°00'W (Behan 1978a); Apple orchard (Forest *et al.* 1982); Gatineau Park, *Fomes* sporophores (Pielou & Matthewman 1966, Matthewman & Pielou 1971); Morgan Arboretum, beech litter (Sylvain & Buddle 2010); NB: *Polyporus* bracket fungi (Pielou & Verma 1968); NS: Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987); NL: between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer *et al.* 1997, 1998).

Genus *Lanibelba* Norton, 1980

Lanibelba pini Norton, 1980

Combination: *Belbodamaeus (Lanibelba) pini* (Norton, 1980); (Subías 2004).

Geographic Location: ON: Sudbury (St. John *et al.* 2002); NB: Kouchibouguac NP (Norton 1980b).

Habitats: Litter of eastern cedar, Balsam fir, oaks.

Distribution: Nearctic.

Lanibelba sp.

Geographic Location and Habitats: YT: Porcupine Plain; Richardson Mtns (Behan-Pelletier 1997b);

AB: ABMI sites (Walter *et al.* 2014).

Genus *Parabelbella* Bulanova-Zachvatkina, 1972 (= *Epidamaeus (Akrodamaeus)* Norton, 1987)

Parabelbella longiseta (Banks, 1906)

Original name: *Oribata longiseta* Banks, 1906 (Miko *et al.* 2011)

Combination: *Damaeus longiseta* (Banks, 1906); (Ewing 1909a), *Epidamaeus (Akrodamaeus) longiseta* (Banks, 1906); (Norton 1987), *Metabelbella (Akrodamaeus) longiseta* (Banks, 1906); (Subías 2004).

Geographic Location: ON: Oliphont, Chaffey's Locks (Norton 1979a).

Habitats: Litter of a wide variety of forest types, including spruce, pine, oak, maple.

Distribution: Nearctic.

Genus *Quatrobelba* Norton, 1980

Quatrobelba montana Norton, 1980

Geographic Location and Habitats: **AB:** Banff NP, coniferous forest litter (Norton 1980b); ABMI Sites; Moose Pasture Research Site (Walter *et al.* 2014); ABMI Sites (Meehan *et al.* 2019).

Distribution: Nearctic.

Genus *Weigmannia* Miko and Norton, 2010

Weigmannia parki (Jacot, 1937)

Original name: *Porobelba parki* Jacot, 1937 (Miko & Norton 2010)

Geographic Location: **MB:** Ninette (Miko & Norton 2010); **ON:** Lake Superior, Granite Is.; Thunder Bay area; Point Pelee NP; Saint Lawrence Islands NP (Miko & Norton 2010); **NB:** Kouchibouguac NP (Miko & Norton 2010).

Habitats: *Microtus* sp. nest; Ringed bill gull nest; rotting wood; litter and soil in basal hole of Red maple; decaying spruce log.

Distribution: Nearctic.

Superfamily **Cepheoidea**

Family **Cepheidae**

Remarks: The name Cepheidae is a junior homonym of Cepheidae Agassiz, 1862 (Schatz *et al.* 2011). Halliday & Norton (2019) have made a proposal to the International Commission of Zoological Nomenclature to emend the name; we retain the traditional spelling pending approval.

Genus *Cepheus* C.L. Koch, 1835

Cepheus corae Jacot, 1928

Geographic Location: **AK:** Fairbanks, Fort Richardson; Anchorage (Hammer 1955a); Brooks Range; Fairbanks Region (Behan 1978a); **YT:** Richardson Mtns; Ogilvie Mtns; Yukon Tintina (Behan-Pelletier 1997b); **BC:** Interior (Battigelli *et al.* 2004); Walbran Valley (Lindo *et al.* 2008; Lindo 2010); **AB:** EMEND Site (Lindo & Visser 2004); **QC:** Abitibi (Déchêne & Buddle 2009, 2010); Timmins 54°60'N, 67°00'W (Behan 1978a); Gatineau Park (Pielou 1966; Pielou & Verma 1968); Mont Tremblant (Behan *et al.* 1978); Morgan Arboretum (Marshall 1968; Sylvain & Buddle 2010); St-Paulin (Doblas-Miranda *et al.* 2014); **NL:** between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: boreal and temperate forest litter including Western redcedar, beech, Black spruce; Balsam fir forests; *Polyporus* bracket fungi.

Distribution: Nearctic.

Cepheus latus C.L. Koch, 1835

Geographic Location and Habitats: **NU:** Keewatin (Behan 1978a); **AB:** EMEND Site, White spruce litter (Lindo & Visser 2004).

Distribution: Holarctic.

Cepheus sp.

Geographic Location and Habitats: **YT:** interglacial and mid Wisconsinan fossils (Matthews & Telka 1997); **AB:** Kananaskis Valley, Lodgepole pine litter (Powell & Skaley 1975); 35 km north of Fort McMurray (2 spp.) (McAdams *et al.* 2018); ABMI Sites (3 spp.); Moose Pasture Research Site, Narrow Lake (54°35' N, 113°37' W) (Walter *et al.* 2014); ABMI Sites (2 spp.) (Meehan *et al.* 2019); **QC:** Gatineau

Park, *Polyporus* bracket fungi (Pielou & Verma 1968); Mont Tremblant (Behan *et al.* 1978); **NB**: *Polyporus* bracket fungi (2 spp.) (Pielou & Verma 1968); **NS**: Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Genus *Conoppia* Berlese, 1908

Conoppia sp. nr. *microptera* Berlese, 1885

Geographic Location and Habitats: **NT**: Mackenzie Delta, subarctic (Behan 1978a).

Conoppia sp.

Geographic Location and Habitats: **BC**: Vancouver Is., Walbran Valley, Western redcedar trunk (Lindo & Winchester 2007).

Genus *Eupterotegaeus* Berlese, 1916

Eupterotegaeus ornatissimus (Berlese, 1908)

Original name: *Tegeocranus ornatissimus* Berlese, 1908 (Berlese 1916)

Combination: *Scutovertex ornatissimus* (Berlese, 1908); (Berlese 1910).

Geographic Location and Habitats: **QC**: Mont Tremblant (Behan *et al.* 1978); Abitibi, (D  ch  ne & Buddle 2009, 2010).

Habitats: Black spruce litter; boreal mixedwood forest.

Distribution: Holarctic; Oriental; Neotropical.

Eupterotegaeus rhamphosus Higgins and Woolley, 1968

Geographic Location: **BC**: Vancouver Is., Walbran Valley (Lindo & Winchester 2006, 2007; Lindo *et al.* 2008; Lindo 2010); **AB**: ABMI Sites (Walter *et al.* 2014).

Habitats: Western redcedar litter.

Distribution: Nearctic.

Eupterotegaeus rostratus Higgins and Woolley, 1963

Geographic Location: **BC**: Vancouver Is., Walbran Valley (Lindo *et al.* 2008); **AB**: Kananaskis Valley, aspen woodland (Carter & Cragg 1976, 1977; Mitchell 1975, 1977a, 1978, 1979a).

Habitats: Western redcedar; aspen woodland.

Distribution: Nearctic.

Eupterotegaeus sp. nr. *rostratus* Higgins and Woolley, 1963

Geographic Location and Habitats: **BC**: Vancouver Is., Walbran Valley, Western redcedar litter (Lindo & Winchester 2006, 2007; Lindo 2010); **AB**: Kananaskis (Mitchell 1978; Mitchell & Parkinson 1976; as cf.); Canmore Nordic Center; ABMI sites (Walter *et al.* 2014).

Eupterotegaeus sp.

Geographic Location and Habitats: **AK**: Prince of Wales Is., young alder, young conifer and old conifer stands (Schultz & DeSanto 2006); **BC**: Isaiah Creek study site (Lindo & Stevenson 2007); **AB**: Kananaskis Valley, Lodgepole pine litter (Powell & Skaley 1975); **NB**: Maritime Lowlands (Behan-Pelletier 2010); **NS**: Nova Scotia Highlands; Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987); **NL**: between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer *et al.* 1997, 1998).

Genus *Ommatocepheus* Berlese, 1913

Ommatocepheus clavatus Woolley and Higgins, 1964

Geographic Location and Habitats: **QC**: Mirabel municipality south of Belle-Rivi  re (Tousignant *et al.* 1988; Tousignant & Coderre 1992).

Distribution: Nearctic; eastern Palaearctic.

Ommatocepheus ocellatus (Michael, 1882)

Original name: *Cepheus ocellatus* Michael, 1882 (Willmann 1931)

Geographic Location and Habitats: **BC:** Coastal temperate rainforest; coastal montane (Lindo 2010 (as *Ommatocepheus* sp.); Lindo & Clayton 2011).

Distribution: Holarctic.

Genus *Oribatodes* Banks, 1895

Oribatodes mirabilis Banks, 1895

Synonymy: *Cepheus lamellatus* Banks, 1906: (Jacot 1928), *Tegeocranus longisetus* Berlese, 1910: (Jacot 1928).

Geographic Location: **AB:** ABMI sites; Moose Pasture Research Site (Walter *et al.* 2014); ABMI sites (Meehan *et al.* 2019); 35 km north of Fort McMurray (McAdams *et al.* 2018); **ON:** Sudbury (St. John *et al.* 2002); **QC:** Abitibi (Déchéne & Buddle 2009, 2010).

Habitats: Boreal forest with White spruce, Black spruce, Jack pine and Trembling aspen.

Distribution: Holarctic.

Oribatodes sp.

Geographic Location and Habitats: **AB:** northeastern Alberta, Trembling aspen, White spruce mesocosm (Cameron *et al.* 2013).

Genus *Sphdrocepheus* Woolley and Higgins, 1963

Sphdrocepheus anthelionus Woolley and Higgins, 1968

Geographic Location: **BC:** (Woolley & Higgins 1968b); Isaiah Creek study site (Lindo & Stevenson 2007).

Distribution: Nearctic.

Genus *Tritegeus* Berlese, 1913

Tritegeus sp.

Geographic Location and Habitats: **BC:** Mt. Cain, Amabilis fir (Fagan *et al.* 2005).

Superfamily **Polypterozetoidea**

Family **Nodocepheidae**

Genus *Nemacepheus* Aoki, 1968

Nemacepheus dentatus Aoki, 1968

Geographic Location and Habitats: **BC:** coastal temperate rainforest (Lindo & Clayton 2011).

Habitat: arboreal in coastal temperate rainforest.

Distribution: Nearctic; eastern Palaearctic.

Family **Podopterotegaeidae**

Genus *Podopterotegaeus* Aoki, 1969

Podopterotegaeus tectus Aoki, 1969

Geographic Location: **QC:** Abitibi (Déchéne & Buddle 2009, 2010); **NL:** between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: boreal mixedwood forest; Balsam fir forest.

Distribution: Nearctic; eastern Palaearctic.

Podopterotegaeus sp.

Geographic Location: ON: (Marshall *et al.* 1978); NS: Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Family **Polypterozetidae**

Genus *Polypterozetes* Berlese, 1916

Polypterozetes sp.

Geographic Location and Habitats: BC: Interior, forest litter (Battigelli *et al.* 2004).

Superfamily **Microzetoidea**

Family **Microzetidae**

Genus *Berlesezetes* Mahunka, 1980

Berlesezetes appalachicolus (Jacot, 1938)

Original name: *Microzetes auxiliaris appalachicola* Jacot, 1938 (Marshall *et al.* 1987)

Combination: *Microzetes appalachicola* Jacot, 1938; (Baker & Warton 1952).

Geographic Location and Habitats: QC: Cedarville, Descente 20, mixed deciduous forest (Smith *et al.* 1998).

Distribution: Holarctic, Oriental.

Genus *Kalyptrazetes* Balogh, 1972

nr. *Kalyptrazetes* sp.

Geographic Location and Habitats: BC: Vancouver Is., Walbran Valley, Western redcedar, canopy (Lindo & Clayton 2011).

Superfamily **Ameroidea**

Family **Ameridae**

Genus *Gymnodampia* Jacot, 1937

Gymnodampia setata (Berlese, 1916)

Original name: *Amerobelba setata* Berlese, 1916 (Jacot 1937a)

Geographic Location and Habitats: QC: Gatineau Park, Kettle Lake between Holly and Ramsay Lakes, wet *Sphagnum* (Chen *et al.* 2004).

Distribution: Nearctic.

Family **Caleremaeidae**

Genus *Caleremaeus* Berlese, 1910

Caleremaeus sp.

Geographic Location and Habitats: BC: Vancouver Is., Walbran Valley, Western redcedar ground litter traps (Lindo 2010).

Genus *Veloppia* Hammer, 1955

Veloppia kananaskis Norton, 1978

Geographic Location: **BC:** Isaiah Creek study site (Lindo & Stevenson 2007); **AB:** Kananaskis Valley, (51°02'N, 105°01'W) (Norton 1978a); ABMI Site (Walter & Latonas 2014).

Habitats: organic soil horizons in woodland dominated by aspen and Balsam poplar.

Distribution: Canada.

Veloppia pulchra Hammer, 1955

Geographic Location: **AK:** Anchorage (Hammer 1955a); Brooks Range; Denali NP (Behan 1978a); **YT:** Porcupine Plain; Richardson Mtns; Ogilvie Mtns (Behan-Pelletier 1997b); **QC:** Timmins 54°60'N, 67°00'W (Behan 1978a).

Habitats: Lichen, grass.

Distribution: Nearctic; eastern Palaearctic.

Family **Damaeolidae**

Genus *Damaeolus* Paoli, 1908

Damaeolus sp.

Geographic Location and Habitats: **BC:** Vancouver Is., Walbran Valley, Western redcedar (Lindo & Winchester 2006).

Genus *Fosseremus* Grandjean, 1954

Fosseremus laciniatus Berlese, 1905

Geographic Location and Habitats: **AB:** Onoway (53°77'N, 114°06'W) (Walter & Latonas 2012).

Distribution: Semicosmopolitan.

Family **Eremobelbidae**

Genus *Eremobelba* Berlese, 1908

Eremobelba gracilior Berlese, 1908

Synonymy: *Eremobelba neosota* (Banks, 1909): (Norton & Kethley 1990), *Eremobelba leporosus flagellaris* Jacot, 1938: (Norton & Kethley 1990), *Eremobelba nervosa* Hartenstein, 1962: (Norton & Kethley 1990).

Geographic Location: **ON:** Guelph (Banks 1909; Jarvis 1910); Chalk River (Marshall 1972); **QC:** Morgan Arboretum, (Marshall 1968; Sylvain & Buddle 2010).

Habitats: deciduous forest litter; on mangel.

Distribution: Holarctic.

Family **Eremulidae**

Genus *Eremulus* Berlese, 1908

Eremulus cingulatus Jacot, 1937

Geographic Location and Habitats: **QC:** Mirabel municipality south of Belle-Rivière (as cf.) (Tousignant *et al.* 1988; Tousignant & Coderre 1992; Smith *et al.* 1998).

Distribution: Nearctic.

Family **Hungarobelbidae**

Genus *Hungarobelba* Balogh, 1943

Hungarobelba sp.

Geographic Location and Habitats: BC: Vancouver Is., Walbran Valley, Western redcedar (Lindo & Winchester 2006, 2007); AB: Kananaskis Valley, Lodgepole pine litter (Powell & Skaley 1975).

Remarks: Records of *Hungarobelba* sp. from Western Canada need reanalysis following the publication of Miko & Travé (1996).

Superfamily Zetorchestoidea

Family Eremaeidae

Genus *Eremaeus* C.L. Koch, 1835

Eremaeus appalachicus Behan-Pelletier, 1993

Geographic Location: ON: St. Lawrence Islands NP (Behan-Pelletier 1993b).

Habitat: loose woody litter and soil beneath log.

Distribution: Nearctic.

Eremaeus boreomontanus Behan-Pelletier, 1993

Geographic Location: BC: 2 mi SE of 100 Mile House (Behan-Pelletier 1993b); AB: Banff NP; Johnson Canyon; Waterton Lakes NP; Bow Valley Corridor, Pigeon Mountain Lookout (Behan-Pelletier 1993b).

Habitats: mixed conifer litter, including spruce; rotten poplar stump, dry moss, bark on logs.

Distribution: Canada.

Eremaeus brevitarsus (Ewing, 1917)

Original name: *Damaeus brevitarsus* Ewing, 1917 (Freeman 1952)

Geographic Location: BC: Interior (Battigelli *et al.* 2004); Mt. Cain (Fagan *et al.* 2005); MB: Riding Mountain NP; Spruce Woods PP; Duck Mountain PP (Behan-Pelletier 1993b); ON: (Behan-Pelletier 1993b); Sudbury (St. John *et al.* 2002); QC: (Behan-Pelletier 1993b); Abitibi (Déchéne & Buddle 2009, 2010).

Habitats: boreal forest, including Amabilis fir, alder, Jack pine, Paper birch, White birch and Trembling aspen litter and soil; *Rosa acicularis*, grasses, moss; litter and soil under burr oak; basswood litter; fescue grassland.

Distribution: Nearctic.

Eremaeus grandis Hammer, 1952

Geographic Location: AK: Anaktuvuk Pass (Hammer 1955a); Brooks Range (Behan 1978a; Behan-Pelletier 1993b); YT: Richardson Mtns (Hammer 1952a; Behan-Pelletier 1993b); Coastal Plain; Ogilvie Mtns (Behan-Pelletier 1997b); NT: Mackenzie Delta subarctic (Behan 1978a).

Habitats: *Dryas* meadow with wet sedge; *Dryas* and *Silene acaulis* on sandy river slope; *Astragalus*, *Dryas*, *Vaccinium*, *Polygonum*, *Rhododendron* litter on brown shale; *Picea glauca*, *Alnus*, *Ribes* litter.

Distribution: western Nearctic; eastern Palaearctic.

Eremaeus sp. nr. *grandis* Hammer, 1952

Geographic Location and Habitats: AB: Kananaskis Valley, Lodgepole pine litter (Powell & Skaley 1975).

Eremaeus kananaskis Behan-Pelletier, 1993

Geographic Location: AB: Fortress Mountain; Jasper NP (Behan-Pelletier 1993b).

Habitats: moss and lichens on alpine scree.

Distribution: Canada.

Eremaeus kevani Behan-Pelletier, 1993

Geographic Location: ON: Manitoulin Is. (Behan-Pelletier 1993b); QC: (Behan-Pelletier 1993b).

Habitats: mixed poplar, Paper birch, and spruce litter; moss.

Distribution: eastern Nearctic.

Eremaeus occidentalis Behan-Pelletier, 1993

Geographic Location: **BC:** Tweedsmuir PP; Vancouver Is., Cowichan Lake Experimental Station; Trinity Valley; Shuswap River (Behan-Pelletier 1993b); Mt. Cain (Fagan *et al.* 2005); Mainland, Manning PP (Behan-Pelletier 1993b).

Habitats: coastal forests from Douglas fir, mixed cedar, hemlock, Amabilis fir and deciduous litter; tree hole litter between large Bigleaf maples; old mossy log with ant galleries; litter on hillside beneath dry layer of ferns.

Distribution: Nearctic.

Eremaeus plumosus Woolley, 1964

Geographic Location: **BC:** Osoyoos, Kobau Mountain; **AB:** Waterton Lakes NP (Behan-Pelletier 1993b).

Habitats: spruce litter; Douglas fir litter; cedar krummholz; meadows in Lodgepole pine; pine litter.

Distribution: Nearctic.

Eremaeus salish Behan-Pelletier, 1993

Geographic Location and Habitats: **BC:** Cathedral PP, wet run-off area on quartz with *Silene*, *Antennaria*, *Saxifraga* (Behan-Pelletier 1993b).

Distribution: Canada.

Eremaeus translamellatus Hammer, 1952

Geographic Location: **AK:** Fort Richardson (Hammer 1955a); Northern coastal plain; Atqasuk; Brooks Range; Fairbanks, Chena Ridge; Denali NP; Kenai Peninsula (Behan-Pelletier 1993); **YT:** Richardson Mtns (Hammer 1952a, 1955b; Behan-Pelletier 1993); Coastal Plain; Ivavik NP, British Mtns; Porcupine Plain; Richardson Mtns; Ogilvie Mtns (Behan-Pelletier 1997b); **NT:** Mackenzie Delta; Tuktoyaktuk (Behan-Pelletier 1993b); Yellowknife; Reindeer Station (Hammer 1952a, 1955b); **BC:** Interior (Battigelli *et al.* 2004); Sicamous Creek (Berch *et al.* 2007); Vancouver Is., Comex Glacier; Mainland: Cathedral PP; Manning PP; Garibaldi PP; Osoyoos, Kobau Mountain (Behan-Pelletier 1993b); **AB:** EMEND Site (Lindo & Visser 2004); Banff NP; Kananaskis Country, Fortress Mountain; Waterton Lakes NP; Jasper NP (Behan-Pelletier 1993b); ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); **SK:** Cypress Hills PP; Prince Albert NP (Behan-Pelletier 1993b).

Habitats: mesic to dry tundra, subarctic and arctic subalpine; lichen heath; coniferous (Lodgepole pine, Engelmann spruce, Douglas fir) and deciduous (alder, aspen, Paper birch) forest litter.

Distribution: Holarctic.

Eremaeus walteri Behan-Pelletier, 1993

Geographic Location: **AB:** ABMI Sites (Walter *et al.* 2014).

Habitats: aspen and pine litter, grassy areas in spruce forest, dry alpine tundra.

Distribution: Nearctic.

Eremaeus sp.

Geographic Location and Habitats: **NU:** Devon Is. (Ryan 1977); **BC:** Mt. Cain, Amabilis fir ground specialist (Fagan *et al.* 2005); Osoyoos, Haynes Lease, *Purshia*, *Aristida*, *Bromus*, *Opuntia*, *Pinus*, *Agropyron* (Behan-Pelletier 1987b); **AB:** Kananaskis Valley, aspen litter (Mitchell 1977a, 1978, 1979a); Kananaskis Valley, Lodgepole pine litter (Powell & Skaley 1975); **SK:** Matador IBP site, dry, mixed prairie (Willard 1974); **MB:** Southeast, forest litter (Oswald & Minty 1970); **ON:** Lake Superior, Granite Is., Black Bay, ring-billed gull nests (Freitag & Ryder 1973); **QC:** Mont Tremblant (Behan *et al.* 1978); Apple orchard (Forest *et al.* 1982); boreal claybelt region of Western Québec (Doblas-Miranda & Work 2015); **NS:** Southwest Nova Scotia Uplands, from apple orchards (Rasmy & McPhee 1970).

Genus *Eueremaeus* Mihelčič, 1963

Eueremaeus acostulatus Behan-Pelletier, 1993

Geographic Location: BC: Isaiah Creek study site (Lindo & Stevenson 2007); Vancouver Is., Walbran Valley, (Lindo & Winchester 2006, 2007, Lindo 2010); Mt. Cain (Fagan *et al.* 2005).

Habitats: Western redcedar and Amabilis fir; canopy specialist.

Distribution: Nearctic.

Eueremaeus aridulus Behan-Pelletier, 1993

Geographic Location: AB: ABMI Sites; south of Cypress Hills (Walter *et al.* 2014); SK, Frenchman River Valley; Matador IBP Site (Behan-Pelletier 1993b).

Habitats: grassland habitats including *Opuntia* vegetation and sod; ground juniper and grass litter.

Distribution: Canada.

Eueremaeus aysineep Behan-Pelletier, 1993

Geographic Location: BC: Vancouver Is., Mesachie Lake (Behan-Pelletier 1993b); AB: Writing-on-Stone PP; Waterton Lakes NP (Behan-Pelletier 1993b).

Habitats: polypore fungus on trunk of dead alder; birch and juniper litter with moss; under bark of spruce infested with *Dendroctonus* and *lps.*

Distribution: Nearctic.

Eueremaeus chiatous (Higgins, 1979)

Original name: *Kartoeremaeus chiatous* Higgins, 1979 (Behan-Pelletier 1993b)

Geographic Location: BC: Vancouver Is., Walbran Valley (Lindo & Winchester 2007; Lindo *et al.* 2008; Lindo 2010); Honeymoon Bay Wildflower Reserve (Behan-Pelletier 1993b); Victoria (Shackelford *et al.* 2018); AB: ABMI Site (Walter *et al.* 2014); Waterton Lakes NP (Behan-Pelletier 1993b).

Habitats: moss, lichens on bark, and litter of maples, Western juniper, aspen, Whitebark pine, Jeffrey pine, Douglas fir, and spruce; Amabilis fir, Western hemlock, Sitka spruce and redcedar litter.

Distribution: Nearctic.

Eueremaeus columbianus (Berlese, 1916)

Original name: *Eremaeus columbianus* Berlese, 1916 (Marshall *et al.* 1987)

Synonymy: *Kartoeremaeus reevesi* Higgins, 1979: (Behan-Pelletier 1993b), *Eremaeus politus* Banks, 1947: (Behan-Pelletier 1993b).

Geographic Location: QC: Parc National du Mont-Orford; Cedarville; Mont Megantic, 900 m (Behan-Pelletier 1993b); ON: Rondeau PP, South Point Trail (Behan-Pelletier 1993b).

Habitats: moss at base of beech; mixed cedar and pine litter; lichens from bark of *Abies*; sandy mound covered with moss in hickory, Sugar maple forest.

Distribution: Nearctic; northern Neotropical.

Eueremaeus foveolatus (Hammer, 1952)

Original name: *Eremaeus foveolatus* Hammer, 1952 (Behan-Pelletier 1993b).

Geographic Location: AK: Cape Thompson (Behan 1978a; Behan & Hill 1978); Brooks Range, Toolik Lake (Behan 1978a); Fort Yukon; Denali NP; Fairbanks, Chena Ridge (Behan 1978a; Behan-Pelletier 1993b); Atkasuk; Chugach Mtns; Kenai Peninsula (Behan 1978a); YT: Richardson Mtns (Behan-Pelletier 1993b); Coastal Plain; Ivvavik NP, British Mtns; Porcupine Plain; Eagle Plain; Ogilvie Mtns; Yukon Tintina (Behan-Pelletier 1997b); NT: Reindeer Station; Yellowknife (Hammer 1952a); Mackenzie Delta arctic and subarctic (Behan 1978a); Tuktoyaktuk (Behan-Pelletier 1993b); Banks Is. (Behan 1978a; Behan & Hill 1978); NU: Coppermine (Hammer 1952a); Devon Is.; Victoria Is.; Keewatin (Behan 1978a); BC: North of Kamloops (Marshall 1979); Cathedral PP; Manning PP; Osoyoos, Kobau Mountain (Behan-Pelletier 1993b); AB: Kananaskis Country (Mitchell 1977a); Waterton Lakes NP; Jasper NP; Maligne Range; Banff NP; Kananaskis Country; Marmot Creek Basin; Fortress Mountain; Writing-on-Stone PP (Behan-Pelletier

1993b); ABMI Sites (Walter *et al.* 2014); **SK**, Prince Albert NP (Behan-Pelletier 1993b); **QC**: northern region (Behan 1978a).

Habitats: wet and dry tundra meadows; alpine tundra; subarctic forest litter including aspen, spruce, alder, birch and Douglas fir.

Distribution: Holarctic.

Remarks: This species was first transferred to *Eueremaeus* by Behan-Pelletier (1993b), but therein the combination was wrongly attributed to Marshall *et al.* (1987).

Eueremaeus higginsii Behan-Pelletier, 1993

Geographic Location: **BC**: Isaiah Creek study site (Lindo & Stevenson 2007).

Habitat: coniferous canopy litter.

Distribution: Nearctic.

Eueremaeus marshalli Behan-Pelletier, 1993

Geographic Location: **YT**, Richardson Mtns (Behan-Pelletier 1993b); Coastal Plain; Ivvavik NP, British Mtns; Eagle Plain (Behan-Pelletier 1997b); **NT**, Reindeer Station; Victoria Is. (Behan-Pelletier 1993b); **BC**: Isaiah Creek study site (Lindo & Stevenson 2007); Vancouver Is., Walbran Valley (Lindo & Winchester 2006, 2007; Lindo *et al.* 2008; Lindo 2010); Strathcona PP; Mainland, Manning PP; Garibaldi PP (Behan-Pelletier 1993b); **AB**: Kananaskis Valley (Behan-Pelletier 1993b; McLean & Parkinson 1998); Waterton Lakes NP (Behan-Pelletier 1993b); EMEND Site (Lindo & Visser 2004); Moose Pasture Research Site; ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); 35 km north of Fort McMurray (McAdams *et al.* 2018); **SK**: Moose Mountain PP; south of Val Marie (Behan-Pelletier 1993b); **MB**: Duck Mountain PP; Spruce Woods PP (Behan-Pelletier 1993b); **ON**: Algonquin PP (Behan-Pelletier 1993b); **QC**: Lac Megantic (Behan-Pelletier 1993b); **NL**: between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: mesic tundra, moss, lichen, fungi, and mixed coniferous and deciduous litters; canopy of Western redcedar.

Distribution: Nearctic.

Eueremaeus sp. nr. *marshalli* Behan-Pelletier, 1993

Geographic Location and Habitats: **BC**: Interior, forest litter (Battigelli *et al.* 2004).

Eueremaeus masinasin Behan-Pelletier, 1993

Geographic Location: **AB**: Writing-on-Stone PP; Cypress Hills PP; Kananaskis Country; Waterton Lakes NP; Roy Berg Kinsella Research Ranch (Behan-Pelletier 1993b; Newton & Proctor 2013); ABMI Sites (Walter *et al.* 2014); **SK**: Frenchman River Valley; Cypress Hills PP; Battlefords PP; Big Muddy Badlands (Behan-Pelletier 1993b); **MB**: Riding Mountain NP (Behan-Pelletier 1993b).

Habitats: grassland species reported from sod, moss, assorted litter, dry shortgrass prairie, and alpine grasslands.

Distribution: Nearctic.

Eueremaeus michaeli Behan-Pelletier, 1993

Geographic Location: **BC**: Manning PP; Osoyoos, Madeline Lake; Cathedral PP (Behan-Pelletier 1993b).

Habitats: hemlock, cedar, Ponderosa pine, and *Larix* litter.

Distribution: Canada.

Eueremaeus nahani Behan-Pelletier, 1993

Geographic Location: **YT**: Carcross Sand Dunes; Northfork Pass (Behan-Pelletier 1993b); Ogilvie Mtns (Behan-Pelletier 1997b).

Habitats: Lodgepole pine litter; mixed tundra vegetation.

Distribution: Nearctic.

Eueremaus oblongus (C.L. Koch, 1835)

Original name: *Eremaeus oblongus* C.L. Koch, 1835 (Mihelčič, 1963)

Combination: *Notaspis oblonga* (C.L. Koch, 1835); (Michael 1884-1888).

Synonymy: *Eremaeus major* Mihelčič, 1953: (Mihelčič, 1963).

Geographic Location: **MB:** Churchill (Hammer 1952a).

Habitats: luxuriant growth of *Catabrosa* sp. with *Stellaria*, *Polygonum* and *Achillea* in humid depression under willows.

Distribution: Holarctic.

Remarks: Behan-Pelletier (1993b) examined specimens of *Eu. oblongus* from central Europe (types are unknown). They are not conspecific with any known North American species and this record may represent a misidentification.

Eueremaus sp. nr. *oblongus* C.L. Koch, 1835 (all records under *Eremaeus*)

Geographic Location and Habitats: **MB:** Whiteshell PP, bracket fungus *Polyporus betulinus* (Bull.) Fr., growing on dead birch (Pielou & Verma 1968); **ON:** Algonquin PP, bracket fungus *Polyporus betulinus* (Bull.) Fr., growing on dead birch (Pielou & Verma 1968); **QC:** Gatineau Park, bracket fungus *Polyporus betulinus* (Bull.) Fr., growing on dead birch (Pielou & Verma 1968); **NB:** bracket fungus *Polyporus betulinus* (Bull.) Fr., growing on dead birch (Pielou & Verma 1968).

Eueremaus osoyoosensis Behan-Pelletier, 1993

Geographic Location: **BC:** Osoyoos, Madeline Lake (Behan-Pelletier 1993b); **AB:** Banff NP; Kananaskis Country (Behan-Pelletier 1993b).

Habitats: dry litter of Ponderosa pine, Whitebark pine, and spruce.

Distribution: Nearctic.

Eueremaus proximus (Berlese, 1916)

Original name: *Eremaeus proximus* Berlese, 1916 (Behan-Pelletier 1993b)

Geographic Location: **ON:** Long Point NWA, Chaffey's Locks; St. Lawrence Islands NP; Pinery PP; Backus Woods Conservation Area (Behan-Pelletier 1993b); **QC:** Gatineau Park (Behan-Pelletier 1993b); **NB:** Kouchibouguac NP (Behan-Pelletier 1993b); **NS:** Cape Breton Highlands NP (Behan-Pelletier 1993b).

Habitats: sedge and fern litter in slough; moss on rocks near spring; litter from Red oak, Sugar maple, pine, oak, alder, juniper.

Distribution: Nearctic.

Eueremaus quadrilamellatus (Hammer, 1952)

Original name: *Eremaeus quadrilamellatus* Hammer, 1952 (Marshall *et al.* 1987)

Combination: *Eremaeus quadrilamellata* Hammer, 1952; (Hammer 1955a).

Geographic Location: **AK:** Fort Richardson; Anchorage (Hammer 1955a); Cape Thompson (Watson *et al.* 1966); Northwest coastal plain; Atkasuk; Brooks Range; Fairbanks Region; Denali NP; Chugach Mtns; Kenai Peninsula (Behan 1978a); Elliott Highway Burn, (65°19'N, 149°06'W) (Thomas & McLean 1988); **YT:** Yellowknife (Hammer 1952a); Coastal Plain (Behan-Pelletier 1997b); **NT:** Banks Is.; Victoria Is.; Mackenzie Delta (Behan 1978a); **AB:** 35 km north of Fort McMurray (McAdams *et al.* 2018); ABMI sites (Meehan *et al.* 2019).

Habitats: tussock tundra; boreal forest.

Distribution: Nearctic.

Eueremaus cf. *quadrilamellatus* (Hammer, 1952)

Geographic Location and Habitats: **AB:** ABMI Sites (Walter *et al.* 2014).

Eueremaus stiktos (Higgins, 1962)

Original name: *Eremaeus stiktos* Higgins, 1962 (Behan-Pelletier 1993b)

Geographic Location: **BC:** Garibaldi PP; Tweedsmuir PP, Bella Coola Valley; Vancouver Is.: Little

Qualicum Falls PP; Cowichan Lake (Behan-Pelletier 1993b).

Habitats: Douglas fir, hemlock, cedar litter; madrone litter.

Distribution: Nearctic.

Eueremaesus tetrosus (Higgins, 1979)

Original name: *Kartoeremaesus tetrosus* Higgins, 1979 (Behan-Pelletier 1993b)

Geographic Location: **AB:** Kananaskis Country; Marmot Creek Basin, aspen-site of M. Mitchell; Banff NP; Waterton Lakes NP; Writing-on-Stone PP (Behan-Pelletier 1993b); ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); **SK:** Battlefords PP; Cypress Hills PP; Conglomerate Cliffs; Big Muddy Badlands (Behan-Pelletier 1993b); **MB:** Spruce Woods PP (Behan-Pelletier 1993b); **ON:** Ivanhoe Lake PP; Black Sturgeon Lake (Behan-Pelletier 1993b); Sudbury (St. John *et al.* 2002); **QC:** Timmins 54°60'N, 67°00'W (Behan-Pelletier 1993b); **NB:** Kouchibouguac NP (Behan-Pelletier 1993b); **NS:** Kejimikujik NP; Cape Breton Highlands NP (Behan-Pelletier 1993b); **NL:** Gros Morne NP (Behan-Pelletier 1993b).

Habitats: meadows, moss, rotten logs, and the litter of aspen, Lodgepole pine, White pine, willow, spruce.

Distribution: Nearctic.

Eueremaesus trionus (Higgins, 1979)

Original name: *Kartoeremaesus trionus* Higgins, 1979 (Behan-Pelletier 1993b)

Geographic Location and Habitats: **NB:** Kouchibouguac NP, under bark of White pine with *lps* and *Pityogenes* (Behan-Pelletier 1993b).

Distribution: Nearctic.

Eueremaesus yukonensis Behan-Pelletier, 1993

Geographic Location and Habitats: **YT:** Richardson Mtns, Fish Creek, 67°57.5'N, 136°26'W; from *Artemesia* litter on slope; km220 N Dempster Hwy, alder and Black spruce litter in tamarack bog (Behan-Pelletier 1993b).

Distribution: Canada.

Eueremaesus sp.

Geographic Location and Habitats: **BC:** Vancouver Is., Mt. Cain, Amabilis fir canopy specialist (Fagan *et al.* 2005); **AB:** Lethbridge, fescue prairie (Osler *et al.* 2008).

Genus *Tricheremaesus* Berlese, 1908

Tricheremaesus sp.

Geographic Location and Habitats: **BC:** Vancouver Is.: coastal montane (Lindo & Clayton 2011); Mt. Cain, canopy, (ZL unpublished).

Family **Megeremaecidae**

Genus *Megeremaesus* Higgins & Woolley, 1965

Megeremaesus cretaceous Sidorchuk and Behan-Pelletier, 2017

Geographic Location: **AB:** nr. Medicine Hat, amber inclusion, ca. 80my old (Sidorchuk & Behan-Pelletier 2017).

Distribution: Canada.

Remarks: This species is extinct; its relationship with extant species of *Megeremaesus* is discussed in Sidorchuk & Behan-Pelletier (2017).

Megeremaesus hylaius Behan-Pelletier, 1990

Geographic Location: **ON:** Algonquin PP (Behan-Pelletier 1990); **QC:** Parc National du Mont Megantic

(Behan-Pelletier 1990).

Habitats: moss on trunks of *Abies* and *Betula*; deciduous forest litter.

Distribution: Eastern Nearctic.

Megeremaeus keewatin Behan-Pelletier, 1990

Geographic Location: **AK**, Mastodon Dome near Fairbanks (Behan-Pelletier 1990); **YT**: Ivvavik NP, British Mtns; Nahoni Range; Ogilvie Mtns; Richardson Mtns, Mt. Gifford, (Behan-Pelletier 1990, 1997).

Habitats: *Draba*, *Saxifraga*, lichen, moss among rocks.

Distribution: Nearctic.

Megeremaeus kootenai Behan-Pelletier, 1990

Geographic Location: **BC**: Manning PP (Behan-Pelletier 1990); Isaiah Creek study site (Lindo & Stevenson 2007); **AB**: Kananaskis Country; Waterton Lakes NP (Behan-Pelletier 1990).

Habitats: moss and bark of standing dead Douglas-fir; *Leyzites* fungus on spruce stump; under bark of spruce infested with *Dendroctonus* and *Ips*.

Distribution: Canada.

Megeremaeus montanus Higgins and Woolley, 1965

Geographic Location: **BC**: Vancouver Is., Mt. Cain (Fagan *et al.* 2005); Walbran Valley (Lindo & Winchester 2006; Lindo 2010); Brooks Peninsula; Haida Gwaii, Cape Ball (Behan-Pelletier 1990).

Habitats: Amabilis fir; Western redcedar litter; decomposed cedar stump.

Distribution: Nearctic.

Superfamily **Gustavioidea**

Family **Astegistidae**

Genus *Astegistes* Hull, 1916

Astegistes sp.

Geographic Location and Habitats: **AB**: EMEND Site, Trembling aspen litter (Lindo & Visser 2004); ABMI Sites; Moose Pasture Research Site, Narrow Lake (Walter *et al.* 2014; as sp. 1); **ON**: Chalk River (Marshall *et al.* 1987); **NB**: Maritime Lowlands (Marshall *et al.* 1987; Behan-Pelletier 2010).

Genus *Cultroribula* Berlese, 1908

Cultroribula bicultrata (Berlese, 1905)

Original name: *Dameosoma bicultratum* Berlese, 1905 (Berlese 1910)

Synonymy: *Cultroribula trifurcata* Jacot, 1939: (Ghilarov 1975), *Cultroribula szent-ivanovi* [sic] [=szent-ivanyi] Balogh, 1943: (Ghilarov 1975), *Cultroribula falcata* Evans, 1952: (Ghilarov 1975), *Cultroribula trifurcata rotundata* Krivoluksky, 1962: (Ghilarov 1975).

Geographic Location: **BC**: Interior (Battigelli *et al.* 2004); **ON**: Sudbury (St. John *et al.* 2002); **QC**: Abitibi (Déchéne & Buddle 2009, 2010); Morgan Arboretum (Marshall 1968; Sylvain & Buddle 2010); **NS**: Cape Breton Highlands NP (Behan-Pelletier 2010); **NL**: between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: spruce forest litter; White birch and Trembling aspen, grasses and herbs; boreal mixedwood forest; Balsam fir forests.

Distribution: Holarctic.

Cultroribula sp. nr. *bicultrata* (Berlese, 1905)

Geographic Location: **BC**: Isaiah Creek study site (Lindo & Stevenson 2007); Vancouver Is., Walbran Valley (Lindo & Winchester 2006).

Cultroribula dentata Willmann, 1950

Geographic Location: **AK:** Fort Richardson (Hammer 1955a); northwest coastal region; Brooks Range; Fairbanks Region (Behan 1978a); **YT:** Richardson Mtns (Hammer 1952a); Herschel Is. (Behan 1978a; Behan & Hill 1978); Coastal Plain; Porcupine Plain; Ogilvie Mtns (Behan-Pelletier 1997b); **NT:** Mackenzie Delta arctic and subarctic (Behan 1978a).

Habitats: tussock tundra.

Distribution: Holarctic.

Remarks: This species was transferred to *Furcoppia* Balogh and Mahunka, 1983 by Subías (2004), without justification. Pending further study, it is retained in *Cultroribula* herein to avoid confusion, as Grobler (2003) described *Furcoppia dentata* Grobler, 2003 from South Africa.

Cultroribula divergens Jacot, 1939

Geographic Location: **ON:** Sudbury (St. John *et al.* 2002); **QC:** St. Clet (Smith 1978); Mirabel municipality south of Belle-Rivière (Tousignant *et al.* 1988; Tousignant & Coderre 1992).

Habitats: grasses and herbs; beech plantation.

Distribution: Nearctic.

Cultroribula cf. *taigagica* Bayartogtokh, 2007

Geographic Location: **AB:** ABMI Site (Walter *et al.* 2014).

Cultroribula sp.

Geographic Location and Habitats: **NB:** Maritime Lowlands, peatlands (Behan-Pelletier & Bissett 1994; Behan-Pelletier 2010).

Genus *Furcoribula* Balogh, 1943

Furcoribula furcillata (Nordenskiöld, 1901)

Original name: *Notaspis furcillata* Nordenskiöld, 1901 (Balogh 1972)

Combination: *Cultroribula furcillata* (Nordenskiöld, 1901); (Willmann 1931).

Synonymy: *Cultroribula confinis magna* Ewing, 1917; (Marshall *et al.* 1987).

Geographic Location: **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Distribution: Holarctic; Ethiopia.

Furcoribula sp.

Geographic Location: **BC:** Vancouver Is., Walbran Valley (Lindo *et al.* 2008).

Family **Gustaviidae**

Genus *Gustavia* Kramer, 1879

Gustavia parvula (Banks, 1909)

Original Name: *Liaccarus parvulus* Banks, 1909 (Marshall *et al.* 1987)

Geographic Location: **ON:** Guelph, from moss on a stump (Banks 1909).

Distribution: Nearctic.

Gustavia sp.

Geographic Location and Habitats: **BC:** Vancouver Is., Walbran Valley, Western redcedar (Lindo & Winchester 2006); **AB:** Moose Pasture Research Site (Walter *et al.* 2014); ABMI Sites (Meehan *et al.* 2019); **MB:** Southeast, forest litter (Oswald & Minty 1970).

Family **Kodiakellidae**

Genus *Kodiakella* Hammer, 1967

Kodiakella lutea Hammer, 1967

Geographic Location: **AK:** Kodiak Is., West of Pinguicula Lake; shore of Bare Lake (Hammer 1967); **BC:** Upper Klanawa Mainline site, near Franklin River (Berch *et al.* 2001); Vancouver Is., Walbran Valley (Lindo 2010).

Habitats: Bog with patches of *Sphagnum*; Western redcedar litter.

Distribution: Western Nearctic.

Family **Liacaridae**

Genus *Adoristes* Hull, 1916

Adoristes ammonoosuci Jacot, 1938

Original name: *Adoristes ovatus ammonoosuci* Jacot, 1938 (Woolley 1967b)

Geographic Location and Habitats: **QC:** Morgan Arboretum, deciduous forest litter (Marshall 1968).

Distribution: Eastern Nearctic.

Adoristes nr. *ovatus* (C.L. Koch, 1839)

Geographic Location and Habitats: **QC:** Abitibi, boreal mixedwood forest (Déchêne & Buddle 2009, 2010; as *Adoristes* nr. *poppei*); Morgan Arboretum (Marshall 1968).

Adoristes sp.

Geographic Location and Habitats: **ON:** Lake Superior, Granite Is., Black Bay, ring-billed gull nests (Freitag & Ryder 1973); **QC:** Mont Tremblant (Behan *et al.* 1978); Abitibi, boreal mixedwood forest, 2 spp. (Déchêne & Buddle 2009, 2010); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987); **NL:** between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer *et al.* 1997, 1998).

Genus *Dorycranosus* Woolley, 1969

Dorycranosus abdominalis (Banks, 1906)

Original name: *Liacarus abdominalis* Banks, 1906 (Woolley 1969)

Geographic Location: **AK:** Chugach Mtns, Kenai Peninsula (Behan 1978a); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Distribution: Nearctic.

Dorycranosus acutidens (Aoki, 1965)

Original name: *Liacarus acutidens* Aoki, 1965 (Woolley 1969)

Geographic Location: **AK:** Chugach Mtns, Kenai Peninsula (Behan 1978a); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010).

Habitat: Boreal forest.

Distribution: Holarctic.

Dorycranosus cf. *acutidens* (Aoki, 1965)

Geographic Location: **AB:** ABMI Sites; Moose Pasture Research Site (Walter *et al.* 2014); 35 km north of Fort McMurray (McAdams *et al.* 2018; cf. was omitted from the publication according to L. Lumley, pers. comm.).

Dorycranosus altaicus Krivolutsky, 1974

Geographic Location: **AK:** Northwest coastal region; Brooks Range; Fairbanks Region; Chugach Mtns, Kenai Peninsula (Behan 1978a); **NT:** Tuktoyaktuk (Behan 1978a); **NU:** Keewatin (Behan 1978a); **QC:** northern region (Behan 1978a).

Habitats: tussock tundra; boreal forest.

Distribution: Holarctic.

Dorycranosus parallelus (Hammer, 1967)

Original name: *Liacarus parallelus* Hammer, 1967 (Ghilarov 1975)

Geographic Location: **AK:** Kodiak Is., West of Pinguicula Lake (Hammer 1967); **YT:** Coastal Plain; Richardson Mtns (Behan-Pelletier 1997b); **AB:** ABMI Sites (Walter *et al.* 2014); 35 km north of Fort McMurray (McAdams *et al.* 2018).

Habitat: Boreal forest; dry meadow.

Distribution: Western Nearctic; eastern Palaearctic.

Dorycranosus sp.

Geographic Location and Habitats: **AK:** Brooks Range (as *Procorynetes* sp.) (Behan 1978a); **YT:** Richardson Mtns; Ogilvie Mtns (Behan-Pelletier 1997b); **NT:** Tuktoyaktuk (as *Procorynetes* sp.) (Behan 1978a); **NU:** Baffin Is. (as *Procorynetes* sp.) (Behan 1978a); **BC:** Upper Klanawa Mainline site, near Franklin River (Berch *et al.* 2001); Vancouver Is., Walbran Valley, Western redcedar ground litter traps (Lindo 2010); **AB:** Kananaskis Valley, Lodgepole pine litter (Powell & Skaley 1975); Roy Berg Kinsella Research Ranch (Newton & Proctor 2013); ABMI Sites; Moose Pasture Research Site (2 spp.) (Walter *et al.* 2014); **ON:** Lake Superior, Granite Is., Black Bay, ring-billed gull nests (as *Liacarus (Dorycranosus)*) (Freitag & Ryder 1973); **QC:** northern region (as *Procorynetes* sp.) (Behan 1978a); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010); **NL:** between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer *et al.* 1997, 1998).

Genus *Liacarus* Michael, 1898

Liacarus bidentatus Ewing, 1918

Geographic Location: **AK:** Chugach Mtns, Kenai Peninsula (Behan 1978a); **YT:** Coast Mtns (Behan-Pelletier 1997b); **NT:** Mackenzie Delta (Behan 1978a); **BC:** (Woolley 1968); Upper Klanawa Mainline site, near Franklin River (Berch *et al.* 2001); Interior (Battigelli *et al.* 2004); Vancouver Is., Mt. Cain (Fagan *et al.* 2005).

Habitats: tussock tundra; boreal forest litter; Amabilis fir litter.

Distribution: Nearctic.

Liacarus sp. nr. *bidentatus* Ewing, 1918

Geographic Location and Habitats: **BC:** Vancouver Is., Walbran Valley, Western redcedar litter (Lindo & Winchester 2006, 2007; Lindo 2010).

Liacarus cidarus Woolley, 1968

Geographic Location and Habitats: **BC:** coastal temperate rainforest (Lindo & Clayton 2011).

Distribution: Nearctic.

Liacarus detosus Woolley, 1968

Geographic Location and Habitats: **BC:** Upper Klanawa Mainline site, near Franklin River (Berch *et al.* 2001).

Distribution: Nearctic.

Liacarus latus Ewing, 1909

Geographic Location and Habitats: **BC:** coastal temperate rainforest (Lindo & Clayton 2011).

Distribution: Nearctic.

Liacarus sp. nr. *robustus* Ewing, 1918

Geographic Location and Habitats: **BC:** Vancouver Is., Upper Walbran Valley, Western redcedar canopy (Lindo & Winchester 2006, 2007; Lindo 2010).

Liacarus sp.

Geographic Location and Habitats: **AK:** Prince of Wales Is., young alder, young conifer and old conifer stands (Schultz & DeSanto 2006); **BC:** Vancouver Is., Walbran Valley (2 spp.) (Lindo & Winchester 2006); **AB:** Kananaskis (Mitchell 1973); **QC:** Morgan Arboretum (Marshall 1968); Morgan Arboretum, beech, maple litter (3 spp.) (Sylvain & Buddle 2010); **NB:** Maritime Lowlands (Behan-Pelletier 2010); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Liacarus (Rhaphidosus) sp.

Geographic Location and Habitats: **BC:** Upper Klanawa Mainline site, near Franklin River (Berch *et al.* 2001).

Genus Xenillus Robineau-Desvoidy, 1839

Xenillus sp.

Geographic Location and Habitats: **MB:** southeast, riparian litter (Oswald & Minty 1970).

Family **Peloppiidae**

Genus *Ceratoppia* Berlese, 1908

Ceratoppia bipilis (Hermann, 1804)

Original name: *Notaspis bipilis* Hermann, 1804 (André 1925)

Combination: *Oppia bipilis* (Hermann, 1804); (Berlese 1882-1898), *Eremaeus bipilis* (Hermann, 1804); (Oudemans 1900b).

Synonymy: *Ceratoppia herculeana* Berlese, 1908: (Ghilarov 1975).

Geographic Location: **AK:** Fairbanks; Fort Richardson; Anchorage (Hammer 1955a); Cape Thompson (Watson *et al.* 1966); northern coastal plain; northwest coastal plain; Atkasuk; Brooks Range; Fairbanks Region; Aleutian Islands (Behan 1978a); **YT:** Richardson Mtns (Hammer 1952a); peatlands (Behan 1978a; Behan-Pelletier & Bissett 1994); Coastal Plain; Ivvavik NP, British Mtns; Porcupine Plain; Ogilvie Mtns; Yukon Tintina; Southern Lakes (Behan-Pelletier 1997b); **NT:** Reindeer Station; Yellowknife (Hammer 1952a); Tuktoyaktuk (Behan 1978a; Behan & Hill 1978); Mackenzie Delta arctic and subarctic (Behan 1978a; Behan-Pelletier & Bissett 1994); **NU:** Coppermine (Hammer 1952a); Keewatin (Behan 1978a); **BC:** Mt. Cain (Fagan *et al.* 2005); **AB:** peatlands (Behan-Pelletier & Bissett 1994); Wagner Natural Area, 8km W Edmonton (Finnamore 1994); Kananaskis Valley, (Powell & Skaley 1975); ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); 35 km north of Fort McMurray (McAdams *et al.* 2018); **MB:** Churchill (Hammer 1952a); Southeast (Oswald & Minty 1970); peatlands (Behan-Pelletier & Bissett 1994); **ON:** Chalk River (Marshall 1968); Sudbury (St. John *et al.* 2002); peatlands (Behan-Pelletier & Bissett 1994); **QC:** Mont Tremblant (Behan *et al.* 1978); Northern tundra (Behan & Hill 1978); *Fomes* polypores (Pielou & Matthewman 1966); Abitibi (Déchêne & Buddle 2009, 2010); peatlands (Behan-Pelletier & Bissett 1994); **NB:** *Polyporus betulinus* (Pielou & Verma 1968); peatlands (Behan-Pelletier & Bissett 1994); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987); **NL:** peatlands (Behan-Pelletier & Bissett 1994); between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: boreal and subarctic; tussock tundra; peatlands; Balsam fir forests.

Distribution: Holarctic.

Ceratoppia bipilis spinipes (Banks, 1906)

Original name: *Oppia spinipes* Banks, 1906 (Jacot 1936)

Combination: *Ceratoppia bipilis spinipes* (Banks, 1906); (Jacot 1936), *Notaspis spinipes* (Banks, 1906); (Ewing 1909a).

Synonymy: *Oppia canadensis* Banks, 1906: (Jacot 1936), *Notaspis canadensis* (Banks, 1906): (Ewing 1909a), *Oppia montana* Banks, 1906: (Jacot 1936), *Ceratoppia bipilis brevicuspis* Jacot, 1934: (Jacot

1936).

Geographic Location and Habitats: ON: Guelph, under bark of ironwood (Banks 1909); Ottawa (Jarvis 1910).

Distribution: Nearctic.

Ceratoppia indentata Lindo, 2011

Geographic Location: BC: Vancouver Is., Upper Walbran Valley; Upper Carmanah Valley (48°44'N, 124°37'W); Caycuse (48°53'N, 124°21'W); Broken Is. Group (48°52'N, 124°19'W); Barkley Sound (48°58'N, 124°6'W); Bamfield Marine Station (48°45'N, 125°10'W); Hesquiat Peninsula PP (49°22'N, 126°31'W); Sydney Inlet, Clayoquot Sound (49°30'N, 126°17'W); Campbell River, (50°03'N, 125°26'W); Brooks Peninsula (50°7'N, 127°46'W); Lax Kw'alaams (54°33'N, 131°25'W) (Lindo 2011).

Habitats: litter from conifer and deciduous trees, moss, and lichens; collected near beaches, small creeks, river mouths or ravines.

Distribution: Nearctic.

Ceratoppia longicuspis Lindo, 2011

Geographic Location: BC: Vancouver Is., Upper Walbran Valley; Upper Carmanah Valley (48°44'N, 124°37'W); Cowichan Lake (48°50'N, 124°10'W); Moyeha Watershed, Clayoquot Sound (49°24'N, 125°54'W); Bamfield Marine Station (48°45'N, 125°10'W); (50°14'N, 125°34'W); Pacific Rim NP (49°0'N, 125°36'W); Heather Mountain (48°57'N, 124°28'W); Caycuse (48°53'N, 124°21'W); Goldstream PP (48°28'N, 123°32'W); Brooks Peninsula (50°7'N, 127°46'W). Winter Inlet, Pearse Is. (54°49'N, 130°26'W); Newcombe Harbour, Pitt Is. (53°43'N, 130°5'W); Graham Is., Haida Gwaii (53°29'N, 130°20'W); Tweedsmuir South PP (53°4'N, 1261°6'W) (Lindo 2011).

Habitats: Coastal temperate arboreal habitats, primarily epiphytic bryophytes; co-occurring in forest floor habitats with other *Ceratoppia* species.

Distribution: Nearctic.

Ceratoppia offarostrata Lindo, 2011

Geographic Location: BC: Vancouver Is., Upper Walbran Valley; Pacific Rim NP Reserve, Rainforest Trail (49°00'N, 125°37'W); Graham Is., Haida Gwaii (53°28'N, 132°25'W); Cape St. James, Gwaii Haanas NP Reserve, Haida Gwaii (51°56'N, 131°1'W) (Lindo 2011).

Habitats: moss and bark on Western redcedar.

Distribution: Canada.

Ceratoppia quadridentata (Haller, 1882)

Original name: *Notaspis bipilis quadridentata* Haller, 1882 (Grandjean 1936)

Geographic Location: BC: Mt. Cain (Fagan *et al.* 2005); AB: ABMI Sites (Meehan *et al.* 2019); ON: near Chapleau (Rousseau *et al.* 2018).

Habitats: Amabilis fir litter; Jack pine forest.

Distribution: Holarctic.

Ceratoppia quadridentata arctica Hammer, 1955

Original name: *Ceratoppia quadridentata* (Haller) var. *arctica* Hammer, 1955 (Marshall *et al.* 1987)

Geographic Location: AK: Fairbanks; Fort Richardson; Anchorage (Hammer 1955a); Barrow (Hammer 1955a; Hurd & Lindquist 1958; Bohnsack 1968, 1973; Douce 1976); Cape Thompson (Watson *et al.* 1966); Kodiak Is. (Hammer 1967); northern coastal plain; northwest coastal plain; Brooks Range; Chugach Mtns, Kenai Peninsula; Fairbanks Region; Aleutian Islands; Pribilof Islands (Behan 1978a); YT: Richardson Mtns; Ogilvie Mtns (Behan-Pelletier 1997b); NT: Mackenzie Delta (Behan 1978a); peatlands (Behan-Pelletier & Bissett 1994); NU: Victoria Is. (Behan 1978a); (Lindo 2011); BC: Charlie Lake, Fort St. John; Manning PP; Vancouver Is., Heather Mtn; Lost Shoe Creek (Lindo 2011); Interior (Battigelli *et al.* 2004); AB: Kananaskis Valley (Powell & Skaley 1975); Wagner Natural Area, 8km W Edmonton, 53°34'N, 113°47'W, fen (Finnamore 1994); EMEND Site (Lindo & Visser 2004); ABMI Sites; Moose Pasture Research Site

(Walter *et al.* 2014); 35 km north of Fort McMurray (McAdams *et al.* 2018); **QC**: Northern region (Behan 1978a); peatlands (Behan-Pelletier & Bissett 1994); St. Paulin (Doblas-Miranda *et al.* 2014); **NL**: between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: arctic and subarctic meadows; peatlands; Sub-Boreal and Boreal forest with White spruce, Black spruce, Jack pine and Trembling aspen; Balsam fir forests.

Distribution: Holarctic.

Ceratoppia sexpilosa Willmann, 1938

Geographic Location: **AK**: Kodiak Is. (Hammer 1967); northwest coastal plain; southwest coastal; Brooks Range; Pribilof Islands (Behan 1978a); Elliott Highway Burn, (65°19'N, 149°06'W) (Thomas & McLean 1988); **YT**: coastal plain; Ivavik NP, British Mtns; Porcupine Plain; Richardson Mtns; Ogilvie Mtns (Behan-Pelletier 1997b).

Habitats: arctic and subarctic meadows; tussock heath.

Distribution: Holarctic.

Ceratoppia sphaerica (L. Koch, 1879)

Original name: *Oppia sphaerica* L. Koch, 1879 (Hammer 1944)

Combination: *Ceratoppia bipilis sphaerica* (L. Koch, 1879); (Hammer 1944), *Eremaeus bipilis sphaerica* (L. Koch, 1879); (Kulczynski 1902), *Notaspis bipilis sphaerica* (L. Koch, 1879); (Trägårdh 1904).

Geographic Location: **AK**: Fort Richardson; Anaktuvuk Pass (Hammer 1955a); Kodiak Is. (Hammer 1967); Barrow (Hammer 1955a; Hurd & Lindquist 1958; Bohnsack 1968; Douce 1976); Cape Thompson (Watson *et al.* 1966); Atkasuk; Northern, northwestern and southwestern coastal plain; Brooks Range; Fairbanks Region; Aleutian Islands; Pribilof Islands (Behan 1978a); Seward Peninsula, near to Cape Espenberg, 66°28'22"N, 163°56'56"W, greyish tephra from Aniakchak eruption (Blackford *et al.* 2014); **YT**: coastal plain (Behan & Hill 1978); Richardson Mtns; Eagle Plain; Ogilvie Mtns (Behan-Pelletier 1997b); **NT**: Tuktoyaktuk (Behan 1978a).

Habitats: tundra, lichen heath.

Distribution: Holarctic.

Ceratoppia tofinoensis Lindo, 2011

Geographic Location: **BC**: Vancouver Is., Sydney Inlet, Clayoquot Sound (49°30'N, 126°17'W), Moyeha Watershed, Clayoquot Sound (49°24'N, 125°54'W), Watta Watershed, Clayoquot Sound (49°27'N, 126°01'W), Tranquil Watershed, Clayoquot Sound (49°12'N, 125°40'W); Upper Walbran Valley (Lindo 2011).

Habitats: coastal rainforest arboreal specialist.

Distribution: Nearctic.

Ceratoppia valerieae Lindo, 2011

Geographic Location: **BC**: Vancouver Is., Upper Walbran Valley; Cowichan Lake Field Station (48°50'N, 124°10'W); Upper Carmanah Valley (48°44'N, 124°37'W); Barkley Sound (48°58'N, 124°6'W); Caycuse (48°53'N, 124°21'W); Mesachie Lake (48°48'N, 124°7'W); Honeymoon Bay (48°48'N, 124°10'W); Municipality of the Highlands (48°32'N, 123°30'W); Graham Is., Haida Gwaii (53°28'N, 132°25'W); Tweedsmuir South PP (53°3'N, 126°21'W); Garibaldi PP (49°53'N, 122°47'W); E.C. Manning PP (49°10'N, 119°33'W); Spruce Bay Beach (49°3'N, 120°50'W); Oliver (49°3'N, 120°46'W); Madeline Lake, Penticton (49°30'N, 119°38'W); Lumby (50°15'N, 118°58'W); Sugar Lake (50°24'N, 118°29'W); Silverton (49°55'N, 117°22'W); **AB**: Waterton Lakes NP (49°8'N, 113°58'W) (Lindo 2011).

Habitats: suspended soil and bark of Western redcedar; leaf litter beside creek; decaying moss on trunk under Western redcedar.

Distribution: Nearctic.

Ceratoppia sp.

Geographic Location and Habitats: **AK**: Barrow (Weber 1950); Cape Thompson (Watson *et al.* 1966);

Northern coastal plain; Brooks Range; Pribilof Islands (Behan 1978a); Elliott Highway Burn, (65°19'N, 149°06'W), tussock heath (Thomas & McLean 1988); Seward Peninsula, near to Cape Espenberg (66°28'22"N, 163°56'56"W, greyish tephra from Aniakchak eruption (Blackford *et al.* 2014); **BC**: Upper Klanawa Mainline site, near Franklin River (Berch *et al.* 2001); **AB**: Kananaskis Valley, Lodgepole pine litter (Powell & Skaley 1975); **MB**: Southeast, forest litter (Oswald & Minty 1970); **NS**: Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987); **NL**: between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer *et al.* 1997, 1998).

Genus *Dendrozetes* Aoki, 1970

Dendrozetes jordani Lindo, Clayton and Behan-Pelletier, 2010

Geographic Location: **BC**: Vancouver Is., Mt. Cain (as *Dendrozetes* sp.) (Fagan *et al.* 2005); Campbell River, (49°55'N, 125°25'W); Upper Carmanah Valley (48°44'N, 124°37'W); Upper Walbran Valley; Pacific Rim NP (49°02'N, 125°00'W); Clayoquot Sound (Watta 49°27'N, 126°02'W, Moyeha 49°24'N, 125°54'W, Sydney 49°30'N, 126°17'W) (Lindo *et al.* 2010; Lindo 2010, 2015).

Habitats: branch tips on Pacific silver fir; moss in Sitka spruce canopy; lichens on Western hemlock branches; Western redcedar litter.

Distribution: Nearctic.

Genus *Metrioppia* Grandjean, 1931

Metrioppia helvetica Grandjean, 1931

Synonymy: *Ceratoppia microseta* Hammer, 1952: (Hammer 1955a).

Geographic Location: **AK**: Fort Richardson; Anaktuvuk Pass (Hammer 1955a); Cape Thompson (Watson *et al.* 1966); Atkasuk; northern, northwestern and southwestern coastal plain; Fairbanks Region; Denali NP; Chugach Mtns; Kenai Peninsula; Aleutian Islands (Behan 1978a); Elliott Highway Burn, (65°19'N, 149°06'W) (Thomas & McLean 1988); **YT**: Richardson Mtns (Hammer 1952a); Coastal Plain; Ivavik NP, British Mtns; Porcupine Plain; Ogilvie Mtns (Behan-Pelletier 1997b); **NT**: Coppermine (Hammer 1952a); Mackenzie Delta (Behan 1978a).

Habitats: tussock tundra heath.

Distribution: Holarctic; Neotropical; Oriental.

Metrioppia oregonensis Woolley and Higgins, 1969

Geographic Location: **BC**: Vancouver Is., Broken Is. Group, Clayoquot Sound (Lindo 2015).

Habitats: temperate coniferous rainforest.

Distribution: Western Nearctic.

Metrioppia walbranensis Lindo, 2015

Geographic Location: **BC**: Vancouver Is., Upper Walbran Valley; Avatar Grove near Port Renfrew (48°36'N, 124°26'W); Caycuse (48°53'N, 124°21'W) (Lindo 2015).

Habitats: moss and litter habitats in old-growth temperate rainforests, predominantly from forest litter under Western redcedar and from a suspended soil habitat.

Distribution: Canada.

Genus *Paenoppia* Woolley and Higgins, 1965

Paenoppia sp.

Geographic Location: **BC**: Vancouver Is., Walbran Valley (Lindo & Winchester 2006).

Genus *Parapyroppia* Pérez-Iñigo and Subías, 1979

Parapyroppia lamellata (Ewing, 1909)

Original name: *Notaspis lamellata* Ewing, 1909 (Marshall *et al.* 1987)

Geographic Location and Habitats: **BC:** Sicamous Creek (Berch *et al.* 2007); Vancouver Is., Walbran Valley, Western redcedar ground litter traps (Lindo 2010).

Distribution: Nearctic.

Parapyroppia sp.

Geographic Location and Habitats: **AB:** ABMI Sites (Walter *et al.* 2014); **NL:** between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer *et al.* 1997, 1998).

Genus *Pyroppia* Hammer, 1955

Pyroppia dentata Krivolutsky, 1974

Geographic Location: **AK:** Pribilof Islands (Behan 1978a).

Distribution: Holarctic.

Pyroppia lanceolata Hammer, 1955

Geographic Location: **AK:** Barrow (Hammer 1955a; Hurd & Lindquist 1958; Bohnsack 1968, 1973; Douce 1976; Behan & Hill 1978); Cape Thompson (Watson *et al.* 1966); northern and northwestern coastal plain; Atqasuk; Denali NP (Behan 1978a); **YT:** coastal plain (Behan-Pelletier 1997b).

Habitat: tussock tundra.

Distribution: Holarctic.

Pyroppia serrifrons (Banks, 1923)

Original name: *Notaspis serrifrons* Banks, 1923 (Marshall *et al.* 1987)

Geographic Location and Habitats: **AK:** Pribilof Islands (Banks 1923).

Distribution: Nearctic.

Pyroppia sp.

Geographic Location and Habitats: **BC:** Sicamous Creek (Berch *et al.* 2007); **AB:** ABMI Sites (Walter *et al.* 2014); **QC:** Mont Tremblant (Behan *et al.* 1978); **NL:** between Corner Brook and Little Grand Lake, Balsam fir forest (2 spp.) (Dwyer *et al.* 1997, 1998).

Family *Tenuialidae*

Genus *Hafenferrefia* Jacot, 1939

Hafenferrefia nitidula (Banks, 1906)

Original name: *Galumna nitidula* Banks, 1906 (Jacot 1939b)

Geographic Location: **QC:** Abitibi (D  ch  ne & Buddle 2009, 2010); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987); **NL:** between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: boreal mixedwood forest; Balsam fir forests.

Distribution: Eastern Nearctic.

Hafenferrefia sp.

Geographic Location and Habitats: **AB:** Kananaskis Valley, Lodgepole pine litter (Powell & Skaley 1975); ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019; 2 spp.); **QC:** Gatineau Park, *Polyporus* bracket fungi (Pielou & Verma 1968).

Remarks: Records of Pielou & Verma (1968) are sub *Hafenferrefiella* (Marshall *et al.* 1987).

Genus *Peltenuiala* Norton, 1983

Peltenuiala pacifica Norton, 1983

Synonymy: *Hafenferrefia nitidula* sensu Higgins and Woolley (1957): (Norton 1983).

Geographic Location and Habitats: **BC:** Vancouver Is., Walbran Valley (Lindo & Clayton 2011); Clayoquot Sound UNESCO Biodiversity Reserve, Moyeha (49°24'69"N, 125°54'87"W) (Lindo & Winchester 2009).

Distribution: Nearctic.

Genus *Tenuiala* Ewing, 1913

Tenuiala sp.

Geographic Location and Habitats: **YT:** Southern lakes (Behan-Pelletier 1997b); **BC:** Vancouver Is., Walbran Valley, Western redcedar trunk (Lindo & Winchester 2007); **AB:** ABMI Sites (Walter *et al.* 2014); **QC:** Mont Tremblant (Behan *et al.* 1978); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Genus *Tenuialoides* Woolley and Higgins, 1966

Tenuialoides sp.

Geographic Location and Habitats: **QC:** boreal claybelt region, 3 spp. (Doblas-Miranda & Work 2015; as *Tenuialoides* [*sic*]).

Superfamily **Carabodoidea**

Family **Carabodidae**

Genus *Carabodes* C.L. Koch, 1835

Carabodes brevis Banks, 1896

Geographic Location: **ON:** (Reeves 1988); **QC:** (Reeves 1988); **NB:** Fundy Coast; (Reeves 1988; Behan-Pelletier 2010); **NS:** Southwest Nova Scotia Uplands (Reeves 1988; Behan-Pelletier 2010); **NL:** (Reeves 1988).

Habitats: coniferous and deciduous leaf litter; rotten wood; lichens, moss, and fungi.

Distribution: Eastern Nearctic.

Carabodes cf. *brevis* Banks, 1896

Geographic Location and Habitats: **QC:** Mirabel municipality south of Belle-Rivière (Tousignant *et al.* 1988; Tousignant & Coderre 1992).

Carabodes chandleri Reeves, 1992

Geographic Location: **QC:** Cedarville 45°08'N, 72°10'W (Reeves 1992).

Habitats: coniferous and deciduous leaf litter; rotten wood; lichens, moss, and fungi.

Distribution: Eastern Nearctic.

Carabodes cochleaformis Reeves, 1990

Geographic Location and Habitats: **NB:** Kouchibouguac NP, Kollock Creek Trail, maple, White pine litter (Reeves 1990).

Distribution: Eastern Nearctic.

Carabodes colorado Reeves and Behan-Pelletier, 1998

Geographic Location: **BC:** West Kootenay; Madeline Lake; Vancouver Is.: Little Qualicum Falls PP; Trinity Valley Field Station (Reeves & Behan-Pelletier 1998); **AB:** Kananaskis Forest Experimental Station; Pigeon Mountain Lookout; Waterton Lakes NP (Reeves & Behan-Pelletier 1998).

Habitats: cedar, hemlock, birch litter under fallen log; moss, lichens on rock; polyporous fungi on rotten log; *Saxifraga* and soil on scree.

Distribution: Western Nearctic.

Carabodes dickinsoni Reeves and Behan-Pelletier, 1998

Geographic Location: **BC:** Sunshine Coast, Madeira Park Area; Madeline Lake; Vancouver Is.: Little Qualicum Falls PP; Cowichan Lake Research Station (Reeves & Behan-Pelletier 1998).

Habitats: madrone litter; moss and humus under fallen cedar log; Big-leaf maple litter; Douglas-fir forest.

Distribution: Western Nearctic.

Carabodes erectus Reeves, 1992

Geographic Location: **ON:** St. Lawrence Islands NP (Reeves 1992).

Habitats: leaf litter; bark, rotten wood, lichens, river drift, and several kinds of fungi.

Distribution: Nearctic.

Carabodes granulatus Banks, 1895

Synonymy: *Carabodes omo* Jacot, 1937: (Norton 1978b).

Geographic Location: **AB:** ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); 35 km north of Fort McMurray (McAdams *et al.* 2018); **ON:** (Reeves 1988); near Chapleau (Rousseau *et al.* 2018); **QC:** (Reeves 1988); Abitibi (Déchéne & Buddle 2009, 2010); **NB:** Maritime Lowlands (Reeves 1988; Behan-Pelletier 2010); **NS:** Southwest Nova Scotia Uplands; Cape Breton Highlands NP (Behan-Pelletier 2010); **NL:** (Reeves 1988).

Habitats: boreal mixedwood forest with White spruce, Black spruce, Jack pine and Trembling aspen; Jack pine forest.

Distribution: Nearctic.

Carabodes higginsii Reeves, 1988

Geographic Location: **NB:** Kejimikujik NP (Reeves 1988); **NS:** Cape Breton Highlands NP, Paquette Lake Trail; Glasgow Lake Trail (Reeves 1988).

Habitats: Polypores on dead fir and spruce trunks; lichens on rocks.

Distribution: Eastern Nearctic.

Carabodes hoh Reeves and Behan-Pelletier, 1998

Geographic Location: **BC:** Upper Klanawa Mainline site, near Franklin River (Berch *et al.* 2001); Vancouver Is.: Walbran Valley (Lindo & Winchester 2006, 2007); Pacific Rim NP; Sutton Creek; Lake Cowichan; MacMillan PP, Cathedral Grove; Little Qualicum Falls PP; Garibaldi PP; Porpoise Bay PP (Reeves & Behan-Pelletier 1998).

Habitats: coastal temperate rainforest litter including Western redcedar, spruce, hemlock–huckleberry, mixed White pine, and Douglas-fir with deciduous shrub; decomposed cedar stump; moss and humus under fallen cedar log; polypore fungi on logs; *Fomentopsis* on Douglas-fir; lichens including *Lobaria*.

Distribution: Western Nearctic.

Carabodes labyrinthicus (Michael, 1879)

Original name: *Tegeocranus labyrinthicus* Michael, 1879 (Michael 1898)

Synonymy: *Cepheus heimi* Oudemans, 1903: (van der Hammen 1952), *Carabodes vermiculatus* Berlese, 1916: (Bernini 1970).

Geographic Location: **AK:** Fairbanks; Anchorage (Hammer 1955a); Brooks Range; Fairbanks Region (Behan 1978a); Elliott Highway Burn, (65°19'N, 149°06'W) (Thomas & McLean 1988); **YT:** Coast Mtns (Behan-Pelletier 1997b); **NT:** Yellowknife (Hammer 1952a); Tuktoyaktuk (Behan 1978a); **AB:** ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); **MB:** (Reeves 1988); **ON:** (Reeves 1988); near Chapleau (Rousseau *et al.* 2018); **QC:** Morgan Arboretum (Marshall 1964); Timmins 54°60'N, 67°00'W (Behan

1978a; Reeves 1988); Mont Tremblant (Behan *et al.* 1978); Abitibi (Déchéne & Buddle 2009, 2010); **NB**: Southern New Brunswick Uplands; Maritime Lowlands; Fundy Coast; (Reeves 1988; Behan-Pelletier 2010); **NS**: Southwest Nova Scotia Uplands; Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987); **NL**: (Reeves 1988); between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998); **PE**: (Reeves 1988).

Habitats: tussock tundra; boreal mixedwood forest; Balsam fir forests; Jack pine forest.

Distribution: Holarctic.

Carabodes niger Banks, 1895

Geographic Location: **MB**: (Reeves 1988); **ON**: (Reeves 1988); **QC**: (Reeves 1988); **NB**: (Reeves 1988); **NS**: (Reeves 1988); **NL**: (Reeves 1988); **PE**: (Reeves 1988).

Distribution: Nearctic.

Carabodes polyporetetes Reeves, 1991

Geographic Location: **AB**: ABMI Sites; Moose Pasture Research Site (Walter *et al.* 2014); **MB**: Whiteshell PP (Pielou & Verma 1968); Manigotagan 51°05'N, 96°34'W (Reeves 1991); **ON**: Algonquin PP (Pielou & Verma 1968); Petawawa National Forestry Institute, Chalk River (Bird & Chatarpaul 1986); St. Lawrence Islands NP; Ottawa-Carlton; Chalk River; Black Sturgeon Lake Field Station (Reeves 1991); Lake Superior, Granite Is., Black Bay, ring-billed gull nests (Freitag & Ryder 1973); **QC**: Gatineau Park (Pielou 1966; Pielou & Verma 1968; Pielou & Matthewman 1966; Matthewman & Pielou 1971); Parc National du Mont-Orford; Parc National du Mont Mégantic; Cedarville (Reeves 1991); Mont Tremblant (Behan *et al.* 1978); Abitibi (Déchéne & Buddle 2009, 2010); Morgan Arboretum (Sylvain & Buddle 2010); **NB**: (Pielou & Verma 1968); Fundy NP; Kochibouguac NP, Lake George, 45°42'N, 66°54'W (Reeves 1991), **NS**: Cape Breton Highlands NP; Kejimikujik NP; Laurie PP; Wentworth PP (Reeves 1991); **NL**: Gros Morne NP, Pasadena Forest Experimental Station (Reeves 1991); **PE**: Cabot PP, Miscouche (Reeves 1991).

Habitats: *Polyporus* bracket fungi; *Fomes* sporophores; boreal mixedwood forest; beech, maple, conifer litter.

Distribution: Nearctic.

Remarks: Based on examination of specimens in the CNC, Reeves (1991a) noted that all records of *C. areolatus* from Eastern Canada in Marshall *et al.* (1987) represent *C. polyporetetes*.

Carabodes radiatus Berlese, 1916

Synonymy: *Carabodes dendroetus* Reeves, 1987: (Norton & Kethley 1990).

Geographic Location: **NB**: 8 mi W Lake George (Reeves 1987); **NS**: Cape Breton Highlands NP, Lone Shieling (Reeves 1987).

Habitats: moss and lichens on White pine trunk; under bark White pine infested with *Ips pini*.

Distribution: Eastern Nearctic.

Carabodes rugosior Berlese, 1916

Geographic Location: **QC**: (Reeves 1992); **NB**: (Reeves 1992); **NS**: Cape Breton Highlands NP (Reeves 1992; Behan-Pelletier 2010); **NL**: (Reeves 1992).

Habitats: conifer and deciduous leaf litter and rotten wood, moss, and fungi.

Distribution: Holarctic.

Carabodes willmanni Bernini, 1975

Geographic Location and Habitats: **MB**: (Reeves & Behan-Pelletier 1998); **NB**: Fundy Coast (Reeves & Behan-Pelletier 1998); **NS**: Cape Breton Highlands NP (Behan-Pelletier 2010) (Reeves & Behan-Pelletier 1998); **NL**: (Reeves & Behan-Pelletier 1998).

Distribution: Holarctic.

Carabodes wonalancetanus Reeves, 1990

Geographic Location: **BC**: Trinity Valley Field Station, 6 mi N Lumby (Reeves 1990); **AB**: ABMI Sites

(Walter *et al.* 2014; Meehan *et al.* 2019); **ON**: Muskrat Lake, 9 mi SW Black Sturgeon Lake Field Station, 49°15'N, 88°55'W (Reeves 1990), **QC**: L. Lecordier (Reeves 1990); **NB**: Bennett Brook, Fundy NP; Kouchibouguac NP (Reeves 1990); **NS**: Cape Breton Highlands NP (Behan-Pelletier 2010); **NL**: Gros Morne NP, Western Brook Trail, 20 mi N Rocky Harbour (Reeves 1990).

Habitats: conifer and deciduous litter and logs, polypores, moss, fungi.

Distribution: Nearctic.

Carabodes sp.

Geographic Location and Habitats: **AB**: Kananaskis Valley, Lodgepole pine litter (Powell & Skaley 1975); **MB**: southeast, forest litter (Oswald & Minty 1970); Southeast, riparian litter (Oswald & Minty 1971); **ON**: Chalk River (Marshall 1972); **QC**: Morgan Arboretum, forest litter (Marshall 1964); Mont Tremblant (Behan *et al.* 1978); boreal claybelt region of Western Québec (Doblas-Miranda & Work 2015).

Genus *Odontocephus* Berlese, 1913

Odontocephus oblongus (Banks, 1895)

Original name: *Carabodes oblonga* Banks, 1895 (Johnson 1965)

Geographic Location: **ON**: (Reeves 1995); **QC**: (Reeves 1995); **NB**: (Reeves 1995); **NS**: Atlantic Coast; Nova Scotia Highlands (Reeves 1995; Behan-Pelletier 2010).

Distribution: Eastern Nearctic.

Superfamily **Oppioidea**

Family **Autognetidae**

Genus *Autogneta* Hull, 1916

Autogneta amnica Jacot, 1938

Original name: *Autogneta longilamellata amicus* Jacot, 1938 (Banks 1947)

Geographic Location and Habitats: **ON**: 45.667°N, 77.267°W, second-growth deciduous/coniferous forest (Behan-Pelletier 2015).

Distribution: Nearctic.

Autogneta flaheyi Behan-Pelletier, 2015

Geographic Location: **BC**: Vancouver Is., Heather Mountain Trail, 10 mi NW Caycuse, 48.893°N, 124.368°W (Behan-Pelletier 2015); **AB**: Waterton Lakes NP, 49.056°N, 113.926°W (Behan-Pelletier 2015).

Habitats: bracket fungi on log; litter in ground level hollows of dead tree.

Distribution: Canada.

Autogneta longilamellata (Michael, 1885)

Original name: *Notaspis longilamellata* Michael, 1885 (Forsslund 1944)

Combination: *Dameosoma longilamellatum* (Michael, 1885); (Paoli 1908), *Oppia longilamellata* (Michael, 1885); (Willmann 1931).

Geographic Location: **AK**: Fort Richardson, Anchorage (Hammer 1955a); Brooks Range; Chugach Mtns; Kenai Peninsula; Aleutian Islands (Behan 1978a); **YT**: Coastal plain (Behan-Pelletier 1997b); **NT**: Tuktoyaktuk (Behan 1978a); **BC**: Isaiah Creek study site (Lindo & Stevenson 2007); **ON**: Algonquin PP (Pielou & Verma 1968); St. Lawrence Is. NP; 45.667°N, 77.267°W; 49.358°N, 88.881°W (Behan-Pelletier 2015); **QC**: Timmins 54°60'N, 67°00'W (Behan 1978a); Abitibi (Déchéne & Buddle 2009, 2010); Parc national de la Gaspésie, 48.957°N, 66.020°W; Gatineau PP, 45.583°N, 76°W (Pielou & Verma 1968, Behan-Pelletier 2015); **NB**: Kouchibouguac NP, 46.850°N, 64.967°W (Pielou & Verma 1968); **NS**: Cape Breton Highlands NP, 46.674°N, 60.958°W (Behan-Pelletier 2015); **NL**: between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998); Gros Morne NP, 49.649°N, 57.755°W, 49.009°N, 57.628°W (Behan-Pelletier 2015).

Habitats: *Polyporus* bracket fungi; bark of White pine log infected with *Ips*; boreal mixedwood forest; bark and litter at base of dead Red oak; ant nest in log; bract and soft fungus on fallen maple; Balsam fir forests.

Distribution: Holarctic.

Autogneta sp. nr. *longilamellata* (Michael, 1885)

Geographic Location and Habitats: **BC:** Vancouver Is., Walbran Valley, Western redcedar (Lindo & Winchester 2006, 2007; Lindo 2010); Victoria, moss mats (Shackelford *et al.* 2018); **AB:** ABMI Sites (Walter *et al.* 2014; as 'cf'); **ON:** near Chapleau (Rousseau *et al.* 2018; (as sp. 1 nr.).

Autogneta sp.

Geographic Location and Habitats: **AB:** ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); **NB:** Maritime Lowlands (Behan-Pelletier 2010); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Genus *Conchogneta* Grandjean, 1963

Conchogneta traegardhi (Forsslund, 1947)

Original name: *Autogneta traegardhi* Forsslund, 1947 (Grandjean 1963)

Geographic Location: **QC:** Mont Tremblant (Behan *et al.* 1978; sub *C. dalecarlica* [sic]); **NL:** between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: boreal forest; Balsam fir forest.

Distribution: Holarctic.

Genus *Eremobodes* Jacot, 1937

Eremobodes sp.

Geographic Location and Habitats: **NL:** between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer *et al.* 1997, 1998).

Family **Machuellidae**

Genus *Machuella* Hammer, 1961

Machuella sp.

Geographic Location and Habitats: **ON:** Rondeau PP, moist litter on sand (CNC, unpublished record).

Family **Oppiidae**

Genus *Aeroppia* Balogh, 1965

Aeroppia sp.

Geographic Location: **AB:** ABMI Sites (Walter *et al.* 2014).

Genus *Anomaloppia* Subías, 1978

Anomaloppia manifera (Hammer, 1955)

Original name: *Oppia manifera* Hammer, 1955 (Subías 2004)

Combination: *Ramusella (Insculptoppia) manifera* (Hammer, 1955); (Marshall *et al.* 1987).

Geographic Location: **AK:** Fort Richardson, Anchorage (Hammer 1955a); **ON:** Petawawa National Forestry Institute, Chalk River (Bird & Chatarpaul 1986); **NL:** between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: mixed conifer-hardwood forest; Balsam fir forests.

Distribution: Holarctic.

Genus *Berniniella* Balogh, 1983

Berniniella sp.

Geographic Location: NS: Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Genus *Brachioppiella* Hammer, 1962

Brachioppiella periculosa Hammer, 1962

Geographic Location: QC: St-Paulin (Doblas-Miranda *et al.* 2014).

Distribution: Holarctic; Neotropical.

Genus *Discoppia* Balogh, 1983

Discoppia sp.

Geographic Location: BC: coastal temperate rainforest (Lindo & Clayton 2011); AB: Roy Berg Kinsella Research Ranch (Newton 2013).

Genus *Dissorhina* Hull, 1916

Dissorhina ornata (Oudemans, 1900)

Original name: *Eremaeus ornatus* Oudemans, 1900 (Balogh 1983)

Combination: *Cosmoppia ornata* (Oudemans, 1900); (Balogh 1983), *Dameosoma ornatum* (Oudemans, 1900); (Sellnick 1928), *Oppia ornata* (Oudemans, 1900); (Willmann 1931).

Synonymy: *Dameosoma tricarinatum* Paoli, 1908: (van der Hammen 1952).

Geographic Location and Habitats: NL: between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer *et al.* 1997, 1998).

Distribution: Holarctic; west Africa.

Genus *Graptoppia* Balogh, 1983

Graptoppia (Stenoppia) italica (Bernini, 1973)

Original name: *Oppia italica* Bernini, 1973 = *Oppia heterotricha* Bernini, 1969 (preoccupied) (Balogh 1983)

Geographic Location and Habitats: AB: Edmonton, ex *Pandinus* terrarium organic matter (Walter & Latonas 2012).

Distribution: Holarctic.

Graptoppia sp.

Geographic Location and Habitats: QC: Abitibi, boreal mixedwood forest (D  ch  ne & Buddle 2009, 2010).

Genus *Lanceoppia* Balogh, 1965

Lanceoppia sp.

Geographic Location: Canada: Hammer (1969).

Genus *Lasiobelba* Aoki, 1959

Lasiobelba (Antennoppia) rigida (Ewing, 1909)

Original name: *Damaeus rigidus* Ewing, 1909 (Subías 2004).

Combination: *Oppia rigida* (Ewing, 1909); (Marshall et al. 1987), *Lasiobelba rigida* (Ewing, 1909); (Klironomos & Kendrick 1995).

Geographic Location and Habitats: ON: Waterloo, Sugar maple forest (Klironomos & Kendrick 1995, 1996).

Distribution: Nearctic.

Lasiobelba (Antennoppia) nr. rigida (Ewing, 1909)

Geographic Location and Habitats: QC: Morgan Arboretum, beech, maple, conifer litter (Sylvain & Buddle 2010; as *Oppia nr. rigida*).

Lasiobelba sp.

Geographic Location and Habitats: ON: 3 km south of Guelph (Broadbent & Tomlin 1979).

Genus *Lauropia* Subías and Mínguez, 1986

Lauropia maritima (Willmann, 1929)

Original name: *Dameosoma falcatum maritima* Willmann, 1929 (Olszanowski et al. 1996)

Combination: *Oppia maritima* (Willmann, 1929); (Willmann 1931), *Oppiella maritima* (Willmann, 1929); (Hammer 1972).

Synonymy: *Oppia fissurata* Hammer, 1952: (Hammer 1955a).

Geographic Location: AK: Fort Richardson, Fairbanks, Anchorage (Hammer 1955a); Barrow (Hurd & Lindquist 1958; Bohnsack 1968, 1973); Cape Thompson (Watson et al. 1966); Atkasuk; northern and northwest coastal area; Brooks Range; Denali NP; Chugach Mtns; Kenai Peninsula; Fairbanks Region (Behan 1978a); Elliott Highway Burn, (65°19'N, 149°06'W) (Thomas & McLean 1988); YT: Richardson Mtns (Hammer 1952a); Herschel Is. (Behan 1978a); Coastal Plain; Ivavik NP, British Mtns; Porcupine Plain; Richardson Mtns; Ogilvie Mtns (Behan-Pelletier 1997b); NT: Reindeer Station (Hammer 1952a); Mackenzie Delta (Behan 1978a); NU: Coppermine (Hammer 1952a); Baffin Is.; Ellesmere Is. (Behan 1978a); QC: Timmins 54°60'N, 67°00'W (Behan 1978a).

Habitats: boreal forest; tussock tundra.

Distribution: Holarctic.

Lauropia sp.

Geographic Location and Habitats: BC: Interior, forest litter (Battigelli et al. 2004); Isaiah Creek study site (Lindo & Stevenson 2007); AB: ABMI Sites (Walter et al. 2014).

Genus *Medioppia* Balogh, 1983

Medioppia subpectinata (Oudemans, 1900)

Original name: *Eremaeus subpectinatus* Oudemans, 1900 (Subías & Mínguez 1985)

Combination: *Dameosoma subpectinatum* (Oudemans, 1900); (Sellnick 1928), *Oppia subpectinata* (Oudemans, 1900); (Willmann 1931), *Oppiella subpectinata* (Oudemans, 1900); (Seniczak 1975).

Geographic Location and Habitats: QC: Morgan Arboretum, beech, maple, conifer litter (Sylvain & Buddle 2010).

Distribution: Holarctic.

Genus *Micropia* Balogh, 1983

Micropia minus (Paoli, 1908)

Original name: *Dameosoma minus* Paoli, 1908 (Weiss 1916)

Combination: *Oppia minus* (Paoli, 1908); (Weiss 1916), *Oppiella minus* (Paoli, 1908); (Seniczak 1975),

Oppia minor (Paoli, 1908); (Hammer 1952a).

Geographic Location: **AK:** northern coastal plain (Behan 1978a); **NT:** Yellowknife (Hammer 1952a); Mackenzie Delta subarctic (Behan 1978a); **AB:** Lethbridge (Osler *et al.* 2008); ABMI Site (Walter & Latonas 2012); **MB:** Southeast (Oswald & Minty 1970); **ON:** Sudbury (St. John *et al.* 2002); near Chapleau (Rousseau *et al.* 2018); **QC:** St-Paulin (Doblas-Miranda *et al.* 2014); St. Clet (Smith 1978).

Habitats: fescue prairie; mixed deciduous coniferous forest including from Trembling aspen, Black locust, Jack pine and Red pine forest.

Distribution: Cosmopolitan.

Micropoppia nr. *minus* (Paoli, 1908)

Geographic Location and Habitats: **ON:** 3 km south of Guelph, Cornfield (as *Oppia* sp. near *minor*) (Broadbent & Tomlin 1979); Petawawa National Forestry Institute, Chalk River, mixed conifer-hardwood forest (Bird & Chatarpaul 1986; as *Oppia* sp. nr. *minutissima* Sellnick, 1950); Sudbury, Jack pine and White birch; 20-year tailing site with moss, lichens: grasses, Trembling aspen, Black locust, Jack pine and Red pine (St. John *et al.* 2002).

Micropoppia simplissimus (Jacot, 1938)

Original name: *Oppia minus simplissimus* Jacot, 1938 (Marshall *et al.* 1987)

Combination: *Opiella* [sic] *simplissimus* (Jacot, 1938); (Marshall 1979).

Geographic Location: **BC:** North of Kamloops (Marshall 1979); **AB:** Lethbridge (49°48' N, 112°54' W) (Walter & Latonas 2012); **QC:** Morgan Arboretum (Marshall 1968; as *Oppia minus*).

Habitats: Douglas-fir litter; maple, beech forest litter.

Distribution: Nearctic.

Genus *Moritzoppia* Subías and Rodríguez, 1988

Moritzoppia clavigera (Hammer, 1952)

Original name: *Oppia clavigera* Hammer, 1952 (Subías & P. Balogh, 1989)

Combination: *Opiella clavigera* (Hammer, 1952); (Marshall *et al.* 1987), *Moritzella clavigera* (Hammer, 1952); (Subías & Rodríguez, 1986).

Geographic Location: **AK:** Anaktuvuk Pass (Hammer 1955a); Barrow (Hurd & Lindquist 1958; Bohnsack 1968, 1973); Cape Thompson (Watson *et al.* 1966); northern and northwestern coastal plain; Brooks Range (Behan 1978a); **YT:** Richardson Mtns (Behan-Pelletier 1997b); **NT:** Reindeer Station (Hammer 1952a); Tuktoyaktuk; Mackenzie Delta arctic, subarctic (Behan 1978a); **NU:** Coppermine (Hammer 1952a); Bathurst Is.; Igloodik Is. (Behan 1978a); Ellesmere Is., Quttinirpaaq NP, Hazen Camp (Behan 1978a; Kevan *et al.* 1995); **BC:** Sicamous Creek (Berch *et al.* 2007); Interior (Battigelli *et al.* 2004); **AB:** EMEND Site (Lindo & Visser 2004); ABMI Sites (Walter & Latonas 2012); **MB:** Churchill (Hammer 1952a).

Habitats: tussock tundra; boreal forest litter.

Distribution: Holarctic.

Moritzoppia sp.

Geographic Location and Habitats: **BC:** Vancouver Is., Walbran Valley (Lindo & Winchester 2006, 2007); **AB:** ABMI Sites (Walter *et al.* 2014); **NL:** between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer *et al.* 1997, 1998).

Genus *Multioppia* Balogh, 1965

Multioppia carolinae (Jacot, 1938)

Original name: *Oppia carolinae* Jacot, 1938 (Kok 1967)

Geographic Location: **ON:** Sudbury (St. John *et al.* 2002); **QC:** St. Clet (Smith 1978).

Habitat: mixed deciduous coniferous forest.

Distribution: Nearctic.

Multioppia sp.

Geographic Location and Habitats: **BC:** Vancouver Is., Walbran Valley (Lindo & Winchester 2006); Interior, forest litter (Battigelli *et al.* 2004); Isaiah Creek study site (Lindo & Stevenson 2007); **AB:** ABMI Sites (Walter & Latonas 2012; Walter *et al.* 2014); 35 km north of Fort McMurray (McAdams *et al.* 2018; as sp. 1 DEW); Boreal forest with White spruce, Black spruce, Jack pine and Trembling aspen; **QC:** Morgan Arboretum, forest litter (Marshall 1968).

Genus *Oppia* C.L. Koch, 1836

Oppia minuta (Banks, 1895)

Original name: *Belba minuta* Banks, 1895 (Marshall *et al.* 1987)

Combination: *Oribata minuta* (Banks, 1895); (Banks 1904).

Synonymy: *Oribata perolata* Banks, 1909: (Marshall *et al.* 1987), *Oppia perolata* (Banks, 1909): (Norton 1979b).

Geographic Location: **ON:** Guelph (Banks 1909); Sudbury (St. John *et al.* 2002).

Habitat: mixed deciduous coniferous forest litter, White birch and Trembling aspen litter; corn stubble.

Distribution: Nearctic.

Remarks: Subías (2004) considered this name a junior synonym of *Oppia nitens*, but we retain it herein, pending further studies.

Oppia nitens C.L. Koch, 1835

Combination: *Damaeus nitens* (C.L. Koch, 1835); (Michael 1884-1888), *Dameosoma nitens* (C.L. Koch, 1835); (Sellnick 1928).

Synonymy: *Dameosoma myrmecophilum* Sellnick, 1928: (Sengbusch 1951).

Geographic Location: **ON:** near Chapleau (Rousseau *et al.* 2018); Ottawa, Central Experimental Farm, 45°22.45'N, 75°43.52'W (Princz *et al.* 2010); **NL:** between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: Jack pine forest; Balsam fir forests.

Distribution: Holarctic.

Oppia nr. *nitens* (C.L. Koch, 1835)

Geographic Location and Habitats: **QC:** Apple orchard (Forest *et al.* 1982); Abitibi, boreal mixedwood forest (Déchéne & Buddle 2009, 2010).

Oppia concolor grp. nr. *simplex* (Balogh, 1962)

Geographic Location and Habitats: **NS:** Southwest Nova Scotia Uplands, from apple orchards (Rasmy & McPhee 1970).

Oppia sp.

Geographic Location and Habitats: **BC:** Osoyoos, Haynes Lease, dry grassland litter (Behan-Pelletier 1987b); Interior (Battigelli *et al.* 2004); **AB:** ABMI Sites (Walter *et al.* 2014); **SK:** Matador IBP Site, dry, mixed prairie (Willard 1974); **MB:** Whiteshell PP, *Polyporus* bracket fungi (Pielou & Verma 1968); **ON:** Lake Superior, Granite Is., Black Bay, ring-billed gull nests (Freitag & Ryder 1973); Chalk River mixed conifer-hardwood forest (2 spp.) (Bird & Chatarpaul 1986); Sudbury, mixed deciduous coniferous forest (St. John *et al.* 2002); **QC:** Gatineau Park, *Polyporus* bracket fungi (Pielou & Verma 1968); Gatineau Park, *Fomes* sporophores (Pielou & Matthewman 1966; Matthewman & Pielou 1971); Morgan Arboretum, beech litter (Sylvain & Buddle 2010); boreal claybelt region of Western Québec (Doblas-Miranda & Work 2015); **NB:** Maritime Lowlands, *Polyporus* bracket fungi (Pielou & Verma 1968); **NS:** Annapolis-Minas Lowlands; Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Oppiella nova (Oudemans, 1902)

Original name: *Eremaeus novus* Oudemans, 1902 (van der Hammen 1952)

Combination: *Oppia nova* (Oudemans, 1902); (van der Hammen 1952).

Synonymy: *Oppia corrugata* (Berlese, 1904): (Jacot 1936a), *Dameosoma uliginosum* Willmann, 1919: (van der Hammen 1952), *Oppia uliginosum* (Willmann, 1919): (Sellnick 1960).

Geographic Location: **AK:** Fort Richardson, Fairbanks, Anchorage (Hammer 1955a); Cape Thompson (Watson *et al.* 1966); northern and southwestern coastal plain; Atkasuk; Fairbanks Region; Chugach Mtns; Kenai Peninsula; Brooks Range; Pribilof Islands (Behan 1978a); Elliott Highway Burn, (65°19'N, 149°06'W) (Thomas & McLean 1988); Seward Peninsula, near to Cape Espenberg (66°28'22"N, 163°56'56"W, greyish tephra from Aniakchak eruption (Blackford *et al.* 2014); **YT:** Richardson Mtns (Hammer 1952a); (Behan 1978a); Coastal Plain; Porcupine Plain (Behan-Pelletier 1997b); **NT:** Yellowknife; (Hammer 1952a); Mackenzie Delta arctic and subarctic (Behan 1978a); peatlands (Behan-Pelletier & Bissett 1994); **NU:** Coppermine (Hammer 1952a); Keewatin; Baffin Is.; Ward Hunt Is. (Behan 1978a); **BC:** Upper Klanawa Mainline site, near Franklin River (Berch *et al.* 2001); Sicamous Creek (Berch *et al.* 2007); Isaiah Creek study site (Lindo & Stevenson 2007); Interior (Battigelli *et al.* 2004); North of Kamloops (Marshall 1979); peatlands (Behan-Pelletier & Bissett 1994); Vancouver Is., Walbran Valley (Lindo & Winchester 2006, 2007); **AB:** nr. Breton (Berg and Pawluk 1984); Lethbridge (Osler *et al.* 2008); Kananaskis Country (McLean & Parkinson 1998); EMEND Site (Lindo & Visser 2004); Lethbridge (49°48'N, 112°54'W); ABMI Sites (Walter & Latonas 2012); **MB:** Churchill (Hammer 1952a); southeast (Oswald & Minty 1970); peatlands (Behan-Pelletier & Bissett 1994); **ON:** Sudbury (St. John *et al.* 2002); peatlands (Behan-Pelletier & Bissett 1994); near Chapleau (Rousseau *et al.* 2018); near White River, (Barreto & Lindo 2018); **QC:** Timmins 54°60'N, 67°00'W (Behan 1978a); Mont Tremblant (Behan *et al.* 1978); St. Clet (Smith 1978); Abitibi (Déchêne & Buddle 2009, 2010); Morgan Arboretum, (Marshall 1968; Sylvain & Buddle 2010); peatlands (Behan-Pelletier & Bissett 1994); Mirabel municipality south of Belle-Rivière (Tousignant *et al.* 1988; Tousignant & Coderre 1992); St-Paulin (Doblas-Miranda *et al.* 2014); **NB:** peatlands (Behan-Pelletier & Bissett 1994).

Habitats: tussock tundra heath; peatlands; temperate and boreal forest from variety of litters including Douglas fir, Lodgepole pine, White spruce, Jack pine, beech, Trembling aspen; Western redcedar trunk; fescue prairie.

Distribution: Cosmopolitan.

Oppiella (Moritzoppia) translamellata (Willmann, 1923)

Original name: *Dameosoma translamellata* Willmann, 1923 (Seniczak 1975)

Combination: *Oppia translamellata* (Willmann, 1923); (Willmann 1931), *Oppiella translamellata* (Willmann, 1923); (Seniczak 1975).

Geographic Location: **AK:** Barrow (Douce 1976); Cape Thompson (Watson *et al.* 1966); Northern and northwest coastal plain; Atkasuk; Brooks Range; Denali NP; Aleutian Islands (Behan 1978a); Elliott Highway Burn, (65°19'N, 149°06'W) (Thomas & McLean 1988); **YT:** Richardson Mtns (Hammer 1952a); Herschel Is. (Behan 1978a); Ivvavik NP, British Mtns; Porcupine Plain; Richardson Mtns; Ogilvie Mtns (Behan-Pelletier 1997b); **NT:** Reindeer Station; Yellowknife (Hammer 1952a); Mackenzie Delta arctic and subarctic (Behan 1978a); **NU:** Keewatin; Banks Is.; Baffin Is.; Ellesmere Is. (Behan 1978a); **QC:** northern region; Timmins 54°60'N, 67°00'W (Behan 1978a); Abitibi (Déchêne & Buddle 2009, 2010); St. Clet (Smith 1978).

Habitats: tussock tundra heath; boreal mixedwood forest.

Distribution: Holarctic.

Oppiella (Moritzoppia) nr. translamellata (Willmann, 1923)

Geographic Location and Habitats: **ON:** Sudbury, mixed deciduous coniferous forest (St. John *et al.* 2002).

Oppiella washburni (Hammer, 1952)

Original name: *Oppia washburni* Hammer, 1952 (Balogh 1983)

Geographic Location: **AK:** Fort Richardson (Hammer 1955a); northern coastal plain; Brooks Range (Behan 1978a); **YT:** Richardson Mts (Hammer 1952a); **NT:** Mackenzie Delta subarctic (Behan 1978a); **BC:** Interior (Battigelli *et al.* 2004); Isaiah Creek study site (Lindo & Stevenson 2007); **AB:** Banff, Mount Robson PP, Jasper (Hammer 1952a); ABMI sites (Meehan *et al.* 2019); **MB:** Churchill (Hammer 1952a); **NL:** between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: *Dryas* heath; boreal forest litter; wet meadows; tussock tundra; Balsam fir forests.

Distribution: Holarctic.

Remarks: This species was considered a synonym of *Oppiella nova* by Subías (2004) and Weigmann (2006); we retain it herein pending further studies.

Oppiella cf. *washburni* (Hammer, 1952)

Geographic Location: **AB:** ABMI Sites (Walter *et al.* 2014).

Oppiella sp.? *unicarinata* (Paoli, 1908)

Geographic Location and Habitats: **QC:** Morgan Arboretum (Marshall 1968).

Oppiella sp.

Geographic Location and Habitats: **BC:** Vancouver Is., Walbran Valley, Western redcedar (Lindo 2010; Lindo & Winchester 2007); **AB:** Kananaskis Valley, Lodgepole pine litter (Powell & Skaley 1975); ABMI Sites; Moose Pasture Research Site, (3 spp.) (Walter & Latonas 2012); ABMI Sites (Walter *et al.* 2014); Roy Berg Kinsella Research Ranch (Newton & Proctor 2013); Trembling aspen, White spruce mesocosm (Cameron *et al.* 2013); **ON:** 3 km south of Guelph, Cornfield (Broadbent & Tomlin 1979); **QC:** Morgan Arboretum (Marshall 1968); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Genus *Ramusella* Hammer, 1962

Ramusella sp. nr. *clavipectinata* (Michael, 1885)

Geographic Location and Habitats: **ON:** Petawawa National Forestry Institute, Chalk River, mixed conifer-hardwood forest (Bird & Chatarpaul 1986); **NS:** Southwest Nova Scotia Uplands, from apple orchards (Rasmy & McPhee 1970).

Remarks: Records are under *Oppia*.

Ramusella sp.

Geographic Location and Habitats: **BC:** Vancouver Is., Walbran Valley (Lindo & Winchester 2006); **AB:** ABMI Sites (Walter *et al.* 2014); (Newton & Proctor 2013); **ON:** Sudbury, White birch and Trembling aspen (St. John *et al.* 2002); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Ramusella (*Insculptoppia*) sp.

Geographic Location: **BC:** Vancouver Is., Walbran Valley (2 spp.) (Lindo & Winchester 2006); **AB:** ABMI Sites, Moose Pasture Research Site (Walter *et al.* 2014).

Genus *Subiasella* Balogh, 1983

Subiasella sp.

Geographic Location and Habitats: **ON:** Sudbury, White birch and Trembling aspen (St. John *et al.* 2002); **QC:** Abitibi, boreal mixedwood forest (Déchêne & Buddle 2009, 2010); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987); **NF:** between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer *et al.* 1997, 1998).

Subiasella (Lalmoppia) maculata (Hammer, 1952)

Original name: *Oppia maculata* Hammer, 1952 (Subías 2004)

Combination: *Ramusella (Insculptoppia) maculata* (Hammer, 1952); (Marshall *et al.* 1987).

Geographic Location: **AK:** Brooks Range; Chugach Mtns; Kenai Peninsula; Aleutian Islands (Behan 1978a); **YT:** Porcupine Plain; Ogilvie Mtns (Behan-Pelletier 1997b); **NT:** Reindeer Station; Yellowknife (Hammer 1952a); Mackenzie Delta, subarctic (Behan 1978a); **MB:** Churchill (Hammer 1952a); **QC:** Morgan Arboretum (Marshall 1968).

Habitats: Abundant in *Sphagnum*, a few in moss in wet biotopes; cushion of reindeer lichen on rocks; heath-like vegetation with *Salix*, *Arctostaphylos*, *Vaccinium*, *Rhododendron*, *Dryas*, *Polygonum*.

Distribution: Holarctic.

Subiasella (Lalmoppia) sp.

Geographic Location and Habitats: **AB:** ABMI Site; Dinosaur PP; Moose Pasture Research Site (Walter & Latonas 2012).

Family **Quadropiidae**

Genus ***Quadropia*** Jacot, 1939

Quadropia ferrumequina (Jacot, 1938)

Original name: *Oppia quadricarinata ferrumequina* Jacot, 1938 (Jacot 1939b)

Geographic Location and Habitats: **BC:** North of Kamloops, Douglas fir litter (Marshall 1979).

Distribution: Nearctic.

Quadropia quadricarinata (Michael, 1885)

Original name: *Notaspis quadricarinata* Michael, 1885 (Jacot 1939b)

Combination: *Dameosoma quadricarinatum* (Michael, 1885); (Marshall 1968), *Oppia quadricarinata* (Michael, 1885); (Willmann 1931), *Oppiella quadricarinata* (Michael, 1885); (Seniczak 1975).

Geographic Location: **AK:** Fort Richardson; Anchorage (Hammer 1955a); Cape Thompson (Watson *et al.* 1966); Northwest coastal region; Brooks Range; Fairbanks Region; Denali NP; Chugach Mtns; Kenai Peninsula; Aleutian Islands (Behan 1978a); Elliott Highway Burn, (65°19'N, 149°06'W) (Thomas & McLean 1988); **YT:** Richardson Mtns (Hammer 1952a); Coastal Plain; Porcupine Plain; Ogilvie Mtns (Behan-Pelletier 1997b); **NT:** Yellowknife (Hammer 1952a); Tuktoyaktuk; Mackenzie Delta arctic and subarctic; Banks Is. (Behan 1978a); peatlands (Behan-Pelletier & Bissett 1994); **NU:** Coppermine (Hammer 1952a); Baffin Is.; Igloolik Is. (Behan 1978a); **BC:** Vancouver Is., Walbran Valley (Lindo & Winchester 2006; Lindo & Winchester 2007; Lindo 2010); Victoria (Shackelford *et al.* 2018); Sicamous Creek (Berch *et al.* 2007); Interior (Battigelli *et al.* 2004); **AB:** Kananaskis (McLean & Parkinson 1998); EMEND Site (Lindo & Visser 2004); ABMI Sites; Meanook, Moose Pasture Research Site (Walter & Latonas 2012); **MB:** Churchill (Hammer 1952a); peatlands (Behan-Pelletier & Bissett 1994); **QC:** Abitibi (Déchêne & Buddle 2009, 2010).

Habitats: tussock tundra heath and peatlands; temperate and boreal forest litter including Western redcedar, Lodgepole pine, White spruce and Trembling aspen.

Distribution: Semicosmopolitan.

Quadropia sp. ? circumita Hammer, 1961

Geographic Location: **QC:** Morgan Arboretum (Marshall 1968).

Quadropia nr. *skookumchucki* Jacot, 1939

Geographic Location and Habitats: **QC:** Abitibi, boreal mixedwood forest (Déchêne & Buddle 2009, 2010).

Remarks: *Q. skookumchucki* was considered a junior synonym of *Q. quadricarinata* by Subías (2004), although no arguments were given for this synonymy.

Quadroppia sp.

Geographic Location and Habitats: **BC:** Upper Klanawa Mainline site, near Franklin River (Berch *et al.* 2001); **AB:** Trembling aspen, White spruce mesocosm (Cameron *et al.* 2013); Lethbridge, fescue prairie (Osler *et al.* 2008); **ON:** Sudbury, White birch and Trembling aspen (St. John *et al.* 2002); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987); **NL:** between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer *et al.* 1997, 1998).

Family **Thyrisomidae**

Genus *Banksinoma* Oudemans, 1930

Banksinoma lanceolata (Michael, 1885)

Original name: *Notaspis lanceolata* Michael, 1885 (Bernini 1970)

Combination: *Oribella lanceolata* (Michael, 1885); (Berlese 1908), *Thyrisoma lanceolata* (Michael, 1885); (Grandjean 1953).

Geographic Location: **AK:** northwest coastal plain; Brooks Range; Denali NP; Fairbanks Region; Aleutian Is. (Behan 1978a); **YT:** Herschel Is. (Behan 1978a); **NT:** Mackenzie Delta arctic and subarctic (Behan 1978a); **BC:** Vancouver Is., Walbran Valley (Lindo & Winchester 2006, 2007); **ON:** Petawawa National Forestry Institute, Chalk River, (Bird & Chatarpaul 1986); **QC:** Mont Tremblant (Behan *et al.* 1978); northern region; Timmins 54°60'N, 67°00'W (Behan 1978a); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010); **NL:** between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: tussock tundra; Western redcedar trunk; mixed deciduous coniferous forest; Balsam fir forest.

Distribution: Holarctic.

Banksinoma lanceolata canadensis Fujikawa, 1979

Synonymy: *Oribella castanea* sensu Hammer (1952a) non Hermann (1804): (Fujikawa 1979).

Geographic Location: **YT:** Richardson Mtns; Ogilvie Mtns (Behan-Pelletier 1997b); **NT:** Reindeer Station; Yellowknife (Hammer 1952a); **AB:** ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); **ON:** Sudbury (St. John *et al.* 2002); **QC:** Abitibi (Déchêne & Buddle 2009, 2010).

Habitats: dry subarctic biotopes with *Vaccinium*, *Ledum*, *Empetrum*, *Salix*, grass, mosses, liverwort, lichens; boreal deciduous coniferous forest; mine tailings with Jack pine and White spruce.

Distribution: Canada.

Banksinoma setosa Rjabinin, 1974

Geographic Location and Habitats: **QC:** Timmins 54°60'N, 67°00'W (Behan 1978a).

Distribution: Holarctic.

Banksinoma sp. nr. *setosa* Rjabinin, 1974

Geographic Location: **BC:** Isaiah Creek study site (Lindo & Stevenson 2007).

Banksinoma spinifera (Hammer, 1952)

Original name: *Oribella spinifera* Hammer, 1952 (Fujikawa 1979)

Combination: *Thyrisoma spinifera* (Hammer, 1952); (Wallwork 1962).

Geographic Location: **YT:** Coast Mtns (Behan-Pelletier 1997b); **AB:** ABMI Sites (Walter *et al.* 2014); 35 km north of Fort McMurray (McAdams *et al.* 2018); **MB:** Churchill (Hammer 1952a); **ON:** Sudbury (St. John *et al.* 2002); **QC:** St. Clet (Smith 1978); Mirabel municipality south of Belle-Rivière (Tousignant *et al.* 1988; Tousignant & Coderre 1992); Western Québec (Doblas-Miranda & Work 2015); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010).

Habitats: Boreal forest with White spruce, Black spruce, Jack pine and Trembling aspen; moss, lichens.

Distribution: Nearctic; Neotropical.

Banksinoma sp.

Geographic Location and Habitats: **AK:** (Behan 1978a); **AB:** Roy Berg Kinsella Research Ranch (Newton

2013); **QC**: Timmins 54°60'N, 67°00'W (Behan 1978a); **NB**: Maritime Lowlands (Behan-Pelletier 2010); **NS**: Cape Breton Highlands NP (Behan-Pelletier 2010, Behan-Pelletier *et al.* 1987).

Genus *Oribella* Berlese, 1908

Oribella castanea (Hermann, 1804)

Original name: *Notaspis castaneus* Hermann, 1804 (Hammer 1946)

Combination: *Banksinoma castanea* (Hermann, 1804); (Hammer 1969).

Geographic Location: **AK**: Anchorage (Hammer 1955a).

Habitat: Wood, lichen, grass.

Distribution: Holarctic.

Remarks: Marshall *et al.* (1987) considered the status of *Notaspis castanea* Hermann, 1804 as uncertain, but Grandjean (1950) thought it was likely *Phauloppia lucorum* (C.L. Koch, 1841). Most Canadian and Alaskan records may be for *Banksinoma lanceolata* (Michael, 1885). Thus, records of *Oribella castanea* of Behan (1978a), Behan *et al.* (1978) and Bird & Chatarpaul (1986) have been moved to *Banksinoma lanceolata* (Michael, 1885).

Genus *Pantelozetes* Grandjean, 1953 (= *Gemmazetes*)

Pantelozetes alpestris (Willmann, 1929)

Original name: *Xenillus alpestris* Willmann, 1929 (Beck & Woas 1991)

Combination: *Gemmazetes alpestris* (Willmann, 1929); (Fujikawa 1979), *Oribella alpestris* (Willmann, 1929); (Willmann 1931), *Montizetes alpestris* (Willmann, 1929); (Subías 2004).

Geographic Location: **AK**: Fort Richardson (Hammer 1955a); Cape Thompson (Watson *et al.* 1966); Kodiak Is., west of Pinguicula Lake (Hammer 1967); northwest coastal plain; Brooks Range (Behan 1978a).

Habitat: peatland; wood, lichen, grass.

Distribution: Holarctic.

Pantelozetes paolii (Oudemans, 1913)

Original name: *Xenillus paolii* Oudemans, 1913 (Rajski 1961)

Combination: *Oribella paolii* (Oudemans, 1913); (Willmann 1929).

Synonymy: *Eremaeus pectinatus* sensu Oudemans (1900b); (van der Hammer 1952).

Geographic Location and Habitats: **AK**: Brooks Range; Fairbanks Region; Pribilof Islands (Behan 1978a); Canada (Hammer 1969).

Distribution: Holarctic.

Pantelozetes sp.

Geographic Location: **YT**: Richardson Mtns; Ogilvie Mtns (as *Gemmazetes* sp.) (Behan-Pelletier 1997b);

AB: ABMI Sites (as *Gemmazetes* sp.1 DEW) (Walter *et al.* 2014).

Superfamily **Trizetoidea**

Family **Suctobelbidae**

Genus *Allosuctobelba* Moritz, 1970

Allosuctobelba gigantea (Hammer, 1955)

Original name: *Suctobelba gigantea* Hammer, 1955 (Marshall *et al.* 1987)

Geographic Location: **AK**: Anchorage (Hammer 1955a); **AB**: ABMI Sites (Walter *et al.* 2014).

Distribution: Nearctic.

Allosuctobelba sp. nr. *gigantea* (Hammer, 1955)

Geographic Location and Habitats: **BC**: Vancouver Is., Walbran Valley (Lindo & Winchester 2006); **QC**:

Morgan Arboretum (Marshall 1968; as *Suctobelba*).

Allosuctobelba sp.

Geographic Location and Habitats: **BC:** Isaiah Creek study site (Lindo & Stevenson 2007); **AB:** ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); **NL:** between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer *et al.* 1997, 1998).

Genus *Rhinosuctobelba* Woolley and Higgins, 1969

Rhinosuctobelba dicerosa Woolley and Higgins, 1969

Geographic Location and Habitats: **BC:** Vancouver Is., Clayoquot Sound UNESCO Biodiversity Reserve (Lindo & Winchester 2009).

Distribution: Nearctic.

Genus *Rhynchobelba* Willmann, 1953

Rhynchobelba sp.

Geographic Location and Habitats: **BC:** Vancouver Is., coastal temperate rainforest (Lindo & Clayton 2011); Clayoquot Sound UNESCO Biodiversity Reserve (Lindo & Winchester 2009).

Genus *Suctobelba* Paoli, 1908

Suctobelba sp.

Geographic Location and Habitats: **BC:** Mt. Cain, Amabilis fir ground specialist (Fagan *et al.* 2005); **AB:** Kananaskis Valley, Lodgepole pine litter (Powell & Skaley 1975); **EMEND Site,** White spruce and Trembling aspen litter (Lindo & Visser 2004); **QC:** Mont Tremblant (Behan *et al.* 1978); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Genus *Suctobelbella* Jacot, 1937

Suctobelbella acutidens (Forsslund, 1941)

Original name: *Suctobelba acutidens* Forsslund, 1941 (Bernini 1973)

Geographic Location: **AK:** Fort Richardson, Anchorage (Hammer 1955a); Brooks Range (Behan 1978a); Elliott Highway Burn, (65°19'N, 149°06'W) (Thomas & McLean 1988); **YT:** Richardson Mtns (Behan-Pelletier 1997b); **NT:** Yellowknife (Hammer 1952a); Tuktoyaktuk; Mackenzie Delta arctic and subarctic (Behan 1978a); **NU:** Baffin Is.; Ellesmere Is.; North Kent Is. (Behan 1978a); **BC:** Sicamous Creek (Berch *et al.* 2007); **QC:** northern region; Timmins 54°60'N, 67°00'W (Behan 1978a).

Habitats: tussock heath.

Distribution: Holarctic; Neotropical.

Suctobelbella nr. *acutidens* (Forsslund, 1941)

Geographic Location and Habitats: **BC:** Interior, forest litter (Battigelli *et al.* 2004); Sicamous Creek (Berch *et al.* 2007); **AB:** EMEND Site, White spruce and Trembling aspen litter (Lindo & Visser 2004).

Suctobelbella arcana Moritz, 1970

Geographic Location and Habitats: **AB:** ABMI Sites; Meanook (Walter & Latonas 2012).

Distribution: Holarctic.

Suctobelbella frothinghami Jacot, 1937

Combination: *Suctobelba frothinghami* [sic] (Jacot, 1937); (Marshall 1968).

Geographic Location and Habitats: **QC:** Morgan Arboretum, maple litter (Marshall 1968; Sylvain & Buddle 2010).

Distribution: Nearctic.

Suctobelbella hammerae (Krivolutsky, 1965)

Original name: *Suctobelba hammeri* Krivolutsky, 1965 (Rubcova 1973)

Synonymy: *Suctobelba sarekensis* sensu Hammer (1952a) non Forsslund (1941): (Krivolutsky 1965).

Geographic Location: **AK:** Brooks Range; Chugach Mtns; Kenai Peninsula; Fairbanks Region; Denali NP (Behan 1978a); **YT:** Coastal Plain (Behan-Pelletier 1997b); **NT:** Yellowknife; Reindeer Station (Hammer 1952a); Tuktoyaktuk; Mackenzie Delta arctic (Behan 1978a); **NU:** Ward Hunt Is. (Behan 1978a); **MB:** Churchill (Hammer 1952a); **QC:** Timmins 54°60'N, 67°00'W (Behan 1978a).

Habitats: lichen, moss; tussock tundra; peatlands (bogs and fens).

Distribution: Holarctic.

Remarks: Behan (1978a) followed Hammer (1952a) for her identifications; thus her records were misidentified as *Suctobelba sarekensis*.

Suctobelbella hurshi Jacot, 1937

Combination: *Suctobelba hurshi* (Jacot, 1937d); (Marshall 1968).

Geographic Location: **QC:** Morgan Arboretum (Marshall 1968).

Distribution: Nearctic.

Suctobelbella laxtoni Jacot, 1937

Combination: *Suctobelba laxtoni* (Jacot, 1937d); (Marshall 1968).

Geographic Location: **BC:** Sicamous Creek (Berch *et al.* 2007); **QC:** Morgan Arboretum (Marshall 1968).

Distribution: Nearctic.

Suctobelbella longicuspis Jacot, 1937

Combination: *Suctobelba longicuspis* (Jacot, 1937d); (Marshall 1968).

Geographic Location: **QC:** Morgan Arboretum (Marshall 1968).

Distribution: Semicosmopolitan.

Suctobelbella sp. nr. *longicuspis* Jacot, 1937

Geographic Location and Habitats: **BC:** Isaiah Creek study site (Lindo & Stevenson 2007); Vancouver Is., Walbran Valley (Lindo & Winchester 2006, 2007; Lindo 2010).

Suctobelbella longirostris (Forsslund, 1941)

Original name: *Suctobelba longirostris* Forsslund, 1941 (Strenzke 1951)

Geographic Location: **AK:** Seward Peninsula, near to Cape Espenberg (66°28'22"N, 163°56'56"W, greyish tephra from Aniakchak eruption (Blackford *et al.* 2014).

Distribution: Holarctic.

Suctobelbella palustris (Forsslund, 1953)

Original name: *Suctobelba palustris* Forsslund, 1953 (Strenzke 1951)

Geographic Location and Habitats: **NT:** Yellowknife, moist meadows with luxuriant moss, *Carex*, *Salix*, *Eriophorum*, *Betula* (Hammer 1952a); **BC:** Sicamous Creek (Berch *et al.* 2007).

Distribution: Holarctic.

Suctobelbella sp. nr. *palustris* (Forsslund, 1953)

Geographic Location and Habitats: **YT:** Richardson Mtns (Behan-Pelletier 1997b).

Suctobelbella punctata (Hammer, 1955)

Original name: *Suctobelba punctata* Hammer, 1955 (Behan 1978a)

Geographic Location: **AK:** Fort Richardson; Anchorage (Hammer 1955a); Brooks Range; Chugach Mtns;

Kenai Peninsula (Behan 1978a); **AB**: ABMI Sites (Walter *et al.* 2014).

Habitats: Wood, lichen, grass.

Distribution: Holarctic.

Suctobelbella sarekensis (Forsslund, 1941)

Original name: *Suctobelba sarekensis* Forsslund, 1941 (Rubcova 1973)

Synonymy: *Suctobelba cornigera* sensu Trägårdh (1910) non Berlese (1902): (Marshall *et al.* 1987).

Geographic Location: **AK**: Fort Richardson, Fairbanks, Anchorage (Hammer 1955a); **NT**: Yellowknife; Reindeer Station (Hammer 1952a); **MB**: Churchill (Hammer 1952a); **ON**: Sudbury (St. John *et al.* 2002).

Habitats: moist heath vegetation with moss, *Carex*, *Salix reticulata*, *Rhododendron*, *Dryas*, *Vaccinium*, *Arctostaphylos*, *Pinguicula*, moss; mixed deciduous coniferous forest.

Distribution: Holarctic.

Suctobelbella sp. nr. *sarekensis* (Forsslund, 1941)

Geographic Location and Habitats: **BC**: Sicamous Creek (Berch *et al.* 2007).

Suctobelbella setosoclavata (Hammer, 1952)

Original name: *Suctobelba setosoclavata* Hammer, 1952 (Behan 1978a)

Combination: *Suctobelbella setosoclavata* [sic] (Hammer, 1952); (Behan 1978a).

Geographic Location: **AK**: Cape Thompson (Watson *et al.* 1966); Northwest coastal plain; Brooks Range; Fairbanks Region; Denali NP; Chugach Mtns; Kenai Peninsula; Aleutian Islands (Behan 1978a); Elliott Highway Burn, (65°19'N, 149°06'W), tussock heath (Thomas & McLean 1988); **YT**: Richardson Mtns (Hammer 1952a); Coastal Plain; Porcupine Plain; Ogilvie Mtns; Eagle Plain (Behan-Pelletier 1997b); **NT**: Reindeer Station (Hammer 1952a); Mackenzie Delta, subarctic (Behan 1978a); **NU**: Bathurst Is. (Danks 1980); Devon Is.; Keewatin (Behan 1978a).

Habitats: tussock heath; reindeer moss.

Distribution: Nearctic.

Suctobelbella sp. nr. *subcornigera* (Forsslund, 1941)

Geographic Location and Habitats: **BC**: Interior, forest litter (Battigelli *et al.* 2004).

Suctobelbella sp.

Geographic Location and Habitats: **BC**: North of Kamloops, in Douglas-fir litter (Marshall 1979); Upper Klanawa Mainline site, near Franklin River (2 spp.) (Berch *et al.* 2001); Isaiah Creek study site (5 spp.) (Lindo & Stevenson 2007); Vancouver Is., Walbran Valley (Lindo & Winchester 2006) (6 spp.) (Lindo & Winchester 2007; Lindo 2010); Interior, forest litter (9 spp.) (Battigelli *et al.* 2004); **AB**: Kananaskis Valley, Lodgepole pine litter (Powell & Skaley 1975); Kananaskis Valley, Lodgepole pine forest (McLean & Parkinson 1998); EMEND Site, White spruce and Trembling aspen litter (2 spp.) (Lindo & Visser 2004); Trembling aspen, White spruce mesocosm (Cameron *et al.* 2013); ABMI Sites (4 spp.) (Walter & Latonas 2012; Walter *et al.* 2014); **ON**: Petawawa National Forestry Institute, Chalk River, mixed conifer-hardwood forest (3 spp.) (Bird & Chatarpaul 1986); Sudbury, mixed deciduous coniferous forest, (3 spp.) (St. John *et al.* 2002); near Chapleau (2 spp.) (Rousseau *et al.* 2018); near White River (Barreto & Lindo 2018); **QC**: Abitibi, boreal mixedwood forest (4 spp.) (Déchêne & Buddle 2009, 2010); **NB**: peatlands (Behan-Pelletier & Bissett 1994); Maritime Lowlands (Behan-Pelletier 2010); **NS**: Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987); **NL**: between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer *et al.* 1997, 1998).

Superfamily **Tectocephoidea**

Family **Tectocephidae**

Genus **Tectocephus** Berlese, 1896

Tectocephus sarekensis Trägårdh, 1910

Original name: *Tectocephus velatus sarekensis* Trägårdh, 1910 (Balogh 1943)

Synonymy: *Tectocephus velatus angulatus* Mihelčič, 1957: (Pérez-Íñigo 1971), *Tectocephus velatus ibericus* Mihelčič, 1957: (Pérez-Íñigo 1971), *Tectocephus velatus inflexus* Mihelčič, 1957: (Pérez-Íñigo 1971).

Geographic Location: **AK:** Cape Thompson (Watson *et al.* 1966); **YT:** Richardson Mtns; Yukon Tintina (Behan-Pelletier 1997b); **BC:** Walbran Valley (Lindo & Winchester 2007; Lindo 2010); Interior (Battigelli *et al.* 2004); North of Kamloops (Marshall 1979); **AB:** Roy Berg Kinsella Research Ranch, (Newton & Proctor 2013); EMEND Site (Lindo & Visser 2004); ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); 35 km north of Fort McMurray (McAdams *et al.* 2018).

Habitats: Boreal forest with White spruce, Black spruce, Jack pine, Trembling aspen; coastal temperate forest with Western redcedar, Douglas fir litter.

Distribution: Semicosmopolitan.

Remarks: This species was considered a subspecies of *Tectocephus velatus* by Subías (2004) and Weigmann (2006); we follow Laumann *et al.* (2007) in considering it a distinct species.

Tectocephus velatus (Michael, 1880)

Original name: *Tegeocranus velatus* Michael, 1880 (Willmann 1931)

Combination: *Scutovertex velatus* (Michael, 1880); (Oudemans 1900a).

Geographic Location: **AK:** Fort Richardson, Fairbanks, Anchorage (Hammer 1955a); northwest and southwest coastal plain; Brooks Range, Fairbanks Region; Denali NP; Chugach Mtns; Kenai Peninsula; Aleutian Islands; Pribilof Islands (Behan 1978a); Cape Thompson (Watson *et al.* 1966; Behan & Hill 1978); Atkasuk (Behan 1978a; Behan & Hill 1978); Elliott Highway Burn, (65°19'N, 149°06'W) (Thomas & McLean 1988); Seward Peninsula, near to Cape Espenberg (66°28'22"N, 163°56'56"W, greyish tephra from Aniakchak eruption (Blackford *et al.* 2014); **YT:** Richardson Mtns (Hammer 1952a); Herschel Is. (Behan 1978a); coastal Plain; Ogilvie Mtns (Behan-Pelletier 1997b); **NT:** Yellowknife, Reindeer Station (Hammer 1952a); Tuktoyaktuk (Behan 1978a; Behan & Hill 1978); Mackenzie Delta arctic and subarctic; Banks Is. (Behan 1978a); peatlands (Behan-Pelletier & Bissett 1994); **NU:** Coppermine; Iqaluit, Baffin Is.; Ungava Bay (Hammer 1952a); Ellesmere Is., Quttinirpaaq NP, Hazen Camp (Oliver 1963; Kevan *et al.* 1995); Ellesmere Is., Slidre Fiord (Hammer 1953); Ellesmere Is., Hot Weather Creek (Brodo 2000); Axel Heiberg Is.; Bathurst Is.; Baffin Is.; Victoria Is.; Igloodik Is.; Keewatin (Behan 1978a); Bathurst Is. (Danks 1980); **BC:** Upper Klanawa Mainline site, near Franklin River (Berch *et al.* 2001); Isaiah Creek study site (Lindo & Stevenson 2007); Vancouver Is., Mt. Cain (Fagan *et al.* 2005); Walbran Valley (Lindo & Winchester 2006); peatlands (Behan-Pelletier & Bissett 1994); Sicamous Creek (Berch *et al.* 2007); **AB:** Banff; Mount Robson PP; Jasper (Hammer 1952a); nr. Breton (Berg & Pawluk 1984); Kananaskis Valley (McLean & Parkinson 1998); ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); **MB:** Churchill (Hammer 1952a); southeast (Oswald & Minty 1970); peatlands (Behan-Pelletier & Bissett 1994); **ON:** Petawawa National Forestry Institute, Chalk River (Marshall 1972; Bird & Chatarpaul 1986); peatlands (Behan-Pelletier & Bissett 1994); Sudbury (St. John *et al.* 2002); near White River (Barreto & Lindo 2018); near Chapleau (Rousseau *et al.* 2018); **QC:** northern region; Timmins 54°60'N, 67°00'W (Behan 1978a); Mont Tremblant (Behan *et al.* 1978); St. Clet (Smith 1978); peatlands (Behan-Pelletier & Bissett 1994); Mirabel municipality south of Belle-Rivière (Tousignant *et al.* 1988; Tousignant & Coderre 1992); Abitibi (Déchêne & Buddle 2009, 2010); Morgan Arboretum (Marshall 1964; Sylvain & Buddle 2010); St-Paulin (Doblas-Miranda *et al.* 2014); **NB:** peatlands (Behan-Pelletier & Bissett 1994); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010); **NL:** peatlands (Behan-Pelletier & Bissett 1994); between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: tussock tundra; moss; peatlands; boreal mixedwood forest including Lodgepole pine, beech, maple, Balsam fir, Jack pine; coastal temperate coniferous forests; Amabilis fir litter; mixed grass prairie.

Distribution: Cosmopolitan.

Tectocephus sp.

Geographic Location and Habitats: **BC:** Osoyoos, Haynes Lease (Behan-Pelletier 1987b); **AB:** Lethbridge, fescue prairie (Osler *et al.* 2008); Trembling aspen, White spruce mesocosm (Cameron *et al.* 2013); **SK:**

Matador IBP Site, dry, mixed prairie (Willard 1974); **ON**: 3 km south of Guelph, Cornfield (Broadbent & Tomlin 1979); Sudbury, White birch and Trembling aspen (St. John *et al.* 2002); **QC**: Apple orchard (Forest *et al.* 1982); **NB**: Maritime Lowlands (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987); **NS**: Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Superfamily **Limnozetoidea**

Family **Hydrozetidae**

Genus *Hydrozetes* Berlese, 1902

Hydrozetes lacustris (Michael, 1882)

Original name: *Notaspis lacustris* Michael, 1882 (Willmann 1931)

Combination: *Scutovertex lacustris* (Michael, 1882); (Berlese 1896).

Synonymy: *Notaspis speciosus* Chinaglia, 1917: (Willmann 1931).

Geographic Location: **BC**: (Conroy & Scudder 1975); **MB**: Riding Mountain NP (Conroy 1974).

Habitats: aquatic species.

Distribution: Holarctic.

Hydrozetes octosetosus Willmann, 1932

Geographic Location: **AB**: ABMI Sites; Namur Lake (Walter & Latonas 2012).

Habitats: aquatic species.

Distribution: Holarctic.

Hydrozetes parisiensis Grandjean, 1948

Geographic Location: **AB**: Moose Pasture Research Site (Walter *et al.* 2014).

Habitats: aquatic species.

Distribution: Holarctic.

Hydrozetes thienemanni Strenzke, 1943

Synonymy: *Hydrozetes incisus* Grandjean, 1948: (Grandjean 1949b).

Geographic Location and Habitats: **AK**: (MacLean *et al.* 1978).

Habitats: aquatic species.

Distribution: Holarctic.

Hydrozetes sp.

Geographic Location and Habitats: **AK**: northern coastal plain; Atkasuk; Brooks Range; Fairbanks Region; Denali NP (Behan 1978a); Seward Peninsula, near to Cape Espenberg (66°28'22"N, 163°56'56"W, greyish tephra from Aniakchak eruption (Blackford *et al.* 2014); **YT**: modern and interglacial fossils (Matthews & Telka 1997); Richardson Mtns (Behan-Pelletier 1997b); **AB**: ABMI Sites; Moose Pasture Research Site (as sp. E RAN); ABMI Sites (4 spp.) (Walter *et al.* 2014); (Meehan *et al.* 2019); fossil (Baker & Wighton 1983); **QC**: northern region (Behan 1978a); **NB**: peatlands (Behan-Pelletier & Bissett 1994); **NS**: Sable Is., pond margins (Majka *et al.* 2007); Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Family **Limnozetidae**

Genus *Limnozetes* Hull 1916

Limnozetes amnicus Behan-Pelletier, 1989

Geographic Location: **NB**: Kent Co., Kouchibouguac NP, **NS**: Cape Breton Highlands NP, Aspy Trail; Fishing Cove Trail; Beulach Ban Falls (Behan-Pelletier 1989a).

Habitats: aquatic species.

Distribution: Canada.

Limnozetes atmetos Behan-Pelletier, 1989

Geographic Location: **ON:** peatlands (Behan-Pelletier & Bissett 1994); National Capital Region: Ottawa, Mer Bleue, **NL:** Gros Morne NP, Western Brook Trail (Behan-Pelletier 1989a).

Habitats: peat bog specialist.

Distribution: Canada.

Limnozetes borealis Behan-Pelletier, 1989

Geographic Location: **AK,** Denali NP (Behan-Pelletier 1989a); **QC:** peatlands (Behan-Pelletier & Bissett 1994); Parc National de Frontenac, **NB:** York Co., near Lake George, **NL:** Gros Morne NP; Avalon Peninsula, 5 km south Cochrane Pond (Behan-Pelletier 1989a; Behan-Pelletier & Bissett 1994).

Habitats: peat bog specialist.

Distribution: Nearctic.

Limnozetes canadensis Hammer, 1952

Geographic Location: **AK:** Denali NP (Behan 1978a); **YT:** Coastal Plain (Behan 1978a, Behan-Pelletier 1997b); **AB:** ABMI Sites (Walter *et al.* 2014); **MB:** Churchill, wet meadow with luxuriant moss vegetation (Hammer 1952a).

Habitats: aquatic species.

Distribution: Nearctic.

Limnozetes ciliatus (Schrank, 1803)

Original name: *Acarus ciliatus* Schrank, 1803 (Willmann 1931)

Synonymy: *Oribata sphagni* Michael, 1884: (Radford 1950).

Geographic Location and Habitats: **QC:** peatlands (Behan-Pelletier & Bissett 1994); **NL:** peatlands (Behan-Pelletier & Bissett 1994).

Habitats: aquatic species.

Distribution: Holarctic.

Limnozetes guyi Behan-Pelletier, 1989

Geographic Location: **ON:** near White River (Barreto & Lindo 2018); **QC:** Parc National de Frontenac; Gatineau Park (Behan-Pelletier 1989a); **NB:** Kent Co., Kouchibouguac NP; York Co., Near Lake George (Behan-Pelletier 1989a); **NL:** Gros Morne NP, Western Brook Trail (Behan-Pelletier 1989a; Behan-Pelletier & Bissett 1994).

Habitats: peat bog specialist.

Distribution: Canada.

Limnozetes latilamellatus Behan-Pelletier, 1989

Original name: *Limnozetes latilamellata* Behan-Pelletier, 1989

Geographic Location: **QC:** Parc National de Frontenac (Behan-Pelletier 1989a); **NB:** Lake George (Behan-Pelletier 1989a); **NL:** Avalon Peninsula (Behan-Pelletier 1989a).

Habitats: *Sphagnum*, sedges, and *Drosera* in bogs; bog pools.

Distribution: Canada.

Limnozetes lustrum Behan-Pelletier, 1989

Geographic Location: **ON:** Ottawa, National Capital Region: Mer Bleue; **QC:** near Ste. Cecile de Masham, **NB:** Kent Co., Kouchibouguac NP, (Behan-Pelletier 1989a; Behan-Pelletier & Bissett 1994).

Habitats: peat bog specialist.

Distribution: Holarctic.

Limnozetes palmerae Behan-Pelletier, 1989

Geographic Location: **AK:** Seward Peninsula, near to Cape Espenberg (66°28'22"N, 163°56'56"W, greyish tephra from Aniakchak eruption (Blackford *et al.* 2014); **QC:** near Ste. Cecile de Masham (Behan-

Pelletier 1989a); **NB**: York Co., near Lake George; Kent Co., Kouchibouguac NP (Behan-Pelletier 1989a); **NL**: Avalon Peninsula, 5 km S Cochrane Pond (Behan-Pelletier 1989a; Behan-Pelletier & Bissett 1994).
Habitats: peat bog specialist.
Distribution: Holarctic.

Superfamily **Ameronothroidea**

Family **Podacaridae**

Genus *Alaskozetes* Hammer, 1955

Alaskozetes coriaceus Hammer, 1955

Geographic Location and Habitats: **AK**: Barrow, Arctic slope (Hammer 1955a).

Distribution: Antipolar.

Family **Ameronothridae**

Genus *Ameronothrus* Berlese, 1896

Ameronothrus lineatus (Thorell, 1871)

Original name: *Eremaeus lineatus* Thorell, 1871 (Strenzke 1954)

Combination: *Scutovertex lineatus* (Thorell, 1871); (Banks 1919).

Synonymy: *Scutovertex corrugatus* Michael, 1888: (Schubart 1975).

Geographic Location: **AK**: Barrow (Hammer 1955a; Hurd & Lindquist 1958; Bohnsack 1968, 1973); Northern coastal plain; Brooks Range (Behan 1978a); **YT**: Herschel Is. (Behan 1978a; Behan-Pelletier 1997b); **NT**: Cockburn Point (Banks 1919); Mackenzie Delta subarctic (Behan 1978a); **MB**: Churchill River (Hammer 1952a).

Habitats: clayey beach meadows submerged during high tide.

Distribution: Holarctic.

Ameronothrus maculatus (Michael, 1882)

Original name: *Scutovertex maculatus* Michael, 1882 (Berlese 1896)

Synonymy: *Scutovertex maculatus groenlandica* Trägårdh, 1904: (Schubart 1975), *Scutovertex maculatus insularis* Hull, 1916: (Schubart 1975), *Scutovertex pseudomaculatus* Hull, 1914: (Schubart 1975), *Scutovertex pseudomaculatus angularis* Hull, 1914: (Schubart 1975), *Scutovertex maculatus pseudomaculatus* Hull, 1916: (Schubart 1975).

Geographic Location and Habitats: **MB**: Churchill, *Salix reticulata* vegetation among rocks along Hudson Bay (Hammer 1952a).

Distribution: Holarctic.

Ameronothrus nigrofemoratus (L. Koch, 1879)

Original name: *Nothrus nigro-femoratus* L. Koch, 1879 (Strenzke 1955)

Combination: *Damaeus nigro-femoratus* (L. Koch, 1879); (Michael 1898), *Scutovertex nigrofemoratus* (L. Koch, 1879); (Michael 1884-1888).

Synonymy: *Ameronothrus lineatus nigrofemorata* (L. Koch, 1879): (Hammer 1944), *Ameronothrus lineatus brevipes* Willmann, 1937: (Schubart 1975), *Ameronothrus lineatus sensu* Hammer (1937) non Thorell (1871): (Hammer 1946).

Geographic Location: **AK**: Pribilof Islands (Banks 1923); Barrow (Bohnsack 1968); **NT**: Bernard Harbour (Banks 1919); **BC**: (Hammer & Wallwork 1979); **MB**: Churchill (Hammer 1952a).

Habitats: clayey beach meadows submerged during high tide, with vegetation of *Plantago*, *Stellaria*, *Ranunculus*, *Potentilla*, *Senecio* and grass.

Distribution: Holarctic.

Ameronothrus sp.

Geographic Location and Habitats: **YT:** modern fossils (Matthews & Telka 1997; as cf. *lineatus*); **NT:** Reindeer Station, spruce needles under spruce near brook (Hammer 1952a); **AB:** peatlands (Behan-Pelletier & Bissett 1994); Wagner Natural Area, 8km W Edmonton, 53°34'N, 113°47'W, fen (Finnamore 1994; as *A. lapponicus* Dalenius); **NL:** peatlands (Behan-Pelletier & Bissett 1994).

Family **Selenoribatidae**

Genus *Thalassozetes* Schuster, 1963

Thalassozetes sp.

Geographic Location and Habitats: **BC:** coastal temperate rainforest (Lindo & Clayton 2011).

Family **Tegeocranellidae**

Genus *Tegeocranellus* Berlese, 1913

Tegeocranellus muscorum Behan-Pelletier, 1997

Geographic Location: **ON:** Long Point NWA, Squires Ridge, 42°34'N, 80°14'W; Long Point PP (Behan-Pelletier 1997a).

Habitats: vegetation at edge of slough in oak-maple parkland; wet pine and marshy litter, at edge of marsh.

Distribution: Nearctic.

Tegeocranellus sp.

Geographic Location and Habitats: **NS:** (Marshall *et al.* 1987; Behan-Pelletier 2010).

Superfamily **Cymbaeremaeoidea**

Family **Cymbaeremaeidae**

Genus *Ametroproctus* Higgins and Woolley, 1968

Ametroproctus (Ametroproctus) oresbios Higgins and Woolley, 1968

Original name: *Ametroproctus oresbios* Higgins and Woolley, 1968

Geographic Location: **AB:** Writing-on-Stone PP; ABMI Sites (Walter *et al.* 2014).

Habitats: *Betula*, *Juniperus horizontalis*, *Phlox hoodi* litter.

Distribution: Nearctic.

Ametroproctus (Ametroproctus) tuberculosus Behan-Pelletier, 1987

Geographic Location: **AB:** Kananaskis County; Waterton Lakes NP (Behan-Pelletier 1987a).

Habitats: moss and lichens among rocks; litter and soil under *Polemonium viscosum*.

Distribution: Canada.

Ametroproctus (Coropoculia) beringianus Behan-Pelletier, 1987

Geographic Location: **YT:** Ivvavik NP, British Mtns; Ogilvie Mtns, km141 Dempster Hwy (Behan-Pelletier 1987a, 1997).

Habitats: moss and lichens among purple shale rocks; *Senecio*, *Potentilla*, *Minuartia*, lichens, moss among rocks; mixed vegetation on rocky hill.

Distribution: Western Nearctic; eastern Palaearctic.

Ametroproctus (Coropoculia) canningsi Behan-Pelletier, 1987

Geographic Location: **BC:** Manning PP; Cathedral PP; Osoyoos, Haynes Lease Ecological Reserve

(Behan-Pelletier 1987b); Isaiah Creek study site (Lindo & Stevenson 2007); **AB**: Waterton Lakes NP (Behan-Pelletier 1987a).

Habitats: southfacing slope with *Saxifraga*, moss, stonecrop; *Woodsia*, *Phlox*, grass, *Antennaria*, *Sibbaldia*, *Selaginella*; rocky slope with *Arenaria*, *Sedum*, *Antennaria*, *Castilleja*, *Woodsia*, moss, *Heuchera*; moss, lichens, in grassy area.

Distribution: Canada.

Ametropoctus (Coropoculia) reticulatus (Aoki and Fujikawa, 1972)

Original name: *Coropoculia reticulata* Aoki and Fujikawa, 1972 (Suzuki, 1978)

Geographic Location: **BC**: Vancouver Is., Walbran Valley (Lindo *et al.* 2008); Garibaldi PP; Manning PP; Osoyoos, Kobau Mountain (Behan-Pelletier 1987a); **AB**: Waterton Lakes NP; Kananaskis Country; Banff NP; Jasper NP, Whistler Mountain (Behan-Pelletier 1987a); ABMI Sites (Walter *et al.* 2014).

Habitats: temperate and coniferous forests with hemlock and cedar, subalpine fir, Engelmann spruce, White bark pine; mixed deciduous and coniferous litter; moss on rotten log; dry soil with *Phlox*, *Arenaria*, moss, *Lupinus*, *Sedum*, lichen, *Phacelia*; beargrass leaves; *Picea*, *Salix* duff on alpine slope.

Distribution: Holarctic.

Genus *Scapheremaeus* Berlese, 1910

Scapheremaeus palustris (Sellnick, 1924)

Original name: *Cymbaeremaeus (Scapheremaeus) palustris* Sellnick, 1924 (Willmann 1931)

Geographic Location: **BC**: Isaiah Creek study site (Lindo & Stevenson 2007); Vancouver Is., Walbran Valley (Lindo *et al.* 2008; Lindo 2010); **AB**: peatlands (Behan-Pelletier & Bissett 1994); Wagner Natural Area, 8km W Edmonton, 53°34'N, 113°47'W (Finnamore 1994); ABMI Sites (Walter *et al.* 2014); **ON**: St. Lawrence Is. NP; Chaffeys Locks; Thunder Bay District; Bells Corners; Mer Bleue; Backus Woods Conservation Area; Pinery PP; Vineland Station; Deseronto (Norton *et al.* 2010); **QC**: peatlands (Behan-Pelletier & Bissett 1994); Parc national de la Gaspésie; Parc National de Frontenac; Forillon NP (Norton *et al.* 2010); Gatineau Park (Norton *et al.* 2010) Western Québec (Doblas-Miranda & Work 2015); **NB**: Kouchibouguac NP (Norton *et al.* 2010); **NS**: Cape Breton Highlands NP (Norton *et al.* 2010).

Habitats: mostly arboreal habitats including from bark, foliage, twigs of apple and pear trees, Redcedar, White pine; forest litter with Sugar maple, cedar, White spruce, Black spruce, Eastern hemlock, tamarack, beech, Red pine, *Abies*; *Fomes* conk.

Distribution: Holarctic.

Scapheremaeus nr. *palustris* (Sellnick, 1924)

Geographic Location and Habitats: **BC**: Vancouver Is., Mt. Cain, Amabilis fir canopy specialist (Fagan *et al.* 2005).

Scapheremaeus parvulus (Banks, 1909)

Original name: *Cymbaeremaeus parvula* Banks, 1909 (Marshall *et al.* 1987)

Combination: *Scapheremaeus parvulus* (Banks, 1909); (Subías 2004).

Geographic Location and Habitats: **ON**: Guelph, under bark of ironwood (Banks 1909).

Distribution: eastern Nearctic (Norton *et al.* 2010).

Scapheremaeus sp.

Geographic Location and Habitats: **BC**: Vancouver Is., Walbran Valley, 0-4m Western redcedar trunk (Lindo & Winchester 2007); **NS**: Southwest Nova Scotia Uplands, from apple orchards: (Rasmy & McPhee 1970).

Genus *Scapuleremaeus* Behan-Pelletier, 1989

Scapuleremaeus kobauensis Behan-Pelletier, 1989

Geographic Location: BC: Osoyoos, Kobau Mountain (Behan-Pelletier 1989b).

Habitats: litter under *Artemesia*, *Sedum*, *Penstamon*, *Juniperus*, grasses.

Distribution: Nearctic.

Superfamily **Licneremaeoidea**

Family **Dendroeremaeidae**

Genus ***Dendroeremaeus*** Behan-Pelletier, Eamer and Clayton, 2005

Dendroeremaeus krantzi Behan-Pelletier, Eamer and Clayton, 2005

Geographic Location and Habitats: BC: Vancouver Is., Campbell River, 49°50'53"N, 125°26'27"W, twigs in *Abies amabilis* lower canopy (Behan-Pelletier *et al.* 2005).

Distribution: Nearctic.

Family **Licneremaeidae**

Genus ***Licneremaeus*** Paoli, 1908

Licneremaeus sp.

Geographic Location and Habitats: BC: coastal temperate rainforest (Lindo & Clayton 2011).

Family **Passalozetidae**

Genus ***Bipassalozetes*** Mihelčič, 1957

Bipassalozetes cf. ***intermedius*** (Mihelčič, 1954)

Geographic Locations and Habitats: YT: Klondike Highway (Walter *et al.* 2014); AB: Roy Berg Kinsella Research Ranch (Newton 2013; Walter *et al.* 2014); Moose Pasture Research Site; Cypress Hills; ABMI sites (Walter *et al.* 2014).

Bipassalozetes sp.

Geographic Locations and Habitats: AB: Roy Berg Kinsella Research Ranch (Newton 2013; as sp. 2 DEW); Writing-on-Stone PP (*Mamillaria* cactus); Waterton Lakes NP (buffalo dung) (Walter *et al.* 2014).

Genus ***Passalozetes*** Grandjean, 1932

Passalozetes californicus Wallwork, 1972

Geographic Location: BC: Osoyoos, Haynes Lease (Behan-Pelletier 1987b); AB: One Four Agriculture Canada Station, Lost River (Walter *et al.* 2014).

Habitats: dry grassland with *Purshia*, *Aristida*, *Bromus*, *Opuntia*, *Pinus*, *Agropyron*.

Distribution: Nearctic.

Passalozetes sp.

Geographic Locations and Habitats: YT: Southern Lakes (Behan-Pelletier 1997b).

Family **Scutoverticidae**

Genus ***Exochocepheus*** Woolley and Higgins, 1968

Exochocepheus eremitus Woolley and Higgins, 1968

Geographic Location: BC: Osoyoos, Haynes Lease (Behan-Pelletier 1987b; as sp.); AB: ABMI Sites (Walter *et al.* 2014).

Habitats: dry, open habitats with grasses and sedges.

Distribution: Nearctic.

Superfamily **Phenopeloidea**

Family **Phenopelidae**

Genus *Eupelops* Ewing, 1917

Eupelops hirtus (Berlese, 1916)

Original name: *Pelops hirtus* Berlese, 1916 (Moritz 1965)

Combination: *Phenopelops hirtus* (Berlese, 1916); (Kunst 1959).

Geographic Location and Habitats: **QC:** Mont Tremblant (Behan 1978a; Behan *et al.* 1978).

Distribution: Holarctic.

Eupelops plicatus (C.L. Koch, 1835)

Original name: *Claeno plicatus* C.L. Koch, 1835 (Moritz 1965)

Combination: *Pelops plicatus* (C.L. Koch, 1835); (van der Hammen 1952), *Phenopelops plicatus* (C.L. Koch, 1835); (Sellnick 1960).

Synonymy: *Pelops auritus* C.L. Koch, 1839: (van der Hammen 1952), *Phenopelops auritus* (C.L. Koch, 1839): (Kunst 1959), *Pelops laevigatus* Nicolet, 1855: (van der Hammen 1952), *Pelops fusiger* Mihelčič, 1957: (Subías 1977), *Pelops acromius diversipilus* Mihelčič, 1957: (Subías 1977).

Geographic Location: **AK:** Fort Richardson, Fairbanks, Anchorage (Hammer 1955a); Cape Thompson (Watson *et al.* 1966).

Distribution: Holarctic.

Eupelops sp. nr. *plicatus* (C. L. Koch, 1835)

Geographic Location and Habitats: **BC:** Interior, forest litter (Battigelli *et al.* 2004).

Eupelops septentrionalis (Trägårdh, 1910)

Original name: *Pelops septentrionalis* Trägårdh, 1910 (Behan 1978a)

Combination: *Allopelops septentrionalis* (Trägårdh, 1910); (Hammer 1952a).

Geographic Location: **AK:** Northern and northwest coastal plain; Atkasuk; Brooks Range; Fairbanks; Denali NP; Pribilof Islands (Behan 1978a); **NT:** Mackenzie Delta subarctic (Behan 1978a); peatlands (Behan-Pelletier & Bissett 1994); **NU:** Coppermine (Hammer 1952a); **AB:** peatlands (Behan-Pelletier & Bissett 1994); Wagner Natural Area, 8km W Edmonton, 53°34'N, 113°47'W (Finnamore 1994); ABMI sites (Meehan *et al.* 2019); **MB:** Churchill (Hammer 1952a; Behan-Pelletier & Bissett 1994); **QC:** Northern region; Timmins 54°60'N, 67°00'W (Behan 1978a); peatlands (Behan-Pelletier & Bissett 1994); **NL:** peatlands (Behan-Pelletier & Bissett 1994).

Habitats: *Carex* meadows with wet moss; peatlands; moist meadows with *Salix*, *Betula*, *Pinguicula*, *Dryas*, *Vaccinium*.

Distribution: Holarctic.

Eupelops cf. *septentrionalis* (Trägårdh, 1910)

Geographic Location and Habitats: **AB:** ABMI Sites (Walter *et al.* 2014); **ON:** near Chapeau (Rousseau *et al.* 2018; as sp. 1 nr. *septentrionalis*).

Eupelops terminalis (Banks, 1909)

Original name: *Pelops terminalis* Banks, 1909 (Marshall *et al.* 1987)

Geographic Location and Habitats: **ON:** Guelph, under bark of ironwood (Banks 1909).

Distribution: Nearctic.

Eupelops sp.

Geographic Location and Habitats: **AK:** Gulf of Alaska, Samovar Hills, 60°17'N, 140°37'W, from *Sphagnum* (Block 1966); **YT:** modern fossils (Matthews & Telka 1997); **BC:** Upper Klanawa Mainline site, near Franklin River (Berch *et al.* 2001); Mt. Cain, Amabilis fir ground specialist (Fagan *et al.* 2005); Vancouver Is., Walbran Valley, Western redcedar (Lindo & Winchester 2006, Lindo & Winchester 2007); **AB:** ABMI Sites (2 spp.); Moose Pasture Research Site (Walter *et al.* 2014); 35 km north of Fort McMurray (McAdams *et al.* 2018; as sp. 2 DEW); **MB:** southeast, forest litter (Oswald & Minty 1970); **ON:** near Chapleau (Rousseau *et al.* 2018; as sp. 2 nr. *hirtus*); **QC:** Mont Tremblant (Behan *et al.* 1978); Mirabel municipality south of Belle-Rivière (Tousignant *et al.* 1988; Tousignant & Coderre 1992); **NB:** Maritime Lowlands (Behan-Pelletier 2010); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987); **NL:** between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer *et al.* 1997, 1998).

Genus *Peloptulus* Berlese, 1908

Peloptulus sp.

Geographic Location and Habitats: **AB:** Roy Berg Kinsella Research Ranch (Newton 2013); ABMI Sites; Moose Pasture Research Site (Walter *et al.* 2014); Kananaskis Valley, Lodgepole pine litter (Powell & Skaley 1975); 35 km north of Fort McMurray (McAdams *et al.* 2018; as sp. 1 DEW); **SK:** Matador IBP Site, dry, mixed prairie (Willard 1974); **ON:** Lake Superior, Granite Is., Black Bay, ring-billed gull nests (Freitag & Ryder 1973); **QC:** Boreal claybelt region of Western Québec (Doblas-Miranda & Work 2015).

Genus *Propelops* Jacot, 1937

Propelops alaskensis (Hammer, 1955)

Original name: *Hammeria alaskensis* Hammer, 1955 (Behan 1978a)

Geographic Location: **AK:** Fort Richardson, Fairbanks, Anchorage (Hammer 1955a, b); Fairbanks Region; Chugach Mtns; Kenai Peninsula (Behan 1978a); **AB:** ABMI Sites; Moose Pasture Research Site (Walter *et al.* 2014); ABMI Sites (Meehan *et al.* 2019); 35 km north of Fort McMurray (McAdams *et al.* 2018).

Habitats: Boreal forest with White spruce, Black spruce, Jack pine and Trembling aspen.

Distribution: Nearctic.

Propelops canadensis (Hammer, 1952)

Original name: *Hammeria canadensis* Hammer, 1952 (Behan 1978a)

Geographic Location: **AK:** Brooks Range; Fairbanks Region (Behan 1978a); **YT:** modern fossils (Matthews & Telka 1997); Porcupine Plains (Behan-Pelletier 1997b); **NT:** Reindeer Station; Yellowknife (Hammer 1952a, 1955b); Mackenzie Delta arctic and subarctic; Banks Is. (Behan 1978a); **NU:** Coppermine (Hammer 1952a, 1955b); Baffin Is. (Behan 1978a); **BC:** Victoria (Shackelford *et al.* 2018); **AB:** nr. Jasper railway station (Hammer 1952a); ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); **ON:** Sudbury, (St. John *et al.* 2002); **NL:** between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: *Calamagrostis* tussocks; in dead leaves of *Pulsatilla* tussocks; tussock tundra; humid moss; mixed deciduous coniferous forest; Balsam fir forests.

Distribution: Holarctic.

Propelops groenlandicus (Sellnick, 1944)

Original name: *Hammeria groenlandica* Sellnick, 1944 (Behan 1978a)

Geographic Location: **AK:** Northwest coastal plain; Brooks Range; Denali NP (Behan 1978a); **YT:** Richardson Mtns (Hammer 1952a, 1955b); Porcupine Plains; Richardson Mtns; Ogilvie Mtns; Yukon Tintina (Behan-Pelletier 1997b); **NT:** Tuktoyaktuk; Mackenzie Delta subarctic; Banks Is. (Behan 1978a); **NU:** Coppermine (Hammer 1952a, 1955b); Baffin Is.; Victoria Is.; Keewatin (Behan 1978a); **MB:** Churchill (Hammer 1952a, 1955b).

Habitats: tussock tundra; *Salix*, *Dryas*, *Lupinus*, *Luzula* and moss near beach; *Cassiope* with moss;

Oxytropus, Ribes, Achillea, Poa and moss.

Distribution: Western Nearctic; eastern Palaearctic.

Propelops monticolus (Ewing, 1918)

Original name: *Eupelops monticolus* Ewing, 1918 (Johnson 1965)

Combination: *Hammeria monticolus* (Ewing, 1918); (Woolley 1958).

Synonymy: *Eupelops monticolus subborealis* Ewing, 1918: (Woolley 1958).

Geographic Location and Habitats: **BC:** Cordillera (Lindo & Clayton 2011).

Distribution: Nearctic.

Propelops pinicus Jacot, 1937

Geographic Location and Habitats: **BC:** North of Kamloops, Douglas fir litter (Marshall 1979).

Distribution: Nearctic.

Propelops sp. nr. *pinicus* Jacot, 1937

Geographic Location and Habitats: **MB:** southeast, riparian litter (Oswald & Minty 1971).

Propelops nr. *minnesotensis* (Ewing, 1913)

Geographic Location and Habitats: **QC:** Abitibi, boreal mixedwood forest (Déchéne & Buddle 2009, 2010).

Propelops sp.

Geographic Location and Habitats: **YT:** Richardson Mtns (Behan-Pelletier 1997b); **BC:** Osoyoos, Haynes Lease, *Purshia, Aristida, Bromus, Opuntia, Pinus, Agropyron* (Behan-Pelletier 1987b); Vancouver Is., Walbran Valley (Lindo *et al.* 2008); **AB:** ABMI Sites (Walter *et al.* 2014); Trembling aspen, White spruce mesocosm (Cameron *et al.* 2013); 35 km north of Fort McMurray (McAdams *et al.* 2018; as sp. 3 DEW); **QC:** Mont Tremblant (Behan *et al.* 1978; as *Hammeria* sp.); **NB:** Maritime Lowlands (Behan-Pelletier 2010); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Family **Unduloribatidae**

Genus *Unduloribates* Balogh, 1943

*Unduloribates diana*e Behan-Pelletier and Walter, 2009

Geographic Location: **BC:** Haynes Lease Ecological Reserve (Behan-Pelletier & Walter 2009); **AB:** Fort McMurray Region; NNW Slave Lake, NNW Lac la Biche, Kananaskis Field Station (Behan-Pelletier & Walter 2009); ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); **QC:** Parc national de la Gaspésie, Mont Albert Plateau (Behan-Pelletier & Walter 2009); **NS:** Cape Breton Highlands NP (Marshall *et al.* 1987; as *Unduloribates* sp.); **NL:** Labrador (Behan-Pelletier & Walter 2009).

Habitats: Jack pine and Black spruce litter; Trembling aspen litter; muskeg; spruce and maple litter; *Empetrum*, moss, lichens and *Vaccinium* litter.

Distribution: Nearctic.

Superfamily **Achipterioidea**

Family **Achipteriidae**

Genus *Achipteria* Berlese, 1885

Achipteria catskillensis Nevin, 1977

Geographic Location: **ON:** Petawawa National Forestry Institute, Chalk River (Bird & Chatarpaul 1986); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Habitats: mixed deciduous coniferous forest.

Distribution: Nearctic.

Achipteria clarencei Nevin, 1977

Geographic Location: **QC:** Abitibi (Déchéne & Buddle 2009, 2010); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Habitats: boreal mixedwood forest.

Distribution: Nearctic.

Achipteria sp. nr. *clarencei* Nevin, 1977

Geographic Location and Habitats: **ON:** near Chapleau (Rousseau *et al.* 2018).

Achipteria coleoprata (Linnaeus, 1758)

Original name: *Acarus coleopratus* Linnaeus, 1758 (Hammer, 1952a)

Combination: *Notaspis coleopratus* (Linnaeus, 1758); (Willmann 1931).

Synonymy: *Oribata ovalis* Nicolet, 1855: (van der Hammen 1952), *Oribates nicoletii* Berlese, 1883: (van der Hammen 1952), *Oribata intermedia* Michael, 1898: (van der Hammen 1952).

Geographic Location: **AB:** peatlands (Behan-Pelletier & Bissett 1994); Wagner Natural Area, 8km W Edmonton, 53°34'N, 113°47'W, fen (Finnamore 1994); ABMI Sites; Moose Pasture Research Site (Walter *et al.* 2014); ABMI sites (Meehan *et al.* 2019); **MB:** Churchill (Hammer 1952a); peatlands (Behan-Pelletier & Bissett 1994); **QC:** Morgan Arboretum (Sylvain & Buddle 2010).

Habitats: wet meadow with *Eriophorum*, moss, *Pinguicula*, *Carex*, grass and scattered *Salix*; peatlands; beech, conifer litter.

Distribution: Holarctic.

Achipteria curta Aoki, 1970

Geographic Location: **AK:** Northwest coastal plain; Aleutian Islands; Pribilof Islands (Behan 1978a); **BC:** Vancouver Is., Walbran Valley (Lindo *et al.* 2008).

Habitats: tussock tundra; Western redcedar litter.

Distribution: Holarctic; Oriental.

Achipteria sp. nr. *curta* Aoki, 1970

Geographic Location and Habitats: **BC:** Vancouver Is., Walbran Valley (Lindo & Winchester 2006, 2007); Western redcedar ground litter traps (Lindo 2010).

Achipteria sp. nr. *nitens* (Nicolet, 1855)

Geographic Location and Habitats: **MB:** Southeast, forest litter (Oswald & Minty 1970).

Achipteria sp.

Geographic Location and Habitats: **AK:** Umiat Mt., 69°N, 152°00'W (Hammer 1955a); **YT:** Southern lakes (Behan-Pelletier 1997b); **BC:** Upper Klanawa Mainline site, near Franklin River (Berch *et al.* 2001); **AB:** Trembling aspen, White spruce mesocosm (Cameron *et al.* 2013); ABMI Sites; Moose Pasture Research Site, Narrow Lake (Walter *et al.* 2014); ABMI Sites (Meehan *et al.* 2019); 35 km north of Fort McMurray (McAdams *et al.* 2018; as sp. 1 DEW); **ON:** Chalk River (Marshall 1972); Sudbury, White birch and Trembling aspen (St. John *et al.* 2002); **QC:** Morgan Arboretum (Marshall 1968); Abitibi (Déchéne & Buddle 2009, 2010); boreal claybelt region of Western Québec (Doblas-Miranda & Work 2015); **NB:** Maritime Lowlands (Behan-Pelletier 2010).

Genus *Anachipteria* Grandjean, 1932

Anachipteria achipteroides australoides Jacot, 1938

Geographic Location and Habitats: **BC:** Coastal temperate rainforest (Lindo & Clayton 2011).

Distribution: Nearctic.

Anachipteria nr. *australoides* Jacot, 1938

Geographic Location and Habitats: BC: Vancouver Is., Clayoquot Sound UNESCO Biodiversity Reserve (Lindo & Winchester 2009).

Anachipteria acuta (Ewing, 1918)

Original name: *Oribatella acuta* Ewing, 1918 (Grandjean 1932a)

Geographic Location and Habitats: BC: Vancouver Is., Walbran Valley, Western redcedar (Lindo & Winchester 2006, 2007; Lindo *et al.* 2008; Lindo 2010).

Distribution: Nearctic.

Anachipteria geminus Lindo, Clayton and Behan-Pelletier, 2008

Geographic Location: BC: Vancouver Is.: Campbell River, 49°50'53"N, 125°26'7"W; Mt. Cain; Upper Carmanah Valley; Upper Walbran Valley; Victoria, 48°45'N, 123°37'W (Lindo *et al.* 2008a).

Habitats: foliose lichens on Western hemlock, Pacific silver fir, Oregon white oak; moss in canopy of Sitka spruce; Western redcedar canopy.

Distribution: Canada.

Anachipteria howardi (Berlese, 1908)

Original name: *Sphaerozetes howardi* Berlese, 1908 (Norton & Kethley 1990)

Combination: *Anachipteria howardi* (Berlese, 1908); (Grandjean 1932a).

Synonymy: *Sphaerozetes latitectus* Berlese, 1908, *Anachipteria latitectus* (Berlese, 1908): (Grandjean 1932a), *Tectoribates latitectus* (Berlese, 1908): (Willmann 1931), *Anachiptena latitecta* (Berlese, 1908): (Marshall *et al.* 1987).

Geographic Location: NT: Yellowknife (Hammer 1952a); MB: Churchill (Hammer 1952a).

Habitats: meadows with *Rubus*, *Betula*, *Salix*, *Eriophorum*, *Carex* and moss; lichen cushions and wet moss in depressions among rocks; wet meadows with grass, *Pinguicula*, *Dryas*, *Vaccinium*, *Andromeda*, *Arctostaphylos*.

Distribution: Holarctic.

Anachipteria cf. *howardi* (Berlese, 1908)

Geographic Location: AB: ABMI Sites (Walter *et al.* 2014); 35 km north of Fort McMurray (McAdams *et al.* 2018).

Anachipteria magnilamellata (Ewing, 1909)

Original name: *Oribatella magnilamellata* Ewing, 1909 (Woolley 1957b)

Geographic Location and Habitat: QC: Morgan Arboretum, beech litter (Sylvain & Buddle 2010).

Distribution: Nearctic.

Anachipteria sp.

Geographic Location and Habitats: BC: Vancouver Is., Sidney Inlet, Clayoquot Sound, Forest floor under Sitka spruce (Lindo *et al.* 2008b); AB: ABMI Sites; Moose Pasture Research Site (Walter *et al.* 2014); ABMI Sites (Meehan *et al.* 2019); 35 km north of Fort McMurray (McAdams *et al.* 2018; as sp. 1 DEW); SK: Matador IBP Site, dry, mixed prairie (Willard 1974); QC: Gatineau Park, *Fomes* sporophores (Pielou & Matthewman 1966; Matthewman & Pielou 1971); Mont Tremblant (Behan *et al.* 1978; as *Anoribatella*); NB: Maritime Lowlands (Behan-Pelletier 2010) NS: Cape Breton Highlands NP (Behan-Pelletier 2010); NL: between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer *et al.* 1997, 1998).

Genus *Dentachipteria* Nevin, 1977

Dentachipteria highlandensis Nevin, 1977

Geographic Location and Habitats: NL: between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer *et al.* 1997, 1998).

Distribution: Nearctic.

Dentachipteria nr. *highlandensis* Nevin, 1977

Geographic Location and Habitats: **ON:** near Chapleau (Rousseau *et al.* 2018); **QC:** Abitibi, boreal mixedwood forest (Déchêne & Buddle 2009, 2010).

Dentachipteria sp.

Geographic Location and Habitats: **BC:** Upper Klanawa Mainline site near Franklin River (Berch *et al.* 2001); Vancouver Is., Walbran Valley, Western redcedar (Lindo & Winchester 2006; Lindo *et al.* 2008b; Lindo & Winchester 2007; Lindo 2010); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987); **NL:** between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer *et al.* 1997, 1998).

Genus *Parachipteria* van der Hammen, 1952

Parachipteria bella (Sellnick, 1928)

Original name: *Notaspis bellus* Sellnick, 1928 (Sellnick 1960)

Combination: *Achipteria bellus* (Sellnick, 1928); (Grandjean 1942), *Campachipteria bella* (Sellnick, 1928); (Subías 2004).

Geographic Location: **AB:** ABMI Site (Walter *et al.* 2014; Meehan *et al.* 2019); **QC:** Mont Tremblant, (Behan *et al.* 1978); boreal claybelt region of western Québec (Doblas-Miranda & Work 2015).

Habitats: Black spruce forest.

Distribution: Holarctic.

Parachipteria nivalis (Hammer, 1952)

Original name: *Achipteria nivalis* Hammer, 1952 (Ghilarov 1975)

Geographic Location and Habitats: **AK:** Cape Thompson (Watson *et al.* 1966); Northern coastal plain; Atkasuk; Brooks Range; Fairbanks Region; Denali NP (Behan 1978a); Chandalar, (68°00'N, 149°45'W) (Thomas & McLean 1988); Elliott Highway Burn (65°19'N, 149°06'W); Atigun (68°16'N, 149°24'W) (Thomas & McLean 1988); **YT:** Herschel Is. (Behan 1978a); peatlands (Behan-Pelletier & Bissett 1994); Coastal Plain; Porcupine Plain; Richardson Mtns; Ogilvie Mtns (Behan-Pelletier 1997b); **NT:** peatlands (Behan-Pelletier & Bissett 1994); Mackenzie Delta (Behan & Hill 1978); **NU:** Coppermine (Hammer 1952a); **BC:** peatlands (Behan-Pelletier & Bissett 1994); North of Kamloops, Douglas fir litter (Marshall 1979); **AB:** peatlands (Behan-Pelletier & Bissett 1994); Wagner Natural Area, 8km W Edmonton, 53°34'N, 113°47'W (Finnamore 1994); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010).

Habitats: shrub tundra; *Lupinus*, *Dryas*, *Luzula*, *Salix* litter and humid moss; dry subalpine meadows; willow, *Arctostaphylos* and spruce litter.

Distribution: Holarctic.

Parachipteria travei Nevin, 1977

Geographic Locations and Habitats: **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987); **NL:** between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer *et al.* 1997, 1998).

Distribution: Eastern Nearctic.

Parachipteria sp.

Geographic Location and Habitats: **YT:** modern fossils (Matthews & Telka 1997); **AB:** ABMI Sites (Walter *et al.* 2014); **ON:** near Chapleau (Rousseau *et al.* 2018).

Genus *Pseudachipteria* Travé, 1960

Pseudachipteria sp.

Geographic Location and Habitats: ON: near Chapleau (Rousseau *et al.* 2018; as sp. 1); QC: Mont Tremblant (Behan *et al.* 1978).

Family **Tegoribatidae**

Genus **Protectoribates** Behan-Pelletier, 2017

Protectoribates occidentalis Behan-Pelletier, 2017

Geographic Location and Habitats: BC: litter in 300 yr old cedar/Douglas-fir forest (Behan-Pelletier 2017).

Distribution: Nearctic.

Genus **Tectoribates** Berlese, 1910

Tectoribates alcescampestris Behan-Pelletier and Walter, 2013

Geographic Location: AB: ABMI Sites; Moose Pasture Research Site (Behan-Pelletier & Walter 2013; Walter *et al.* 2014).

Habitats: litter, moss, lichen, polypore fungus in aspen mixed woodland; grass, sedge sod; prairie sod.

Distribution: Canada.

Tectoribates borealis Behan-Pelletier and Walter, 2013

Geographic Location: AB: (53.57580948, -112.461479); (51.41223526, -112.587357); ABMI Sites (Behan-Pelletier & Walter 2013; Walter *et al.* 2014).

Habitats: soil below elk and cow dung; moderately fresh buffalo dung; prairie herbage and soil below; litter in agricultural field; bog with an understory of labrador tea, sphagnum, lichen; grass and sedge sod.

Distribution: Canada.

Tectoribates campestris Behan-Pelletier and Walter, 2013

Geographic Location and Habitats: ON: nr. Ottawa, *Penstamon*, *Campanula* under Juniper in alvar (Behan-Pelletier & Walter, 2013).

Distribution: Canada.

Tectoribates sp.

Geographic Location and Habitats: SK: Matador IBP Site, dry, mixed prairie (Willard 1974); ON: Sudbury, Jack pine and White birch (St. John *et al.* 2002); QC: Mont Tremblant, Black spruce forest (Behan *et al.* 1978).

Remarks: These records are sub *Anoribatella*.

Genus **Tegoribates** Ewing, 1917

Tegoribates americanus Hammer, 1958

Synonymy: *Tegoribates latirostris* sensu Hammer (1952a), non C.L. Koch (1844): (Hammer 1958).

Geographic Location: AK: Fairbanks Region (Hammer 1955a); Northern coastal plain; Denali NP (Behan 1978a); Fort Yukon; Atkasuk (Behan 1978a); YT, peatlands (Behan-Pelletier & Bissett 1994); NT: Reindeer Station; Yellowknife (Hammer 1952a); Tuktoyaktuk; Mackenzie Delta (Behan 1978a); peatlands (Behan-Pelletier & Bissett 1994); BC: Cathedral PP; AB: ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); peatlands (Behan-Pelletier & Bissett 1994); Wagner Natural Area, 8km W Edmonton, 53°34'N, 113°47'W, fen (Finnamore 1994); Boreal Plains Ecozone (Behan-Pelletier 2017); MB: Churchill (Hammer 1952a); peatlands (Behan-Pelletier & Bissett 1994).

Habitats: tussock tundra; moss and alder litter; peatlands; *Hedysarum*, *Senecio*, *Saxifraga* among rocks; mixed alpine vegetation; coastal meadows.

Distribution: Nearctic.

Remarks: All misidentifications noted in Marshall *et al.* (1987) are sub *Tegoribates latirostris*.

Tegoribates cf. *americanus* Hammer, 1958

Geographic Location and Habitats: **AB:** 35 km north of Fort McMurray (McAdams *et al.* 2018).

Tegoribates subniger Ewing, 1917

Geographic Location and Habitats: **AB:** ABMI Sites (Behan-Pelletier 2017).

Distribution: Nearctic.

Tegoribates sp.

Geographic Location and Habitats: **BC:** Vancouver Is., Sidney Inlet, Clayoquot Sound, Forest floor under Sitka spruce (Lindo *et al.* 2008b).

Superfamily **Oribatelloidea**

Family **Oribatellidae**

Genus *Ferolocella* Grabowski, 1971

Ferolocella tessellata (Berlese, 1908)

Original name: *Oribatella tessellata* Berlese, 1908 (Norton & Kethley 1990)

Synonymy: *Ferolocella carolina* (Banks, 1947): (Grabowski 1971).

Geographic Location and Habitats: **ON:** Sudbury, White birch and Trembling aspen (St. John *et al.* 2002; as *Ferolocella* sp.).

Distribution: Nearctic.

Genus *Oribatella* Banks, 1895

Oribatella abmi Behan-Pelletier and Walter, 2012

Geographic Location: **AB:** ABMI 1126 (53.05752182, -110.746841), 7 km east of Auburndale along Township Road 473; ABMI-OG-1160-1 (52.78925323, -110.302109), 11 km north-northeast of Edgerton along Township Road 442; ABMI-OG-1190-1 (52.711193, -111.23734), 2 km east of Route 881 along Township Road 433 northeast of Hardisty; ABMI-OG-1283-1 (52.13767624, -110.796417), 2 km NW Gooseberry Lake PP; ABMI-72L-3 (50.75932, -110.76165); ABMI-72L-4 (50.77691, -110.90216); Edmonton, Parkallen; ABMI Sites (Behan-Pelletier & Walter 2012; Walter *et al.* 2014).

Habitats: upper organic soil layer in open field; untreed site with lichen, bryophytes, grasses and sedges; upper organic soil layer under liverworts and mosses in urban garden.

Distribution: Canada.

Oribatella arctica Thor, 1930

Synonymy: *Oribatella arctica litoralis* Strenzke 1950: (Weigmann 2006).

Geographic Location: **AK:** Fairbanks Region (Hammer 1955a); Cape Thompson (Watson *et al.* 1966; Behan 1978a; Behan & Hill 1978); Atkasuk; Brooks Range; Fairbanks Region; Denali NP (Behan 1978a); **YT:** Richardson Mtns (Hammer 1952a); Herschel Is. (Behan 1978a); 69°10'N, 138°30'W; 68°56'N, 137°06'W; 68°57.5'N, 137°17'W; 67°58'N, 136°29'W; 67°59'N, 136°32'W (Behan-Pelletier 2011, Behan-Pelletier & Walter 2012); **NT,** Reindeer Station; Yellowknife (Hammer 1952a); Tuktoyaktuk; Mackenzie Delta (Behan 1978a); Bernard Harbour; Reindeer Station, 68°42'N, 134°08'W; Banks Is., 73°05'N, 123°23'W (Behan-Pelletier 2011, Behan-Pelletier & Walter 2012); **NU:** Coppermine (Hammer 1952a); Victoria Is.; Ward Hunt Is. (Behan 1978a); **MB:** Churchill (Hammer 1952a).

Habitats: tussock and coastal tundra; litter of tall grass on river bank; willow litter and moss; *Betula*, *Alnus*, *Ribes*, *Salix* litter on bluffs; *Arctostaphylos*, *Vaccinium*, *Pedicularis* litter; *Alnus*, *Spiraea*, *Ribes*, *Vaccinium*, *Artemesia* litter; moss.

Distribution: Holarctic.

Oribatella sp. ? *arctica* Thor, 1930

Geographic Location and Habitats: **AK:** College (Hammer 1955a).

Oribatella banksi Behan-Pelletier and Walter, 2012

Geographic Location: **BC:** Vancouver Is., 48°18.8N, 123°36.07W (Behan-Pelletier & Walter 2012); **AB:** Wood Buffalo NP (Behan-Pelletier & Walter 2012); ABMI Sites (Walter *et al.* 2014).

Habitats: mixed coniferous and deciduous forest; soil and litter under Pacific yew; mesic upland pine and aspen forests.

Distribution: Nearctic.

Oribatella brevicornuta Jacot, 1934

Geographic Location: **QC:** Parc National du Mont-Orford; Mont Joli; Cedarville, Descente 20 (Behan-Pelletier 2011); Abitibi (Déchéne & Buddle 2009, 2010); **NS:** Cape Breton Highlands NP, Mackenzie Mountain (Behan-Pelletier 2011).

Habitats: beech litter, some *Lycopodium*; litter under *Hericum* on fallen dead beech; boreal mixedwood forest.

Distribution: Holarctic

Oribatella canadensis Behan-Pelletier and Eamer, 2010

Geographic Location: **AK:** Fairbanks (Behan-Pelletier & Walter 2012); **YT:** Ivvavik NP, British Mtns, Firth River floodplain, 68°54'N, 140°23'W (Behan-Pelletier & Walter 2012); **BC:** Cathedral PP (Behan-Pelletier & Walter 2012); **AB:** Writing-on-Stone PP; Waterton Lakes NP; Cypress Hills PP; ABMI-82H-5 (49.01377, -112.29149), south of Route 501 (Behan-Pelletier & Eamer 2010; Behan-Pelletier & Walter 2012); ABMI Sites (Walter *et al.* 2014); **ON:** near Chapleau (Rousseau *et al.* 2018).

Habitats: under bark of fallen Balsam poplar; dry litter of *Larix lyallii*; Loblolly pine litter; under hawthorn; bracket fungi on poplar log; Jack pine forest.

Distribution: Nearctic.

Oribatella dentaticuspis Ewing, 1909

Geographic Location: **ON:** 49°17.5'N, 88°48'W (Behan-Pelletier 2011); **QC:** Gatineau Park (Pielou & Matthewman 1966); Morgan Arboretum (Sylvain & Buddle 2010; as *Oribatula dentaticuspis*); **NB:** Kouchibouguac NP (Behan-Pelletier 2011).

Habitats: under bark of elm; burrow debris under rotten cedar and fir stumps; from *Polyporus* and *Fomes*; beech litter.

Distribution: Nearctic.

Oribatella ewingi Behan-Pelletier and Walter, 2012

Geographic Location: **BC:** Vancouver Is., Smuggler's Cove PP; Manning PP; Osoyoos, Haynes Lease Reserve; Penticton, Madeline Lake (Behan-Pelletier & Walter 2012); **AB:** ABMI-996 (54.39379883, -119.614182); ABMI-1231 (52.99143219, -117.452957) (Behan-Pelletier & Walter 2012); ABMI Sites (Walter *et al.* 2014).

Habitats: Douglas fir and sassafras litter; *Rhododendron* litter; *Heuchera* litter; upper soil organic layers in mesic upland pine forest with *Rhododendron* and feathermoss.

Distribution: Nearctic.

Oribatella flagellata Behan-Pelletier, 2011

Geographic Location and Habitats: **QC:** Gatineau Park, from *Fomes* and *Polyporus* (Behan-Pelletier 2011).

Distribution: Nearctic.

Oribatella heatherae Behan-Pelletier and Walter, 2012

Geographic Location: **AB:** Kananaskis, Fortress Mt.; Cypress Hills PP; Waterton Lakes NP (Behan-

Pelletier & Walter 2012).

Habitats: moss and lichens among rocks on alpine scree slope; old cow manure; litter under *Potentilla*, *Dryas*, moss, lichens, *Carex*; litter under *Smelowskia*, *Erigeron*, *Silene* and moss among shale.

Distribution: Canada.

Oribatella jacoti Behan-Pelletier, 2011

Geographic Location: **AB:** ABMI-343 (57.97528839, -116.288887); ABMI-538 (56.54943466, -112.45282); ABMI-543 (56.36729431, -110.807022); ABMI-614 (56.46931076, -118.29512); ABMI-632 (55.97986221, -112.605103); ABMI-664 (55.85299301, -112.605179); ABMI-793 (54.97646332, -111.730118) ABMI-825 (54.8119545, -111.665276); ABMI-1190 (52.71192551, -111.237335); ABMI-OG-1082-1 (52.96997833, -113.554283); ABMI-OG-1275-1 (52.42511749, -113.107147); ABMI-OG-1282-1 (52.16624451, -111.17392); Edmonton River Valley (53.540444, -113.543761) (Behan-Pelletier & Walter 2012); ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019).

Habitats: litter in upper soil organic layers in moist upland aspen, Balsam fir, poplar, spruce mixed forest with understory of horsetail, dogwood, rose, willow.

Distribution: Nearctic.

Oribatella manningensis Behan-Pelletier and Walter, 2012

Geographic Location: **BC:** Manning PP; Vancouver Is.; Carmanah PP (Behan-Pelletier & Walter, 2012); **AB:** Waterton Lakes NP; Cypress Hills PP (Behan-Pelletier & Walter 2012).

Habitats: moss and bark on standing dead Douglas fir; moss from trunks of Western redcedar; alder, willow and *Equisetum* litter; bracket fungi on log; lichens on bark and in canopy of Sitka spruce; *Pinus* litter with some *Vaccinium* and beargrass; prairie herbage and soil.

Distribution: Nearctic.

Oribatella maryae Behan-Pelletier and Walter, 2012

Geographic Location: **BC:** Vancouver Is., Trail Is. Ecological Reserve, 48°24'N, 123°18'W; Cowichan Lake Research Station, 48°49'N, 124°07'W; Carmanah PP (Behan-Pelletier & Walter 2012).

Habitats: lichen on rocks; bark and moss on trunk of Douglas fir.

Distribution: Nearctic.

Oribatella minuta Banks, 1896

Combination: *Oribata minuta* (Banks, 1896); (Michael 1898).

Geographic Location: **ON:** Leeds-Grenville Co., nr. Otter Lake, 44°34.87'N, 76°19.77'W; 2 mi E Dunrobin; Point Pelee NP; St. Laurence Is. NP, McDonald Is.; Rondeau PP; **QC:** Gatineau Park (Pielou & Matthewman 1966; Matthewman & Pielou 1968; as *Oribatella* sp. nr. *reticulata*); **NB:** Kouchibouguac NP (Behan-Pelletier 2011).

Habitats: epiphytes on trunk; under bark of elm and beech; oak-juniper litter on sand; from *Fomes fomentarius*; litter in basal hole of Black locust and Red oak.

Distribution: Nearctic.

Oribatella nortoni Behan-Pelletier, 2011

Geographic Location and Habitats: **NB:** Kouchibouguac NP, moss and litter at base of living and dead Red oak; moose dung in mixedwoods; mixed deciduous litter (Behan-Pelletier 2011).

Distribution: Nearctic.

Oribatella parallelus Behan-Pelletier and Walter, 2012

Geographic Location: **BC:** Hwy 6, 14.7mi N Burton, elevation 1500ft; Trinity Valley Field Station, 6 mi N Lumby; Valley of Ste. Wiskin Creek, 5 mi S Nakusp (Behan-Pelletier & Walter 2012).

Habitats: cedar, hemlock and birch litter under fallen log; pure cedar-Douglas fir litter.

Distribution: Canada.

Oribatella pawnee Behan-Pelletier and Walter, 2012

Geographic Location: **AB:** ABMI-OG-1122-1 (53.1648407, -111.919342), along Township road 484 E of Bruce; ABMI-1125 (53.07548141, -111.074829), E of juncture Routes 619 and 881; ABMI-OG-1192-1 (52.66613007, -110.693031), north of Wainwright Dunes Ecological Reserve; ABMI-1224 (52.50389099, -110.730148), W of juncture Highways 41 and 13; ABMI-1247 (52.51489258, -112.811302), SE of juncture Highways 53 and 56 near Buffalo Lake; ABMI-1556 (50.07164764, -112.112526), near Vauxhall; ABMI-1558 NE (50.00374222, -111.578972), south of Ronalane (Behan-Pelletier & Walter 2012); ABMI Sites (Walter *et al.* 2014).

Habitats: from upper soil organic layers on untreed site with shrubby vegetation, in dry grassland; rich fen with shrubs, sedge, and grass understory.

Distribution: Nearctic.

Oribatella quadricornuta (Michael, 1880)

Original name: *Oribata quadricornuta* Michael, 1880 (Grandjean 1929)

Combination: *Notaspis quadricornuta* (Michael, 1880); (Oudemans 1902).

Synonymy: *Oribates flammula* sensu Oudemans (1896), non C.L. Koch (1839): (van der Hammen 1952), *Oribatella calcarata* sensu Willmann (1931), non C.L. Koch (1835): (van der Hammen 1952).

Geographic Location: **NT:** Mackenzie Delta arctic and subarctic (Behan 1978a); **QC:** Gatineau Park (Pielou & Verma 1968; Pielou & Matthewman 1966; Matthewman & Pielou 1971; as *Oribatella* sp. nr. *reticulata*); Morgan Arboretum (Sylvain & Buddle 2010); Abitibi (Déchéne & Buddle 2009, 2010); **NB:** Kouchibouguac NP (Behan-Pelletier 2011); **NL:** St. John's, (Behan-Pelletier 2011); **PE:** Cavendish (Behan-Pelletier 2011).

Habitats: boreal mixedwood forest; sedges in saltmarsh; *Polyporus* and *Fomes* sporophores; beech litter; weeds, moss, sod; litter under *Rhododendron*.

Distribution: Holarctic.

Oribatella reticulatoides Hammer, 1955

Combination: *Oribatella reticuloides* Hammer, 1955 (lapsus); (Marshall *et al.* 1987).

Geographic Location: **AK:** Fort Richardson, (Hammer 1955a); Atqasuk (Behan 1978a); **AB:** Waterton Lakes NP; Cypress Hills PP; Wood Buffalo NP; ABMI-33 (59.64667511, -112.275978), along Pine Lake Road; ABMI-359 (57.45488358, -111.054222), 50 km NE of Fort Mackay; ABMI-539 (56.50687027, -112.16037), SE of Grand Rapids Wildland SE of Fort McMurry; ABMI-857 (54.64096451, -111.759758); ABMI-868 se ne (55.05971909, -118.335739); ABMI-1437 (51.10541153, -111.760864); ABMI-1438 (51.10178757, -111.487175), E of Pollockville on Township Road 250; ABMI-PRO4 (56.36901, -117.82275), along unnamed dirt road 10 km NE of Warrensville; ABMI-A637-1 (55.81190491, -111.004028), 4 km SE of Chard; Dinosaur PP (50.452446, -111.305858); Moose Pasture Research Site (Behan-Pelletier & Walter 2012); ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); **ON:** 49°19'N, 88°49.5W; **QC:** Morgan Arboretum (Marshall 1968); **NB:** Kouchibouguac NP (Behan-Pelletier 2011).

Habitats: boreal deciduous and coniferous forest; tussock tundra; upper organic layers of aspen woodland, pine forest, and mesic, grassy areas.

Distribution: Nearctic; Eastern Palaearctic.

Oribatella sintranslamella Behan-Pelletier and Walter, 2012

Geographic Location and Habitats: **BC:** Vancouver Is., McMillan PP, Cathedral Grove, 49°18'N, 124°40'W, Western redcedar litter, with some hemlock; *Alectoria* lichen on Western hemlock; moss on bark of Douglas-fir in virgin cedar/fir forest (Behan-Pelletier & Walter 2012).

Distribution: Nearctic.

Oribatella transtriata Behan-Pelletier, 2011

Geographic Location: **ON:** Leeds-Grenville Co., near Otter Lake, 44°34.87N, 76°19.77W; Chaffey's Locks (Behan-Pelletier 2011); **NB:** Kouchibouguac NP (Behan-Pelletier 2011); **NS:** Cape Breton Highlands NP

(Behan-Pelletier 2011); **NL**: Pasadena (Behan-Pelletier 2011).

Habitats: moss with lichen on W-facing limestone slope; moss on rocks near spring; lichens and moss on trunks of maple.

Distribution: Canada.

Oribatella yukonensis Behan-Pelletier and Walter, 2012

Geographic Location: **YT**: Carcross Dunes; Herschel Is.; Running River, 68°57.5'N, 137°17'W; Klondike Highway, ca. 108 km N intersection with Alaska Hwy; Dempster Hwy km 210N, Ogilvie River; Richardson Mtns, Summit Lake, 67°43'N, 136°30'W; Blow River, 68°56'N, 137°06'W; **AB**: ABMI-2 (60.00878143, -112.146973), 10 km SW of Fort Smith, NT; ABMI-344 (57.95811844, -115.978279) 10 km SE of Buffalo Head Prairie; ABMI-359 (57.45488358, -111.054222), 13 km E of McClelland Lake; ABMI-690 (55.78954315, -114.290833), 30 km SW of Wabasca-Demarais; ABMI-825 (54.8119545, -111.665276), 11 km SE of Tweedle; ABMI-867 (55.09334183, -118.651749), 12 km SE of Grande Prairie; ABMI-1069 (53.91085815, -117.963562), 20 km N of Pinto Creek Canyon Natural Area; ABMI-1133 (53.56852341, -118.216782), 30 km SW of Pinto Creek Canyon Natural Area; ABMI-1232 (52.96974945, -117.215393), NE of Mountain Park; ABMI-1402 (51.70927429, -115.120628) 20 km SE of Bearberry; Cypress Hills PP, Lodgepole pine Campground area, 1 mi S Elkwater; Johnson Canyon; Roy Berg Kinsella Research Ranch; Waterton Lakes NP, Tamarack Trail, elevation 2438m, (Behan-Pelletier & Walter 2012); ABMI Sites (Walter *et al.* 2014).

Habitats: coastal tundra; dry habitats and upland aspen and spruce forests; semi-stabilized dunes with grass, sedge, *Polemonium*, *Stellaria*; rose and willow litter with moss and lichens.

Distribution: Canada.

Oribatella* sp. nr. *berlesei Michael, 1898

Geographic Location and Habitats: **QC**: Gatineau Park, *Fomes* sporophores (Matthewman & Pielou 1971).

Oribatella* aff. *calcarata (C.L. Koch, 1836)

Geographic Location and Habitats: **QC**: Mont Tremblant (Behan 1972, Behan *et al.* 1978; (also as sp. nr. *calcarata*).

***Oribatella* sp.**

Geographic Location and Habitats: **BC**: Osoyoos, Haynes Lease, *Purshia*, *Aristida*, *Bromus*, *Opuntia*, *Pinus*, *Agropyron* (Behan-Pelletier 1987b); Vancouver Is., Walbran Valley (Lindo *et al.* 2008b), Western redcedar trunk (Lindo & Winchester 2007), Western redcedar ground litter traps (Lindo 2010); **AB**: Kananaskis Valley, Lodgepole pine litter (Powell & Skaley 1975); (Newton & Proctor 2013); **ON**: Chalk River (Marshall 1972; Bird & Chatarpaul 1986); **QC**: Gatineau Park, *Polyporus* bracket fungi (Pielou & Verma 1968); Gatineau Park, *Fomes* sporophores (Pielou & Matthewman 1966; Matthewman & Pielou 1971); Abitibi, boreal mixedwood forest (Déchêne & Buddle 2009, 2010); **NS**: Southwest Nova Scotia Uplands; from apple orchards (Rasmy & McPhee 1970); **NL**: between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer *et al.* 1997, 1998).

Superfamily **Oripodoidea**

Family **Haplozetidae**

Genus ***Haplozetes*** Willmann, 1935

***Haplozetes* sp.**

Geographic Location and Habitats: **ON**: Sudbury, White birch and Trembling aspen (St. John *et al.* 2002); **QC**: Abitibi, boreal mixedwood forest (Déchêne & Buddle 2009, 2010); **NL**: between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer *et al.* 1997, 1998).

Genus *Lagenobates* Weigmann and Miko, 2002

Lagenobates sp. nr. *lagenula* (Berlese, 1904)

Geographic Location: eastern Canada (Walter & Latonas 2012); **NB:** *Polyporus* bracket fungi (Pielou & Verma 1968; as *Protoribates* sp. nr. *langenula*).

Genus *Peloribates* Berlese, 1908

Peloribates alaskensis Hammer, 1955

Geographic Location and Habitats: **AK:** Anchorage (Hammer 1955a, b).

Distribution: Alaska.

Peloribates americanus Jacot, 1939

Original name: *Peloribates europaeus americanus* Jacot, 1939 (Marshall *et al.* 1987)

Geographic Location and Habitats: **QC:** Morgan Arboretum, beech litter (Marshall 1968).

Distribution: Nearctic.

Peloribates canadensis Hammer, 1952

Geographic Location: **AK:** Fairbanks (Hammer 1955a); Brooks Range (Behan 1978a); **YT:** Porcupine Plain, Richardson Mtns; Ogilvie Mtns (Behan-Pelletier 1997b); **NT:** Reindeer Station; Yellowknife (Hammer 1952a, 1955b); Mackenzie Delta, subarctic (Behan 1978a); **NU:** Keewatin (Behan 1978a); **AB:** ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); **MB:** Churchill (Hammer 1952a, 1955b); **QC:** Northern region; Timmins 54°60'N, 67°00'W (Behan 1978a).

Habitats: thick layers of old *Vaccinium*, mixed with *Ledum*, grass, moss, liverwort and lichens; *Vaccinium* and *Ledum* under alder and spruce; in almost pure *Empetrum* vegetation.

Distribution: Nearctic.

Peloribates juniperi (Ewing, 1913)

Original name: *Oribata juniperi* Ewing, 1913 (Marshall *et al.* 1987)

Combination: *Rostrozetes juniperi* (Ewing, 1913); (Woolley 1958).

Geographic Location and Habitats: **ON:** Sudbury, White birch and Trembling aspen litter (St. John *et al.* 2002).

Distribution: Nearctic.

Peloribates hirsutus (Banks, 1895)

Original name: *Oribata hirsuta* Banks, 1895 (Hammer 1952a)

Combination: *Galumna hirsuta* (Banks, 1895); (Banks 1904), *Peloribates hirsuta* (Banks, 1895); (Hammer 1952a).

Geographic Location and Habitats: **ON:** Guelph, under bark of walnut (Jarvis 1910).

Distribution: Nearctic.

Peloribates pilosus Hammer, 1952

Geographic Location: **AK:** Northern and northwestern coastal plain; Brooks Range; Fairbanks Region; Chugach Mtns; Kenai Peninsula (Behan 1978a); **YT:** Coastal Plain; Richardson Mtns (Behan-Pelletier 1997b); **NT:** Tuktoyaktuk (Behan 1978a); **NU:** Keewatin (Behan 1978a); **AB:** peatlands (Behan-Pelletier & Bissett 1994); Wagner Natural Area, 8km W Edmonton, 53°34'N, 113°47'W, fen (Finnamore 1994); ABMI Sites; Moose Pasture Research Site (Walter *et al.* 2014); ABMI Sites (Meehan *et al.* 2019); 35 km north of Fort McMurray (McAdams *et al.* 2018); **MB:** Churchill (Hammer 1952a, 1955b).

Habitats: Tussock tundra; boreal forest with White spruce, Black spruce, Jack pine and Trembling aspen; peatlands.

Distribution: Holarctic.

Peloribates sp.

Geographic Location and Habitats: **AK:** Chugach Mountains, Kenai Peninsula (Behan 1978a); **AB:** Roy Berg Kinsella Research Ranch (Newton & Proctor 2013); Trembling aspen, White spruce mesocosm (Cameron *et al.* 2013); ABMI Sites (2 spp.) (Walter *et al.* 2014; Meehan *et al.* 2019); 35 km north of Fort McMurray (McAdams *et al.* 2018; as sp. 3 DEW); **MB:** Whiteshell PP, *Polyporus* bracket fungi (Pielou & Verma 1968); **ON:** Lake Superior, Granite Is., Black Bay, ring-billed gull nests (Freitag & Ryder 1973); **QC:** Gatineau Park, *Fomes* sporophores (Matthewman & Pielou 1971); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Genus *Pilobates* Balogh, 1960

Pilobates sp.

Geographic Location: **AB:** Roy Berg Kinsella Research Ranch (Newton 2013).

Genus *Protoribates* Berlese, 1908

Protoribates capucinus Berlese, 1908

Combination: *Xylobates capucinus* (Berlese, 1908); (Jacot 1937d).

Synonymy: *Oribata oblonga* Ewing, 1909: (Marshall *et al.* 1987), *Hemileius oblongus* (Ewing, 1909): (Woolley 1961), *Xylobates oblongus* (Ewing, 1909): (Johnston 1965).

Geographic Location: **ON:** Sudbury (St. John *et al.* 2002); **QC:** Morgan Arboretum (Marshall 1968); Mirabel municipality south of Belle-Rivière (Tousignant *et al.* 1988; Tousignant & Coderre 1992; as *X. capucinus*); Abitibi (Déchêne & Buddle 2009, 2010; as *Xylobates*); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010).

Habitats: beech litter; boreal mixedwood forest.

Distribution: Semicosmopolitan.

Protoribates sp. nr. *capucinus* Berlese, 1908

Geographic Location and Habitats: **AB:** Wagner Natural Area, 8km W Edmonton, 53°34'N, 113°47'W, fen (Finnamore 1994; as *Xylobates* nr. *oblongus*); **ON:** Petawawa National Forestry Institute, Chalk River, mixed conifer-hardwood forest (Bird & Chatarpaul 1986).

Protoribates haughlandae Walter and Latonas, 2013

Geographic Location: **AB:** near Freeman Lake 10 km W Swan Hills (ABMI 910 SW 54.68661118, -115.556122); Wood Buffalo NP, ABMI 13 NE (59.8699646, -112.579437) 10 km SW unnamed road; ABMI 63 SW (59.41637802, -111.659508) 6 km W unnamed road; ABMI 604 NW, SE (56.03934479, -111.209465) 20 km W Route 881; ABMI 484 SE (57.29631805, -119.8769) 30 km SE Milligan Hills PP; ABMI 391 SW (57.26052475, -110.455292) 80 km NNE Fort McMurray; ABMI 392 SW (57.1747551, -110.14296) 90 km NE Fort McMurray; ABMI 515 SW (57.12088013, -119.900093) 25 km W Chinchaga Wildland; ABMI 472 NW (56.99316788, -113.571747) 10 km NNE Chipewyan Lake; ABMI BOG6 SW (56.50244, -111.3064) 2 km S junction Routes 63 and 881; ABMI 569 NE (56.32915115, -112.424896) 20 km S Grand Rapids Wildland; ABMI 608 SE (55.91720963, -110.027626), 3 km NE Graham Lake; ABMI BOG1 SW (55.3271, -112.47242) 200 m E Route 63, 12 km SE of McMillan Lake; ABMI BOG2 SW (55.30589, -112.48525) 200 m E Route 63, 15 km SE of McMillan Lake; ABMI UPL5 SE (55.15843, -113.0178) 1 km E Range Road 203A, SE Calling Lake PP; ABMI A761-4 SE (55.15634537, -111.656158) 5 km NE Buffalo Lake; ABMI 881 SW (54.70869064, -114.23317) W Hwy 44 18 km N Hybert Lake Wildland; ABMI 883 SE (54.6693573, -113.595978) 6 km E Bleak Lake along RR 244; ABMI 916 SW (54.49138641, -113.665222) near Bolloque Lake; ABMI 974 NW (54.32911682, -116.306122) N Hwy 43 35 km E Fox Creek; ABMI 1071 SW (53.88096619, -117.342422) along Willow Creek Road; 1170 NE (53.34415054, -117.076775) NE Hwy 47, Yellowhead County; 1171 SW (53.28146744, -116.769356) SW Hwy 47, Yellowhead County; OG-1210-2 SW (52.93924713, -114.774429) S of Buck Lake; 1238 SE (52.8145256, -115.467941) 25 km NE Aurora Natural Area; OG-1160-1 SW (52.78925323, -110.302109)

SE of Porter Lake; 1379 SW (51.84659195, -114.763763) along Twp Road 334 N of Sundre; 1439 SW (51.02621841, -111.178215) S junction Routes 561 and 884; 1439 NE, SE, SW (51.02621841, -111.178215) S of Cabin Lake (Walter & Latonas 2013); ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019).

Habitats: fens, bogs and moist to mesic forest litter.

Distribution: Canada.

Protoribates lophothrichus (Berlese, 1904)

Original name: *Oribates lophothrichus* Berlese, 1904 (Sellnick 1928)

Combination: *Xylobates lophothrichus* (Berlese, 1904); (Sengbusch 1957).

Synonymy: *Xylobates prionotus* Woolley, 1968: (Walter & Latonas 2013).

Geographic Location and Habitats: **ON:** Chalk River (Marshall 1972); **QC:** Morgan Arboretum (Marshall 1968).

Distribution: Holarctic.

Protoribates robustior (Jacot, 1937)

Original name: *Xylobates capucinus robustior* Jacot, 1937 (Marshall *et al.* 1987).

Combination: *Xylobates robustior* Jacot, 1937; (Norton & Kethley 1990).

Geographic Location: **AB:** NW Edmonton, Moose Pasture Research Site; MacTaggart Park, Edmonton; ABMI 892 NE (54.36624146, -110.994919); ABMI 452 NW (56.85694885, -110.307251); ABMI 330 NE, SW (57.66861725, -110.962219); (545 SE (56.26429367, -110.207954); ABMI 151 SW (58.76856232, -111.240944); ABMI 359 NE (57.45488358, -111.054222); Onoway (53°77'N, 114°06'W); ABMI 64 NW (59.31958008, -111.284081); ABMI 1477 SW (50.88052368, -112.734695); ABMI 1601 NE (49.73745728, -113.825783); ABMI 1602 NW (49.6853714, -113.608124); ABMI 1602 SE (49.6853714, -113.608124); ABMI 1618 SW (49.56171417, -113.921532); **F,** ABMI 1567 SE (50.08177185, -113.789474); ABMI OG-1218-1 NW (52.67760086, -112.46682); ABMI 1092 NE (53.23706055, -111.039818); ABMI 1461 NE (50.90753174, -111.286209); ABMI 1434 NW (51.23065567, -112.634445) (Walter & Latonas 2013); ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019).

Distribution: Nearctic.

Protoribates sp.

Geographic Location and Habitats: **AB:** peatlands (Behan-Pelletier & Bissett 1994; as *Xylobates*); **SK:** Matador IBP Site, dry, mixed prairie (Willard 1974); **ON:** Lake Superior, Granite Is., Black Bay, ring-billed gull nests (Freitag & Ryder 1973); **QC:** Mont Tremblant (Behan *et al.* 1978); boreal claybelt region of Western Québec (Doblas-Miranda & Work 2015; as *Xylobates*); **NB:** Maritime Lowlands (Behan-Pelletier 2010); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987); **NL:** between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer *et al.* 1997, 1998).

Genus *Rostrozetes* Sellnick, 1925

Rostrozetes ovulum (Berlese, 1908)

Original name: *Trachyoribates ovulum* Berlese, 1908 (Norton & Kethley 1990)

Synonymy: *Rostrozetes (R.) foveolatus* Sellnick, 1925: (Norton & Kethley 1990), *Rostrozetes flavus* Woodring, 1965: (Marshall *et al.* 1987).

Geographic Location and Habitats: **ON:** peatlands (Behan-Pelletier & Bissett 1994); **QC:** peatlands (Behan-Pelletier & Bissett 1994); **NB:** peatlands (Behan-Pelletier & Bissett 1994).

Distribution: Semicosmopolitan.

Rostrozetes foveolatus appalachicolus Jacot, 1938

Geographic Location: **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Distribution: Nearctic.

Rostrozetes sp.

Geographic Location: NB: Maritime Lowlands (Behan-Pelletier 2010).

Family **Mochlozetidae**

Genus *Dynatozetes* Grandjean, 1960

Dynatozetes magnus (Banks, 1895)

Original name: *Oribata magna* Banks, 1895 (Norton 1984)

Combination: *Galumna magna* Banks, 1907; (Norton 1984).

Geographic Location and Habitats: ON: St. Lawrence Islands NP, Thwartway Is., soil beneath moss mat on rock (Norton 1984).

Distribution: Nearctic.

Genus *Mochlobates* Norton, 1984

Mochlobates affinis (Banks, 1895)

Original name: *Oribata affinis* Banks, 1895 (Norton 1984)

Combination: *Galumna affinis* (Banks, 1895); (Banks 1904), *Peloribates affinis* (Banks, 1895); (Pearse 1946).

Geographic Location and Habitats: ON: Guelph, under board (Jarvis 1910).

Distribution: Nearctic.

Genus *Mochlozetes* Grandjean, 1930

Mochlozetes sp.

Geographic Location and Habitats: ON: Sudbury, White birch and Trembling aspen (St. John *et al.* 2002).

Genus *Podoribates* Berlese, 1908

Podoribates longipes (Berlese, 1887)

Original name: *Oribates longipes* Berlese, 1887 (Jacot 1940)

Synonymy: *Sphaerozetes (?) gratus* Sellnick, 1921: (Jacot 1940), *Sphaerobates gratus* (Sellnick, 1921): (Sellnick 1928).

Geographic Location: NT: Reindeer Station (Hammer 1952a); AB: peatlands (Behan-Pelletier & Bissett 1994); Wagner Natural Area, 8km W Edmonton, 53°34'N, 113°47'W, fen (Finnamore 1994); ABMI Sites (Walter *et al.* 2014); ON: peatlands (Behan-Pelletier & Bissett 1994).

Habitats: tussock tundra; peatlands; grasslands.

Distribution: Holarctic.

Podoribates sp.

Geographic Location and Habitats: QC: Mirabel municipality south of Belle-Rivière (Tousignant *et al.* 1988; Tousignant & Coderre 1992).

Family **Oribatulidae**

Genus *Diphauloppia* J. and P. Balogh, 1984

Diphauloppia sp.

Geographic Location: BC: Isaiah Creek study site (Lindo & Stevenson 2007).

Genus *Eporibatula* Sellnick, 1928

Eporibatula modesta (Banks, 1904)

Original name: *Liacarus modestus* Banks, 1904 (Marshall *et al.* 1987)

Combination: *Eremaeus modestus* Banks, 1910; (Marshall *et al.* 1987).

Synonymy: *Paraliodes incurvata* Hall, 1911; (Marshall *et al.* 1987).

Geographic Location and Habitats: QC: boreal claybelt region of Western Québec (Doblas-Miranda & Work 2015).

Distribution: Nearctic.

Remarks: Subías (2004) considered this species a junior synonym of *Phauloppia lucorum* (Berlese, 1892); we retain it following Marshall *et al.* (1987).

Eporibatula sp.

Geographic Location and Habitats: AB: ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); QC: Gatineau Park, *Fomes* polypores (Pielou & Matthewman 1966); NS: Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Genus *Jornadia* Wallwork and Weems, 1984

Jornadia larreae Wallwork and Weems, 1984

Geographic Location and Habitats: AB: ABMI Sites (Walter *et al.* 2014).

Distribution: Nearctic.

Jornadia n. sp.

Geographic Location and Habitats: BC: Interior, forest litter (Battigelli *et al.* 2004).

Genus *Lucoppia* Berlese, 1908

Lucoppia apletosa (Higgins and Woolley, 1975)

Original name: *Zygoribatula apletosa* Higgins and Woolley, 1975 (Marshall *et al.* 1987)

Geographic Location and Habitats: QC: Morgan Arboretum (Marshall 1968).

Distribution: Nearctic.

Remarks: Subías (2004) considered this species a junior synonym of *Lucoppia burrowsii* (Michael, 1890), without comparing type material or giving other justification; we retain this species herein.

Lucoppia burrowsii (Michael, 1890)

Original name: *Notaspis burrowsii* Michael, 1890 (Jacot 1929c)

Synonymy: *Oppia lucorum* sensu Berlese (1892), non C.L. Koch (1841): (Willmann 1931).

Geographic Location: AB: ABMI Sites (Walter 2014; Meehan *et al.* 2019); 35 km north of Fort McMurray (McAdams *et al.* 2018); MB: Lake Winnipeg (Michael 1890); ON: Algonquin PP, *Polyporus* bracket fungi (Pielou & Verma 1968); QC: Gatineau Park, *Fomes* sporophores (Matthewman & Pielou 1971); NB: *Polyporus* bracket fungi (Pielou & Verma 1968).

Habitats: Boreal forest with White spruce, Black spruce, Jack pine and Trembling aspen; bracket fungi.

Distribution: Holarctic.

Lucoppia sp.

Geographic Location and Habitats: MB: southeast, riparian vegetation (Oswald & Minty 1971); QC: Mont Tremblant (Behan *et al.* 1978).

Genus *Oribatula* Berlese, 1896

Oribatula pallida Banks, 1906

Combination: *Oribata pallida* (Banks, 1906); (Ewing 1909), *Oribatula tibialis pallida* (Banks, 1906); (Jacot 1938c).

Synonymy: *Liacarus minutus* Ewing, 1909: (Jacot 1938c), *Oribata minutus* (Ewing, 1909): (Jacot 1938c), *Oribatula minuta* (Ewing, 1909): (Kates & Runkel 1948).

Geographic Location and Habitats: **ON:** Guelph, under bark of maple, spruce, apple, crab apple (Jarvis 1910); **QC:** Morgan Arboretum (Marshall 1968).

Distribution: Nearctic

Remarks: According to Marshall *et al.* (1987) *Oribatula pallida* Banks, 1906 is a member of the *O. tibialis* complex and may be conspecific with the latter.

Oribatula tibialis (Nicolet, 1855)

Original name: *Notaspis tibialis* Nicolet, 1855 (Willmann 1931)

Synonymy: *Zygoribatula exilis* sensu Buitendijk (1945), non Nicolet (1855), *Zygoribatula venustus* sensu Buitendijk (1945), non Berlese (1908): (van der Hammen 1952).

Geographic Location: **AK:** Fort Richardson, Fairbanks, Anchorage (Hammer 1955a); Cape Thompson (Watson *et al.* 1966); Kodiak Is. (Hammer 1967); Northern and northwest coastal plain; Atkasuk; Brooks Range; Fairbanks Region; Denali NP; Kodiak Is.; Chugach Mtns; Kenai Peninsula; Elliott Highway Burn, (65°19'N, 149°06'W), (Thomas & McLean 1988); **YT:** Richardson Mtns (Hammer 1952a); (Behan 1978a); modern fossils (Matthews & Telka 1997); Coastal Plain; Ivvavik NP, British Mtns; Porcupine Plain; Richardson Mtns; Ogilvie Mtns (Behan-Pelletier 1997b); **NT:** Reindeer Station; Yellowknife (Hammer 1952a); Mackenzie Delta arctic and subarctic (Behan 1978a); peatlands (Behan-Pelletier & Bissett 1994); **NU:** Baffin Is. (Behan 1978a); **BC:** Sicamous Creek (Berch *et al.* 2007); Interior (Battigelli *et al.* 2004); **AB:** peatlands (Behan-Pelletier & Bissett 1994); Wagner Natural Area, 8km W Edmonton, 53°34'N, 113°47'W, fen (Finnamore 1994); **ON:** Petawawa National Forestry Institute, Chalk River (Bird & Chatarpaul 1986); **QC:** Northern region (Behan 1978a); peatlands (Behan-Pelletier & Bissett 1994); Morgan Arboretum (Sylvain & Buddle 2010); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010).

Habitats: tundra meadows; tussock heath with cushion vegetation of *Salix*, *Oxytropus* among dry gravel and stones; peatlands; spruce forest litter; beech, maple, conifer litter.

Distribution: Holarctic; northern Neotropical.

Oribatula vera (Bulanova-Zachvatkina, 1967)

Original name: *Zygoribatula vera* Bulanova-Zachvatkina, 1967 (Ghilarov 1975)

Geographic Location and Habitats: **AK:** Northern coastal plain (Behan 1978a).

Distribution: Holarctic.

***Oribatula* sp.**

Geographic Location and Habitats: **BC:** Vancouver Is.: Victoria, moss mats (Shackelford *et al.* 2018); Osoyoos, Haynes Lease, *Purshia*, *Aristida*, *Bromus*, *Opuntia*, *Pinus*, *Agropyron* (Behan-Pelletier 1987b); Isaiah Creek study site (Lindo & Stevenson 2007); Vancouver Is., Walbran Valley (Lindo & Winchester 2006); **AB:** Trembling aspen, White spruce mesocosm (Cameron *et al.* 2013); (Newton & Proctor 2013); ABMI Sites; Edmonton; Moose Pasture Research Site; Roy Berg Kinsella Research Ranch; Lethbridge (49.684619, -112.749009) (Walter *et al.* 2014); ABMI Sites (Meehan *et al.* 2019); 35 km north of Fort McMurray (McAdams *et al.* 2018; as sp. 1 DEW and sp. 2 Lumley); **SK:** Matador IBP Site, dry, mixed prairie (Willard 1974); **ON:** Lake Superior, Granite Is., Black Bay, ring-billed gull nests (Freitag & Ryder 1973); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Genus ***Phauloppia*** Berlese, 1908

Phauloppia banksi Marshall, Reeves and Norton, 1987

Original name: *Scutovertex pilosus* Banks, 1895 (Marshall *et al.* 1987)

Combination: *Eremaeus pilosus* (Banks, 1895); (Banks 1904), *Leucoppia* [sic] *pilosa* (Banks, 1895); (Pearse 1946), *Notaspis pilosa* (Banks, 1895); (Ewing 1909), *Oribatella pilosus* (Banks, 1895); (Banks

1915).

Geographic Location and Habitats: ON: Guelph, under bark of catalpa, buckthorn, balsam, alder, pine, Mountain ash (Jarvis 1910).

Distribution: Nearctic.

Remarks: Marshall et al. (1987) designated *Phauloppia banksi* as a nomen novum, a recombination and replacement name for *Scutovertex pilosus* Banks, 1895.

Phauloppia boletorum (Ewing, 1913)

Original name: *Lucoppia boletorum* Ewing, 1913 (Marshall et al. 1987)

Geographic Location and Habitats: AB: peatlands (Behan-Pelletier & Bissett 1994); Wagner Natural Area, 8km W Edmonton, 53°34'N, 113°47'W, fen (Finnamore 1994); ABMI Site, from lichen (Walter et al. 2014); QC: boreal claybelt region of Western Québec (Doblas-Miranda & Work 2015).

Distribution: Nearctic.

Phauloppia sp.

Geographic Location and Habitats: BC: Isaiah Creek study site (Lindo & Stevenson 2007); Vancouver Is., Mt. Cain, Amabilis fir ground specialist (Fagan et al. 2005); Walbran Valley (Lindo & Winchester 2006), Western redcedar trunk (Lindo & Winchester 2006, 2007), Western redcedar litter traps (Lindo 2010); MB: Whiteshell PP, *Polyporus* fungi (Pielou & Verma 1968); ON: near Chapleau (Rousseau et al. 2018; as sp. 1 nr. *boletorum*); QC: Gatineau Park, *Polyporus* fungi (Pielou & Verma 1968); Gatineau Park, *Fomes* sporophores (Pielou & Matthewman 1966; Matthewman & Pielou 1971); NB: *Polyporus* fungi (Pielou & Verma 1968); NS: Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier et al. 1987); NL: between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer et al. 1997, 1998).

Genus *Zygoribatula* Berlese, 1916

Zygoribatula bulanovae Kulijew, 1961

Synonymy: *Zygoribatula pallida* sensu Hammer (1952a) and *Oribatula pallida* sensu Ghilarov (1975): (Marshall et al. 1987).

Geographic Location and Habitats: AK: Northern and northwest coastal plain; Atqasuk; Brooks Range; Fairbanks Region; Denali NP; Pribilof Islands (Behan 1978a); YT: (Behan 1978a); peatlands (Behan-Pelletier & Bissett 1994); Coastal Plain; Southern Lakes (Behan-Pelletier 1997b); NT: Yellowknife (Hammer 1952a); Tuktoyaktuk, MacKenzie Delta, subarctic; Banks Is. (Behan 1978a; Behan & Hill 1978); peatlands (Behan-Pelletier & Bissett 1994); NU: Victoria Is.; Baffin Is.; Igloodik Is.; Keewatin (Behan 1978a); AB: peatlands (Behan-Pelletier & Bissett 1994); Wagner Natural Area, 8km W Edmonton, 53°34'N, 113°47'W, fen (Finnamore 1994); ABMI Sites; Moose Pasture Research Site (Walter et al. 2014); ABMI sites (Meehan et al. 2019); 35 km north of Fort McMurray (McAdams et al. 2018); MB: peatlands (Behan-Pelletier & Bissett 1994); QC: Northern region (Behan 1978a); peatlands (Behan-Pelletier & Bissett 1994); NL: between Corner Brook and Little Grand Lake (Dwyer et al. 1997, 1998).

Habitats: peaty muskeg; lemming nest; *Dryas*, willow, birch litter; alpine slope; pingo tops; boreal forest with White spruce, Black spruce, Jack pine, Trembling aspen,

Distribution: Holarctic.

Remarks: Subías (2004) considered this a junior synonym of *Oribatula (O.) interrupta interrupta* (Willmann, 1939); we retain it herein, as no reasons were given for this synonymy.

Zygoribatula exilis (Nicolet, 1855)

Original name: *Notaspis exilis* Nicolet, 1855 (Willmann 1943)

Combination: *Oppia exilis* (Nicolet, 1855); (Berlese 1895), *Oribatula exilis* (Nicolet, 1855); (André 1925).

Geographic Location: AK: Anchorage (Hammer 1955a); MB: Whiteshell PP (Pielou & Verma 1968); QC: Abitibi (Déchêne & Buddle 2009, 2010); Gatineau Park (Pielou & Verma 1968; Pielou & Matthewman 1966; Matthewman & Pielou 1971); NB: (Pielou & Verma 1968).

Habitats: *Polyporus* and *Fomes* fungi; boreal mixedwood forest.

Distribution: Holarctic.

Zygoribatula frisiae (Oudemans, 1900)

Original name: *Eremaeus frisiae* Oudemans, 1900 (Sellnick 1928)

Synonymy: *Oribatula variabilis* Berlese, 1908: (Norton & Kethley 1990), *Zygoribatula pyrostigmata* (Ewing, 1909): (Norton & Kethley 1990).

Geographic Location and Habitats: **ON:** on apple (Norton & Kethley 1990); **QC:** Gatineau Park, *Polyporus* bracket fungi (Pielou & Verma 1968), *Fomes* sporophores (Matthewman & Pielou 1971; as *Z. sp. nr. propinquus* (Oudemans, 1902); (Pielou & Matthewman 1966; Pielou & Verma 1968).

Distribution: Holarctic.

Zygoribatula cf. fusca (Ewing, 1913)

Geographic Location and Habitats: **QC:** Mirabel municipality south of Belle-Rivière (Tousignant *et al.* 1988; Tousignant & Coderre 1992).

Zygoribatula sp.

Geographic Location and Habitats: **YT:** Southern Lakes (Behan-Pelletier 1997b); **BC:** Osoyoos, Haynes Lease, *Purshia*, *Aristida*, *Bromus*, *Opuntia*, *Pinus*, *Agropyron* (Behan-Pelletier 1987b); Isaiah Creek study site (Lindo & Stevenson 2007); Vancouver Is., Walbran Valley, Western redcedar trunk (Lindo & Winchester 2007); **AB:** Kananaskis Valley, Lodgepole pine litter (Powell & Skaley 1975); Trembling aspen, White spruce mesocosm (Cameron *et al.* 2013); Roy Berg Kinsella Research Ranch; ABMI Sites (4 spp.) (Walter *et al.* 2014); **SK:** Matador IBP Site, dry, mixed prairie (Willard 1974); **ON:** Lake Superior, Granite Is., Black Bay, ring-billed gull nests (Freitag & Ryder 1973); Algonquin PP, *Polyporus* bracket fungi (Pielou & Verma 1968); 3 km south of Guelph, Cornfield (Broadbent & Tomlin 1979); Sudbury, Jack pine and White spruce on 40 year tailings (St. John *et al.* 2002); **QC:** Gatineau Park, *Polyporus* bracket fungi (Pielou & Verma 1968); Apple orchard (Forest *et al.* 1982); **NB:** *Polyporus* bracket fungi (Pielou & Verma 1968); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Family **Oripodidae**

Genus *Benoibates* Balogh, 1958

Benoibates sp.

Geographic Location and Habitats: **BC:** Vancouver Is., Walbran Valley (Lindo & Winchester 2006).

Family **Parakalummidae**

Genus *Neoribates* Berlese, 1914

Neoribates aurantiacus (Oudemans, 1914)

Original name: *Galumna aurantiacus* Oudemans, 1914 (Sellnick 1928)

Geographic Location: **AK:** Fairbanks (Hammer 1955a); Brooks Range (Behan 1978a); Elliott Highway Burn, (65°19'N, 149°06'W); Chandalar (68°00'N, 149°45'W) (Thomas & McLean 1988); **YT:** Richardson Mtns (Hammer 1952a); Ogilvie Mtns (Behan-Pelletier 1997b); **NT:** Reindeer Station; Yellowknife (Hammer 1952a); Tuktoyaktuk; Mackenzie Delta subarctic (Behan 1978a); (Behan-Pelletier & Bissett 1994); **AB:** Wagner Natural Area, 8km W Edmonton, 53°34'N, 113°47'W (Finnamore 1994); ABMI Sites (Walter *et al.* 2014); **MB:** Whiteshell PP (Pielou & Verma 1968); **ON:** Algonquin PP (Pielou & Verma 1968); (near Chapleau (Rousseau *et al.* 2018); **QC:** Timmins 54°60'N, 67°00'W (Behan 1978a); Gatineau Park (Pielou & Verma 1968; Matthewman & Pielou 1971); Abitibi (Déchéne & Buddle 2009, 2010); **NB:** nr. Wirral, 45°31'N, 66°30'W (Pielou & Verma 1968); **NL:** peatlands (Behan-Pelletier & Bissett 1994); between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: shrub tundra; *Dryas*, *Empetrum* and *Vaccinium* vegetation with reindeer lichen and liverwort;

peatlands; fen; boreal mixedwood forest; Balsam fir and Jack pine forests; *Polyporus* fungus.

Distribution: Holarctic; Oriental.

Neoribates sp. nr. *aurantiacus* (Oudemans, 1914)

Geographic Location and Habitats: **MB:** Whiteshell PP, *Polyporus* fungi (Pielou & Verma 1968); **ON:** Algonquin Park, *Polyporus* fungi (Pielou 1966; Pielou & Verma 1968); **QC:** Gatineau Park, *Polyporus* fungi (Pielou & Verma 1968); Gatineau Park, *Fomes* sporophores (Matthewman & Pielou 1971); **NB:** *Polyporus* fungi (Pielou & Verma 1968).

Neoribates sp.

Geographic Location and Habitats: **AB:** Trembling aspen, White spruce mesocosm (Cameron *et al.* 2013); 35 km north of Fort McMurray (McAdams *et al.* 2018; as sp. 1 DEW); ABMI Sites (2 spp.) (Meehan *et al.* 2019); **ON:** Lake Superior, Granite Is., Black Bay, ring-billed gull nests (Freitag & Ryder 1973); **QC:** Morgan Arboretum (Marshall 1968); Gatineau Park, *Polyporus* bracket fungi (Pielou 1966; Pielou & Verma 1968); Gatineau Park, *Fomes* sporophores (Pielou & Matthewman 1966; Matthewman & Pielou 1971); **NB:** Maritime Lowlands (Behan-Pelletier 2010); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Genus *Protokalumma* Jacot, 1929

Protokalumma depressa (Banks, 1895)

Original name: *Oribata depressa* Banks, 1895 (Jacot 1929c)

Combination: *Galumna depressa* (Banks, 1895); (Banks 1907).

Geographic Location and Habitats: **ON:** Guelph, on turnips and mangel (Jarvis 1910); **QC:** Morgan Arboretum (Marshall 1968).

Distribution: Nearctic.

Protokalumma sp.

Geographic Location and Habitats: **QC:** Gatineau Park, *Polyporus* bracket fungi (Pielou 1966; Pielou & Verma 1968); Gatineau Park, *Fomes* sporophores (Matthewman & Pielou 1971).

Family Scheloridae

Genus *Domatorina* Grandjean, 1951

Domatorina plantivaga (Berlese, 1895)

Original name: *Oribatula plantivaga* Berlese, 1895 (Grandjean 1951)

Combination: *Eporibatula plantivaga* (Berlese, 1895); (Willmann 1931), *Notaspis plantivaga* (Berlese, 1895); (Michael 1898).

Geographic Location: **AB:** Moose Pasture Research Site; Edmonton River Valley; ABMI Sites (Walter *et al.* 2014); **NS:** Southwest Nova Scotia Uplands (Rasmy & McPhee 1970); peatlands (Behan-Pelletier & Bissett 1994); Cape Breton Highlands NP (Behan-Pelletier 2010).

Habitats: lichen on trees.

Distribution: Semicosmopolitan.

Domatorina sp.

Geographic Location and Habitats: **QC:** Mirabel municipality south of Belle-Rivière (Tousignant *et al.* 1988; Tousignant & Coderre 1992); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Genus *Hemileius* Berlese, 1916

Hemileius haydeni (Higgins and Woolley, 1975)

Original name: *Multoribates haydeni* Higgins and Woolley, 1975 (Marshall *et al.* 1987)

Geographic Location and Habitats: **AB:** Slave Lake 55.54247, -114.82111; Twin Butte 49.026318, -111.064377; ABMI Sites (Walter *et al.* 2014).

Distribution: Nearctic.

Hemileius quadripilis (Fitch, 1856)

Original name: *Oribata quadripilis* Fitch, 1856 (Marshall *et al.* 1987)

Synonymy: *Notaspis pallida* Ewing, 1909: (Marshall *et al.* 1987), *Oribatula comata* Berlese, 1920: (Norton & Kethley 1990).

Geographic Location: **YT:** (Behan 1978a); **NT:** Yellowknife (Hammer 1952a; as *Oribatula pallida* (Ewing, 1909); Mackenzie Delta arctic and subarctic (Behan 1978a); **ON:** Sudbury (St. John *et al.* 2002); **QC:** Abitibi (Déchêne & Buddle 2009, 2010).

Habitats: moss in depression between alder and spruce trees with scattered *Epilobium angustifolium* and *Eriophorum* sp.; mixed deciduous coniferous forest.

Distribution: Holarctic, Ethiopian.

Hemileius sp.

Geographic Location and Habitats: **YT:** Coast Mtns (Behan-Pelletier 1997b); **BC:** Isaiah Creek study site (Lindo & Stevenson 2007); Vancouver Is., Walbran Valley, Western redcedar canopy litter traps (Lindo 2010); **AB:** Moose Pasture Research Site (Walter *et al.* 2014); **SK:** Matador IBP Site, dry, mixed prairie (Willard 1974); **ON:** near Chapleau (Rousseau *et al.* 2018; as sp. 1 nr. *quadripilis*); **QC:** Gatineau Park, *Fomes* conk (Matthewman & Pielou 1971); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Genus *Liebstadia* Oudemans, 1906

Liebstadia humerata Sellnick, 1928

Geographic Location and Habitats: **NB:** *Polyporus* bracket fungi (Pielou & Verma 1968).

Distribution: Holarctic; Oriental.

Liebstadia sp. nr. *humerata* Sellnick, 1928

Geographic Location and Habitats: **NB:** *Polyporus* bracket fungi (Pielou & Verma 1968).

Liebstadia similis (Michael, 1888)

Original name: *Notaspis similis* Michael, 1888 (Willmann 1931)

Combination: *Eremaeus similis* (Michael, 1888); (Oudemans 1900a), *Oribatula similis* (Michael, 1888); (Oudemans 1906).

Synonymy: *Protoribates silésius* Sellnick, 1925: (Sellnick 1928), *Oribates pallidula* sensu Oudemans (1896), non C.L. Koch (1841): (van der Hammen 1952).

Geographic Location: **AK:** Fort Richardson, Fairbanks; Anchorage (Hammer 1955a); Cape Thompson (Watson *et al.* 1966); Kodiak Is., Mountain slope facing west immediately NE of Bare Lake; West of Pinguicula Lake; slope facing south near northern end of Amara Lake; Mountain SW of northern end of Bare Lake (Hammer 1967); Northern and northwestern coastal plain; Atqasuk; Brooks Range; Fairbanks Region; Denali NP; Chugach Mtns; Kenai Peninsula; Kodiak Is.; Aleutian Islands; Pribilof Islands (Behan 1978a); Elliott Highway Burn, (65°19'N, 149°06'W) (Thomas & McLean 1988); **YT:** Coastal Plain; Ivavik NP, British Mtns; Porcupine Plains; Richardson Mtns; Ogilvie Mtns (Behan-Pelletier 1997b); **NT:** Reindeer Station (Hammer 1952a); Mackenzie Delta arctic and subarctic (Behan 1978a); **AB:** Rocky Mtns, Mount Robson PP (Hammer 1952a); **NL:** between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: Rich meadow vegetation: *Athyrium*, *Geranium*, *Verathrum*, *Heracleum*, *Anemone*, with *Alnus crispa* and *Salix*; dry meadow slope with *Epilobium*, *Claytonia*, grasses; shrub tundra; Balsam fir forests.

Distribution: Semicosmopolitan.

Liebstadia nr. *similis* (Michael, 1888)

Geographic Location and Habitats: **AB:** EMEND Site, White spruce litter (Lindo & Visser 2004).

Liebstadia sp.

Geographic Location and Habitats: **QC:** Apple orchard (Forest *et al.* 1982); Abitibi, boreal mixedwood forest (Déchéne & Buddle 2009, 2010); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987); **NL:** between Corner Brook and Little Grand Lake, Balsam fir forests (2 spp.) (Dwyer *et al.* 1997, 1998).

Genus *Paraleius* Trav, 1960

Paraleius leahae Knee, 2017

Geographic Location: **ON:** Algonquin PP; **NB:** St. Stephen, Highway 1; Bayside; **NS:** Westfield, (44.40316, -64.97473); Turner and Turner Mill, West Northfield (Knee 2017).

Habitats: On *Dendroctonus valens* and *Hylastes porculus*.

Distribution: Canada.

Paraleius leontonycha (Berlese, 1910)

Original name: *Oribella leontonycha* Berlese, 1910 (Travé 1960)

Combination: *Siculobata leontonycha* (Berlese, 1910); (Weigmann 2006).

Geographic Location: **AK:** on *Dryocoetes affaber* (Mann.) (Norton 1980a); **BC:** (Knee *et al.* 2013); **AB:** Moose Pasture Research Site; ABMI Sites (Knee *et al.* 2013; Walter *et al.* 2014); **ON:** (Knee *et al.* 2013); **QC:** Abitibi (Déchéne & Buddle 2009, 2010); (Knee *et al.* 2013); **NB:** (Knee *et al.* 2013); **NL:** (Knee *et al.* 2013).

Habitats: a host generalist, collected from 17 species of bark beetles.

Distribution: Holarctic.

Paraleius sp.

Geographic Location and Habitats: **BC:** Vancouver Is., Walbran Valley (Lindo *et al.* 2008b); **NB:** Maritime Lowlands (Behan-Pelletier 2010); **NL:** between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer *et al.* 1997, 1998).

Genus *Parapirnodus* Balogh & Mahunka, 1968

Remarks: *Parapirnodus* species listed below were transferred to *Behanpseudoppia* Subías, 2017 in the family Pseudoppiidae, by Subías (2017), a move we reject because it ignores the character states outlined in Behan-Pelletier *et al.* (2002) that support a relationship with Schelorbitidae.

Parapirnodus coniferinus Behan-Pelletier, Clayton and Humble, 2002

Geographic Location: **BC:** Isaiah Creek study site (Lindo & Stevenson 2007); Vancouver Is., Campbell River, Montane Alternative Silvicultural Systems site, elevation 740–850m; Mt. Cain, 1200m; Upper Carmanah Valley drainage; Trinity Valley Field Station, 6mi N Lumby (Behan-Pelletier *et al.* 2002); Walbran Valley (Lindo & Winchester 2006, 2007; Lindo 2010).

Habitats: Canopy of *Abies amabilis*, *Picea sitchensis* and Western redcedar; yew foliage.

Distribution: Nearctic.

Parapirnodus hexaporosus Behan-Pelletier, Clayton and Humble, 2002

Geographic Location: **BC:** Vancouver Is., Mt. Cain (Fagan *et al.* 2005); Campbell River, Montane Alternative Silvicultural Systems site, elevation 740–850m; Upper Carmanah Valley drainage (Behan-Pelletier *et al.* 2002); Walbran Valley (Lindo 2010).

Habitats: Canopy of *Abies amabilis*, *Picea sitchensis* and Western redcedar.

Distribution: Canada.

Genus *Scheloribates* Berlese, 1908

Scheloribates laevigatus (C.L. Koch, 1835)

Original name: *Zetes laevigatus* C.L. Koch, 1835 (Willmann 1931)

Synonymy: *Oribata lucasi* Nicolet, 1855: (van der Hammen 1952), *Notaspis lucasi* (Nicolet, 1855): (Oudemans 1900a), *Murcia lucasi* (Nicolet, 1855): (Oudemans 1930).

Geographic Location and Habitats: **NU:** Ellesmere Is., Quttinirpaaq NP, Hazen Camp (Oliver 1963); **AB:** Edmonton (Parkallen); Lake Wabamun; ABMI Sites (Walter *et al.* 2014); **QC:** St-Paulin (Doblas-Miranda *et al.* 2014).

Distribution: Semicosmopolitan.

Scheloribates nr. *laevigatus* (C.L. Koch, 1835)

Geographic Location and Habitats: **ON:** Sudbury, mixed deciduous coniferous forest (St. John *et al.* 2002); **QC:** Gatineau Park, *Polyporus* bracket fungi (Pielou & Verma 1968).

Scheloribates lanceoliger (Berlese, 1908)

Original name: *Protoribates (Scheloribates) lanceoliger* Berlese, 1908 (Jacot 1936a)

Synonymy: *Galumna sylvicola* Banks, 1909: (Jacot 1938c), *Oribata helvina* Ewing, 1909: (Jacot 1938c), *Scheloribates clavipectinatus* (Ewing, 1907): (Norton & Kethley 1990).

Geographic Location and Habitats: **ON:** Guelph, among fallen leaves in forest (Banks 1909).

Distribution: Nearctic.

Scheloribates moestus (Banks, 1895)

Original name: *Oribata moesta* Banks, 1895 (Marshall *et al.* 1987)

Combination: *Galumna moesta* (Banks, 1895); (Banks 1906).

Geographic Location and Habitats: **ON:** Guelph, cavities in stone; mangels and turnips in root cellar (Jarvis 1910).

Distribution: Nearctic.

Scheloribates pallidulus (C.L. Koch, 1841)

Original name: *Zetes pallidulus* C.L. Koch, 1841 (Willmann 1931)

Combination: *Oribata pallidula* (C.L. Koch, 1841); (Michael 1898).

Geographic Location: **AK:** Fort Richardson (Hammer 1955a); **YT:** Richardson Mtns (Hammer 1952a); peatlands (Behan 1978a; Behan-Pelletier & Bissett 1994); Coastal Plain (Behan-Pelletier 1997b); **NT:** Reindeer Station; Yellowknife (Hammer 1952a); peatlands (Behan-Pelletier & Bissett 1994); **NU:** Coppermine (Hammer 1952a); Baffin Is.; Ellesmere Is. (Behan 1978a); **BC:** Interior (Battigelli *et al.* 2004); **AB:** Banff (Hammer 1952a); peatlands (Behan-Pelletier & Bissett 1994); ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); 35 km north of Fort McMurray (McAdams *et al.* 2018); **MB:** Churchill (Hammer 1952a); peatlands (Behan-Pelletier & Bissett 1994); **ON:** near Chapleau (Rousseau *et al.* 2018); **QC:** northern region (Behan 1978a); peatlands (Behan-Pelletier & Bissett 1994); Abitibi (Déchêne & Buddle 2009, 2010); St. Clet (Smith 1978); Morgan Arboretum (Marshall 1968; Sylvain & Buddle 2010); St-Paulin (Doblas-Miranda *et al.* 2014); Western Québec (Doblas-Miranda & Work 2015); **NL:** peatlands (Behan-Pelletier & Bissett 1994).

Habitats: tussock tundra; beach vegetation with *Dryas* and scattered *Hedysarum*; beach ridge with *Elymus* sp., *Ribes*, *Epilobium*; peatlands; boreal forest litter; beech, maple, conifer litter.

Distribution: Semicosmopolitan.

Scheloribates nr. *pallidulus* (C. L. Koch, 1841)

Geographic Location and Habitats: **ON:** Sudbury, mixed deciduous coniferous forest (St. John *et al.* 2002); near White River (Barreto & Lindo 2018; as 'cf.');

QC: Gatineau Park, *Fomes* sporophores (Matthewman & Pielou 1971); **NL:** peatlands (Behan-Pelletier & Bissett 1994).

Scheloribatus rotundatus Hammer, 1955

Geographic Location and Habitats: **AK:** Fort Richardson (Hammer 1955a); Kodiak Is., West of Pingicula Lake (Hammer 1967); Brooks Range; Chugach Mountain, Kenai Peninsula (Behan 1978a).

Habitats: bog with patches of *Sphagnum*.

Distribution: Alaska.

Scheloribates cf. *badius* (Ewing, 1908)

Geographic Location and Habitats: **QC:** Mirabel municipality south of Belle-Rivière (Tousignant *et al.* 1988).

Scheloribates sp.

Geographic Location and Habitats: **YT:** (Powell *et al.* 1972); Richardson Mtns (Behan-Pelletier 1997b); **BC:** Upper Klanawa Mainline site, near Franklin River (Berch *et al.* 2001); Isaiah Creek study site (Lindo & Stevenson 2007); Interior, forest litter (Battigelli *et al.* 2004); North of Kamloops, Douglas fir litter (Marshall 1979); Osoyoos, Haynes Lease, *Purshia*, *Aristida*, *Bromus*, *Opuntia*, *Pinus*, *Agropyron* (Behan-Pelletier 1987b); Vancouver Is., Victoria, moss mats (Shackelford *et al.* 2018); Walbran Valley, Western redcedar trunk (Lindo & Winchester 2006, 2007; Lindo *et al.* 2008b); Western redcedar litter traps (Lindo 2010); **AB:** Kananaskis Valley, Lodgepole pine litter (Powell *et al.* 1972; Powell & Skaley 1975); Kananaskis Valley, aspen litter (Mitchell 1977a, b, 1978, 1979a); Lethbridge, fescue prairie (Osler *et al.* 2008); Trembling aspen, White spruce mesocosm (Cameron *et al.* 2013); ABMI Sites (Walter *et al.* 2014); **SK:** (Powell *et al.* 1972); **MB:** Whiteshell PP, *Polyporus* bracket fungi (Pielou & Verma 1968); **ON:** Algonquin PP, *Polyporus* bracket fungi (Pielou & Verma 1968); 3 km south of Guelph, Cornfield (Broadbent & Tomlin 1979); Petawawa National Forestry Institute, Chalk River, mixed conifer-hardwood forest (Marshall 1972; Bird & Chatarpaul 1986); **QC:** Gatineau Park, *Polyporus* bracket fungi (Pielou & Verma 1968); *Fomes* polypores (Pielou & Matthewman 1966); Apple orchard (Forest *et al.* 1982); Abitibi, boreal mixedwood forest, (sp. and n. sp.) (Déchéne & Buddle 2009, 2010); Mirabel municipality south of Belle-Rivière (Tousignant *et al.* 1988; Tousignant & Coderre 1992); Mont Tremblant (3 spp.) (Behan *et al.* 1978); Morgan Arboretum, beech litter (Sylvain & Buddle 2010); **NB:** *Polyporus* bracket fungi (Pielou & Verma 1968); **NS:** Southwest Nova Scotia Uplands; from apple orchards (Rasmy & McPhee 1970); **NL:** between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer *et al.* 1997, 1998); **PE:** (Behan-Pelletier 2010).

Superfamily **Ceratozetoidea**

Family **Ceratokalummidae**

Genus **Cultrobates** Willmann, 1930

Cultrobates sp.

Geographic Location: **BC:** Sicamous Creek (Berch *et al.* 2007).

Family **Ceratozetidae**

Genus **Ceratozetes** Berlese, 1908

Ceratozetes borealis Behan-Pelletier, 1984

Geographic Location: **AK:** Fairbanks: Chena Ridge; N. of Smith Lake (Behan-Pelletier 1984); **YT:** Ogilvie Mtns, km 155 Dempster Hwy.; Loop Hwy., Moose Creek Campground (Behan-Pelletier 1984); Porcupine Plain; Richardson Mtns (Behan-Pelletier 1997b); **AB:** Police Outpost PP (Behan-Pelletier & Eamer 2009); **NB:** Kouchibouguac NP, cold tributary of Kollock Creek (Behan-Pelletier & Eamer 2009).

Habitats: tundra; grass-leaf litter in dried-up brook; *Betula*, *Alnus* litter; moss and litter by cold creek.

Distribution: Nearctic.

Ceratozetes cuspidatus Jacot, 1939

Original name: *Ceratozetes gracilis cuspidatus* Jacot, 1939 (Behan-Pelletier 1984)

Geographic Location: **BC:** Trinity Valley Field Station (Behan-Pelletier 1984); Interior (Battigelli *et al.* 2004); Isaiah Creek study site (Lindo & Stevenson 2007); Madeline Lake (Behan-Pelletier & Eamer 2009); Vancouver Is.: Bamfield Marine Station; Cowichan Lake Research Station; Trial Is. Ecological Reserve (Behan-Pelletier & Eamer 2009); **AB:** Waterton Lakes NP, Mother Duck Trail; Cameron Lake, 1 mi. N. Moraine Lake, 8 mi. S. Lake Louise (Behan-Pelletier 1984); ABMI Sites; Moose Pasture Research Site (Walter *et al.* 2014); ABMI Sites (Meehan *et al.* 2019); 35 km north of Fort McMurray (McAdams *et al.* 2018); **SK:** Cypress Hills PP, Loch Lomond area; Prince Albert NP (Behan-Pelletier 1984; Behan-Pelletier & Eamer 2009); **MB:** Duck Mountain PP; Riding Mountain NP (Behan-Pelletier 1984; Behan-Pelletier & Eamer 2009); **ON:** Chalk River; Manitoulin Is.; South shore Black Sturgeon Lake, 43 mi. N. Hurkett; Poshkokagan River crossing, 17 mi. N. Black Sturgeon Lake Field Station; St. Lawrence Islands NP: Thwartway Is.; Grenadier Is. (Behan-Pelletier 1984); Petawawa National Forestry Institute, Chalk River (Bird & Chatarpaul 1986); Sudbury (St. John *et al.* 2002); Shaw Woods Nature Preserve (Behan-Pelletier & Eamer 2009); **QC:** Morgan Arboretum; Mt. Tremblant (Behan-Pelletier 1984); Forillon NP; Parc national de la Gaspésie (Behan-Pelletier & Eamer 2009); Abitibi (Déchêne & Buddle 2009, 2010); **NB:** Lake George; Kouchibouguac NP (Behan-Pelletier 1984); Kouchibouguac NP (Behan-Pelletier & Eamer 2009); **NS:** Kejimikujik NP (Behan-Pelletier 1984); Cape Breton Highlands NP (Behan-Pelletier *et al.* 1987; Behan-Pelletier 2010); **NL:** Pasadena (Behan-Pelletier 1984); between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998); **PE:** Cabot PP (Behan-Pelletier 1984).

Habitats: boreal mixedwood forest; muskeg; beech litter; Red oak, Sugar maple, rhododendron, *Vaccinium* litter; Balsam fir forests; Douglas-fir, spruce, Ponderosa pine, Western redcedar and Sitka spruce litter; Bigleaf maple litter; debris under rotten *Thuja*.

Distribution: Nearctic.

Ceratozetes fjellbergi Behan-Pelletier, 1986

Combination: *Ceratozetella fjellbergi* (Behan-Pelletier, 1986); (Pavlitshenko 1994).

Geographic Location: **AK:** Brooks Range (Behan-Pelletier 1986, 1997); **YT:** Ivvavik NP, British Mtns; Richardson Mtns; Ogilvie Mtns (Behan-Pelletier 1986, 1997); **BC:** (Behan-Pelletier 1997b).

Habitats: This species is known only from dry habitats in arctic regions.

Distribution: Nearctic.

Ceratozetes gracilis (Michael, 1884)

Original name: *Oribata gracilis* Michael, 1884 (André 1925)

Combination: *Murcia gracilis* (Michael, 1884); (Oudemans 1913), *Notaspis gracilis* (Michael, 1884); (Oudemans 1900a).

Geographic Location: **AK:** Fairbanks (Hammer 1955a); Cape Thompson (Watson *et al.* 1966); Northwest coastal plain; Chugach Mountain; Kenai Peninsula (Behan 1978a); Denali NP: between Teklanika-Sanctuary Rivers; Eielson; ridge N.E. Toklat; Semidi Is.; Buildir Is.; Kenai Peninsula; Fairbanks: Chena Ridge; N. of Smith Lake; Brooks Range: Finger Mt.; Sukakpak Mt.; Galbraith; Sagwon Upland; Toolik Lake (Behan-Pelletier 1984); Cape Thompson (Watson *et al.* 1966); **YT:** Ivvavik NP, British Mtns; 69°13'N, 140°05'W; 69°08'N, 140°14'W (Behan-Pelletier 1984); Ogilvie Mtns (Behan-Pelletier 1997b); **AB:** Kananaskis Valley (Mitchell & Parkinson 1976; Mitchell 1977a, b, 1978, 1979b); Cypress Hills PP: S. of Elkwater, Firetower Area Plateau; Rippling Waters Trail; Lodgepole pine campground area at Loch Lomond; Lusk Creek, 1 mi. E. Kananaskis Field Station (Behan-Pelletier 1984); EMEND Site (Lindo & Visser 2004); Moose Pasture Research Site; ABMI Sites (Walter *et al.* 2014); ABMI Sites (Meehan *et al.* 2019); (Newton & Proctor 2013); 35 km north of Fort McMurray (McAdams *et al.* 2018); **SK:** Prince Albert NP; Battlefords PP (Behan-Pelletier 1984); Christopher Lake (Behan-Pelletier & Eamer 2009); **MB:** Riding Mt. NP, Arrowhead Trail; along Gorge Creek Trail; shore of Audy Lake; Duck Mt. PP, along Blue Lake Trail; top of Baldy Mt. (Behan-Pelletier 1984); **ON:** Spruce R. 2 mi. S. outlet of Black Sturgeon Lake, 42 mi. N. Hurkett; St. Lawrence Islands NP, McDonald Is., (Behan-Pelletier 1984); Waterloo (Klironomos & Kendrick 1995, 1996); Shaw Woods Nature Preserve, (Behan-Pelletier & Eamer 2009); Sudbury (St.

John *et al.* 2002); **QC**: Gatineau Park; Bonaventure Is. (Behan-Pelletier & Eamer 2009); Abitibi (Déchêne & Buddle 2009, 2010); Morgan Arboretum (Sylvain & Buddle 2010); **NB**: Kouchibouguac NP (Behan-Pelletier 1984); **NS**: Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987); **NL**: Gros Morne NP, Berry Hill area, (Behan-Pelletier 1984); between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: tussock tundra; alpine tundra and talus; subalpine *Dryas* meadow; boreal forest; *Betula* litter; prairie herbage and soil; *Mimulus guttatus* and moss by stream; Black spruce, White spruce litter; *Pinus*, *Populus*, *Rosa*, *Viburnum*, *Alnus*, *Arctostaphylos* litter; Sugar maple forest; moss, cedar, hemlock, birch, Balsam fir litter.

Distribution: Semicosmopolitan.

Ceratozetes kananaskis Mitchell, 1976

Geographic Location: **AB**: Kananaskis Valley (Mitchell & Parkinson 1976; Mitchell 1976, 1977a, b, 1978, 1979a, b); Cypress Hills PP, 3 mi. S. Elkwater; Waterton Lakes NP (Behan-Pelletier 1984); ABMI Sites, Kananaskis, 1400 m, 51°02'N, 105°01'W (Walter *et al.* 2014).

Habitats: aspen litter; kinnikinnick mat and soil; mixed deciduous conifer litter; prairie sod and grass.

Distribution: Canada.

Ceratozetes kutchin Behan-Pelletier, 1986

Geographic Location: **YT**: Ogilvie Mtns; 65°12'N, 13829'W; 65°17'N, 138°29'W; 65°00N, 138°03'W; Ivavik NP, British Mtns, 69°15'N, 140°09'W (Behan-Pelletier 1986, 1997).

Habitats: soil beneath *Dryas*, *Saxifraga*, *Minuartia*, *Draba*, grass; moss, lichens under rocks; soil under *Saxifraga*.

Distribution: Canada.

Ceratozetes mediocris Berlese, 1908

Geographic Location: **AB**: Kananaskis Country (Mitchell 1978); Cypress Hills PP, 3 mi. S. Elkwater (Behan-Pelletier 1984); Waterton Lakes NP; Writing-on-Stone PP; Cypress Hills PP (Behan-Pelletier & Eamer 2009); ABMI Sites (Walter *et al.* 2014); **SK**: Battlefords PP; Moose Mt. PP; Prince Albert NP; Cypress Hills PP, Loch Lomond; Duck Lake PP (Behan-Pelletier 1984); Saskatoon National Grasslands (Behan-Pelletier & Eamer 2009); **MB**: Spruce Woods PP; Riding Mt. NP (Behan-Pelletier 1984); **ON**: St. Lawrence Islands NP: Grenadier Is.; McDonald Is.; Thwartway Is.; Backus Woods Conservation Area, 4 mi N. Port Rowan; Long Point NWA: Courtright Ridge; Squire's Ridge; Little Creek Ridges; Rondeau PP; Pt. Pelee NP; 6 mi. W. Richmond (Behan-Pelletier 1984); Petawawa National Forestry Institute, Chalk River (Bird & Chatarpaul 1986); Sudbury (St. John *et al.* 2002); Shaw Woods Nature Preserve; Otter Lake; A'nowaghi Forest and Wetland (Behan-Pelletier & Eamer 2009); near Chapleau (Rousseau *et al.* 2018); **QC**: Stanstead Co., Amy Rd., 0.5 km N. Jack Cold Rd; Gatineau Park (Behan-Pelletier 1984); Morgan Arboretum (Behan-Pelletier 1984, Behan-Pelletier & Eamer 2009; Sylvain & Buddle 2010); **NB**: Kouchibouguac NP (Behan-Pelletier 1984); **NS**: Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Habitats: **AB**: mixed prairie; fescue grassland; aspen forest; kinnikinnick mat and soil; mixed conifer-hardwood forest; slough in maple oak parkland; grass litter in black-oak, maple woodland; *Lirodendron tulipifera* litter; *Quercus* and mixed deciduous litter; *Thuja* swamp; White spruce, White birch and Trembling aspen litter; sphagnum.

Distribution: Semicosmopolitan.

Ceratozetes oresbios Behan-Pelletier, 1984,

Geographic Location: **BC**: Osoyoos, Kobau Mountain (Behan-Pelletier 1984; Behan-Pelletier & Eamer 2009); **AB**: Waterton Lakes NP (Behan-Pelletier 1984).

Habitats: dry S-facing rocky slope with *Arenaria*, *Sedum*, *Antennaria*, *Castilleja*, *Woodsia*, *Heuchera*; grass, *Fragaria*, moss; subalpine meadow.

Distribution: Canada.

Ceratozetes pacificus Behan-Pelletier, 1984

Geographic Location: **BC:** Vancouver Is., Pacific Rim NP, Long Beach; Cowichan Lake Experimental Station; Plateau Rd. ski lodge, 12 miles N.W. Courtenay; Port Renfrew; Miracle Beach PP; Skutz Creek; Honeymoon Bay Wildflower Reserve; Goldstream PP (Behan-Pelletier 1984); Walbran Valley (Lindo & Winchester 2006, 2007; Lindo *et al.* 2008b; Lindo 2010); Interior (Battigelli *et al.* 2004); McMillan PP, Cathedral Grove; Carmanah PP; Sydney Inlet; Bamfield Marine Station; Richmond (Behan-Pelletier & Eamer 2009).

Habitats: salal-kinnikinnick litter on sand dune; *Thuja*, *Pseudotsuga menziesii*, *Acer*, White pine, *Pinus strobus*, Douglas-fir litter; Bigleaf maple litter; Western redcedar trunk and canopy; arbutus litter; skunk cabbage and cedar detritus; Paper birch litter in bog.

Distribution: Western Nearctic.

Ceratozetes parvulus Sellnick, 1922.

Geographic Location: **AK,** Bushkana River (Behan-Pelletier 1985; Behan-Pelletier & Eamer 2004); Seward Peninsula, near to Cape Espenberg (66°28'22"N, 163°56'56"W) greyish tephra from Aniakchak eruption (Blackford *et al.* 2014); **YT:** Ivvavik NP, British Mtns, 69°17'N, 140°03'W (Behan-Pelletier & Bissett 1994); **NT:** peatlands (Behan-Pelletier & Bissett 1994); **AB:** peatlands (Behan-Pelletier & Bissett 1994); ABMI Site (Walter *et al.* 2014); **MB:** peatlands (Behan-Pelletier & Bissett 1994); **ON:** peatlands (Behan-Pelletier & Bissett 1994); Alfred bog (Behan-Pelletier & Eamer 2009). **QC:** Timmins 54°60'N, 67°00'W; northern region (Behan 1978a; as sp. nr.); peatlands (Behan-Pelletier & Bissett 1994); Poltimore bog; Parc national de la Gaspésie, Mont Albert; Lac Ford (Behan-Pelletier & Eamer 2009); **NB:** peatlands (Behan-Pelletier & Bissett 1994); Fundy NP (Behan-Pelletier & Eamer 2009); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier & Eamer 2009). **NL:** peatlands (Behan-Pelletier & Bissett 1994); Labrador, Forteau area (sp. nr.); Gros Morne NP, Yellow Marsh (Behan-Pelletier 1985; Behan-Pelletier & Eamer 2004).

Habitats: peatlands; tundra with *Sphagnum*, lichen, *Vaccinium*; sedge tussocks and moss at edge of stream; spruce, birch, and *Shepherdia* litter.

Distribution: Holarctic.

Ceratozetes peritus Grandjean, 1951

Geographic Location and Habitats: **NL:** Gros Morne NP, Berry Hill area, spruce, fir litter above seashore; moss-herb mat; Pasadena, lush meadow by stream; St. John's, weeds, moss, sod by harbour edge; 2 mi. N. Eddies Cove, *Empetrum*, *Vaccinium*, *Rubus*, *Juniperus* and litter above seashore (Behan-Pelletier 1984).

Distribution: Holarctic.

Ceratozetes spitsbergensis Thor, 1934

Geographic Location and Habitats: **AK,** Brooks Range, moss and lichens in alpine tundra (Behan-Pelletier 1985); **YT:** Richardson Mtns (Behan-Pelletier 1997b).

Distribution: Holarctic.

Ceratozetes thienemanni Willmann, 1943

Combination: *Ceratozetella thienemanni* (Willmann, 1943); (Shaldybina 1975).

Geographic Location: **AK:** Fort Richardson; Anchorage (Hammer 1955a); Fairbanks Region (Behan 1978a); **YT:** Coastal Plain (Behan-Pelletier 1997b); **NT:** Yellowknife (Hammer 1952a); Tuktoyaktuk; Mackenzie Delta subarctic (Behan 1978a); **NU:** Baffin Is. (Behan 1978a); **BC:** Interior (Battigelli *et al.* 2004); Isaiah Creek study site (Lindo & Stevenson 2007); Manning PP (Behan-Pelletier & Eamer 2009); **AB:** 1 mi. N. Moraine Lake, 8 mi. S of Lake Louise; Waterton Lakes NP (Behan-Pelletier 1984); ABMI Sites; Moose Pasture Research Site (Walter *et al.* 2014); ABMI sites (Meehan *et al.* 2019); **MB:** Churchill (Hammer 1952a); **ON:** Chalk River (Marshall 1968); S. shore Black Sturgeon Lake, 43 mi. N. Hurkett (Behan-Pelletier 1984); near Chapleau (Rousseau *et al.* 2018); **QC:** Mont Tremblant (Behan *et al.* 1978); Weakwater Lake (Behan-Pelletier 1984); **NB:** Kouchibouguac NP (Behan-Pelletier 1984); **NS:** Cape Breton Highlands NP (Behan-Pelletier *et al.* 1987; Behan-Pelletier & Eamer 2009; Behan-Pelletier 2010); **NL:**

Gros Morne NP, Berry Hill area; St. Anthony's; 2 mi. N. Eddies Cove; Labrador, Forteau Area (Behan-Pelletier 1984); between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: boreal forest litter; Douglas-fir and Western hemlock litter; rotten *Thuja* and *Abies* stump; thick beech litter; *Juniperus horizontalis*, *Empetrum*, *Vaccinium* mat and litter; tundra-like bog; Balsam fir forests.

Distribution: Holarctic, Neotropical.

Ceratozetes virginicus (Banks, 1906)

Original name: *Galumna virginica* Banks, 1906 (Behan-Pelletier 1984)

Combination: *Oribata virginica* (Banks, 1906); (Ewing 1909).

Synonymy: *Ceratozetes jeweli* Rockett and Woodring, 1966: (Behan-Pelletier 1984).

Geographic Location: **ON:** Long Point NWA, Squires Ridge; Point Pelee NP; Wheatly PP; St. Lawrence Islands NP, Beaurivage Is., Grenadier Is.; Thwartway Is. (Behan-Pelletier 1984); Wheatley PP (Behan-Pelletier & Eamer 2009).

Habitats: mixed deciduous litter; oak-maple litter; litter under *Ptelea trifoliata* and *Vitis* on sand; grass sod.

Distribution: Nearctic.

Ceratozetes watertonensis Behan-Pelletier, 1984

Geographic Location and Habitats: **AB:** Waterton Lakes NP (Behan-Pelletier 1984; Behan-Pelletier and Eamer 2004).

Distribution: Canada.

Ceratozetes cf. *enodis* (Ewing, 1909)

Geographic Location and Habitats: **AB:** ABMI Sites (Walter *et al.* 2014).

Ceratozetes sp.

Geographic Location and Habitats: **AK:** Elliott Highway Burn, (65°19'N, 149°06'W), tussock heath (2 spp.) (Thomas & McLean 1988); **BC:** Vancouver Is., Walbran Valley (Lindo *et al.* 2008b); **AB:** Kananaskis, aspen litter (2 spp.) (Mitchell 1975); Trembling aspen, White spruce mesocosm (Cameron *et al.* 2013); **MB:** southeast, forest litter (Oswald & Minty 1970); **ON:** Chalk River (Marshall 1972); near Chapleau (2 spp.) (Rousseau *et al.* 2018).

Genus *Ceratozetoides* Shaldybina, 1966

Ceratozetoides cisalpinus (Berlese, 1908)

Original name: *Ceratozetes cisalpinus* Berlese, 1908 (Shaldybina 1966)

Combination: *Ceratozetella* (*Ceratozetella*) *cisalpinus* (Berlese, 1908); (Subías 2004).

Geographic Location and Habitats: **ON:** St. Lawrence Islands NP, mouse nest (Behan-Pelletier & Eamer 2009).

Distribution: Holarctic.

Genus *Dentizetes* Hammer, 1952

Dentizetes ledensis Behan-Pelletier, 2000

Geographic Location: **AB:** Obed Summit, W. Edson, 53°33'N, 117°14'W; Cynthia; ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010).

Habitats: on underside of leaves and on buds and stems of Labrador Tea (*Rhododendron* (*Ledum*) *groenlandicum*).

Distribution: Canada.

Dentizetes rudentiger Hammer, 1952

Geographic Location: **YT:** Ivvavik NP, British Mtns, 69°15'N, 140°09'W (Behan-Pelletier 1986; Behan-Pelletier 1997b); **BC:** Interior (Battigelli *et al.* 2004); Mt. Cain (Fagan *et al.* 2005); **AB:** Kananaskis Country, Fortress Mountain; Banff NP; Jasper NP, Athabasca Glacier; Waterton Lakes NP (Hammer, 1952b; Behan-Pelletier 1986); Kananaskis Forest Experiment Station, Seebe (Powell 1971; Powell & Skaley 1975; Powell *et al.* 1972); Jasper, near railway station (Hammer 1952b); ABMI Sites (Walter *et al.* 2014).

Habitats: dry tundra; boreal forest litter; Amabilis fir, aspen litter; subalpine spruce, willow litter; White pine bark, litter; under bark of spruce infested with *Dendroctonus* and *Ips*; cankers of comandra blister rust.

Distribution: Western Nearctic.

Genus *Diapterobates* Grandjean, 1936

Remarks: *Diapterobates* was included in Humerobatidae by Subías (2004), without explanation. We retain *Diapterobates* in Ceratozetidae, based on morphology of its immatures (Behan-Pelletier 1986), which is unlike that of *Humerobates* (Grandjean 1970).

Diapterobates humeralis (Hermann, 1804)

Original name: *Notaspis humeralis* Hermann, 1804 (Grandjean 1936)

Combination: *Humerobates humeralis* (Hermann, 1804); (Rasmy & McPhee 1970).

Synonymy: *Sphaerozetes (Trichoribates) numerosus* Sellnick, 1924: (van der Hammen 1952), *Diapterobates numerosus* (Sellnick, 1924): (Hammer 1955a), *Murcia numerosa* (Sellnick, 1924): (Sellnick 1928).

Geographic Location and Habitats: **AK:** Fort Richardson; Fairbanks; Anchorage (Hammer 1955a); northwest coastal plain (Behan 1978a); Chena Ridge at Fairbanks; Brooks Range; Kenai Peninsula, Turnagain Pass (Behan-Pelletier 1986); **YT:** Ivvavik NP, British Mtns, 69°27'N, 140°23'W (Behan-Pelletier 1986); Richardson Mtns, Coastal Plain, Porcupine Plain, Southern Lakes (Behan-Pelletier 1997b); **NT:** Reindeer Station (Hammer 1952a); Mackenzie Delta subarctic; Banks Is. (Behan 1978a); peatlands (Behan-Pelletier & Bissett 1994); **NU:** Bathurst Is.; Victoria Is. (Behan 1978a); **AB:** ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); 35 km north of Fort McMurray (McAdams *et al.* 2018); **ON:** Sudbury (St. John *et al.* 2002); **QC:** Timmins 54°60'N, 67°00'W subarctic (Behan 1978a); Morgan Arboretum (Sylvain & Buddle 2010); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010); **NL:** peatlands (Behan-Pelletier & Bissett 1994).

Habitats: Arboreal species in boreal forest; tussock tundra.

Distribution: Holarctic.

Diapterobates notatus (Thorell, 1871)

Original name: *Oribata notata* Thorell, 1871 (Hammer 1955a)

Combination: *Notaspis trimaculatus notatus* (Thorell, 1871); (Trägårdh 1901), *Notaspis notatus* (Thorell, 1871); (Kulczyński 1902), *Trichoribates notatus* (Thorell, 1871); (Hammer 1952a).

Geographic Location: **AK:** Fort Richardson; Anchorage (Hammer 1955a); Barrow (Hammer 1955a; Hurd & Lindquist 1958; Bohnsack 1968, 1973; Behan 1978a); Cape Thompson (Watson *et al.* 1966); Northern and northwestern coastal plain; Fairbanks Region (Behan 1978a); coastal tundra; Atqasuk; Brooks Range; Seward Peninsula; Cape Thompson; Cape Krusenstern; Icy Cape; Prudhoe Bay; Kotzebue; Kenai Peninsula, bank of Kenai River; Fairbanks; Mastodon Dome; Denali NP (Behan-Pelletier 1985); Kodiak Is., West of Pinguicula Lake (Hammer 1967); **YT:** Richardson Mtns (Hammer 1952a); Ivvavik NP, British Mtns: 69°74'N, 140°03'W; 69°13'N, 140°05'W; 69°101N, 140°18'W; 69°08'N, 140°14'W; 69°15'N, 140°09'W; 69°17'N, 140°23'W; 69°27'N, 140°25'W; 69°25'N, 139°22'W; Herschel Is. (Behan 1978a); Ogilvie Mtns (Behan-Pelletier 1997b); **NT:** Reindeer Station (Hammer 1952a); Banks Is., Nanuk; Victoria Is. (Behan-Pelletier 1985); **NU:** Coppermine (Hammer 1952a); Keewatin; Baffin Is.; Victoria Is. (Behan 1978a); Baker Lake (Behan & Hill 1978); Baffin Is., Pangnirtung; Igloodik Is. (Behan-Pelletier 1985); **AB:** peatlands (Behan-Pelletier & Bissett 1994); Wagner Natural Area, 8km W Edmonton, 53°34'N, 113°47'W (Finnamore 1994); **MB:** Churchill (Hammer 1952a); peatlands (Behan-Pelletier & Bissett 1994); **QC:** Northern region (Behan 1978a); **NS:** Cape Breton Highlands NP, South Harbour (Behan-Pelletier *et al.*

1987; 2010).

Habitats: tussock tundra; wet *Sphagnum* and other moss in willow thicket; wet meadow; spruce litter and moss; high polygon top with moss, *Carex*, *Salix phlebophylla*, *Cassiope*; *Populus balsamifera* litter and soil; alpine meadow with *Equisetum*, *Eriophorum*, moss, *Carex*; lichen heath with *Dryas*.

Distribution: Holarctic.

Diapterobates rotundicuspidatus Shaldybina, 1970

Synonymy: *Diapterobates siccatus* Behan-Pelletier, 1986: (Behan-Pelletier 1997b).

Geographic Location: **AK:** Anaktuvuk; Brooks Range; pingo near Franklin Bluffs; Prudhoe Bay; Toolik Lake (Behan-Pelletier 1986); **YT:** Ivvavik NP, British Mtns, 69°13'N, 140°05'W; 69°27'N, 140°23'W; Ogilvie Mtns; 65°33'N, 139°28'W; Herschel Is. (Behan-Pelletier 1986); Richardson Mtns, Ogilvie Mtns (Behan-Pelletier 1997b).

Habitats: dry moraine soil with lichens, moss, *Empetrum*, *Arctostaphylos*; soil at base of *Smelowskia* among rocks; *Dryas*, *Potentilla*, *Silene*, *Castilleja* litter.

Distribution: Western Nearctic; eastern Palaearctic.

Diapterobates variabilis Hammer, 1955

Geographic Location: **AK:** Fort Richardson; Anchorage (Hammer 1955a); Cape Thompson (Watson *et al.* 1966); Northern and northwestern coastal plain (Behan 1978a); Brooks Range, Sukakpak Mountain; Cape Thompson; Norton Bay; Bethel; Bushkana River; Chugach Mtns, Blueberry Lake at Thompson Pass; Nunivak, National Wildlife Refuge (Behan 1978a; Behan-Pelletier 1985); Fairbanks (Block 1979); Elliott Highway Burn, (65°19'N, 149°06'W) (Thomas & McLean 1988); **YT:** Spring River (Behan-Pelletier 1985, 1997); **NT:** Tuktoyaktuk; Mackenzie Delta subarctic (Behan 1978a); **NU:** Keewatin, Henik Lake Lodge, 61°40'N, 97°25'W; Baffin Is., Pangnirtung (Behan 1978a; Behan & Hill 1978; Behan-Pelletier 1985); **AB:** ABMI Site (Walter *et al.* 2014); **QC:** Lac Ford; Leaf River, 59°38'N, 70°20'W (Behan-Pelletier 1985).

Habitats: tussock tundra; taiga; dry subalpine meadow.

Distribution: Holarctic.

Diapterobates nr. *sitnikovae* Shaldybina, 1970

Geographic Location and Habitats: **AK:** Northern coastal plain; Atqasuk; Brooks Range; Fairbanks Region; Denali NP (Behan 1978a); **AB:** ABMI Sites (Walter *et al.* 2014).

Diapterobates sp.

Geographic Location and Habitats: **AK:** Barrow (Douce 1976); Chugach Mtns, Kenai Peninsula; Fairbanks Region; Brooks Range (Behan 1978a); **YT:** northern coastal plain (Behan 1978a); **NT:** Banks Is. (Behan 1978a); **NU:** Igloodik Is. (Behan 1978a); **ON:** Lake Superior, Granite Is., Black Bay, ring-billed gull nests (Freitag & Ryder 1973); **QC:** northern (Behan 1978a); **NB:** *Polyporus* bracket fungi (Pielou & Verma 1968; Behan-Pelletier 2010).

Genus *Fuscozetes* Sellnick, 1928

Fuscozetes bidentatus (Banks, 1895)

Original name: *Oribatella bidentata* Banks, 1895 (Jacot 1935c)

Geographic Location: **MB:** southeast (Oswald & Minty 1970); peatlands (Behan-Pelletier & Bissett 1994); **QC:** Morgan Arboretum (Marshall 1968); peatlands (Behan-Pelletier & Bissett 1994).

Habitats: forest litter; peatlands.

Distribution: Nearctic.

Fuscozetes fuscipes (C.L. Koch, 1844)

Original name: *Oribates fuscipes* C.L. Koch, 1844 (Sellnick 1928)

Combination: *Sphaerozetes* (*Trichoribates*) *fuscipes* (C.L. Koch, 1844); (Willmann 1931).

Synonymy: *Galumna slossonae* Banks, 1906: (Marshall *et al.* 1987).

Geographic Location: **AK:** Kodiak Is., West of Pinguicula Lake (Hammer 1967); **AB:** peatlands (Behan-Pelletier & Bissett 1994); Wagner Natural Area, 8km W Edmonton, 53°34'N, 113°47'W (Finnamore 1994); ABMI Sites; Moose Pasture Research Site; Edmonton, Jackie Parker Park, Meanook (Walter *et al.* 2014); ABMI Sites (Meehan *et al.* 2019); 35 km north of Fort McMurray (McAdams *et al.* 2018); **MB:** Southeast (Oswald & Minty 1970); peatlands (Behan-Pelletier & Bissett 1994); **ON:** Ottawa (Jacot 1935c); peatlands (Behan-Pelletier & Bissett 1994); **QC:** Abitibi (Déchêne & Buddle 2009, 2010); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010).

Habitats: peatlands, bogs, fens; boreal forest with White spruce, Black spruce, Jack pine and Trembling aspen.

Distribution: Holarctic.

Fuscozetes sellnicki Hammer, 1952

Combination: *Melanozetes sellnicki* (Hammer, 1952a); (Subías 2004).

Geographic Location: **AK:** Barrow (Bohnsack 1968, 1973; Douce 1976; Douce and Crossley 1977; MacLean *et al.* 1978); Cape Thompson (Watson *et al.* 1966); Atqasuk; northwest coastal region; Brooks Range; Fairbanks Region; Chugach Mtns; Kenai Peninsula; Pribilof Islands (Behan 1978a); Seward Peninsula, near to Cape Espenberg (66°28'22"N, 163°56'56"W, greyish tephra from Aniakchak eruption (Blackford *et al.* 2014); **YT:** Richardson Mtns, 68°24'N, 135°37'W (Hammer 1952a, 1955b); Ivvavik NP, British Mtns, 68°54'N, 140°23'W; 69°13'N, 140°05'W; 69°27'N, 140°25'W; 69°17'N, 140°03'W; Shingle Point 68°55'N, 137°15'W (Behan-Pelletier 1985, 1997); **NT:** Reindeer Station (Hammer 1952a); Tuktoyaktuk; Mackenzie Delta subarctic (Behan 1978a); **NU:** Coppermine (Hammer 1952a, 1955b); Ellesmere Is., Slidre Fiord (Hammer 1953, 1955b); Baffin Is. (Behan 1978a); **MB:** Churchill (Hammer 1952a, 1955b); **QC:** northern region (Behan 1978a); Timmins 54°60'N, 67°00'W, Lac Ford (Behan-Pelletier 1985).

Habitats: moist tussock tundra; *Betula*, *Salix* litter; litter and soil under moss, *Ledum*, *Arctostaphylos*, *Empetrum*.

Distribution: Holarctic.

Fuscozetes setosus (C.L. Koch, 1839)

Original name: *Oribates setosus* C.L. Koch, 1839 (Willmann 1931)

Geographic Location: **QC:** Mont Tremblant (Behan *et al.* 1978); **NL:** between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: Black spruce and Balsam fir forests.

Distribution: Holarctic.

Fuscozetes sp.

Geographic Location: **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Genus *Ghilarovizetes* Shaldybina, 1969

Ghilarovizetes longisetosus (Hammer, 1952)

Original name: *Melanozetes longisetosus* Hammer, 1952 (Seniczak 1993)

Synonymy: *Melanozetes* sp. nr. *interruptus*: (Behan 1978a); (Behan-Pelletier 1985).

Geographic Location: **AK:** Atqasuk; Northwest coastal plain; (Behan 1978a); Prudhoe Bay; Cape Thompson; Cape Krusenstern; Buldir Is.; Semidi Is.; Pribilofs: Saint Paul Is. (Behan-Pelletier 1985); Elliott Highway Burn, (65°19'N, 149°06'W) (Thomas & McLean 1988); **YT:** (Behan 1978a); Ivvavik NP, British Mtns, 69°13'N, 140°05'W; Fish Creek, 69°27'N, 140°23'W (Behan-Pelletier 1985); Coastal Plain; Richardson Mtns (Behan-Pelletier 1997b); **NT:** Mackenzie Delta (Behan 1978a); Tuktoyaktuk (Behan 1978a; Behan & Hill 1978); **NU:** Baffin Is., Iqualuit (Hammer 1952a); Iqualuit; Pangnirtung (Behan 1978a; Behan-Pelletier 1985; Behan & Hill 1978); **QC:** Northern tundra (Behan 1978a; Behan & Hill 1978); **NS:** Cape Breton Highlands NP, Beulach Ban Falls; south branch of Aspy River (Behan-Pelletier *et al.* 1987; 2010).

Habitats: tussock tundra; bog tundra; wet marsh; *Salix arctica* litter; grass and *Carex* in sandy loam soil; *Juniperus* litter; wet moss on rocks.

Distribution: Holarctic.

Genus *Iugoribates* Sellnick, 1944

Iugoribates gracilis Sellnick, 1944

Geographic Location: **AK:** Northern coast plain; Brooks Range (Behan 1978a); Denali NP; Brooks Range, pingo near Franklin Bluffs (Behan-Pelletier 1985); **YT,** Ogilvie Mtns, km 155 Dempster Highway; Ivavik NP, British Mtns, 69°54'N, 140°23'W; 69°13'N, 140°05'W; 69°15'N, 140°09'W; 69°27'N, 140°25'W (Behan-Pelletier 1985); **NT:** Mackenzie Delta subarctic; Banks Is. (Behan 1978a; Behan & Hill 1978); Victoria Is., Prince Albert Peninsula, 77°05'N, 116°05'W; Melville Is., Baily Point; **NU:** Ellesmere Is.: Tanquary Fiord (Danks and Byers 1972; Behan-Pelletier 1985); Alexandra Fiord; 70°29'N, 75°50'W (Behan-Pelletier 1985); Devon Is. (Ryan 1977; Behan 1978a; Behan-Pelletier 1985); Ellesmere Is., Quttinirpaaq NP, Hazen Camp (Behan-Pelletier 1985; Kevan *et al.* 1995); Keewatin; Axel Heiberg Is.; Baffin Is.; Ward Hunt Is.; Igloodik Is.; Seymour Is.; King Christian Is.; Somerset Is. (Behan 1978a; Behan-Pelletier 1985); Cornwallis Is., Resolute Bay; Ellef Ringnes Is., Isachsen; Bathurst Is. (Behan-Pelletier 1985); Bathurst Is. (Danks and Byers 1972; Behan 1978a); **AB:** ABMI Sites (Walter *et al.* 2014).

Habitats: coastal tundra; tussock tundra; dry tundra; Ivory gull nest; moist moss; exposed frozen soil.

Distribution: Nearctic.

Iugoribates sp.

Geographic Location and Habitats: **AK:** Brooks Range; Denali NP (Behan 1978a); **YT:** northern coastal plain (Behan 1978a); **NU:** Ellesmere Is., Quttinirpaaq NP, Lake Hazen (McAlpine 1963); Ellef Ringnes Is. (McAlpine 1965); King Christian Is. (Behan 1978a).

Genus *Jugatata* Ewing, 1913

Jugatata tuberosa Ewing, 1913

Geographic Location: **BC:** Vancouver Is., Mt. Cain (Fagan *et al.* 2005); upper Carmanah Valley drainage, 48°44'N, 124°37'W; Campbell River, 49°55'N, 125°25'W, Montane Alternative Silviculture Systems site (Behan-Pelletier 2000).

Habitats: Amabilis fir and *Picea sitchensis* canopy specialist.

Distribution: Nearctic.

Jugatata sp.

Geographic Location and Habitats: **BC:** Isaiah Creek study site (Lindo & Stevenson 2007).

Genus *Laminizetes* Behan-Pelletier, 1986

Laminizetes fortispinosus Behan-Pelletier, 1986

Combination: *Viracochiella (Laminizetes) fortispinosus* (Behan-Pelletier, 1986); (Subías 2004).

Geographic Location: **YT:** Ivavik NP, British Mtns, Fish Creek, 69°25'N, 139°22'W; near Firth River, 69°15'N, 140°05'W; Fish Creek; Ogilvie Mtns, km 141 Dempster Highway (Behan-Pelletier 1986); Richardson Mtns (Behan-Pelletier 1997b).

Habitats: rock desert; lichens and moss among rocks; litter and soil under *Dryas* plants.

Distribution: Canada.

Genus *Lepidozetes* Berlese, 1910

Lepidozetes latipilosus Hammer, 1952

Geographic Location: **AK:** Brooks Range; Fairbanks Region (Behan 1978a); **YT:** Richardson Mtns

(Hammer 1952a); Porcupine Plain; Richardson Mtns; Ogilvie Mtns (Behan-Pelletier 1997b); **NT**: Mackenzie Delta subarctic (Behan 1978a).

Habitats: heath-like vegetation with *Rhododendron*, *Dryas*, *Salix*, *Betula*, *Empetrum*, *Vaccinium*, moss and lichen; pure *Dryas* vegetation.

Distribution: Nearctic.

Lepidozetes singularis Berlese, 1910

Geographic Location: **AK**: Fairbanks (Hammer 1955a); Atqasuk; Northwest coastal plain; Fairbanks Region; Denali NP (Behan 1978a); **YT**: (Behan 1978a); peatlands (Behan-Pelletier & Bissett 1994); Coastal Plain; Porcupine Plain; Richardson Mtns; Ogilvie Mtns (Behan-Pelletier 1997b); **NT**: Reindeer Station; Yellowknife (Hammer 1952a); Tuktoyaktuk; Mackenzie Delta arctic and subarctic; Banks Is. (Behan 1978a); peatlands (Behan-Pelletier & Bissett 1994); **NU**: Coppermine (Hammer 1952a); Baffin Is.; Keewatin (Behan 1978a); **AB**: ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); **ON**: Petawawa National Forestry Institute, Chalk River (Bird & Chatarpaul 1986); Sudbury (St. John *et al.* 2002); near White River (Barreto & Lindo 2018); **QC**: Morgan Arboretum (Sylvain & Buddle 2010); **NB**: peatlands (Behan-Pelletier & Bissett 1994); *Polyporus* bracket fungi (Pielou & Verma 1968; Behan-Pelletier 2010); **NL**: between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: tussock tundra; peatlands; mixed deciduous coniferous forest; Balsam fir forests; *Polyporus* bracket fungi.

Distribution: Holarctic.

Lepidozetes sp.

Geographic Location and Habitats: **BC**: Osoyoos, Haynes Lease, *Purshia*, *Aristida*, *Bromus*, *Opuntia*, *Pinus*, *Agropyron* (Behan-Pelletier 1987b); **AB**: ABMI Sites (Walter *et al.* 2014); **ON**: near White River (Barreto & Lindo 2018); **NB**: Maritime Lowlands (Behan-Pelletier 2010); **NS**: Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Genus *Melanozetes* Hull, 1916

Melanozetes crossleyi Behan-Pelletier, 2000

Geographic Location: **BC**: Vancouver Is., Carmanah PP, 48°35'54"N, 148°45'01"W (Behan-Pelletier 2000); Walbran Valley (Lindo & Winchester 2007).

Habitats: moss, *Fomentopsis* and decaying bark on tree trunk; Western redcedar trunk.

Distribution: Canada.

Melanozetes meridianus Sellnick, 1928

Geographic Location: **AK**: Barrow (Hurd & Lindquist 1958; Bohnsack 1973); Fairbanks; 68°N, 160°W (Hammer 1955a); Cape Thompson (Watson *et al.* 1966); Kodiak Is., West of Pinguicula Lake (Hammer 1967); Northern and northwest coastal plain; Atqasuk; Brooks Range; Fairbanks Region; Denali NP; Chugach Mtns; Kenai Peninsula; Aleutian Islands (Behan 1978a); Brooks Range (Behan-Pelletier 1986); Elliott Highway Burn, (65°19'N, 149°06'W) (Thomas & McLean 1988); **YT**: Richardson Mtns (Hammer 1952a); Ivvavik NP, British Mtns, near Firth River, 69°13'N, 140°05'W; 69°17'N, 140°03'W; 69°09'N, 140°10'W; Sheep Creek, 69°10'N, 140°18'W (Behan-Pelletier 1986, 1997); **NT**: Coppermine (Hammer 1952a); Mackenzie Delta arctic and subarctic (Behan 1978a); Tuktoyaktuk (Behan & Hill 1978); **MB**: Churchill (Hammer 1952a); **QC**: Northern arctic (Behan 1978a; Behan & Hill 1978).

Habitats: Sphagnum bog; tussock heath; wet mosses in flood plain; dry tundra (Behan-Pelletier 1997b).

Distribution: Holarctic.

Melanozetes mollicomus (C.L. Koch, 1839)

Original name: *Oribates mollicomus* C.L. Koch, 1839 (Hull 1916)

Combination: *Murcia mollicomus* (C.L. Koch, 1839); (Willmann 1931), *Notaspis mollicoma* (C.L. Koch, 1839); (Trägårdh 1902), *Sphaerozetes mollicomus* (C.L. Koch, 1839); (Willmann 1931).

Geographic Location: **AK:** Northern and northwest coastal plain; Denali NP; Fairbanks Region (Behan 1978a).

Distribution: Holarctic.

Melanozetes tanana Behan-Pelletier, 1986

Geographic Location: **AK:** Bushkana River, east of Cantwell; **YT:** Ivavik NP, British Mtns, 69°15'N, 140°02'W; 68°54'N, 140°23'W; Fish Creek near aufeis; Clarence Lagoon, 69°38'N, 140°55'W; Ogilvie Mtns, 65°02'N, 137°57'W; 64°49'N, 138°15'W; 64°14'N, 138°45'W; 65°42'N, 139°38'W (Behan-Pelletier 1986).

Habitats: tussock tundra; bog tundra; shrub tundra.

Distribution: Western Nearctic.

Melanozetes sp.

Geographic Location and Habitats: **NB:** Maritime Lowlands (Behan-Pelletier 2010); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010).

Genus *Neogymnobates* Ewing, 1917

Neogymnobates luteus (Hammer, 1955)

Original name: *Boreozetes luteus* Hammer, 1955 (Marshall *et al.* 1987)

Geographic Location: **AK:** Fort Richardson; Anchorage (Hammer 1955a); Atkasuk; northwest coastal region; Brooks Range; Fairbanks Region (Behan 1978a); **YT:** Porcupine Plain (Behan-Pelletier 1997b); **BC:** Interior (Battigelli *et al.* 2004); **AB:** ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); **QC:** northern region (Behan 1978a); Lac Maryjo, 54°49'N, 66°48'W; Lac Lecordier, (Behan-Pelletier 1997b); Abitibi (Déchéne & Buddle 2009, 2010); **NB:** Kouchibouguac NP (Behan-Pelletier 1986); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010); **NL:** between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: bog tundra; boreal forest litter; bracket fungus; Balsam fir forests.

Distribution: Holarctic.

Neogymnobates marilynae Behan-Pelletier, 2000

Geographic Location: **BC:** Vancouver Is., Campbell River, 49°55'N, 125°25'W, Montane Alternative Silviculture System site (Behan-Pelletier 2000); Mt. Cain (Fagan *et al.* 2005); Mainland, Trinity Valley Field Station, north of Lumby (Behan-Pelletier 2000); Isaiah Creek study site (Lindo & Stevenson 2007).

Habitats: *Abies amabilis* and *Tsuga heterophylla* twigs; bracket fungi on conifer stump; Western redcedar foliage.

Distribution: Western Nearctic.

Neogymnobates sp.

Geographic Location: **AB:** ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019).

Genus *Protozetomimus* Pérez-Íñigo, 1990

Protozetomimus acutirostris (Mihelčič, 1957)

Original name: *Ceratozetes acutirostris* Mihelčič, 1957 (Pérez-Íñigo, 1990)

Combination: *Zetomimus (Protozetomimus) acutirostris* (Mihelčič, 1957); (Subías 2004).

Geographic Location and Habitats: **ON:** Ottawa, Central Experimental Farm, edge of agricultural field (CNC, unpublished record).

Distribution: Holarctic.

Genus *Scutozetes* Hammer, 1952

Scutozetes lanceolatus Hammer, 1952

Geographic Location: **AK:** Northern and northwest coastal plain; Atkasuk; Brooks Range; Fairbanks Region; Denali NP; Chugach Mtns; Kenai Peninsula (Behan 1978a); **YT:** Richardson Mtns (Hammer 1952a); Porcupine Plain; Richardson Mtns; Ogilvie Mtns (Behan-Pelletier 1997b); **NT:** Yellowknife (Hammer 1952a); Mackenzie Delta arctic and subarctic (Behan 1978a); **AB:** ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); **QC:** Northern region; Timmins 54°60'N, 67°00'W (Behan 1978a); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987)

Habitats: dry biotopes: in lichen with moss; in dense *Dryas* vegetation with reindeer lichen and liverwort; scattered cushions of *Salix* and *Oxytropus pygmaeus* on gravel and stony fields; on manured bird perches.

Distribution: Nearctic.

Genus *Sphaerozetes* Berlese, 1885

Sphaerozetes arcticus Hammer, 1952

Geographic Location: **AK:** Fort Richardson; Fairbanks (Hammer 1955a); Cape Thompson (Watson *et al.* 1966); Fairbanks Region (Behan 1978a); Brooks Range, Toolik Lake (Behan-Pelletier 1985); **YT:** Richardson Mtns (Hammer 1952a); Eagle River; Ivvavik NP, British Mtns, 68°54'N, 140°23'W; Firth River floodplain; 69°17'N, 140°03'W; Sheep Creek, 69°101'N, 140°18'W (Behan-Pelletier 1985, 1997); **NT:** Tuktoyaktuk; Reindeer Station (Hammer 1952a); Mackenzie Delta arctic and subarctic (Behan 1978a); **NU:** Coppermine (Hammer 1952a); **AB:** ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); 35 km north of Fort McMurray (McAdams *et al.* 2018); **NS:** Cape Breton Highlands NP, Beulach Ban Falls; south branch of Aspy River (Behan-Pelletier 1985; 2010; Behan-Pelletier *et al.* 1987); **NL:** between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: tussock tundra; birch and alder litter; willow litter along floodplain; wet meadow with *Equisetum*, *Eriophorum*, moss, *Carex*; boggy area with moss and *Carex*; Balsam fir forests; boreal forest with White spruce, Black spruce, Jack pine and Trembling aspen.

Distribution: Holarctic.

Sphaerozetes castaneus Hammer, 1955

Geographic Location: **AK:** Fort Richardson (Hammer 1955a); **YT:** Eastern plateau (Behan-Pelletier 1997b).

Habitats: grass with roots and soil; dry tundra.

Distribution: Nearctic.

Sphaerozetes firthensis Behan-Pelletier, 1986

Geographic Location: **YT:** Ivvavik NP, British Mtns, 69°13'N, 140°10'W; Fish Creek, 69°27'N, 140°23'W; Ogilvie Mtns, Northfork Pass, Dempster Highway; Repeater Tower, km 155 Dempster Highway; Nahoni Range (Behan-Pelletier 1986); Richardson Mtns (Behan-Pelletier 1997b).

Habitats: mixed subarctic litter at base of *Picea glauca*; *Equisetum*, *Salix*, *Ranunculus*, *Dodecatheon*; moist moss; *Saxifraga*, moss, lichens, *Papaver* among limestone rocks; dry tundra.

Distribution: Canada.

Sphaerozetes winchesteri Behan-Pelletier, 2000

Geographic Location: **BC:** Vancouver Is., Gowland Heritage Park, 48°32'24"N, 123°30'06"W; Carmanah PP, Carmanah canopy site (Behan-Pelletier 2000); Walbran Valley (Lindo & Winchester 2006, 2007; Lindo 2010).

Habitats: moss on bark of arbutus; moss and decaying wood on fallen tree trunks; *Picea sitchensis* canopy and litter; Western redcedar canopy.

Distribution: Canada.

Sphaerozetes sp.

Geographic Location and Habitats: **BC:** Western redcedar trunk (2 spp.) (Lindo & Winchester 2007);

Interior, forest litter (Battigelli *et al.* 2004); **AB**: ABMI Sites (Walter *et al.* 2014).

Genus *Svalbardia* Thor, 1930

Svalbardia paludicola Thor, 1930

Synonymy: *Trichoribates lucens* sensu Hammer (1952a, 1955a, 1967), non C.L. Koch (1839): (Marshall *et al.* 1987).

Geographic Location: **AK:** Barrow (Hammer 1955a; Hurd & Lindquist 1958; Bohnsack 1968, 1973; Douce 1976; Douce and Crossley 1977; MacLean *et al.* 1977); Kodiak Is., West of Pinguicula Lake (Hammer 1967); Cape Thompson (Watson *et al.* 1966); Pribilof Islands (Banks 1923); Brooks Range; pingo near Franklin Bluffs; Toolik Lake; Prudhoe Bay, Point McIntyre; Atqasuk; Seward Peninsula, Deering; Kotzebue; Denali NP; Norton Bay; Eagle Summit; Icy Cape; Nunivak Is.; Kodiak Is.; Pribilofs, Saint Paul Is.; Semidi Is. (Behan 1978a; Behan-Pelletier 1985); **YT:** Hershel Is.; Ivavik NP, British Mtns: 69°27'N, 140°25'W (Behan-Pelletier 1985); Richardson Mtns; Ogilvie Mtns (Behan-Pelletier 1997b); **NT:** Barnard Harbour; Pikumalerksiak Is., near Cockburn point (Banks 1919; as *Galumna lucens* Koch); Reindeer Station (Hammer 1952a); Tuktoyaktuk; Mackenzie Delta arctic and subarctic (Behan 1978a); **NU:** Coppermine (Hammer 1952a); Baffin Is.; Victoria Is.; Melville Is., Baily Point; Melville Peninsula, 68°05'N, 84°29'W, (Behan 1978a; Behan-Pelletier 1985); Devon Is. (Ryan 1977; Behan 1978a; Behan-Pelletier 1985); **AB:** ABMI Sites (Walter *et al.* 2014); **MB:** Churchill (Hammer 1952a).

Habitats: wet *Salix* litter and *Sphagnum* along brook; moist alpine vegetation; manured owl mound; salt meadows in brackish lagoon; wet moss in trough between polygons; tundra vegetation; winter nest of lemming.

Distribution: Nearctic.

Remarks (from Marshall *et al.* 1987): The identity of *Oromurcia lucens* (L. Koch, 1879) is uncertain and it has been confused in the literature with *Svalbardia paludicola* Thor, 1930. North American records of *O. lucens* are referable to *Svalbardia paludicola* Thor, 1930 (Behan-Pelletier 1985).

Svalbardia sp.

Geographic Location and Habitats: **QC:** Mont Tremblant (Behan *et al.* 1978; as *Oromurcia* sp.).

Genus *Trichoribates* Berlese, 1910

Trichoribates copperminensis Hammer, 1952

Geographic Location: **AK:** Atqasuk; Seward Peninsula, Deering; Cape Krusenstern; Brooks Range, riverbed of Sagavanirtok River; Toolik Lake; Denali NP, Eielson, Wonder Lake (Behan 1978a; Behan-Pelletier 1985); **YT:** Ivavik NP, British Mtns, 69°13'N, 140°05'W; Fish Creek, 69°27'N, 140°25'W; Kluane NP, Stills Road (Behan-Pelletier 1985); Richardson Mtns; Ogilvie Mtns (Behan-Pelletier 1997b); **NT:** Mackenzie Delta arctic and subarctic (Behan 1978a); Victoria Is., southwest of Collinson Inlet, 72°31'N, 115°44'W (Behan 1978a); **NU:** Coppermine (Hammer 1952a); **BC:** Interior (Battigelli *et al.* 2004); **AB:** ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019).

Habitats: wet tundra meadow; spruce litter.

Distribution: Western Nearctic; eastern Palaearctic.

Trichoribates formosus (Banks, 1909)

Original name: *Oribatella formosa* Banks, 1909 (Marshall *et al.* 1987)

Geographic Location and Habitats: **ON:** Guelph, under bark of mountain ash, Norway spruce, catalpa, Balsam fir (Banks 1909; Jarvis 1910).

Distribution: Nearctic.

Trichoribates incisellus (Kramer, 1897)

Original name: *Oribata incisella* Kramer, 1897 (Willmann 1931)

Synonymy: *Trichoribatella baloghi* Mahunka, 1983, *Latilamellobates baloghi* (Mahunka 1983): (Weigmann 2006).

Geographic Location and Habitats: BC: Delta, adjacent to Burns Bog, cranberry bushes in cranberry farm (Behan-Pelletier 2000); AB: Jackie Parker Park, Edmonton (Walter *et al.* 2014).

Distribution: Holarctic.

Trichoribates obesus (Banks, 1895)

Original name: *Oribatella obesa* Banks, 1895 (Grandjean 1954)

Synonymy: *Jugatala lamellata* Ewing, 1918: (Marshall *et al.* 1987), *Trichoribates lamellata* (Ewing, 1918): (Woolley 1958).

Geographic Location: AK: Fort Richardson; Anchorage (Hammer 1955a).

Habitat: Grass with roots and soil.

Distribution: Holarctic.

Trichoribates sp. nr. *obesus* (Banks, 1895)

Geographic Location and Habitats: YT: stem rust cankers of hard pines (Powell *et al.* 1972); AB: Kananaskis Valley, Lodgepole pine litter (Powell & Skaley 1975); comandra blister rust, *Cronartium comandrae*, on Lodgepole pine (Powell 1971); SK: stem rust cankers of hard pines (Powell *et al.* 1972).

Remarks: These records are as *Trichoribates* sp. nr. *lamellata* (Ewing, 1918).

Trichoribates ogilviensis Behan-Pelletier, 1986

Geographic Location and Habitats: YT: Ogilvie Mtns, 64°14'N, 138°45'W, wet moss by flowing water among rocks; 65°42'N, 139°38'W, seepage area with *Lagotis*, *Cardamine*, *Dryas*, *Papaver*, moss (Behan-Pelletier 1986, 1997).

Distribution: Canada.

Trichoribates polaris Hammer, 1953

Geographic Location: AK: Barrow (Hammer 1955a; Hurd & Lindquist 1958; Bohnsack 1968, 1973); Cape Thompson (Watson *et al.* 1966); northern and northwestern coastal plain; Fairbanks Region; Denali NP; Chugach Mtns; Kenai Peninsula; Pribilof Islands (Behan 1978a); Brooks Range, Dalton Hwy. crossing of Kanuti River (Behan 1978a; Behan-Pelletier 1985; Hammer (1955a); YT: Richardson Mtns, Ogilvie Mtns (Behan-Pelletier 1997b); modern fossils (Matthews & Telka 1997); NT: Banks Is. (Behan 1978a); Victoria Is., southwest of Collinson Inlet (Behan-Pelletier 1985); NU: Devon Is. (Ryan 1977; Behan 1978a); Ellesmere Is.: Slidre Fiord (Hammer 1953); Alexandra Fiord, Oldsquaw nest; Quttinirpaaq NP: Hazen Camp, 81°49'N, 71°16'W (Behan 1978a); Hazen Camp (Kevan *et al.* 1995); Hot Weather Creek (Brodo 2000); Bathurst Is., 75°43'N, 98°25'W (Danks and Byers 1972; Behan 1978a); Melville Is., Baily Point; Axel Heiberg Is. (Behan 1978a).

Habitats: arctic coastal plain; tussock tundra; *Salix*, *Betula*, *Sphagnum* litter in moist bog; lemming nest.

Distribution: Nearctic; eastern Palaearctic.

Trichoribates principalis (Berlese, 1914)

Original name: *Sphaerozetes (Trichoribates) principalis* Berlese, 1914 (Schweizer 1956)

Combination: *Diapterobates principalis* (Berlese, 1914) sensu Powell (1971); (Subías 2004).

Synonymy: *Diapterobates reticulatus* (C.L. Koch): (Subías 2004).

Geographic Location and Habitats: AB: Kananaskis Valley, Lodgepole pine litter (Powell & Skaley 1975); stem rust cankers of hard pines (Powell *et al.* 1972).

Distribution: Holarctic.

Remarks: This record probably represents a misidentification initiated by Powell (1971), as otherwise the species is known only from Italy.

Trichoribates striatus Hammer, 1952

Geographic Location: AK: Kenai Peninsula, Homer (Behan 1978a); YT: Porcupine Plain (Behan-Pelletier 1997b); AB: ABMI Sites; Moose Pasture Research Site (Walter *et al.* 2014); 35 km north of Fort McMurray (McAdams *et al.* 2018); MB: Churchill (Hammer 1952a); NS: Sable Is. (Majka *et al.* 2007).

Habitats: Boreal forest with White spruce, Black spruce, Jack pine and Trembling aspen; tussock tundra.
Distribution: Nearctic.

Trichoribates nr. *striatus* Hammer, 1952

Geographic Location and Habitats: **AB:** Wagner Natural Area, 8km W Edmonton, 53°34'N, 113°47'W, fen (Finnamore 1994).

Trichoribates sp. nr. *trimaculatus* (C.L. Koch, 1836)

Geographic Location and Habitats: **QC:** Apple orchard (Forest *et al.* 1982);

Trichoribates sp.

Geographic Location and Habitats: **AK:** Barrow (Weber 1950; Douce 1976); **BC:** Walbran Valley, Western redcedar litter (Lindo 2010); **AB:** Kananaskis Valley, Lodgepole pine litter (Powell & Skaley 1975); peatlands (Behan-Pelletier & Bissett 1994); ABMI Sites (3 spp.) (Walter *et al.* 2014) (1 sp.) (Meehan *et al.* 2019); **ON:** Lake Superior, Granite Is., Black Bay, ring-billed gull nests (Freitag & Ryder 1973); **NS:** Southwest Nova Scotia Uplands; from apple orchards (Rasmy & McPhee 1970); Cape Breton Highlands NP (Behan-Pelletier 2010); **NL:** between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer *et al.* 1997, 1998); **PE:** (Behan-Pelletier 2010).

Family Chamobatidae

Genus *Chamobates* Hull, 1916

Chamobates cuspidatus (Michael, 1884)

Original name: *Oribata cuspidata* Michael, 1884 (Willmann 1931)

Combination: *Chamobates cuspidata* (Michael); (Willmann 1931), *Murcia cuspidatus* (Michael, 1884); (Willmann 1931), *Euzetes cuspidatus* (Michael, 1884); (Willmann 1931).

Geographic Location: **AB:** ABMI sites (Meehan *et al.* 2019); **ON:** Petawawa National Forestry Institute, Chalk River (Bird & Chatarpaul 1986); **QC:** Abitibi (Déchéne & Buddle 2009, 2010); Morgan Arboretum (Marshall 1968; Sylvain & Buddle 2010); **NL:** between Corner Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: mixed conifer-hardwood forest; boreal mixedwood forest; Balsam fir forests.

Distribution: Holarctic.

Chamobates cf. *cuspidatus* (Michael, 1884)

Geographic Location: **AB:** ABMI Sites (Walter *et al.* 2014); 35 km north of Fort McMurray (McAdams *et al.* 2018).

Chamobates pusillus (Berlese, 1895)

Original name: *Oribates pusillus* Berlese, 1895 (Sellnick 1929)

Geographic Location: **AK:** Gulf of Alaska, Samovar Hills, 60°17'N, 140°37'W, from *Sphagnum* (Block 1966).

Distribution: Holarctic.

Chamobates sp. nr. *pusillus* (Berlese, 1895)

Geographic Location and Habitats: **QC:** Gatineau Park, *Fomes* sporophores (Matthewman & Pielou 1971).

Chamobates schuetzi (Oudemans, 1902)

Original name: *Notaspis schützi* Oudemans, 1902 (Evans 1952a)

Combination: *Scheloribates schützi* (Oudemans, 1902); (Buitendijk 1945).

Geographic Location: **AK:** Fort Richardson; Anchorage (Hammer 1955a).

Habitats: Wood, lichen, grass.

Distribution: Holarctic.

Chamobates sp.

Geographic Location and Habitats: **BC:** Isaiah Creek study site (Lindo & Stevenson 2007); Vancouver Is., Walbran Valley (Lindo & Winchester 2006) Western redcedar trunk (Lindo & Winchester 2007); **AB:** Trembling aspen, White spruce mesocosm (Cameron *et al.* 2013); ABMI Sites (Walter *et al.* 2014); 35 km north of Fort McMurray (McAdams *et al.* 2018; as sp. 2 DEW); **QC:** Abitibi, boreal mixedwood forest (Déchêne & Buddle 2009, 2010); **NB:** Maritime Lowlands (Behan-Pelletier 2010); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Family **Euzetidae**

Genus *Euzetes* Berlese, 1908

Euzetes sp.

Geographic Location and Habitats: **QC:** Mont Tremblant (Behan *et al.* 1978); Morgan Arboretum, beech, maple, conifer litter (Sylvain & Buddle 2010).

Family **Humerobatidae**

Genus *Humerobates* Sellnick, 1928

Humerobates arborea (Banks, 1895)

Original name: *Oribata arborea* Banks, 1895 (Johnston 1965)

Combination: *Banksinus arborea* (Banks, 1895); (Jacot 1938d).

Geographic Location and Habitats: **BC:** coastal montane (Lindo & Clayton 2011).

Distribution: Nearctic; Ethiopian.

Humerobates rostromellatus Grandjean, 1936

Synonymy: *Oribates humeralis* sensu Berlese (1883), non Hermann (1804): (van der Hammen 1952), *Notaspis humeralis* sensu Oudemans (1902), non Hermann (1804): (van der Hammen 1952), *Humerobates humeralis* sensu Sellnick (1928), non Hermann (1804): (van der Hammen 1952), *Oribata lapidaria* sensu Michael (1884), non Lucas (1849): (van der Hammen 1952), *Oribates facula* sensu Oudemans (1896): (van der Hammen 1952), *Humerobates fungorum* sensu Willmann (1931), non Linnaeus (1758): (van der Hammen 1952).

Geographic Location and Habitats: **BC:** Sicamous Creek (Berch *et al.* 2007); **NS:** Southwest Nova Scotia Uplands; from apple orchards (Rasmy & McPhee 1970); Introduction to USA from Canada (Hammer 1969; as *Humerobates fungorum*).

Distribution: Semicosmopolitan.

Remarks: The identity of Linnaeus' *Acarus fungorum* is uncertain and it is likely that Hammer's (1969) record of *Humerobates fungorum* actually refers to *Humerobates rostromellatus* Grandjean, 1936 according to Marshall *et al.* (1987).

Humerobates sp.

Geographic Location: **NS:** Southwest Nova Scotia Uplands (Behan-Pelletier 2010).

Family **Punctoribatidae**

Genus *Adoribatella* Woolley, 1967

Remarks: *Adoribatella* was transferred from Oribatellidae to Punctoribatidae based on the arguments of Behan-Pelletier (2013).

Adoribatella punctata Woolley, 1967

Geographic Location: **AB:** ABMI 2011, Site 1261, (52.76024246, -117.170143); ABMI 2011, Site 1003, (54.26610184, -117.516617); ABMI 2011 Site 1260, (52.82332993, -117.458916) (Behan-Pelletier 2013; Walter *et al.* 2014).

Habitats: grasses and sedges; upland spruce forest.

Distribution: Western Nearctic; eastern Palaearctic.

Genus *Cyrtozetes* Behan-Pelletier, 1985

Remarks: *Cyrtozetes* was considered a subgenus of *Ceratozetella* by Subías (2004), but without justification. The combination and associated transfer from Punctoribatidae to Ceratozetidae are rejected.

Cyrtozetes denaliensis Behan-Pelletier, 1985

Geographic Location: **AK:** Denali NP, Wonder Lake camp; Brooks Range; Bethel; Nome; **YT:** Ivvavik NP, British Mtns, 69°13'N, 140°05'W; Eagle River (Behan-Pelletier 1985); Porcupine Plain; Richardson Mtns; Ogilvie Mtns (Behan-Pelletier 1997b).

Habitats: dry tundra biotopes north of latitude 60.

Distribution: Nearctic.

Cyrtozetes inupiaq (Behan-Pelletier, 1986)

Original name: *Ceratozetes inupiaq* Behan-Pelletier, 1986 (Behan-Pelletier & Eamer 2009)

Geographic Location: **YT:** Ogilvie Mtns, 64°43'N, 139°09'W; Northfork Pass; 64°27'N, 139°03'W; Ivvavik NP, British Mtns; 69°15'N, 140°09'W (Behan-Pelletier 1986); Richardson Mtns (Behan-Pelletier 1997b).

Habitats: rock desert; *Draba*, *Papaver*, *Potentilla* litter on stabilized scree; soil under *Saxifraga*.

Distribution: Canada.

Cyrtozetes lindoae Behan-Pelletier and Eamer, 2008

Geographic Location: **BC:** Vancouver Is., Walbran Valley (Lindo *et al.* 2008b); Mt. Cain; Mainland: Osoyoos, Mt. Kobau; Manning PP; Spruce Bay Beach; Cathedral PP (Behan-Pelletier & Eamer 2008); Isaiah Creek study site (Lindo & Stevenson 2007); **AB:** Waterton Lakes NP (Behan-Pelletier & Eamer 2008).

Habitats: Western red-cedar habitats; *Abies amabilis* needles; Douglas fir litter; decaying moss on Western hemlock trunk.

Distribution: Canada.

Cyrtozetes sp.

Geographic Location and Habitat: **BC:** Vancouver Is., Western redcedar (Lindo & Winchester 2007);

AB: ABMI Sites (Walter *et al.* 2014).

Genus *Guatemalozetes* Mahunka, 1979

Guatemalozetes danos Behan-Pelletier and Ryabinin, 1991

Geographic Location: **AB:** Writing-on-Stone PP, Milk River (Behan-Pelletier & Ryabinin 1991); ABMI site; Dinosaur PP (Walter *et al.* 2014).

Habitat: dry open grasslands, prairie, and woodlands.

Distribution: Nearctic.

Genus *Minunthozetes* Hull, 1916

Minunthozetes semirufus (C.L. Koch, 1841)

Original name: *Zetes semirufus* C.L. Koch, 1841 (Radford 1950)

Synonymy: *Oribata fusigera* Michael, 1884: (Hull 1916).

Geographic Location and Habitats: **NS:** Cape Breton Highlands NP (as *Minunthozetes* sp.) (Behan-Pelletier 2010); **NL:** Gros Morne NP, meadow pasture turf (Behan-Pelletier & Eamer 2008).

Distribution: Holarctic.

Genus *Mycobates* Hull, 1916

Mycobates acuspidatus Behan-Pelletier, Eamer and Clayton, 2001

Geographic Location: **BC:** Vancouver Is., Campbell River; Mt Cain; Upper Carmanah Valley (Behan-Pelletier *et al.* 2001); Walbran Valley (Lindo & Winchester 2006).

Habitats: *Abies amabilis* lower canopy and needles; canopy of *Picea sitchensis* and Western redcedar.

Distribution: Western Nearctic.

Mycobates altus Behan-Pelletier, 1994

Geographic Location: **AB:** Waterton Lakes NP (Behan-Pelletier 1994); ABMI Sites (Walter *et al.* 2014).

Habitats: alpine, boreo-montane species found in moss, lichen.

Distribution: Nearctic.

Mycobates azaleos Behan-Pelletier, 1994

Geographic Location: **BC:** Ilgachuz Mtns; Kobau Mountain; Cathedral PP; **AB:** Waterton Lakes NP (Behan-Pelletier 1994).

Habitats: dry alpine, subalpine habitats.

Distribution: Nearctic.

Mycobates beringianus Behan-Pelletier, 1994

Geographic Location: **AK:** Denali NP; Brooks Range; **YT:** Richardson Mtns; Blow River; Mount Gifford, Shingle Point; Old Crow; Ivvavik NP, British Mtns; Nahoni Range (Behan-Pelletier 1997b); **NT:** Reindeer Station (Behan-Pelletier 1994).

Habitats: dry tussock tundra; moss, lichens and *Dryas*; *Potentilla* litter; *Carex*, *Kobresia*, *Salix*, *Vaccinium*, *Populus* litter; *Artemisia* slopes.

Distribution: Western Nearctic; eastern Palaearctic.

Mycobates brevilamellatus Behan-Pelletier, 1994

Geographic Location and Habitats: **BC:** Manning PP, *Woodsia*, *Phlox*, *Antennaria*, *Sibbaldia*, *Selaginella*, *Saxifraga*, grass; S-facing slope with *Saxifraga*, moss and stonecrop (Behan-Pelletier 1994).

Distribution: Canada.

Mycobates conitus Hammer, 1952

Combination: *Calyptozetes conitus* (Hammer, 1952); (Danks 1981).

Geographic Location: **AK:** Barrow (Douce 1976); Cape Thompson (Watson *et al.* 1966); Cape Thompson; Wainwright; Wales; Eagle Summit; Toolik Lake (Behan-Pelletier 1994); Dalton Highway (MacLean *et al.* 1978); Elliott Highway Burn, (65°19'N, 149°06'W) (Thomas & McLean 1988; as *Mycobates* nr. *punctatus*); **YT:** Shingle Point; Running River; Richardson Mtns; Ogilvie Mtns, Windy Pass; Mount Gifford (Behan-Pelletier 1994, 1997); **NT:** Reindeer Station (Hammer 1952a); Victoria Is.; Tuktoyaktuk (Behan-Pelletier 1994); **NU:** Coppermine (Hammer 1952a); Baffin Is., Pangnirtung (Behan-Pelletier 1994); **AB:** EMEND Site (Lindo & Visser 2004); **QC:** Leaf River (Behan-Pelletier 1994); Morgan Arboretum (Sylvain & Buddle 2010); **NF:** Labrador; Gros Morne NP (Behan-Pelletier 1994).

Habitats: arctic dry tundra; tussock tundra; mixed *Picea*, *Alnus*, *Ribes* litter; boreal forest; White spruce litter; beech litter.

Distribution: Nearctic.

Remarks. Mites reported as *M. punctatus* Hammer in Behan (1978a) and in MacLean *et al.* (1978) were misidentified;

they represent *M. conitus*. This affects distribution records for these two species in Marshall *et al.* (1987) and Behan-Pelletier (1993a). Similarly, specimens ascribed to *Mycobates tridactylus* Willmann, 1929 in Behan (1978a) were misidentified and instead represent *M. conitus*.

Mycobates corticeus Behan-Pelletier, Eamer and Clayton, 2001

Geographic Location: BC: Vancouver Is., Walbran Valley (Lindo & Winchester 2007; Lindo 2010); Campbell River; McMillan PP, Cathedral Grove; Mainland, Richmond Nature Park (Behan-Pelletier *et al.* 2001); Isaiah Creek study site (Lindo & Stevenson 2007).

Habitats: Western redcedar litter and canopy; *Abies amabilis* lower canopy; moss, lichens, bark from very old Douglas fir.

Distribution: Canada.

Mycobates dryas Behan-Pelletier, 1994

Geographic Location: AK: Denali NP; Toolik Lake (Behan-Pelletier 1994); YT: Richardson Mtns; Nahoni Range; Eagle River; Northfork Pass; km 141 N Dempster Hwy, above Blackstone River; Ogilvie Mtns; Carcross dunes; Ivavik NP, British Mtns (Behan-Pelletier 1994); NT: Murchinson River (Behan-Pelletier 1994); NU: Coppermine (Hammer 1952a); AB: Jasper NP; Sunwapta Falls (Behan-Pelletier 1994); ABMI Sites (Walter *et al.* 2014); NL: (Behan-Pelletier 1994).

Habitats: coastal tundra; tussock tundra; alpine tundra; dry tundra; *Pinus contorta* litter with some *Empetrum* and *Picea glauca*.

Distribution: Nearctic.

Mycobates exigualis Behan-Pelletier, 1994

Geographic Location and Habitats: NS: Cape Breton Highlands NP, *Vaccinium*, *Arctostaphylos*, *Juniperus* litter and moss, on cliff; lichens on rocks; *Vaccinium*, *Empetrum*, moss and lichen litter (Behan-Pelletier 1994; 2010).

Distribution: Canada.

Mycobates hammerae Behan-Pelletier, 1994

Geographic Location: AK, Denali NP; Eagle Summit; Pribilof Islands, St. Paul's Is.; Cape Thompson (Behan-Pelletier 1994); YT, Ogilvie Mtns; Old Crow; Northfork Pass (Behan-Pelletier 1994, 1997).

Habitats: dry tundra; scree slopes with *Dryas*, *Silene*, *Artemesia*; *Salix*, *Shepherdia* litter.

Distribution: Nearctic.

Mycobates hylaeus Behan-Pelletier, 1994

Geographic Location: ON: Ouimet Canyon (Behan-Pelletier 1994); near Chapleau (Rousseau *et al.* 2018); NB: Kouchibouguac NP (Behan-Pelletier 1994); NS: Cape Breton Highlands NP (Behan-Pelletier 1994; 2010).

Habitats: Jack pine litter; spruce and tamarack bark; *Vaccinium*, *Empetrum*, *Ledum* and shrub *Abies* litter.

Distribution: Canada.

Mycobates incurvatus Hammer, 1952

Combination: *Calyptozetes incurvatus* Hammer, 1952; (Danks 1981).

Geographic Location: AK: Anaktuvuk Pass; Fort Richardson; Fairbanks; Anchorage (Hammer 1955a); Cape Thompson (Watson *et al.* 1966); mi 99 of Elliot Hwy; Brooks Range (Behan-Pelletier 1994); YT: Yellowknife (Hammer 1952a); Ogilvie Mtns, Northfork Pass; Richardson Mtns; Old Crow (Behan-Pelletier 1994, 1997); NT: Tuktoyaktuk (Behan-Pelletier 1994, 1997); NU, Keewatin, Henik Lake Lodge (Behan-Pelletier 1994); BC: Interior (Battigelli *et al.* 2004); Yoho NP (Behan-Pelletier 1994); AB: EMEND Site (Lindo & Visser 2004); Cypress Hills PP; Kananaskis Country; Jasper NP (Behan-Pelletier 1994); ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); 35 km north of Fort McMurray (McAdams *et al.* 2018); QC: Ungava Bay (Hammer 1952a); Schefferville; Leaf River (Behan-Pelletier 1994); Abitibi (Déchéne & Buddle 2009, 2010); NS: Cape Breton Highlands NP (Behan-Pelletier 1994; 2010); NL: between Corner

Brook and Little Grand Lake (Dwyer *et al.* 1997, 1998).

Habitats: tussock heath; bog tundra; dry tundra; boreal mixedwood forest; boreomontane forest; moss and lichens on log in Englemann spruce forest; litter in mammal burrow; reindeer lichen and moss; thick beech litter; Balsam fir forests

Distribution: Nearctic.

Mycobates occidentalis Behan-Pelletier, 1994

Geographic Location and Habitats: **AK**, Semidi Is. (Behan-Pelletier 1994); **BC**: Vancouver Is., Brooks Peninsula, soil and grass (Behan-Pelletier 1994).

Distribution: Nearctic.

Mycobates parmeliae (Michael, 1884)

Original name: *Oribata parmeliae* Michael, 1884 (Willmann 1931)

Combination: *Notaspis parmeliae* (Michael, 1884); (Oudemans 1900a).

Geographic Location: **NS**: Cape Breton Highlands NP (Behan-Pelletier 1994).

Habitats: Coastal lichens; lichens and moss on trunks of red maple.

Distribution: Holarctic.

Mycobates perates Behan-Pelletier, 1994

Synonymy: *Mycobates parmeliae* sensu Hammer (1952a), (Behan 1978a, Behan *et al.* 1978), non Michael (1884); (Behan-Pelletier 1994).

Geographic Location: **AK**: Fort Richardson; Elliot Highway (Behan-Pelletier 1994); **YT**: Yellowknife (Hammer 1952a); Klondike Highway; Richardson Mtns (Behan-Pelletier 1994); **NU**: Coppermine (Hammer 1952a); **AB**: ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); **MB**: Churchill (Hammer 1952a); **QC**: northern region (Behan 1978a); Mont Tremblant (Behan *et al.* 1978); Mont Megantic (Behan-Pelletier 1994).

Habitats: tussock tundra; moss and lichens; *Picea glauca* litter; lichens on bark of *Abies*.

Distribution: Nearctic.

Mycobates punctatus Hammer, 1955

Geographic Location: **AK**: Fort Richardson; Anchorage (Hammer 1955a); **YT**: Richardson Mtns; Ogilvie Mtns (Behan-Pelletier 1997b); **BC**: Manning PP; Mount Kobau; Ilgachuz Mtns; Saltery Bay PP (Behan-Pelletier 1994); Interior (Battigelli *et al.* 2004).

Habitats: tundra, moss and lichens; moss from Western redcedar trunks; moss and bark from standing dead Douglas fir; Lodgepole pine litter; spruce litter.

Distribution: Nearctic.

Remarks: Mites reported as *M. punctatus* Hammer in Behan (1978a) and in MacLean *et al.* (1978) were misidentified; they represent *M. conitus*.

Mycobates sarekensis (Trägårdh, 1910)

Original name: *Oribata sarekensis* Trägårdh, 1910 (Hammer 1952a)

Combination: *Calypozetes sarekensis* (Trägårdh, 1910); (Danks 1981).

Synonymy: *Mycobates consimilis* Hammer, 1952a; (Behan-Pelletier 1994).

Geographic Location: **AK**: 68°N, 160°W (Hammer 1955a); Barrow (Bohnsack 1968, 1973); arctic slope (Hammer 1954); Cape Thompson (Watson *et al.* 1966); Brooks Range; Eagle Summit (Behan-Pelletier 1994); Seward Peninsula, near to Cape Espenberg (66°28'22"N, 163°56'56"W), greyish tephra from Aniakchak eruption (Blackford *et al.* 2014); **YT**: Richardson Mtns, Mount Gifford (Hammer 1952a); Ivavik NP, British Mtns; Ogilvie Mtns; Northfork Pass; Nahoni Range (Behan-Pelletier 1994, 1997); **NT**, Reindeer Station (Hammer 1952a; Behan-Pelletier 1994); **NU**: Coppermine (Hammer 1952a).

Habitats: tussock tundra; dry tundra; rock desert; grasses on pingo; *Dryas* meadow; mixed vegetation from rocky slope; mixed moss, *Saxifraga* by stream from snow melt.

Distribution: Holarctic.

Mycobates tridactylus Willmann, 1929

Combination: *Calyptozetes tridactylis* [sic] (Willmann, 1929); (Danks 1981).

Geographic Location: NU: Baffin Is., Iqaluit (Hammer 1952a).

Distribution: Holarctic.

Remarks: Specimens previously ascribed to *Mycobates tridactylus* Willmann, 1929 in (Behan 1978a) were misidentified and instead represent *M. conitus*. Hammer's (1952a) specimens from Iqaluit are not available for study, and are possibly misidentified (Behan-Pelletier 1994).

Mycobates yukonensis Behan-Pelletier, 1994

Geographic Location and Habitats: YT: Ogilvie Mtns, peat at edge of sulphur spring; Richardson Mtns, mixed tundra vegetation (Behan-Pelletier 1994); in boreal forest (Behan-Pelletier 1997b).

Distribution: Canada.

Mycobates sp.

Geographic Location and Habitats: AK: Barrow (Hurd & Lindquist 1958; Bohnsack 1973); Chugach Mtns, Kenai Peninsula, Pribilof Islands (2 spp.) (Behan 1978a); Elliott Highway Burn, (65°19'N, 149°06'W), tussock heath (Thomas & McLean 1988); YT: modern fossils (Matthews & Telka 1997); AB: Trembling aspen, White spruce mesocosm (Cameron *et al.* 2013).

Genus *Pelopsis* Hall 1911

Pelopsis bifurcatus (Ewing, 1909)

Original name: *Pelops bifurcata* Ewing, 1909 (Norton 1979c)

Combination: *Ewingozetes bifurcatus* (Ewing, 1909); (Hammer 1952a), *Parapelops bifurcatus* (Ewing); (Jacot 1938g).

Synonymy: *Galumna panita* Banks, 1910: (Marshall *et al.* 1987), *Pelopsis nudiuscula* Hall, 1911: (Norton 1979c).

Geographic Location: NT: Yellowknife (Hammer 1952a); AB: Waterton Lakes NP (Behan-Pelletier & Eamer 2008); ABMI Sites; Moose Pasture Research Site; Morinville (Walter *et al.* 2014); NS: Dominion; Cape Breton Highlands NP (Behan-Pelletier *et al.* 1987; Behan-Pelletier & Eamer 2008).

Habitats: sandy, wet lakeshore in dense vegetation; mosses in floating fen; gravel in riffle.

Distribution: Nearctic.

Genus *Punctoribates* Berlese 1908

Punctoribates hexagonus Berlese, 1908

Combination: *Minguezetes hexagonus* (Berlese, 1908); (Pavlitshenko 1994).

Geographic Location and Habitats: AK: Brooks Range (Behan 1978a).

Distribution: Holarctic.

Punctoribates palustris (Banks, 1895)

Original name: *Oribata palustris* Banks, 1895 (Marshall *et al.* 1987)

Combination: *Galumna palustris* (Banks, 1895); (Banks 1907).

Synonymy: *Galumna armipes* Banks, 1906: (Behan-Pelletier & Eamer 2008), *Punctoribates armipes* (Banks, 1906): (Marshall *et al.* 1987).

Geographic Location: YT: Klondike River Bridge (Behan-Pelletier & Eamer 2008); BC: Oliver; Grand Forks; Haynes Point; Richmond Nature Park; Vancouver Is.; Cowichan Lake Research Station (Behan-Pelletier & Eamer 2008); AB: Waterton Lakes NP (Behan-Pelletier & Eamer 2008); ABMI Sites; Buck Creek (53°13'N, 114°46'W (Walter *et al.* 2014); ABMI Sites (Meehan *et al.* 2019); SK: Prince Albert NP (Behan-Pelletier & Eamer 2008); ON: Black Sturgeon Lake; Timiskaming Co.; St. Lawrence Islands NP; Sudbury; A'nowaghi Forest (Behan-Pelletier & Eamer 2008); near White River (Barreto & Lindo 2018);

QC: Val des Monts; Parc National de Frontenac (Behan-Pelletier & Eamer 2008); **NB:** Kouchibouguac NP (Behan-Pelletier & Eamer 2008); **NS:** Wentworth PP; Cape Breton Highlands NP (Behan-Pelletier & Eamer 2008; Behan-Pelletier 2010); **NL:** (Behan-Pelletier & Eamer 2008); **PE:** (Behan-Pelletier 2010).

Habitats: boreal willow and poplar litter; sphagnum in peat bog; muskeg; litter of highbush blueberry, royal fern; surface debris on beaver house; under bark of *Pinus resinosa*; Trembling aspen litter; Red oak litter.

Distribution: Holarctic.

Punctoribates punctum (C.L. Koch, 1839)

Original name: *Oribates punctum* C.L. Koch, 1839 (Willmann 1931)

Synonymy: *Punctoribates latilobatus* Kunst, 1957: (Pavlitshenko 1994).

Geographic Location: **BC:** Vancouver Is.; Mainland, Richmond Nature Park; **NB:** Kouchibouguac NP; **NS:** Cape Breton Highlands NP (Behan-Pelletier & Eamer 2008; Behan-Pelletier 2010); **NL:** Gros Morne NP (Behan-Pelletier & Eamer 2008).

Habitats: Garry oak litter; moss and bark of fallen Redcedar; wet sphagnum; bracket fungus on old stump.

Distribution: Holarctic.

Punctoribates weigmanni Behan-Pelletier and Eamer, 2008

Geographic Location and Habitats: **ON:** Leeds Co., nr. Otter Lake, moss with lichen on W-facing limestone slope (Behan-Pelletier & Eamer 2008).

Distribution: Nearctic.

Punctoribates sp.

Geographic Location and Habitats: **ON:** Sudbury, White birch and aspen (St. John *et al.* 2002); **QC:** Mirabel municipality south of Belle-Rivière (Tousignant *et al.* 1988; Tousignant & Coderre 1992).

Genus *Zachvatkinibates* Shaldybina, 1973

Zachvatkinibates epiphytos Behan-Pelletier, Eamer and Clayton, 2001

Geographic Location and Habitats: **BC:** Vancouver Is., Campbell River, lichen in *Tsuga heterophylla* upper canopy; Mt Cain, *Abies amabilis* needles on *Abies amabilis* branch (Behan-Pelletier *et al.* 2001).

Distribution: Canada.

Zachvatkinibates maritimus Shaldybina, 1973

Geographic Location: **AK:** Kotzebue; Nunivak Is.; Glacier Bay, 15 km SE Lituya Bay (Behan-Pelletier 1988a); **YT:** Herschel Is., Herschel Spit; Running River, 68°57.5'N, 137°17'W (Behan-Pelletier 1988a, 1997); **BC:** Vancouver Is.: SE end of Long Beach; Cowichan Lake Experimental Station, Mesachie Lake (Behan-Pelletier 1988a).

Habitats: *Elymus* on sand dunes; supratidal meadow; *Stellaria*, *Potentilla* and grasses on upper shore; woody debris thrown by tide on shore; wet root mat by lake edge.

Distribution: Holarctic.

Zachvatkinibates nortoni Behan-Pelletier and Eamer, 2005

Geographic Location and Habitats: **BC:** Vancouver Is., China Beach, sand and organic matter under thick driftwood pile (Behan-Pelletier & Eamer 2005).

Distribution: Canada.

Zachvatkinibates quadrivertex (Halbert, 1920)

Original name: *Oribata quadrivertex* Halbert, 1920 (Weigmann 2006)

Combination: *Punctoribates quadrivertex* (Halbert, 1920); (Hammer 1952a).

Geographic Location: **AK:** Northern and northwestern coastal plain; Atkasuk (Behan 1978a); **YT:** modern fossils (Matthews & Telka 1997); **NT:** Mackenzie Delta arctic and subarctic (Behan 1978a); **MB:** Churchill (Hammer 1952a).

Habitats: tussock tundra.

Distribution: Holarctic.

Zachvatkinibates nr. *quadrivertex* (Halbert, 1920)

Geographic Location and Habitats: YT: Tintina, boreal forest (Behan-Pelletier 1997b; as *Punctoribates* nr. *quadrivertex*).

Zachvatkinibates schatzi Behan-Pelletier and Eamer, 2005

Geographic Location and Habitats: BC: Vancouver Is., Rocky Point, dry coastal Garry oak site, 48°19'34"N, 123°32'31"W, from beach debris (Behan-Pelletier & Eamer 2005).

Distribution: Canada.

Zachvatkinibates shaldybinæ Behan-Pelletier and Eamer, 2005

Geographic Location: ON: James Bay, North Point, 51°29'N, 80°27'W; QC: Forillon NP, Penouille; NS: Dominion (Behan-Pelletier & Eamer 2005).

Habitats: saltmarsh grass, *Spartina alternifera*; plant matter on high tide flats.

Distribution: Nearctic.

Zachvatkinibates sp.

Geographic Location and Habitats: BC: Sicamous Creek (Berch *et al.* 2007).

Family **Zetomimidae**

Genus *Heterozetes* Willmann, 1917

Heterozetes aquaticus (Banks, 1895)

Original name: *Oribatella aquatica* Banks, 1895 (Marshall *et al.* 1987)

Synonymy: *Heterozetes patchlorum* Habeeb, 1974: (Behan-Pelletier & Eamer 2003).

Geographic Location: BC: Vancouver Is., Cowichan Lake Research Station, 48°49'N; 124°07'W (Behan-Pelletier & Eamer 2003); AB: ABMI Sites (Walter *et al.* 2014); ON: Ottawa, Mer Bleue; Ottawa, Dwyer Hill Road, (Behan-Pelletier & Eamer 2003); QC: Parc National de Frontenac (Behan-Pelletier & Eamer 2003); NB: Kouchibouguac NP (Behan-Pelletier & Eamer 2003); NS: Cape Breton Highlands NP, nr. Ingonish (Behan-Pelletier & Eamer 2003; Behan-Pelletier 2010).

Habitats: grasses, mosses at edge of lake; wet moss; sedges in roadside pond; *Sphagnum*, *Drosera*, sedges in bog.

Distribution: Nearctic.

Heterozetes minnesotensis (Ewing, 1913)

Original name: *Oribata minnesotensis* Ewing, 1913 (Marshall *et al.* 1987)

Synonymy: *Heterozetes cayugensis* Habeeb, 1974: (Behan-Pelletier & Eamer 2003).

Geographic Location: SK: Saskatoon (Behan-Pelletier & Eamer 2003); MB: Winnipeg, Wilkes Ave., Perimeter (Behan-Pelletier & Eamer 2003); ON: St. Lawrence Islands NP; Grenadier Is. Centre; Ottawa, Mer Bleue; Ottawa, Dwyer Hill Road, 45°04.010N, 75°53.786W (Behan-Pelletier & Eamer 2003); Sudbury (St. John *et al.* 2002); QC: Rawcliffe (Behan-Pelletier & Eamer 2003); NB: Kent Co., Kouchibouguac NP (Behan-Pelletier & Eamer 2003); NS: Cape Breton Highlands NP, nr. Ingonish (Behan-Pelletier & Eamer 2003; Behan-Pelletier 2010).

Habitats: temporary bog pools; wet White birch and Trembling aspen litter; moss on stones.

Distribution: Nearctic.

Genus *Naiazetes* Behan-Pelletier, 1996

Naiazetes reevesi Behan-Pelletier, 1996

Combination: *Geminozetes (Naiazetes) reevesi* (Behan-Pelletier, 1996); (Subías 2004).

Geographic Location and Habitats: **QC:** Parc National de Frontenac, aquatic (Behan-Pelletier 1996).

Distribution: Nearctic.

Remarks: We reject the placement of *Naiazetes* (Heterozetidae) as a subgenus of *Geminozetes* (Ceratozetidae) by Subías (2004), as no arguments were given for this placement.

Genus *Zetomimus* Hull, 1916

Remarks: *Zetomimus* was considered a member of Ceratozetidae by Subías (2004), without justification. We include it in Heterozetidae based on arguments in Behan-Pelletier & Eamer (2003).

Zetomimus cooki Behan-Pelletier and Eamer, 2003

Geographic Location: **ON:** Ottawa-Carleton, beside Dwyer Hill Road, 8.5km S Franktown Road (Behan-Pelletier & Eamer 2003).

Habitat: Aquatic

Distribution: Nearctic.

Zetomimus francisi (Habeeb, 1974)

Original name: *Ceratozetes francisi* Habeeb, 1974 (Marshall *et al.* 1987)

Geographic Location: **BC:** Vancouver Is., Cowichan Lake Experimental Station, Mesachie Lake (Behan-Pelletier & Eamer 2003); **AB:** Cypress Hills PP, Elkwater Lake (Behan-Pelletier & Eamer 2003); ABMI Sites; Moose Pasture Research Site (Walter *et al.* 2014); ABMI Sites (Meehan *et al.* 2019); **ON:** Black Sturgeon Lake Field Station, 49°15'N, 88°55'W; Eganville, Shaw Woods Nature Preserve; Ottawa, Dwyer Hill Road (Behan-Pelletier & Eamer 2003); **NB:** Kouchibouguac NP, Kelly's Beach (Behan-Pelletier & Eamer 2003); **NS:** Cape Breton Highlands NP, nr. Ingonish (Behan-Pelletier & Eamer 2003; Behan-Pelletier 2010).

Habitats: Aquatic.

Distribution: Nearctic.

Zetomimus setosus (Banks, 1895)

Original name: *Oribatella setosa* Banks, 1895 (Marshall *et al.* 1987)

Geographic Location: **AB:** ABMI Site (Walter *et al.* 2014); **ON:** Lanark Co., Tatlock; Ottawa-Carleton, beside Dwyer Hill Road; Bell's Corners, Sarsaparilla Nature Trail; Peel County, Cooksville; Black Sturgeon Lake Field Station, 49°15'N, 88°55'W; Eganville, Shaw Woods Nature Preserve (Behan-Pelletier & Eamer 2003); **NS:** Cape Breton Highlands NP (Behan-Pelletier & Eamer 2003; Behan-Pelletier 2010).

Habitats: Aquatic.

Distribution: Nearctic.

Superfamily **Galumnoidea**

Family **Galumnidae**

Genus *Acrogalumna* Grandjean, 1956

Acrogalumna sp.

Geographic Location and Habitats: **ON:** Petawawa National Forestry Institute, Chalk River, mixed conifer-hardwood forest (Bird & Chatarpaul 1986); **QC:** Mirabel municipality south of Belle-Rivière (Tousignant *et al.* 1988).

Genus *Galumna* von Heyden, 1826

Galumna hudsoni Hammer, 1952

Geographic Location: **MB:** Churchill (Hammer 1952a); **ON:** Petawawa National Forestry Institute, Chalk River (Bird & Chatarpaul 1986).

Habitats: tussock tundra; mixed conifer-hardwood forest.

Distribution: Canada.

Galumna nigra (Ewing, 1909)

Original name: *Oribata nigra* Ewing, 1909 (Freeman 1952)

Combination: *Zetes niger* [sic] (Ewing, 1909); (Jacot 1935a).

Geographic Location and Habitats: **ON:** Ottawa (Jacot 1935a).

Distribution: Nearctic.

Galumna sp.

Geographic Location and Habitats: **AK:** Fairbanks region (Behan 1978a); **NT:** MacKenzie Delta subarctic and arctic (Behan 1978a); **AB:** Dinosaur PP; Moose Pasture Research Site (Walter *et al.* 2014); ABMI Sites (4 spp.) (Walter *et al.* 2014); 35 km north of Fort McMurray (as sp. 1 DEW) (McAdams *et al.* 2018); **ON:** Lake Superior, Granite Is., Black Bay, ring-billed gull nests (Freitag & Ryder 1973); Sudbury, white birch and Trembling aspen (St. John *et al.* 2002); **QC:** Mont Tremblant (Behan *et al.* 1978); Gatineau (Matthewman & Pielou 1968); Mirabel municipality south of Belle-Rivière (Tousignant *et al.* 1988); **NB:** Maritime Lowlands (Behan-Pelletier 2010); **NS:** Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Genus *Pergalumna* Grandjean, 1936

Pergalumna dodsoni Nevin, 1979

Geographic Location and Habitats: **ON:** Sudbury, White birch and Trembling aspen (St. John *et al.* 2002).

Distribution: Nearctic.

Pergalumna emarginata (Banks, 1895)

Original name: *Oribata emarginata* Banks, 1895 (Marshall 1968)

Combination: *Galumna emarginata* (Banks, 1895); (Banks 1904), *Zetes emarginatus* (Banks, 1895); (Jacot 1935a).

Synonymy: *Oribates emarginatus europaeus* Berlese, 1914: (Berlese 1916), *Oribates emarginatus columbianus* Berlese, 1916: (Jacot 1935a), *Pergalumna omniphagous* Rockett and Woodring, 1966: (Marshall *et al.* 1987).

Geographic Location: **ON:** Guelph (Jarvis 1910); Ottawa (Jacot 1935a; Miller 1925); peatlands (Behan-Pelletier & Bissett 1994); near Chapleau (Rousseau *et al.* 2018); **QC:** peatlands (Behan-Pelletier & Bissett 1994).

Habitats: peatlands; boreal forest litter.

Distribution: Holarctic; Neotropical.

Pergalumna nr. *emarginata* (Banks, 1895)

Geographic Location and Habitats: **QC:** Morgan Arboretum, beech, maple, conifer litter (Sylvain & Buddle 2010).

Pergalumna formicaria (Berlese, 1914)

Original name: *Oribates formicarius* Berlese, 1914 (Sellnick 1960)

Combination: *Galumna formicarius* (Berlese); (Willmann 1931).

Synonymy: *Oribates alatus* sensu Berlese (1904, 1914), non Hermann (1804): (Marshall *et al.* 1987).

Geographic Locations and Habitats: **YT:** Yellowknife (Hammer 1952a); **QC:** nr. Mont Tremblant (Behan *et al.* 1978).

Habitats: subarctic spruce litter; boreal Black spruce humus.

Distribution: Holarctic.

Pergalumna nr. *formicaria* (Berlese, 1914)

Geographic Location and Habitats: YT: Porcupine Plain (Behan-Pelletier 1997b).

Pergalumna nervosa (Berlese, 1914)

Original name: *Oribates nervosus* Berlese, 1914 (Sengbush 1957)

Combination: *Galumna nervosus* (Berlese); (Willmann 1931), *Zetes nervosus* (Berlese); (Jacot 1935a).

Synonymy: *Galumna retalata* Oudemans, 1915: (van der Hammen 1952), *Zetes emarginatus garmani* (nomen nudum in Jacot 1935a).

Geographic Location and Habitats: ON: Petawawa National Forestry Institute, Chalk River, mixed conifer-hardwood forest (Bird & Chatarpaul 1986).

Distribution: Holarctic.

Pergalumna sp.

Geographic Location and Habitats: AB: (Newton & Proctor 2013); Trembling aspen, White spruce mesocosm (Cameron *et al.* 2013); Parkallen; ABMI Sites (Walter *et al.* 2014; Meehan *et al.* 2019); 35 km north of Fort McMurray (McAdams *et al.* 2018; as sp. 1 DEW); MB: Southeast, forest litter (Oswald & Minty 1970); ON: Sudbury, White birch and Trembling aspen (St. John *et al.* 2002); QC: Apple orchard (Forest *et al.* 1982); Mirabel municipality south of Belle-Rivière (Tousignant *et al.* 1988; Tousignant & Coderre 1992); boreal claybelt region of Western Québec (2 spp.) (Doblas-Miranda & Work 2015); NB: Maritime Lowlands (Behan-Pelletier 2010); NS: Cape Breton Highlands NP (Behan-Pelletier 2010; Behan-Pelletier *et al.* 1987).

Genus *Pilogalumna* Grandjean, 1956

Pilogalumna binadalaes (Jacot, 1929)

Original name: *Galumna areolata binadalaes* Jacot, 1929 (Nevin 1976)

Combination: *Galumna alatum binadalaes* (Jacot, 1929); (Jacot 1934a), *Galumna binadalare* [sic] (Jacot, 1929); (Johnston 1965).

Geographic Location and Habitats: ON: Sudbury, mixed deciduous coniferous forest; White birch and Trembling aspen (St. John *et al.* 2002).

Distribution: Nearctic.

Pilogalumna nr. *binadalaes* (Jacot, 1929)

Geographic Location and Habitats: ON: near Chapleau (Rousseau *et al.* 2018); QC: Abitibi, boreal mixedwood forest (Déchêne & Buddle 2009, 2010); Morgan Arboretum, beech, maple, conifer litter (Sylvain & Buddle 2010)

Pilogalumna tenuiclava (Berlese, 1908)

Original name: *Oribates tenuiclavus* Berlese, 1908 (Grandjean 1956)

Combination: *Allogalumna tenuiclava* (Berlese, 1908); (van der Hammen 1952), *Galumna tenuiclavus* (Berlese, 1908); (Willmann 1931).

Synonymy: *Galumna areolata* Willmann, 1923: (van der Hammen 1952), *Galumna radiata* Sellnick, 1928: (Willmann 1931).

Geographic Location: AK: Fort Richardson (Hammer 1955a).

Habitats: Grass, roots, soil.

Distribution: Holarctic.

Pilogalumna sp. nr. *tenuiclava* (Berlese, 1908)

Geographic Location and Habitats: BC: Interior, forest litter (Battigelli *et al.* 2004).

Pilogalumna sp.

Geographic Location and Habitats: BC: Vancouver Is., Walbran Valley (Lindo & Winchester 2006) (Lindo 2010); Victoria (Shackelford *et al.* 2018); AB: EMEND Site, White spruce and Trembling aspen litter (Lindo & Visser 2004); Trembling aspen, White spruce mesocosm (Cameron *et al.* 2013); Moose Pasture Research Site; ABMI Sites (2 spp.) (Walter *et al.* 2014; Meehan *et al.* 2019); 35 km north of Fort McMurray (McAdams *et al.* 2018; as sp. 1 DEW); NF: between Corner Brook and Little Grand Lake, Balsam fir forests (Dwyer *et al.* 1997, 1998).

Genus *Trichogalumna* Balogh, 1960

Trichogalumna sp.

Geographic Location and Habitats: QC: St. Clet, agricultural field (Smith 1978).

Species incertae sedis

Correction:

Eremaeus oresbios Behan-Pelletier, 1993

The record of this species in Alberta in Behan-Pelletier & Eamer (2004) is a lapsus; the species is only known from Oregon, Colorado, Wyoming, Nebraska, Arizona and New Mexico (Behan-Pelletier 1993b).

Nomen nuda:

Diapterobates parvenalis nomen nudum in Behan 1978a (Marshall *et al.* 1987)

Geographic Location: AK: Brooks Range; Fairbanks Region; Denali NP; Chugach Mtns; Kenai Peninsula (Behan 1978a).

Unplaced species:

Liacarus panulus

Geographic Location and Habitats: ON: from moss on stump (Jarvis 1910).

Neoliochthonius sp. nr *globuliferous*

Geographic Location and Habitats: BC: Mainland, Interior, forest litter (Battigelli *et al.* 2004).

Notaspis burrowski Nuch.

Geographic Location and Habitats: ON: western Ontario (Jarvis 1910).

Oribatula dentaticuspis

Geographic Location and Habitats: QC: Morgan Arboretum, beech litter (Sylvain & Buddle 2010).

Nomina inquirendae:

Gymnodamaeus saltuensis Paschoal, 1982

Geographic Location and Habitats: MB: Winnipeg, Canadian Department of Forestry and Rural Development, Jack pine litter (Paschoal, 1982).

Distribution: Nearctic.

Remarks: Walter (2009) considered this a *species inquirendae*.

Gymnodamaeus taedaceus Paschoal, 1982

Geographic Location and Habitats: AB: duff layer around *Pinus contorta* (Paschoal 1982).

Distribution: Canada.

Remarks: This mite was not illustrated. The type specimen is crushed and most of the characters cannot be discerned. Bayartogtokh & Schatz (2009) considered *G. taedaceus* to be unrecognizable, and suggested that it should be considered a *species inquirendae*, as do Walter *et al.* (2014).

Oribata sp.

Geographic Location: NU: Ellesmere Is. (Oliver 1963).

Remarks: This is referable to any one of many modern genera.

Discussion

This checklist of the oribatid fauna of Canada and Alaska (excluding the Hyporder Astigmata) includes 580 identified species in 249 genera and 96 families, with that of Canada including 556 species in 247 genera, and that of Alaska including 205 species in 95 genera; 39 of the 42 oribatid superfamilies recognized (Schatz *et al.* 2011) are represented. We further list ~296 species that are currently unidentified, and possibly undescribed, and 42 genera that are represented only by such species. For each species, we give combinations and synonymies, specific locations in Alaska and the Provinces and Territories of Canada, habitats, and biogeography.

There are 205 species records for Alaska of which 182 are identified to species; 177 for Yukon (152 identified to species); 123 for Northwest Territories (122 identified to species); 58 for Nunavut (69 identified to species); 345 for British Columbia (210 identified to species), 347 for Alberta (213 identified to species); 28 for Saskatchewan (15 identified to species); 109 for Manitoba (84 identified to species); 247 for Ontario (167 identified to species); 321 for Québec (210 identified to species); 185 for Nova Scotia (110 identified to species); 117 for New Brunswick (77 identified to species); 113 for Newfoundland (84 identified to species) and 9 for Prince Edward Island (6 identified to species). These data reflect the limited taxonomic and faunistic studies on Oribatida in the Canadian and Alaskan National Park systems and the hundreds of Provincial Parks. The exception is the fauna of Alberta which is comparatively well-known because of the efforts of David E. Walter and the ABMI initiative (Walter & Latonas 2012; Walter *et al.* 2014). However, most of the species identified to “DEW sp.1, DEW sp.2” etc. in these on-line publications remain undescribed.

The known fauna of Canada is smaller than that of Austria, 677 species, which has an area about 120 times smaller than Canada and with fewer ecological regions (Krisper *et al.* 2017). The known Canadian fauna is approximately equivalent to that of the Czech Republic (539 species in 200 genera), another country smaller in size and less ecologically diverse (Miko 2016). Despite contributions to date to elucidate the Canadian and Alaskan fauna, we consider this fauna to be at most 25% known. This is supported by molecular data on Canadian Oribatida, based on cytochrome oxidase 1 (CO1), for which a total of 2429 distinct Barcode Index Numbers have been recorded across 67 families (Beaulieu *et al.* 2019). It is also supported by the large number of taxa only partially identified in this Checklist.

Canadian and Alaskan National Park systems represent distinct ecosystems, natural areas and the geological uniqueness of northern North America, but the oribatid fauna of most is unknown. Of the 39 National Parks in Canada, faunistic studies for oribatid mites have been carried out at only five: Ivvavik (44 reported species), Waterton Lakes (43), Kouchibouguac (47) and Cape Breton Highlands (158), and these records are based on limited collecting through only one or two seasons. In Alaska, only Denali NP (57 reported species) had concerted collecting for Oribatida. Similarly, there has been little to no systematic collecting in the hundreds of State and Provincial Parks across northern North America. Most oribatid records are from sites of short to long-term ecological studies (Table 1), e.g., Walbran Valley, British Columbia (118 reported species), Moose Pasture, Alberta (59), Chalk River, Ontario (49) Morgan Arboretum, Québec (113).

The fauna is distinctly Nearctic, with 274 of 580 identified species known only from this biogeographic region; a further 27 species are from this region and the eastern Palaearctic. There are 11 species known only from the eastern Nearctic. Less than half the identified fauna (205 species) is Holarctic and a further 3 species are Holarctic extending south to the northern Neotropics. Thirty-six species are semicosmopolitan or cosmopolitan. Of the 556 identified species in the Canadian fauna, 59 are known only from Canada.

Despite the almost 90% increase in described species since the catalogue of Marshall *et al.* (1987), the comments of Behan-Pelletier (1993) are still pertinent: that there is a paucity of active experts on Oribatida in Canada; and that habitats where the fauna is studied are clustered around graduate schools with a commitment to research in soil biology, rather than reflecting the ecological diversity of northern North America. There is a need for focussed, coordinated research on Oribatida in the natural regions throughout Canada, and for major monographs on families and genera with large numbers of undescribed species, e.g., Brachychthoniidae, Damaeidae, Cepheidae, Liacaridae, Oppiidae, Suctobelbidae, Phenopelopidae, Scheloribatidae, Haplozetidae and Galumnidae. The 42 genera known

only on the basis of unidentified specimens need resolution. While this checklist is based primarily on published records, many of the specimens are housed in the Canadian National Collection, Ottawa, Ontario, Royal Alberta Museum, Edmonton, Alberta and the collection of ZL; these are recommended starting points for future monographs.

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