CATALOGUE OF THE ORIBATIDA (ACARI) OF CONTINENTAL UNITED STATES AND CANADA

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PART I: INTRODUCTION

Of the major acarine groups, the order Oribatida of van der Hammen (1062), (Oribatei) Dugès, 1833 or Cryptostigmata Canestrini, 1891 is one of the largest, with over 6000 described species. We estimate that this represents less than one-quarter of the world oribatid mite fauna. Oribatid mites occur throughout the world and are even active in the Arctic and Antarctic regions. They occur in salt and fresh water, caves, rodent burrows, nests above and below ground, on trees, and in human dwellings, but they are most common in soils, where population densities may approach 1 million per square metre (76 517). Over 200 publications deal exclusively with North American oribatid mites, and when ancillary papers are added the number would exceed 2000. Clearly, there is need for consolidation of this extensive literature.

A modern catalogue, with a complete bibliography, is an extremely useful tool in taxonomic, biological and ecological studies. It provides a readily available source to the literature, indicates taxonomic relationships within a group, and summarizes existing knowledge, indicating where emphasis should be placed on future studies. Such a compilation has long been needed for the North American oribatid mite literature. It is hoped that the information in the present compendium will give both impetus to the study of this important group of invertebrates.

Previous North American Catalogues: Descriptive works on North American oribatid mites previous to Banks' first paper (45) were few. Banks' (57) catalogue indicates that he is the author of 78 of the 90 names listed. Ewing (169) listed 111 species in his North American catalogue, but did not include those described by Berlese (84). Subsequently then an increasing number of taxa have been discovered and described, but only faunal lists have been published. Jacot's (422, 423) "Annotated Bibliography of the Moss Mites" is an important source of early literature covering papers from 1746 to 1930.

Geographical Range: The present catalogue deals only with the fauna of Canada and continental United States. The area covered is roughly the Nearctic Region, excluding Greenland and parts of Mexico. Some exotic species are included because of extralimital synonymy. Nominal species, whose subspecies alone occur in North America are also included (e.g., *Phthiracarus anonymus* Grandjean, 1933 and subspecies *amicus* Jacot, 1938). Species that have been recorded only from quarantine interceptions (Hammer [365] and Woolley [870, 871, 874]) have been omitted.

Also omitted are the following taxa that have been recorded as cosmopolitan. Holarctic or North American, but whose occurrence in continental U.S.A. or Canada has not been confirmed:

Achiptera borealis (Banks, 1899) (57, p. 612; 65, p. 237);
Caleremaeus monilipes (Michael, 1882) (207, p. 193);
Cepheus cepheiformis (Nicolet, 1855) (207, p. 147; 365, p. 69; 699 p. 233);
Chamobates borealis (Tragårdh, 1902) (669, p. 234);
Eremobelba leporosus (Haller, 1884) (561, p. 611; 564, p. 35);
Galumna flabellifera Hammer, 1958 (207, p. 353);
Heterochthonius gibbus (Berlese, 1910) (207, p. 54);
Hypochthonius rufulus europaeus Krivoluckij, 1965 (207, p. 52);
Joelia americana (Haller, 1884) (564, p. 18; 169, p. 380);
Oppia [=*Dorycranosus*] *arctica* Banks, 1899 (57, p. 612);
Oripoda longiseta Woolley, 1961 (28, p. 138)
Porobelba spinosa (Sellnick, 1920) (755, p. 118);
Protoribates monodactylus (Haller, 1884) (564, p. 23);
Stachyoppia muscicola Balogh, 1961 (207, 210);
Striatoppia machadoi Balogh, 1958 (207, p. 207);
Suctobelbella subcornigera (Forsslund, 1941 (207, p. 200).

Fossil Oribatida. Relatively few fossil oribatid species are known from North America. Those that have been found in the geographical area covered by this catalogue are reported under the appropriate family in Part II, and their names are preceded by a dagger( ) in the index.

Bibliographic Scope: This catalogue is fairly complete for the taxonomic literature appearing before 1984. However, subsequent references have been added to make it as up-to-date as possible. Most papers dealing with North American oribatid mites have been listed. Even so, some selection had to be made. Articles were selected to allow the reader to trace name changes and to confirm the widest distribution of a particular species. For common species with many repetitious locality records, the most recent or comprehensive article has been selected. Hammen's collections of the papers of Berlese (77, 345) and Grandjean (344) and Engelmann's Bibliographia Oribatologica (972) have greatly facilitated in the development of the bibliography but some papers, primarily dealing with original descriptions, were not available before submitting this catalogue to press. For these, the appropriate bibliographic entry is preceded by an asterisk (*).

Nomenclatural Rules: The rules given by the International Code of Zoological Nomenclature (747) are followed throughout. In some controversial areas, we have been guided by the 1977 draft proposals for the new code which has been published recently

(1218). In Part II, the Systematic Catalogue of Species, minor changes in spelling and orthographic variants (e.g. *Oribata* versus *Oribates*, *minor* versus *minus*, etc.) are regarded as lapsi calami.

Catalogue Style and Abbreviations: Due to the current state of flux, the higher classification (above superfamily) of oribatid mites is not addressed in this catalogue. Grandjean (315) proposed the most reasonable and "natural" classification to date, although his six major groups were not given hierarchic rank. Grandjean's major groups were assigned either suborder or supercohort status by Balogh and Mahunka (960), but we feel the former rank is excessively high, considering the Acariformes as a whole (sensu Krantz, 490, p. 103), and the latter is unacceptable since cohort and its related categories are historically ranked above ordinal level (see Lee, 1076, p. 327). For other reasons such as the highly split arrangement of the Enarthronota [=Arthronota] and the unacceptable maintenance of the principal division into "higher" and "lower" oribatids, we have not followed the system of Balogh and Mahunka (960).

The superfamilies treated here are grouped according to Grandjean (315), although not all of his taxa are necessarily "natural" (i.e., monophyletic). Three changes in Grandjean's system were required for consistency: (i) Parhypochthonioidea is replaced by Parhyposomata Balogh and Mahunka, 1979 (960); (ii) Nothroidea sensu lato [=Holosomata sensu Balogh and Mahunka, 1979] is replaced by Desmonomata Woolley, 1973 (1113); and (iii) Circumdehiscentiae is replaced by Brachypylina Hull, 1918 (1066). Various names are available for these taxa; we chose the oldest name that related to taxa above the family-group.

For convenience, the arrangement of families and genera generally follows Balogh (42), and we make no pretense that it is a phylogenetic arrangement. In addition, there are certain changes in superfamily spelling and authorship where Balogh did not strictly follow the International Code of Zoological Nomenclature, especially Article 36 (see also Balogh and Mahunka, 960). Furthermore, recent revisions, for example Hypochthonioidea (1153), Brachychthoniidae (576, 577), Gymnodamaeidae (1167, 1168) Thyrisomidae [=Banksinomidae] (912),and the recent natural placement of the Otocepheidae (1026) prevented a slavish adoption of Balogh's scheme, if useful information were to be incorporated into the catalogue. New genera have been added alphabetically within families as in Balogh (42).

Genera that we recognize as valid are given as a main heading. Each genus including respective type-species, is followed by a reference to the author of the generic name, the number of the reference in our list, and the page number on which the the type-species is given.

Other references are sometimes given, for example see *Brachychthonius*, where more recent information on the status of a type-species is deemed useful. These references are separated by semicolons. Generic synonymy is given under each valid genus with similar reference information on type-species, but the source of synonymic information for the genus is preceded by a colon(e.g., see *Nothrus* C.L. Koch, 1835). New generic synonymy is indicated as "new syn."

The arrangement of species within genera is alphabetical, with undetermined species at the end. Subspecies are also placed alphabetically under their associated species. Depending on available information, up to 14 sections may be included under each species or subspecies (see for example, *Hypochthonius rufulus* C.L. Koch, 1835: (i) Location of type material ("**Type**)"; (ii) combination/synonymy (**Comb./Syn.**); (iii) Added references to combination/synonymy not in the previous section; ("**Add. Comb./Syn. Ref.**") and references to (iv) **Distribution**; (v) species **Description**; (vi) **Taxonomy**; (vii) **Keys**; (viii) works with supplementary references ("**Add. References**") (ix) **Morphology**; (x) **Biology**; (xi) **Food**; (xii) miscellany (culture, extraction, parasitology, physiology, etc.) ("**Miscellaneous**"); (xiii) **Ecology**; and (xiv) **Remarks**. Explanatory notes on some of these sections follow.

1. **Type material**: Many North American taxa are poorly described or require generic recombinations. Both problems necessitated examination of type specimens. Unfortunately, not all types could be located and placement of some species is still provisional.

The institutions in which type specimens have been deposited are given below the species entry. Attempts were made to verify that all North American types are at the institutions in which they were originally deposited. Unfortunately the status of many specimens labelled as types is not readily ascertainable. In this catalogue, the term "type" refers to a holotype unless otherwise stated. Jacot generally used the term "cotype" (see 454, p. 649), and although this is not recommended terminology today, we have retained Jacot's designations. Many of Banks' types are in alcohol and must be regarded as syntypes, because he did not indicate the status of individual specimens. Among his mounted preparations are slides with a single specimen labelled "type"; these are here considered holotypes. Some of Ewing's specimens are labelled "autotype", but he did not use this designation in the modern sense. They cannot be considered as types for species definition, but they have served as guides when other material was unavailable. Further, the recognition of types from Ewing and Jacot's material was made difficult, because both workers labelled slides of undescribed species "type" and "cotype" and many of these

have been deposited in major institutions, especially the United States National Museum of Natural History (USNM).

In 1986 the collections of Tyler Woolley and Harold Higgins were deposited in the Field Museum of Natural History (FMNH). One of us (RAN) examined this material and located many type specimens which, according to the original descriptions, were to have been placed inthe USNM. Previous attempts to locate these specimens there had been unsuccessful. Thus, where discrepancies with the original publication occur, the real current repository is that listed herein. Most paratypes and additional material which was noted in the papers of Woolley and Higgins to be in the authors' collection are currently in the FMNH.

The five following descriptions are given for the status of unobserved types: (i) "Unknown", for types about which information was not available; for example, the British Museum of Natural History acquired the Arachnida collection of L. Koch, which "also contained representatives of C.L. Koch's species" (D. MacFarlane, pers. comm.); however, oribatid types of these two authors are not present in the collection (A.S. Baker, pers. comm.); (ii) "Not confirmed", for types that, according to the original publication, have been given a repository, but the specimens could not be found in the institution mentioned or it was difficult to personally examine the specimens; no attempt was made to see European types; (iii) "Not designated", notably for earlier workers who did not preserve types (see 232, p. 35); others, like Grandjean, were opposed to the idea of type designation (313, p. 255; 948, p. 42); and (iv) "Lost", for specimens that seem to have been misplaced.

Although not in museums per se, some "type" specimens are in the collections of actively working acarologists, for example, Grandjean's material is at Laboratoire Arago, Banyuls-sur-Mer, France (J. Trave, pers. comm.) and Willmann's material is in the private collection of Dr. W. Hirschmann, Nuremberg, West Germany (M. Moritz, pers. comm.).

Abbreviations for the institutions and private collections that have been confirmed to contain types of species recorded from North American are as follows:

ADP	Adilson D. Paschoal's Private Collection, Sao Paulo, Brazil;
AMNH	American Museum of Natural History, New York City, NY, USA;
ANSP	Academy of Natural Sciences of Philadelphia, Philadelphia, Pa., USA;
ARCB	Agricultural Research Center, Bethesda, MD, USA;
BM(NH)	British Museum (Natural History), London, England;
BPBM	Bernice P. Bishop Museum, Honolulu, HI, USA;

CESF	College of Environmental Science and Forestry, State University of New York, Syracuse, NY, USA;
CIS	California Insect Survey, University of California, Berkeley, CA, USA;
CMP	Carnegie Museum, Pittsburgh, PA, USA;
CNC	Canadian National Collection of Insects, Agriculture Canada, Ottawa, ON, Canada;
CU	Cornell University, Dept. of Entomology, Ithaca, NY, USA;
EMUC	Entomological Museum, University of California, Berkeley, CA, USA;
FBPC	F. Bernini's Private Collection, Institute of Zoology, University of Siena, Italy;
FMNH	Field Museum of Natural History, Chicago, IL, USA;
FSCA	Florida State Collection of Arthropods, Gainesville, FL, USA;
GWHF	G.W. Hooper Foundation, University of California, San Francisco, CA, USA
HNHM	Hungarian Natural History Museum, Budapest, Hungary;
IA	Institute of Acarology [now Acarology Laboratory], Ohio State University, Columbus, OH, USA;
IMRM	Institute for Medical Research, Kuala Lumpur, Malaysia;
INHS	Illinois Natural History Survey, Urbana, IL, USA;
ITAZ	Institut für Tierphysiologie und Angewandte Zoologie, Berlin, Germany;
LEM	Lyman Entomological Museum, QB, Canada;
LNK	Landessammlungen für Naturkunde, Karlsruhe, BR, Germany;
MCZ	Museum of Comparative Zoology, Harvard University, Cambridge, MA, USA
MHPC	Marie Hammer's Private Collection, Fredensborg, Denmark;
MPQ	Museum of the Province of Quebec, Quebec, QB, Canada;
NMB	Naturhistorisches Museum Basel, Switzerland;
NMNH	National Museum of Natural History, Paris, France;
NMSF	Natur-Museum Senckenberg, Frankfurt-am-Main, Germany;
NPC	National Pusa Collection, Indian Agricultural Research Institute, New Delhi, India;
NSM	National Science Museum, Tokyo, Japan;
NWU	Northwestern University, Evanston, IL, USA;
NYSM	New York State Museum, NY, USA;
OSU	Oregon State University, Corvallis, OR, USA;
PMYU	Peabody Museum, Yale University, New Haven, CT, USA;

QIMR	Queensland Institute of Medical Research, School of Medicine, Sydney, Australia
RML	Rocky Mountain Laboratory, Hamilton, MT, USA;
RNC	Roy Norton's Private Collection, Syracuse, NY, USA;
RNH	Rijksmuseum van Nutuurlijke Historie, Leiden, The Netherlands;
SAM	South Australian Museum, Adelaide, Australia;
SEA	Stazione di Entomologia Agraria (now called Istituto Sperimentale per la Zoologia Agraria), Florence, Italy;
SIAM	A.N. Severtzov Institute of Animal Morphology, Moscow, Russia;
SMNH	Swedish Museum of Natural History, Stockholm, Sweden;
SU	Stanford University, Stanford, CA, USA;
UAM	University of Adam Mickiewicz, Poznan, Poland;
UKC	University of Kansas Collection, Lawrence, KS, USA;
UM	University of Minnesota, St. Paul, MN, USA;
USNM	United States National Museum of Natural History, Washington, DC, USA;
WHPC	W. Hirschmann's Private Collection, Nuremberg, Germany;
YNU	Yokohama National University, Yokohama, Japan;
ZIAS	Zoological Institute of the Academy of Sciences of the U.S.S.R., Leningrad, Russia;
ZIL	Zoological Institute of Lund, Lund, Sweden;
ZMC	Zoologisk Museum, Copenhagen, Denmark;
ZMH	Zoologisches Institut und Zoologisches Museum der Universität, Hamburg, Germany;
ZSI	Zoological Survey of India, Calcutta, West Bengal, India

Combination/Synonymy. The names given are those generally recognized in the literature and may contain some that do not appear in the somewhat recent references selected for the listings. This is especially true for species with a Holarctic distribution that were first described from Europe. Where original publications have not been consulted, full bibliographic references are still given, and references in parentheses give the source of the information. Not all cases of synonymy have been investigated by the authors; many have been included only to provide the source of early literature for the species in question.

A special attempt was made to establish the many new combinations needed, especially for species proposed by N. Banks and H.E. Ewing. This work was carried out primarily by R.A. Norton (henceforth in this catalogue referred to as RAN). Where

difficulties arose in establishing the status of a taxon, comments are given in the **Remarks** that follow the species-listing.

3. **Other Sections**. The listing is chronological and authors' names appear alphabetically within a particular year. The author's name is followed by a bibliographic reference number and italicized, parenthesized page number. The page number may not specifically be for the item with which it is associated, (e.g.), fig., but rather with the name of the species in question. The pagination for the whole article is cited, when the specific page is not known and the original article has not been seen. For taxonomic papers, the page number given is for the one on which the species' name is first proposed or, as in the case of Hammen (344), for the index page that gives the source of information
to the seven volumes of Grandjean's works. For ecological works, the page number generally refers to the first page on which the species is mentioned or to a table listing the species. Misidentifications of a species, (i.e., species recorded under names other than the one listed here), are noted by "mi".

More than one parenthesized, italicized page number, separated by a comma, indicates that the species was listed under different names on different pages but these species are herein considered synonyms.

Figure 1. Zoogeographical Realms [Redrawn from Hirschmann and Hutu (1064), after Vercammen-Grandjean (1103)].

North American distributional records are listed alphabetically by provinces (Canada) and states (USA). Unspecified Canadian and American records are listed first under these countries. Other Nearctic records (mainly Greenland) and those from Mexico, are listed separately. The remaining distributional records are by Zoogeographical Realms (Fig. 1).

The following symbols and abbreviations have been used:

!: obvious spelling error
?: doubt by original author(s)
[?]: doubt by authors of this Catalogue
♀ adult female
♂ adult male
aff.: having affinity with
Ala.: Alabama
Alta.: Alberta
anat.: anatomy
app.: appendage(s)
Ariz.: Arizona
Ark.: Arkansas
auct.: auctorum; of authors
B.C.: British Columbia
Calif.: California
cf.: compare
chaet.: chaetome
Colo.: Colorado
comb.: combination
Conn.: Connecticut
cult.: culture
cut.: cuticle
D.C.: District of Columbia
Del.: Delaware
extract.: extraction
fig.: figure(s)
Fla.: Florida
Ga.: Georgia
grp.: group
ICZN: International Commission on Zoological Nomenclature
Ill.: Illinois
Ind.: Indiana
Kans.: Kansas
Ky.: Kentucky
La.: Louisiana
Man.: Manitoba
Mass.: Massachusetts
Md.: Maryland
mi.: misidentification
Mich.: Michigan
Minn.: Minnesota
Miss.: Mississippi
Mo.: Missouri
Mont.: Montana
n.: new
N.B.: New Brunswick
N.C.: North Carolina
N. Dak.: North Dakota
Nebr.: Nebraska
Nev.: Nevada
Nfld.: Newfoundland
N.H.: New Hampshire
N.J.: New Jersey
N.M.: New Mexico
nr.: near
N.S.: Nova Scotia
N.W.T.: Northwest Territories

N.Y.: New York State
Okla.: Oklahoma
Ont.: Ontario
Oreg.: Oregon
Pa.: Pennsylvania
parasit. parasitology
P.E.I.: Prince Edward Island
pers. comm.: personal communication
phys. physiology
pl.: plate(s)
Q.I.: quarantine interception
Que.: Quebec
ref.: reference(s)
R.I.: Rhode Island
Sask.: Saskatchewan
S.C.: South Carolina
S. Dak.: South Dakota
sp.: species
syn.: synonym
Tenn.: Tennessee
Tex.: Texas
unpub. unpublished
Va.: Virginia
VBP.: Valerie Behan-Pelletier
Vt.: Vermont
Wash.: Washington State
Wis.: Wisconsin
W. Va.: West Virginia
Wyo.: Wyoming
Y.T.: Yukon Territory

Scope of the Catalogue: This catalogue, like others, has its limitations. We were unable to include the numerous unpublished records of described and undescribed North American species in various museums. Included data are not necessarily considered correct; some are presented with the sign [!] for obvious spelling errors or [?] where there is serious doubt about the data.

Unfortunately, the quality of the descriptions by Banks, Ewing and, in some cases, Jacot is very poor by modern standards. Most descriptions are too brief and many lack figures. Also, few revisions of North American oribatid mite taxa have been published. Jacot revised parts of the Phthiracaroidea and Galumnoidea, Woolley is currently concentrating on the Gustavioidea [=Liacaroidea], Norton is studying the Damaeoidea and Behan-Pelletier is revising the Ceratozetoidea, but these taxa represent only a small portion of the total North American oribatid mite fauna. Keys to species are available only for a few genera. Much work is therefore still required before a definitive monograph can be prepared on even the presently described North American oribatid mites.

Despite these limitations, the catalogue lists 1177 species and subspecies (36 of these are of uncertain status), a figure close to the nearly 1000 species known from the USSR. (207). Currently, few North American papers dealing with the ecology of soil and litter fauna list Oribatida at the generic or specific level. They are often lumped as Oribatida or combined with other mites and listed as Acari. The catalogue will aid ecologists and taxonomists in identification of North American Oribatida by the use of the following procedures: (i) determine the genus with Balogh's (42) key, recognizing that since 1972 more than 100 genera, over one-third of which are newly described, have been added to the North American fauna; (ii) check the catalogue for North American taxa listed in this genus; (iii) compare distribution patterns, recognizing that the species distribution is far more extensive than is presently known; and (iv) go to the appropriate reference works for species description.

Economic Importance of Oribatids: With few exceptions, all active instars of oribatid mites are involved in the decomposition of organic materials as part of humification and the nutrient cycling processes in soils (157, 1106). These mites feed on a wide range of materials, including living and dead tissue of higher plants, microflora, carrion, eggs of fish and living microfauna (517, 921). Their significant role in cold arctic soils, where the macrofauna is greatly reduced, is only now being appreciated (73). Oribatids maintain soil porosity, especially by burrowing into faecal pellets of larger soil animals and by opening passages occupied by decaying root systems. Their comminution of organic matter and their dispersal of bacteria, fungi and other microorganisms, which are carried externally and in their alimentary tracts, greatly enhance mineralization.

Many oribatid species are associated with plants (22, 1001), and while *Camisia segnis* (C.L. Koch) and *Humerobates rostrolamellatus* Grandjean may feed on algae and other species feed on various parts of higher living plants, including pollen (921). According to Michael (561) *Minunthozetes semirufus* (C.L. Koch) lays its eggs on grasses, and the larvae and nymphs burrow into the stem. *Orthogalumna terebrantis* Wallwork mines the leaf of the water hyacinth, *Eichhornia crassipes*, (140, 798), and *Perlohmannia dissimilis* Hewitt damages root systems of potato, strawberry and tulip (163). Split

cherries are attacked by *H. rostrolamellatus*, peach by a *Ceratozetes* sp. and prince melon by *Oribatula sakamorii* Aoki (758). The latter author also mentions that *Chamobates lapidaris* (Lucas) gathers on the branches of pipal, olive and orange trees and making knobs on the bark, and damages azaleas, while *C. segnis* damages tea plants. According to Suzuki (758), *Galumna allatum* [!] (Hermann) attacks the seeds of winter wheat after they are sowed.

Scheloribates laevigatus (C.L. Koch), *Trichoribates novus* (Sellnick) and *Phauloppia lucorum* (C.L. Koch) are occasionally found in stored food (409) and *Tectocepheus* sp., *Trichoribates trimaculatus* (C.L. Koch) and *Peloribates pilosus* Hammer infest granaries in Canada (737). *Humerobates rostrolamellatus* occasionally invades dwellings in such numbers as occasionally to constitute a nuisance (694).

Over 60 oribatid species are of veterinary importance, because of their role as intermediate hosts of tape worms (35, 157, 722, 998, 1052). If fry and spawn prove to be major food sources for *Hydrozetes lacustris* (Michael) as reported by Rosický (680), this mite may prove to be an important pest of fresh water fish. Oribatid mites are a component of the house dust mite community (322) but none is known to produce allergens that are responsible for house dust allergy (132, 820). Some species feed on small arthropods and nematodes (679, 943, 1114) and might be useful in controlling soil pests, particularly nematodes (531, 1010).

Oribatida are potentially useful in bioassay work (985) as ecological indicators of soil biotopes and of the effects of human activities on terrestrial ecosystems including, air pollution (516, 1035), acid rain (1208, 1209), use of fertilizers (1033), controlled and accidental burning (533), forest harvesting (973,1074), use of herbicides (966), use of insecticides (153, 550, 743, 1137, 1223), radioactive pollution (499), renovation of mine spoils (515, 1192), sewage water irrigation (151), and trampling (974). They can also contribute valuable information on zoogeographical information (373, 374, 1028, 1128) and are useful for other basic studies in soil ecology, because they are readily accessible to university classrooms and represent a great variety of species in a closely integrated ecosystem (517).

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PART II. SYSTEMATIC CATALOGUE OF SPECIES

PALAEOSOMATA Grandjean, 1969

Archeonothroidea Grandjean, 1932

Archeonothridae **Grandjean, 1932**

Zachvatkinella *Lange, 1954*

Zachvatkinella Lange, 1954
Type-species: *Zachvatkinella belbiformes* Lange, 1954 (1073, p. 1042).

Himalacarus Sheals, 1965
Type-species: *Himalacarus chimalae* Sheals, 1965 (1097, p. 3; 207, p. 47).

Zachvatkinella longipilis (Jacot, 1938) new comb.

Type: USNM (Cotypes)
Comb./Syn.: *Acaronychus tragardhi longipilis* Jacot, 1938 (458, p. 128)
Acaronychus longipilis Jacot, 1938 (469, p. 49)

Distribution: *USA*: N.C. - Jacot 458 (128).
Description: *Adult*: Jacot 458 (128).
Ecology: Jacot 458 (128).
Remarks: The species was omitted from a recent key by Aoki (1040, p. 125).

Acaronychidae **Grandjean, 1932**

Acaronychus Grandjean, 1932

Acaronychus Grandjean, 1932
Type-species: *Acaronychus trägårdhi* Grandjean, 1932 (216, p. 421)

Acaronychus traegardhi Grandjean, 1932
Type: Not designated
Comb./Syn.: *Acaronychus tragardhi* Grandjean 1932 (216, p. 421)
Distribution: *USA*: Colo. - Woolley 863 (252); 864 (277); Krantz 490 (453); N.C. - Woolley 863 (252); 864 (277); Krantz 490 (453).

Palearctic: Grandjean 216 (421); 278 (214); Woolley 863 (252); 864 (277); Gilyarov 207 (46); Krantz 490 (453); Balogh and Mahunka 1119 (39).
Description: *Adult*: Grandjean 216 (421) fig.; 221 (463) fig.; 230 (10) chaet., fig. app.; 246 (533) fig.; 244 (33) chaet.; 247 (51) chaet.; 265 (206) chaet.; 273 (38) chaet.; 278 (214) chaet., fig. ; 307 (182) chaet.; 308 (530) chaet.; Woolley 877 (211) fig.; Balogh 42 (pl. 1 fig. 1); Gilyarov 207 (46) fig.; Krantz 490 (453) fig.; Balogh and Mahunka 1119 (pl. 2. fig. A-D).
Nymph: Grandjean 216 (421).
Tritonymph: Grandjean 278 (214) fig.
Deutonymph: Grandjean 278 (214) fig.
Protonymph: Grandjean 278 (214) fig.
Larva: Grandjean 278 (214) fig.
Key: Gilyarov 207 (46); Balogh and Mahunka 1119 (39).
Add. References: Woolley 862 (870); Hammen 344 (10).
Morphology: Grandjean 221 (463); 230 (10); 246 (533).
Ecology: Grandjean 216 (421); Woolley 863 (252); Krantz 490 (453).

Acaronychus sp.

Distribution: *USA*: Va. - Sengbusch 719 (130).

Palaeacaroidea Grandjean, 1932

Palaeacaridae **Grandjean, 1932**

Palaeacarus Trägårdh**,** 1932

Palaeacarus Trägårdh, 1932
Type-species: *Palaeacarus hystricinus* Tragårdh, 1932 (773, p. 2).

Traegardhacarus Zachvatkin, 1945
Type-species: *Tragardhacarus lapshovi* Zachvatkin, 1945 (1188, p. 674: 278, p. 197).

Palaeacarus appalachicus Jacot, 1938

Type: USNM (Cotypes)
Comb./Syn.: *Palaeacarus appalachicus* Jacot, 1938 (458, p. 127)
Palaeacarus gallicus Grandjean,l939 [nomen nudum] (977, p. 277)
Add. Comb./Syn.: Ref. Grandjean 239 (543); Evans 162 (672).

Distribution: *USA*: Md. - Johnston 470 (301); N.C. - Jacot 458 (127).

Palearctic: Krantz 490 (454) [?].
Description: *Adult*: Jacot 458 (127) fig.; Grandjean 977 (277) chaet.; 239 (543) app.; 241 (33) chaet., fig. app.; 244 (33) chaet.; 247 (51) chaet.; 251 (17) chaet.; 265 (206) chaet.; Johnston 470 (301).
Taxonomy: Johnston 470 (301); Balogh and Mahunka 1119 (41).
Key: Bulanova-Zachvatkina 122 (682).
Add. References: Hammen 344 (29).
Ecology: Jacot 458 (127); Johnston 470 (301); Krantz 490 (454).

Palaeacarus hystricinus Trägårdh, 1932

Type: SMNH
Comb./Syn.: *Palaeacarus hystricinus* Trägårdh, l932 (773, p. 2)
Add. Comb/Syn. Ref.: Grandjean 278 (199); Gilyarov 207 (42).
Distribution: *USA*: Alaska - Behan 73 (387); MacLean et al. 534 (562).
Canada: MacLean et al. 534 (562); Nfld. - Behan 73 (387); Ont. - Marshall 549 (422); Que. - Marshall 548 (68); Behan 72 (39); Behan et al. 76 (263); Y.T. - Behan 73 (387).
Palearctic: Trägårdh 773 (2); Forsslund 193 (348); Evans 162 (672); Grandjean 278 (199); Byzova 125 (185); Moritz 572 (71); Marshall 548 (68); Rubcova 681 (386); Gilyarov 207 (42); Wauthy 808 (147); Behan 73 (387); Krantz 490 (454); MacLean et al. 534 (562); Danks 971 (397) [!]; Balogh and Mahunka 1119 (40).
Description: *Adult*: Trägårdh 773 (2) fig.; Evans 162 (672) fig.; Grandjean 278 (199) chaet., fig.; 307 (182) chaet.; 308 (530) chaet.; Balogh 42 (pl. 1. fig. 7); Bulanova-Zachvatkina 120 (222) fig.; Gilyarov 207 (42) fig.; Krantz 490 (454) fig.; Balogh and Mahunka 1119 (pl.3 fig. A-D).
Tritonymph: Grandjean 278 (199) fig.
Deutonymph: Grandjean 278 (199) fig.
Protonymph: Grandjean 278 (199) fig.
Larva: Grandjean 278 (199) fig.; 309 (102) chaet.
Taxonomy: Trägårdh 773 (2).
Key: Bulanova-Zachvatkina 120 (100); Gilyarov 207 (42); Bulanova-Zachvatkina 122 (682); Balogh and Mahunka 1119 (40).
Add. References: Hammen 344 (29).
Ecology: Forsslund 193 (348); Evans 162 (672); Grandjean 278 (199); Byzova 125 (185); Moritz 572 (71); Behan 72 (39); Rubcova 681 (386); Wauthy 808 (147); Behan 73 (387); Behan et al. 76 (263); Krantz 490 (454); MacLean et al. 534 (562); Luxton 987 (311); Danks 971 (397) [!].

Palaeacarus sp.

Distribution: *Canada*: Que. - Smith 743 (tab. 20).

Ctenacaroidea Grandjean, 1954

Ctenacaridae **Grandjean, 1954.**

Beklemishevia *Zachvatkin, 1945*

Beklemishevia Zachvatkin, 1945

Type-species: Beklemishevia galeodula Zachvatkin, 1945 (1187, p. 60).

Beklemishevi galeodula Zachvatkin, 1945

Type: Unknown

Comb./Syn.: *Beklemishevia galeodula* Zachvatkin 1945, (1187, p. 60)

Distribution: *USA*: Calif. - Walter and Norton 1179 (tab. 1). *Palearctic*: Zachvatkin 1187 (60); 1188 (675); Grandjean 278 (198); Gilyarov 207 (43); Balogh and Mahunka 1119 (44).

Description: *Adult*: Zachvatkin 1187 (60); 1188 (675) fig.; Gilyarov 207 (43) fig. ; Balogh and Mahunka 1119 (pl. 4 fig. G).

Taxonomy: Grandjean 278 (198); Bulanova-Zachvatkina 122 (684).

Ecology: Walter and Norton 1179 (tab. 1).

Ctenacarus *Grandjean, 1939*

Ctenacarus Grandjean, 1939

Type-species: *Palaeacarus araneola* Grandjean, 1932 (239, p. 543).

Grandjeanacarus Zachvatkin, 1945

Type-species: *Palaeacarus araneola* Grandjean, 1932 (1187, p. 71: 278, p. 181).

Ctenacarus araneolus (Grandjean, 1932)

Type: Not designated

Comb./Syn.: *Palacacarus araneola* Grandjean, 1932 (216, p. 417)

Ctenacarus araneola (Grandjean, 1932) (239, p. 554)

Grandjeanacarus araneola (Grandjean 1932) (1187, p. 71)

Distribution: *USA*: Ga. - Norton (RAN, unpub.).

Palearctic: Grandjean 216 (417); Bernini 101 (357); Gilyarov 207 (43); Aoki 1040 (133); Balogh and Mahunka 1119 (43).

Neotropical: Grandjean 216 (417); Bernini 101 (357); Gilyarov 207 (43); Aoki 1040 (133).

Description: *Adult*: Grandjean 216 (417) fig.; 278 (248) chaet.; 308 (530) chaet.; Balogh 42 (pl.1. fig. 8); Moritz 575 (13) chaet.; Gilyarov 207 (43) fig.; Aoki 1040 (133) fig., chaet.; Balogh and Mahunka 1119 (pl. 4 fig. A-C).

Tritonymph: Grandjean 278 (248) fig.

Deutonymph: Grandjean 278 (248) fig.
Add. References: Bernini 101 (357); Hammen 344 (15); Aoki 1040 (133).
Ecology: Grandjean 216 (417); Bernini 101 (357); Aoki 1040 (133).

Ctenacarus sp.

Distribution: *USA*: Oreg. - Krantz 490 (475); Lee 1075 (210).
Remarks: This specimen is lost (Krantz, pers. comm.) and its identity is in doubt.

Ctenacaridae sp.

Distribution: *USA*: N.Y. - Rolfe 1219 (14); Shear et al. 1222 (493) fig.
Remarks: This is a fossil species but was misidentified. Based on subsequently collected, better-preserved specimens, it represents an undescribed family of Enarthronota (RAN).

Aphelacaridae **Grandjean, 1954**

Aphelacarus *Grandjean, 1932*

Aphelacarus Grandjean, 1932
Type-species: Parhypochthonius acarinus Berlese, 1910 (216, p. 412).

Aphelacarus acarinus (Berlese, 1910)

Syntypes: SEA
Comb./Syn.: *Parhypochthonius acarinus* Berlese, 1910 (87, p. 219) *Aphelacarus acarinus* (Berlese, 1910) (216, p. 412)
Add. Comb./Syn. Ref.: Hammen 340 (9).
Distribution: *USA*: Calif. - Wallwork 803 (94); 801 (297) Hoy 1135 (75); Walter and Norton 1179 (tab. 1); Oreg. - Krantz 490 (454).
Canada: Alta. - Behan-Pelletier (VBP unpub.).
Palearctic: Berlese 87 (219); Grandjean 216 (412); 278 (226); Hammen 340 (9); Sellnick 709 (77); Wallwork 803 (94); Subìas 755 (44); Krantz 490 (454); Luxton 987 (311); Balogh and Mahunka 1119 (46).
Description: *Adult*: Berlese 87 (219) fig.; Grandjean 216 (412) fig.; 232 (90) chaet.; 247 (51) chaet.; 251 (20) chaet.; 265 (206) chaet.; 278 (226) chaet., fig. ; 307 (182) chaet.; 308 (530) chaet.; Balogh 42 (pl. 1 fig. 5); Gilyarov 207 (46) fig; Balogh and Mahunka 1119 (pl.5 fig. A-G).
Tritonymph: Grandjean 216 (412) chaet.; 278 (226) fig.
Deutonymph: Grandjean 216 (412) chaet.; 278 (226) fig.
Protonymph: Grandjean 216 (412) chaet.; 278 (226) fig.
Larva: Grandjean 278 (226) fig.
Key: Sellnick 709 (77).

Add. References: Hammen 340 (9); Wallwork 803 (94); Hammen 344 (11); Subìas 755 (44).
Morphology: Hammen 1062 (24).
Ecology: Berlese 87 (219); Grandjean 216 (412); Sellnick 709 (77); Wallwork 801 (297); Gilyarov 207 (46); Subìas 755 (44); Krantz 490 (454); Luxton 987 (311).

ENARTHRONOTA Grandjean, 1947

Hypochthonioidea Berlese, 1910

Hypochthoniidae **Berlese, 1910**

***Eohypochthonius* Jacot, 1938**

Eohypochthonius Jacot, 1938
Type-species: *Hypochthonius gracilis* Jacot, 1936 (451, p. 251).
Afrhypochthonius Balogh, 1958
Type-species: *Afrhypochthonius vilhenarum* Balogh, 1958 (38, p. 4: 791, p. 374).

Eohypochthonius gracilis (Jacot, 1936)

Type: USNM (Cotype)
Comb./Syn.: *Hypochthonius gracilis* Jacot, 1936 (451, p. 25I)
Eohypochthonius gracilis (Jacot, 1936) (458, p. 133)
Add. Comb./Syn. Ref.: Bock 70 (227); Hammer 368 (5), 369 (7).
Distribution: *USA*: Fla. - Jacot 451 (251); N.C. - Jacot 451 (251); 458 (133); Beck 70 (227); Tex. - Ehler and Frankie 1050 (345); McDaniel and Aoki 1081 (117).
Palearctic: Beck 70 (227); Paik 938 (232).
Australian: Hammer 368 (5); 369 (7).
Neotropical: Beck 70 (227).
Description: *Adult*: Jacot 451 (251) fig.; 458 (133); Grandjean 251 (21) chaet.; Beck 70 (227) fig.; Grandjean 308 (531) chaet.; Hammer 368 (5) fig.; Balogh 42 (pl.3 fig. 12-13); Krantz 490 (pl. 151 fig. 4).
Key: Aoki 26 (121).
Add. References: Wallwork 793 (51); Beck 70 (227).
Ecology: Jacot 451 (251); Aoki 10 (179); Beck 70 (227); Hammer 368 (5); 369 (7); Paik 938 (232); Ehler and Frankie 1050 (345); McDaniel and Aoki 1081 (117).
Remarks: *Eohypochthonius gracilis* sensu Aoki 1961, (954, p. 84), 1962 (10, p. 179) and 1963 (955, p. 224) is a separate species which Aoki named *Eohypochthonius parvus* (26, p. 118).

Eohypochthonius magnus Aoki, 1977

Type: YNU
Comb./Syn.: *Eohypochthonius magnus* Aoki, 1977 (26, p. 119)

Distribution: *USA*: Minn. - McDaniel and Aoki 1081 (115).
Palearctic: Aoki 26 (119).
Description: *Adult*: Aoki 26 (119) fig.
Key: Aoki 26 (119).
Ecology: McDaniel and Aoki 1081 (115).

Hypochthonius C.L. Koch, 1835

Hypochthonius C.L. Koch, 1835
Type-species: *Hypochthonius rufulus* C.L. Koch, 1835 (485, Vol. 3 (19)).

Hypochthonius luteus Oudemans, 1917

Type: RNH
Comb./Syn.: *Hypochthonius luteus* Oudemans, 1917 (641, p. 343)
Hypochthonius rufulus sensu Oudemans 1914 (636 A10, p. 24); non C.L. Koch, 1836 (338, p. 13).
Distribution: *USA*: Hammer 365 (66) [Q.I.]; N.C. - Jacot 451 (252); Ohio - Jacot 457 (649).
Palearctic: Willmann 829 (99); Jacot 451 (252); Evans 160 (34); Hammen 338 (13); Travé 774 (78); Haarløv 326 (39); 327 (140); Aoki 10 (179); Davis 148 (67); Travé 777 (229); Lebrun 507 (103); Karppinen 479 (30); Krivoluckij 495 (183); Lions 519 (506); 520 (435); Hammer 365 (66); Bernini 96 (421); Aoki 23 (234); Gilyarov 207 (52); Luxton 532 (185).
Australian: Hammer 361 (11); Spain and Luxton 947 (200).
Description: *Adult*: Oudemans 641 (343); Willmann 829 (99) fig. app.; Hammer 361 (11) fig.; Gilyarov 207 (52) fig.
Key: Willmann 829 (99); Gilyarov 207 (52).
Add. References: Hammen 338 (13).
Biology: Grandjean 243 (466).
Ecology: Willmann 829 (99); Jacot 451 (252); 457 (649); Evans 160 (34); Hammen 338 (13); Travé 774 (78); Haarløv 326 (39); 327 (140); Aoki 10 (179); Davis 148 (67); Travé 777 (229); Lebrun 507 (103); Hammer 361 (11); Karppinen 479 (30); Krivoluckij 495 (183); Lions 519 (506); 520 (435); Hammer 365 (66); Bernini 96 (421); Spain and Luxton 947 (200); Luxton 532 (185).

Hypochthonius rufulus C.L. Koch, 1835

Type: Unknown
Comb./Syn.: *Hypochthonius rufulus* C.L. Koch, 1835 (458, Vol. 3 (19))
Hypochthonius pallidulus C.L. Koch, 1835, (458, Vol. 3(20)); non Michael, 1888 (338, p. 12).
Type: Unknown
Leiosoma ovata sensu Nicolet, 1855 (592, p. 395); non C.L. Koch, 1840 (338, p. 12)
Add. Comb./Syn. Ref.: Michael 564 (77); Ewing 169 (375); André 8 (246); Grandjean 217 (32); Sengbusch 717 (157).

Distribution: *USA*: Hammer 365 (66) [Q.I.]; Alaska - Hammer 354 (7); Aoki 13 (289); Hammer 362 (6); Marshall 548 (68); Ill. - Ewing 169 (375); Miller 927 (144); Iowa - Miller 927 (144); Mich. - Wallwork 788 (172); Pherson and Beattie 1004 (329); Pherson 1003 (611); N.Y. - Sengbusch 717 (157); Reeves 673 (27); N.C. - Jacot 450 (370); Ohio - Miller 927 (144); Tenn. - Crossley and Bohnsack 142 (631); Va. - Sengbusch 719 (130).
Canada: Schweizer 691 (224); Aoki 13 (289); Hammer 362 (6); Man. - Oswald and Minty 620 (81); Nfld. - Behan 73 (388); N.W.T. - Hammer 350 (16); Marshall 548 (68); Ont. - Marshall 549 (422); Que. - Marshall 548 (68); Behan 73 (388); Smith 743 (tab. 20); Y.T. - Behan 73 (388).
Palearctic: Michael 561 (534); 564 (77); André 5 (508); 8 (246); Miller 927 (144); Willmann 829 (99); Tuxen 779 (333); Hammer 349 (35); Hammen 338 (12); MacFadyen 533 (109); Schweizer 691 (224); Travé 774 (78); Schweizer 692 (tab. 7 no. 295); Märkel 543 (478); Hammen 340 (14); Kunst 503 (34); Rajski 668 (22); Tarras-Wahlberg 765 (29); Woolley 864 (277); Aoki 10 (179); Moritz 571 (156); Travé 777 (229); Berthet 107 (57); Byzova 124 (291); 125 (185); Lebrun 505 (375); Madge 537 (721); Aoki 13 (289); Block 110 (245); Lebrun 506 (27); 507 (103); Madge 538 (122); Moritz 572 (70); Hammer 362 (6); Lebrun 508 (186); Marshall 548 (68); Hammer 365 (66); Bernini 96 (421); Fujikawa 202 (209); Rajski 669 (237); Bernini 98 (393); Hammer 370 (416); Luxton 531 (440); Rubcova 681 (386); Gilyarov 207 (52); Luxton 532 (185); Nakamura 582 (250); Solhøy 744 (19); Tarba and Semenova 761 (128); Hammer 373 (17); Niedbała 604 (60); Paik 938 (232); Danks 971 (397).
Description: *Adult*: Koch 485 (Vol. 3 (19)); Michael 561 (534) fig.; 564 (77); Ewing 169 (375); Miller 927 (144); Willmann 829 (99) fig.; Grandjean 217 (32) chaet.; 218 (216) fig.; 229 (507) chaet.; 230 (14) chaet.; 231 (121) fig. app.; 246 (533) chaet., fig.; 244 (43) chaet.; 247 (48) chaet.; 250 (77) chaet., fig. app.; 265 (206) chaet.; Sengbusch 717 (157) fig.; Hammer 350 (16) fig.; 350 (16) fig.; 354 (7); Schweizer 691 (224) fig.; Grandjean 307 (181) chaet.; 308 (531) chaet.; Aoki 13 (289) fig.; Woolley 877 (212) fig.; Gilyarov 207 (52) fig.; Tarba and Semenova 761 (128) fig.; Fernandez 1127 (104) chaet.
Tritonymph: Grandjean 244 (43) chaet.
Protonymph: Sengbusch 718 (657) fig.
Larva: Grandjean 250 (77) fig. app.
Taxonomy: Michael 561 (534).
Key: Michael 564 (77); Willmann 829 (99); Krivoluckij 494 (936); Gilyarov 207 (52).
Add. References: Michael 561 (534); André 8 (246); Sengbusch 717 (157); Hammen 338 (12); 340 (14); Aoki 13 (289); Hammen 344 (22).
Morphology: Grandjean 218 (216); 231 (121).
Biology: Sengbusch 721 (499); Lebrun 511 (202); Luxton 988 (339).
Foods: Hartenstein 376 (203); Woodring 845 (103); Luxton 531 (440); 986 (104).
Miscellaneous: Tarba and Semenova 761 (128) cut.; Lasebikan et al. 984 (54) extract.; Sengbusch 1013 (83) cult.
Ecology: Michael 561 (534); 564 (77); André 5 (508); Miller 927 (144); Willmann 829 (99); Grandjean 217 (32); Tuxen 779 (333); Sengbusch 717 (157); Hammen 338 (12); Hammer 350 (16); MacFadyen 533 (109); Hammer 354 (7); Schweizer 691 (224); Travé 774 (78); Schweizer 692 (tab. 7

no. 295); Sengbusch 719 (130); Wallwork 788 (172); Märkel 543 (478); Kunst 503 (34); Crossley and Bohnsack 142 (631); Rajski 668 (22); Tarras-Wahlberg 765 (29); Aoki 10 (179); Moritz 571 (156); Travé 777 (229); Berthet 107 (57); Byzova 124 (291); 125 (185); Lebrun 505 (375); Madge 537 (721); Block 110 (245); Lebrun 506 (27); 507 (103); Madge 538 (122); Moritz 572 (70); Hammer 362 (6); Lebrun 508 (186); Marshall 548 (68); Hammer 365 (66); Reeves 673 (27); Bernini 96 (421); Fujikawa 202 (210); Oswald and Minty 620 (81); Rajski 669 (237); Bernini 98 (393); Hammer 370 (416); Luxton 531 (440); Rubcova 681 (386); 532 (185); Nakamura 582 (250); Solhøy 744 (19); Wallwork 950 (346); Hammer 373 (17); Niedbała 604 (60); Behan 73 (388); Paik 938 (232); Smith 743 (tab. 20); Pherson and Beattie 1004 (329); Pherson 1003 (611); Luxton 987 (311); 989 (336); 990 (392).
Remarks: All listings of *pallidula* sensu C.L. Koch have been included here whereas those of *pallidulus* sensu Michael have been included under *Eniochthonius minutissimus* (Berlese, 1903); see remarks under latter species.

***Hypochthonius rufulus carolinicus* Jacot, 1936**

Type: USNM (Cotype)
Comb./Syn.: *Hypochthonius rufulus carolinicus* Jacot, 1936 (449, p. 25)
Hypochthonius carolinicus Jacot, 1936 (469, p. 50)
Distribution: *USA*: N.C. - Jacot 449 (25); 451 (252).
Description: *Adult*: Jacot 449 (25); 451 (252).
Key: Krivoluckij 494 (936).
Ecology: Jacot 449 (25).

***Hypochthonius rufulus paucipectinatus* Jacot, 1934**

Type: MCZ (Cotypes)
Comb./Syn.: *Hypochthonius rufulus paucipectinatus* Jacot, 1934 (439, p. 260)
Distribution: *USA*: Conn. - Jacot 439 (260); Maine - Jacot 439 (260); N.Y. - Jacot 439 (260).
Description: *Adult*: Jacot 439 (260); Baker and Wharton 36 (400) fig.
Key: Krivoluckij 494 (936).
Ecology: Jacot 439 (260).

***Hypochthonius* sp.**

Distribution: *Canada*: Que. - Behan 72 (39); Behan et al. 76 (263).

***Malacoangelia* Berlese, 1913**

Malacoangelia Berlese, 1913
Type-species: *Malacoangelia remigera* Berlese, 1913 (88, p. 101).

***Malacoangelia* sp.**

Distribution: *USA*: Fla. - Norton (RAN unpub.).

ENIOCHTHONIIDAE GRANDJEAN, 1947

***Eniochthonius* Grandjean, 1933**

Hypochthoniella Berlese, 1910
Type-species: *Hypochthonius minutissimus* Berlese, 1903 (87, p. 218; 340, p. 17).

Arthrochthonius Ewing, 1917
Type-species: *Hypochthonius pallidulus* C.L. Koch, 1835 sensu Michael, 1888 (179, p. 124: 340, p. 17).

Eniochthonius Grandjean, 1933
Type-species: *Hypochthonius pallidulus* sensu Michael, 1888 (217, p. 32: 42, p. 178).

Remarks: Hammen (338, p. 13) argued that *Hypochthoniella* Berlese, 1910 and *Arthrochthonius* Ewing, 1917 are junior subjective synonyms of *Hypochthonius* C.L. Koch, 1835, because the latter two genera were based on a misidentified type-species. In the absence of a ruling by the ICZN, *Eniochthonius* Grandjean, 1933 is the only valid name for the taxon.

***Eniochthonius crosbyi* (Ewing, 1909)** new comb.

Syntypes: USNM (see remarks)
Comb./Syn.: *Hypochthonius crosbyi* Ewing, 1909 (170, p. 132)
Hypochthoniella crosbyi (Ewing 1909) (469, p. 50)
Eniochthonius borealis Jacot, 1939 (462, p. 321) new syn. **Type:** USNM (Cotypes)
Hypochthoniella borealis Jacot, 1939) (786, p. 14)
Distribution: *USA*: Minn. - Wagner et al. 786 (14); Mo. - Ewing 170 (132); Woolley 852 (290); N.H. - Jacot 462 (321).
Description: *Adult*: Ewing 170 (132) fig.; Jacot 462 (321); Woolley 852 (290) fig.
Taxonomy: Johnston 469 (50).
Ecology: Ewing 170 (132); Jacot 462 (321); Woolley 852 (290); Wagner et al. 786 (14).
Remarks: The syntypes in the USNM are labelled "*Arthrochthonius crosbyi*".

***Eniochthonius minutissimus* (Berlese, 1903)**

Syntypes: SEA (see remarks)
Comb./Syn.: *Hypochthonius minutissimus* Berlese 1903 (79, p. 252)
Eniochthonius minutissimus (Berlese 1903) (340, p. 17)
Hypochthoniella minutissima (Berlese 1903) (548, p. 69)
Hypochthonius pallidulus sensu Michael, 1888 (561, p. 537); non C.L. Koch, 1836 (338, p. 13)

Arthrochthonius pallidulus sensu Ewing 1917 (179, p. 124)
Hypochthoniella pallidulus sensu Sellnick, 1928 (700, p. 22: 338, p. 13)
Eniochthonius pallidulus sensu Grandjean, 1933 (217 p. 32: 338, p. 13)
Eniochthonius grandjeani van der Hammen, 1952 (338, p. 13). **Type:** See remarks
Add. Comb./Syn. Ref.: Baker and Wharton 36 (401); Sellnick 709 (79); Moritz 571 (156); Grandjean 307 (171); Hammer 369 (7); Bernini 101 (359); Gilyarov 207 (54); Subìas 755 (48).
Distribution: *USA*: Marshall 548 (69); Hammer 365 (66) [Q.I.]; Mich. - Wallwork 788 (172) Va. - Sengbusch 719 (130).
Canada: Man. - Hammer 350 (16); Marshall 548 (69); Oswald and Minty 620 (81); 621 (75); Nfld. - Behan 73 (388); N.W.T. - Hammer 350 (16); Marshall 548 (69); Ont. - Marshall 549 (422); Que. - Marshall 548 (69).
Palearctic: Michael 561 (537) [!] [mi.]; Berlese 79 (252); Willmann 829 (100); Hammen 338 (13); Travé 774 (78); Kunst 503 (34); Rajski 668 (22); Woolley 864 (277); Aoki 10 (179); Moritz 571 (156); Travé 777 (229); Berthet 107 (90); Lebrun 505 (375); Berthet and Gerard 109 (217); Lebrun 506 (52); 507 (103); Moritz 572 (70); Krivoluckij 495 (183); Lions 519 (507); 520 (435); Hammer 365 (66); Bernini 96 (421); Rajski 669 (240); Bernini 98 (393); Hammmer 370 (417); Bernini 101 (359); Lebrun 514 (422); Lions 523 (170); Nakamura 582 (250); Niedbała 604 (60); Subìas 755 (48); Krantz 490 (454); Aoki and Kuriki 958 (231).
Oriental: Mahunka 542 (360).
Australian: Hammer 361 (12); Spain and Luxton 947 (199); Hammer 369 (7); Lee 1076 (336).
Neotropical: Hammer 358 (12); Lions 520 (435); Krantz 490 (454).
Description: *Adult*: Michael 561 (537) [!] [mi.] fig.; Berlese 79 (252); Willmann 829 (100) fig.; Grandjean 217 (32) fig.; 223 (25) fig.; 229 (507) chaet.; 246 (533) fig.; 247 (41) chaet., fig. app.; 251 (20) chaet.; 265 (206) chaet.; Baker and Wharton 36 (401) fig.; Hammer 350 (16) fig.; Grandjean 293 (249) fig.; Kunst 503 (34) fig.; Hammer 358 (12) fig.; Grandjean 307 (171) chaet.; 308 (531) chaet.; 309 (101) app.; Hammer 361 (12) fig.; Balogh 42 (pl.4 fig. 1); Gilyarov 207 (54) fig.
Tritonymph: Grandjean 217 (32) fig.
Deutonymph: Grandjean 217 (32) fig.
Protonymph: Grandjean 217 (32) fig.; 223 (25) fig.
Larva: Grandjean 217 (32) fig.; 223 (25) fig.
Taxonomy: Hammen 338 (13).
Key: Willmann 829 (100); Sellnick 709 (79).
Add. References: Hammen 338 (13); Moritz 571 (156); Marshall 548 (69); Bernini 101 (359); Hammen 344 (22); 344 (17); Subìas 755 (48).
Ecology: Berlese 79 (252); Willmann 829 (100); Hammen 338 (13); MacFadyen 553 (109) [!]; Travé 774 (78); Sengbusch 719 (130); Kunst 503 (34); Rajski 668 (22); Aoki 10 (179); Hammer 358 (12); Moritz 571 (156); Travé 777 (229); Berthet 107 (90); Lebrun 505 (375); Berthet and Gerard 109 (217); Lebrun 506 (52); 507 (103); Moritz 572 (70); Hammer 361 (12); Krivoluckij 495 (183); Lions 519 (507); 520 (435); Hammer 364 (83); Marshall 548 (69); Hammer 365 (66); Aoki 18 (396); Bernini 96

(421); Oswald and Minty 620 (81); Rajski 669 (240); Bernini 98 (393); Oswald and Minty 621 (75); Spain and Luxton 947 (199); Hammer 370 (417); 369 (7); Bernini 101 (359); Gilyarov 207 (54); Luxton 532 (184); Lebrun 514 (422); Lions 523 (170); Mahunka 542 (360); Nakamura 582 (250); Wallwork 950 (343); 950 (230); Niedbała 604 (60); Subìas 755 (48); Behan 73 (388); Krantz 490 (454); Nannelli 997 (345); Aoki and Kuriki 958 (231); Luxton 987 (311).
Remarks: Michael (561, p. 537) is sub *Hypocthonius* [!] *pallidulus*. A hand-written catalogue in the Berlese Collection does not contain the name *Hypochthonius minutissimus*; there are, however, slides of three "types" that bear the name *H. minutissimus*, and then corrected, in pencil, in Berlese's handwriting to *pallidulus* (340, p. 17). *Eniochthonius grandjeani* van der Hammen, 1952 is a replacement name for *Hypochthonius pallidulus* sensu Michael, 1888.

***Eniochthonius* sp.**

Distribution: *USA*: Mich. - Wallwork 789 (262); 790 (561); Tenn. - Crossley and Bohnsack 142 (631).
Canada: Que. - Behan 72 (39); Behan et al. 76 (263).
Foods: Wallwork 789 (262).
Remarks: Behan (72, p. 39) and Behan et al. (76, p. 263) are sub *Hypochthoniella*.

MESOPLOPHORIDAE EWING, 1917

***Archoplophora* van der Hammen, 1959**

Archoplophora van der Hammen, 1959
Type-species: *Phthiracarulus laevis* Jacot, 1938 (340, p. 32).

***Archoplophora laevis* (Jacot, 1938)**

Type: MCZ (Cotypes)
Comb./Syn.: *Phthiracarulus laevis* Jacot 1938 (459, p. 112)
Archoplophora laevis (Jacot, 1938) (340, p. 32)
Distribution: *USA*: Conn. - Jacot 459 (112); Minn. - Wagner et al. 786 (14).
Canada: Man. - Oswald and Minty 620 (82); 621 (74); Ont. - Marshall 549 (422).
Description: *Adult*: Jacot 459 (112) fig.
Taxonomy: Hammen 340 (32).
Ecology: Jacot 459 (112); Oswald and Minty 620 (82); 621 (74); Wagner et al. 786 (14).
Remarks: Recently, Niedbała synonymized *Archoplophora laevis* Jacot, 1838) and *Archoplophora villosa* Aoki, 1980 with *Archoplophora rostralis* (Willmann, 1930), thereby extending the known distribution of this species to the *Palearctic* and *Neotropical* regions [Niedbała, W. 1984. Mesoplophoridea [!] (Acari, Oribatida). Changement du système et redescription d'espèces-types. *Bull. pol. Acad. Sci. Bio. Sci.* 32 (3-4): 137-155; p. 147] . We became aware of the synonymy too late to make the change.

Mesoplophora Berlese, 1904

Mesoplophora Berlese, 1904
Type-species: *Mesoplophora michaeliana* Berlese, 1904 (81, p. 23).

Phthiracarulus Berlese, 1920
Type-species: *Phthiracarus (Phthiracarulus) perexiguus* Berlese, 1920 (93, p. 149: 309, p. 91).

Mesoplophora permodica Niedbała, 1985

Remarks: Information on this species arrived too late for detailed inclusion in the text. It is known from the *USA* (Arkansas and Virginia), [see Niedbała, W. 1985. Essai critique sur Mesoplophora (Acari, Oribatida, Mesoplophoridae). *Annls zool., Warsz.* **39**(4): 93-117; p. 106]. Niedbała (op. cit, p. 108) also recorded this species from Sumatra, but it now appears likely that specimens were mislabeled at some time, and the record from Sumatra actually relates to *Mesoplophora flavida* Niedbała, a species otherwise known from Thailand, not to *M. permodica*. (W. Niedba a, pers. comm.).

Mesoplophora pulchra Sellnick, 1928

Type: Destroyed
Comb./Syn.: *Mesoplophora pulchra* Sellnick, 1928 (700, p. 38)
Distribution: *USA*: Mich. - Wallwork 788 (173); 789 (262); 790 (561).
Palearctic: Willmann 829 (189); Grandjean 222 (310); Travé 774 (79); Aoki 10 (179); Travé 777 (229); Grandjean 309 (93); C lug r 126 (406); Gilyarov 207 (368).
Description: *Adult*: Sellnick 700 (38); Willmann 829 (189) fig.; Grandjean 222 (310) fig.; 226 (356) chaet.; 229 (511) chaet.; 265 (206) chaet.; 307 (181) chaet.; 309 (93) chaet., fig. app.; Woolley 887 (213) fig.; Gilyarov 207 (368) fig.; Balogh and Mahunka 1119 (pl.52 fig. A-B).
Tritonymph: Grandjean 222 (310) fig.
Deutonymph: Grandjean 222 (310).
Protonymph: Grandjean 226 (356).
Larva: Grandjean 226 (356) fig.
Key: Willmann 829 (189); Gilyarov 207 (368); Balogh and Mahunka 1119 (110).
Add. References: Hammen 344 (24).
Foods: Wallwork 789 (262); Luxton 531 (461).
Ecology: Willmann 829 (189); Travé 774 (79); Wallwork 788 (173); 789 (262); 790 (561); Aoki 10 (179); Travé 777 (229); Rafalski 666 (351); C lug r 126 (406).
Remarks: Norton 1973 (1152, p. 448) has an erroneous N.Y. record of *Mesoplophora pulchra* Sellnick, 1928; it is an undescribed species.

Mesoplophora sp. nr. *japonica* Aoki, 1970

Distribution: *USA*: Alaska - Behan 73 (388); Danks 971 (397).

PROTOPLOPHOROIDEA Ewing, 1917

COSMOCHTHONIIDAE **Grandjean, 1947**

***Cosmochthonius* Berlese, 1910**

Cosmochthonius Berlese, 1910
Type-species: *Hypochthonius lanatus* Michael, 1885 (87, p. 221).

***Cosmochthonius lanatus* (Michael, 1885)**

Syntyes: BM(NH)
Comb./Syn.: *Hypochthonius lanatus* Michael, 1885 (562, p. 396)
Cosmochthonius lanatus (Michael, 1885) (829, p. 101)
Cosmochthonius domesticus Grandjean, 1947 (258, p. 333): (338, p. 22). **Type:** Not designated
Add. Comb./Syn. Ref.: Hammen 340 (21); Subìas 755 (50).
Distribution: *USA*: Calif. - Walter and Norton 1179 (tab. 1); Va. - Sengbusch 719 (130).
Palearctic: Michael 562 (396); 561 (541); 564 (76); Willmann 829 (101); Hammer 349 (35); Hammen 338 (22); Kunst 503 (34); Wallwork 794 (676); Moritz 572 (70); Lions 519 (507); Moskacheva 579 (1402); Gilyarov 207 (55); Nakamura 582 (250); Subìas 755 (50).
Description: *Adult*: Michael 562 (396) fig.; 561 (541) fig.; 564 (76); Willmann 829 (101) fig.; Grandjean 258 (333) fig.; Hammen 338 (22); Gilyarov 207 (55) fig.; Balogh and Mahunka 1119 (pl. 43 fig. E-F).
Nymph: Michael 562 (396).
Taxonomy: Grandjean 266 (80); Wallwork 794 (676).
Key: Michael 564 (76); Willmann 829 (101); Gilyarov 207 (55); Gordeeva 975 (847); Balogh and Mahunka 1119 (94).
Add. References: Willmann 829 (101); Hammen 338 (22); 340 (21); Moritz 572 (70); Hammen 344 (14, 15); Subìas 755 (50).
Morphology: Hammen 1062 (24).
Ecology: Michael 562 (396); 561 (541); 564 (76); Willmann 829 (101); Hammen 338 (22); Sengbusch 719 (130); Kunst 503 (34); Moritz 572 (70); Rafalski 666 (350); Lions 519 (507); Moskacheva 579 (1402); Nakamura 582 (250); Subìas 755 (50).
Remarks: Lee, 1982 (1076, p. 350) rejected the synonymy of *Cosmochthonius lanatus* (Michael, 1885) and *Cosmochthonius domesticus* Grandjean, 1947, because of the questionable status of Michael's species.

***Cosmochthonius plumatus* Berlese, 1910**

Type: SEA
Comb./Syn.: *Cosmochthonius plumatus* Berlese 1910 (87, p. 221)
Distribution: *Palearctic*: Berlese 87 (221); Balogh and Mahunka 1119 (94).
Description: *Adult*: Berlese 87 (221) fig.; Grandjean 266 (78) fig.; Hammen 340 (22); Gilyarov 207 (55) fig.; Balogh and Mahunka 1119 (pl. 42 fig. C-H).
Key: Gordeeva 975 (847); Balogh and Mahunka 1119 (94).
Add. References: Hammen 340 (22).
Ecology: Berlese 87 (221); Wallwork et al. 1229 (169).
Remarks: Only the subspecies *Cosmochthonius plumatus suramericanus* Hammer, 1958 is known from the *USA*.

Cosmochthonius plumatus suramericanus Hammer, 1958

Type: MHPC
Comb./Syn.: *Cosmochthonius plumatus suramericanus* Hammer, 1958 (355, p. 23)
Distribution: *USA*: N.M. - Wallwork et al. 1229 (169).
Neotropical: Hammer 355 (23).
Description: *Adult* [?]: Hammer 355 (23) fig.
Ecology: Hammer 355 (23); Wallwork et al. 1229 (169).
Remarks: Hammen (340, p. 22) noted that Hammer's specimen might be a nymph because of its small size.

Cosmochthonius reticulatus Grandjean, 1947

Type: Not designated
Comb./Syn.: *Cosmochthonius reticulatus* Grandjean, 1947 (258, p. 331)
Distribution: *USA*: Tex. - Ashley and Bohnsack 959 (617).
Palearctic: Grandjean 258 (331, 354); Travé 774 (78); Grandjean 302 (404); Travé 777 (229); Gordeeva 975 (847).
Description: *Adult*: Grandjean 258 (331, 354) fig. app.; 265 (206) chaet.; 302 (404) fig.; 307 (181) chaet.; 308 (531) chaet.; 309 (102) chaet.; Balogh and Mahunka 1119 (pl. 43 fig. A-D).
Taxonomy: Wallwork 794 (676); Aoki 956 (6).
Key: Gordeeva 975 (847); Balogh and Mahunka 1119 (95).
Add. References: Hammen 344 (15).
Ecology: Travé 774 (78); Grandjean 302 (404); Travé 777 (229); Ashley and Bohnsack 959 (617); Luxton 987 (311).

Cosmochthonius sp. nr. *lanatus* (Michael, 1885)

Distribution: *USA*: Calif. - Hoy 1136 (167).

***Phyllozetes* Gordeeva, 1978**

Phyllozetes Gordeeva, 1978
Type-species: *Cosmochthonius emmae* Berlese, 1910 (1054, p. 1099).

***Phyllozetes hypoquercus* McDaniel and Bolen, 1980**

Type: MCZ; Paratypes: CESF, USNM
Comb./Syn.: *Phyllozetes hypoquercus* McDaniel and Bolen, 1980 (994, p. 255)
Distribution: *USA*: Tex. - McDaniel and Bolen 994 (225). **Description:** *Adult*: McDaniel and Bolen 994 (225) fig.

HAPLOCHTHONIIDAE **Van Der Hammen, 1959**

***Haplochthonius* Willmann, 1930**

Haplochthonius Willmann, 1930
Type-species: *Cosmochthonius (Haplochthonius) simplex* Willmann, 1930 (828, p. 2).
Tetrochthonius Hammer, 1958
Type-species: *Tetrochthonius clavatus* Hammer, 1958 (355, p. 23: 42 p. 180).

***Haplochtonius simplex* (Willmann, 1930)**

Type: WHPC
Comb./Syn.: *Cosmochthonius (Haplochthonius) simplex* Willmann, 1930 (828, p. 2)
Haplochthonius simplex (Willmann, 1930) (227, p. 240)
Add. Comb./Syn. Ref.: Grandjean 255 (224); Hammen 338 (22). **Distribution:** *USA*: Ohio - Johnston 471 (365).
Palearctic: Grandjean 227 (240); Hammen 338 (22); Sellnick 709 (78); Johnston 471 (365); Krivoluckij and Kazadaev 500 (1257); Lions 523 (170); Subìas 755 (52).
Description: *Adult*: Willmann 828 (2) fig.; Grandjean 246 (533) chaet., fig.; 244 (34) chaet.; 247 (52) chaet.; 251 (21) chaet.; 255 (224) chaet., fig.; 265 (206) chaet.; 307 (181) chaet.; 308 (531) chaet.; Krivoluckij and Kazadaev 500 (1257) fig.; Balogh and Mahunka 1119 (pl. 6 fig. A-C).
Tritonymph: Grandjean 255 (224) fig.
Deutonymph: Grandjean 255 (224) fig.
Protonymph: Grandjean 255 (224) fig.
Larva: Grandjean 255 (224) fig.
Taxonomy: Grandjean 227 (240).
Key: Sellnick 709 (78); Balogh and Mahunka 1119 (49).
Add. References: Hammen 338 (22); Johnston 471 (365); Hammen 344 (20).
Morphology: Grandjean 227 (240).

Ecology: Hammen 338 (22); Sellnick 709 (78); Rafalski 666 (350); Johnston 471 (365); Krivoluckij and Kazadaev 500 (1257); Lions 523 (170); Subìas 755 (52).

Haplochthonius variabilis Wallwork, 1972

Type: USNM
Comb./Syn.: *Haplochthonius variabilis* Wallwork, 1972 (803, p. 94) **Distribution:** *USA*: Calif. - Wallwork 803 (94); 801 (297). **Description:** *Adult*: Wallwork 803 (94) fig.
Ecology: Wallwork 803 (94); 801 (297); 950 (345); 1029 (762).

SPHAEROCHTHONIIDAE Grandjean, 1947

Sphaerochthonius Berlese, 1910

Sphaerochthonius Berlese, 1910
Type-species: *Hypochthonius splendidus* Berlese, 1904 (87, p. 223).

Sphaerochthonius splendidus (Berlese, 1904)

Type: SEA
Comb./Syn.: *Hypochthonius splendidus* Berlese 1904 (81, p. 26)
Sphaerochthonius splendidus (Berlese, 1904) (87, p. 223)
Distribution: *USA*: N.M. - Wallwork et al. 1229 (169).
Palearctic: Berlese 81 (26); Grandjean 1056 (33); Hammen 340 (25); Krivolutskij, 495 (183); Gilyarov 207 (52); Karppinen and Krivolutsky 1071 (5); Balogh and Mahunka 1119 (99).
Australian: Hammer 371 (9).
Description: *Adult*: Berlese 81 (26) fig.; Grandjean 258 (331) fig.; Hammen 340 (25); Gilyarov 207 (52) fig.; Balogh and Mahunka 1119 (pl. 47 fig. A).
Key: Balogh and Mahunka 1119 (99).
Add. References: Hammen 340 (25); 344 (33).
Ecology: Berlese 81 (26); Grandjean 1056 (33); Krivolutskij 495 (183); Hammer 371 (9); Karppinen and Krivolutsky 1071 (5); Wallwork et al. 1229 (169).

Sphaerochthonius sp.

Distribution: *USA*: Calif. - Hoy 1135 (75); Walter and Norton 1179 (tab. 1).

PROTOPLOPHORIDAE Ewing, 1917

Cryptoplophora Grandjean, 1932

Cryptoplophora Grandjean, 1932
Type-species: *Cryptoplophora abscondita* Grandjean, 1932 (1056, p. 28).

Cryptoplophora sp.

Distribution: *USA*: Tex. - Norton (RAN unpub.).

Protoplophora Berlese, 1910

Protoplophora Berlese, 1910
Type-species: *Protoplophora palpalis* Berlese 1910 (87, p. 217).

Protoplophora sp.

Distribution: *USA*: Calif. - Walter and Norton 1179 (tab. 1).
Remarks: "*Protoplophora palpalis*" from Ca1ifornia (1179, tab. 1) is based on Grandjean's (1056, p. 24) concept of this species. Bernini has shown that Grandjean misinterpreted the identit of *Protoplophora palpalis* Berlese, 1910 (87, p. 217) [see Bernini, F. 1983. Notulae Oribatologicae XXVIII. Some Italian Protoplophoridae (Acarida, Oribatida). *Redia* 64: 47-86 + 2 pls.; p. 63]. The California specimens represent a new species.

Prototritia Berlese, 1916

Prototritia Berlese, 1916
Type-species: *Arthroplophora (Prototritia) armadillo* Berlese 1916 (90, p. 65).

Aedoplophora Grandjean, 1932
Type-species: *Aedoplophora glomerata* Grandjean 1932 (1056, p. 12: see remarks, p. 71).

Remarks: Bernini, F. 1983. Notulae Oribatologicae XXVIII. Some Italian Protoplophoridae (Acarida, Oribatida). *Redia* 64: 47-86 + 2 pls.

Prototritia mayor (Jacot, 1933)

Type: FSCA (Cotypes)
Comb./Syn.: *Aedoplophora major* Jacot, 1933 (430, p. 235)
Prototritia major (Jacot, 1933) [see Bernini's reference, p. 68, under *Prototritia* above].
Distribution: *USA*: Fla. - Jacot 430 (235); Subìas and Pérez-Inigo 756 (395).
Description: *Adult*: Jacot 430 (235) fig.
Taxonomy: Grandjean 978 (311).

Ecology: Jacot 430 (235).

PEDICULOCHELIDAE, LAVOIPIERRE, 1946

***Paralycus* Womersley, 1944**

Paralycus Womersley, 1944
Type-species: *Alicus* [!] *pyrigerus* Berlese, 1905 (1110, p. 135).
Pediculochelus Lavoipierre, 1946
Type-species: *Pediculochelus raulti* Lavoipierre, 1946 (see remarks: 1002, p. 506)
Remarks: Lavoipierre, M. 1946. A new acarine parasite of bees. *Nature, Lond*. **158**: 130-131.

***Paralycus lavoipierrei* (Price, 1973)**

Type: USNM; Paratypes: EMUC
Comb./Syn.: *Pediculochelus lavoipierrei* Price, 1973 (1006, p. 305)
Paralycus lavoipierrei (Price, 197i) (1002, p. 506)
Distribution: *USA*: Calif. - Price 1006 (305).
Description: *Adult*: Price 1006 (305) fig. ; Norton et al. 1002 (506) chaet. app.
Nymph: Price 1006 (305) fig.
Larva: Price 1006 (305) fig.
Taxonomy: Norton et al. 1002 (506).

***Paralycus parvulus* (Price, 1973)**

Type: USNM; Paratypes: EMUC
Comb./Syn.: *Pediculochelus parvulus* Prioe, 1973 (1006, p. 305) *Paralycus parvulus* (Price, 1973) (1002, p. 506)
Distribution: *USA*: Calif. - Price 1006 (305).
Description: *Adult*: Price 1006 (305) fig. .
Taxonomy: Norton et al. 1002 (506).

BRACHYCHTHONIOIDEA Thor, 1934

BRACHYCHTHONIIDAE Thor, 1934

Remarks: Balogh (42, p. 140) attributed the family name to Balogh, 1943, but it was first proposed by Thor, 1934 (1176, p. 115).

***Brachychthonius* Berlese, 1910**

Brachychthonius Berlese, 1910
Type-species: *Brachychthonius berlesei* Willmann, 1928 (=*Brachychthonius brevis* Michael sensu Berlese, 1910) (87, p. 220; 340, p. 19).
Brachychochthonius Jacot, 1938 (see remarks under *Sellnickochthonius* Krivoluckij, 1964)
Type-species: *Brachychochthonius jugatus* Jacot, 1938 (458, p. 130).
Brachychthonius Various authors, in part (577, p. 259).
Poecilochthonius Balogh, 1943, in part (577, p. 259).

***Brachychthonius berlesei* Willmann, 1928**

Type: WHPC
Comb./Syn.: *Brachychthonius berlesei* Willmann, 1928 (826, p. 160)
Brachychochthonius berlesei (Willmann, 1928) (459, p. 131)
Brachychthonius brevis Berlese, 1910 (87, p. 220); non Michael, 1888 (340, p. 20). **Type:** SEA
Add. Comb./Syn. Ref.: Willmann 829 (l00); Evans 161 (234).
Distribution: *USA*: Niedbała 600 (298).
Canada: Schweizer 691 (230), N.W.T. - Behan 73 (388).
Nearctic: Hammer 348 (40); 349 (6); 349 (7); Niedbała 600 (298); Hammer 373 (17); Danks 971 (397).
Palearctic: Willmann 829 (100); Hammer 348 (40); Forsslund 193 (349); Hammer 349 (6); 349 (7); Weis-Fogh 817 (204, 269); Evans 161 (234); Schweizer 691 (230); 692 (tab. 7 no. 306); Hammen 340 (20); Kunst 503 (34); Travé 775 (210); Moritz 571 (154); Travé 777 (229); Berthet 107 (90); Byzova 124 (291); Lebrun 506 (52); 507 (103); Moritz 572 (69); Bernini 96 (421); 98 (392); Hammer 370 (422); Niedbała 600 (298); Rubcova 681 (386); Gilyarov 207 (60); Luxton 532 (181); Lions 523 (170); Moritz 577 (262); Hammer 373 (l7); Niedbała 604 (60); 605 (70); Danks 971 (397).
Description: *Adult*: Berlese 87 (220) fig.; Willmann 826 (160) fig.; 829 (100) fig.; Weis-Fogh 817 (269) fig.; Strenzke 750 (244) fig.; Evans 161 (234) fig.; Schweizer 691 (230) fig.; Bulanova-Zachvatkina 120 (177) fig.; Balogh 42 (pl. 4 fig. 4); Gilyarov 207 (60) fig.; Moritz 577 (262) fig.
Key: Willmann 829 (100); Gilyarov 207 (60); Niedbała 603 (142).
Add. References: Willmann 829 (100); Jacot 459 (131); Hammer 349 (6); 349 (7); Hammen 340 (20); Bader 34 (67); Niedbała 600 (298); Moritz 577 (262).
Miscellaneous: Lasebikan et al. 984 (52) extract.
Ecology: Willmann 829 (100); Hammer 348 (40); Forsslund 193 (349); Hammer 349 (7); Weis-Fogh 817 (204, 269); Evans 161 (234); Schweizer 691 (230); 692 (tab. 7 no. 306); Kunst 503 (34); Travé 775 (210); Moritz 571 (154); Travé 777 (229); Berthet 107 (90); Byzova 124 (291); Lebrun 507 (103); 506 (52); Moritz 572 (69); Bernini 96 (421); 98 (392); Hammer 370 (422); Rubcova 681 (386); Luxton 532 (181); Lions 523 (170) Moritz 577 (262); Wallwork 950 (329); Hammer 373 (17); Niedbała 604 (60); 605 (70); Behan 73 (388).

Brachychthonius berlesei erosus (Jacot, 1938)

Type: USNM (Cotypes)

Comb./Syn.: *Brachychochthonius berlesei erosus* Jacot, 1938 (458, p. 131)

Brachychthonius berlesei erosus (Jacot, 1938) (548, p. 69)

Distribution: *USA*: N.C. - Jacot 458 (131); Niedbała 600 (298).

Canada: N.W.T. - Behan 73 (388); Que. - Marshall 548 (69); Smith 743 (tab. 20).

Description: *Adult*: Jacot 458 (131) fig.

Ecology: Jacot 458 (131); Marshall 548 (69); Behan 73 (388); Smith 743 (tab. 20).

Brachychthonius bimaculatus Willmann, 1936

Type: WHPC

Comb./Syn.: *Brachychthonius bimaculatus* Willmann, 1936 (832, p. 290)

Brachychochthonius bimaculatus (Willmann, 1936) (571, p. 155)

Brachychthonius helveticus Schweizer, 1956 (691, p. 230): (577, p. 271). **Type:** NMB

Add. Comb./Syn. Ref.: Niedbała 602 (485).

Distribution: *Canada*: B.C. - Marshall 550 (132).

Palearctic: Willmann 832 (290); 834 (441); Weis-Fogh 817 (204); Willmann 837 (170); Schweizer 691 (230); 692 (tab. 7 no. 307); Sellnick 709 (81); Moritz 571 (155); Niedbała 600 (299, 300); Gilyarov 207 (6a); Moritz 577 (270).

Description: Adlult: Willmann 832 (290) fig.; Schweizer 691 (230) fig.; Moritz 571 (155); Niedbała 595 (5) fig.; 602 (485) fig.; Gilyarov 207 (60) fig.; Moritz 577 (270) chaet., fig.; Balogh ànd Mahunka 1119 (pl. 19 fig. C-D).

Taxonomy: Niedbała 601 (18).

Key: Willmann 832 (290); Sellnick 709 (81); Gilyarov 207 (60); Niedbała 603 (140); Balogh and Mahunka 1119 (67).

Add. References: Niedbała 600 (299).

Morphology: Niedbała 595 (5).

Ecology: Willmann 832 (290); 834 (441); Weis-Fogh 817 (204); Willmann 837 (170); Schweizer 691 (230); Knülle 484 (398); Schweizer 692 (tab. 7 no. 307); Moritz 571 (155); Niedbała 595 (5); Moritz 577 (270); yromska-Rudzka 1033 (160); yromska-Rudzka 1034 (108); Marshall 550 (132).

Brachychthonius jugatus (Jacot, 1938)

Type: Unknown

Comb./Syn.:*Brachychochthonius jugatus* Jacot, 1938 (458, p. 130)

Brachychthonius jugatus (Jacot, 1938) (754, p. 17)

Add. Comb./Syn. Ref.: Marshall 548 (70); Niedbała 600 (301); Subìas 755 (57).

Distribution: *USA*: Strenzke 754 (17); Niedbała 599 (193); 600 (301);- Mich. - Wallwork 788 (172); Marshall 548 (70); N.Y. - Reeves 673 (27); N.C. - Jacot 458 (130); Marshall 548 (70).

Canada: N.W.T. - Behan 73 (388); Que. - Marshall 548 (70); Smith 743 (tab. 20).
Nearctic: Strenzke 754 (17); Niedbała 599 (193); 600 (301).
Palearctic: Strenzke 754 (17); Haarløv 326 (33); 327 (148); Byzova 124 (291); Lebrun 507 (103); Marshall 548 (70); Niedbała 599 (193); 600 (301); Rubcova 681 (386); Luxton 532 (181); Subìas 755 (57); Danks 971 (397).
Description: *Adult*: Jacot 458 (130) fig.; Niedbała 599 (193) fig.
Key: Chinone 910 (26); Niedbała 603 (141); Balogh and Mahunka 1119 (64).
Add. References: Marshall 548 (70); Niedbała 600 (301); Subìas 755 (57).
Ecology: Strenzke 754 (17); Haarløv 326 (33); Wallwork 788 (172); Haarløv 327 (148); Byzova 124 (291); Lebrun 507 (103); Marshall 548 (70); Reeves 673 (27); Niedbała 599 (193); Rubcova 681 (386); Luxton 532 (181); Wallwork 950 (257); Subìas 755 (57); Behan 73 (388); Smith 743 (tab. 20); Smith et al. 1223 (60); Luxton 987 (311); 989 (366); 990 (407); Danks 971 (397).

***Brachychthonius laevis* (Jacot, 1938)** new comb.

Type: USNM (Cotypes)
Comb./Syn.: *Brachychochthonius laevis* Jacot, 1938 (458, p. 130)

Distribution: *USA*: Tenn. - Jacot 458 (130).
Description: *Adult*: Jacot 458 (130) fig.
Ecology: Jacot 458 (130).

***Brachychthonius pius* Moritz, 1976**

Type: ZMH
Comb./Syn.:*Brachychthonius pius* Moritz, 1976 (577, p. 268)
Brachychochthonius berlesei erosus sensu Hammer, 1952 (350, p. 19); non Jacot, 1938 (577, p. 268)
Distribution: *Canada*: N.W.T. - Hammer 350 (19) [mi.]; Moritz 577 (268).
Palearctic: Moritz 577 (268).
Description: *Adult*: Hammer 350 (19) [mi.] fig.; Moritz 577 (268) fig.
Add. References: Moritz 577 (268).
Ecology: Hammer 350 (19) [mi.]; Moritz 577 (268).
Remarks: Hammer (350, p. 19) is sub *Brachychochthonius berlesei erosus*.

Brachychthonius sp.

Distribution: *USA*: Calif. - Hoy 1135 (75); Minn. - Wagner et al. 786 (14); N.Y. Reeves 673 (28).
Canada: Ont. - Marshall 549-(422); Que. - Marshall 548 (70).
Description: *Adult*: Reeves 673 (28). *Nymph*: Reeves 673 (28).

***Eobrachychthonius* Jacot, 1936**

Eobrachychthonius Jacot, 1936

Type-species: *Brachychthonius latior* Berlese, 1910 (=*Eobrachychthonius sexnotatus* Jacot, 1936) (449, p. 24; 340, p. 18).

***Eobrachychthonius borealis* Forsslund, 1942**

Type: SMNH

Comb./Syn.: *Eobrachychthonius borealis* Forsslund, 1942 (191, p. 2)

Distribution: *USA*: Alaska - Behan 73 (388). *Canada*: N.W.T. - Behan 73 (388).

Palearctic: Forsslund 191 (2); 192 (198); 193 (349); 196 (588); Tarras-Wahlberg 765 (29); Dalenius 144 (107); 145 (43); Byzova 124 (291); Niedbała 598 (39); 600 (303); Gilyarov 207 (57); Danks 971 (39).

Description: *Adult*: Forsslund 191 (2) fig.; Hammen 338 (18); Forsslund 196 (588) fig.; Niedbała 598 (39) fig.; Gilyarov 207 (57) fig.; Balogh and Mahunka 1119 (pl. 7 fig. E-F)

Key: Gilyarov 207 (57); Balogh and Mahunka 1119 (57).

Add. References: Niedbała 600 (303); 603 (142).

Ecology: Forsslund 191 (2); 192 (198); 193 (349); Tarras-Wahlberg 765 (29); Dalenius 144 (107); 145 (4); Byzova 124 (291); Niedbała 598 (39); Behan 73 (388); Danks 971 (397).

***Eobrachychthonius latior* (Berlese, 1910)**

Type: Unknown

Comb./Syn.: *Brachychthonius latior* Berlese, 1910 (87, p. 220)

Eobrachyhthonius latus [!] (Berlese, 1910) (449, p. 25)

Brachychthonius brevis glabra Thor, 1930 (766, p. 57): (600, p. 303). **Type:** Destroyed.

Eobrachychthonius sexnotatus Jacot, 1936 (449, p. 24): (196, p. 586). **Type:** USNM (Cotype).

Brachychthonius sexnotatus (Jacot, 1936) (251, p. 20)

Brachychthonius grandis Sellnick, 1944 (705, p. 40): (600, p. 303) **Type:** Destroyed.

Add. Comb./Syn. Ref.: Hammen 340 (18); Lions 520 (435); Marshall 548 (70); Niedbała 598 (40).

Distribution: *USA*: Lions 520 (435); Alaska - Behan 73 (388); Fla. - Berlese 87 (220); Jacot 449 (25) [!]; Strenzke 754 (21); Forsslund 196 (584); Ill. - Jacot 449 (25) [!]; Forsslund 196 (584); N.Y. - Reeves 673 (27); N.C. - Jacot 449 (25) [!]; 449 (24); Forsslund 196 (584); Marshall 548 (70); Va. - Sengbusch 719 (130).

Canada: Lions 520 (435); Man. - Oswald and Minty 620 (80); Nfld. - Behan 73 (388); N.W.T. - Hammer 350 (16); Forsslund 196 (584); Marshall 548 (70); Behan 73 (388); Ont. - Marshail 549 (422); Que. - Marshall 548 (70); Behan 72 (39); Behan et al. 76 (263); Y.T. - Behan 73 (388).

Nearctic: Sellnick 705 (40); Hammer 349 (35); 352 (411); Strenzke 754 (21); Forsslund 196 (584); Hammen 340 (18); Lions 520 (435); Danks 971 (397).

Palearctic: Strenzke 754 (21); Forsslund 196 (584); Hammen 340 (18); Lions 519 (507); 520 (435); Marshall 548 (70); Bernini 96 (421); Niedbała 600 (303); 598 (4l7); Gilyarov 207 (57); Niedbała 604 (60); Danks 971 (397).

Description: *Adult*: Berlese 87 (220) fig.; Thor 766 (57) fig.; Jacot 449 (25) [!]; 449 (24) fig.; Sellnick 705 (40) fig.; Grandjean 251 (20) chaet.; Hammer 350 (16) fig.; Forsslund 196 (584) fig.; Grandjean 308 (530) chaet.; Bulanova-Zachvatkina 120 (223) fig.; Balogh 42 (pl.4 fig. 5-6); Niedbała 598 (40) fig.; Gilyarov 207 (57) fig.; Balogh and Mahunka 1119 (pl. 7 fig. C-D).

Taxonomy: Forsslund 196 (584).

Key: Bulanova-Zachvatkina 120 (118); Gilyarov 207 (57); Niedbała 603 (142).

Add. References: Marshall 548 (70); Niedbała 600 (303).

Ecology: Berlese 87 (220); Thor 766 (57); Jacot 449 (25) [!]; 449 (24); Sellnick 705 (40); Hammer 350 (16); 352 (411); Strenzke 754 (21); Forsslund 196 (584); Sengbusch 719 (130); Lions 519 (507); 520 (435); Marshall 548 (70); Reeves 673 (27); Bernini 96 (421); Oswald and Minty 620 (80); Behan 72 (39); Niedbała 598 (40); 604 (60); Behan 73 (388); Behan et al. 76 (263).

***Eobrachychthonius oudemansi* van der Hammen, 1952**

Type: RNH

Comb./Syn.: *Eobrachychthonius oudemansi* Hammen, 1952 (338, p. 17)

Brachychthonius oudemansi (Hammen, 1952) (691, p. 226)
Eobrachychthonius argentinensis Hammer, 1958 (355, p. 19): (358, p. 16). **Type:** MHPC
Brachychthonius laetepictus sensu Willmann, 1931 (829, p. 101); non Berlese, 1910 (755, p. 63)
Add. Comb./Syn. Ref.: Niedbała 600 (304).
Distribution: *USA*: Niedbała 600 (304); Alaska - Behan 73 (388). *Canada*: N.W.T. - Behan 73 (388).
Palearctic: Willmann 829 (101) [mi.]; Hammen 338 (17); Schweizer 691 (226); Forsslund 196 (587). Schweizer 692 (tab. 7 no. 299); Sellnick 709 (85); Niedbała 600 (304); Gilyarov 207 (57); Niedbała 604 (60); 605 (69)- Subìas 755 (63); Danks 971 (397).
Neotropical: Hammer 355 (19); 358 (16); Niedbała 600 (304); 605 (69).
Antarctic: Wallwork 799 (2).
Description: *Adult*: Willmann 829 (101) [mi.] fig.; Hammen 338 (17) fig.; Schweizer 691 (226) fig.; Forsslund 196 (587) fig.; Hammer 355 (19) fig.; Wallwork 799 (2). Gilyarov 207 (57) fig.; Moritz 576 (31) chaet., fig.; Balogh and Mahunka 1119 (pl. 8 fig. A-C).
Key: Willmann 829 (101) [mi.]; Sellnick 709 (85); Chinone 910 (26); Gilyarov 207 (57); Niedbała 603 (142); Balogh and Mahunka 1119 (57).

Add. References: Hammer 358 (16); Niedbała 600 (304); Subìas 755 (63).
Biology: West 1182 (59).
Ecology: Hammen 338 (17); Schweizer 691 (226); Forsslund 196 (587); Schweizer 692 (tab. 7 no. 299); Hammer 355 (19); 358 (16); Rafalski 666 (349); Wallwork 799 (2); Niedbała 604 (60); 605 (69); Subìas 755 (63); Behan 73 (380); Danks 971 (397).
Remarks: Willmann (829, p. 101) is sub *Brachychthonius laetepictus*.

***Eobrachychthonius* sp.**

Distribution: *USA*: Calif. - Walter and Norton 1179 (tab. 1).

***Liochthonius* van der Hammen, 1959**

Liochthonius van der Hammen, 1959
Type-species: *Hypochthonius brevis* Michael, 1888 non Berlese, 1910 (=*Brachychthonius perpusillus* Berlese, 1910, sensu Forsslund, 1942 (340, p. 19; 576, p. 38).
Brachychthonius Various authors, in part (576, p. 38).

***Liochthonius approximatus* (Jacot, 1939)** new comb.

Type: USNM (Cotypes)
Comb./Syn.: *Brachychthonius approximatus* Jacot, 1939 (462, p. 321)
Distribution: *USA*: N.H. - Jacot 462 (321).
Description: *Adult*: Jacot 462 (321) fig.
Ecology: Jacot 462 (321).

***Liochthonius attenuatus* (Jacot, 1938)** new comb.

Type: USNM (Cotypes)
Comb./Syn.: *Brachychthonius attenuatus* Jacot, 1938 (458, p. 129)
Distribution: *USA*: N.C. - Jacot 458 (129).
Description: *Adult*: Jacot 458 (129) fig.
Ecology: Jacot 458 (129).

***Liochthonius bifurcatus* (Jacot, 1936)** new comb.

Type: USNM (Cotypes)
Comb./Syn.: *Brachychthonius bifurcatus* Jacot, 1936 (451, p. 249)
Distribution: *USA*: N.C. - Jacot 451 (249).
Description: *Adult*: Jacot 451 (249) fig.
Ecology: Jacot 451 (249).

Liochthonius brevis (Michael, 1888)

Lectotype: BM(NH) [see 576, p. 40]

Comb./Syn.: *Hypochthonius brevis* Michael, 1888 (561, p. 539) *Liochthonius brevis* (Michael 1888) (340, p. 19)

Brachychthonius perpusillus Berlese, 1910 (87, p. 222): (576, p. 40). **Type:** SEA

Liochthonius perpusillus (Berlese, 1910) (340, p. 19)

Add. Comb./Syn. Ref.: Michael 564 (76); Forsslund 196 (590); Niedbała 600 (296); Bernini 101 (374); Moritz 576 (40); Subìas 755 (70).

Distribution: *USA*: Alaska - Hammer 354 (7); Forsslund 196 (590); Behan 73 (388); Fla. - Berlese 87 (220); N.C. - Jacot 451 (247); Forsslund 196 (590).

Canada: Hammer 353 (1 7); Schweizer 691 (227); N.W.T. - Hammer 350 (18); Behan 73 (388); Que. - Behan 73 (388).

Nearctic: Hammer 353 (17); 354 (7); Strenzke 754 (18); Hammen 340 (19); Niedbała 600 (296); 605 (71); Danks 971 (398).

Palearctic: Michael 561 (539); 564 (76); Forsslund 191 (4); Weis-Fogh 817 (204); Evans 161 (231); Hammer 353 (17); 354 (7); Strenzke 754 (18); Schweizer 691 (227); Forsslund 196 (590); Schweizer 692 (tab. 7 no. 302); Hammen 340 (19); Kunst 503 (34); Sellnick 709 (85); Grandjean 304 (137); Niedbała 595 (1); Bulanova-Zachvatkina 121 (59); Hammer 367 (97); Bernini 98 (393); Hammer 370 (416); Niedbała 600 (296); Bernini 101 (374); Rubcova 681 (386); Gilyarov 207 (62); Aoki 25 (146); Lions 523 (170); Moritz 576 (40); Niedbała 604 (60); 605 (71); Subìas 755 (70); Danks 971 (398).

Australian: Womersley 842 (219); Niedbała 600 (296).

Description: *Adult*: Michael 561 (539) fig.; 564 (76); Berlese 87 (220) fig.; Jacot 451 (247) fig.; Forsslund 191 (4) fig.; Womersley 842 (221) fig.; Evans 161 (231); Hammer 350 (18) fig.; Schweizer 691 (227) fig.; Forsslund 196 (590) fig.; Balogh 40 (42) fig.; Grandjean 304 (137) chaet., fig.; 307 (181) chaet.; 308 (530) chaet.; Bulanova-Zachvatkina 120 (119) fig.; Niedbała 595 (1) fig.; Grandjean 315 (151) chaet.; Reeves and Marshall 674 (324) chaet.; Chinone 910 (22) fig.; Gilyarov 207 (62) fig.; Moritz 576 (40) fig.; Niedbała 930 (480) fig.; Balogh and Mahunka 1119 (pl.27 fig,E-F).

Tritonymph: Grandjean 304 (137) fig.; Reeves and Marshall 674 (324) chaet.

Deutonymph: Grandjean 304 (137) fig.; Reeves and Marshall 674 (324) chaet.

Protonymph: Grandjean 304 (137) fig.; Reeves and Marshall 674 (324) chaet.

Larva: Grandjean 304 (137) fig.

Taxonomy: Niedbała 930 (480).

Key: Michael 564 (76); Evans 161 (231); Sellnick 709 (85); Bulanova-Zachvatkina 120 (119); Chinone 910 (28); Gilyarov 207 (62); Balogh and Mahunka 1119 (76).

Add. References: Niedbała 600 (296); Bernini 101 (374); Hammen 344 (23); Moritz 576 (40).

Ecology: Michael 561 (539); 564 (76); Berlese 87 (220); Jacot 451 (247); Forsslund 191 (4); Womersley 842 (220); Weis-Fogh 817 (204); Evans 161 (231); Hammer 350 (18); 354 (7); Strenzke 754 (18); Schweizer 691 (227); Forsslund 196 (59O); Schweizer 692 (tab. 7 no. 302); Kunst 503 (34); Sellnick 709 (85); Grandjean 304 (137); Niedbała 595 (1); Bulanova-Zachvatkina 121 (59); Hammer

367 (97); Bernini 98 (393); Hammer 370 (41); Rubcova 681 (386); Aoki 25 (146); Lions 523 (170); Moritz 576 (40); Niedbała 604 (60); 605 (71); Subìas 755 (70); Behan 73 (380).

***Liochthonius fimbriatus* (Jacot, 1936)**

Type: USNM (Cotypes)
Comb./Syn.: *Brachychthonius fimbriatus* Jacot, 1936 (451, p. 248)
Liochthonius fimbriatus (Jacot, 1936) (358, p. 15)
Distribution: *USA*: N.C. - Jacot 451 (248).
Description: *Adult*: Jacot 451 (248) fig.
Ecology: Jacot 451 (248).
Remarks: *Brachychthonius fimbriatus* Hammer, 1958 (355, p. 14) is a primary homonym, replaced by *Liochthonius fimbriatissimus* (see 358, p. 15) and Bernini's (101, p. 370) *Liochthonius cf. fimbriatus* was compared to Hammer's species.

***Liochthonius forsslundi* (Hammer, 1952)** new comb.

Type: CNC
Comb./Syn.: *Brachychthonius forsslundi* Hammer, 1952 (350, p. 18)
Distribution: *USA*: Alaska - Behan 73 (388). [mi.]; Danks 971 (397) [mi.].
Canada: N.W.T. - Hammer 350 (18).
Description: *Adult*: Hammer 350 (18) fig.
Ecology: Hammer 350 (18); Behan 73 (388) [mi.]; Danks 971 (397) [mi.].
Remarks: Balogh and Mahunka (1119, p. 73) rejected Moritz' synonymy of *Liochthonius forsslundi* Mahunka, 1969 with *Liochthonius evansi* (Forsslund, 1958). The transfer of *Brachychthonius forsslundi* Hammer, 1952 to the genus *Liochthonius* made *Liochthonius forsslundi* Mahunka, 1969 (924, p. 23) a junior secondary homonym of Hammer's species. *Liochthonius asotthalomensis* nomen novum is proposed as a replacement name for Mahunka's species. North American records of *Liochthonius forsslundi* Mahunka (73, p. 388; 971, p. 397) are erroneous; they relate to *L. forsslundi* (Hammer). The use of Mahunka as author was a lapsus (V. Behan-Pelletier, pers. comm., 1985).

***Liochthonius hystricinus* (Forsslund, 1942)**

Type: SMNH
Comb./Syn.: *Brachychthonius hystricinus* Forsslund, 1942 (191, p. 4)
Liochthonius hystricinus (Forsslund, 1942) (120, p. 119)
Brachychthonius ocellatus Hammer, 1952 (350, p. 19): (576, p. 66). **Type:** CNC
Liochthonius ocellatus (Hammer, 1952) (548, p. 71)
Add. Comb./Syn. Ref.: Niedbała 600 (294).
Distribution: *USA*: N.Y. - Reeves 673 (27).

Canada: N.W.T. - Hammer 350 (19); 355 (19); Marshall 548 (71); Niedbała 600 (301); Que. - Marshall 548 (71).
Palearctic: Forsslund 191 (4); Strenzke 750 (238); Schweizer 691 (229); Forsslund 196 (590); Schweizer 692 (tab. 7 no. 305); Sellnick 709 (84); Niedbała 600 (294); Rubcova 681 (386); Gilyarov 207 (62); Luxton 532 (181); Moritz 576 (66); Solhøy 744 (19); Niedbała 604 (60); 605 (71).
Neotropical: Hammer 355 (19); Marshall 548 (71).
Description: *Adult*: Forsslund 191 (4) fig.; Strenzke 750 (238); Hammer 350 (19) fig.; Schweizer 691 (229) fig.; Forsslund 196 (590) fig.; Hammer 355 (19) fig.; Gilyarov 207 (62) fig.; Moritz 576 (66) fig.; Niedbała 930 (480) fig.; Balogh and Mahunka 1119 (pl. 25 fig. D-F).
Taxonomy: Niedbała 930 (480).
Key: Sellnick 709 (84); Bulanova-Zachvatkina 120 (119); Chinone 910 (28); Gilyarov 207 (62); Balogh and Mahunka 1119 (74).
Add. References: Niedbała 600 (294); 603 (141).
Ecology: Forsslund 191 (4); Hammer 350 (19); Schweizer 691 (229); 692 (tab. 7 no. 305); Hammer 355 (19); Sellnick 709 (84); Marshall 548 (71); Reeves 673 (27); Rubcova 681 (386); Luxton 532 (181); Solhøy 744 (19); Niedbała 605 (71); 604 (60).
Remarks: Lee 1982 (1076, p. 343) noted that Hammer's South American specimens of *Brachychthonius ocellatus* are referrable to *Liochthonius longipilus* (Womersley, 1945).

***Liochthonius lapponicus* (Trägårdh, 1910)**

Type: SMNH
Comb./Syn.: *Hypochthonius brevis lapponica* Trägårdh, 1910 (771, p. 549)
Brachychthonius lapponica (Trägårdh, 1910) (750, p. 239)
Liochthonius lapponicus (Trägårdh, 1910) (750, p. 236)
Liochthonius perpusillus sensu Pérez-Inigo, 1968 (650, p. 197): (567, p. 69); non Berlese, 1910
Add. Comb./Syn. Ref.: Niedbała 600 (295); Subìas 755 (68).
Distribution: *USA*: Mich. - Wallwork 788 (172).
Canada: Hammer 353 (17); Alta. - Hammer 350 (18); Man. - Hammer 350 (18); N.W.T. - Hammer 350 (18); Behan 73 (388).
Nearctic: Hammer 353 (17); Strenzke 754 (18); Niedbała 600 (295); Gilyarov 207 (64); Danks 971 (397).
Palearctic: Trägårdh 771 (549); Strenzke 750 (239); Hammer 353 (17); Strenzke 754 (18); Sellnick 709 (85); Niedbała 600 (295); Grishina 323 (82); Gilyarov 207 (64); Moritz 576 (69); Niedbała 604 (60); 605 (71); Subìas 755 (68); Danks 971 (397).
Description: *Adult*: Tragårdh 771 (549) fig.; Strenzke 750 (239); Hammer 350 (18) fig.; 353 (17) fig.; Forsslund 199 (236) fig.; Pérez-Iñigo 650 (197) [mi.] fig.; Gilyarov 207 (64) fig.; Moritz 576 (69) fig.; Niedbała 930 (480) fig.; Chinone 133 (19) fig.; Balogh and Mahunka 1119 (pl. 34 fig. A-D).
Taxonomy: Niedbała 930 (480).
Key: Sellnick 709 (85); Gilyarov 207 (64); Balogh and Mahunka 1119 (80).

Add. References: Niedbała 600 (295); Moritz 576 (69).
Ecology: Trägårdh 771 (549); Strenzke 750 (239); Hammer 350 (18); 353 (17); Strenzke 754 (18); Wallwork 788 (1 72); Sellnick 709 (85); Grishina 323 (82); yromska-Rudzka 1033 (160); Niedbała 604 (60); 605 (71); Subìas 755 (68); Behan 73 (388); yromska-Rudzka 1034 (108).
Remarks: Pérez-Inigo (650, p. 197) is sub *Liochthonius perpusillus*.

Liochthonius latus (Jacot, 1936) new comb.

Type: USNM (Cotype)
Comb./Syn.: *Brachychthonius latus* Jacot, 1936 (451, p. 248)
Distribution: *USA*: N.C. - Jacot 451 (248).
Description: *Adult*: Jacot 451 (248).
Taxonomy: Jacot 458 (129).
Ecology: Jacot 451 (248).

***Liochthonius prior* (Jacot, 1938)** new comb.

Type: USNM (Cotypes)
Comb./Syn.: *Brachychthonius prior* Jacot, 1938 (458, p. 129) **Distribution:** *USA*: Tenn. - Jacot 458 (129).
Description: *Adult*: Jacot 458 (129) fig.
Ecology: Jacot 458 (129).

***Liochthonius sellnicki* (Thor, 1930)**

Neotype: SMNH [see 576, p. 77]
Comb./Syn.: *Brachychthonius sellnicki* Thor, 1930 (766. p. 58) *Liochthonius sellnicki* (Thor, 1930) (553, p. 79)
Brachychthonius scalaris Forsslund, 1942 (191, p. 2): (207, p. 64). **Type:** SMNH
Liochthonius scalaris (Forsslund, 1942) (519, p. 507)
Brachychthonius nodosus Willmann, 1952 (837, p. 170): (576, p. 76). **Type:** WHPC
Brachychthonius brevis sensu Hammer, 1944 (348, p. 40): (576, p. 76); non Berlese, 1910
Add. Comb./Syn. Ref: Strenzke 754 (19); Forsslund 196 (589); Sellnick 709 (83); Marshall 548 (71); Niedbała 599 (187); 600 (297); Rubcova 681 (386); Gilyarov 207 (62); Subìas 755 (73).
Distribution: *USA*: Alaska - Hammer 354 (7); Forsslund 196 (589); Bohnsack 114 (35); Marshall 548 (71); Niedbała 600 (297); Bohnsack 115 (743); Douce and Crossley 152 (37) [!]; Behan 73 (388); MacLean et al. 534 (562); N.Y. - Reeves 673 (27).
Canada: Hammer 352 (407); 353 (16); Strenzke 754 (19); Schweizer 691 (229); MacLean et al. 534 (562); Man. - Hammer 350 (17); Marshall 548 (71); Nfld. Behan 73 (388); N.W.T. - Hammer 350 (17);

Oliver 619 (179); McAlpine 553 (79); Marshall 548 (71); Behan 73 (388); Que. - Marshall 548 (71); Behan 72 (39); 73 (388); Behan et al. 76 (263); Y.T. - Behan 73 (388).
Nearctic: Hammer 348 (40) [mi.]; 349 (7); 352 (407); 353 (16); Strenzke 754 (19); Schweizer 691 (225); Moritz 576 (76); Hammer 373 (17); MacLean et al. 534 (562); Danks 971 (398).
Palearctic: Thor 766 (58); Forsslund 191 (2); Hammer 348 (403; 349 (7); Weis-Fogh 817 (204, 267); Hammer 353 (16); Strenzke 754 (19); Schweizer 691 (225, 229); Forsslund 196 (589); Schweizer 692 (tab. 7 no. 304, no. 298); Kunst 503 (34); Haarløv 327 (148); Sellnick 709 (83); Lions 519 (507); Fager 181 (140); Marshall 548 (71); Zlotin and Krivoluckij 906 (255); Bernini 96 (421); Hammer 367 (97); Bernini 98 (393); Hammer 370 (416); Niedbała 599 (187); 600 (297); Grishina 323 (82); Rubcova 681 (386); Gilyarov 207 (62); Lions 523 (170); Moritz 576 (76); Tarba and Semenova 761 (134); Hammer 373 (17); Niedbała 604 (60); 605 (72); Subìas 755 (73); Behan 73 (388); MacLean et al. 534 (562); Danks 971 (398). **Description:** *Adult*: Thor 766 (583 fig.; Forsslund 191 (2) fig.; Weis-Fogh 817 (267) fig.; Hammer 350 (17) fig; 352 (407) fig.; Schweizer 691 (225, 229) fig.; Forsslund 196 (589); Bulanova-Zachvatkina 120 (119) fig.; Niedbała 599 (187) fig.; 602 (501) fig.; Gilyarov 207 (62) fig.; Moritz 576 (76) fig.; Tarba and Semenova 761 (134) fig.; Niedbała 930 (480) fig.; Balogh and Mahunka 1119 (pl. 33 fig. A-C).
Taxonomy: Forsslund 196 (589); 198 (282); Niedbała 930 (480).
Key: Sellnick 709 (83); Bulanova-Zachvatkina 120 (119); Chinone 910 (27); Niedbała 603 (140); Gilyarov 207 (62); Balogh and Mahunka 1119 (8(0).
Add. References: Hammer 349 (7); Niedbała 594 (29-44); 600 (297); Bohnsack 115 (74); Moritz 576 (76).
Miscellaneous: Tarba and Semenova 761 (134) cut.; Lasebikan et al. 984 (56) extract.
Ecology: Thor 766 (58); Forsslund 191 (2); Hammer 348 (4a) [mi.]; 349 (7); Weis-Fogh 817 (204, 267); Hammer 350 (17); 352 (407); 353 (16); 354 (7); Strenzke 754 (19); Schweizer 691 (225, 229); 692 (tab. 7 no. 304, no. 298); Kunst 503 (34); Haarløv 327 (148); Se!lnick 709 (83); Oliver 619 (179); McAlpine 553 (79); Lions 519 (507); Bohnsack 114 (35); Fager 181 (140); Marshall 548 (71); Reeves 673 (27); Zlotin and Krivoluckij 906 (255); Bernini 96 (421); Hammer 367 (97); Bernini 98 (393); Behan 72 (39); Hammer 370 (416); Niedbała 599 (187); 600 (297); Bohnsack 115 (74); Grishina 323 (82); Rubcova 681 (386); Lions 523 (170); Wallwork 950 (330); yromska-Rudzka 1033 (160); Douce and Crossley 152 (37) [!]; Hammer 373 (17); Niedbała 604 (60); 605 (72); Subìas 755 (73); Behan 73 (388); Behan et al. 76 (263); MacLean et al. 534 (562); yromska-Rudzka 1034 (108).
Remarks: Hammer (348, p. 40) is sub *Brachychthonius brevis*. Authors, such as Schweizer (691, p. 226) and Csiszar and Jeleva (143, p. 276), who might have identified their *Liochthonius (=Brachychthonius) sellnicki*. from Strenzke, 1951 may in fact have the valid species *Liochthonius strenzkei* Forsslund, 1963 (see 808, p. 148). Forsslund (198, p. 282) noted that Evans' (161, p. 230) *Brachychthonius sellnicki* might be *Liochthonius laetepictus* Berlese, 1910.

***Liochthonius strenzkei* Forsslund, 1963**

Type: NMSF

Comb./Syn.: *Liochthonius strenzkei* Forsslund, 1963 (198, p. 282)
Brachychthonius sellnicki sensu Strenzke, 1951 (750, p. 235): (198, p. 282); non Thor, 1930
Distribution: *USA*: Ind. - Norton (RAN unpub.).
Palearctic: Strenzke 750 (235); Forsslund 198 (282); Niedbała 600 (298); Moritz 576 (80); Niedbała 605 (72); Balogh and Mahunka 1119 (79).
Description: *Adult*: Strenzke 750 (235) fig.; Forsslund 198 (282) fig.; Niedbała 599 (188) fig.; 602 (504) fig.; Moritz 576 (80) fig.; Chinone 133 (21) fig.; Balogh and Mahunka 1119 (79) fig.
Key: Niedbała 603 (140); Balogh and Mahunka 1119 (79).
Ecology: Forsslund 198 (282); Niedbała 605 (72).

***Liochthonius* sp.**

Distribution: *USA*: Calif. - Walter and Norton 1179 (tab. 1); Minn. - Wagner et al. 786 (14).
Canada: B.C. - Marshall 550 (132); Man. - Oswald and Minty 620 (80); Que. -Marshall 548 (71).

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

Distribution: *Canada*: Que. - Marshall 548 (70).

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

Distribution: *Canada*: Que. - Marshall 548 (71).

***Neobrachychthonius* Moritz, 1976**

Neobrachychthonius Moritz, 1976
Type-species: *Brachychthonius marginatus* Forsslund, 1942 (577, p. 233).

***Neobrachychthonius* sp.**

Distribution: *USA*: Vt. - Norton (RAN unpub.).

***Mixochthonius* Niedbała, 1972**

Mixochthonius Niedbała, 1972

Type-species: *Brachychthonius pilososetosus* Forsslund, 1942 (1215, p. 666).

***Mixochthonius pilososetosus* (Forsslund, 1942)**

Type: SMNH

Comb./Syn.: *Brachychthonius pilososetosus* Forsslund 1942 (191 p. 8)

Liochthonius pilososetosus (Forsslund, 1942) (741, p. 432) *Mixochthonius pilososetosus* (Forsslund, 1942) (602, p. 488) *Brachychthonius perpusillus* sensu Willmann, 1928 (826, p. 162); non Berlese, 1910 (577, p. 229)

Add. Comb./Syn. Ref.: Marshall 548 (71) [!]; Niedbała 600 (296) [!].

Distribution: *Canada*: Que. - Marshall 548 (71) [!].

Palearctic: Willmann 826 (162) [mi.]; 829 (101) [mi.]; Forsslund 191 (8); Tuxen 779 (324); Strenzke 750 (244); 752 (89); Sellnick 709 (83); Sitnikova 741 (432); Moritz 571 (155); Marshall 548 (71) [!]; Niedbała 600 (296) [!]; 599 (189) [!]; Gilyarov 207 (59) [!]; Moritz 577 (229).

Description: *Adult*: Willmann 826 (162) [mi.] fig.; 829 (101) [mi.] fig.; Forsslund 191 (8) fig.; Strenzke 750 (244); Niedbała 599 (189) [!] fig.; 602 (488) fig.; Moritz 577 (229) fig.; 576 (35) chaet., fig.; Balogh and Mahunka 1119 (pl. 38 fig. A-D).

Key: Willmann 829 (101) [mi.]; Sellnick 709 (83); Balogh and Mahunka 1119 (86).

Add. References: Marshall 548 (71) [!]; Niedbała 600 (296) [!]; Moritz 577 (229).

Ecology: Willmann 826 (162) [mi.]; 829 (101) [mi.]; Forsslund 191 (8); Tuxen 779 (324); Strenzke 750 (244); 752 (89); Sellnick 709 (83); Sitnikova 741 (432); Moritz 571 (155); Marshall 548 (71) [!]; Niedbała 599 (189) [!]; Moritz 577 (229); Luxton 987 (311).

Remarks: Willmann (826, p. 162) and (829, p. 101) are sub *Brachychthonius perpusillus*.

***Neoliochthonius* Lee, 1982**

Neoliochthonius Lee, 1982 (=*Paraliochthonius* Moritz, 1976, preoccupied name)

Type-species: *Brachychthonius piluliferus* Forsslund, 1942 (576, p. 122; 1076, p. 345)

[Moritz' (576, p. 122) listing of the type-species sub *Liochthonius* is a lapsus].

***Neoliochthonius piluliferus* (Forsslund, 1942)**

Type: SMNH

Comb./Syn.: *Brachychthonius piluliferus* Forsslund, 1942 (191, p. 8)

Liochthonius piluliferus (Forsslund, 1942) (673, p. 27)

Neoliochthonius piluliferus (Forsslund, 1942) (1076, p. 345)

Paraliochthonius piluliferus (Forsslund, 1942) (576, p. 130)

Add. Comb./Syn. Ref.: Niedbała 600 (296); Subìas 755 (71).

Distribution: *USA*: N.Y. - Reeves 673 (27).

Nearctic: Strenzke 754 (19); Niedbała 598 (36) [!]; 600 (296).

Palearctic: Forsslund 191 (8); Evans 161 (231); Strenzke 754 (19); Niedbała 598 (36) [!]; 600 (296); Gilyarov 207 (62); Moritz 576 (130); Subìas 755 (71).
Description: *Adult*: Forsslund 191 (8) fig.; Evans 161 (231); Niedbała 598 (36) [!] fig.; Chinone 910 (16) fig.; Gilyarov 207 (62) fig.; Moritz 576 (130) fig.; Niedbała 930 (480) fig.; Balogh and Mahunka 1119 (pl. 38 fig. F-H).
Taxonomy: Niedbała 930 (480).
Key: Evans 161 (231); Gilyarov 207 (62); Balogh and Mahunka 1119 (85).
Add. References: Niedbała 598 (36) [!]; 600 (296).
Ecology: Forsslund 191 (8); Evans 161 (231); Strenzke 754 (19); Reeves 673 (27); Niedbała 598 (36) [!]; Subìas 755 (71); Luxton 987 (311); 989 (330); 990 (400).

***Poecilochthonius* Balogh, 1943**

Poecilochthonius Balogh, 1943
Type-species: *Brachychthonius brevis italicus* Berlese, 1910 (37, p. 22; 577, p. 248).
Brachychochthonius Various authors (577, p. 248).

***Poecilochthonius italicus* (Berlese, 1910)**

Type: SEA
Comb./Syn.: *Brachychthonius brevis italicus* Berlese, 1910 (87, p. 200)
Brachychthonius italicus Berlese, 1910 (340, p. 20)
Brachychochthonius italicus (Berlese, 1910) (709, p. 81)
Add. Comb./Syn. Ref.: Niedbała 600 (300); Moritz 577 (251).
Distribution: *USA*: Calif. - Norton (RAN unpub.).
Palearctic: Berlese 87 (200); Hammen 340 (20); Moritz 571 (154); Travé 777 (229); Moritz 572 (69); Lebrun 507 (103); Lions 519 (507); 520 (435); Bernini 96 (421); Niedbała 600 (300); Aoki 25 (146); Lions 523 (170); Moritz 577 (251); Niedbala 605 (69).
Description: *Adult*: Berlese 87 (200) fig.; Moritz 577 (251) fig.; Balogh and Mahunka 1119 (pl. 21 fig. F-J).
Key: Sellnick 709 (81); Chinone 910 (27); Balogh and Mahunka 1119 (70).
Add. References: Niedbała 600 (300).
Ecology: Berlese 87 (200); Moritz 571 (154); Travé 777 (229); Moritz 572 (69); Lebrun 507 (103); Lions 519 (507); 520 (435); Bernini 96 (421); Aoki 25 (146); Lions 523 (170); Moritz 577 (251); Niedbała 605 (69); Luxton 987 (311); 989 (336); 990 (400).
Remarks: The two species recognized by Moritz (577, p. 251-259) as *Poecilochthonius italicus* (Berlese, 1910) and *P. spiciger* (Berlese, 1910) have previously been confused in the literature, the latter being considered a subspecies of the former. It is therefore difficult to know which species was referred to in ecological papers.

Poecilochthonius spiciger (Berlese, 1910)

Type: SEA
Comb./Syn.: *Brachychthonius brevis spiciger* Berlese, 1910 (87, p. 200)
Poecilochthonius spiciger (Berlese, 1910) (577, p. 254)
Brachychochthonius italicus spiciger (Berlese, 1910) (458, p. 132)
Brachychthonius italicus spiciger (Berlese, 1910) (451, p. 249)
Brachychthonius italicus sensu Strenzke, 1951 (750, p. 245); non Berlese, 1910 (577, p. 254)
Brachychthonius rapoporti Balogh and Mahunka, 1968 (43, p. 318): (577, p. 255).**Type:** HNHM
Add. Comb./Syn. Ref.: Hammen 340 (20); Niedbała 600 (300).
Distribution: *USA*: Niedbała 600 (300); Fla. - Berlese 87 (200), Jacot 451 (249); Hammen 340 (20); N.C. - Jacot 458 (132).
Canada: Que. - Marshall 548 (69).
Palearctic: Strenzke 750 (245) [mi.]; Hammen 338 (19) [mi.]; Sellnick 709 (81) [mi.]; Niedbała 598 (37) [mi.]; Gilyarov 207 (59) [mi.]; Moritz 577 (254).
Neotropical: Balogh and Mahunka 43 (318); Moritz 577 (254).
Description: *Adult*: Berlese 87 (200); Jacot 451 (249) fig.; 458 (132); Strenzke 750 (245) [mi.] fig.; Balogh and Mahunka 43 (318) fig.; Chinone and Aoki 134 (236) [mi.] ? fig.; Niedbała 598 (37) [mi.] fig.; 602 (472) [mi.] fig.; Gilyarov 207 (59) [mi.] fig.; Moritz 577 (254) fig.; Balogh and Mahunka 1119 (pl. 21 fig. A-E).
Key: Sellnick 709 (81) [mi.]; Balogh and Mahunka 1119 (70).
Add. References: Niedbała 600 (300); Moritz 577 (254).
Ecology: Berlese 87 (200); Jacot 451 (249). Strenzke 750 (245) [mi.]; Hammen 338 (19) [mi.]; Sellnick 709 (81) [mi.]; Balogh and Mahunka 43 (318); Marshall 548 (69); Moritz 577 (254).
Remarks: Strenzke (750, p. 245), Hammen (338, p. 19), Sellnick (709, p. 81), Niedbała (598, p. 37) are sub *Brachychthonius italicus*; Chinone and Aoki (134, p. 236), Niedbała (602, p. 472) and Gilyarov (207, p. 59) are sub *Poecilochthonius italicus*. See also remarks under *Poecilochthonius italicus* (Berlese, 1910).

Sellnickochthonius Krivoluckij, 1964

Sellnickochthonius Krivoluckij, 1964
Type-species: *Brachychthonius zelawaiensis* Sellnick, 1928 (492, p. 935).
Brachychochthonius Various authors, in part (576, p. 275).
Brachychthonius Various authors, in part (576, p. 275).
Poecilochthonius Balogh 1943, in part (576, p. 275).

Remarks: Type specimens of *Brachychochthonius jugatus* Jacot, 1938 (type of the genus) are unknown. Individuals determined by Jacot and remounted by one of us (RAN) are congeneric with *Brachychthonius berlesei* Willmann, 1928 (type of *Brachychthonius* sensu stricto of Moritz 1976; 576,

p. 259), making *Brachychochthonius* a junior synonym of *Brachychthonius*. Therefore, *Sellnickochthonius* Krivoluckij, 1964 is the valid generic name for those brachychthoniid mites with three suprapleural plates and hypertrophied an2/an3 setae.

***Sellnickochthonius immaculatus* (Forsslund, 1942)**

Type: SMNH
Comb./Syn.: *Brachychochthonius immaculatus* Forsslund 1942 (191, p. 9)
Brachychthonius immaculatus (Forsslund, 1942) (454, p. 17) *Sellnickochthonius immaculatus* (Forsslund, 1942) (492 p. 936) *Brachychthonius semiornatus* Evans, 1952 (161, p. 237): (207, p. 62). **Type:** BM(NH)
Brachychochthonius arcticus Hammer, 1952 (350, p. 20): (207, p. 62). **Type:** CNC
Brachychthonius arcticus (Hammer, 1952) (495, p. 183)
Liochthonius arcticus (Hammer, 1952) (73, p. 388)
Brachychthonius striatus Willmann, 1956 (838, p. 249): (577, p. 291). **Type:** WHPC
Brachychthonius gygeri Schweizer, 1963 (944, p. 67): (577, p. 291). **Type:** NMB
Brachychthonius obscurus Krivoluckij, 1966 (496, p. 126): (207, p. 62). **Type:** SIAM
Brachychthonius berlesei sensu Haarløv, 1942 (324, p. 34); Pérez-Inigo, 1968 (650, p. 195; in part); non Willmann, 1928 (577, p. 291).
Add. Comb./Syn. Ref.: Niedbała 600 (300); 605 (69); Subìas 755 (54).
Distribution: *USA*: Minn. - Wagner et al. 786 (14).
Canada: Niedbała 600 (298); Alta. - Hammer 350 (20); N.W.T. - Hammer 350 (20); Behan 73 (388).
Nearctic: Haarløv 324 (34) [mi.]; Strenzke 754 (17); Sellnick 709 (81); Niedbała 599 (190).
Palearctic: Forsslund 191 (9); Evans 161 (237); Schweizer 691 (227); 692 (tab. 7 300); Sellnick 709 (81); 709 (81); Dalenius 145 (4); Krivoluckij 495 (183); Bernini 96 (421); 98 (393); Niedbała 599 (197); 600 (298, 300, 301); Bernini 101 (364); Grishina 323 (82); Chinone 910 (7); Gilyarov 207 (60); Lions 523 (170); Moritz 577 (291); Niedbała 604 (603; 605 (69); Subìas 755 (54).
Description: *Adult*: Forsslund 191 (9) fig.; Haarløv 324 (34) [mi.] fig.; Strenzke 750 (247); Evans 161 (237) fig.; Hammer 350 (20) fig.; Strenzke 754 (17); Willmann 838 (249) fig.; Winkler 840 (180) fig.; Schweizer 691 (227) fig.; 944 (67) fig.; Krivoluckij 492 (936) fig.; 496 (126) fig.; Bulanova-Zachvatkina 120 (118) fig.; Niedbała 599 (190) fig.; 602 (474) fig.; Gilyarov 207 (60 fig.; Chinone 910 (7) fig.; Moritz 576 (34) chaet., fig.; 577 (291) fig.; Balogh and Mahunka 1119 (pl. 10 fig. H-K).
Taxonomy: Krivoluckij 492 (935); Pérez-Inigo 650 (195) [mi.].
Key: Evans 161 (237); Sellnick 709 (81); Chinone 910 (26); Gilyarov 207 (60); Niedbała 603 (142); Balogh and Mahunka 1119 (60).
Add. References: Niedbała 600 (298, 300, 301); Moritz 577 (291); Subìas 755 (54).
Ecology: Forsslund 191 (9); Haarløv 324 (34) [mi.]; Strenzke 750 (247); Hammer 350 (20); Strenzke 754 (17); Winkler 840 (180); Schweizer 691 (227); 692 (tab. 7 no. 300); Sellnick 709 (81); Dalenius 145 (4); Krivoluckij 495 (183); Bernini 96 (421); 98 (393); Niedbała 599 (190); Bernini 101 (364);

Grishina 323 (82); Lions 523 (170); Moritz 577 (291); yromska-Rudzka 1033 (1607); Niedbała 604 (60); 605 (69); Subìas 755 (54); Wagner et al. 786 (14); Behan 73 (388); yromska-Rudzka 1034 (108); Luxton 987 (311); 989 (336); 990 (407); Danks 971 (397).
Remarks: Haarløv (324, p. 34) and Pérez-Inigo (650, p. 195) [in part] are sub *Brachychthonius berlesei*.

***Sellnickochthonius lydiae* (Jacot, 1938)** new comb.

Type: USNM
Comb./Syn.: *Brachychochthonius lydiae* Jacot, 1938 (458, p. 132). *Brachychthonius lydiae* (Jacot, 1938) (674, p. 317)
Distribution: *USA*: N.H. - Reeves and Marshall 674 (317); N.Y. - Reeves and Marshall 674 (317); N.C. - Jacot 458 (132).
Canada: Que. - Reeves and Marshall 674 (317).
Description: *Adult*: Jacot 458 (132) fig.; Reeves and Marshall 674 (317) fig.; Balogh and Mahunka 1119 (pl. 9 fig. A-C).
Tritonymph: Reeves and Marshall 674 (317) fig.
Deutonymph: Reeves and Marshall 674 (317) fig.
Protonymph: Reeves and Marshall 674 (317) fig.
Key: Balogh and Mahunka 1119 (59).
Ecology: Jacot 458 (132).

***Sellnickochthonius rostratus* (Jacot, 1936)**

Type: USNM (Cotypes)
Comb./Syn.: *Brachychthonius rostratus* Jacot, 1936 (451, p. 250)
Brachychochthonius rostratus (Jacot, 1936) (458, p. 131)
Sellnickochthonius rostratus (Jacot, 1936) (492, p. 936)
Add. Comb./Syn. Ref.: Marshall 548 (70); Niedbała 600 (301); Gilyarov 207 (59); Moritz 577 (314).
Distribution: *USA*: Niedbała 600 (301); N.C. - Jacot 451 (250); 458 (131); Marshall 548 (70); Moritz 577 (314).
Canada: Niedbała 600 (301); N.W.T. - Hammer 350 (20); Marshall 548 (70); Behan 73 (388); Que. - Marshall 548 (70).
Palearctic: Marshall 548 (70); Bernini 96 (421); Niedbała 600 (301); Gilyarov 207 (59); Moritz 577 (314); Niedbała 605 (69); Danks 971 (397).
Description: *Adult*: Jacot 451 (250) fig.; 458 (131) fig.; Hammer 350 (20) fig.; Krivoluckij 492 (936) fig.; Gilyarov 207 (59) fig.; Moritz 577 (314) fig.; Balogh and Mahunka 1119 (pl. 13 fig. D-E).
Taxonomy: Krivoluckij 492 (935).
Key: Gilyarov 207 (59); Niedbała 603 (141); Balogh and Mahunka 1119 (61).
Add. References: Niedbała 600 (301).

Ecology: Jacot 451 (250); Hammer 350 (20); Marshall 548 (7o); Bernini 96 (421); Moritz 577 (314); yromska-Rudzka 1033 (160); Niedbała 605 (69); Behan 73 (388); yromska-Rudzka 1034 (108); Luxton 987 (311); 989 (336); 990 (400); Danks 971 (397).

Sellnickochthonius suecica (Forsslund, 1942)

Type: SMNH
Comb./Syn.: *Brachychochthonius jugatus suecica* Forsslund, 1942 (191, p. 8)
Brachychthonius jugatus suecica (Forsslund, 1942) (161, p. 236) *Brachychochthonius suecica* (Forsslund, 1942) (571, p. 154)
Brachychthonius suecica (Forsslund, 1942) (338, p. 19)
Sellnickochthonius suecica (Forsslund, 1942) (207, p. 59)
Brachychthonius jugatus sensu Niedba a, 1972 (599, p. 193); non Jacot, 1938 (577, p. 279)
Add. Comb./Syn. Ref.: Niedbała 600 (302); Subìas 755 (58).
Distribution: *Canada*: Niedbała 600 (302); N.W.T. - Hammen 338 (19); Hammer 350 (20).
Palearctic: Forsslund 191 (8); Evans 161 (236). Hammen 338 (19); Sellnick 709 (82). Moritz 571 (154); Niedbała 595 (3); Hammer 370 (422); Niedbała 599 (193) [mi.], Gilyarov 207 (59); Lions 523 (170); Moritz 577 (279); Niedbała 604 (60); 605 (70); Subìas 755 (58).
Australian: Hammer 361 (12); Spain and Luxton 947 (197); Niedbała 605 (70); Subìas 755 (58).
Subantarctic: Travé 1025 (527).
Description: *Adult*: Forsslund 191 (8) fig.; Evans 161 (236); Hammer 350 (20) fig.; 361 (12) fig. ; Bulanova-Zachvatkina 120 (117) fig. ; Niedbała 595 (3) fig.; 599 (193) [mi.] fig.; 602 (478) [mi.] fig.; Gilyarov 207 (59) fig.; Moritz 577 (279) fig.; Balogh and Mahunka 1119 (pl. 15 fig. D-G).
Taxonomy: Hammen 338 (19).
Key: Evans 161 (236); Sellnick 709 (82); Bulanova-Zachvatkina 120 (117); Gilyarov 207 (59); Balogh and Mahunka 1119 (63).
Add. References: Niedbała 600 (302); Moritz 577 (279).
Ecology: Forsslund 191 (8); Evans 161 (236); Hammen 338 (19); Hammer 350 (20); Sellnick 709 (82); Moritz 571 (154); Hammer 361 (12); Niedbała 595 (3); Spain and Luxton 947 (197); Hammer 370 (422); Niedbała 600 (302); Lions 523 (170); Moritz 577 (279); yromska-Rudzka 1033 (160); Niedbała 604 (60); Subìas 755 (58); yromska-Rudzka 1034 (108).
Remarks: Niedbała (599, p. 193) is sub *Brachychthonius jugatus*; Niedbała (602, p. 478) is sub *Brachychochthonius jugatus*.

Sellnickochthonius zelawaiensis (Sellnick, 1928)

Lectotype: ZMH [see 577, p. 305]
Comb./Syn.: *Brachychthonius zelawaiensis* Sellnick, 1928 (700, p. 23)
Brachychochthonius zelawaiensis (Sellnick 1928) (458, p. 132)
Sellnickochthonius zelawaiensis (Sellnick, 1928) (492, p. 935)

Add. Comb./Syn. Ref.: Niedbała 600 (302); Moritz 577 (304); Subìas 755 (55).
Distribution: *USA*: Niedbała 600 (302); N.Y. - Reeves 673 (27); N.C. - Jacot 458 (132); Marshall 548 (70).
Canada: Que. - Marshall 548 (70).
Nearctic: Hammer 348 (40); 349 (6); Sellnick 709 (81); Marshall 548 (70); Niedbała 600 (302).
Palearctic: Sellnick 700 (23); Willmann 826 (162); 829 (100); Hammer 348 (40); 349 (6); Weis-Fogh 817 (204) [!]; Sellnick 709 (81); Tarras-Wahlberg 765 (28); Marshall 548 (70); Zlotin and Krivoluckij 906 (255), Hammer 370 (422), Niedbała 600 (302); Rubcova 681 (386); Gilyarov 207 (59); Moritz 577 (304); Niedbała 604 (60); Subìas 755 (55).
Description: *Adult*: Sellnick 700 (23) fig.; Willmann 826 (162) fig.; Sellnick 701 (348) fig.; Willmann 829 (100) fig.; Jacot 458 (132) fig.; Krivoluckij 492 (935) fig.; Balogh 42 (pl. 4 fig. 10); Gilyarov 207 (59) fig.; Moritz 577 (304) fig.; Balogh and Mahunka 1119 (pl. 18 fig. A-G).
Taxonomy: Krivoluckij 492 (935).
Key: Sellnick 700 (23); 709 (81); Chinone 910 (26); Gilyarov 207 (59); Niedbała 603 (139); Balogh and Mahunka 1119 (65).
Add. References: Marshall 548 (70); Niedbała 600 (302); Moritz 577 (304).
Ecology: Willmann 826 (162); Sellnick 701 (348); Willmann 829 (100); Hammer 349 (6); Weis-Fogh 817 (204) [!]; Tarras-Wahlberg 765 (28); Marshall 548 (70); Reeves 673 (27); Zlotin and Krivoluckij 906 (255); Hammer 370 (422); Rubcova 681 (386); Moritz 577 (304); Wallwork 950 (329); Niedbała 604 (60); Subìas 755 (55); Luxton 987 (311); Hågvar and Amundsen 1208 (12); Hågvar and Kjondal 1209 (411).

Synchthonius van der Hammen, 1952

Synchthonius van der Hammen, 1952
Type-species: *Brachychochthonius crenulatus* Jacot, 1938 (=*Synchthonius boschmai* van der Hammen, 1952) (338, p. 20; 577, p. 239).

Synchthonius crenulatus (Jacot, 1938)

Type: USNM (Cotype)
Comb./Syn.: *Brachychochthonius crenulatus* Jacot, 1938 (458, p. 133)
Synchthonius crenulatus (Jacot, 1938) (541, p. 372)
Synchthonius boschmai Hammen, 1952 (338, p. 20): (207, p. 59). **Type:** RNH
Add. Comb./Syn. Ref.: Moritz 577 (242); Subías 755 (77).
Distribution: *USA*: Niedbała 598 (38); 600 (303); Moritz 577 (242); Minn. - Wagner et al. 786 (14); N.Y. - Reeves 673 (27); N.C. - Jacot 458 (133); Marshall 548 (71).
Canada: Que. - Marshall 548 (71).
Nearctic: Hammer 352 (408); Niedbała 598 (38); 600 (303); Moritz 577 (242).

Palearctic: Hammen 338 (20); Knülle 484 (398); Sellnick 709 (86); Moritz 571 (158); Byzova 125 (185); Moritz 572 (72); Mahunka 541 (372); Niedbała 598 (38); 600 (302, 303); Grishina 323 (82); Gilyarov 207 (59); Moritz 577 (242); Niedbała 604 (60); 605 (69); Subìas 755 (77).
Description: *Adult*: Jacot 458 (133) fig.; Hammen 338 (20) fig.; Hammer 352 (408) fig.; Balogh 41 (67, pl. 1 fig. 15-16); Bulanova-Zachvatkina 120 (120) fig.; Engelmann 159 (96) fig.; Kunst 923 (545) fig.; Niedbała 598 (38) fig.; 602 (482) fig.; Gilyarov 207 (59) fig.; Moritz 577 (242) fig.; 576 (34) chaet., fig.; Chinone 133 (12) fig.; Balogh and Mahunka 1119 (pl.36 fig. C-E).
Key: Sellnick 709 (86); Bulanova-Zachvatkina 120 (120); Gilyarov 207 (59); Balogh and Mahunka 1119 (84).
Add. References: Niedbała 600 (302, 303); Moritz 577 (242).
Ecology: Jacot 458 (133); Hammen 338 (20); Hammer 352 (408); Knülle 484 (398); Sellnick 709 (86); Moritz 571 (158); Byzova 125 (185); Moritz 572 (72); Mahunka 541 (372); Marshall 548 (71); Engelmann 159 (96); Reeves 673 (27); Grishina 323 (82); Moritz 577 (242); yromska-Rudzka 1033 (160); Niedbała 604 (60); 605 (69); Subìas 755 (77); Wagner et al. 786 (14); yromska-Rudzka 1034 (108); Luxton 987 (311); 989 (366); 990 (407).

***Synchthonius elegans* Forsslund, 1957**

Type: SMNH
Comb./Syn.: *Synchthonius elegans* Forsslund, 1957 (195, p. 210)
Distribution: *USA*: Alaska - Behan 73 (389).
Palearctic: Forsslund 195 (210); Grandjean 304 (122); Moritz 571 (158); Byzova 125 (185); Zlotin and Krivoluckij 906 (255); Bernini 98 (393); Molodova and Golosova 570 (426); Niedbała 598 (39); 600 (303); Sellnick 714 (205); Gilyarov 207 (60); Moritz 577 (240); Niedbała 605 (70); Subìas 755 (78).
Description: *Adult*: Forsslund 195 (210) fig.; Grandjean 304 (122) chaet., fig.; 307 (181) chaet.; 308 (530) chaet.; Reeves and Marshall 674 (324) chaet.; Balogh 42 (pl. 4 fig. 13-14, pl. 64 fig. 22); Chinone and Aoki 134 (239) fig.; Niedbała 598 (39) fig.; 602 (483) fig.; Sellnick 714 (209) fig.; Gilyarov 207 (60) fig.; Moritz 577 (246) fig.; Balogh and Mahunka 1119 (pl. 36 fig. A-B).
Tritonymph: Grandjean 304 (122) fig.
Deutonymph: Grandjean 304 (122) fig.
Protonymph: Grandjean 304 (122) fig.
Larva: Grandjean 304 (122) fig.
Key: Chinone 910 (27); Gilyarov 207 (60); Niedbała 603 (141).
Add. References: Niedbała 600 (303).
Ecology: Forsslund 195 (210); Grandjean 304 (122); Moritz 571 (158); Byzova 125 (185); Zlotin and Krivoluckij 906 (255); Bernini 98 (393); Molodova and Golosova 570 (426); Niedbała 598 (39); Sellnick 714 (209); Moritz 577 (246) fig; Balogh and Mahunka 1119 (pl. 36 fig. A-B).
Tritonymph: Grandjean 304 (122) fig.
Deutonymph: Grandjean 304 (122) fig.
Protonymph: Grandjean 304 (122) fig.

Larva: Grandjean 304 (122) fig.
Key: Chinone 910 (27); Gilyarov 207 (60); Niedbała 603 (141).
Add. References: Niedbała (600) 303.
Ecology: Forsslund 195 (210); Grandjean 304 (122); Moritz 571 (158); Byzova 125 (185); Zlotin and Krivoluckij 906 (255); Bernini 98 (393); Molodova and Golosova 570 (426); Niedbała 605 (70); Subìas 755 (78); Behan 73 (389); Luxton 987 (311).

***Verachthonius* Moritz, 1976**

Verachthonius Moritz, 1976
Type-species: *Brachychthonius laticeps* Strenzke, 1951 (576, p. 112).

***Verachthonius montanus* (Hammer, 1952)**

Type: CNC
Comb./Syn.: *Eobrachychthonius montanus* Hammer, 1952 (350, p. 17)
Verachthonius montanus (Hammer, 1952) (1076, p. 343)
Distribution: *Canada*: Alta. - Hammer 350 (17).
Neotropical: Hammer 355 (19).
Description: *Adult*: Hammer 350 (17) fig.; 355 (19) fig.
Ecology: Hammer 350 (17); 355 (19).

ATOPOCHTHONIOIDEA Grandjean, 1948 [=PHYLLOCHTHONIOIDEA Travé, 1967]

ATOPOCHTHONIIDAE **Grandjean, 1948**

***Atopochthonius* Grandjean, 1948**

Atopochthonius Grandjean, 1948
Type-species: *Atopochthonius artiodactylus* Grandjean, 1948 (262, p. 43).

***Atopochthonius artiodactylus* Grandjean, 1948**

Type: Not designated
Comb./Syn.: *Atopochthonius artiodactylus* Grandjean, 1948 (262, p. 43)
Distribution: *USA*: N.Y. - Reeves 673 (27).
Canada: Ont. - Marshall 549 (422); Que. - Marshall 548 (72).
Palearctic: Grandjean 262 (43); Forsslund 195 (212); Travé 775 (210); Moritz 571 (154); Travé 777 (229); Krivoluckij 495 (183); Marshall 548 (72); Gilyarov 207 (54); Wauthy 808 (148).

Description: *Adult*: Grandjean 262 (43) fig.; Forsslund 195 (212) fig.; Grandjean 302 (417) chaet.; 308 (530) chaet.; Balogh 42 (pl. 5 fig. 1); Gilyarov 207 (54) fig.; Krantz 490 (pl. 152 fig. 4); Balogh and Mahunka 1119 (pl. 49 fig. A-B).
Key: Balogh and Mahunka 1119 (103).
Add. References: Hammen 344 (12).
Ecology: Grandjean 262 (43); Travé 775 (21a); Moritz 571 (154); Travé 777 (229); Krivoluckij 495 (183); Marshall 548 (72); Reeves 673 (27); Wauthy 808 (148); Luxton 987 (311).

PTEROCHTHONIIDAE GRANDJEAN, 1950

***Pterochthonius* Berlese, 1913**

Pterochthonius Berlese, 1913
Type-species: *Cosmochthonius angelus* Berlese, 1910 (88, p. 104)

***Pterochthonius angelus* (Berlese, 1910)**

Type: SEA
Comb./Syn.: *Cosmochthonius angelus* Berlese, 1910 (86, p. 388) *Cosmochthonius (Pterochthonius) angelus* Berlese, 1910 (88, p. 104)
Pterochthonius angelus (Berlese, 1910) (254, p. 1251)
Add. Comb./Syn. Ref.: Grandjean 269 (85); Baker and Wharton 36 (400); Hammen 340 (24).
Distribution: *USA*: Mo. - Hammen 340 (24); Marshall 548 (72). *Canada*: Que. - Marshall 548 (72).
Mexico: Grandjean 269 (85); Hammen 340 (24); Marshall 548 (72).
Palearctic: Berlese 86 (388); 92 (330); Grandjean 269 (85); Hammen 340 (24); Marshall 548 (72); Aoki and Ohnishi 30 (156); Gilyarov 207 (54).
Description: *Adult*: Berlese 86 (388); 88 (104) fig.; 92 (336); Grandjean 254 (1251) chaet., fig. app.; 258 (338) chaet., fig. app.; 269 (85) chaet., fig.; Baker and Wharton 36 (400) fig.; Grandjean 300 (623) chaet.; 308 (531) chaet.; Balogh 42 (pl. 5 fig. 2); Gilyarov 207 (54) fig.; Balogh and Mahunka 1119 (pl. 49 fig. F-l).
Tritonymph: Grandjean 269 (85) fig.
Deutonymph: Grandjean 269 (85) fig.
Add. References: Grandjean 269 (85); Hammen 340 (24); 344 (32). **Ecology:** Berlese 86 (388); 92 (336); Grandjean 269 (85); Marshall 548 (72); Aoki and Ohnishi 30 (150~; Gilyarov 207 (54).

UNPLACED ENARTHRONOTA

***Arborichthonius* Norton, 1982**

Arborichthonius Norton, 1982

Type-species: *Arborichthonius styosetosus* Norton, 1982 (1000, p. 86).

Arborichthonius styosetosus Norton, 1982

Type: CNC
Comb./Syn.: *Arborichthonius styosetosus* Norton,1982 (1000, p. 86)
Distribution: *Canada*: Ont. - Norton 1000 (86).
Description: *Adult*: Norton 1000 (86) chaet., fig. .

Gozmanyina Balogh and Mahunka, 1983

Gozmanyina Balogh and Mahunka 1983 (=*Marshallia* Gordeeva, 1980, preoccupied name)
Type-species: *Trichthonius majestus* Marshall and Reeves, 1971 (975, p. 840; 1119, p. 97).

Gozmanyina majestus (Marshall and Reeves, 1971)

Type: LEM; Paratypes: CNC
Comb./Syn.: *Trichthonius majestus* Marshall and Reeves, 1971 (551, p. 623)
Gozmanyina majestus (Marshall and Reeves, 1971) (1119, p. 97)
Marshallia majestus (Marshall and Reeves, 1971) (975, p. 840)
Heterochthonius sp. sensu Marshall, 1968 (548, p. 72)
Distribution: *USA*: N.H. - Marshall and Reeves 551 (623); N.Y. - Marshall and Reeves 551 (623).
Canada: Man. - Marshall and Reeves 551 (623); Oswald and Minty 620 (81); Que. Marshall 548 (72); Marshall and Reeves 551 (623).
Description: *Adult*: Marshall and Reeves 551 (623) fig.
Tritonymph: Marshall and Reeves 551 (623) fig.
Deutonymph: Marshall and Reeves 551 (623) fig.
Protonymph: Marshall and Reeves 551 (623) fig.
Larva: Marshall and Reeves 551 (623) fig.
Taxonomy: Gordeeva 975 (840).
Ecology: Marshall 548 (72); Marshall and Reeves 551 (623); Oswald and Minty 620 (81).
Remarks: Gordeeva (975, p. 840) considered this species a member of the Cosmochthoniidae, but it was removed from the latter family by Norton et al. (1002, p. 502).

Nipponiella Gordeeva, 1980

Nipponiella Gordeeva, 1980
Type-species: *Trichthonius simplex* Aoki, 1966 (975, p. 839).

Nipponiella sp.

Distribution: *USA*: Calif. - Norton (RAN unpub.).

Remarks: This genus was removed from the Cosmochthoniidae by Norton et al (1002, p. 502).

PARHYPOSOMATA Balogh And Mahunka, 1979

PARHYPOCHTHONIOIDEA Grandjean, 1932

PARHYPOCHTHONIIDAE **Grandjean, 1932**

***Parhypochthonius* Berlese, 1904**

Parhypochthonius Berlese, 1904
Type-species: *Parhypochthonius aphidinus* Berlese, 1904 (81, p. 25).

***Parhypochthonius aphidinus* Berlese, 1904**

Type: SEA
Comb./Syn.: *Parhypochthonius aphidinus* Berlese, 1904 (81, p. 25)
Distribution: *USA*: Woolley 864 (277).
Canada: Ont. - Marshall 549 (422).
Palearctic: Berlese 81 (25); Grandjean 216 (425); 238 (815); Hammen 340 (10); Aoki 10(179); Byzova 125 (185) [!]; Marshall 548 (68); Aoki 17 (118); 22 (64); Gilyarov 207 (50).
Description: *Adult*: Berlese 81 (25) fig.; Grandjean 216 (425) chaet.; 228 (427) chaet.; 229 (507) chaet.; 238 (815) chaet.; 243 (466) chaet.; 246 (533) fig.; 247 (48) chaet.; 251 (20) chaet.; 265 (206) chaet.; 293 (256) fig.; Hammen 340 (10); Grandjean 307 (182) chaet.; 308 (530) chaet.; Aoki 17 (118) fig.; 22 (64) fig.; Gilyarov 207 (50) fig; Balogh and Mahunka 1119 (pl. 54 fig. A-B).
Larva: Grandjean 243 (466) fig. app.
Add. References: Hammen 344 (29).
Ecology: Berlese 81 (25); Aoki 10 (179); Byzova 125 (185) [!]; Marshall 548 (68); Aoki 17 (118); 22 (64).

***Parhypochthonius aphidinus octofilamentis* Jacot, 1938**

Type: FMNH (Paratype) (see remarks)
Comb./Syn.: *Parhypochthonius aphidinus octofilamentis* Jacot, 1938 (457, p. 647)
Distribution: *USA*: Ill. - Jacot 457 (647); N.C. - Jacot 457 (647).
Canada: Que. - Marshall 548 (68).
Description: *Adult*: Jacot 457 (647) fig.
Taxonomy: Johnston 469 (49); Aoki 17 (118).
Ecology: Jacot 457 (647); Marshall 548 (68).

Remarks: Hammen (340, p. 11) suggested that differences between *P. aphidinus* and *P. aphidinus octofilamentis* might justify status as distinct species. The subspecies name "*octopectinatus*" (457, p. 648) was a lapsus. The paratype designation is in Jacot's handwriting, but no holotype is known.

GEHYPOCHTHONIIDAE STRENZKE, 1963

Gehypochthonius Jacot, 1936

Gehypochthonius Jacot, 1936
Type-species: *Gehypochthonius rhadamanthus* Jacot, 1936 (449, p. 22).

Gehypochthonius rhadamanthus Jacot, 1936

Type: USNM (Cotypes)
Comb./Syn.: *Gehypochthonius rhadamanthus* Jacot, 1938 (449, p. 22)

Distribution: *USA*: Woolley 864 (277); Subìas 755 (45); N.C. - Jacot 449 (22); Grandjean 239 (541); Travé 775 (210); Marshall 548 (68).

Canada: Que. - Marshall 548 (68).

Palearctic: Grandjean 239 (541); Travé 775 (210); 777 (229); Aoki 11 (389); Marshall 548 (68); Aoki 24 (55) [!]; Subìas 755 (45).

Australian: Lee 1076 (333).

Description: *Adult*: Jacot 449 (22) fig.; Grandjean 251 (21) chaet.; Aoki 11 (389) fig.; Grandjean 308 (530) chaet.; Aoki 24 (55) [!] chaet., fig.; Balogh and Mahunka 1119 (pl. 54 fig. C-E). **Key:** Balogh and Mahunka 1119 (114).

Add. References: Hammen 344 (19).

Ecology: Jacot 449 (22); Travé 775 (210); 777 (229); Marshall 548 (68); Aoki 24 (55) [!]; Subìas 755 (45).

Gehypochthonius urticinus (Berlese, 1910)

Type: SEA

Comb./Syn.: *Parypochthonius [!] urticinus* Berlese, 1910 (87, p. 219)

Parhypochthonius urticinus Berlese, 1910 (216, p. 411) *Gehypochthonius urticinus* (Berlese, 1910) (1076, p. 334)

Distribution: *USA*: Fla. - Berlese 87 (219) [!]; Grandjean 216 (411).

Description: *Adult*: Berlese 87 (219) [!] fig.; Hammen 340 (11) chaet.

Taxonomy: Lee 1076 (334).

Ecology: Berlese 87 (219) [!] .

ELLIPTOCHTHONIIDAE NORTON, 1975

***Elliptochthonius* Norton, 1975**

Elliptochthonius Norton, 1975

Type-species: *Elliptochthonius profundus* Norton, 1975 (607, p. 210).

***Elliptochthonius profundus* Norton, 1975**

Type: USNM; Paratypes: CNC, MCZ

Comb./Syn.: *Elliptochthonius profundus* Norton, 1975 (607, p. 210)

Distribution: *USA*: Calif. - Norton 607 (210).

Description: *Adult*: Norton 607 (210) fig.

Tritonymnph: Norton 607 (210) fig.

Ecology: Norton 607 (210).

MIXONOMATA Grandjean, 1969

PHTHIRACAROIDEA Perty, 1841

PHTHIRACARIDAE **Perty, 1841**

***Atropacarus* Ewing, 1917**

Atropacarus Ewing, 1917

Type-species: *Hoplophora stricula* C.L. Koch, 1835 (179, p. 125)

***Atropacarus striculus* (C.L. Koch, 1835)**

Neotype: ZMH [see 986, p. 194]

Comb./Syn.: *Hoplophora stricula* C.L. Koch, 1835 (485, Vol. 2(10)); non Nicolet, 1855 (338, p. 123)

Atropacarus striculus (C.L. Koch, 1835) (719, p. 133)

Hoploderma striculus (C.L. Koch, 1835) (564, p. 80)

Phthiracarus stricula (C.L. Koch, 1835) (631, 231)

Steganacarus striculum (C.L. Koch, 1835) (217, p.32)

Steganacarus diaphanus Jacot, 1930 (426, p. 236): (983, p. 190). **Type:** MCZ (Cotype)

Steganacarus striculus diaphanus Jacot, 1938 (459, p. 130)

Steganacarus senex Aoki, 1958 (1037, p. 172): (1053, p. 132). **Type:** YNU

Steganacarus striculus insularis Weigmann, 1976 (1107, p. 6): (983, p. 190). **Type:** ITAZ

Add. Comb./Syn. Ref.: Willmann 829 (190); Marshall 548 (72); Subias 755 (84).

Distribution: *USA*: Hammer 365 (67) [Q.I.]; Conn. - Jacot426 (236); 459 (130); Marshall 548 (72); Maine - Jacot 426 (236); Marshall 548 (72); Mich. - Wallwork 788 (173); 789 (262); Marshall 548 (72); Minn. - Wagner et al. 786 (14); N.Y. - Jacot 459 (130); Hartenstein 382 (713); Marshall 548 (72); Reeves 673 (27); Norton and MacNamara 615 (91); Va. - Sengbusch 719 (133).

Canada: Man. - Oswald and Minty 620 (82); 621 (75); N.W.T. - Hammer 350 (65); Ont. - Marshall 549 (422); Qué. - Marshall 549 (72); Y.T. - Behan 73 (388).

Nearctic: Hammer 348 (49); 349 (37); Schweizer 691 (360); Travé 775 (210); Hammer 360 (275); Aoki 18 (398); Hammer 373 (11); Danks 971 (397).

Palearctic: Michael 561 (563); 564 (80); Willmann 829 (190): Jacot 446 (183); Willmann 835 (236); Hammer 348 (49); Weis-Fogh 817 (206); Hammen 338 (123); MacFayden 533 (109); Schweizer 691 (360); 692 (tab. 12 no. 498); Kunst 503 (39); Sellnick 709 (128); Travé 775 (210); Rajski 668 (25); Tarras-Wahlberg 765 (31); Aoki 9 (179); Davis 148 (67); Moritz 571 (157); Byzova 125 (185); Moritz 572 (71); Hammer 360 (275); Krivoluckij 495 (186); Wood 843 (116); Aoki 17 (119); Hammer 365 (67); Aoki 18 (398); Bernini 96 (393); Hammer 370 (423); Molodova and Golosova 570 (427); Kurchva 504 (95); Rubcova 681 (387) [!]; Gilyarov 207 (373); Luxton 532 (190); Aoki 25 (146); Solhoy 744 (19); Hammer 373 (11); Subias 755 (84); Paik 938 (231); Danks 971 (397).

Description: *Adult*: Koch 485 (Vol.2 (10)); Michael 561 (563) fig.; 564 (80); Jacot 426 (236) fig.; Willmann 829 (190) fig.; Grandjean 217 (32) chaet.; 219 (314) fig.; Jacot 459 (130); Grandjean 265 (202) chaet.; Hammer 350 (65) fig.; Schweizer 691 (360) fig.; Feider and Suciu 183 (33) fig.; Hartenstein 382 (713); Woolley 883 (1256) photo; Bernini 97 (567) photo; Balogh 42 (pl. 2 fig. 8); Gilyarov 207 (373); Woolley 1032 (710) photo; Aoki 957 (48); Balogh and Mahunka 1119 (pl. 76 fig. D-E).

Tritonymph: Hartenstein 382 (713) fig.

Protonymph: Hartenstein 382 (713) fig.

Taxonomy: Jacot 446 (163).

Key: Michael 564 (80); Willmann 829 (190); Sellnick 709 (128); Gilyarov 207 (37); Balogh and Mahunka 1119 (145).

Add. References: Willmann 829 (190); Hammen 338 (123); 344 (12, 34).

Biology: Hartenstein 382 (713); Lebrun 511 (202); Luxton 988 (331, 340).

Foods: Wallwork 789 (262); Hartenstein 382 (713); 376 (203); Luxton 531 (461).

Miscellaneous: Lasebikan et al. 984 (52) extract.; Purrini 1007 (305) parasit.

Ecology: Michael 561 (563); Jacot 426 (236); Willmann 829 (190); Jacot 446 (183); 459 (130); Willmann 835 (236); Hammer 348 (49); Weis-Fogh 817 (206); Hammen 338 (123); Hammer 350 (65);

MacFadyen 533 (109); Schweizer 691 (360); 692 (tab. 12 no. 498); Sengbusch 719 (133); Wallwork 788 (173); Kunst 503 (39); Sellnick 709 (128); Travé 775 (210); Rajski 668 (25); Tarras-Wahlberg 765 (31); Aoki 9 (179); Hartenstein 382 (713); Davis 148 (67); Moritz 571 (157); Byzova 125 (185); Moritz 572 (71); Hammer 360 (275); Krivoluckij 495 (186); Wood 843 (116); Marshall 548 (72); Aoki 17 (119); Hammer 365 (67); Reeves 673 (27); Aoki 18 (398); Bernini 96 (421); Oswald and Minty 620 (82); Rajski 669 (236); Bernini 98 (393); Oswald and Minty 621 (75); Hammer 370 (423); Molodova and Golosova 570 (427); Kurcheva 504 (95); Rubcova 681 (387) [!]; Luxton 532 (190); Aoki 25 (146); Solhøy 744 (19); Wallwork 950 (353); Hammer 373 (11); Subìas 755 (84); Wagner et al. 786 (14); Behan 73 (388); Paik 938 (231); Thomas 1024 (356); Luxton 987 (311); 989 (366).

Atropacarus terrapene (Jacot, 1937)

Type: MCZ, USNM (Cotypes)
Comb./Syn.: *Steganacarus terrapene* Jacot, 1937 (453, p. 165)
Atropacarus terrapene (Jacot, 1937) (983, p. 200)
Distribution: *USA*: N.C. - Jacot 453 (165); Tenn. - Crossley and Bohnsack 142 (632).
Description: *Adult*: Jacot 453 (165).
Taxonomy: Kamill and Baker 983 (200).
Ecology: Jacot 453 (165); Crossley and Bohnsack 142 (632).

Hoplophorella Berlese, 1923

Hoplophorella Berlese, 1923
Type-species: *Hoploderma cucullatum* Ewing, 1909 (94, p. 260).

Hoplophorella cucullata (Ewing, 1909)

Type: USNM (see remarks)
Comb./Syn.: *Hoploderma cucullarum* Ewing, 1909 (170, p. 133)
Hoplophorella cucullata (Ewing, 1909) (94, p. 260)
Steganacarus cucullatum (Ewing, 1909) (179, p. 130)
Hoploderma licnophorum Berlese, 1913 (88, p. 102): (430, p. 249).**Type:** SEA.
Distribution: *USA*: Mo. - Ewing 170 (133); Berlese 88 (102); Jacot 430 (249); Hammen 340 (46).
Palearctic: Aoki 18 (398); Paik 938 (231) [!]; Balogh and Mahunka 1119 (141).
Australian: Hammer 368 (5).
Description: *Adult*: Ewing 170 (133) fig.; Berlese 88 (102) fig.; Jacot 426 (213); 430 (249); Aoki 957 (40) fig.; Balogh and Mahunka 1119 (pl. 72 fig. D-G)
Taxonomy: Ewing 179 (130).
Key: Ewing 170 (133); Aoki 957 (40); Balogh and Mahunka 1119 (141).
Ecology: Ewing 170 (133); Berlese 88 (102); Aoki 18 (398); Hammer 368 (5); Paik 938 (231) [!] .

Remarks: The specimen in the USNM is actually labelled "*Steganacarus cucullatus*."

***Hoplophorella cucullata cuculloides* Jacot, 1933**

Type: FSCA (Cotypes)
Comb./Syn.: *Hoplophorella cucullata cuculloides* Jacot, 1933 (430, p. 250)
Hoplophorella cuculloides Jacot, 1933 (469, p. 51)
Distribution: *USA*: Fla. - Jacot 430 (250).
Description: *Adult*: Jacot 430 (250) fig.
Taxonomy: Johnston 469 (51).
Ecology: Jacot 430 (250).

***Hoplophorella floridae* Jacot, 1933**

Type: FSCA (Cotypes)
Comb./Syn.: *Hoplophorella cucullata floridae* Jacot, 1933 (430, p. 250)
Hoplophorella floridae Jacot, 1933 (957, p. 42)
Distribution: *USA*: Fla. - Jacot 430 (250).
Palearctic: Aoki 957 (42).
Description: *Adult*: Jacot 430 (250) fig.; Aoki 957 (42) fig. **Taxonomy:** Aoki 957 (42).
Ecology: Jacot 430 (250).

***Hoplophorella granulata* (Banks, 1902)** new comb.

Syntypes: MCZ (see remarks)
Comb./Syn.: *Hoploderma granulata* Banks, 1902 (50, p. 175)
Steganacarus granulatus (Banks, 1902) (426, p. 241)
Distribution: *USA*: Maine - Jacot 426 (241).
Canada: Ont. - Banks 50 (175); Ewing 169 (388); Jacot 426 (241).
Description: *Adult*: Banks 50 (175); 63 (103); Jacot 426 (241). **Ecology:** Jacot 426 (241).
Remarks: A slide with this name, labeled "cotype", is in the USNM collection; it contains Collembola only.

***Hoplophorella hamata* (Ewing, 1909)**

Type: USNM
Comb./Syn.: *Hoploderma hamatum* Ewing, 1909 (170, p. 134)
Hoplophorella cucullata hamata (Ewing, 1909) (430, p. 250)
Hoplophorella hamata (Ewing, 1909) (957, p. 44)
Distribution: *USA*: Ill. - Ewing 170 (134).
Description: *Adult*: Ewing 170 (134) fig.; Aoki 957 (40) fig. **Taxonomy:** Aoki 957 (44).
Key: Ewing 170 (134); Aoki 957 (40).

Ecology: Ewing 170 (134).

Hoplophorella thoreaui (Jacot, 1930)

Type: Unknown
Comb./Syn.: *Steganacarus thoreaui* Jacot, 1930 (426, p. 239)
Hoplophorella thoreaui (Jacot, 1930) (430, p. 248)
Distribution: *USA*: Conn. - Jacot 459 (130); Maine - Jacot 426 (239); N.Y. - Jacot 459 (130).
Palearctic: Travé 777 (229).
Description: *Adult*: Jacot 426 (239) fig.; 463 (859) fig.; Kevan 482 (194) fig.
Deutonymph: Kevan 482 (194) fig.
Foods: Luxton 531 (461).
Ecology: Jacot 426 (239); 459 (130); 463 (859); Kevan 482 (194); Travé 777 (229).

Hoplophorella varians Jacot, 1933

Type: FSCA (Cotypes)
Comb./Syn.: *Hoplophorella varians* Jacot, 1933 (430, p. 252)
Distribution: *USA*: Fla. - Jacot 430 (252).
Description: *Adult*: Jacot 430 (252) fig.
Ecology: Jacot 430 (252).

Hoplophorella sp.

Distribution: *Canada*: Man. - Oswald and Minty 620 (82); Que. - Behan 72 (39); Behan et al. 76 (263).

Hoplophthiracarus Jacot, 1933

Hoplophthiracarus Jacot, 1933
Type-species: *Hoploderma histricinum* Berlese, 1908 (430, p. 240).

Hoplophthiracarus grossmani Jacot, 1933

Type: FSCA
Comb./Syn.: *Hoplophthiracarus grossmani* Jacot, 1933 (430, p. 243)
Distribution: *USA*: Fla. - Jacot 430 (243).
Description: *Adult*: Jacot 430 (243) fig.
Taxonomy: Jacot 461 (49).
Ecology: Jacot 430 (243).

Hoplophthiracarus histricinus (Berlese, 1908)

Type: SEA
Comb./Syn.: *Hoploderma histricinum* Berlese, 1908 (84, p. 12)
Hoplophthiracarus histricinum (Berlese, 1908) (430, p. 240)
Phthiracarus histricinus (Berlese, 1908) (525, p. 47)
Steganacarus histricinum (Berlese, 1908) (426, p. 239)
Add. Comb./Syn. Ref.: Hammen 340 (46).
Distribution: *USA*: Berlese 84 (12); D.C. - Jacot 430 (240); Fla. - Jacot 430 (240); Mo. - Jacot 426 (239); 430 (240).
Description: *Adult*: Berlese 84 (12); 87 (215 pl. 20 fig. 54); Jacot 430 (240) fig.
Ecology: Jacot 430 (240).
Remarks: Berlese's record (84, p. 12) is most likely from District of Columbia, Florida or Missouri (426, p. 239; 452, p. 238).

***Hoplophthiracarus histricinus nitidior* (Berlese, 1923)**

Type: SEA
Comb./Syn.: *Phthiracarus (Trachyhoplophora) histricinus nitidior* Berlese, 1923 (94. p. 258)
Hoplophthiracarus histricinum nitidior (Berlese, 1923) (340, p. 47)
Steganacarus histricinum nitidior (Berlese, 1923) (426, p. 239)
Distribution: *USA*: Fla. - Berlese 94 (258); Jacot 426 (239); 430 (242); Hammen 340 (47).
Description: *Adult*: Berlese 94 (258); Jacot 430 (242).

***Hoplophthiracarus illinoisensis* (Ewing, 1909)** new comb.

Type: USNM (Cotype) (see remarks)
Comb./Syn.: *Hoploderma illinoisensis* Ewing, 1909 (170, p. 134)
Atropacarus illinoisensis (Ewing, 1909) (179, p. 131)
Steganacarus illinoisensis (Ewing, 1909) (426, p. 211)
Distribution: *USA*: Ill. - Ewing 170 (134).
Description: *Adult*: Ewing 170 (134) fig.
Taxonomy: Ewing 179 (131).
Key: Ewing 170 (134).
Remarks: The specimen in the USNM is actually labelled "*Atropacarus illinoiensis*" [!] . Jacot (430, p. 244) had already implied that this species is a *Hoplophthiracarus*; it is not an *Atropacarus* as suspected by Kamill and Baker (983, p. 201).

***Hoplophthiracarus paludis* Jacot, 1938**

Type: MCZ (not confirmed)
Comb./Syn.: *Hoplophthiracarus paludis* Jacot, 1938 (459, p. 123)
Distribution: *USA*: Conn. - Jacot 459 (123); N.Y. - Jacot 459 (123).

Description: *Adult*: Jacot 459 (123) fig.
Ecology: Jacot 459 (123).

Hoplophthiracarus pavidus (Berlese, 1913)

Type: SEA
Comb./Syn.: *Hoploderma pavidum* Berlese, 1913 (88, p. 103)
Hoplophthiracarus pavidus (Berlese, 1913) (341, p. 306)
Phthiracarus pavidus (Berlese, 1913) (829, p. 191)
Add. Comb./Syn. Ref.: Hammen 340 (49).
Distribution: *USA*: Hammer 365 (66) [Q.I.].
Canada: Man. - Oswald and Minty 621 (75).
Palearctic: Berlese 88 (103); Willmann 829 (191); Schweizer 691 (361); 692 (tab. 12 no. 499); Sellnick 709 (129); Tarras-Wahlberg 765 (30); Hammen 341 (306); Feider and Calugar 182 (77); Hammer 365 (66); Bernini 96 (421); 98 (393); Rubcova 681 (387); Gilyarov 207 (372).
Description: *Adult*: Berlese 88 (103) fig.; Willmann 829 (191) fig.; Schweizer 691 (361) fig.; Hammen 341 (306) chaet., fig.; Grandjean 308 (531) chaet.; Feider and Calugar 182 (77) chaet.; Gilyarov 207 (37Z) fig.; Balogh and Mahunka 1119 (pl. 78 fig. E-G)
Prelarva: Hammen 341 (306) fig.
Taxonomy: Hammen 340 (49).
Key: Willmann 829 (191); Sellnick 709 (129); Gilyarov 207 (372); Balogh and Mahunka 1119 (148).
Add. References: Willmann 829 (191); Hammen 340 (49).
Ecology: Berlese 88 (103); Willmann 829 (191); Schweizer 691 (361); 692 (tab. 12 no. 499); Sellnick 709 (129); Tarras-Wahlberg 765 (30); Hammen 341 (306); Hammer 365 (66); Bernini 96 (421); 98 (393); Oswald and Minty 621 (75); Rubcova 681 (387); Gilyarov 207 (372).

Hoplophthiracarus robustior Jacot, 1933

Type: FSCA (Cotypes)
Comb./Syn.: *Hoplophthiracarus robustior* Jacot, 1933 (430, p. 242)
Distribution: *USA*: Fla. - Jacot 430 (242); 461 (49).
Description: *Adult*: Jacot 430 (242) fig.
Ecology: Jacot 430 (242).

Hoplophthiracarus sp.

Distribution: *USA*: N.M. - Wallwork et al. 1229 (169).
Canada: Nfld. - Behan 73 (388).
Morphology: Woodring 1111 (422).
Foods: Behan and Hill 75 (500).

Phthiracarus Perty, 1841

Phthiracarus Perty, 1841
Type-species: *Phthiracarus contractilis* Perty, 1841 (655, p. 874).
Hoploderma Michael, 1898 (=*Hoplophora* Koch, 1835, preoccupied name)
Type-species: *Hoplophora laevigata* C.L. Koch, 1841 (485, Vol. 2 (9); 564, p. 77: 42, p. 179).
Ginglymacarus Ewing, 1917
Type-species: *Hoplophora dasypus* Dugès, 1834 (179, p. 131: 42, p. 179).

Peridromotritia Jacot, 1923 new syn.
Type-species: *Phthiracarus rotundus* Ewing, 1908 (413, p. 162) [see remarks under this species].

Remarks: *Phthiracarus contractilis* Perty, 1841 is, according to Parry 1979 (1090, p. 332), an unrecognizable species, although generally regarded to be a member of what is now considered to be *Phthiracarus*. Jacot (426, p. 211) synonymized *P. contractilis* with *Hoplophora laevigata* C.L. Koch, 1841, the type species of *Hoplophora* C.L. Koch, 1835 (=*Hoploderma* Michael, 1898). Those who cite *H. laevigata* as type-species of *Phthiracarus* (42, p. 138; 957, p. 9) apparently recognize Jacot's synonymy. We are using *Phthiracarus* in the broad sense (e.g., Parry 1979) and not in the restricted sense of Balogh and Mahunka 1979 (960, p. 286) or Aoki 1980 (957, p. 9).

Phthiracarus anonymus Grandjean, 1933

Type: Not designated
Comb./Syn.: *Phthiracarus anonymus* Grandjean, 1933 (219, p. 312)
Archiphthiracarus anonymus (Grandjean, 1933) (1119, p. 162)
Paraphthiracarus anonymus (Grandjean, 1933) (957, p. 17)
Distribution: *Palearctic*: Travé 774 (80); Sellnick 709 (131); Moritz 571 (157); Travé 777 (229); Moritz 572 (71); Lebrun 508 (186); Kurcheva 504 (95); Gilyarov 207 (370) Luxton 532 (190); Bukva et al. 118 (243).
Description: *Adult*: Grandjean 219 (312) fig.; 225 (51) fig.; 266 (73) chaet., fig.; Feider and Suciu 183 (24) fig.; Hammen 342 (376) chaet., fig. app.; Gilyarov 207 (370) fig.; Wallwork 950 (248) photo.; Balogh and Mahunka 1119 (pl. 94 fig. A-C)
Tritonymph: Grandjean 217 (46) fig.; 225 (51) fig.; 266 (73) fig.
Protonymph: Grandjean 225 (51) fig.; 266 (73) fig.
Larva: Grandjean 225 (51) fig.; 312 (153).
Key: Sellnick 709 (131); Gilyarov 207 (370); Balogh and Mahunka 1119 (162).
Biology: Luxton 988 (313).
Ecology: Travé 774 (80); Sellnick 709 (131); Moritz 571 (157); Travé 777 (229); Moritz 572 (71); Lebrun 508 (186); Kurcheva 504 (95); Luxton 532 (190); Wallwork 950 (248); Bukva et al. 118 (243); Luxton 987 (311); 989 (366); 990 (405).

Remarks: Only the subspecies *Phthiracarus anonymus amicus* Jacot, 1938 is known from North America.

Phthiracarus anonymus amicus Jacot, 1938

Type: MCZ
Comb./Syn.: *Phthiracarus anonymus amicus* Jacot, 1938 (455, p. 126)
Distribution: *USA*: N.Y. - Jacot 459 (126).
Description: *Adult*: Jacot 459 (126) fig.
Taxonomy: Parry 1090 (338).
Ecology: Jacot 459 (126).

Phthiracarus apiculatus Jacot, 1939

Type: USNM (Cotype)
Comb./Syn.: *Phthiracarus apiculatus* Jacot, 1939 (464, p. 198)
Distribution: *USA*: N.C. - Jacot 464 (198).
Description: *Adult*: Jacot 464 (198).
Ecology: Jacot 464 (198).

Phthiracarus borealis (Trägårdh, 1910)

Type: Unknown
Comb./Syn.: *Hoploderma boreale* Trägårdh, 1910 (771, p. 547)
Paraphthiracarus borealis (Trägårdh, 1910) (957, p. 17)
Phthiracarus borealis (Trägårdh, 1910) (829, p. 192)
Distribution: *USA*: Hammer 365 (66) [Q.I.]; Alaska - Hammer 354 (26); Schweizer 691 (358); Mich. - Wallwork 788 (173); 789 (262); 790 (561); 792 (624).
Nearctic: Hammer 352 (412); 373 (11).
Palearctic: Willmann 829 (192); Tuxen 779 (333); Willmann 835 (236); Hammer 349 (37); Schweizer 691 (358); 692 (tab. 12 no. 494); Sellnick 709 (130); Berthet 107 (29); Byzova 124 (291); Hammer 365 (66); Grishina 323 (83); Rubcova 681 (387); Gilyarov 207 (371); Luxton 532 (190); Hammer 373 (11).
Description: *Adult*: Trägårdh 771 (547) fig.; Willmann 829 (192) fig.; 835 (236) fig.; Schweizer 691 (358) fig.; Gilyarov 207 (371) fig.
Taxonomy: Balogh and Mahunka 1119 (156).
Key: Willmann 829 (192); Sellnick 709 (130); Gilyarov 207 (371).
Add. References: Willmann 829 (192); Karppinen 476 (40).
Foods: Wallwork 789 (262); Luxton 531 (436).
Ecology: Willmann 829 (192); Tuxen 779 (333); Willmann 835 (236); Hammer 352 (412); 354 (26); Schweizer 691 (358); 692 (tab. 12 no. 494); Wallwork 788 (173); 790 (561); Sellnick 709 (130);

Wallwork 792 (624); Berthet 107 (29); Byzova 124 (291); Hammer 365 (66); Grishina 323 (83); Rubcova 681 (387); Luxton 532 (190); Hammer 373 (11).

***Phthiracarus boresetosus* Jacot, 1930**

Type: MCZ (Cotypes)
Comb./Syn.: *Phthiracarus boresetosum* Jacot, 1930 (426, p. 228)
Distribution: *USA*: Conn. - Jacot 446 (181); 459 (125); Maine - Jacot 426 (228); 446 (181); N.Y. - Jacot 446 (181); 459 (125).
Palearctic: Jacot 446 (181); Forsslund 192 (192); 193 (355).
Description: *Adult*: Jacot 426 (228); 446 (181); 459 (125) fig.
Key: Jacot 426 (228); 459 (125).
Foods: Luxton 531 (461).
Ecology: Jacot 426 (228); 446 (181); 459 (125); Forsslund 192 (192); 193 (355).

***Phthiracarus brevisetae* Jacot, 1930**

Type: MCZ
Comb./Syn.: *Phthiracarus brevisetae* Jacot, 1930 (426, p. 225)
Distribution: *USA*: Conn. - Jacot 426 (225); N.Y. - Jacot 459 (129).
Description: *Adult*: Jacot 426 (225) fig.
Key: Jacot 426 (225); 459 (129).
Ecology: Jacot 426 (225); 459 (129).

***Phthiracarus bryobius* Jacot, 1930**

Type: MCZ (Cotypes)
Comb./Syn.: *Phthiracarus setosellum bryobium* Jacot, 1930 (426, p. 232)
Phthiracarus bryobius Jacot, 1930 (459, p. 127)
Distribution: *USA*: Conn. - Jacot 426 (232); 459 (127); N.Y. - Jacot 459 (127).
Description: *Adult*: Jacot 426 (232) fig.; 459 (127).
Key: Jacot 426 (232); 459 (127).
Ecology: Jacot 426 (232); 459 (127).

***Phthiracarus compressus* Jacot, 1930**

Type: MCZ (Cotypes)
Comb./Syn.: *Phthiracarus compressum* Jacot, 1930 (426, p. 232)
Distribution: *USA*: Conn. - Jacot 426 (232), 459 (126); Maine - Jacot 426 (232); N.Y.- Jacot 426 (232); 459 (126).
Description: *Adult*: Jacot 426 (232) fig.; 459 (126) fig.

Key: Jacot 426 (232); 459 (126).
Ecology: Jacot 426 (232); 459 (126).

Phthiracarus curtulus Berlese, 1923

Type: SEA
Comb./Syn.: *Phthiracarus curtulus* Berlese, 1923 (94, p. 259)
Distribution: *USA*: Fla. - Berlese 94 (259); Jacot 430 (247); Hammen 340 (51).
Palearctic: Berlese 94 (259); Jacot 430 (247); Hammen 340 (51).
Description: *Adult*: Berlese 94 (259).

Phthiracarus erinaceus Jacot, 1930

Type: MCZ (Cotypes)

Comb./Syn.: *Phthiracarus erinaceum* Jacot, 1930 (426, p. 230)

Distribution: *USA*: Maine - Jacot 426 (230).

Description: *Adult*: Jacot 426 (230).

Key: Jacot 426 (230).

Ecology: Jacot 426 (230).

Phthircarus globosus (C.L. Koch, 1841)

Neotype: ZMH [see 1070, p. 268]

Comb./Syn.: *Hoplophora globosa* C.L. Koch, 1841 (485, vol. 32 (12))

Hoploderma globosum (C.L. Koch, 1841) (564, 79)

Phthiracarus globosum (C.L. Koch, 1841) (829, p. 193)

Phthiracarus globus Parry, 1979 (1090, p. 341): (1070, p. 268). **Type:** BM(NH)

Add. Comb./Syn. Ref.: Hammen 338 (125).

Distribution: *USA*: Va. - Sengbusch 719 (133).

Palearctic: Michael 564 (79); Willmann 829 (193); Forsslund 192 (206); 193 (355); Hammen 338 (125); Sellnick 709 (132); Rajski 668 (24); Moritz 571 (157); Lebrun 507 (103); Moritz 572 (71); Feider and C lug r 182 (76); Rajski 669 (234); Gilyarov 207 (372); Luxton 532 (190); 987 (311).

Description: *Adult*: Koch 485 (Vol. 32 [12]); Michael 564 (79); Willmann 829 (193) fig.; Feider and Suciu 183 (27) fig.; Feider and C lug r 182 (76) chaet.; Gilyarov 207 (372) fig.; Balogh and Mahunka 1119 (pl. 82 fig. C-E)

Key: Michael 564 (79); Willmann 829 (193); Sellnick 709 (132); Gilyarov 207 (372). Balogh and Mahunka 1119 (152).

Add. References: Michael 564 (79); Willmann 829 (193); Karppinen 476 (40).

Miscellaneous: Purrini 1007 (305) parasit.

Ecology: Michael 564 (79); Willmann 829 (193); Forsslund 192 (206); 193 (355); Hammen 338 (125); Sengbusch 719 (133); Sellnick 709 (132); Rajski 668 (24); Moritz 571 (157); Lebrun 507 (103); Moritz 572 (71); Rajski 669 (234); Luxton 532 (190); 987 (311).

Phthiracarus italicus (Oudemans, 1900)

Type: Unknown [see 340, p.49]

Comb./Syn.: *Hoploderma italicum* Oudemans, 1900 (626, p. 170)

Phthiracarus italicus (Oudemans, 1904) (829, p. 193)

Hoplophora dasypus sensu Berlese, 1883 (77, Vol. 6 (4)); non A. Dugés, 1834 (340, p. 48); nec Ewing, 1909

Add. Comb./Syn. Ref.: Subìas 755 (80).

Distribution: *USA*: Mich. - Wallwork 788 (173); 789 (262).

Palearctic: Willmann 829 (193); Sellnick 709 (131); Rajski 668 (24); Byzova 125 (185); Krivoluckij 495 (186); Rajski 669 (233); Hammer 370 (423); Gilyarov 207 (372); Subìas 755 (80); Wauthy 808 (148).

Description: *Adult*: Willmann 829 (193) fig; Feider and Suciu 183 (30) fig.; Balogh and Mahunka 1119 (pl. 82 fig. A-B).

Taxonomy: Oudemans 626 (170).

Key: Willmann 829 (193); Sellnick 709 (131); Gilyarov 207 (372); Balogh and Mahunka 1119 (152).

Add. References: Willmann 829 (193); Hammen 340 (48); Subìas 755 (80).

Foods: Wallwork 789 (262); Luxton 531 (461).

Ecology: Willmann 829 (193); Wallwork 788 (173); Sellnick 709 (131); Rajski 668 (24); Byzova 125 (185); Krivoluckij 495 (186); Rajski 669 (233); Hammer 370 (423); Subìas 755 (80); Wauthy 808 (148).

Phthiracarus ligneus Willmann, 1931

Type: WHPC

Comb./Syn.: *Phthiracarus ligneus* Willmann, 1931 (829, p. 192)

Archiphthiracarus ligneus (Willmann, 1931) (1119, p. 158)

Paraphthiracarus ligneus (Willmann, 1931) (957, p. 17)

Phthiracarus sellnicki Feider and Suciu, 1957 (183, p. 31): (207, p. 372). **Type:** Unknown

Distribution: *USA*: Hammer 365 (66) [Q.I.]; Alaska - Hammer 354 (26); Rajski 669 (234).

Palearctic: Willmann 829 (192); MacFadyen 533 (109); Sellnick 709 (130); Rajski 668 (24); Block 110 (246);113 (31); Krivoluckij 495 (185); Lebrun 508 (186); Fager 181 (140); Feider and C lug r 182

(76); Hammer 365 (66); Pérez-Inigo 651 (144); Rajski 669 (234); Kurcheva 504 (95); Rubcova 681 (387); Gilyarov 207 (372); Luxton 532 (190).
Description: *Adult*: Willmann 829 (192) fig.; Feider and Suciu 183 (31)fig.; Feider and C lug r 182 (76) chaet.; Gilyarov 207 (372) fig.; Balogh and Mahunka 1119 (pl. 90 fig A-B)
Key: Willmann 829 (192); Sellnick 709 (130); Gilyarov 207 (372); Balogh and Mahunka 1119 (158).
Add. References: Luxton 531 (461).
Foods: Luxton 531 (461).
Ecology: Willmann 829 (192); MacFadyen 533 (109); Hammer 354 (26); Sellnick 709 (130); Rajski 668 (24); Block 110 (246); 113 (31); Krivoluckij 495 (185); Lebrun 508 (186); Fager 181 (140); Hammer 365 (66); Pérez-Inigo 651 (144); Rajski 669 (234); Kurcheva 504 (95); Rubcova 681 (387); Luxton 532 (190); Nannelli 997 (345).

Phthiracarus luridus (Ewing, 1909)

Type: Not designated ("Autotype" in USNM)
Comb./Syn.: *Hoploderma lurida* Ewing, 1909 (171, p. 417)
Ginglymacarus lurida (Ewing, 1909) (179, p. 131)
Phthiracarus luridus (Ewing, 1909) (457, p. 656)
Distribution: *USA*: Ill. - Ewing 171 (417); Jacot 457 (656).
Description: *Adult*: Ewing 171 (417) fig.; Jacot 457 (656) fig.
Taxonomy: Ewing 179 (131).
Ecology: Ewing 171 (417); Jacot 457 (656).

Phthiracarus montium Jacot, 1937

Type: USNM (Cotypes)
Comb./Syn.: *Phthiracarus montium* Jacot, 1937 (453, p. 165)
Distribution: *USA*: N.C. - Jacot 453 (165).
Description: *Adult*: Jacot 453 (165).
Ecology: Jacot 453 (165).

Phthiracarus olivaceus Jacot, 1929

Type: MCZ (Cotypes)
Comb./Syn.: *Phthiracarus olivaceum* Jacot, 1929 (418, p. 214)
Distribution: *USA*: Conn. - Jacot 418 (214); 426 (228); 459 (129); Marshall 548 (72); N.Y. - Jacot 426 (228); 459 (129); Marshall 548 (72); Reeves 673 (27); Norton and MacNamara 615 (91).
Canada: Que. - Marshall 548 (72).
Description: *Adult*: Jacot 418 (214); 426 (228) fig.
Key: Jacot 426 (228); 459 (129).
Ecology: Jacot 418 (214); 426 (228); 459 (129); Marshall 548 (72); Reeves 673 (27).

Phthiracarus piger (Scopoli, 1763)

Type: Lost
Comb./Syn.: *Acarus piger* Scopoli, 1763 (693, p. 874)
Phthiracarus piger (Scopoli, 1763) (829, p. 192)
Phthiracarus contractilis Perty, 1841 (655, p. 874): (207, p. 371). **Type:** Unknown
Add. Comb./Syn. Ref.: Hammen 338 (123).
Distribution: *USA*: Hammer 365 (66) [Q.I.]; Alaska - Hammer 354 (26); Rajski 669 (233); Va. - Sengbusch 719 (133).
Nearctic: Hammer 348 (49); 349 (26); 352 (412); 373 (11).
Palearctic: Michael 564 (81); Willmann 829 (192); Tuxen 779 (333); Forsslund 192 (192); Hammer 348 (49); Forsslund 193 (355); Hammer 349 (26); Weis-Fogh 817 (206); Hammen 338 (123); Haarløv 326 (45); Kunst 503 (39); Haarløv 327 (145); Sellnick 709 (132); Rajski 668 (24); Tarras-Wahlberg 765 (3a); Hayes 384 (243); Byzova 124 (291); 125 (185); Lebrun 505 (375); Block 110 (246); Hayes 385 (253); Lebrun 506 (27); 507 (103); Hayes 386 (282); Fager 181 (140); Hammer 365 (66); Rajski 669 (233); Hammer 370 (416); Rubcova 681 (387); Gilyarov 207 (370); Luxton 532 (190); Usher 781 (356); 782 (366); Hammer 373 (11).
Description: *Adult*: Scopoli 693 (874); Michael 564 (81); Willmann 829 (192) fig.; Feider and Suciu 183 (25) fig.; Gilyarov 207 (370) fig.; Balogh and Mahunka 1119 (pl. 87 fig. D-E)
Key: Michael 564 (81); Willmann 829 (192); Sellnick 709 (132); Gilyarov 207 (370); Balogh and Mahunka 1119 (155).
Add. References: Willmann 829 (192); Hammen 338 (123); Haarløv 326 (45); Luxton 531 (461).
Foods: Luxton 531 (461); 986 (104).
Miscellaneous: Purrini 1007 (305) parasit.
Ecology: Michael 564 (81); Willmann 829 (192); Tuxen 779 (333); Forsslund 192 (192); Hammer 348 (49); Forsslund 193 (355); Hammer 349 (26); Weis-Fogh 817 (206); Hammen 338 (123); Hammer 352 (412); 354 (26); Haarløv 326 (45); Sengbusch 719 (133); Kunst 503 (39); Haarløv 327 (145); Sellnick 709 (132); 125 (185); Lebrun 505 (375); Block 110 (246); Hayes 385 (253); Lebrun 506 (27); 507 (103); Hayes 386 (282); Fager 181 (140); Hammer 365 (66); Rajski 669 (233); Hammer 370 (416); Rubcova 681 (387); Luxton 532 (190); Usher 781 (356); 782 (366); Wallwork 950 (329); Hammer 373 (11).
Remarks: Jacot (426, p. 216) considered *Acarus piger* Scopoli, 1763 to be unrecognizable and certainly not a *Phthiracarus*; he assigned it to what is now considered the Euphthiracaroidea.

Phthiracarus prior Jacot, 1933

Type: FSCA, USNM (Cotypes)
Comb./Syn.: *Phthiracarus prior* Jacot, 1933 (430, p. 246)
Distribution: *USA*: Fla. - Jacot 430 (246).

Description: *Adult*: Jacot 430 (246) fig.
Ecology: Jacot 430 (246).

Phthiracarus restrictus Jacot, 1937

Type: USNM (Cotypes)
Comb./Syn.: *Phthiracarus restrictus* Jacot, 1937 (453, p. 165)
Distribution: *USA*: N.C. - Jacot 453 (165).
Description: *Adult*: Jacot 453 (165).
Ecology: Jacot 453 (165).

Phthiracarus rotundus Ewing, 1908

Type: Unknown ("Autotype" in USNM)
Comb./Syn.: *Phthiracarus rotundus* Ewing, 1908 (167, p. 451)
Peridromotritia rotundus (Ewing, 1908) (413, p. 162)
Distribution: *USA*: 111. - Ewing 167 (451); 169 (388).
Description: *Adult*: Ewing 167 (451) fig.
Taxonomy: Jacot 413 (162); Balogh and Mahunka 1119 (156).
Ecology: Ewing 167 (451); 169 (388).
Remarks: Jacot 1923 (413, p. 162) used *Phthiracarus rotundus* Ewing, 1908 as the typespecies of *Peridromotritia*, apparently without seeing Ewing's specimens. *Peridromotritia* was originally proposed as a genus in the Tritiinae (equivalent of modern Euphthiracaroidea), which is consistent with Ewing's concept of *Phthiracarus* at that time (all animals currently grouped under Phthiracaroidea, he considered members of *Hoploderma*; see 169, p. 388). However, the non-type specimen in the USNM is a true *Phthiracarus* in the modern sense. Although Märkel (546, p. 7) questioned the status of *Peridromotritia*, if we base our concept of *P. rotundus* on Ewing's "autotype" specimen, *Peridromotritia* is clearly a junior synonym of *Phthiracarus* Perty, 1841. *Phthiracarus rotundus* Berlese, 1923 (94, p. 259) is a junior primary homonym and must be renamed (see 422, p. 51 for dates of Ewing's and Berlese's species).

Phthiracarus sarahae Jacot, 1930

Type: MCZ (Cotypes)
Comb./Syn.: *Phthiracarus sarahae* Jacot 1930 (426, p.234)
Distribution: *USA*: Maine - Jacot 426 (234).
Description: *Adult*: Jacot 426 (234) fig.
Key: Jacot 426 (234).
Ecology: Jacot 426 (234).

Phthiracarus setanus Jacot, 1939

Type: USNM (not confirmed)
Comb./Syn.: *Phthiracarus setanus* Jacot 1939 (464 p.199)
Distribution: *USA*: N.C. - Jacot 464 (199).
Description: *Adult*: Jacot 464 (199).
Ecology: Jacot 464 (199).

Phthiracarus setosellus Jacot, 1929

Type: MCZ (Cotypes)
Comb./Syn.: *Phthiracarus setosellum* Jacot 1929 (418 p.2I5)
Distribution: *USA*: Conn. - Jacot 426 (231); 459 (128); Marshall 548 (72); Minn. -Wagner et al. 786 (14); N.Y. - Jacot 418 (215); 426 (231); 459 (128). Reeves 672 (284); Marshall 548 (72); Reeves 673 (27); Norton and MacNamara 615 (91).
Canada: Que. - Marshall 548 (72).
Description: *Adult*: Jacot 418 (215); 426 (231) fig.; 429 (19) fig.; Baker and Wharton 36 (436) fig.
Key: Jacot 426 (231); 459 (128).
Foods: Hartenstein 376 (203); Luxton 531 (461).
Ecology: Jacot 418 (215); 426 (231); Reeves 672 (284); Marshall 548 (72); Reeves 673 (27); Wagner et al. 786 (14).

Phthiracarus setosus (Banks, 1895)

Type: MCZ
Comb./Syn.: *Hoplophora setosa* Banks,1895 (45, p. 16)
Hoploderma setosum (Banks, 1895) (169, p. 388)
Phthiracarus setosus (Banks, 1895) (426, p. 226)
Distribution: *USA*: Conn. - Jacot 426 (226); 459 (129); Maine - Jacot 426 (226); Mich. - Pherson and Beattie 1004 (329); Pherson 1003 (611); N.Y. - Banks 45 (16); Ewing 169 (388); Jacot 426 (226); 459 (129); Reeves 673 (27); Va. - Jacot 426 (226).
Description: *Adult*: Banks 45 (16); Jacot 426 (226) fig.
Key: Jacot 426 (226); 459 (129).
Ecology: Banks 45 (16); Ewing 169 (388); Jacot 426 (226); Reeves 673 (27); Pherson and Beattie 1004 (329); Pherson 1003 (611).

Phthiracarus sphaerulus (Banks, 1895)

Type: MCZ (not confirmed)
Comb./Syn.: *Hoplophora sphaerula* Banks, 1895 (45, p. 16)
Ginglymacarus sphaerula (Banks, 1895) (179, p. 131)
Hoploderma sphaerula (Banks, 1895) (52, p. 64)
Phthiracarus sphaerulus (Banks, 1895) (426, p. 223)

Hoploderma dasypus sensu Ewing, 1909 (169, p. 376: 459, p. 129); non Dugès, 1834; nec Berlese, 1883
Distribution: *USA*: Ewing 179 (131); Conn. - Jacot 426 (223); 430 (245); 459 (129); Marshall 548 (72); Fla. - Jacot 430 (245); 459 (129); Ill. - Ewing 169 (376) [mi.]; Miller 927 (144) [mi.]; N.Y. - Banks 45 (16); Ewing 169 (388); Jacot 426 (223); 430 (245); 459 (129); Marshall 548 (72); Norton and MacNamara 615 (91); Ohio - Miller 927 (144) [mi.]; Jacot 459 (129).
Canada: Man. - Oswald and Minty 620 (82); 621 (75); Que. - Marshall 548 (72).
Description: *Adult*: Banks 45 (16); 52 (64) fig.; Ewing 169 (376) [mi.]; Banks 63 (102) fig.; Miller 927 (144) [mi.] fig.; Jacot 426 (223) fig.; 430 (245).
Key: Ewing 169 (376) [mi.]; Jacot 426 (223); 459 (129).
Ecology: Ewing 169 (376) [mi.]; Millet 927 (144) [mi.]; Jacot 426 (223); 459 (129); Marshall 548 (72); Oswald and Minty 620 (82); 621 (75).
Remarks: Ewing (169, p. 376) is sub *Hoploderma dasypus*; Miller (927, p. 144) is sub *Ginglymacarus dasypus*.

***Phthiracarus stramineus* (C.L. Koch, 1841)**

Type: Unknown
Comb./Syn.: *Hoplophora straminea* C.L. Koch, 1841 (485, Vol. 32 (13))
Archiphthiracarus stramineus (C.L. Koch, 1841) (1119, p. 160)
Phthiracarus stramineus (C.L. Koch, 1841) (446, p. 177)
Distribution: *USA*: Conn. - Jacot 446 (177); N.Y. - Jacot 446 (177).
Palearctic: Jacot 446 (177); Forsslund 192 (210); 193 (355); Sellnick 709 (130); Moritz 572 (71).
Description: *Adult*: Koch 485 (Vol. 32 (13)); Jacot 446 (177) fig.; Forsslund 192 (210) photo; Balogh and Mahunka 1119 (pl. 92 fig. F-l).
Key: Sellnick 709 (130); Balogh and Mahunka 1119 (160).
Ecology: Forsslund 192 (210); 193 (355); Sellnick 709 (130); Moritz 572 (71).

***Phthiracarus* sp.**

Distribution: *USA*: N.Y. - Reeves 673 (28)
Canada: Que. - Marshall 548 (72).

***Phthiracarus sp. nr. anonymum* Grandjean, 1933**

Distribution: *USA*: N.Y. - Norton and MacNamara 615 (91).

***Steganacarus* Ewing, 1917**

Steganacarus Ewing, 1917
Type-species: *Hoplophora anomala* Berlese, 1883 (179, p. 130).

Tropacarus Ewing, 1917
Type-species: *Hoplophora carinatum* C.L. Koch, 1841 (179, p. 130: 42, p. 180).

Calhoplophora Berlese, 1923
Type-species: *Hoplophora carinata* C.L. Koch, 1841 (94, p. 257: 42, p. 178).

Trachyhoplophora Berlese, 1923
Type-species: *Hoplophora magna* Nicolet, 1855 (94, p. 257: 42, p. 178).

***Steganacarus magnus* (Nicolet, 1855)**

Type: Not designated
Comb./Syn.: *Hoplophora magna* Nicolet, 1855 (592, p. 472)
Hoploderma magnum (Nicolet, 1855) (561, p. 556)
Phthiracarus magna (Nicolet, 1855) (638, p. 218)
Steganacarus magnus (Nicolet, 1855) (220, p. 125)
Add. Comb./Syn. Ref.: Michael 564 (79); Willmann 829 (191); Sengbusch 717 (160); Hammen 338 (122); 340 (42); Moritz 571 (157); 572 (71).
Distribution: *USA*: Hammer 365 (67) [Q.I.]; Mich. - Wallwork 789 (262); N.Y. - Sengbusch 717 (160).
Palearctic: Michael 561 (556); 564 (79); André 8 (246); Willmannn 829 (191); Jacot 446 (183); Hammnen 338 (122); Travé 774 (80); Hammen 340 (42); Sellnick 709 (128); Rajski 668 (25); Hayes 384 (241); Moritz 571 (157); Travé 777 (229); Berthet 107 (44); Lebrun 505 (375); Hayes 385 (253); Lebrun 506 (52); 507 (103); Madge 538 (122); Moritz 572 (71); Hayes 386 (282); Krivoluckij 495 (186); Luxton 528 (521); Lebrun 508 (186); Wood 843 (116); Fager 181 (140); Hammer 365 (67); Bernini 96 (421); Rajski 669 (234); Bernini 98 (393); Elmes and Webb 158 (19); Hammer 370 (423); Luxton 531 (447); Webb and Elmes 812 (359); Wallwork 804 (129); Webb and Elmes 813 (135); Gilyarov 207 (374); Luxton 532 (190); Usher 781 (356); 782 (366); Lions 523 (171); Webb 811 (686).
Description: *Adult*: Nicolet 592 (472) fig.; Michael 561 (556) fig.; 564 (79) fig.; Willmann 829 (191) fig.; Grandjean 224 (120) fig.; 226 (354) fig.; 230 (14) chaet.; 231 (121) fig.; 308 (531) chaet.; Feider and Suciu 183 (32) fig.; Woodring 848 (426) ; Bernini 97 (563) chaet., fig., photo.; Balogh 42 (pl. 2 fig. 7); Fonseca 187 (323) fig.; Gilyarov 207 (374) fig.; Wallwork 950 (353) photo.; Webb 811 (686) fig.; Balogh and Mahunka 1119 (pl. 75 fig. F-I).
Nymph: Michael 561 (556) fig.
Larva: Michael 561 (556) fig.
Egg: Michael 561 (556) fig.
Taxonomy: Bernini 97 (563).
Key: Michael 564 (79); Willmann 829 (191); Sellnick 709 (128); Gilyarov 207 (374); Balogh and Mahunka 1119 (144).

Add. References: Willmann 829 (191); Sengbusch 717 (160); Hammen 338 (122); 340 (42).
Morphology: Grandjean 220 (125); 224 (120); 226 (354); 230 (14).
Biology: Fonseca 187 (323); Webb 811 (686); Luxton 988 (340).
Foods: Wallwork 789 (262); Hayes 384 (241); Luxton 531 (447); Webb and Elmes 812 (359); Crossley 141 (74); Webb 811 (686); Luxton 986 (104).
Miscellaneous: Woodring 848 (426) anat.; Lasebikan et al. 984 (52) extract.; Purrini 1007 (305) parasit.
Ecology: Michael 561 (556); 564 (79); André 8 (246); Willmann 829 (191); Jacot 446 (183); Sengbusch 717 (160); Hammen 338 (122); Travé 774 (80); Sellnick 709 (128). Woolley 863 (251); Rajski 668 (25); Moritz 571 (157); Travé 777 (229); Berthet 107 (44); 108 (444); Lebrun 505 (375); Hayes 385 (253); Lebrun 506 (52); 507 (103); Madge 538 (122); Moritz 572 (71); Hayes 386 (282); Krivoluckij 495 (186); Luxton 528 (521); Wood 843 (116); Fager 181 (140); Hammer 365 (67); Bernini 96 (421); Rajski 669 (234); Bernini 98 (393); Elmes and Webb 158 (19); Hammer 370 (423); Luxton 531 (447); Webb and Elmes 812 (359); Wallwork 804 (129); Webb and Elmes 813 (135); Luxton 532 (190); Usher 781 (356); 782 (366); Lions 523 (171); Wallwork 950 (353); Webb 811 (686); Thomas 1024 (356); Wallwork 1027 (69); Webb and Elmes 1030 (390); Luxton 987 (311); 989 (366); 990 (397).
Remarks: We strongly suspect that the records of this species in North America are incorrect. Wallwork's specimens are no longer available and he indicated that this record should be regarded as doubtful (J. A. Wallwork, pers. comm.).

***Steganacarus* sp.**

Distribution: *USA*: N.Y. - Reeves 673 (28).
Canada: Que. - Behan 72 (39); Behan et al. 76 (263).

EUPHTHIRACAROIDEA Jacot, 1930

ORIBOTRITIIDAE **Grandjean, 1954**

***Indotritia* Jacot, 1929**

Indotritia Jacot, 1929
Type-species: *Tritia krakatauensis* Sellnick, 1924 (418, p. 213).

***Indotritia carolinae* (Jacot, 1930)**

Type: MCZ (Cotype)
Comb./Syn.: *Oribotritia carolinae* Jacot, 1930 (426, p. 257)
Indotritia carolinae (Jacot, 1930) (546, p. 24)

Distribution: *USA*: Fla. - Jacot 430 (260); 461 (49); N.C. - Jacot 426 (257); 430 (260).
Description: *Adult*: Jacot 426 (257) fig.; 430 (260) fig.
Taxonomy: Märkel 546 (24).
Key: Märkel 546 (24).
Ecology: Jacot 430 (260).

***Maerkelotritia* Hammer, 1967**

Maerkelotritia Hammer, 1967
Type-species: *Maerkelotritia alaskensis* Hammer, 1967 (362, p. 8).

***Maerkelotritia alaskensis* Hammer, 1967**

Syntypes: USNM (see remarks)

Comb./Syn.: *Maerkelotritia alaskensis* Hammer, 1967 (362, p. 8)

Oribotritia ? loricata sensu Hammer, 1955 (354, p. 26); non Rathke, 1799 (362, p. 8)

Distribution: *USA*: Alaska - Hammer 354 (26) [mi.]; 362 (8); Gilyarov 207 (380); Behan 73 (388).

Palearctic: Gilyarov 207 (380).

Description: *Adult*: Hammer 362 (8) fig.; Balogh and Mahunka 1119 (pl. 100 fig. G-I).

Key: Märkel 993 (726); Gilyarov 207 (380); Aoki 957 (79); Balogh and Mahunka 1119 (171).

Ecology: Hammer 354 (26) [mi.]; 362 (8); Behan 73 (388).

Remarks: Hammer (354, p. 26) is sub *Oribotritia ? loricata*. Aoki 1973 (21, p. 249) synonymized *Oribotritia sellnicki* Walker, 1965 with *Maerkelotritia kishidai* (Aoki, 1958) and in 1980 (957, p. 77) also included *M. alaskensis* Hammer, 1967 as a junior synonym of *M. kishidai*. He claimed uncertainty about these synonymies (957, p. 79), therefore, we have treated the North American forms as distinct species until a more thorough study is done. The single slide in the USNM labelled "type" contains two specimens, which should be considered syntypes.

***Maerkelotritia cryptopa* (Banks, 1904)** new comb.

Syntypes: MCZ, USNM

Comb./Syn.: *Phthiracarus cryptopus* Banks, 1904 (53, p. 367)

Distribution: *USA*: Calif. - Banks 53 (367);- Ewing 169 (388).

Description: *Adult*: Banks 53 (367) fig.

***Maerkelotritia gibbera* (Walker, 1965)**

Type: USNM; Paratypes: BM(NH), CIS, CNC, MCZ, NMNH, UKC, USNM

Comb./Syn.: *Oribotritia gibbera* Walker, 1965 (787, p 46)

Maerkelotritia gibbera (Walker, 1965) (993, p. 726)

Protoribotritia gibbera (Walker, 1965) (313, p. 252)

Distribution: *USA*: Calif. - Walker 787 (46).

Description: *Adult*: Walker 787 (46), fig.

Prelarva: Walker 787 (46) photo.

Egg: Walker 787 (46) photo.

Key: Walker 787 (46); Märkel 993 (726).

Ecology: Walker 787 (46).

***Maerkelotritia maximus* (Ewing, 1913)** new comb.

Type: USNM; Paratype: OSU

Comb./Syn.: *Phthiracarus maximus* Ewing, 1913 (177, p. 135)

Distribution: *USA*: Oreg. - Ewing 177 (135); 180 (88).

Description: *Adult*: Ewing 177 (135) fig.

Ecology: Ewing 177 (135); 180 (88).

***Maerkelotritia sellnicki* (Walker, 196S)**

Type: USNM; Paratypes: BM(NH) CIS, CNC, MCZ, NMNH, UKC, USNM

Comb./Syn.: *Oribotritia sellnicki* Walker, 1965 (787, p. 49)

Maerkelotritia sellnicki (Walker, 1965) (993, p. 726)

Protoribotritia sellnicki (Walker, 1965) (313, p. 252)

Distribution: *USA*: Calif. - Walker 787 (49).

Description: *Adult*: Walker 787 (49), fig.

Larva: Walker 787 (49).

Prelarva: Walker 787 (49) photo.

Egg: Walker 787 (49) photo.

Taxonomy: Balogh and Mahunka 1119 (171).

Key: Walker 787 (49); Märkel 993 (726); Aoki 957 (79).

Ecology: Walker 787 (49).

Remarks: See comments under *Maerkelotritia alaskensis* Hammer, 1967.

nr. ***Maerkelotritia* sp.**

Distribution: *Canada*: Nfld. - Behan 73 (388).

Mesotritia Forsslund, 1963

Mesotritia Forsslund, 1963

Type-species: *Mesotritia testacea* Forsslund, 1963 (1204 p. 289; 546, p. 38).

Mesotritia brachythrix (Walker, 1965)

Type: USNM; Paratypes: BM(NH), CIS, CNC, MCZ, NMNH, UKC, USNM.
Comb./Syn.: *Oribotritia brachythrix* Walker, 1965 (787, p. 52)

Mesotritia brachythrix (Walker, 1965) (313, p. 252)

Distribution: *USA*: Calif. - Walker 787 (52).

Description: *Adult*: Walker 787 (52), fig.; Grandjean 313 (256) chaet.

Prelarva: Walker 787 (52) photo.

Egg: Walker 787 (52) photo.

Key: Walker 787 (52); Aoki 957 (72).

Mesotritia (Entomotritia) flagelliformis (Ewing, 1909) new comb.

Syntype: USNM
Comb./Syn.: *Phthiracarus flagelliformis* Ewing, 1909 (169, p. 377)
Distribution: *USA*: Ill. - Ewing 169 (377).
Description: *Adult*: Ewing 169 (377) fig.
Key: Ewing 169 (377).
Ecology: Ewing 169 (377).

Mesotritia glabrata (Say, 1821)

Type: Unknown
Comb./Syn.: *Oribata glabrata* Say, 1821 (683, p. 73)
Mesotritia glabrata (Say, 1821) (546, p. 45)
Oribotritia glabrata (Say, 1821) (340, p. 258)
Phthiracarus glabratus (Say, 1821) (564, p. 82)
Distribution: *USA*: Banks 63 (102); Fla. - Jacot 430 (258); 461 (49); N.Y. - Ewing 169 (388).
Nearctic: Osborn and Underwood 935 (9).
Description: *Adult*: Say 683 (73); Michael 564 (82); Jacot 430 (258) fig.
Key: Märkel 546 (45).
Ecology: Banks 63 (102); Jacot 430 (258).

Mesotritia virginiensis (Jacot, 1930) new comb.

Type: MCZ

Comb./Syn.: *Oribotritia virginiensis* Jacot, 1930 (426, p. 257)
Distribution: *USA*: N.C. - Jacot 464 (198); Va. - Jacot 426 (257); Sengbusch 719 (133).
Description: *Adult*: Jacot 426 (257) fig.; 464 (198).
Ecology: Sengbusch 719 (133).

***Oribotritia* Jacot, 1924**

Oribotritia Jacot, 1924 (=*Tritia* Berlese, 1883, preoccupied name)
Type-species: *Hoplophora decumana* Auct. non C.L. Koch, 1836 (=*Phthiracarus berlesei* Michael, 1898) (1067, p. 83; 77, Vol. 6(1); 546, p. 18).

Plesiotritia Walker, 1965
Type-species: *Plesiotritia megale* Walker, 1965 (787, p. 41: 313, p. 252).

***Oribotritia banksi* (Oudemans, 1916)**

Type: MCZ (Cotypes) (see remarks)
Comb./Syn.: *Tritia banksi* Oudemans, 1916 (640, p. 247)
Oribotritia banksi (Oudemans, 1916) (426, p. 254)
Tritia glabrata sensu Banks, 1895 (45, p. 16): (426. p. 254)
Phthiracarus contractilis sensu Hall, 1912 (334, p. 751): (426, p. 256); non Perty, 1841
Distribution: *USA*: Conn. - Hall 334 (751) [mi.]; N.Y. - Jacot 426 (254); Va. - Jacot 426 (254).
Description: *Adult*: Hall 334 (751) [mi.] fig.; Oudemans 640 (247); Jacot 426 (254) fig.
Ecology: Hall 334 (751) [mi.]; Jacot 426 (254).
Remarks: Hall (334, p. 751) is sub *Phthiracarus contractilis*. Bank's original specimens from Sea Cliff, N.Y., on which Oudemans based *Tritia banksi* (640, p. 247), were mounted and labeled "cotypes" by A.P. Jacot.

***Oribotritia magna* (Ewing, 1907)** new comb.

Syntype: USNM
Comb./Syn.: *Phthiracarus magnus* Ewing, 1907 (164, p. 114)
Distribution: *USA*: Ind. - Ewing 164 (114); 169 (388).
Description: *Adult*: Ewing 164 (114) fig.
Ecology: Ewing 164 (114); 169 (388).

***Oribotritia megale* (Walker, 1965)**

Type: USNM; Paratypes: BM(NH), CIS, CNC, MCZ, NMNH, UKC, USNM **Comb./Syn.:** *Plesiotritia megale* Walker, 1965 (787, p. 41)
Oribotritia megale (Walker, 1965) (313, p. 252)

Distribution: *USA*: Calif. - Walker 787 (41, 96).
Description: *Adult*: Walker 787 (41, 96), fig.
Tritonymph: Walker 787 (41, 96).
Deutonymph: Walker 787 (41, 96).
Protonymph: Walker 787 (41, 96) fig.
Larva: Walker 787 (41, 96) fig.
Prelarva: Walker 787 (41, 96) photo.
Egg: Walker 787 (41, 96) photo.
Add. References: Hammen 344 (31).
Biology: Walker 787 (41, 96).
Ecology: Walker 787 (41, 96).

Oribotritia sp.

Distribution: *USA*: N.Y. - Reeves 673 (27).
Morphology: Woodring 1111 (422).

Protoribotritia Jacot, 1938

Protoribotritia Jacot, 1938

Type-species: *Protoribotritia canadaris* Jacot, 1938 (459, p. 114)

Protoribotritia canadaris Jacot, 1938

Type: MCZ (not confirmed)

Comb./Syn.: *Protoribotritia canadaris* Jacot, 1938 (459, p. 115)

Distribution: *USA*: Conn. - Jacot 459 (115); N.Y. - Jacot 459 (115).

Description: *Adult*: Jacot 459 (115) fig.

Protoribotritia sp.

Distribution: *Canada*: Que. - Behan 72 (39); Behan et al. 76 (263).

EUPHTHIRACARIDAE JACOT, 1930

Euphthiracarus Ewing, 1917

Euphthiracarus Ewing, 1917

Type-species: *Phthiracarus flavus* Ewing, 1908 (179, p. 132). *Pseudotritia* Willmann, 1919

Type-species: *Pseudotritia monodactyla* Willmann, 1919 (822, p. 552: 546, p. 55).

***Euphthiracarus alazon* Walker, 1965**

Type: USNM; Paratypes: BM(NH), CIS, NMNH, USNM

Comb./Syn.: *Euphthiracarus alazon* Walker 1965 (787, p. 63)

Distribution: *USA*: Calif. - Walker 787 (63).

Description: *Adult*: Walker 787 (63), fig.

Prelarva: Walker 787 (63) photo.

Egg: Walker 787 (63) photo.; Grandjean 313 (248).

Key: Walker 787 (63).

Ecology: Walker 787 (63).

***Euphthiracarus cernuus* Walker, 1965**

Type: USNM; Paratypes: BM(NH), CIS, CNC, MCZ, NMNH, UKC, USNM **Comb./Syn.:**

Euphthiracarus cernuus Walker, 1965 (787, p. 71)

Distribution: *USA*: Calif. - Walker 787 (71).

Description: *Adult*: Walker 787 (71), fig.

Larva: Walker 787 (71).

Egg: Walker 787 (71).

Key: Walker 787 (71).

Ecology: Walker 787 (71).

***Euphthiracarus crassisetae* Jacot, 1938**

Type: MCZ (Cotype)

Comb./Syn.: *Euphthiracarus crassisetae* Jacot, 1938 (459, p. 122)

Distribution: *USA*: N.Y. - Jacot 459 (122).

Description: *Adult*: Jacot 459 (122).

Key: Jacot 459 (1223.

Ecology: Jacot 459 (122).

***Euphthiracarus cribrarius* (Berlese, 1904)**

Type: Unknown

Comb./Syn.: *Phthiracarus [!] cribrarius* Berlese, 1904 (81, p. 23)

Euphthiracarus cribranus (Berlese, 1904) (446, p. 162)

Oribotritia cribraria (Berlese, 1904) (829, p. 194)

Pscudotritia cribraria (Berlese, 1904) (774, p. 79)
Tritia cribraria (Berlese, 1904) (712, p. 37)
Phthiracarus punctulatus Berlese, 1913 (88, p. 102): (96, p. 391). **Type:** Unknown (340, p. 37)
Pseudotritia punctulata (Berlese, 1913) (96, p. 391)
Add. Comb./Syn. Ref.: Hammen 340 (39); Moritz 571 (l56); Märkel 546 (67).
Distribution: *USA*: Va. - Sengbusch 719 (133).
Palearctic: Berlese 81 (23) [!]; Willmann 829 (194); Jacot 446 (162); Travé 774 (79); Märkel 543 (486); Hammen 340 (39); Kunst 503 (39); Rajski 668 (22); Moritz 571 (156); Travé 777 (229); Byzova 125 (185); Märkel 546 (67); Sellnick 712 (37); Bernini 96 (391); Rajski 669 (233); Kurcheva 504 (96); Gilyarov 207 (377).
Description: *Adult*: Berlese 81 (23) [!]; Willmann 829 (194) fig.; Märkel 543 (486) fig.; Grandjean 308 (531) chaet.; Märkel 546 (67) fig.; Grandjean 313 (250) fig.; Sellnick 712 (37) fig.; Bernini 96 (391) fig.; Balogh 42 (pl. 3 fig. 6, pl.64 fig. 16); Gilyarov 207 (377) fig.; Balogh and Mahunka 1119 (pl. 106 fig. A-F).
Key: Willmann 829 (194); Sellnick 712 (37); Gilyarov 207 (377); Balogh and Mahunka 1119 (l76).
Add. References: Willmann 829 (194); Hammen 340 (39); Bernini 96 (391); Luxton 531 (461); Hammen 344 (18).
Morphology: Grandjean 313 (250).
Foods: Luxton 531 (461).
Ecology: Willmann 829 (194); Jacot 446 (162); Travé 774 (79); Sengbusch 719 (l33); Märkel 543 (486); Hammen 340 (39); Kunst 503 (39); Rajski 668 (22); Moritz 571 (156); Travé 777 (229); Byzova 125 (185); Bernini 96 (391); Rajski 669 (233); Kurcheva 504 (96); Wallwork 950 (343).
Remarks: We consider the *USA* record as doubtful, in light of the diversity of the genus in North America and the absence of Holarctic distribution in any other known species of *Euphthiracarus*.

***Euphthiracarus depressculus* Jacot, 1924**

Type: MCZ (Cotypes)
Comb./Syn.: *Euphthiracarus depressculus* Jacot, 1924 (416, p. 90)
Distribution: *USA*: Conn. - Jacot 459 (120); N.Y. - Jacot 416 (90); 426 (252); 459 (120).
Description: *Adult*: Jacot 416 (90) fig.; 426 (252); 459 (120).
Key: Jacot 426 (252); 459 (120).
Ecology: Jacot 416 (90); 459 (120).

***Euphthiracarus flavus* (Ewing, 1908)**

Type: USNM
Comb./Syn.: *Phthiracarus flavus* Ewing, 1908 (167, p. 450)
Euphthiracarus flavus (Ewing, 1908) (179, p. 132)

Distribution: *USA*: Ill. - Ewing 167 (450); 169 (388); Jacot 426 (249); Marshall 548 (73); N.Y. - Jacot 416 (94); 426 (249); Marshall 548 (73).
Canada: Que. - Marshall 548 (73).
Description: *Adult*: Ewing 167 (450) fig.; 179 (132) fig.; Jacot 416 (94) fig.; 426 (249) fig.
Key: Jacot 426 (249).
Foods: Woodring 845 (103).
Ecology: Ewing 167 (450); 169 (388); Jacot 416 (94); Marshall 548 (73).

***Euphthiracarus fulvus* (Ewing, 1909)** new comb.

Type: USNM
Comb./Syn.: *Phthiracarus fulvus* Ewing, 1909 (170, p. 133)
Distribution: *USA*: Ill. - Ewing 170 (133).
Description: *Adult*: Ewing 170 (133) fig.
Ecology: Ewing 170 (133).

***Euphthiracarus humeralis* Norton and Metz, 1977**

Type: MCZ; Paratypes: CNC, FMNH, HNHM, USNM
Comb./Syn.: *Euphthiracarus humeralis* Norton and Metz, 1977 (616, p. 52).
Distribution: *USA*: N.C. - Norton and Metz 616 (52).
Description: *Adult*: Norton and Metz 616 (52) chaet., fig.
Ecology: Norton and Metz 616 (52).

***Euphthiracarus longirostralis* Walker, 1965**

Type: USNM; Paratypes: BM(NH), CIS, CNC, MCZ, NMNH, UKC, USNM
Comb./Syn.: *Euphthiracarus longirostralis* Walker, 1965 (787, p. 57)
Distribution: *USA*: Calif. - Walker 787 (57).
Description: *Adult*: Walker 787 (57), fig. *Egg*: Walker 787 (57).
Key: Walker 787 (57).
Ecology: Walker 787 (57).

***Euphthiracarus monyx* Walker, 1965**

Type: USNM; Paratypes: BM(NH), CIS, NMNH, USNM
Comb./Syn.: *Euphthiracarus monyx* Walker, 1965 (787, p. 75)
Distribution: *USA*: Calif. - Walker 787 (75).
Description: *Adult*: Walker 787 (75), fig.
Egg: Walker 787 (75).
Key: Walker 787 (75S).
Ecology: Walker 787 (75).

Euphthiracarus polytretos Walker, 1965

Type: USNM; Paratypes: BM(NH), CIS, CNC, MCZ, NMNH, UKC, USNM

Comb./Syn.: *Euphthiracarus polytretos* Walker, 1965 (787, p. 60)

Distribution: *USA*: Calif. - Walker 787 (60).

Description: *Adult*: Walker 787 (60), fig.

Egg: Walker 787 (60).

Key: Walker 787 (60).

Ecology: Walker 787 (60).

Euphthiracarus pulchrus Jacot, 1930

Type: MCZ (Cotypes)

Comb./Syn.: *Euphthiracarus flavum pulchrum* Jacot, 1930 (426, p. 250)

Euphthiracarus pulchrum Jacot, 1930 (464, p. 198)

Distribution: *USA*: Conn. - Jacot 426 (250); 459 (122).

Description: *Adult*: Jacot 426 (250) fig.

Taxonomy: Jacot 464 (198),.
Key: Jacot 426 (250).
Ecology: Jacot 426 (250); 459 (122).

Euphthiracarus pulchrus pisgahi Jacot, 1939

Type: USNM (Cotype)
Comb./Syn.: *Euphthiracarus pulchrus pisgahi* Jacot, 1939 (464 p. 198)
Distribution: *USA*: N.C. - Jacot 464 (198).
Description: *Adult*: Jacot 464 (198).
Ecology: Jacot 464 (198).

Euphthiracarus punctulatus Jacot, 1930

Type: MCZ (Cotypes)
Comb./Syn.: *Euphthracarus punctulatus* Jacot, 1930 (426, p. 250)
Distribution: *USA*: Conn. - Jacot 426 (250); 459 (121); Maine - Jacot 426 (250); N.Y. - Jacot 426 (250); 459 (121).
Description: *Adult*: Jacot 426 (250) fig.; 459 (121).
Key: Jacot 426 (25(1); 459 (121).
Ecology: Jacot 426 (250); 459 (121).

Euphthiracarus tanythrix tanythrix Walker, 1965

Type: USNM; Paratypes: BM(NH), CIS, CNC, MCZ, NMNH, UKC, USNM
Comb./Syn.: *Euphthiracarus tanythrix tanythrix* Walker, 1965 (787, p. 66)
Distribution: *USA*: Calif. - Walker 787 (66).
Description: *Adult*: Walker 787 (66), fig.
Egg: Walker 787 (66).
Key: Walker 787 (66).
Ecology: Walker 787 (66).

Euphthiracarus tanythrix sierriensis Walker, 1965

Type: USNM; Paratypes: BM(NH), CIS, CNC, MCZ, NMNH, UKC, USNM
Comb./Syn.: *Euphthiracarus tanythrix sierriensis* Walker, 1965 (787, p. 69)
Distribution: *USA*: Calif. - Walker 787 (69).
Description: *Adult*: Walker 787 (69), fig.
Egg: Walker 787 (69).
Key: Walker 787 (69).
Ecology: Walker 787 (69).

Euphthiracarus sp.

Distribution: *USA*: Alaska - Hammer 354 (26); Mich. - Wallwork 789 (262).
Canada: Man. - Oswald and Minty 620 (81).
Foods: Wallwork 789 (262).
Remarks: Hammer (354, p. 26) and Wallwork (789, p. 262) are sub *Pseudotritia*.

Microtritia Märkel, 1964

Microtritia Märkel, 1964
Type-species: *Phthiracarus minimus* Berlese, 1904 (546, p. 45).

Microtritia minima (Berlese, 1904)

Syntypes: SEA
Comb./Syn.: *Phthiracarus minimus* Berlese, 1904 (81, p. 22)

Microtritia minima (Berlese, 1904) (544, p. 326) (see remarks)

Pseudotritia minima (Berlese, 1904) (829, p. 195)

Rhysotritia minima (Berlese, 1904) (668, p. 24)

Tritia (Pseudotritia) minuta Willmann 1919 (822, p. 552): (340, p. 37) **Type:** WHPC

Add. Comb./Syn. Ref.: Hammen 338 (126); Märkel 546 (46); Moritz 572 (71); Marshall 548 (73).

Distribution: *USA*: N.Y. - Reeves 673 (27); Va. - Sengbusch 719 (133).

Canada: Que. - Marshall 548 (73).

Palearctic: Berlese 81 (22); Willmann 829 (195); Hammen 338 (126); Travé 774 (79); Märkel 543 (488); Rajski 668 (24); Davis 148 (70); Marke1 544 (326); Travé 777 (229); Byzova 125 (185); Märkel 545 (170); 546 (46); Lebrun 507 (103); Moritz 572 (71); Marshall 548 (73); Sellnick 712 (43); Rajski 669 (233); Rubcova 681 (387); Gilyarov 207 (375); Luxton 532 (184).

Description: *Adult*: Berlese 81 (22); Willmann 829 (195) fig.; Märkel 543 (488) fig.; 546 (46) fig.; Sellnick 712 (43) fig.; Gilyarov 207 (375) fig.; Balogh and Mahunka 1119 (pl. 108 fig. D-F).

Key: Willmann 829 (195); Märkel 543 (488); 546 (46); Sellnick 712 (43); Gilyarov 207 (375); Balogh and Mahunka 1119 (179).

Add. References: Willmann 829 (195); Hammen 338 (126); 340 (37); 344 (24, 32).

Miscellaneous: Purrini 1007 (305) parasit.

Ecology: Berlese 81 (22); Willmann 829 (195); Hammen 338 (126); Travé 774 (79); Sengbusch 719 (133); Märkel 543 (488); Rajski 668 (24); Davis 148 (70); Märkel 544 (326); Travé 777 (229); Byzova 125 (185); Märkel 545 (170); Lebrun 507 (103); Moritz 572 (71); Marshall 548 (73); Reeves 673 (27); Rajski 669 (233); Rubcova 681 (387); Luxton 532 (184); Wallwork 950 (351).

Remarks: The combination *Microtritia minima* appeared (544, p. 326, nomen nudum) before the generic description was published (546, p. 46).

***Microtritia paeneminima* (Walker, 1965)**

Type: USNM; Paratypes: BM(NH), CIS, CNC, MCZ, NMNH, UKC, USNM

Comb./Syn.: *Rhysotritia paeneminima* Walker, 1965 (787, p. 82)
Microtritia paeneminima (Walker, 1965) (993, p. 728)

Distribution: *USA*: Calif. - Walker 787 (82); Walter and Norton 1179 (tab. 1).

Description: *Adult*: Walker 787 (82), fig.

Taxonomy: Grandjean 313 (246).

Key: Walker 787 (82); Märkel 993 (728).

Ecology: Walker 787 (82); Walter and Norton 1179 (tab. 1).

***Microtritia simplex* (Jacot, 1930)** new comb.

Type: Lost

Comb./Syn.: *Pseudotritia simplex* Jacot, 1930 (426, p. 248)
Rhysotritia simplex (Jacot, 1930) (1077, p. 42)

Distribution: *USA*: Conn. - Jacot 426 (248); 459 (118); Maine - Jacot 426 (248); N.Y. - Jacot 459 (118).
Description: *Adult*: Jacot 426 (248) fig.; 459 (118).
Egg: Jacot 459 (118).
Taxonomy: Lions 1077 (42).
Ecology: Jacot 426 (248); 459 (118).

Rhysotritia Märkel and Meyer, 1959

Rhysotritia Märkel and Meyer, 1959
Type-species: *Hoplophora ardua* Koch, 1841 (1080, p. 329).

Acrotritia Jacot, 1923 new syn.
Type-species: *Phthiracarus americanus* Ewing, 1909 (413, p. 162).
Remarks: Jacot 1923 proposed the genus *Acrotritia* with *Phthiracarus americanus* Ewing, 1909 as type-species. This genus is now difficult to place (see 546, p. 7). Jacot (426, p. 213) first considered *Phthiracarus americanus* a *Euphthiracarus*, however, he later studied specimens (in the Cornell University collection) identified by Ewing as *P. americanus* and found them to be *Rhysotritia ardua* C.L. Koch, 1841 (459, p. 117). These specimens, along with another determined by Ewing (in the USNM), have been confirmed as *R. ardua* (RAN). It, therefore, appears that *Acrotritia* Jacot, 1923 is a synonym of *Rhysotritia* Märkel and Meyer, 1959 and not of *Euphthiracarus* Ewing, 1917 as indicated by Balogh (42, p. 178).

Rhysotritia ardua (C.L. Koch, 1841)

Type: Unknown
Comb./Syn.: *Hoplophora ardua* C.L. Koch, 1841 (485, vol. 32 (15)); non Michael, 1888 (829, p. 194)
Oribotritia ardua (C.L. Koch, 1841) (700, p. 39)
Phthiracarus arduus (C.L. Koch, 1841) (626, p. 150)
Pseudotritia ardua (C.L. Koch, 1841) (426, p. 254)
Rhysotritia ardua (C.L. Koch, 1841) (668, p. 24)
Tritia ardua (C.L. Koch, 1841) (697, p. 12)
Noplophora arctata Riley, 1874 (675, p. 53): (457, p. 656). **Type:** Unknown
Phthiracarus arctatus (Riley, 1874) (169, p. 388)
Phthiracarus canestrinii Michael, 1898 (564, p. 81): (340, p. 36). **Type:** Unknown.
Phthiracarus americanus Ewing, 1909 (169, p. 378): (459, p. 117) **Type:** Not designated ("Auto-type" in USNM)
Acrotritia americanus (Ewing, 1909) (413, p. 162)
Euphthiracarus americanum (Ewing, 1909) (426, p. 213)

Phthiracarus pectinatus Ewing, 1917 (178, p. 165): (426, p. 243). **Type:** USNM
Acrotritia sinensis Jacot, 1923 (414, p. 178) new syn. **Type:** MCZ; Paratypes: USNM
Pseudotritia ardua sinensis (Jacot, 1923) (432, p. 256)
Tritia lentula sensu Berlese, 1887 (77, Vol. 36 (3)); non C.L. Koch, 1841 (340, p. 36)
Oribotritia loricata sensu Willmann, 1931 (829, p. 194): (338, p. 126); non Hammer, 1955 (362, p. 8)
Pseudotritia loricata sensu Willmann, 1943 (835, p. 237)
Add. Comb./Syn. Ref.: André 8 (247); Sengbusch 717 (155); Sellnick 708 (148); 709 (127); Moritz 571 (157); Märkel 546 (59); Marshall 548 (73); Bernini 101 (375); Subìas 755 (89).
Distribution: *USA*: Hammer 365 (66) [Q.I.]; Alaska - Behan 73 (388); Conn. - Jacot 459 (116); Fla. - Ewing 169 (388); Jacot 430 (255, 256); 461 (49); Ill. - Ewing 169 (378); 178 (165); Jacot 426 (243); Ky.- Wallwork and Rodriguez 806 (703); Ibarra et al. 412 (155); Maine - Jacot 426 (243); Md. - Krull 1211 (522); Mich. - Wallwork 788 (173); Mo. - Ewing 169 (388); Jacot 459 (116); N.Y. - Ewing 169 (388); Jacot 426 (243); 459 (116); Sengbusch 717 (155); Reeves 673 (27); Norton and MacNamara 615 (91); Tenn. - Crossley and Bohnsack 142 (632); Va. - Jacot 426 (243); Sengbusch 719 (133).
Canada: Sellnick 708 (148); Man. - Hammer 350 (65); Oswald and Minty 620 (81); 621 (75); Nfld. - Behan 73 (388); N.W.T. - Hammer 350 (65).
Palearctic: Michael 564 (81); Jacot 414 (178); André 8 (247); Jacot 426 (243); Willmann 829 (194) [mi.]; Jacot 446 (184); Willmann 835 (237); Weis-Fogh 817 (206); Hammen 338 (126); Travé 774 (79); Märkel 543 (486); Sellnick 708 (148); 709 (127); Rajski 668 (24); Tarras-Wahlberg 765 (31); Davis 148 (70); Hayes 384 (243) [mi.]; Moritz 571 (157); Travé 777 (229); Berthet 107 (29); Märkel 546 (59); Wafa et al. 785 (183); Aoki 12 (1); Hayes 385 (253) [mi.]; Lebrun 506 (27); 507 (103); Moritz 572 (71); Hammer 360 (275); Hayes 386 (282); Lions 519 (506); 521 (273); Marshall 548 (73); Sellnick 712 (36); Aoki 17 (119); Hammer 365 (66); Aoki 18 (398); Bernini 96 (421); 98 (393); Hammer 370 (423); Grishina 323 (83); Rubcova 681 (387); Gilyarov 207 (375); Hammer 372 (189); Luxton 532 (184); Nakamura 582 (250) [!]; Subìas 755 (89); Tadros et al. 760 (522) [!]; Paik 938 (231); Aoki and Kuriki 958 (231).
Oriental: Prasad 664 (18).
Australian: Sellnick 708 (148); Aoki 18 (398).
Subantarctic: Travé 1025 (527).
Description: *Adult*: Koch 485 (Vol.32(15)); Michael 564 (81); Ewing 169 (378) fig.; 178 (165) fig.; Jacot 414 (1 78) fig.; 426 (243) fig.; Willmann 829 (194) [mi.] fig.; Jacot 429 (18) fig.; Grandjean 217 (32) chaet.; 219 (310) fig.; Jacot 430 (255, 256); Grandjean 226 (36a) chaet.; 229 (511) chaet.; 230 (14) chaet.; Jacot 459 (116) fig.; Grandjean 235 (111) fig.; 242 (337) fig.; 244 (34) chaet.; 247 (41) chaet., fig. app.; 265 (207) chaet.; Baker and Wharton 36 (436) fig.; Hammer 350 (65) fig.; Märkel 543 (486) fig.; Grandjean 307 (180) chaet.; 308 (531) chaet.; Märkel 546 (59) fig.; Aoki 16 (776); Lions 521 (273); Sellnick 712 (36) fig.; Gilyarov 207 (375) fig.; Balogh and Mahunka (pl. 107 fig. E-G).
Tritonymph: Grandjean 247 (41) fig. app.
Prelarva: Aoki 16 (776) fig.; Lions 521 (273) fig.
Taxonomy: Jacot 413 (162).

Key: Michael 564 (81); Ewing 169 (378); Märkel 543 (486); Sellnick 709 (127); 712 (36); Gilyarov 207 (375); Balogh and Mahunka 1119 (178).
Add. References: Osborn and Underwood 935 (10); Jacot 430 (255); 448 (31); Sengbusch 717 (155); Hammen 338 (126); 340 (36); Rajski 668 (24); Marshall 548 (73); Luxton 531 (461); Bernini 101 (375); Subìas 755 (85).
Morphology: Grandjean 235 (111).
Biology: Aoki 16 (776); Luxton 988 (330).
Foods: Hartenstein 376 (203); Hayes 384 (243) [mi.]; Luxton 531 (461); Tadros 1023 (601).
Miscellaneous: Purrini et al. 1008 (332) parasit.
Ecology: Michael 564 (81); Ewing 169 (378); André 8 (247); Jacot 426 (243); Willmann 829 (194) [mi.]; Jacot 430 (255, 256); 446 (184); 459 (116); Krull 1211 (522); Willmann 835 (237); Weis-Fogh 817 (206); Sengbusch 717 (155); Hammen 338 (126); Hammer 350 (65); Travé 774 (79); Sengbusch 719 (133); Wallwork 788 (1 73); Märkel 543 (486); Crossley and Bohnsack 142 (632); Sellnick 709 (127); Rajski 668 (24); Tarras-Wahlberg 765 (31); Wallwork and Rodriguez 806 (703); Davis 148 (70); Moritz 571 (157); Travé 777 (229); Berthet 107 (29); Wafa et al. 785 (183); Aoki 12 (1); Hayes 385 (253) [mi.]; Ibarra et al. 412 (155); Lebrun 506 (27); 507 (103); Moritz 572 (71); Hammer 360 (275); Hayes 386 (282); Lions 519 (506); Marshall 548 (73); Aoki 17 (119); Hammer 365 (66); Reeves 673 (27); Aoki 18 (398); Bernini 96 (421); Oswald and Minty 620 (81); Rajski 669 (240); Bernini 98 (393); Oswald and Minty 621 (75); Hammer 370 (423); Bernini 101 (375); Grisina 323 (83); Rubcova 681 (387); Prasad 664 (18); Hammer 372 (189); Luxton 532 (184); Nakamura 582 (250) [!]; Wallwork 950 (351); Hammer 373 (13); Subìas 755 (89); Tadros et al. 760 (522) [!]; Behan 73 (388); Paik 938 (231); Aoki and Kuriki 958 (231).
Remarks: Willmann (829, p. 194) and Hayes (384, p. 243; 385, p. 253) are sub *Oribotritia loricata*. Authors do not agree about the synonymy of *Trombidium loricatum* Rathke, 1799 (671, p. 191-200) and *Rhysotritia ardua* (C.L. Koch, 1841). We regard Rathke's *T. loricatum* as a nomen inquiredum, but we have included here papers in which *loricatum* is referable to *Rhysotritia ardua*.

***Rhysotritia curticephala* (Jacot, 1938)** new comb. and status

Type: MCZ (Cotypes)
Comb./Syn.: *Pseudotritia ardua curticephala* Jacot, 1938 (459, p. 118)
Distribution: *USA*: Conn. - Jacot 459 (118); N.Y. - Jacot 459 (118).
Description: *Adult*: Jacot 459 (118).
Ecology: Jacot 459 (118).

***Rhysotritia scotti* Walker, 1965**

Type: USNM; Paratypes: BM(NH), CIS, CNC, MCZ, NMNH, UKC, USNM
Comb./Syn.: *Rhysotritia scotti* Walker, 1965 (787, p. 79)
Distribution: *USA*: Calif. - Walker 787 (79).

Description: *Adult*: Walker 787 (79) , fig.
Taxonomy: Grandjean 313 (246).
Key: Walker 787 (79).
Ecology: Walker 787 (79).

***Rhysotritia* sp.**

Distribution: *Canada*: Que. - Behan 72 (39); Behan et al. 76 (263).

SYNICHOTRITIIDAE WALKER, 1965

***Synichotritia* Walker, 1965**

Synichotritia Walker, 1965
Type-species: *Synichotritia caroli* Walker, 1965 (787, p. 89).

***Synichotritia caroli* Walker, 1965**

Type: USNM; **Paratypes:** BM(NH), CIS, CNC, MCZ, NMNH, UKC, USNM **Comb./Syn.:** *Synichotritia caroli* Walker, 1965 (787, p. 89)
Distribution: *USA*: Calif. - Walker 787 (89).
Description: *Adult*: Walker787 (89) , fig.; Grandjean 313 (253) chaet.; Balogh 42 (pl. 3 fig. 8, pl. 64 fig. 5).
Egg: Walker 787 (89).
Key: Walker 787 (89).
Ecology: Walker 787 (89).

***Synichotritia spinulosa* Walker, 1965**

Type: USNM
Paratypes: BM(NH), CIS, NMNH, USNM
Comb./Syn.: *Synichotritia spinulosa* Walker, 1965 (787, p. 93)
Distribution: *USA*: Calif. - Walker 787 (93).
Description: *Adult*: Walker 787 (93) , fig.
Egg: Walker 787 (93).
Key: Walker 787 (93).
Ecology: Walker 787 (93).

LOHMANNIOIDEA Berlese, 1916

Remarks: Lee (1213, p. 245) has removed the Lohmannioidea from the Mixonomata (his cohort Mixosomatina) and placed it in the cohort Afissurina, closer to what we here consider Palaeosomata and Enarthronota.

LOHMANNIDAE **Berlese, 1916**

Lohmannia **Michael, 1898**

Lohmannia Michael, 1898 (=*Michaelia* Haller, 1884, preoccupied name) **Type-species**: *Michaelia paradoxa* Haller, 1884 (336, p. 234; 564, p. 75).

Lohmannia banksi **Norton, Metz and Sharma, 1978**

Type: MCZ;
Paratypes: CNC, FMNH, HNHM, USNM
Comb./Syn.: *Lohmannia banksi* Norton, Metz and Sharma, 1978 (617, p. 18)
Distribution: *USA*: N.C. - Nortonm et al. 617 (18); McDaniel et al. 925 (628); Tex. McDaniel et al. 925 (628).
Description: *Adult*: Norton et al. 617 (18) chaet., fig.
Tritonymph: Norton et al. 617 (18).
Deutonymph: Norton et al. 617 (18).
Protonymph: Norton et al. 617 (18).
Larva: Norton et al. 617 (18) fig.
Ecology: Norton et al. 617 (18); McDaniel et al. 925 (628).

Lohmannia (Carolohmannia) carolensis **Norton, Metz and Sharma, 1978**

Type: MCZ;
Paratypes: CNC, FMNH, HNHM, USNM
Comb./Syn.: *Lohmannia (Carolohmannia) carolensis* Norton, Metz and Sharma, 1978 (617, p. 21)
Distribution: *USA*: S.C. - Norton et al. 617 (21).
Description: *Adult*: Norton et al. 617 (21) chaet., fig.
Tritonymph: Norton et al. 617 (21) fig.
Deutonymph: Norton et al. 617 (21) fig.
Protonymph: Norton et al. 617 (21) fig.
Taxonomy: Norton et al. 617 (21).
Ecology: Norton et al. 617 (21).

Lohmannia texana **(Banks, 1910)**

Type: MCZ

Comb./Syn.: *Hypochthonius texanus* Banks, 1910 (61, p.11)

Lohmannia taxana (Banks, 1910) (469, p. 52)

Distribution: *USA*: Tex. - Banks 61 (11); 63 (102); Grandjean 268 (96).

Description: *Adult*: Banks 61 (11) fig.; 63 (102) fig.

Ecology: Banks 61 (11); 63 (102).

***Lohmannia* sp.**

Distribution: *USA*: La. - Woodring 1111 (422); Tenn. - Crossley and Bohnsack 142 (631).

Morphology: Woodring 1111 (422).

***Mixacarus* Balogh, 1958**

Mixacarus Balogh, 1958

Type-species: *Mixacarus integrus* Balogh, 1958 (38, p. 4).

***Mixacarus brevipes* (Banks, 1947)**

Type: MCZ

Comb./Syn.: *Lohmannia brevipes* Banks 1947 (66, p. 128)

Mixacarus brevipes (Banks 1947) (617, p. 16)

Distribution: *USA*: N.C. - Banks 66 (128); Norton et al. 617 (16); S.C. - Norton et al. 617 (16).

Description: *Adult*: Banks 66 (128) fig.; Norton et al. 617 (16) chaet., fig.

Tritonymph: Norton et al. 617 (16).

Deutonymph: Norton et al. 617 (16).

Protonymph: Norton et al. 617 (16).

Larva: Norton et al. 617 (16).

Ecology: Banlcs 66 (128); Norton et al. 617 (16).

Nesiacarus **Csiszar, 1961**

Nesiacarus Csiszar, 1961

Type-species: *Nesiacarus reticulatus* Csiszar, 1961 (1202, p. 346).

***Nesiacarus* sp.**

Distribution: *USA*: Tex. - Norton (RAN unpub.).

***Pseudocryptacarus* McDaniel, Norton and Bolen, 1979**

Pseudocryptacarus McDaniel, Norton and Bolen, 1979
Type-species: *Pseudocryptacarus graminosus* McDaniel, Norton and Bolen, 1979 (925, p. 621).

***Pseudocryptacarus graminosus* McDaniel, Norton and Bolen, 1979**

Type: MCZ
Comb./Syn.: *Pseudocryptacarus graminosus* McDaniel, Norton and Bolen, 1979 (925, p. 621)
Distribution: *USA*: Tex. - McDaniel et al. 925 (621).
Description: *Adult*: McDaniel et al. 925 (621) chaet., fig.
Ecology: McDaniel et al. 925 (621).

***Torpacarus* Grandjean, 1950**

Torpacarus Grandjean, 1950 (= *Talpacarus* Grandjean, 1939, preoccupied name)
Type-species: *Torpacarus omittens* Grandjean 1950 (977, p. 274; 268, p. 126).

***Torpacarus gramineus* McDaniel, Norton and Bolen, 1979**

Type: MCZ
Comb./Syn.: *Torpacarus gramineus* McDaniel, Norton and Bolen, 1979 (925, p. 626)
Distribution: *USA*: Tex. - McDaniel et al. 925 (626).
Description: *Adult*: McDaniel et al. 925 (626) chaet., fig.
Ecology: McDaniel et al. 925 (626).

EULOHMANNIOIDEA Grandjean, 1931

EULOHMANNIIDAE GRANDJEAN, 1931

***Eulohmannia* Berlese, 1910**

Eulohmannia Berlese, 1910
Type-species: *Lohmannia (Eulohmannia) ribagai* Berlese, 1910 (87, p. 223).
Arthronothrus Trägårdh, 1910
Type-species: *Arthronothrus biunguiculatus* Trägårdh, 1910 (771, p. 554: 90, p. 67).

***Eulohmannia ribagai* (Berlese, 1910)**

Type: SEA
Comb./Syn.: *Lohmannia (Eulohmannia) ribagai* Berlese, 1910 (87, p. 223)
Eulohmannia ribagai (Berlese 1910) (829, p. 95)
Arthronothrus biunguiculatus Trägårdh, 1910 (771, p. 554): (90, p. 67). **Type:** Unknown
Add. Comb./Syn. Ref.: Baker and Wharton 36 (396); Hammen 340 (55); Subìas 755 (91).

Distribution: *USA*: Woolley 864 (277); Marshall 548 (73); Alaska - Hammer 354 (7); Marshall 548 (73); Behan 73 (389).
Canada: Schweizer 691 (221); Man. - Oswald and Minty 621 (75); N.W.T. - Hammer 350 (16); Marshall 548 (73); Ont. - Marshall 549 (422); Que. - Marshall 548 (73).
Palearctic: Berlese 87 (223); Willmann 829 (95); Grandjean 217 (32); Tuxen 779 (333); Willmann 835 (226); Hammer 349 (35); Weis-Fogh 817 (204); Schweizer 691 (221); Travé 774 (78); Schweizer 692 (tab. 7 no. 293); Harnmen 340 (55); Rajski 668 (22); Tarras-Wahlberg 765 (29); Aoki 10 (179); Dalenius 144 (107); 145 (4); Moritz 571 (156); Travé 777 (229); Byzova 124 (291); 125 (185); Lebrun 507 (103); Moritz 572 (70); Schuster 689 (213); Wood 843 (116); Marshall 548 (73); Bernini 96 (422); Rajski 669 (236); Bernini 98 (393); Grishina 323 (82); Gilyarov 207 (68); Luxton 532 (184); Lions 523 (170); Nakamura 582 (250); Hammer 373 (18); Niedbała 604 (60); Subìas 755 (91); Krantz 490 (455); Danks 971 (398).
Description: *Adult*: Berlese 87 (223) fig.; Willmann 829 (95) fig.; Grandjean 217 (32) chaet.; 230 (14) chaet.; 235 (111) fig.; 237 (300) fig.; 244 (46) chaet.; 247 (41) chaet., fig.; 265 (206) chaet.; Baker and-Wharton 36 (396) fig.; Hammer 350 (16) fig.; Grandjean 289 (283) chaet., fig.; Schweizer 691 (221) fig.; Grandjean 307 (180) chaet.; 308 (530) chaet.; Balogh 42 (pl.5 fig. 5-6); Balogh and Mahunka 1119 (pl. 62 fig. E-H).
Key: Willmann 829 (95).
Add. References: Willmann 829 (95); Baker and Wharton 36 (396); Hammen 340 (55); Moritz 571 (156); 572 (70); Schuster 689 (213); Hammen 344 (18); Subìas 755 (91).
Morphology: Grandjean 235 (111); 237 (300); Hammen 1062 (24).
Ecology: Berlese 87 (223); Grandjean 217 (32); Tuxen 779 (333); Weis-Fogh 817 (204); Hammer 350 (16); 354 (7); Schweizer 691 (221); Travé 774 (78); Schweizer 692 (tab. 7 no. 293); Rajski 668 (22); Tarras-Wahlberg 765 (29), Aoki 10 (179) Dalenius 144 (107); 145 (4); Moritz 571 (156); Travé 777 (229); Byzova 124 (291); i25 (185); Lebrun 507 (103); Wood 843 (116); Marshall 548 (73); Bernini 96 (422); Rajski 669 (236); Bernini 98 (393); Oswald and Minty 621 (75); Grishina 323 (82); Luxton 532 (184); Lions 523 (170); Nakamura 582 (250); Wallwork 950 (343); Hammer 373 (18); Niedbała 604 (60); Subìas 755 (91); Behan 73 (389); Krantz 490 (455); Luxton 987 (311).

PERLOHMANNNIOIDEA Grandjean, 1954

PERLOHMANNIIDAE **Grandjean, 1954**

***Perlohmannia* Berlese, 1916**

Perlohmannia Berlese, 1916
Type-species: *Lohmannia insignis* Berlese, 1904 (91, p. 176).
Apolohmannia Aoki, 1960
Type-species: *Apolohmannia gigantea* Aoki, 1960 (1189, p. 507: 1128, p. 220).
Neolohmannia Bulanova-Zachvatkina, 1960
Type-species: *Lohomannia [!] insignis*, Berlese 1904 (1122, p. 1847: 207, p. 69).

Perlohmannia sp nr. coiffaiti Grandjean, 1961

Distribution: *USA*: Alaska - Behan 73 (389).
Canada: N.W.T. - Behan 73 (389); Danks 971 (398).
Foods: Behan and Hill 75 (498).

EPILOHMANNIOIDEA Oudemans, 1923

EPILOHMANNIIDAE **Oudemans, 1923**

***Epilohmannia* Berlese, 1910**

Epilohmannia Berlese, 1910
Type-species: *Lohomannia [!] cylindrica* Berlese, 1904 (81, p. 23).
Lesseria Oudemans, 1917
Type-species: *Lesseria szanisloi* Oudemans, 1917 (642, p. 78: 340, p. 53).

***Epilohmannia cylindrica* (Berlese, 1904)**

Type: SEA
Comb./Syn.: *Lohomannia [!] cylindrica* Berlese, 1904 (81, p. 23)
Epilohmannia cylindrica (Berlese 1904) (217, p. 32)
Lesseria szanisloi Oudemans, 19i7 (642, p. 78): (340, p. 53). **Type:** See remarks.
Epilohmannia szanisloi (Oudernans, 1917) (688 p. 202)

Epilohmannia verrucosa Jscot, 1934 (433, p. 6;: (1039, p. 309). **Type:** BPBM (Cotypes)
Eulohmannia skrjabini Bashkirova, 1958 (1199, p. 204: 207, p. 71). **Type:** Unknown [see rermarks]
Add. Comb./Syn. Ref.: Baker and Wharton 36 (398); Schuster 688 (202); Bernini 101 (375); Gilyarov 207 (71).

Distribution: *USA*: Hammer 365 (67) [Q.I.]; Tenn. - Crossley and Bohnsack 142 (631); Marshall 548 (73).
Canada: Que. - Marshall 548 (73).
Palearctic: Berlese 81 (23); Grandjean 217 (32); Hammen 340 (53); Schuster 688 (197, 202); Aoki 10 (179); Wafa et al. 785 (183); Marshall 548 (73); Hammer 365 (67); Bernini 101 (375); Grishina 323 (82); Gilyarov 207 (71); Tadros 759 (336); Tadros et al. 760 (522).
Oriental: Prasad 664 (I7).
Australian: Aoki 1039 (309).
Ethiopian: Wallwork 797 (354).
Description: *Adult*: Berlese 81 (23) fig.; Grandjean 217 (32) chaet.; 230 (14) chaet.; 232 (91) chaet.; 252 (30(J) chaet.; 250 (64J; 265 (206) chaet.; Baker and Wharton 36 (398) fig.; Schuster 688 (202) fig.; Grandjean 307 (18o chaet.; 308 (530) chaet.; Wallwork 797 (354) fig.; Balogh 42 (pl. 5 fig. 7-8); Aoki 1039 (309) fig.; Bayoumi and Mahunka 69 (12) fig.; Balogh and Mahunka 1119 (pl. 67 fig. A-E).
Tritonymph: Grandjean 250 (64) fig. app.
Larva: Grandjean 250 (64) fig.; Baker and Wharton 36 (398) fig.
Taxonomy: Grandjean 213 (143); Hamrnen 340 (53); Schuster 688 (197).
Key: Gilyarov 207 (77); Bayoumi and Mahunka 69 (10); Balogh and Mahunka 1119 (133); Pérez-Iñigo and Baggio 1217 (187).
Add. References: Hammen 340 (53); Marshall 548 (73); Bernini 101 (375); Hammen 344 (17); 344 (23); Pérez-Iñigo and Baggio 1217 (187).
Morpbology: Grandjean 250 (64); 315 (132); Hammen 1062 (24).
Foods: Tadros 1023 (801).
Ecology: Berlese 81 (23); Grandjean 217 (32); Crossley and Bohnsack 142 (631); Aoki 10 (I 79); Wafa et al. 785 (183); Wallwork 797 (354); Marshall 548 (73); Hammer 365 (67); Grisma 323 (82); Prasad 664 (l7); Tadros 759 (33O1; Tadros et al. 760 (522).
Remarks: Oudemans 1915 (639, p. 232) renamed *Hoplophora arctata* Szanislo, 1880 as *Phthiracarus szanisloi*, which is a species of uncertain status. His later association of *Lesseria szanisloi* Oudemans, 1917 (642, p. 78) [=*Epilohmannia cylindrica*] with Szanislo's 1880 material is incorrect (340, p. 54). Balogh and Mahunka (1119, p. 130) considered *Eulohmannia skrjabini* Bashkirova, 1958 a species of uncertain status in *Perlohmannia* Berlese, 1916.

***Epilohmannla elongata* Banks, 1947**

Type: MCZ

Comb./Syn.: *Epilohnannia elongata* Banks, 1947 (66, p. 127)

Distribution: *USA*: Ky. - Cockfield and Potter 1124 (1264); N.C. - Banks 66 (127).
Description: *Adult*: Banks 66 (127) fig.
Taxonomy: McDaniel and Bolen 1082 (37).
Ecology: Cockfield and Potter 1124 (1264).

***Epilohmannia minuta* Berlese, 1920**

Type: Lost
Comb./Syn.: *Epilohmannia minuta* Berlese, 1920 (93, p. 149)
Distribution: *USA*: Ky. - Ibarra et al. 412 (155); Mo. - Berlese 93 (149); Hammen 340 (SS); N.C. - Jacot 450 (370).
Description: *Adult*: Berlese 93 (149).
Taxonomy: Lombardini 525 (40); McDaniel and Bolen, 1082 (37).
Ecology: Berlese 93 (149); Ibarra et al. 412 (155).
Remarks: This species was not included in a recent key by Pérez-Iñigo and Baggio (see 1217, p. 188).

***Epilohmannia nota* McDaniel and Bolen, 1983**

Type: MCZ
Comb./Syn.: *Epilohmannia nota* McDanid and Bolen, 1983 (1082, p. 37)
Distribution: *USA*: Tex. - McDaniel and Bolen 1082 (37). **Description:** *Adult*: McDaniel and Bolen 1082 (37) fig.

***Epilohmannia pallida* Wallwork, 1962**

Type: BM(NH) (not confirmed)
Comb./Syn.: *Epilohmannia pallida* Wallwork 1962 (1105, p. 689)

Distribution: *USA*: Minn. - McDaniel and Bolen 1082 (40); N. Dak. - McDaniel and Bolen 1082 (40); S. Dak. - McDaniel and Bolen 1082 (40); Tex. - McDaniel and Bolen 1082 (40).
Ethiopian: Wallwork 1105 (689).
Description: *Adult*: Wallwork 1105 (689) fig.
Taxonomy: Aoki 1039 (312); Bayoumi and Mahunka 69 (6); McDaniel and Bolen 1082 (40).
Key: Pérez-Iñigo and Baggio 1217 (187).

***Epilohmannia praetritia* Berlese, 1916**

Lectotype: SEA [see 992, p. 115]
Comb./Syn.: *Epilohmannia praetritia* Berlese, 1916 (92, p. 336)

Distribution: *USA*: Mo. - Berlese 92 (336); Hammen 340 (55).
Description: *Adult*: Berlese 92 (336); Mahunka **992** (115) fig.
Taxonomy: Lombardini 525 (40).
Ecology: Berlese 92 (336).

***Epilohmannia puella* Berlese, 1916**

Type: Lost
Comb./Syn.: *Epilohmannia puella* Berlese, 1916 (91, p. 176)

Distribution: *USA*: Fla. - Berlese 91 (176); Hammen 340 (54).
Description: *Adult*: Berlese 91 (176).
Taxonomy: Lombardini 525 (4a); McDaniel and Bolen 1082 (37). **Remarks:** This species was not included in a recent key by Pérez-Iñigo and Baggio (see 1217, p. 188).

***Epilohmannia* sp.**

Distribution: *USA*: N.Y. - Reeves 673 (27).

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

Distribution: *Canada*: Que. - Marshall 548 (73).

***Epilohmannoides* Jacot, 1936**

Epilohmannoides Jacot, 1936
Type-species: *Epilohmannoides terrae* Jacot, 1936 (477, p. 546).

***Epilohmannoides jacoti* Norton, Metz and Sharma, 1978**

Type: MCZ;
Paratypes: HNHM, USNM

Comb./Syn.: *Epilohmannoides jacoti* Norton, Metz and Sharma, 1978 (618, p. 143)

Distribution: *USA*: Fla. - Norton et al. 618 (143); N.C. - Norton et al. 618 (143).
Description: *Adult*: Norton et al. 618 (143) chaet., fig.
Ecology: Norton et al. 618 (143).

***Epilohmannoides terrae* Jacot, 1936**

Type: USNM (Cotypes)
Comb./Syn.: *Epilohmannoides terrae* Jacot, 1936 (477, p. 546)

Distribution: *USA*: N.Y. - Norton et al. 618 (135); N.C. - Jacot 477 (546); Norton et al. 618 (135).
Description: *Adult*: Jacot 477 (546); Norton et al. 618 (135) chaet., fig.
Tritonymph: Norton et al. 618 (135).
Deutonymph: Norton et al. 618 (135).
Protonymph: Norton et al. 618 (135).
Taxonomy: Ohkubo 1155 (264).
Ecology: Jacot 477 (546); Norton et al. 618 (135).

COLLOHIMANNIOIDEA Grandjean, 1958

COLLOHMANNIIDAE **Grandjean, 1958**

***Collohmannia* Sellnick, 1922**

Collohmannia Sellnick, 1922
Type-species: *Collohmannia gigantea* Sellnick, 1922 (1171, p. 18).

Remarks: *Phthiracaroides* Storkan, 1923 [!] has been considered a synonym of *Collohmannia* Sellnick, 1922 (315,p. 127; 42, p. 172; 1119, p. 135),but the former name is unavailable (see 747, Article 11 (d)). Although Storkan described the genus in an unpublished manuscript in 1923, it appears that the name "*Phthiracaroides incertus* n.g. n.sp." was first published in 1925, when Storkan also synonymized his genus with *Collohmannia* (see 1174, p. 34, 36). In the latter publication, he refers to a "czech written article" in 1923, but the only one of which we are aware (1173) does not mention *Phthiracaroides*.

***Collohmannia* sp.**

Distribution: *USA*: W. Va. - Norton (RAN unpub.).

NEHYPOCHTHONIOIDEA **Norton and Metz, 1980 new status**

NEHYPOCHTHONIIDAE **Norton And Metz, 1980**

***Nehypochthonius* Norton and Metz, 1980**

Nehypochthonius Norton and Metz, 1980
Type-species: *Nehypochthonius porosus* Norton and Metz, 1980 (934, p. 54).

***Nehypochthonius porosus* Norton and Metz, 1980**

Type: FMNH;
Paratypes: CNC, HNHM, MCZ, USNM
Comb./Syn.: *Nehypochthonius porosus* Norton and Metz, 1980 (934, p. 54)

Distribution: *USA*: Pla. - Norton and Metz 934 (54); N.C. - Norton and Metz 934 (54).
Description: *Adult*: Norton and Metz 934 (54) fig.
Tritonymph: Norton and Metz 934 (54).
Deutonymph: Norton and Metz 934 (54).
Protonymph: Norton and Metz 934 (54).
Larva: Norton and Metz 934 (54).
Taxonomy: Norton and Metz 934 (54).

DESMONOMATA Woolley, 1973

CROTONIOIDEA Thorell, 1876 [=NOTHROIDEA Berlese, 1896]

NOTHRIDAE BERLESE, 1896

***Nothrus* C.L. Koch, 1835**

Nothrus C.L. Koch, 1835
Type-species: *Nothrus palustris* C.L. Koch, 1839 (485, Vol. 2 (17); 486, Vol. 3, p. 110) (see remarks).
Angelia Berlese, 1885
Type-species: *Nothrus palustris* C.L. Koch, 1839 (77, Vol. 17(6); 1048, p. 58: 1092, p. 180).
Gymnonothrus Ewing, 1917
Type-species: *Nothrus sylvestris* Nicolet, 1855 (179, p. 124: 1092, p. 180).

Remarks: Although some authors gave the publication date for the genus *Nothrus* as 1835 (564, p. 68; 829, p. 110) or 1840 (1092, p. 180), most workers cited 1836. The name was first used in 1835, but according to Hammen (340, p. 62), it was only in 1842 that Koch designated *Nothrus palustris* Koch, 1839 as the type-species (see 486, Vol. 3, p. 110). Hammen (op. cit) suggested that application should be made to the ICZN to waive Opinion 204, which affects the status of *Nothrus*, in the interest of stability. Berlese proposed *Angelia* in 1885, but the type was designated only in 1913 (see 340, p. 62).

Nothrus anauniensis Canestrini and Fanzago, 1876

Type: Unknown
Comb./Syn.: *Nothrus anauniensis* Canestrini and Fanzago, 1876 (128, p. 99)
Camisia biciliatus sensu Oudemans, (1089, p. 54); non Koch, 1841 (see **Remarks**)
Nothrus biciliatus sensu Sellnick and Forsslund, 1955; (716, p. 502); non C.L. Koch, 1841
Add. Comb./Syn. Ref.: Hammen 338 (33); 340 (63); Aoki 13 (294); Bernini 101 (376).

Distribution: *USA*: Hammer 365 (68) [Q.I.]; Alaska - Hammer 354 (8); N.Y. - Abbatiello 1 (1); Reeves 673 (27).
Canada: Que. - Smith 743 (tab. 20).
Palearctic: Michael 563 (417); 564 (70); Warburton and Pearce 807 (569); Willmann 829 (111); Hammer 349 (35); Hammen 338 (33); MacFadyen 533 (109); Tuxen 780 (392); Kunst 503 (35); Rajski 668 (23); Aoki 10 (179); Moritz 571 (156); Byzova 125 (185); Aoki 13 (294); Lebrun 507 (103); Krivoluckij 495 (183); Lions 519 (507); 520 (437); Hammer 365 (68); Aoki 18 (403); Bernini 98 (391); Luxton 531 (463); Molodova and Golosova 570 (426); Bernini 101 (376); Grishina 323 (82); Gilyarov 207 (75); Luxton 532 (187); Nakamura 582 (250); Hammer 373 (18); Paik 938 (232).
Oriental: Mahunka 542 (361).
Australian: Hammer 361 (24); Aoki 18 (403); Spain and Luxton 947 (202); 947 (202); Bernini 101 (376).
Description: *Adult*: Koch 485 (Vol. 38(2)); Michael 564 (70); Willmann 829 (111) fig.; Hammen 916 (130) fig.; 338 (33); Tuxen 780 (392) fig.; Sellnick and Forsslund 716 (502) fig.; Hammer 361 (24) fig.; Grandjean 314 (360) fig.; Gilyarov 207 (75) fig.; Travé 778 (124) chaet.; Balogh and Mahunka 1119 (pl. 110 fig. C-D).
Tritonymph: Tuxen 780 (392) fig.
Deutonymph: Tuxen 780 (392) fig.
Protonymph: Tuxen 780 (392) fig.
Larva: Tuxen 780 (392) fig.
Taxonomy: Canestrini and Fanzago 128 (99); Warburton and Pearce 807 (569); Grandjean 309 (106).
Key: Michael 564 (70); Willmann 829 (111); Tuxen 780 (392); Woolley 851 (221); Gilyarov 207 (75); Balogh and Mahunka 1119 (184).

Add. References: Hammen 338 (33); Aoki 13 (294); Luxton 531 (463); Bernini 101 (376); Hammen 344 (26); Forest et al. 1051 (36).
Biology: Luxton 988 (339).
Foods: Hartenstein 376 (203); Luxton 531 (463).
Ecology: Michael 564 (70); Willmann 829 (111); Hammen 338 (33); MacFadyen 533 (109); Hamrner 354 (8); Sellnick and Forsslund 716 (502); Kunst 503 (35); Rajski 668 (23); Aoki 10 (179); Moritz 571 (156); Byzova 125 (185); Aoki 13 (294); Lebrun 507 (103); Abbatiello 1 (1); Hammer 361 (24); Krivoluckij 495 (183); Lions 519 (507); 520 (437); Hammer 365 (6o; Reeves 673 (27); Aoki 18 (403); Bernini 96 (422); Rajski 669 (24a); Bernini 98 (391); Spain and Luxton 947 (202); 947 (202); Molodova and Golosova 570 (426); Bernini 101 (376); Grishina 323 (82); Luxton 532 (187); Mahunka 542 (361); Nakamura 582 (25a); Hammer 373 (18); Paik 938 (232); Smith 743 (tab. 20).
Remarks: Grandjean (309, p. 110) 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 Faozago, 1841 for the *biciliatus* of authors. North American records of this species might also be confused with *N. monodactylus* (Berlese, 1910), *N. terminalis* Banks, 1910 and *N. truncatus* Banks, 1895, all similar species.

Nothrus bipilis Banks, 1895

Lectotype: MCZ [see 613, p. 646]
Comb./Syn.: *Nothrus bipilis* Banks, 1895 (45, p. 14)

Distribution: *USA*: N.Y. - Banks 45 (14); Ewing 169 (387).
Description: *Adult*: Banks 45 (14); Norton 613 (646).
Key: Banks 45 (14).
Ecology: Banks 45 (14); Ewing 169 (387).
Remarks: Because of the parthenogenetic reproduction of *Nothrus palustris* C.L. Koch, 1839 (511, p. 193) and the consistently larger size and setal differences relative to *N. bipilis* Banks, 1895, the synonymy suggested by Norton (613, p. 646) is rejected here.

Nothrus borussicus Sellnick, 1928

Type: Destroyed
Comb./Syn.: *Nothrus borussicus* Sellnick, 1928 (700, p. 19)
Nothrus biciliatus sensu Trägårdh, 1904 (770, p. 28): (349, p. 10); non C.L. Koch, 1841
Nothrus silvestris sensu Jorgensen, 1934, (472, p. 8): (349, p. 10); non Nicolet, 1855

Distribution: *USA*: Alaska - Hammer 362 (9); Behan 73 (389).

Canada: Sellnick and Forsslund 716 (500); Schweizer 691 (253); Man. - Hammer 350 (23); N.W.T. - Hammer 350 (23); Behan 73 (389).
Nearctic: Henrikson and Lundbeck 388 (769) [mi.]; Jorgensen 472 (8) [mi.]; 472 (8) [mi.]; Hammer 347 (10) [mi.]; 348 (41); 349 (10); 352 (411); Sellnick and Forsslund 716 (500); Danks 971 (398).
Palearctic: Tuxen 779 (333) [mi.]; Willmann 835 (227); Hammer 348 (41); 349 (10); Tuxen 780 (392); Sellnick and Forsslund 716 (500); Schweizer 691 (253); 692 (tab. 8 no. 333); Aoki 10 (179); Dalenius 144 (107); 145 (4); Block 112 (161); Bernini 96 (422); 98 (393); Aoki 21 (249); Gilyarov 207 (75); Paik 938 (232).
Description: *Adult*: Sellnick 700 (19); Hammer 350 (23) fig.; Tuxen 780 (392) fig.; Sellnick and Forsslund 716 (500) fig.; Schweizer 691 (253) fig.; Gilyarov 207 (75) fig.; Travé 778 (124) chaet.; Balogh and Mahunka 1119 (pl. 111 fig. F-G)
Tritonymph: Tuxen 780 (392) fig.
Deutonymph: Tuxen 780 (392) fig.
Protonymph: Tuxen 780 (392) fig.
Larva: Tuxen 780 (392) fig.
Key: Tuxen 780 (392); Gilyarov 207 (75); Balogh and Mahunka 1119 (185).
Add. References: Hammer 349 (10).
Ecology: Hammer 347 (10) [mi.]; Tuxen 779 (333) [mi.]; Willmann 835 (227); Hammer 348 (41); 349 (10); 350 (23); 352 (411); Sellnick and Forsslund 716 (500); Schweizer 691 (253); 692 (tab. 8 no. 333); Aoki 10 (179); Dalenius 144 (107); 145 (4); Block 112 (161); Hammer 362 (9); Bernini 96 (422); 98 (393); Aoki 21 (249); Behan 73 (389); Paik 938 (232).
Remarks: Henrikson and Lundbeck (388, p. 769) and Jorgensen (472, p. 8) are sub *Nothrus biciliatus*; Jorgensen (472, p. 8), Hammer (347, p. 10) and Tuxen (779, p. 333) are sub *Nothrus silvestris*.

***Nothrus carolinae* Jacot, 1937**

Type: USNM (Cotypes)
Comb./Syn.: *Nothrus terminalis carolinae* Jacot, 1937 (455, p. 354)
Nothrus carolinae Jacot, 1937 (469, p. 53)

Distribution: *USA*: N.C. - Jacot 455 (354).
Description: *Adult*: Jacot 455 (354).
Ecology: Jacot 455 (354).
Remarks: Jacot (455,p.354) noted that *Nothrus carolinae* Jacot, 1937 may be a junior synomym of *Nothrus monodactylus* (Berlese, 1910).

***Nothrus monodactylus* (Berlese, 1910)**

Type: SEA
Comb./Syn.: *Angelia anauniensis monodactylus* Berlese, 1910 (86, p. 381)
Nothrus monodactylus (Berlese, 1910) (455, p. 354)
Add. Comb./Syn. Ref.: Hammen 340 (64).

Distribution: *USA*: Mo. - Berlese 86 (381); Jacot 455 (354); Hammen 340 (64).
Description: *Adult*: Berlese 86 (381).

***Nothrus palustris* C.L. Koch, 1839**

Type: Unknown
Comb./Syn.: *Nothrus palustris* C.L. Koch, 1839 (485, Vol. 29 (13))
Angelia palustris (C.L. Koch, 1839) (8, p. 246)
Add. Comb./Syn. Ref.: Hammen 340 (62).

Distribution: *USA*: Alaska - Hammer 362 (9); Mich. - Wallwork 788 (172).
Palearctic: Michael 564 (72); André 8 (246); Willmann 829 (111); Tuxen 779 (333); Willmann 835 (227); Forsslund 192 (242); 193 (350); MacFadyen 533 (109); Tuxen 780 (392); Sellnick and Forsslund 716 (498); Schweizer 691 (252); Travé 774 (80); Haarløv 326 (40); Schweizer 692 (tab. 8 no. 331); Haarløv 327 (160); Rajski 668 (23); Aoki 10 (179); Dalenius 144 (107); 145 (4); Moritz 571 (156); Travé 777 (229); Berthet 107 (25); Byzova 124 (292); 125 (185); Berthet and Gerard 109 (217); Block 110 (245); Lebrun 506 (27); 507 (103); Moritz 572 (70); Lebrun 508 (186); Wood 843 (116); Bernini 96 (422); Rajski 669 (232); Haarløv and Bresciani 329 (346); Luxton 531 (441); Molodova and Golosova 570 (426); Kurcheva 504 (95); Rubcova 681 (386); Gilyarov 207 (75); Luxton 532 (187); Tarba and Semenova 761 (128); Hammer 373 (18); Niedbała 604 (60); Subìas 755 (92); Paik 938 (232); Norton 613 (645).
Description: *Adult*: Koch 485 (Vol. 29 (13)); Michael 564 (72); Willmannn 829 (111) fig.; Grandjean 244 (34) chaet.; 247 (51) chaet.; 251 (21) chaet.; 265 (213) chaet.; Tuxen 780 (392) fig.; Sellnick and Forsslund 116 (498) fig.; Woolley 851 (221) fig.; Schweizer 691 (252) fig.; Grandjean 307 (179) chaet.; 308 (531) chaet.; Lebrun 509 (223) chaet., photo.; 510 (34) photo.; Balogh 42 (pl. 9 fig. 15); Haarlov and Bresciani 329 (346) photo.; Gilyarov 207 (75) fig.; Tarba and Semenova 761 (128) fig., photo.; Travé 778 (124) chaet.; Balogh and Mahunka 1119 (pl. 110 fig. G-H).
Tritonymph: Tuxen 780 (392) fig.
Deutonymph: Tuxen 780 (392) fig.
Protonymph: Tuxen 780 (392) fig.; Sengbusch 718 (657) fig.
Larva: Tuxen 780 (392) fig.
Key: Michael 564 (72); Willmann 829 (111); Tuxen 780 (392); Sellnick and Forsslund 716 (498); Woolley 851 (221); Gilyarov 207 (75); Balogh and Mahunka 1119 (184).
Add. References: Willmann 829 (111); Hammen 340 (62); 344 (26).

Morphology: Haarløv and Bresciani 329 (346).
Biology: Lebrun 509 (223); 511 (193); 512 (827); Mitchell 567 (66); Luxton 988 (339).
Foods: Woodring 845 (102); Luxton 531 (441); 986 (104).
Miscellaneous: Haarløv and Bresciani 329 (346) anat.; Tarba and Semenova 761 (128) cut.
Ecology: Michael 564 (72); André 8 (246); Willmann 829 (1113; Tuxen 779 (333); Willmann 835 (227); Forsslund 192 (242); 193 (350); MacFadyen 533 (109); Sellnick and Forsslund 716 (498); Schweizer 691 (252); Travé 774 (80); Haarløv 326 (40); Schweizer 692 (tab. 8 no. 331); Wallwork 788 (172); Haarløv 327 (160); Rajski 668 (23); Aoki 10 (179); Dalenius 144 (107); 145 (4); Moritz 571 (156); Travé 777 (229); Berthet 107 (25); 108 (444); Byzova 124 (292); 125 (185); Berthet and Gerard 109 (217); Block 110 (245); Lebrun 506 (27); 507 (103); Moritz 572 (70); Hammer 362 (9); Lebrun 508 (186); Wood 843 (1l6); Lebrun 509 (223); 510 (34); Bernini 96 (422); Lebrun 511 (193); Rajski 669 (232); Lebrun 512 (827); Haarløv and Bresciani 329 (346); Luxton 531 (441); Molodova and Golosova 570 (426); Kurcheva 504 (95); Rubcova 681 (386); Luxton 532 (187); Wallwork 950 (349); Hammer 373 (18); Niedbała 604 (60); Subìas 755 (92); Krantz 490 (456); Paik 938 (232); Thomas 1024 (356); Luxton 987 (311); 989 (3661; 990 (404).

Nothrus pratensis Sellnick, 1928

Type: Destroyed
Comb./Syn.: *Nothrus pratensis* Sellnick, 1928 (700, p. 19)

Distribution: *USA*: Hammer 365 (68) [Q.I.]; Alaska - Hammer 354 (8); Block 112 (161); Hammer 362 (9); Mich. - Wallwork 788 (172); Va. - Sengbusch 719 (130).
Canada: Sellnick and Forsslund 716 (503); Schweizer 691 (252); Hammer 362 (9); Nfld. - Behan 73 (389); N.W.T. - Hammer 350 (23); Behan 73 (389); Que. - Behan 73 (389); Y.T. - Behan 73 (389).
Palearctic: Willmann 829 (111); 835 (227); Hammen 338 (35); Tuxen 780 (394); Sellnick and Forsslund 716 (503); Schweizer 691 (252); 692 (tab. 8 no. 332); Kunst 503 (35); Rajski 668 (23); Tarras-Wahlberg 765 (30); Woolley 864 (277); Aoki 10 (179); Byzova 124 (291); Lebrun 506 (52); Block 112 (161); Hammer 362 (51); 365 (o'8); Rajski 669 (237); Luxton 531 (463); Gilyarov 207 (72); Luxton 532 (187); Danks 971 (391).
Description: *Adult*: Sellnick 700 (19); Willmann 829 (111) fig.; Hammer 350 (23) fig.; Tuxen 780 (394) fig.; Sellnick and Forsslund 716 (503) fig.; Woolley 851 (221) fig.; Schweizer 691 (252) fig.; Wallwork 788 (172) fig.; Gilyarov 207 (72) fig.; Travé 778 (124) chaet.; Balogh and Mahunka 1119 (pl. 109 fig. A-C).
Nymph: Wallwork 788 (172) fig.
Tritonymph: Tuxen 780 (394) fig.
Deutonymph: Tuxen 780 (394) fig.
Protonymph: Tuxen 780 (394) fig.

Larva: Tuxen 780 (394) fig.
Key: Willmann 829 (111); Tuxen 780 (394); Woolley 851 (221); Gilyarov 207 (72); Balogh and Mahunka 1119 (182).
Add. References: Hammen 338 (35).
Foods: Luxton 531 (463); Behan and Hill 75 (498).
Ecology: Willmann 829 (111); 835 (227); Hammen 338 (35); Hammer 350 (23); 354 (8); Sellnick and Forsslund 716 (S03); Schweizer 691 (252); 692 (tab. 8 no. 332); Sengbusch 719 (130); Wallwork 788 (172); Kunst 503 (35); Rajski 668 (23); Tarras-Wahlberg 765 (30); Aoki 10 (179); Byzova 124 (291); Lebrun 506 (52); Block 112 (161); Hammer 362 (9); 365 (68); Rajski 669 (237); Luxton 532 (187); Wallwork 950 (349); Behan 73 (389).

***Nothrus quadripilus* Ewing, 1909**

Syntypes: USNM
Comb./Syn.: *Nothrus quadripilus* Ewing, 1909 (170, p. 131)

Distribution: *USA*: Mo. - Ewing 170 (131); Woolley 851 (219); N.C. - Pearse 649 (128) [!]; Tenn. - Crossley and Bohnsack 142 (631).
Description: *Adult*: Ewing 170 (131) fig.; 176 (105) fig.; Woolley 851 (219) fig.
Ecology: Ewing 170 (131); Pearse 649 (128) [!]; Woolley 851 (219); Crossley and Bohnsack 142 (631).

***Nothrus silvestris* Nicolet, 1855**

Type: Not designated
Comb./Syn.: *Nothrus silvestris* Nicolet, 1855 (592, p. 458)
Angelia sylvestris (Nicolet, 1855) (1047, p. 26)
Nothrus anauniensis sensu Berlese, 1885 (Vol. 17 (7)); non Canestrini and Fanzago, 1876 (340, p. 63)
Angelia anauniensis sensu Lombardini, 1936 (525, p. 38); non Canestrini and Fanzago, 1876 (340, p. 63)
Add. Comb./Syn. Ref.: Willmann 829 (111); Grandjean 309 (106); Subìas 755 (92).

Distribution: *USA*: Hammer 365 (68) [Q.I.]; Conn. - Jacot 455 (353); Mich. - Wallwork 788 (172) [!]; Tenn. - Crossley and Bohnsack 142 (631) [!]; Va. - Sengbusch 719 (130).
Canada: Man. - Oswald and Minty 620 (82); Ont. - Marshall 549 (422); Que. - Behan 72 (40); Behan et al. 76 (263).
Mexico: Sellnick and Forsslund 716 (504); Gilyarov 207 (72).

Palearctic: Michael 560 (190) [!]; 563 (41 7) [!]; 564 (73) [!]; André 8 (246) [!]; Willmann 829 (111); Jorgensen 472 (8); Hammer 349 (35); Weis-Fogh 817 (2053; Tuxen 780 (392); Sellnick and Forsslund 716 (504); Travé 774 (80); Haarlov 326 (41); Märkel 543 (478); Kunst 503 (35); Haarlov 327 (140); Grandjean 301 (539); Rajski 668 (23); Woolley 864 (277) [!] ; Märkel 544 (326); Moritz 571 (156); Travé 777 (230); Byzova 125 (185); Lebrun 505 (375); Märkel 545 (170); Block 110 (245); Grandjean 309 (106); Lebrun 506 (27); 507 (103); Krivoluckij 495 (183); Wood 843 (116); Aoki 17 (120); Fonseca and Kiffer 189 (386); Hammer 365 (68); Webb 809 (294); Bernini 96 (422); Webb 810 (155); Bernini 98 (393); Hammer 370 (417); Luxton 531 (441); Molodova and Golosova 570 (426); Aoki 21 (249); 22 (64); Kurcheva 504 (95); Rubcova 681 (386); Gilyarov 207 (72); Luxton 532 (187); Tarba and Semenova 761 (13a); Niedbała 604 (60); Subìas 755 (92); Paik 938 (232).

Description: *Adult*: Nicolet 592 (458) fig.; Michael 564 (73) [!]; Willmann 829 (111) fig.; Grandjean 217 (31) chaet.; 224 (124) fig.; 230 (14) chaet.; 244 (34) chaet.; 265 (214) chaet.; Tuxen 780 (392) fig. app.; Sellnick and Forsslund 716 (504) fig.; Woolley 851 (221) fig.; Grandjean 286 (97) fig. ; 307 (179) chaet.; 308 (531) chaet.; 309 (l06); Aoki 17 (120) fig.; 22 (64) fig.; Gilyarov 207 (72) fig.; Tarba and Semenova 761 (130) photo.; Travé 778 (124) chaet.; Balogh and Mahunka 1119 (pl.109 fig. D-G).

Deutonymph: Grandjean 240 (63) chaet.

Protonymph: Grandjean 240 (63) chaet.; Tuxen 780 (392) fig.

Larva: Tuxen 780 (392) fig.

Key: Michael 564 (73) [!]; Willmann 829 (111); Tuxen 780 (392); Woolley 851 (221), Gilyarov 207 (72); Balogh and Mahunka 1119 (183).

Add. References: Willmann 829 (111); Hammen 340 (63); Aoki 11 (120); Lebrun 513 (354); Hammen 344 (26); Subìas 755 (92).

Morphology: Grandjean 224 (124); 286 (97); 301 (539).

Biology: Sengbusch 721 (499); Webb 809 (294); Lebrun 511 (202); Luxton 988 (339).

Foods: Fonseca and Kiffer 189 (386); Luxton 531 (441); 986 (104).

Miscellaneous: Tarba and Semenova 761 (136) cut.; Purrini 1007 (305) parasit.

Ecology: André 8 (246) [!]; Willmann 829 (111); Jacot 455 (353); Weis-Fogh 817 (205); Sellnick and Forsslund 716 (504); Travé 774 (80); Haarløv 326 (41); Sengbusch 719 (130); Wallwork 788 (172) [!]; Märkel 543 (478); Kunst 503 (35); Crossley and Bohnsack 142 (631) [!]; Haarløv 327 (140); Grandjean 301 (539); Rajski 668 (23); Märkel 544 (326); Moritz 571 (156); Travé 777 (230); Byzova 125 (185); Lebrun 505 (375); Märkel 545 (170); Block 110 (245); Grandjean 309 (106); Lebrun 506 (27); 507 (103); Krivoluchj 495 (183); Wood 843 (116); Marshall 548 (74); Hammer 365 (68); Bernini 96 (422); Oswald and Minty 620 (82); Rajski 669 (240); Webb 810 (155); Bernini 98 (393); Behan 72 (40); Hammer 370 (417); Luxton 531 (441); Molodova and Golosova 570 (426); Aoki 21 (249); 22 (64); Kurcheva 504 (95); Rubcova 681 (386); Luxton 532 (187); Wallwork 950 (349); Niedbała 604 (60); Subìas 755 (92); Behan et al. 76 (263); Paik 938 (232); Thomas 1024 (356); Luxton 987 (311); 989 (366); 990 (405); Hågvar and Amundsen 1208 (12); Hågvar and Kjondal 1209 (411).

***Nothrus silvestris bistilus* Jacot, 1937**

Type: USNM (Cotypes)

Comb./Syn.: *Nothrus silvestris bistilus* Jacot, 1937 (452, p. 237)

Distribution: *USA*: N.C. - Jacot 452 (237).

Description: *Adult*: Jacot 452 (237) fig.

***Nothrus silvestris exilior* Jacot, 1937**

Type: FMNH (Cotypes)

Comb./Syn.: *Nothrus silvestris exilior* Jacot, 1937 (452, p. 238)

Distribution: *USA*: Ky. - Jacot 452 (238).

Description: *Adult*: Jacot 452 (238).

Ecology: Jacot 452 (238).

***Nothrus silvicus* Jacot, 1937** new status

Type: USNM (Cotypes)

Comb./Syn.: *Nothrus truncatus silvicus* Jacot, 1937 (452, p. 237)

Distribution: *USA*: Ind. - Jacot 452 (237); Ky. - Jacot 452 (237); N.C. - Jacot 452 (237).

Description: *Adult*: Jacot 452 (237) fig.

Ecology: Jacot 452 (237).

***Nothrus terminalis* Banks, 1910**

Type: MCZ

Comb./Syn.: *Nothrus terminalis* Banlcs, 1910 (61, p. 10)

Distribution: *USA*: Tex. - Banks 61 (10).

Description: *Adult*: Banks 61 (10) fig.
Taxonomy: Norton 613 (648).
Ecology: Banks 61 (10).

Nothrus truncatus Banks, 1895

Lectotype: MCZ [see 613, p. 649]
Comb./Syn.: *Nothrus truncatus* Banks, 1895 (45, p. 14)

Distribution: *USA*: N.J. - Weiss 818 (150); N.Y. - Banks 45 (14); Ewing 169 (387); Norton 613 (648); N.C. - Pearse 649 (128).
Description: *Adult*: Banks 45 (14); 52 (73) fig.; 63 (101) fig.; Norton 613 (648).
Key: Banks 45 (14).
Ecology: Banks 45 (14); 52 (73); Ewing 169 (387); Banks 63 (101); Pearse 649 (128); Norton 613 (648).

Nothrus truncatus robustus Jacot, 1937

Type: FMNH ("**Paratypes**")
Comb./Syn.: *Nothrus truncatus robustus* Jacot, 1937 (452, p. 237)

Distribution: *USA*: Maine - Jacot 452 (237).
Description: *Adult*: Jacot 452 (237) fig.
Ecology: Jacot 452 (237).

Nothrus sp.

Distribution: *USA*: Minn. - Wagner et al. 786 (14).
Canada: Ont. - Freitag and Ryder 201 (40).

Nothrus sp. cf. biciliatus C.L. Koch, 1841

Distribution: *Canada*: Que. - Forest et al. 1051 (36).

Nothrus sp. ? truncatus Banks, 1895

Distribution: *Canada*: Que. - Marshall 548 (74).

Ecology: Marshall 548 (74).

CAMISIIDAE Oudemans, 1900

***Camisia* von Heyden, 1826**

Camisia von Heyden, 1826
Type-species: *Notaspis segnis* Hermann, 1804 (1063, p. 612).
Uronothrus Berlese, 1913
Type-species: *Nothrus segnis* (Hermann, 1804) (88, p. 98: 340, p. 65).

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

Type: Unknown
Comb./Syn.: *Nothrus biurus* C.L. Koch, 1839 (485, Vol. 30 (2)) *Camisia exuvialis* Grandjean, 1939 (237, p. 305): (340, p. 66). **Type:** Not designated
Uronothrus kochi Willmann, 1943 (835,,p. 226): (340, p. 66). **Type:** WHPC
Nothrus segnis sensu C.L. Koch, 1839 (Vol. 30(1)): (340, p. 66); non Hermann, 1804
Camisia segnis sensu Sellnick, 1928 (700, p. 20): (340, p. 66); non Hermann, 1804
Uronothrus segnis sensu Willmann, 1939 (837, p. 432): (340, p. 66); non Hermann, 1804
Add. Comb./Syn. Ref.: Michael 561 (517) [mi.]; Grandjean 237 (303); Sellnick and Forsslund 716 (479); Grandjean 294 (173).
Distribution: *USA*: Hammer 365 (68) [Q.I.]; Alaska - Hammer 362 (9); Mich. - Wallwork 788 (172); N.Y. - Norton and MacNamara 615 (91).
Canada: Sellnick and Forsslund 716 (479); Powell et al. 663 (11); Gilyarov 207 (76); Alta. - Powell 661 (915); Powell and Skaley 662 (20).
Palearctic: Michael 561 (517) [mi.]; Willmann 829 (110) [mi.]; Sellnick and Forsslund 716 (479); Schweizer 691 (255); 692 (tab.8 no. 336); Märkel 543 (478); Kunst 503 (34); Rajski 668 (21); Tarras-Wahlberg 765 (28); Aoki 10 (179); Dalenius 144 (107); Byzova 124 (291); 125 (185); Wood 843 (116); Aoki 17 (121); Hammer 365 (68); Bernini 96 (422); Rajski 669 (237); Bernini 98 (393); Grishina 323 (82); Rubcova 681 (386); Gilyarov 207 (76); Nakamura 582 (250); Solhøy 744 (19); Niedbała 604 (60). **Description:** *Adult*: Koch 485 (Vol. 30 (2)); Michael 561 (517) [mi.] fig.; Willmann 829 (11O) [mi.] fig.; Balogh 37 (27) fig.; Sellnick and Forsslund 716 (479) fig.; Schweizer 691 (255) fig.; Gilyarov 207 (76) fig.; Balogh and Mahunka 1119 (pl. 113 fig. D).
Key: Michael 561 (571) [mi.]; Willmann 829 (110) [mi.]; Sellnick and Forsslund 716 (479); Gilyarov 207 (76); Balogh and Mahunka 1119 (188).
Add. References: Michael 561 (517) [mi.]; Karppinen 476 (33); Hammen 340 (66).
Ecology: Michael 561 (51 7) [mi.]; Willmann 829 (110) [mi.]; Sellnick and Forsslund 716 (479); Schweizer 691 (255); 692 (tab. 8 no. 336); Wallwork 788 (172); Märkel 543 (478); Kunst 503 (34);

Rajski 668 (21); Tarras-Wahlberg 765 (28); Aoki 10 (179); Dalenius 144 (107); Byzova 124 (291); 125 (185); Hammer 362 (9); Wood 843 (116); Aoki 17 (121); Hammer 365 (68); Bernini 96 (422); Rajski 669 (237); Bernini 98 (393); Powell 661 (915); Powell et al. 663 (11); Grishna 323 (82); Rubcova 681 (386); Powell and Skaley 662 (20); Nakamura 582 (250); Solhøy 744 (19); Wallwork 950 (329); Niedbała 604 (60).
Remarks: Michael (561, p. 517) is sub *Nothrus segnis*; Willmann (829, p. 110) is sub *Camisia segnis*.

***Camisia biurus amicus* Jacot, 1938** new comb.

Type: USNM (Cotypes)
Comb./Syn.: *Camisia segnis amicus* Jacot, 1938 (456, p. 10)

Distribution: *USA*: N.C. - Jacot 456 (10).
Description: *Adult*: Jacot 456 (10).
Ecology: Jacot 456 (10).
Remarks: Jacot's original combination was based on the misidentification of *Camisia segnis* (Hermann 1804), which was prevalent at that time (i.e., *C. biurus* in current usage).

***Camisia biverrucata* (C.L. Koch, 1839)**

Type: Unknown
Comb./Syn.: *Nothrus biverrucata* C.L. Koch, 1839 (485, Vol. 29 (15))
Camisia biverrucata (C.L. Koch, 1839) (829, p. 109)
Camisia fischeri Oudemans, 1900 (625, p. 109): (338, p. 30) **Type:** RNH
Nothrus horridus sensu Nicolet, 1855 (592, ph 7 fig. 1): (340, p. 66)
Add. Comb./Syn. Ref.: Sellnick and Forsslund 716 (482); Subìas 755 (94).

Distribution: *USA*: Woolley 863 (252); 864 (277); Alaska - Hammer 354 (7); Tenn. Crossley and Bohnsack 142 (631).
Palearctic: Michael 561 (510); 564 (71); Willmann 829 (109); Hammer 349 (35); Hammen 338 (30); Sellnick and Forsslund 716 (482); Schweizer 691 (249); 692 (tab. 8 no. 327); Kunst 503 (34); Travé 775 (211); Woolley 864 (277); Travé 777 (230); Lions 519 (507); 520 (438); Zlotin and Krivoluckij 906 (255); Bernini 96 (422); Grishina 323 (82); Gilyarov 207 (79); Subìas 755 (94).
Description: *Adult*: Koch 485 (Vol. 29(15)); Michael 561 (510) fig.; 564 (71); Willmann 829 (109) fig.; Hammen 338 (30) fig.; Sellnick and Forsslund 716 (482) fig.; Schweizer 691 (249) fig.; Woolley 887 (214) fig.; Gilyarov 207 (79) fig.; Balogh and Mahunka 1119 (pl. 114 fig E).
Key: Michael 561 (510); 564 (71); Willmann 829 (109); Sellnick and Forsslund 716 (482); Gilyarov 207 (79); Balogh and Mahunka 1119 (189).

Add. References: Michael 564 (71); Hammen 338 (30).
Foods: Woolley 863 (252); 864 (277).
Ecology: Hammen 338 (30); Hammer 354 (7); Sellnick and Forsslund 716 (482); Schweizer 691 (249); 692 (tab. 8 no. 327); Kunst 503 (34); Crossley and Bohnsack 142 (631); Travé 775 (211); 777 (230); Lions 519 (507); 520 (438); Zlotin and Krivoluckij 906 (255); Bernini 96 (4?2); Grishina 323 (82); Subìas 755 (94).

Camisia carrolli André, 1980

Type: OSU
Comb./Syn.: *Camisia carrolli* André, 1980 (953, p. 141)

Distribution: *USA*: Oreg. - André 953 (141).
Description: *Adult*: André 953 (141) fig.
Tritonymph: André 953 (141) fig.
Deutonymph: André 953 (141).
Protonymph: André 953 (141).
Larva: André 953 (141) fig.
Biology: André and Voegtlin 1036 (81).
Ecology: Carroll 1123 (103).

Camisia foveolata Hammer, 1955

Type: USNM; Paratype: BM(NH)
Comb./Syn.: *Camisia foveolata* Hammer, 1955 (354, p. 8)

Distribution: *USA*: Alaska - Hammer 354 (8); 356 (361); Behan 73 (389).
Nearctic: Hammer 354 (8); 356 (361); Danks 971 (398); Balogh and Mahunka 1119 (189).
Palearctic: Hammer 356 (361); Solhøy 745 (89); Danks 971 (398).
Description: *Adult*: Hammer 354 (8) fig.; Balogh and Mahunka 1119 (pl. 114 fig. B-D).
Key: Balogh and Mahunka 1119 (189).
Ecology: Hammer 354 (8); 356 (361); Solhøy 745 (89); Behan 73 (389); Danks 971 (398).

Camisia horrida (Hermann, 1804)

Type: Not designated
Comb./Syn.: *Notaspis horridus* Helmann, 1804 (389, p. 90)
Camisia horrida (Hermann, 1804) (502, p. 353)

Nothrus horridus (Hermann, 1804) (561, p. 503)
Oribata horrida (Hermann, 1804) (561, p. 503)
Nothrus mutilus C.L. Koch, 1839 (485, Vol. 29 (18)): (561, p. 503). **Type:** Unknown
Nothrus bistriatus C.L. Koch, 1839 (485, Vol. 29 (21)): (561, p. 503). **Type:** Unknown
Nothrus sinuatus C.L. Koch, 1839 (485, Vol. 29 (22)): (561, p. 503) **Type:** Unknown
Nothrus runcinatus C.L. Koch, 1839 (485, Vol. 29 (23)): (561, p. 503). **Type:** Unknown
Nothrus angulatus C.L. Koch, 1839 sensu Berlese, 1883 (77, Vol. 7 (5)): (561, p. 503). **Type:** SEA
Nothrus rugulosus Banks, 1895 (45, p. 15): (613, p. 647). **Syntypes:** MCZ
Camisia rugulosus (Banks, 1895) (469, p. 52)
Add. Comb./Syn. Ref.: Michael 564 (71); Willmann 829 (109); Grandjean 232 (51); Sellnick and Forsslund 716 (486); Subìas 755 (95); Norton 613 (647).

Distribution: *USA*: Hammer 365 (68) [Q.I.]; Alaska - Hammer 354 (7); Travé 774 (80); Bohnsack 114 (35); 115 (72); Behan 73 (389); MacLean et al. 534 (562); Ill. - Banks 45 (15); Michael 564 (73); N.Y. - Banks 45 (15); Michael 564 (73); Ewing 169 (387); Norton and MacNamara 615 (91); Va. - Sengbusch 719 (130).
Canada: Hammer 354 (7); Sellnick and Forsslund 716 (486); Schweizer 691 (247); Travé 774 (80); Gilyarov 207 (79); MacLean et al. 534 (562); Alta. - Hammer 350 (22); Powell and Skaley 662 (20); Man. - Hammer 350 (22); N.B. - Pielou and Verma 658 (1190); Nfld. - Behan 73 (389);- N.W.T. - Hammer 350 (22); Behan 73 (389); Que. - Behan 73 (389); Y.T. - Behan 73 (389).
Nearctic: Hammer 352 (411); Tuxen 780 (392); Hammer 354 (7); Sellnick and Forsslund 716 (486); Strenzke 754 (25); Travé 774 (80); Hammer 373 (18); MacLean et al. 534 (562); Danks 971 (398).
Palearctic: Michael 561 (503); 563 (417); 564 (71); Willmann 829 (109); Jorgensen 472 (8); Tuxen 779 (333); Hammer 354 (7); Sellnick and Forsslund 716 (486); Strenzke 754 (25); Schweizer 691 (247); Travé 774 (80); Schweizer 692 (tab. 8 no. 326); Tarman 762 (84); Kunst 503 (34); Rajski 668 (21); Dalenius 144 (107); Travé 777 (230); Block 110 (245); Vanek 784 (255); Block 112 (161); Seyd 729 (141); 730 (37); Hammer 365 (68); Bernini 96 (422); Rajski 669 (238); Bernini 98 (393); Gilyarov 207 (79); Lions 523 (170); Hammer 373 (18); Niedbała 604 (60); Subìas 755 (95); MacLean et al. 534 (562); Danks 971 (398).
Description: *Adult*: Hermann 389 (90) fig.; Michael 561 (503) fig.; Banks 45 (15); Michael 564 (71, 73); Kulzynski 502 (353) fig.; Willmann 829 (109) fig.; Grandjean 232 (51) fig.; Hammer 350 (22) fig.; Tuxen 780 (392) fig. app.; Sellnick and Forsslund 716 (486) fig.; Schweizer 691 (247) fig.; Balogh 40 (pl. 4 fig. 6); Gilyarov 207 (79) fig.; Balogh and Mahunka 1119 (pl. 114 fig F).
Nymph: Michael 561 (503) fig.
Larva: Tuxen 780 (392) fig. app.
Taxonomy: Johnston 469 (52); André 953 (141).
Key: Banks 45 (15); Michael 564 (71, 73); Willmann 829 (109); Sellnick and Forsslund 716 (486); Gilyarov 207 (79); Balogh and Mahunka 1119 (189).
Add. References: Michael 561 (503); 564 (71); Hammen 344 (13).

Foods: Behan and Hill 75 (508).
Ecology: Banks 45 (15); Michael 564 (71, 73); Banks 52 (73); Ewing 169 (387); Banks 63 (100); Willmann 829 (109); Tuxen 779 (333); Hammer 350 (22); 352 (411); 354 (7); Sellnick and Forsslund 716 (486); Strenzke 754 (25); Schweizer 691 (247); Travé 774 (80); Schweizer 692 (tab. 8 no. 326); Sengbusch 719 (130); Tarman 762 (84); Kunst 503 (34); Rajski 668 (21); Dalenius 144 (107); Travé 777 (230); Block 110 (245); Vanek 784 (255); Block 112 (161); Seyd 729 (141); Bohnsack 114 (35); Pielou and Verma 658 (1190); Seyd 730 (37); Hammer 365 (68); Bernini 96 (422); Rajski 669 (238); Bernini 98 (393); Bohnsack 115 (72); Powell and Skaley 662 (20); Lions 523 (170); Wallwork 950 (339); Hammer 373 (18); Niedbała 604 (60); Subìas 755 (95); Behan 73 (389); MacLean et al. 534 (562).

Camisia labradorica Behan, 1978

Type: LEM;
Paratypes: BM(NH), CNC
Comb./Syn.: *Camisia labradorica* Behan, 1978 (74, p. 547)

Distribution: *Canada*: Nfld. - Behan 74 (547); 73 (389).

Description: *Adult*: Behan 74 (547) fig.; 73 (389) fig.

Ecology: Behan 74 (547); 73 (389).

Camisia lapponica (Trägårdh, 1910)

Lectotype: SMNH ("K.H. Forsslund design. 1962"; T. Kronestedt, pers. comm.; we are unaware of a published designation)

Comb./Syn.: *Nothrus lapponicus* Trägårdh, 1910 (771, p. 526)

Camisia lapponica (Trägårdh, 1910) (835, p. 227)

Platynothrus lapponicus (Trägårdh, 1910) (829, p. 112)

Add. Comb./Syn. Ref.: Sellnick and Forsslund 716 (489); Bernini 98 (381).

Distribution: *USA*: Alaska - Hammer 354 (8).

Canada: Sellnick and Forsslund 716 (489); Gilyarov 207 (76); N.W.T. - Hammer 350 (22); Behan 73 (389); Que. - Behan 72 (39); Behan et al. 76 (263).

Nearctic: Hammer 348 (42); Forsslund 193 (349); Hammer 349 (10); 352 (411); Sellnick and Forsslund 716 (489); Strenzke 754 (25); Danks 971 (398).
Palearctic: Willmann 829 (112); 835 (227); Hammer 348 (42); Forsslund 193 (349); Hammer 349 (10); Sellnick and Forsslund 716 (489); Strenzke 754 (25); Schweizer 691 (250); 692 (tab. 8 no 329); Tarras-Wahlberg 765 (28); Aoki 10 (179); Dalenius 144 (107); Aoki 17 (121); Bernini 98 (381); Molodova and Golosova 570 (426); Grishina 323 (82); Gilyarov 207 (76); Solhøy 744 (19); Paik 938 (233); Danks 971 (398).
Deiscription: *Adult*: Trägårdh 771 (526) fig.; Willmann 829 (112) fig.; Hammer 350 (22) fig.; Sellnick and Forsslund 716 (489) fig.; Schweizer 691 (250) fig.; Gilyarov 207 (76) fig.; Balogh and Mahunka 1119 (pl. 113 fig. A).
Larva: Hammer 350 (22) fig.
Key: Willmann 829 (112); Sellnick and Forsslund 716 (489); Gilyarov 207 (76); Balogh and Mahunka 1119 (187).
Add. References: Willmann 829 (112); Hammen 344 (13).
Ecology: Willmann 829 (112); 835 (227); Hammer 348 (42); Forsslund 193 (349); Hammer 349 (10); 350 (22); 352 (411); 354 (8); Sellnick and Forsslund 716 (489); Strenzke 754 (25); Schweizer 691 (250); 692 (tab. 8 no. 329); Tarras-Wahlberg 765 (28); Aoki 10 (179); Dalenius 144 (107); Aoki 17 (121); Bernini 98 (381); Behan 72 (39); Molodova and Golosova 570 (426); Grishina 323 (82); Solhøy 744 (19); Wallwork 950 (217); Behan 73 (389); Behan et al. 76 (263); Paik 938 (233).

Camisia segnis (Hermann, 1804)

Type: Not designated
Comb./Syn.: *Notaspis segnis* Hermann, 1804 (389, p. 94)
Camisia segnis (Hermann, 1804) (232, p. 38)
Nothrus segnis (Hermann, 1804) (560, p. 188)
Uronothrus segnis (Hermann, 1804) (88, p. 98)
Nothrus bicarinatus C.L. Koch, 1839 (485, Vol. 29(16)): (338, p. 31). **Type:** Unknown
Camisia bicarinata (C.L. Koch, 1839) (829, p. 110)
Nothrus rostratus C.L. Koch, 1839 (485, Vol. 29(19)): (561, p. 514). **Type:** Unknown
Nothrus ventricosus C.L. Koch, 1844 (485, Vol. 38(3)): (561, p. 514). **Type:** Unknown
Nothrus excisus Banks, 1895 (45, p. 15): (613, p. 647).**Type:** USNM;
Paratypes: USNM (labeled "Cotypes")

Add. Comb./Syn. Ref.: Grandjean 232 (38); Sellnick and Forsslund 716 (491); Hammen 340 (65); Subìas 755 (97).

Distribution: *USA*: Woolley 864 (277); Alaska - Hammer 354 (7); Behan 73 (389); Mich. - Wallwork 788 (172); N.Y. - Banks 45 (15); Ewing 169 (387); Va. - Sengbusch 719 (130).
Canada: Hammer 365 (68); N.B. - Pielou and Verma 658 (1190); N.W.T. - Behan 73 (389); N.S. - Rasmy and MacPhee 670 (174); Que. - Behan 72 (39); Behan et al. 76 (263); Forest et al. 1051 (36).
Palearctic: Michael 560 (188); 561 (514); 564 (70); Willmann 829 (110); Tuxen 779 (333); Grandjean 260 (451); 267 (224); Hammen 338 (31); Sellnick and Forsslund 716 (491); Schweizer 691 (246); 692 (tab. 8 no. 325); Kunst 503 (35); Travé 775 (211); Tarras-Wahlbe}g 765 (28); Woolley 864 (277); Vanek 783 (293); Travé 777 (230); Block 110 (245); Luxton 528 (524); Suzuki 758 (14); Aoki 20 (64); Rubcova 681 (386); Gilyarov 207 (76); Usher 781 (356); 782 (366); Lebrun 514 (422); Niedbała 604 (60); Subìas 755 (97); Danks 971 (398).
Australian: Hammer 365 (68) [Q.I.].
Neotropical: Hammer 355 (31); 357 (21); 358 (22); Wallwork 800 (162); 805 (242).
Antarctic: Wallwork 800 (162); 802 (615); 805 (242).
Description: *Adult*: Hermann 389 (94) fig.; Michael 560 (188) fig.; 561 (514) fig.; Banks 45 (15); Michael 564 (70); Willmann 829 (110) fig.; Grandjean 232 (38) chaet., fig.; 240 (62) chaet., fig. app.; 244 (38) chaet.; 245 (422) chaet., fig. app.; 247 (51) chaet.; 251 (21) chaet.; 257 (395) chaet.; 258 (315) chaet., fig. app.; 265 (207) chaet.; 267 (224) fig.; Baker and Wharton 36 (403) fig.; Sellnick and Forsslund 716 (491) fig.; Schweizer 691 (246) fig.; Hammer 355 (31) fig.; Vanek 783 (293) fig.; Grandjean 307 (179) chaet.; 308 (531) chaet.; Balogh 42 (pl. 9 fig. 5-6); Aoki 20 (64) fig.; Gilyarov 207 (76) fig.; Balogh and Mahunka 1119 (pl. 113 fig G).
Nymph: Michael 560 (188); Schweizer 691 (246) fig.
Tritonymph: Grandjean 244 (38) fig. app.; 245 (422) fig. app.; 257 (395) fig.
Deutonymph: Grandjean 244 (38) fig. app.
Larva: Grandjean 244 (38) fig. app.; 251 (21) chaet.
Prelarva: Sitnikova 739 (224).
Taxonomy: André 953 (141).
Key: Michael 561 (514); 564 (70); Willmann 829 (110); Sellnick and Forsslund 716 (491); Gilyarov 207 (76); Balogh and Mahunka 1119 (188).
Add. References: Michael 561 (514); Willmann 829 (110); Hammen 338 (31); 340 (65); Luxton 531 (462); Hammen 344 (13).
Biology: Grandjean 267 (224); Sengbusch and Sengbusch 723 (210); Luxton 988 (337).

Foods: Woodring 845 (102); Luxton 531 (462); Behan and Hill 75 (498).
Ecology: Michael 560 (188); 561 (514); Banks 45 (15); Michael 564 (70); Banks 52 (73); Ewing 169 (387); Banks 63 (100); Willmann 829 (110); Tuxen 779 (333); Grandjean 260 (451); 267 (224); Hammen 338 (31); Hammer 354 (7); Sellnick and Forsslund 716 (491); Schweizer 691 (246); 692 (tab. 8 no. 325); Sengbusch 719 (130); Wallwork 788 (172); Hammer 355 (31); Kunst 503 (35); Travé 775 (211); Hammer 357 (21); Rajski 668 (21); Tarras-Wahlberg 765 (28); Woolley 864 (277); Hammer 358 (22); Travé 777 (230); Block 110 (245); Luxton 528 (524); Pielou and Verma 658 (1190); Hammer 365 (68); Bernini 96 (422); Rajski 669 (242); Rasmy and MacPhee 670 (174); Bernini 98 (393); Suzuki 758 (14); Behan 72 (39); Wallwork 802 (615); Aoki 20 (64); Rubcova 681 (386); Wallwork 805 (242); Usher 781 (356); 782 (366); Lebrun 514 (422); Wallwork 950 (339); Niedbała 604 (60); Subìas 755 (97); Behan 73 (389); Behan et al. 76 (263).

Camisia spinifer (C.L. Koch, 1835)

Type: Unknown
Comb./Syn.: *Nothrus spinifer* C.L. Koch, 1835 (485, Vol. 2(8)) *Camisia spinifer* (C.L. Koch, 1835) (829, p. 110)
Nothrus taurinus Banks, 1906 (56, p. 499): (613, p. 648). **Type:** MCZ
Camisia taurinus (Banks, 1906) (649, p. 148)
Add. Comb./Syn. Ref.: Michael 561 (497) [!]; Hammen 338 (31); Sellnick and Forsslund 716 (493) Subìas 755 (99).

Distribution: *USA*: Banks 63 (101); Woolley 864 (277); Hammer 365 (68) [Q.I.]; Alaska - Hammer 354 (7); N.Y. - Hartenstein 376 (203) Norton and MacNamara 615 (91); N.C. - Jacot 455 (354); Pearse 649 (148); Tenn. - Crossley and Bohnsack 142 (631); Va. - Banks 56 (499); Ewing 169 (387); Sengbusch 719 (130).
Nearctic: Sellnick and Forsslund 716 (493); Schweizer 691 (249); Lions 520 (438); Gilyarov 207 (76).
Palearctic: Michael 561 (497) [!]; 563 (417) [!]; 564 (73); Willmann 829 (110); 835 (226); Hammer 349 (35); Hammen 338 (31); Sellnick and Forsslund 716 (493); Schweizer 691 (249); 692 (tab. 8 no. 328); Märkel 543 (478); Kunst 503 (35); Rajski 668 (21); Tarras-Wahlberg 765 (28); Woolley 864 (277); Aoki 10 (179); Travé 777 (203); Block 110 (245); Lebrun 506 (49); 507 (103); Lions 519 (SO7); 520 (438); Seyd 729 (140); Wood 843 (116); Aoki 17 (121); Hammer 365 (68); Bernini 96 (422); Rajski 669 (236); Bernini 98 (393); Aoki 21 (249); 22 (64); Rubcova 681 (386); Gilyarov 207 (76); Luxton 532 (181); Usher 781 (356); 782 (366); Lions 523 (170); Niedbała 604 (60); Subìas 755 (99); Norton 613 (648).
Description: *Adult*: Koch 485 (Vol. 2 (8)); Michael 561 (497) [!] fig.; 564 (73); Banks 56 (499) fig.; 63 (101) fig.; Willmann 829 (110) fig.; Grandjean 232 (39) chaet.; Jacot 455 (354); Grandjean 265 (214) chaet.; Sellnick and Forsslund 716 (493) fig.; Schweizer 69 1 (249) fig. ; Grandjean 293 (250) chaet., fig.; Aoki 22 (64) fig.; Gilyarov 207 (76) fig.; Balogh and Mahunka 1119 (pl. 113 fig. B).

Nymph: Michael 561 (497) [!].
Larva: Michael 561 (497) [!] fig.
Prelarva: Sitnikova 739 (225).
Key: Michael 564 (73); Willmann 829 (110); Sellnick and Forsslund 716 (493); Gilyarov 207 (76); Balogh and Mahunka 1119 (188).
Add. References: Michael 561 (497) [!]; Willmann 829 (110); Hammen 338 (31); Luxton 531 (462); Hammen 344 (13).
Morphology: Grandjean 293 (250).
Biology: Grandjean 243 (465); Sengbusch 721 (499); Lebrun 511 (202); 988 (337).
Foods: Hartenstein 376 (203); Woodring 845 (103); Luxton 531 (462).
Ecology: Banks 63 (101); Willmann 829 (110); 835 (226); Pearse 649 (148); Hammen 338 (31); Hammer 354 (7); Sellnick and Forsslund 716 (493); Schweizer 691 (249); 692 (tab. 8 no. 328); Sengbusch 719 (130); Märkel 543 (478); Kunst 503 (35); Crossley and Bohnsack 142 (631); Rajski 668 (21); Tarras-Wahlberg 765 (28); Woolley 864 (277); Aoki 10 (179); Travé 777 (203); Block 110 (245); Lebrun 506 (49); 507 (103); Lions 519 (507); 520 (438); Seyd 729 (140); Wood 843 (116); Aoki 17 (121); Hammer 365 (68); Bernini 96 (422); Rajski 669 (236); Bernini 98 (393); Molodova and Golosova 570 (427); Aoki 21 (249); 22 (64); Rubcova 681 (386); Luxton 532 (181); Usher 781 (356); 782 (366); Lions 523 (170); Wallwork 950 (3251); Niedbała 604 (60); Subìas 755 (99)

***Camisia* sp.**

Distribution: *USA*: Calif. - Ashley and Bohnsack 959 (618).
Canada: Alta. - Powell and Skaley 662 (20); Man. - Oswald and Minty 620 (80); Que. - Behan 72 (3g); Behan et al. 76 (263).

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

Distribution: *Canada*: Man. - Oswald and Minty 620 (80).
Remarks: This record is sub *Uronothrus sp. nr. kochi*, however, *U. kochi* Willmann, 1943 is now a synonym of *Camisia biurus* (C.L. Koch, 1839).

***Camisia sp. cf. horrida* (Hermann, 1804)**

Distribution: *USA*: N.M. - Wallwork et al. 1229 (169).

***Heminothrus* Berlese, 1913**

Heminothrus Berlese, 1913
Type-species: *Nothrus targionii* Berlese, 1885 (88, p. 98).

Remarks: The proposal of Balogh and Mahunka 1983 (1119, p. 186) that *Neonothrus* Forsslund, 1955 and *Platynothrus* Berlése, 1916 be considered subgenera of *Heminothrus* Berlese, 1913 is not accepted here. We list all three genera separately pending further study.

***Heminothrus interlamellaris* Jacot, 1939**

Type: USNM (Cotypes)
Comb./Syn.: *Heminothrus longisetosus interlamellaris* Jacot, 1939 (462, p. 321)
Heminothrus interlamellaris Jacot, 1939 (469, p. 52)

Distribution: *USA*: N.H. - Jacot 462 (321).
Description: *Adult*: Jacot 462 (321) fig.
Ecology: Jacot 462 (321).

***Heminothrus longisetosus* Willmann, 1925**

Type: Lost
Comb./Syn.: *Heminothrus paolianus longisetosus* Willmann, 1925 (824, p. 9)
Heminothrus longisetosus Willmann, 1925 (207, p. 81)

Distribution: *USA*: Alaska - Hammer 354 (9); 362 (9); Behan 73 (389).
Canada: Que. - Behan 73 (389).
Nearctic: Hammer 352 (411); Sellnick and Forsslund 716 (509); Gilyarov 207 (81); Danks 971 (398).
Palearctic: Willmann 829 (113); Forsslund 192 (190); 193 (350); Tuxen 780 (394); Sellnick and Forsslund 716 (509); Rajski 668 (22); Tarras-Wahlberg 765 (29); Dalenius 144 (107); 145 (4); Byzova 125 (185); Aoki 17 (123); Rajski 669 (236); Molodova and Golosova 570 (426); Gilyarov 207 (81); Paik 938 (233); Danks 971 (398).
Description: *Adult*: Willmann 824 (9) fig.; 829 (113) fig.; Tuxen 780 (394); Sellnick and Forsslund 716 (509) fig.; Gilyarov 207 (81) fig.; Balogh and Mahunka 1119 (pl. 115 fig. A-B).
Tritonymph: Tuxen 780 (394) fig.
Key: Willmann 829 (113); Tuxen 780 (394); Sellnick and Forsslund 716 (509); Gilyarov 207 (81); Balogh and Mahunka 1119 (191).
Ecology: Willmann 829 (113); Forsslund 192 (190); 193 (350); Hammer 352 (411); 354 (9); Sellnick and Forsslund 716 (509); Rajski 668 (22); Tarras-Wahlberg 765 (29); Dalenius 144 (107); 145 (4);

Byzova 125 (185); Hammer 362 (9); Aoki 17 (123); Rajski 669 (236); Molodova and Golosova 570 (426); Behan 73 (385); Paik 938 (233).

***Heminothrus ornatissimus* (Berlese, 1910)**

Type: SEA
Comb./Syn.: *Angelia ornatissima* Berlese, 1910 (87, p. 224)
Heminothrus ornatissimus (Berlese, 1910) (340, p. 70)

Distribution: *USA*: Fla. - Berlese 87 (224)- Hammen 340 (70).
Description: *Adult*: Berlese 87 (224) fig.
Ecology: Berlese 87 (224).

***Heminothrus paolianus* (Berlese, 1913)**

Type: Unknown
Comb./Syn.: *Nothrus (Heminothrus) paolianus* Berlese, 1913 (88, p. 99)
Heminothrus paolianus (Berlese, 1913) (348, p. 42)
Distribution: *USA*: Mich. - Wallwork 788 (172).
Nearctic: Hammer 348 (42); 349 (12).
Palearctic: Berlese 88 (99); Hammer 348 (42); 349 (12); Märkel 543 (478); Hammen 340 (70); Zlotin and Krivoluckij 906 (255); Grishina 323 (82).
Description: *Adult*: Berlese 88 (99) fig.; Balogh and Mahunka 1119 pl. 114 fig G).
Key: Balogh and Mahunka 1119 (140).
Add. References: Luxton 531 (463).
Foods: Luxton 531 (463).
Ecology: Berlese 88 (99); Hammer 348 (42); 349 (12); Wallwork 788 (1-72); Märkel 543 (478); Zlotin and Krivoluckij 906 (255); Grishina 323 (82); Wallwork 950 (217).

***Heminothrus princeps* (Berlese, 1916)**

Type: SEA
Comb./Syn.: *Nothrus (Heminothrus) princeps* Berlese, 1916 (92, p. 334)
Heminothrus princeps (Berlese, 1916) (340, p. 71)

Distribution: *USA*: Mo. - Berlese 92 (334); Hammen 340 (71).
Description: *Adult*: Berlese 92 (334).
Ecology: Berlese 92 (334).

Remarks. This is considered a junior synonym of *H. targionii* (Norton and Kethley 1989).

***Heminothrus targionii* (Berlese, 1885)**

Syntypes: SEA
Comb./Syn.: *Nothrus targionii* Berlese, 1885 (77, Vol. 17(8))
Heminothrus targionii (Berlese, 1885) (829, p. 113)
Add. Comb./Syn. Ref.: Hammen 338 (37); Sellnick and Forsslund 716 (507); Hammen 340 (69); Aoki 13 (294).
Distribution: *Canada*: Que. - Behan 72 (39); Behan et al. 76 (236).
Palearctic: Michael 561 (488); 564 (75); Willmann 829 (113); Hammen 338 (37); Tuxen 780 (394); Sellnick and Forsslund 716 (507); Hammen 340 (69); Rajski 668 (22); Moritz 571 (150); Aoki 13 (294); Bernini 96 (422); Rajski 669 (232); Aoki 21 (250); Grishina 323 (82); Gilyarov 207 (81); Hammer 373 (18) [!].
Description: *Adult*: Berlese 77 (Vol. 17(8)); Michael 561 (488) fig.; 564 (75); Willmann 829 (113) fig.; Grandjean 244 (33) chaet.; 247 (51) chaet.; 251 (21) chaet.; 265 (214) chaet.; Hammen 338 (37) fig.; Tuxen 780 (394) fig. app.; Sellnick and Forsslund 716 (507) fig.; Grandjean 286 (99) fig.; 300 (634) chaet.; 307 (179) chaet.; 308 (531) chaet.; Gilyarov 207 (81) fig.; Balogh and Mahunka 1119 (pl. 114 fig. H-I).
Tritonymph: Grandjean 251 (21) chaet.; Tuxen 780 (394) fig. *Deutonymph*: Grandjean 251 (21) chaet.
Protonymph: Grandjean 251 (21) chaet.
Larva: Grandjean 251 (21) chaet.; Tuxen 780 (394) fig.
Key: Michael 564 (75); Willmann 829 (113); Tuxen 780 (394); Sellnick and Forsslund 716 (507); Gilyarov 207 (81); Balogh and Mahunka 1119 (191).
Add. References: Willmann 829 (113); Hammen 338 (37); 340 (69); Moritz 571 (156); Aoki 13 (294); Hammen 337 (119); 344 (20).
Morphology: Grandjean 286 (951).
Miscellaneous: Lasebikan et al. 984 (52) extract.
Ecology: Michael 561 (488); Willmann 829 (113); Hammen 338 (37); Sellnick and Forsslund 716 (507); Rajski 668 (22); Moritz 571 (156); Bernini 96 (422); Rajski 669 (232); Behan 72 (39); Grishina 323 (82); Hammer 373 (18) [!]; Behan et al. 76 (236).

***Heminothrus thori* (Berlese, 1904)**

Type: SEA
Comb./Syn.: *Angelia thori* Berlese, 1904 (80, p. 275)
Heminothrus thori (Berlese, 1904) (829, p. 113)
Nothrus (Heminothrus) thori (Berlese, 1904) (88, p. 99)

Platynothrus thori (Berlese, 1904) (716, p. 521)
Add. Comb./Syn. Ref.: Hammen 340 (70); Subìas 755 (100).

Distribution: *Canada*: Sellnick and Forsslund 716 (521); Schweizer 691 (251); Aoki 13 (293); Gilyarov 207 (81); Man. - Hammer 350 (24); Oswald and Minty 620 (82); Nfld. - Behan 73 (389). Nearch.c: Willmann 835 (228); Hammer 348 (42); 349 (11); 352 (411); Sellnick and Forsslund 716 (521); Schweizer 691 (251); Aoki 13 (293); Hammer 373 (18).
Palearctic: Berlese 80 (275); Willmann 829 (113); Tuxen 779 (333); Willmann 835 (228); Hammer 348 (42); 349 (11); Tuxen 780 (394); Sellnick and Forsslund 716 (521); Schweizer 691 (251); 692 (tab. 8 no. 330); Rajski 668 (22); Aoki 13 (293); Block 112 (161); Hammer 367 (97); Rajski 669 (238); Rubcova 681 (386); Gilyarov 207 (81); Hammer 373 (18); Subìas 755 (100).
Description: *Adult*: Berlese 80 (275); 88 (99) fig.; Willmann 829 (113) fig.; Hammer 350 (24) fig.; Tuxen 780 (394) fig. app.; Sellnick and Farsslund 716 (521) fig.; Schweizer 691 (251) fig.; Gilyarov 207 (81) fig.; Balogh and Mahunka 1119 (pl. 117 fig. E-F).
Nymph: Tuxen 779 (333) fig.
Tritonymph: Tuxen 780 (394) fig.
Larva: Tuxen 780 (394) fig.
Key: Willmann 829 (113); Tuxen 780 (394); Aoki 13 (293); Gilyarov 207 (81); Balogh and Mahunka 1119 (192).
Add. References: Willmann 829 (113); Hammer 349 (11); Mihel i 1147 (107); Hammen 340 (70).
Ecology: Willmann 829 (113); Tuxen 779 (333); Hammer 348 (42); 349 (11); 350 (24); 352 (411); Schweizer 691 (251); 692 (tab. 8 no. 330); Rajski 668 (22); Block 112 (161); Hammer 367 (97); Oswald and Minty 620 (82); Rajski 669 (238); Rubcova 681 (386); Wallwork 950 (330); Hammer 373 (18); Subìas 755 (100); Behan 73 (389).
Remarks: A study of immatures suggested that placement in *Platynothrus* is most appropriate (RAN).

***Heminothrus* sp.**

Distribution: *USA*: N.Y. - Norton and MacNamara 615 (91).
Canada: Que. - Behan 72 (39); Behan et al. 76 (263).

***Neonothrus* Forsslund, 1955**

Neonothrus Forsslund, 1955
Type-species: *Neonothrus humicola* Forsslund, 1955 (716, p. 512).

Remarks: See under *Heminothrus* Berlese, 1913.

***Neonothrus humicolus* Forsslund, 1955**

Type: SMNH
Comb./Syn.: *Neonothrus humicola* Forsslund, 1955 (716, p. 512)
Heminothrus humicola (Forsslund, 1955) (1119, p. 191)

Distribution: *USA*: Alaska - Behan 73 (389).
Nearctic: Hammer 356 (361); Danks 971 (398).
Palearctic: Forsslund 192 (190); 193 (350); 716 (512); Hammer 356 (361); Dalenius 144 (107); 145 (4); Byzova 124 (292); Molodova and Golosova 570 (427); Kurcheva 504 (95); Gilyarov 207 (81); Danks 971 (398).
Description: *Adult*: Forsslund 716 (512) fig.; Balogh 42 (pl. 9 figs. 16-17); Gilyarov 207 (81) fig.; Balogh and Mahunka 1119 (pl.115 fig. I-J).
Key: Balogh and Mahunka 1119 (191).
Add. Rererences: Forsslund 716 (512); Hammer 356 (361).
Ecology: Forsslund 192 (190); 193 (350); 716 (512); Dalenius 144 (107); 145 (4); Byzova 124 (292); Molodova and Golosova 570 (427); Kurcheva 504 (95); Behan 73 (385).
Remarks: Forsslund used the name *Neonothrus humicola* twice (192, p. 190; 193, p. 350, nomen nudum) before he described the species in 1955 (716, p. 512).

***Platynothrus* Berlese, 1913**

Platynothrus Berlese, 1913
Type-species: *Nothrus peltifer* C.L. Koch, 1839 (88 p. 99)

Remarks: See under *Heminothrus* Berlese, 1913.

***Platynothrus banksi* (Michael, 1898)**

Syntypes: MCZ
Comb./Syn.: *Nothrus furcatus* Banks, 1895 (57, p. 614); non C.L. Koch, 1844 (564, p. 70)
Nothrus banksi Michael, 1898 (564, p. 70)
Platynothrus banksi (Michael, 1888) (613, p. 646)

Distribution: *USA*: Banks 63 (101); Wash. - Banks 45 (14); Michael 564 (70); Ewing 169 (387).
Description: *Adult*: Banks 45 (14); Michael 564 (70); Banks 52 (73) fig.; 63 (101) fig.; Norton 613 (646).
Key: Banks 45 (14); Michael 564 (70).
Ecology: Banks 63 (101).

Remarks: Michael (564, p. 70) noted that *Nothrus furcatus* Banks, 1895 was preoccupied by *N. furcatus* Koch, 1844. *Nothrus banksi* Michael, 1898 was a replacement name.

***Platynothrus bicarinatus* Jacot, 1938**

Type: MCZ, USNM (Cotypes)
Comb./Syn.: *Platynothrus bicarinatus* Jacot, 1938 (456, p. 10)

Distribution: *USA*: N.C. - Jacot 456 (10).
Description: *Adult*: Jacot 456 (10).
Ecology: Jacot 456 (10).

***Platynothrus carinatus* (Banks, 1910)**

Syntypes: MCZ
Comb./Syn.: *Nothrus carinatus* Banks, 1910 (61, p. 11)
Platynothrus carinatus (Banks, 1910) (631, p. 646)

Distribution: *USA*: Ky. - Cockfield and Potter 1124 (1264). Va. - Banks 61 (11).
Description: *Adult*: Banks 61 (11) fig.; Norton 613 (646).
Ecology: Banks 61 (11); Cockfield and Potter 1124 (1264).

***Platynothrus peltifer* (C.L. Koch, 1839)**

Type: Unknown
Comb./Syn.: *Nothrus peltifer* C.L. Koch, 1839 (485, Vol. 29(9))
Heminothrus peltifer (C.L. Koch, 1839) (1119, p. 192)
Platynothrus peltifer (C.L. Koch, 1839) (829, p. 112)
Nothrus palliatus C.L. Koch, 1839 (485, Vol. 30(4)): (340, p. 71). **Type:** Unknown
Angelia palliata (C.L. Koch, 1839) (1047, p. 26)
Nothrus bistriatus Nicolet, 1855 (592, p. 397); non C.L. Koch, 1839 (561, p. 462). **Type:** Not designated.
Nothrus cirrosus Canestrini and Fanzago, 1876 (128, p. 103): (561, p. 462). **Type:** Unlcnown
Add. Comb./Syn. Ref.: Berlese 77 (Vol. 17(9)); Michael 564 (63).
Distribution: *USA*: Hammer 365 (68) [Q.I.]; Jalil 467 (309); Alaska - Hammer 354 (8); 362 (9); Ill. - Ewing 172 (373); 169 (373); Ky. - Wallwork and Rodriguez 806 (703); Ibarra et al. 412 (155); Mich. - Wallwork 788 (172); Mo. - Ewing 172 (373); N.Y. - Hartenstein 381 (709); Norton and MacNamara

615 (91); Ohio - Miller 927 (143); Tenn. - Crossley and Bohnsack 142 (631); Va. - Sengbusch 719 (130).
Canada: Schweizer 691 (253); Hammen 340 (71); Aoki 13 (294); Hammer 362 (9); Nfld. - Behan 73 (389); N.W.T. - Hammer 350 (23); Ont. - Freitag and Ryder 201 (41); Que. - Behan 73 (389).
Nearctic: Haarløv 324 (36); Willmann 835 (227); Hammer 348 (42); Forsslund 193 (350); Hammer 349 (11); 352 (411); Hammen 340 (71); Woolley 864 (277); Block 111 (736); Hammer 362 (9); 345 (18); Danks 971 (398).
Palearctic: Michael 560 (200); 561 (462); 564 (63); Ewing 172 (373); Miller 927 (143); Willmann 829 (112); Grandjean 223 (28); Tuxen 779 (333); Willmann 835 (227); Forsslund 192 (102); Hammer 348 (42); Forsslund 193 (350); Hammer 349 (11); Grandjean 261 (658); Weis-Fogh 817 (205); Tuxen 780 (394); Schweizer 691 (253); Haarløv 326 (45); Schweizer 692 (tab. 8 no. 334); Märkel 543 (478); Sellnick 707 (48); Hammen 340 (71); Kunst 503 (35); Moskacheva 578 (369); Rajski 668 (24); Woolley 864 (277); Dalenius 144 (107); 145 (4); Moritz 571 (157); Berthet 107 (52); Byzova 124 (292); 125 (185); Lebrun 505 (375); Luxton 526 (175); Madge 536 (567); 537 (721); Aoki 13 (294); Berthet and Gerard 109 (217); Block 111 (736); 110 (245); Lebrun 506 (27); 507 (103); Madge 538 (122); 539 (398); Moritz 572 (71); Krivoluckij 495 (183); Hammer 362 (9); Luxton 529 (57); 530 (270); Wood 843 (116); Fager 181 (126); Hammer 365 (68); Bernini 96 (422); Hammer 367 (97); Bernini 98 (393); Grandjean 319 (209); Hammer 370 (416); Jalil 467 (309); 468 (406); Molodova and Golosova 570 (426); Grishina 323 (82); Harding 375 (79); Kurcheva 504 (95); Rubcova 681 (386); Wallwork 804 (129); Polderman 660 (360); Gilyarov 207 (84); Luxton 532 (181); Usher 781 (356); 782 (366); Weigmann 815 (142); Aoki 25 (146); Lebrun 514 (422); Solhøy 744 (19); Tarba and Semenova 761 (129); Hammer 345 (18); Niedbała 604 (60); Danks 971 (398).
Australian: Hammer 361 (30); 365 (68); Spain and Luxton 947 (197).
Description: *Adult*: Koch 485 (Vol. 29 (9)); Nicolet 592 (397); Michael 560 (200); Berlese 77 (Vol. 17(9)) fig.; Michael 561 (462) fig.; 564 (63); Ewing 169 (373); Miller 927 (143); Sellnick 700 (20) fig.; Willmann 829 (112) fig.; Grandjean 221 (462) fig.; 223 (28) chaet., fig.; 224 (124) fig.; 229 (507) chaet.; 230 (13) chaet.; 244 (46) chaet.; 247 (51) chaet.; Forsslund 192 (102) photo.; Grandjean 251 (22) chaet.; 261 (658); 265 (214) chaet.; 267 (229); Hammer 350 (23) fig.; Tuxen 780 (394) fig. app.; Schweizer 691 (253) fig.; Grandjean 297 (281) chaet., fig. app.; Hartenstein 381 (709) fig.; Grandjean 307 (179) chaet.; 308 (531) chaet.; Hammer 361 (30) fig.; Grandjean 319 (209) chaet., fig.; 320 (454) chaet.; 321 (759) chaet.; Gilyarov 207 (84) fig.; Tarba and Semenova 761 (129) photo.; Balogh and Mahunka 1119 (pl. 116 fig. D-E).
Nymph: Michael 560 (200) fig.; 561 (462) fig.; Schweizer 691 (253) fig.
Tritonymph: Grandjean 251 (22) chaet.; 297 (281) fig. app.; Hartenstein 381 (709) fig.; Grandjean 319 (205) fig.
Deutonymph: Grandjean 251 (22) chaet.; 297 (281) fig. app.; Hartenstein 381 (709) fig.; Grandjean 319 (209) chaet.
Protonymph: Grandjean 223 (28) fig.; 251 (22) chaet.; Hartenstein 381 (709) fig.; Grandjean 319 (209) fig.

Larva: Grandjean 223 (28) fig.; 251 (22) chaet.; Tuxen 780 (394) fig. app.; Hartenstein 381 (709) fig.; Grandjean 319 (209) chaet.
Taxonomy: Lombardini 525 (42).
Key: Michael 564 (63); Willmann 829 (112); Tuxen 780 (394); Aoki 13 (294); Gilyarov 207 (84); Balogh and Mahunka 1119 (192).
Add. References: Michael 561 (462); 564 (63); Ewing 169 (373); Willmann 829 (112); Hammer 349 (11); Hammen 340 (71); 344 (31); Grandjean 280 (587); 282 (428).
Biology: Grandjean 267 (229); Hartenstein 381 (709); Woodring 845 (102); Block 111 (736); Lebrun 511 (202); Jalil 467 (309); Weigmann 815 (142); 1031 (78); Luxton 988 (337).
Foods: Hartenstein 376 (203); Woodring 845 (102); Block 111 (736); Jalil 467 (309).
Miscellaneous: Grandjean 224 (124) anat.; Tarba and Semenova 761 (129) cut.. Lasebikan et al. 984 (52) extract.; Purrini 1007 (305) parasit.
Ecology: Michael 560 (200); Berlese 77 (Vol. 17(9)); Michael 561 (462); 564 (63); Ewing 169 (373); 172 (373); Miller 927 (143); Willmann 829 (112); Haarløv 324 (36); Tuxen 779 (333); Willmann 835 (227); Forsslund 192 (102); Hammer 348 (42); Forsslund 193 (350); Hammer 349 (11); Grandjean 261 (658); Weis-Fogh 817 (205). Hammer 350 (23); 352 (411); 354 (8); Schweizer 691 (253); Haarløv 326 (45); Schweizer 692 (tab. 8 no. 334); Sengbusch 719 (130); Wallwork 788 (172); Grandjean 297 (281); Märkel 543 (478); Sellnick 707 (48); Kunst 503 (35); Crossley and Bohnsack 142 (631); Moskacheva 578 (369); Rajski 668 (24); Wallwork and Rodriguez 806 (703); Dalenius 144 (107); 145 (4); Moritz 571 (157); Berthet 107 (52); Byzova 124 (292); 125 (185); Lebrun 505 (375); Luxton 526 (175); Madge 536 (567); 537 (721); Berthet and Gerard 109 (21 7); Block 110 (245); Ibarra et al. 412 (155); Lebrun 506 (27); 507 (103); Madge 538 (122); 539 (398); Moritz 572 (71); Hammer 361 (30); Krivoluckij 495 (183); Hammer 362 (9); Luxton 529 (57); 530 (27a); Wood 843 (116); Fager 181 (126); Hammer 365 (68); Bernini 96 (422); Hammer 367 (97); Rajski 669 (242); Bernini 98 (393); Spain and Luxton 947 (197); Hammer 370 (416); Jalil 467 (309); 468 (406); Molodova and Golosova 570 (426); Freitag and Ryder 201 (41); Grishina 323 (82); Harding 375 (79); Kurcheva 504 (95); Rubcova 681 (386); Wallwork 804 (129); Polderman 660 (360); Luxton 532 (181); Usher 781 (350); 782 (366); Aoki 25 (146); Lebrun 514 (422); Solhøy 744 (19); Wallwork 950 (350); Hammer 345 (18); Niedbała 604 (60); Behan 73 (389); Lebrun 515 (609); Nannelli 997 (346); Thomas 1024 (356).

***Platynothrus punctatus* (L. Koch, 1879)**

Type: Unknown
Comb./Syn.: *Nothrus punctatus* L. Koch, 1879 (487, p. 114) *Heminothrus punctatus* (L. Koch, 1879) (1119, p. 192)
Platythrus punctatus (L. Koch, 1879) (835, p. 227)
Hermannia carinata Kramer, 1897 (489, p. 81): (731, p. 291). **Type:** Unknown
Heminothrus valentianus Hull, 1916 (410 p. 405): (731, p. 291). **Type:** BM(NH) [see 731, p. 292]
Neoliodes peltifer sensu Michael, 1898 (564, p. 65): (731, p. 292); non C.L. Koch, 1839

Add. Comb./Syn. Ref.: Michael 564 (65) [mi.]; Sellnick and Forsslund 716 (517); Strenzke 754 (26); Seyd 731 (291).

Distribution: *USA*: Alaska - Seyd 731 (291); Behan 73 (389); MacLean et al. 534 (562); Hammer and Wallwork 374 (19).
Canada: Sellnick and Forsslund 716 (517); Aoki 13 (293); Seyd 731 (291); Gilyarov 207 (83); MacLean et al. 534 (562); Man. - Hammer 350 (23); Hammer and Wallwork 374 (19); N.W.T. - Hammer 350 (23); Behan 73 (389); Y.T. - Hammer and Wallwork 374 (19).
Nearctic: Willmann 835 (227); Hammer 348 (42) [mi.]; Strenzke 754 (26). Haarløv 328 (13); Seyd 731 (291); Gilyarov 207 (83); MacLean et al. 534 (562); Hammer and Wallwork 374 (19); Danks 971 (398).
Palearctic: Willmann 835 (227); Tuxen 780 (394); Sellnick and Forsslund 716 (517); Strenzke 754 (26); Schweizer 691 (254) [mi.]; Dalenius 144 (107); 145 (4); Aoki 13 (293); Block 110 (245); 112 (161); Seyd 731 (291); Gilyarov 207 (83); Behan 73 (389); MacLean et al. 534 (562); Hammer and Wallwork 374 (19); Danks 971 (398).
Description: *Adult*: Koch 487 (114) fig.; Michael 564 (65) [mi.]; Hammer 350 (23) fig.; Tuxen 780 (394) fig. app., Karppinen 475 (32) fig.; Sellnick and Forsslund 716 (517) fig.; Schweizer 691 (254) [mi.] fig.; Haarløv 328 (13) photo.; Gilyarov 207 (83) fig.; Balogh and Mahunka 1119 (pl. 116 fig. A-B).
Taxonomy: Strenzke 752 (90).
Key: Tuxen 780 (394); Aoki 13 (293); Gilyarov 207 (83); Balogh and Mahunka 1119 (192).
Add. References: Seyd 731 (291); Luxton 531 (463) [mi.].
Foods: Luxton 531 (463) [mi.] .
Ecology: Michael 564 (65) [mi.]; Willmann 835 (227); Hammer 348 (42) [mi.]; 350 (23); Sellnick and Forsslund 716 (51 7); Strenzke 754 (26); Schweizer 691 (254) [mi.]; Dalenius 144 (107); 145 (4); Block 110 (245); 112 (161); Haarløv 328 (13); Seyd 731 (291); Behan 73 (389); MacLean et al. 534 (562); Wallwork 1028 (519).
Remarks: Michael (564, p. 65) is sub *Neoliodes peltifer*; Hammer (348, p. 42) is sub *Platynothrus peltifer*; Schweizer (691, p. 254) is sub *Platynothrus palliatus* and Luxton (531, p. 463) is sub *Platynothrus peltifer*.

***Platynothrus sibiricus* Sitnikova, 1975**

Type: Unknown
Comb./Syn.: *Platynothrus sibiricus* Sitnikova, 1975 (946, p. 82)
Heminotrus sibiricus (Sitnikova 1975) (1ll9, p. 192)

Distribution: *USA*: Alaska - Behan 73 (389).
Palearctic: Gilyarov 207 (82); Danks 971 (399).

Description: *Adult*: Sitnikova 946 (82); Gilyarov 207 (82) fig.; Balogh and Mahunka 1119 (pl. 116 fig. C).
Key: Gilyarov 207 (82); Balogh and Mahunka 1119 (192).
Ecology: Behan 73 (389); Danks 971 (399).

***Platynothrus* sp.**

Distribution: *USA*: Minn. - Wagner et al. 786 (14).
Canada: Que. - Behan 72 (39); Behan et al. 76 (263); Danks 971 (399).

TRHYPOCHTHONIIDAE Willmann, 1931

***Afronothrus* Wallwork, 1961**

Afronothrus Wallwork, 1961
Type-species: *Afronothrus incisivus* Wallwork, 1961 (1127, p. 237).

***Afronothrus* sp.**

Distribution: *USA*: Fla. - Norton (RAN unpub.).

***Hydronothrus* Aoki, 1964**

Hydronothrus Aoki, 1964
Type-species: *Hydronothrus crispus* Aoki, 1964 (1115, p. 485).

***Hydronothrus* sp.**

Distribution: *USA*: Md. - Norton (RAN unpub.).
Remarks: This mite was introduced on plants in a botanical garden.

***Mucronothrus* Trägårdh, 1931**

Mucronothrus Trägårdh, 1931
Type-species: *Mucronothrus nasalis* (Willmann, 1929) (= *Mucronothrus rostratus* (Tragårdh, 1931) (1099, p. 31; 1134, p. 3).

Mucronothrus nasalis (Willmann, 1929)

Type: WHPC
Comb./Syn.: *Malaconothrus (?) nasalis* Willmann 1929 (1183, p. 4) *Mucronothrus nasalis* (Willmann, 1929) (835, p. 226)
Mucronothrus rostratus Trägårdh, 1931 (1099, p. 31): (1134, p. 41). **Type:** Unknown.

Distribution: *Canada*: N.B. - CNC unpub. (RAN); Sask. - CNC unpub. (RAN).
Palearctic: Willmann 831 (374); 835 (226); Hammer 355 (25) [!]; 356 (360); Sellnick 709 (75); Travé 1177 (303); 1178 (521); Gilyarov 207 (87); Balogh and Mahunka 1119 (198).
Neotropical: Hammer 355 (25) [!]; 357 (16); 359 (11); Balogh and Mahunka 1119 (198).
Australian: Hammer 361 (15); Travé 1178 (521); Balogh and Mahunka 1119 (198).
Description: *Adult*: Willmann 1183 (4) fig.; 831 (374) fig.; Hammer 355 (25) [!] fig.; 1134 (3) fig.; 361 (15) fig.; Travé 1177 (303) fig. app.; chaet.; 1178 (521) fig. app., chaet.; Gilyarov 207 (87) fig.; 207 (87); Balogh and Mahunka 1119 (pl. 119 fig D).
Nymph: Hammer 355 (25) [!] fig.
Ecology: Hammer 355 (25) [!]; 356 (360); Sellnick 709 (75); Hammer 359 (11); 1134 (3); 361 (15); Travé 1177 (303); 1178 (521).

Trhypochthoniellus Willmann, 1928

Trhypochthoniellus Willmann, 1928
Type-species: *Trhypochthonius (Trhypochthoniellus) setosus* Willmann, 1928 (825, p. 3).

Trhypochthoniellus badius (Berlese, 1905)

Type: Lost
Comb./Syn.: *Tripochthonius [!] badius* Berlese, 1905 (83, p. 237) *Trhypochthonius badius* Berlese, 1905 (829, p. 103) *Trhypochthoniellus badius* (Berlese, 1905) (340, p. 74)

Distribution: *USA*: Hammer 365 (69) [Q.I.]; N.Y. - Sengbusch 717 (157).
Canada: Hammer 365 (69); Man. - Hammer 350 (21); Que. - Behan 72 (40); Behan et al. 76 (263).
Palearctic: Berlese 83 (237) [!]; Willmann 829 (103); Schweizer 691 (234); 691 (tab. 8 no. 311); Hammen 340 (74); Sellnick 709 (75); Tarras-Wahlberg 764 (31); Hammer 373 (19); Balogh and Mahunka 1119 (197).
Description: *Adult*: Berlese 83 (237) [!]; 87 (pl. 20 fig. 47) [!]; Willmann 829 (103) fig.; Sengbusch 717 (157) fig.; Schweizer 691 (234) fig.
Key: Willmann 829 (103); Sellnick 709 (75); Balogh and Mahunka 1119 (197).

Add. References: Willmann 829 (103); Sengbusch 717 (157); Hammen 340 (74).
Ecology: Berlese 83 (237) [!]; Willmann 829 (103); Sengbusch 717 (157); Hammer 350 (21); Schweizer 691 (234); 691 (tab. 8 no. 311); Hammen 340 (74); Sellnick 709 (75); Tarras-Wahlberg 764 (31); Hammer 365 (69); Behan 72 (4l7); Hammer 373 (19); Behan et al. 76 (263).

***Trhypochthoniellus excavatus* (Willmann, 1919)**

Type: WHPC
Comb./Syn.: *Camisia excavatus* Willmann, 1919 (822, p. 552)
Trhypochthoniellus excavatus (Willmann, 1919) (237, p. 306)
Trhypochthonius excavatus (Willmann, 1919) (829, p. 104)
Add. Comb./Syn. Ref.: Hammen 338 (24); Aoki 18 (407); Hammer 369 (19).

Distribution: *USA*: Va. - Sengbusch 719 (130).
Palearctic: Willmann 829 (104); 836 (192); Hammen 338 (24); Sellnick 709 (76); Rajski 668 (25); Lebrun 507 (103); Luxton 532 (191); Hammer 372 (189); 373 (19); Paik 938 (233).
Australian: Hammer 361 (14); Spain and Luxton 947 (206); Hammer 369 (19); 371 (15) .
Neotropical: Hammer 357 (16); 358 (17).
Description: *Adult*: Willmann 822 (552) fig.; 829 (104) fig.; Grandjean 237 (306) chaet.; Hammer 357 (IC) fig.; 361 (14) fig.; Balogh and Mahunka 1119 (pl. 119 fig. B-C)
Key: Willmann 829 (104); Sellnick 709 (76); Balogh and Mahunka 1119 (198).
Add. References: Aoki 18 (407).
Biology: Grandjean 243 (465).
Ecology: Willmann 829 (104); 836 (1923; Hammen 338 (24); Sengbusch 719 (130); Sellnick 709 (76); Hammer 357 (16); Rajski 668 (25); Hammer 358 (17); Lebrun 507 (103); Hammer 360 (275); 361 (14); Aoki 18 (407); Rajski 669 (242); Spain and Luxton 947 (206); Hammer 369 (19); 371 (15); 372 (189); Luxton 532 (191); Wallwork 950 (327); Hammer 373 (19); Paik 938 (233).

***Trhypochthoniellus setosus* (Willmann, 1928)**

Type: WHPC
Comb./Syn.: *Trhypochthonius (Trhypochthoniellus) setosus* Willmann, 1928 (825, p. 3)
Trhypochthoniellus setosus (Willmann, 1928) (829, p. 104)

Distribution: *Nearctic*: Hammer 356 (361); Gilyarov 207 (87); Danks 971 (399).
Palearctic: Willmann 829 (104); Hammer 349 (35); 356 (361); Sellnick 709 (76); Gilyarov 207 (87); Danks 971 (399).

Description: *Adult*: Willmann 825 (3) fig.; 829 (104) fig.; Grandjean 237 (306) chaet.; 244 (34) chaet.; 247 (52) chaet.; 251 (21) chaet.; 265 (207) chaet.; 307 (179) chaet.; 308 (351) chaet.; Gilyarov 207 (87) fig.; Balogh and Mahunka 1119 (pl. 119 fig. A).
Key: Willmann 829 (104); Sellnick 709 (76); Balogh and Mahunka 1119 (197).
Biology: Grandjean 243 (465).
Ecology: Willmann 829 (104); Hammer 356 (361); Sellnick 709 (76).
Remarks: Only the subspecies *Trhypochthoniellus setosus canadensis* Hammer, 1952 is known from North America.

***Trhypochthoniellus setosus canadensis* Hammer, 1952**

Syntypes: CNC
Comb./Syn.: *Trhypochthoniellus setosus canadensis* Hammer, 1952 (350, p. 21)
Trhypochthonius setosus canadensis (Hammer, 1952) (73, p. 389)

Distribution: *USA*: Alaska - Behan 73 (389).
Canada: N.W.T. - Hammer 350 (21).
Description: *Adult*: Hammer 350 (21) fig.
Ecology: Hammer 350 (21); Behan 73 (389).

***Trhypochthonius* Berlese, 1904**

Trhypochthonius Berlese, 1904
Type-species: *Hypochthonius tectorum* Berlese, 1896 (81, p. 27).
Tumidalvus Ewing, 1908
Type-species: *Tumidalvus americanus* Ewing, 1908 (165, p. 244: 63, p. 99).
Trilohmannia Willmann, 1923
Type-species: *Camisia cladonicola* Willmann, 1919 (823, p. 475: 338, p. 23).

***Trhypochthonius americanus* (Ewing, 1908)**

Type: USNM
Comb./Syn.: *Tumidalvus americanus* Ewing, 1908 (165, p. 244)
Trhypochthonius americanus (Ewing, 1908) (63, p. 99)

Distribution: *USA*: Calif. - Walter and Norton 1179 (tab. 1); Colo. - Woolley 852 (288); Ill. - Ewing 165 (244); 169 (387); Banks 63 (951); Hammen 339 (403); Woolley 852 (288); Mo. - Ewing 169 (387); N.C. - Jacot 450 (370); Tenn. - Crossley and Bohnsack 142 (631).

Description: *Adult*: Ewing 165 (244) fig.; Banks 63 (951); Hammen 339 (403); Woolley 852 (288) fig.

Ecology: Ewing 165 (244); 169 (387); Woolley 852 (288); Crossley and Bohnsack 142 (631); Walter and Norton 1179 (tab. 1).

***Trhypochthonius silvestris* Jacot, 1937**

Type: USNM (Cotypes)
Comb./Syn.: *Trhypochthonius silvestris* Jacot, 1937 (455, p. 353)

Distribution: *USA*: N.C. - Jacot 455 (353).
Description: *Adult*: Jacot 455 (353).
Ecology: Jacot 455 (353).

***Trhypochthonius tectorum* (Berlese, 1896)**

Type: SEA (Topotypes)
Comb./Syn.: *Hypochthonius tectorum* Berlese, 1896 (77, Vol. 78(8))
Nothrus tectorum (Berlese, 1896) (807, p. 567)
Trhypochthonius tectorum (Berlese, 1896) (829, p. 103)
Trhypochthonius nigricans sensu Jorgensen, 1934 (473, p. 40-47); non Willmann, 1928 (348, p. 41)
Add. Comb./Syn. Ref.: Hammer 348 (41); Hammmen 340 (73); Aoki 13 (294); Subìas 755 (100).
Distribution: *USA*: Hammer 365 (68) [Q.I.]; Alaska - Hammer 354 (7); Marshall 548 (74); Behan 73 (389); N.Y. - Reeves 673 (27).
Canada: Schweizer 691 (231); Aoki 13 (294); B.C. - Marshall 550 (132); Man. Hammer 350 (21); Marshall 548 (74); Oswald and Minty 620 (82); 621 (75); N.W.T. - Hammer 350 (21); Marshall 548 (74); Behan 73 (389); Que. - Marshall 548 (74); Behan 72 (40); 73 (389); Behan et al. 76 (263); Smith 743 (tab. 20); Y.T. - Behan 73 (389).
Nearctic: Jorgensen 472 (8); Hammer 348 (41); 349 (8); Strenzke 754 (22); Hammen 339 (402); Travé 775 (211); Aoki 13 (294); Hammer 365 (68); Danks 971 (399).
Palearctic: Michael 564 (77); Warburton and Pearce 807 (567); Willmann 829 (103); Grandjean 217 (32); Tuxen 779 (333); Hammer 348 (41); 349 (8); Cooreman 139 (169); Strenzke 754 (22); Hammen 339 (402); Schweizer 691 (231); 692 (tab. 7 no. 308); Karppinen 477 (153); Hammen 340 (73); Kunst 503 (34); Sellnick 709 (75); Travé 775 (211); Rajski 668 (25); Travé 777 (230); Aoki 13 (294); 12 (1); Moritz 572 (72); Hammer 365 (68); Zlotin and Krivoluckij 906 (255); Bernini 96 (422); Rajski 669 (236); Grishina 323 (82); Rubcova 681 (386); Gilyarov 207 (86); Nakamura 582 (250); Subìas 755 (100); Paik 938 (233) [!]; Danks 971 (399).

Neotropical: Hammer 357 (15).
Description: *Adult*: Berlese 77 (Vol. 78(8)); Michael 564 (77); Willmann 829 (103) fig.; Grandjean 217 (32) chaet.; 229 (507) chaet.; 230 (14) chaet.; 233 (1350) chaet.; 234 (861) chaet.; 236 (1456); 235 (114) fig.; 240 (65) chaet., fig. app.; 244 (34) chaet.; 913 (730) chaet.; 247 (48) chaet.; 251 (20) chaet.; 265 (207) chaet.; Hammer 350 (21) fig.; Hammen 339 (402); Schweizer 691 (231) fig.; Grandjean 300 (634) chaet.; Hammer 357 (15) fig.; Grandjean 307 (179) chaet.; 308 (531) chaet.; Balogh 42 (pl. 8fig. 13); Gilyarov 207 (86) fig.; Balogh and Mahunka 1119 (pl.118 fig. E).
Tritonymph: Grandjean 236 (1456).
Deutonymph: Grandjean 236 (1456).
Larva: Grandjean 236 (1456); 235 (114) fig.
Key: Michael 564 (77); Willmann 829 (103); Sellnick 709 (75); Gilyarov 207 (86); Balogh and Mahunka 1119 (196).
Add. References: Willmann 829 (103); Hammer 349 (8); Mihel i 1147 (107); Hammen 340 (73); Aoki 13 (294); Luxton 531 (462); Subìas 755 (100).
Morphology: Grandjean 235 (114).
Biology: Luxton 988 (340).
Foods: Luxton 531 (462).
Ecology: Michael 564 (77); Warburton and Pearce 807 (567); Willmann 829 (103); Grandjean 217 (32); Tuxen 779 (333); Hammer 348 (41); 349 (8); 350 (21); Cooreman 139 (169); Hammer 354 (7); Strenzke 754 (22); Schweizer 691 (231); 692 (tab. 7 no. 308); Karppinen 477 (162); Hammen 340 (73); Kunst 503 (34); Sellnick 709 (75); Travé 775 (211); Hammer 357 (15); Rajski 668 (25); Travé 777 (230); Aoki 12 (1); Moritz 572 (72); Marshall 548 (74); Hammer 365 (68); Reeves 673 (27); Zlotin and Krivoluckij 906 (255); Bernini 96 (422); Oswald and Minty 620 (82); Rajski 669 (236); Oswald and Minty 621 (75); Behan 72 (40); Grishina 323 (82); Rubcova 681 (386); Nakamura 582 (250); Wallwork 950 (354); Hammer 373 (19); Subìas 755 (100); Behan 73 (389); Behan et al. 76 (263); Paik 938 (233) [!]; Smith 743 (tab. 20); Marshall 550 (132); Nannelli 997 (346).

***Trhypochthonius* sp.**

Distribution: *USA*: N.Y. - Norton and MacNamara 615 (91).

***Trhypochthonius* sp. cf. *tectorum* Berlese, (1896)**

Distribution: *USA*: N.M. - Wallwork et al. 1229 (169).

***Trhypochthonius* sp. nr. *tectorum* Berlese, (1896)**

Distribution: *Canada*: Ont. - Freitag and Ryder 201 (41).

MALACONOTHRIDAE BERLESE, 1916

***Malaconothrus* Berlese, 1904**

Malaconothrus Berlese, 1904
Type-species: *Nothrus monodactylus* Michael, 1888 (81, p. 24).

***Malaconothrus gracilis* van der Hammen, 1952**

Type: RNH
Comb./Syn.: *Malaconothrus gracilis* van der Hammen,1952(338,p.27)

Distribution: *USA*: Gilyarov 207 (92); Calif. - Wallwork 803 (102).
Palearctic: Hammen 338 (27); Kunst 503 (34); Sellnick 709 (73); Travé 775 (211); Rajski 668 (22); Tarras-Wahlberg 765 (29); Travé 777 (230); Rajski 669 (235); Polderman 660 (360); Gilyarov 207 (92); Wauthy 808 (148).
Description: *Adult*: Hammen 338 (27) fig.; Grandjean 300 (634) chaet.; Wallwork 803 (102); Gilyarov 207 (92) fig.; Balogh and Mahunka 1119 (pl. 120 fig. A-D).
Key: Sellnick 709 (73); Gilyarov 207 (92); Balogh and Mahunka 1119 (200).
Add. References: Hammen 344 (24).
Ecology: Hammen 338 (27); Kunst 503 (34); Sellnick 709 (73); Travé 775 (211); Rajski 668 (22); Tarras-Wahlberg 765 (29); Travé 777 (230); Rajski 669 (235); Wallwork 803 (102); Polderman 660 (360); Wallwork 950 (347); Wauthy 808 (148).

***Malaconothrus mollisetosus* Hammer, 1952**

Type: CNC
Comb./Syn.: *Malaconothrus mollisetosus* Hammer, 1952 (350, p.22)

Distribution: *USA*: Alaska - Hammer 354 (7); Marshall 548 (74) [!]; Behan 73 (389).
Canada: Man. - Hammer 350 (22); Marshall 548 (74) [!]; Nfld. - Behan 73 (389); N.W.T. - Hammer 350 (22); Marshall 548 (74) [!]; Que. - Marshall 548 (74) [!]; Behan 73 (389).
Palearctic: Hammer 355 (29); 360 (275); 370 (422); Rubcova 681 (386); Gilyarov 207 (94); Hammer 373 (19); Danks 971 (399).
Neotropical: Hammer 355 (29); 357 (20); 358 (22); 359 (12); 360 (275).
Description: *Adult*: Hammer 350 (22) fig.; 355 (29) fig.; 357 (20) fig.; and Mahunka 1119 (pl.120 fig. F-G).

Key: Gilyarov 207 (94); Balogh and Mahunka 1119 (200).
Ecology: Hammer 350 (22); 354 (7); 357 (20); 358 (22); 359 (12); 360 (275); Marshall 548 (74) [!]; Hammer 370 (422); Rubcova 681 (386); Hammer 373 (19); Behan 73 (389).
Remarks: Hammer (357, p. 20 and 360, p. 275) indicated that *Malaconothrus mollisetosus* Hammer, 1952 may be a synonym of *Malaconothrus gracilis* van der Hammen, 1952. However, Balogh and Mahunka recognized them as distinct species (1119, p. 200).

***Malaconothrus* sp.**

Distribution: *USA*: Alaska - Behan 73 (389); Mich. - Wallwork 788 (172); Minn. Wagner et al. 786 (14).
Canada: Man. - Oswald and Minty 620 (82); 621 (75); N.B. - Pielou and Verma 658 (1190); Ont. - Marshall 549 (422); Que. - Pielou and Matthewman 657 (1311); Marshall 548 (75).

***Trimalaconothrus* Berlese, 1916**

Trimalaconothrus Berlese, 1916
Type-species: *Malaconothrus (Trimalaconothrus) indusiatus* Berlese, 1916 (92, p. 336)

***Trimalaconothrus angulatus* Willmann, 1931**

Type: WHPC
Comb./Syn.: *Trimalaconothrus angulatus* Willmann,1931 (829,p.107)

Distribution: *USA*: N.Y. - Sengbusch 717 (157).
Palearctic: Willmann 829 (107).
Description: *Adult*: Willmann 829 (107) fig.; Sengbusch 717 (157) fig.
Key: Willmann 829 (107).
Taxonomy: Balogh and Mahunka 1119 (205).
Ecology: Willmann 829 (107); Sengbusch 717 (157).

***Trimalaconothrus crinitus* (Berlese, 1908)**

Type: Lost (see remarks)
Comb./Syn.: *Malaconothrus crinitus* Berlese, 1908 (84, p. 12)
Trimalaconothrus crinitus (Berlese, 1908) (340, p. 77)

Distribution: *USA*: Fla. - Hammen 340 (77); Mo. - Berlese 84 (12); Hammen 340 (77).
Description: *Adult*: Berlese 84 (12); 87 (pl. 19, fig. 44).

Remarks: The type no longer exists; however, there is a slide (at SEA) from Florida labeled "*crinitus*" by Berlese that is a *Trimalaconothrus* (340, p. 78).

***Trimalaconothrus foveolatus* Willmann, 1931**

Type: WHPC
Comb./Syn.: *Trimalaconothrus foveolatus* Willmann, 1931 (829, p. 106)

Distribution: *USA*: Alaska - Block 112 (162).
Nearctic: Hammer 348 (41); 349 (8); Strenzke 754 (23); Rajski 669 (238).
Palearctic: Willmannn 829 (100); Hammer 349 (8); Strenzke 754 (23); Tarman 762 (85); Sellnick 709 (74); Rajski 668 (25); Block 110 (245); Rajski 669 (238); Gilyarov 207 (88); Hammer 373 (19).
Description: *Adult*: Willmann 829 (106) fig.; Strenzke 754 (23); Grandjean 302 (412) fig.; Gilyarov 207 (88) fig.; Balogh and Mahunka 1119 (pl. 122 fig. D).
Key: Willmann 829 (106); Sellnick 709 (74); Gilyarov 207 (88); Balogh and Mahunka 1119 (202).
Ecology: Willmann 829 (106); Hammer 348 (41); 349 (8); Strenzke 754 (23); Tarman 762 (85); Sellnick 709 (74); Rajski 668 (25); Block 110 (245); 112 (162); Wallwork 950 (330); Hammer 373 (19).

***Trimalaconothrus glaber* (Michael, 1888)**

Syntypes: BM(NH)
Comb./Syn.: *Nothrus glaber* Michael, 1888 (561, p. 525)
Angelia glaber (Michael, 1888) (1047, p. 26)
Trimalaconothrus glaber (Michaell, 1888) (829, p. 106)
Add. Comb./Syn Ref.: Subìas 755 (102).

Distribution: *USA*: Woolley 864 (277); Gilyarov 207 (92); Va. - Sengbusch 719 (130).
Palearctic: Michael 561 (525); 564 (71); Willmann 829 (106); Tuxen 779 (333); Hammer 349 (35); Schweizer 691 (240); 692 (tab. 8 no. 324); Haarløv 327 (164); Sellnick 709 (74); Rajski 668 (25); Hammer 360 (275); 367 (97); Rajski 669 (234); Polderman 660 (360); Gilyarov 207 (92); Hammer 373 (19); Subìas 755 (102).
Description: *Adult*: Michael 561 (525) fig.; 564 (71); Willmann 829 (106) fig.; Schweizer 691 (246) fig.; Gilyarov 207 (92) fig.; Balogh and Mahunka 1119 (pl.123 fig. A).
Nymph: Michael 561 (525) fig.; Tuxen 779 (333) fig.
Key: Michael 564 (71); Willmann 829 (106); Sellnick 709 (74); Gilyarov 207 (92); Balogh and Mahunka 1119 (203).
Add. References: Subìas 755 (102).

Ecology: Michael 561 (525); 564 (71); Willmann 829 (106); Tuxen 779 (333); Schweizer 691 (246); 692 (tab. 8 no. 324); Sengbusch 719 (130); Haarløv 327 (164); Sellnick 709 (74); Rajski 668 (25); Hammer 360 (275); 367 (97); Rajski 669 (234); Polderman 660 (360); Wallwork 950 (354); Subìas 755 (102).

Trimalaconothrus maior **(Berlese, 1910)**

Type: Lost
Comb./Syn.: *Malaconothrus maior* Berlese, 1910 (87, p. 223)
Trimalaconothrus maior (Berlese, 1910) (340, p. 78)

Distribution: *USA*: Fla. - Berlese 87 (223); Hammen 340 (78).
Description: *Adult*: Berlese 87 (223) fig.
Ecology: Berlese 87 (223).

Trimalaconothrus novus **(Sellnick, 1921)**

Type: Destroyed
Comb./Syn.: *Malaconothrus novus* Sellnick, 1921 (696, p. 76)
Trimalaconothrus novus (Sellnick, 1921) (829, p. 106)
Camisia monodactylus sensu Oudemans, 1925 (644, p. 409): (338, p. 28)
Trimalaconothrus tardus sensu Buitendijk, 1945 (117, p. 374); non Michael, 1888 (338, p. 28)
Add. Comb./Syn.: Subìas 755 (103).

Distribution: *USA*: Hammer 365 (68) [Q.I.]; Alaska - Hammer 354 (7); Block 112 (162); Behan 73 (390); Va. - Sengbusch 1012 (22).
Canada: Nfld. - Behan 73 (390); N.W.T. - Hammer 350 (22); Behan 73 (390).
Nearctic: Hammer 348 (41); 349 (8); Strenzke 754 (24); Hammer 365 (68); Gilyarov 207 (88); Danks 971 (39g).
Palearctic: Willmann 829 (106); 835 (226); Hammer 348 (41); 349 (8); Hammen 338 (28); Strenzke 754 (24); Haarløv 326 (52); Kunst 503 (34); Haarløv 327 (162); Sellnick 709 (74); Rajski 668 (25); Tarras-Wahlberg 765 (31); Dalenius 144 (107); 145 (4); Byzova 124 (292); Block 110 (245); Hammer 365 (68); Rubcova 681 (38O); Gilyarov 207 (88); Niedbala 604 (60); Subìas 755 (103); Danks 971 (399).
Australian: Hammer 361 (18); Spain and Luxton 947 (201).
Neotropical: Hammer 358 (19); Gilyarov 207 (88).

Description: *Adult*: Sellnick 696 (76) fig.; Willmann 829 (106) fig.; Hammer 350 (22) fig.; Haarløv 326 (52); Grandjean 300 (634) chaet.; Hammer 358 (19) fig.; 361 (18) fig.; Balogh 42 (pl.8 fig. 4-5); Gilyarov 207 (88) fig.; Balogh and Mahunka 1119 (pl. 122 fig. B-C).
Tritonymph: Haarløv 326 (52) fig.
Key: Willmann 829 (106); Sellnick 709 (74); Gilyarov 207 (88); Balogh and Mahunka 1119 (203).
Add. References: Willmann 829 (106); Hammer 349 (8); Hammen 338 (28); Subìas 755 (103).
Foods: Behan and Hill 75 (498).
Ecology: Willmann 829 (106); 835 (226); Hammer 348 (41); 349 (8); Hammen 338 (28); Hammer 350 (22); 354 (7); Strenzke 754 (24); Haarløv 326 (52); Kunst 503 (34); Haarløv 327 (162); Sellnick 709 (74); Rajski 668 (25); Tarras-Wahlberg 765 (31); Dalenius 144 (107); Hammer 358 (19); Dalenius 145 (4); Byzova 124 (292); Block 110 (245); 112 (162); Hammer 361 (18); 365 (68); Rajski 669 (242); Spain and Luxton 947 (201); Rubcova 681 (386); Wallwork 950 (354); Hammer 373 (151); Niedbała 604 (603; Subìas 755 (103); Behan 73 (390); Sengbusch 1012 (22).

***Trimalaconothrus simplex* (Banks, 1895)**

Type: MCZ
Comb./Syn.: *Nothrus simplex* Banks, 1895 (47, p. 130)
Trimalaconothrus simplex (Banks, 1895) (613, p. 647)

Distribution: *USA*: N.Y. - Banks 47 (130); Michael 564 (75); Ewing 169 (387).
Description: *Adult*: Banks 47 (130); Michael 564 (75); Norton 613 (647).
Key: Michael 564 (75).
Ecology: Banks 47 (130); Michael 564 (75); Banks 52 (73); Ewing 169 (387); Banks 63 (100).

***Trimalaconothrus* sp.**

Distribution: *USA*: Alaska - Behan 73 (390); Danks 971 (399).
Canada: Man. - Conroy 137 (68); Que. - Marshall 548 (75).

NANHERMANNIOIDEA Sellnick, 1928

NANHERMANNIIDAE **Sellnick, 1928**

***Cyrthermannia* Balogh, 1958**

Cyrthermannia Balogh, 1958
Type-species: *Cyrthermannia tuberculata* Balogh, 1958 (38, p. 3).

Cyrthermannia sp.

Distribution: *USA*: Fla. - Norton (RAN unpub.).

Masthermannia Berlese, 1913

Masthermannia Berlese, 1913
Type-species: *Angelia mammillaris* Berlese, 1904 (88, p. 100).
Posthermannia Grandjean, 1954
Type-species: *Posthermannia nematophora* Grandjean, 1954 (281, p. 298: 340, p. 81).
Phyllonothrus Sellnick, 1959
Type-species: *Phyllonothrus runcifer* Sellnick, 1959 (708, p. 112: 42, p. 179).

Masthermannia hirsuta (Hartman, 1949)

Type: USNM
Comb./Syn.: *Nanhermannia hirsuta* Hartman, 1949 (383. p. 169)
Masthermannia hirsuta (Hartman, 1949) (9, p. 75)
Posthermannia hirsuta (Hartman, 1949) (291, p. 456)

Distribution: *USA*: Tex. - Hartman 383 (169); Grandjean 291 (456); Woolley and Higgins 887 (920); Woolley 864 (277).
Palearctic: Aoki 9 (75); 10 (179).
Description: *Adult*: Hartman 383 (169) fig.; Grandjean 291 (456); Woolley and Higgins 887 (920) fig.
Key: Hartman 383 (169); Woolley and Higgins 887 (920).
Ecology: Hartman 383 (169); Woolley and Higgins 887 (920); Woolley 864 (277); Aoki 10 (179).

Masthermannia mammillaris (Berlese, 1904)

Type: SEA
Comb./Syn.: *Angelia mammillaris* Berlese, 1904 (80, p. 81)
Masthermannia mammillaris (Berlese, 1904) (88, p. 100)
Posthermannia nematophora Grandjean, 1954 (281, p. 298): (340, p. 81).
Type: Not designated
Add. Comb./Syn. Ref.: Baker and Wharton 36 (405); Woolley and Higgins 887 (920); Hammen 340 (81); Grandjean 308 (555).
Distribution: *USA*: N.Y. - Reeves 673 (27) [!]; Tex. - Schuster 689 (220).

Palearctic: Berlese 80 (275); Grandjean 281 (298); Woolley and Higgins 887 (920); Hammen 340 (81).
Australian: Hammer 368 (8); 369 (19); 371 (16).
Description: *Adult*: Berlese 80 (275); 88 (100) fig.; Baker and Wharton 36 (405) fig.; Grandjean 281 (298) chaet., fig.; Woolley and Higgins 887 (920) fig.; Gilyarov 207 (95) [!] fig,; Balogh and Mahunka 1119 (pl.130 fig. A-F).
Tritonymph: Grandjean 281 (298).
Protonymph: Grandjean 281 (298).
Taxonomy: Grandjean 281 (298).
Key: Woolley and Higgins 887 (920).
Add. References: Woolley and Higgins 887 (920); Hammen 340 (81); 344 (24).
Ecology: Berlese 80 (275); Woolley and Higgins 887 (920); Schuster 689 (220); Reeves 673 (27) [!]; Hammer 368 (8); 369 (19); 371 (16).

***Nanhermannia* Berlese, 1913**

Nanhermannia Berlese, 1913
Type-species: *Nothrus nanus* Nicolet, 1885 (88, p. 100).

***Nanhermannia coronata* Berlese, 1913**

Type: SEA
Comb./Syn.: *Nanhermannia coronata* Berlese, 1913 (88, p. 100)
Nanhermannia nana sensu Willmann, 1931 (829, p. 96): (207, p. 99); non Nicolet, 1855
Add. Comb./Syn. Ref.: Hammen 340 (80); Forsslund 198 (282).

Distribution: *USA*: Alaska - Behan 73 (39a); MacLean et al. 534 (562); Fla. - Berlese 88 (100).
Canada: MacLean et al. 534 (562); Nfld. - Behan 73 (390); Y.T. - Behan 73 (390).
Palearctic: Willmann 829 (96) [mi.]; Forsslund 193 (348); Sellnick 709 (71); Rajski 668 (23) [mi.]; Forsslund 198 (282); Rajski 669 (233); Karppinen 480 (41); Gilyarov 207 (99); Solhøy 744 (19); MacLean et al. 534 (562); Danks 971 (399).
Description: *Adult*: Berlese 88 (100) fig.; Willmann 829 (96) [mi.] fig.; Gilyarov 207 (99) fig.
Key: Willmann 829 (96) [mi.]; Sellnick 709 (71); Gilyarov 207 (99); Balogh and Mahunka 1119 (208).
Add. References: Hammen 340 (80).
Ecology: Berlese 88 (1O0); Willmann 829 (96) [mi.]; Forsslund 193 (348); Sellnick 709(71); Rajski 668 (23) [mi.]; 669 (233); Solhøy 744 (19); Behan 73 (390); MacLean et al. 534 (562).
Remarks: Willmann (829, p. 96) and Rajski (668, p. 23) are sub *Nanhermannia nana*.

***Nanhermannia dorsalis* (Banks, 1896)**

Syntypes: MCZ, USNM
Comb./Syn.: *Carabodes dorsalis* Banks 1896 (48, p. 77)
Nanhermannia dorsalis (Banks, 1896) (450, p. 370)
Add. Comb./Syn. Ref.: Jacot 452 (238); WoolleY and Higgins 887 (919).

Distribution: *USA*: Jacot 452 (238); N.Y. - Banks 48 (77); Michael 564 (39); Norton and MacNamara 615 (91); N.C. - Jacot 450 (370).
Canada: Ont. - Marshall 549 (422).
Description: *Adult*: Banks 48 (77); Michael 564 (39); Jacot 452 (238) fig.; Woolley and Higgins 887 (919) fig.
Key: Michael 564 (39).
Ecology: Banks 48 (77).

Nanhermannia nanus (Nicolet, 1855)

Neotype: RNH [see 340, p. 79]
Comb./Syn.: *Nothrus nanus* Nicolet, 1855 (592, p. 458)
Hermannia nana (Nicolet, 1855) (1044, p. 10)
Nanhermannia nana (Nicolet, 1855) (217, p. 32)
Nanhermannia elegantula sensu Sellnick, 1928 (700, p.17) 1931; non Berlese, 1913 (340, p.78)
Nanhermannia dorsalis elegantula Jacot, 1937 (452, p. 238) new syn.
Add. Comb./Syn. Ref.: André 8 (246); Baker and Wharton 36 (397); Woolley and Higgins 887 (915); Hammen 340 (78); Gilyarov 207 (98).

Distribution: *USA*: Jacot 452 (238); Marshall 548 (75); Hammer 365 (67) [Q.I.]; Colo. - Woolley and Higgins 887 (918) [mi.]; Idaho - Woolley and Higgins 887 (917) [mi.]; Mich. - Wallwork 788 (172); N.C. - Woolley and Higgins 887 (917) [mi.]; Tenn. - Crossley and Bohnsack 142 (631) [mi.] Va. - Sengbusch 719 (130); Wash. - Woolley and Higgins 887 (917) [mi.].
Canada: Man. - Oswald and Minty 620 (82); Que. - Marshall 548 (75).
Nearctic: Strenzke 753 (74); Travé 774 (81); Woolley and Higgins 887 (915); Rajski 669 (234).
Palearctic: Michael 561 (455); 564 (64); André 8 (246); Willmann 829 (96) [mi.]; Grandjean 217 (32); Tuxen 779 (333); Willmann 835 (226); Forsslund 192 (102); Hammer 349 (35); Strenzke 753 (72 [mi.], 74); Travé 774 (81); Märkel 543 (478); Woolley and Higgins 887 (915); Kunst 503 (34); Rajski 668 (23); Tarras-Wahlberg 765 (30); Aoki 10 (179); Dalenius 144 (107); 145 (4); Travé 777 (230); Byzova 124 (292); Madge 537 (721); Block 110 (245); Lebrun 506 (49); 507 (103); Madge 538 (122); Moritz 572 (70); Wood 843 (116); Aoki 17 (124); Hammer 365 (67); Bernini 96 (422); Rajski 669 (234); Bernini 98 (393); Molodova and Golosova 570 (426); Kurcheva 504 (95); Rubcova 681 (386);

Gilyarov 207 (98); Hammer 372 (189); Luxton 532 (187); Usher 781 (365); 782 (365); Lebrun 514 (422); Nakamura 582 (250); Niedbała 604 (61); Paik 938 (233).
Neotropical: Hammer 357 (12); 358 (12); 365 (67).
Subantarctic: Travé 1025 (527).
Description: *Adult*: Nicolet 592 (458) fig.; Michael 561 (455) fig.; 564 (64); Willmann 829 (96) [mi.] fig.; Grandjean 217 (32) chaet.; 229 (506) chaet., fig.; 230 (10) chaet.; Jacot 452 (238) fig.; Grandjean 244 (44) chaet.; 247 (48) chaet.; Forsslund 192 (102) photo.; Grandjean 251 (20) chaet.; Baker and Wharton 36 (397) fig.; Strenzke 753 (74) fig.; 753 (72) [mi.] fig.; Grandjean 277 (431) chaet.; 286 (101) fig.; 289 (283) chaet., fig.; Forsslund 197 (76) fig.; Woolley and Higgins 887 (915) fig.; Hammer 357 (12) fig.; Grandjean 307 (179) chaet.; 308 (531) chaet.; Gilyarov 207 (98) fig.; Balogh and Mahunka 1119 (pl.127 fig. A-C).
Nymph: Michael 561 (455) fig.
Tritonymph: Grandjean 229 (506) fig.
Deutonymph: Grandjean 229 (506) fig.
Protonymph: Grandjean 229 (506) fig.
Larva: Grandjean 229 (506) fig.
Key: Michael 564 (64); Willmann 829 (96) [mi.]; Hartman 383 (169); Strenzke 753 (74); 753 (72) [mi.]; Gilyarov 207 (98); Balogh and Mahunka 1119 (207).
Add. References: Woolley and Higgins 887 (915); Hammen 340 (78); Luxton 531 (463); Hammen 344 (25).
Morphology: Grandjean 286 (101).
Biology: Sengbusch 720 (504); 721 (499); Lebrun 511 (202); Luxton 988 (339).
Foods: Woodring 845 (102); Luxton 531 (463).
Miscellaneous: Lasebikan 984 (56) extract.; Sengbusch 1013 (83) cult.
Ecology: Michael 564 (64); André 8 (246); Willmann 829 (96) [mi.]; Grandjean 217 (32); Tuxen 779 (333); Willmann 835 (226); Forsslund 192 (102); Strenzke 753 (74); 753 (72) [mi.]; Travé 774 (81); Sengbusch 719 (130); Wallwork 788 (172); Märkel 543 (478); Woolley and Higgins 887 (915); Kunst 503 (34); Hammer 357 (12); Rajski 668 (23); Tarras-Wahlberg 765 (30); Aoki 10 (179); Dalenius 144 (107); Hammer 358 (12); Dalenius 145 (4); Travé 777 (230); Byzova 124 (292); Madge 537 (721); Block 110 (245); Lebrun 506 (49); 507 (103); Madge 538 (122); Moritz 572 (70); Wood 843 (116); Marshall 548 (75); Aoki 17 (124); Hammer 365 (67); Bernini 96 (422); Rajski 669 (234); Bernini 98 (393); Molodova and Golosova 570 (426); Kurcheva 504 (95); Rubcova 681 (386); Hammer 372 (189); Luxton 532 (187); Usher 781 (356); 782 (365); Lebrun 514 (422); Nakamura 582 (250); Wallwork 950 (348); Hammer 373 (19); Niedbała 604 (61); Paik 938 (233).
Remarks: Willmann (829, p. 96) and Strenzke (753, p. 72) are sub *Nanhermannia elegantula*. North American records sub *Nanhermannia elegantula, N. dorsalis elegantula* and *N. areolata* are considered to be *nanus*, because they appear to be based on pre Hammen (340, p. 78-80) concepts.

***Nanhermannia* sp.**

Distribution: *Canada*: Man. - Oswald and Minty 621 (75); Que. - Behan 72 (39); Behan et al. 76 (263).

HERMANNIOIDEA Sellnick, 1928

HERMANNIIDAE **Sellnick, 1928**

Hermannia **Nicolet, 1855**

Hermannia Nicolet, 1855
Type-species: *Nothrus gibbus* C.L. Koch, 1839 (= *Hermannia crassipes* Nicolet, 1855) (592, p. 418; 1092, p. 181).

Hermannia convexa **(C.L. Koch, 1839)**

Type: Unknown
Comb./Syn.: *Nothrus convexa* C.L. Koch, 1839 (485, Vol. 29(1))
Hermannia convexa (Koch, 1839) (8, p. 245)
Add. Comb./Syn. Ref.: Willmann 829 (114); Aoki 21 (249); Woas 841 (114).

Distribution: *USA*: Va. - Sengbusch 719 (130).
Palearctic: André 8 (245); Willmann 829 (114); Kunst 503 (35); Sellnick 711 (31); Aoki 21 (249); Gilyarov 207 (102); Woas 841 (114).
Description: *Adult*: Koch 485 (Vol. 29 (1)); Hammen 343 (1) chaet., fig.; Sellnick 711 (31); Gilyarov 207 (102) fig.; Travé 778 (124) chaet.; Woas 841 (114) chaet., fig.; Balogh and Mahunka 1119 (pl. 131 fig. B).
Nymph: Willmann 829 (114) fig.; Balogh and Mahunka 1119 (pl. 131 fig. B).
Taxonomy: Woas 841 (114).
Key: Sellnick 711 (31); Gilyarov 207 (102); Balogh and Mahunka 1119 (213).
Add. References: Willmann 829 (114); Aoki 21 (249); Hammen 344 (20).
Morphology: Hammen 343 (1); Grandjean 318 (870); Hammen 1062 (24).
Ecology: André 8 (245); Willmann 829 (114); Sengbusch 719 (130); Kunst 503 (35); Rafalski 666 (355).
Remarks: We consider the single *USA* record doubtful.

Hermannia gibba **(C.L. Koch, 1839)**

Type: Unknown
Comb./Syn.: *Nothrus gibbus* C.L.Koch,1839 (485,Vol.29(4))
Hermannia gibba (C.L. Koch, 1839) (829, p. 114)
Hermannia crassipes Nicolet, 1855 (592, p. 469): (841, p. ll9). **Type:** Not designated.
Angelia piceus sensu Berlese, 1885 (1044 p. 9); non C.L. Koch, 1840 (340, p. 83)
Nothrus piceus sensu Berlese, 1886 (77, Vol. 33(6)); non C.L. Koch, 1840 (340, p. 83)
Hermannia picea sensu Berlese 1896 (1047 p. 31); non C.L. Koch, 1840 (340, p. 83)
Hermannia convexa sensu Michael, 1898 (564, p. 63); non C.L. Koch, 1840 (841, p. 119)
Add. Comb./Syn. Ref.: Michael 561 (448) [mi.]; Baker and Wharton 36 (405); Hammen 338 (37); Sellnick 711 (30).

Distribution: *USA*: Hammer 365 (67) [Q.I.]; Alaska - Behan 73 (390); Mich. - Wallwork 788 (172). *Palearctic*: Michael 561 (448) [mi.]; 564 (63) [mi.]; Willmann 829 (114); Hammen 338 (37); Schweizer 691 (255); 692 (tab. 8 no. 337); Märkel 543 (478); Kunst 503 (35); Märkel 544 (326); Berthet 107 (90); Märkel 545 (170); Lebrun 506 (52); 507 (103); Vanek 784 (255); Wood 843 (116); Sellnick 711 (30); Seyd 730 (37); Hammer 365 (67); Bäumler 67 (257); 68 (337); Bernini 96 (422); 98 (393); Aoki 22 (62); Gilyarov 207 (101); Luxton 532 (185); Tarba and Semenova 761 (130); Bukva et al. 118 (243); Hammer 373 (19); Mitchell 567 (66); Niedbała 604 (61); Woas 841 (119).
Description: *Adult*: Koch 485 (Vol. 29 [4]); Michael 561 (448) [mi.] fig.; 564 (63) [mi.]; Willmann 829 (114) fig.; Grandjean 217 (31) chaet.; 229 (507) chaet.; 244 (33) chaet.; 247 (51) chaet.; 251 (13) chaet.; 252 (312) chaet.; 257 (396) chaet., fig.; 265 (214) chaet.; Baker and Wharton 36 (405) fig.; Schweizer 691 (255) fig.; Grandjean 293 (256) fig.; 307 (179) chaet.; 308 (531) chaet.; Sellnick 711 (30); Bäumler 67 (257) chaet., fig.; 68 (337) photo.; Aoki 22 (62) fig.; Fonseca 187 (323) fig.; Gilyarov 207 (101) fig.; Tarba and Semenova 761 (130) photo.; Travé 778 (123) chaet.; Woas 841 (ll9) chaet., fig.; Balogh and Mahunka 1119 (pl. 132 fig. A-C).
Nymph: Bäumler 67 (257) fig.
Larva: Bäumler 67 (257) fig.
Taxonomy: Woas 841 (119).
Key: Michael 564 (63) [mi.]; Willmann 829 (114); Sellnick 711 (30); Gilyarov 207 (101); Balogh and Mahunka 1119 (214).
Add. References: Michael 561 (448) [mi.]; Willmann 829 (114); Hammen 338 (37); 340 (83); Luxton 531 (463); Weigmann 815 (133); Hammen 344 (20).
Morphology: Grandjean 293 (256); Bäumler 67 (257).
Biology: Baumler 67 (257); 68 (337); Fonseca 187 (323); Weigmann 815 (133); Mitchell 567 (66); Luxton 988 (388).
Foods: Hartenstein 376 (203); Bäumler 67 (257); Luxton 531 (463).
Miscellaneous: Tarba and Semenova 761 (130) cut.; Lasebikan et al. 984 (52) extract.; Purrini et al. 1008 (332) parasit.

Ecology: Michael 561 (448) [mi.]; 564 (63) [mi.]; Willmann 829 (114); Grandjean 265 (214); Hammen 338 (37); Schweizer 691 (255); 692 (tab. 8 no. 337); Wallwork 788 (172); Märkel 543 (478); Kunst 503 (35); Märkel 544 (326); Berthet 107 (90); Märkel 545 (170); Lebrun 506 (52); 507 (103); Vanek 784 (255); Wood 843 (116); Sellnick 711 (30); Seyd 730 (37); Hammer 365 (67); Bäumler 67 (257); 68 (337); Bernini 96 (422); 98 (393); Aoki 22 (62); Luxton 532 (185); Wallwork 950 (345); Bukva et al. 118 (243); Hammer 373 (19); Niedbała 604 (61); Behan 73 (390); Thomas 1024 (356).
Remarks: Michael (561, p. 448) is sub *Hermannia picea*; Michael (564, p. 63) is sub *Hermannia convexa*.

***Hermannia polystriata* Woas, 1978**

Type: LNK
Comb./Syn.: *Hermannia polystriata* Woas, 1978 (841, p. 138)

Distribution: *USA*: Calif. - Woas 841 (138).
Description: *Adult*: Woas 841 (138) chaet., fig. app.
Ecology: Woas 841 (138).

***Hermannia reticulata* Thorell, 1871**

Type: SMNH
Comb./Syn.: *Hermannia reticulata* Thorell, 1871 (767, p. 696)
Hermannia quadriseriata Banks, 1899 (49, p. 349): (1015, p. 292). **Syntypes:** MCZ, USNM (not confirmed; see remarks)
Add. Comb./Syn. Ref.: André 8 (245).

Distribution: *USA*: Alaska - Banks 65 (238); Hammer 354 (9), Bohnsack 114 (35); Behan 73 (390); MacLean et al. 534 (562).
Canada: MacLean et al. 534 (562); N.W.T.- Hammer 350 (24); Behan 73 (390); Que. - Behan 73 (390); Y.T. - Behan 73 (390).
Nearctic: Haarløv 324 (36); Hammer 348 (42);349 (12);352 (411);354 (9); Strenzke 754 (27); Haarløv 328 (10); MacLean et al. 534 (562); Danks 971 (399).
Palearctic: Thorell 767 (696); Michael 560 (192);561 (458);564 (64); André 8 (245); Haarløv 324 (36); Hammer 348 (42); 349 (12); 354 (9); Strenzke 754 (27); Block 110 (245);112 (161); Haarløv 328 (10); Sellnick 711 (31); Gilyarov 207 (102); Behan 73 (390); MacLean et al. 534 (562); Woas 841 (129). Danks 971 (399).
Description: *Adult*: Thorell 767 (696); Michael 560 (192)fig.;561 (458) fig.; 564 (64). Grandjean 230 (14) fig.; 244 (33) chaet.; 247 (51) chaet.; 251 (16) chaet.; 252 (312) chaet.; 265 (214) chaet.; Hammer

350 (24) fig.; Grandjean 307 (179) chaet.; 308 (531) chaet.; Haarløv 328 (10) photo.; Sellnick 711 (31); Gilyarov 207 (102) fig.. Travé 778 (124) chaet.; Woas 841 (129) chaet., fig.; Balogh and Mahunka 1119 (pl. 131 fig. H).
Nymph: Michael 560 (192) fig.
Larva: Grandjean 240 (64) chaet.
Taxonomy: Woas 841 (129).
Key: Michael 564 (64); Sellnick 711 (31); Gilyarov 207 (102); Balogh and Mahunka 1119 (214).
Add. References: Hammer 349 (12); Haarløv 328 (10); Hammen 344 (20); Seyd 1015 (290).
Morphology: Grandjean 230 (14).
Foods: Behan and Hill 75 (498).
Ecology: Michael 560 (192); 561 (458); 564 (64); André 8 (245); Haarløv 324 (36); Hammer 348 (42); 349 (12); 350 (24); 352 (411); 354 (9); Strenzke 754 (27); Block 110 (245); 112 (161); Haarløv 328 (10); Bohnsack 114 (35); Behan 73 (390); MacLean et al. 534 (562).
Remarks: Banks' two specimens of *Hermannia quadriseriata* in the MCZ are apparently not types; they are labeled "*Hermannia 4-seriata* Bks" and "Alaska" in Banks' handwriting and do not fit the original description (they are larger and lack surface reticulation). Types are presumably lost.

***Hermannia scabra* (L. Koch, 1879)**

Lectotype: [see 841, p. 123]
Comb./Syn.: *Nothrus scabra* L. Koch, 1879 (487, p. 113)
Hermannia scabra (L. Koch, 1879) (348, p. 42)
Lohmannia scabra (L. Koch, 1879) (65, p. 238)
Add. Comb./Syn. Ref.: Hammen 338 (39); Sellnick 711 (31); Woas 841 (123).

Distribution: *USA*: Hammer 365 (67) [Q.I.]; Alaska - Banks 65 (238); Hammer 354 (9); Behan 73 (390); Woas 841 (123); Va. - Sengbusch 719 (130).

Nearctic: Hammer 348 (42); 349 (35); Strenzke 754 (27); Danks 971 (399).
Palearctic: Hammer 348 (42); 349 (35); Hammen 338 (39); Strenzke 754 (27); Wood 843 (116); Sellnick 711 (31); Hammer 365 (67); Wallwork 804 (129); Gilyarov 207 (104); Woas 841 (123); Danks 971 (399).
Description: *Adult*: Koch 487 (113); Hammer 354 (9); Sellnick 711 (31); Gilyarov 207 (104) fig.; Woas 841 (123) chaet., fig.; Balogh and Mahunka 1119 (pl. 133 fig. F).
Taxonomy: Woas 841 (123).
Key: Sellnick 711 (31); Gilyarov 207 (104); Balogh and Mahunka 1119 (214).
Food: Behan and Hill 75 (498).

Biology: Jalil 465 (16); Lebrun 511 (202); Butcher et al. 123 (258); Mitchell 567 (66); Luxton 988 (338).
Ecology: Banks 65 (238); Hammer 348 (42); Hammen 338 (39); Hammer 354 (9); Strenzke 754 (27); Sengbusch 719 (130); Rafalski 666 (355); Wood 843 (116); Hammer 365 (67); Butcher et al. 123 (258); Wallwork 804 (129); 950 (193); Behan 73 (390).
Remarks: Hammen (338, p. 39) synonymized *Hermannia nodosa* Michael, 1888 with *Hermannia scabra* (L. Koch, 1879); however, Woas (841, p.131) considered them distinct. According to Woas, *Hermannia scabra* sensu Michael, 1898 (564, p. 65); Sellnick, 1928 (700, p. 18); Willmann, 1931 (829, p. 114); and Willmann, 1952 (837, p. 172) is actually *Hermannia nodosa* Michae1, 1888 (561, p. 452).

***Hermannia subglabra* Berlese, 1910**

Type: SEA
Comb./Syn.: *Hermannia subglabra* Berlese, l910 (86, p. 381)
Hermannia pulchella Wïllmann, 1952 (837, p. 172): (340, p. 83).
Type: WHPC
Add. Comb./Syn. Ref.: Forsslund 196 (592); Gilyarov 207 (104).

Distribution: *USA*: Alaska - Hammer 354 (9); Bohnsack 114 (35); 115 (74); Behan 73 (390).
Canada: N.W.T. - Behan 73 (390); Y.T. - Behan 73 (390).
Nearctic: Hammer 354 (9); Danks 971 (399).
Palearctic: Berlese 86 (381); Hammer 354 (9); Forsslund 196 (592); Hammen 340 (83); Luxton 526 (175); 527 (167); 528 (521); 529 (57); 530 (265); Polderman 660 (360); Gilyarov 207 (104); Weigmann 815 (134); Danks 971 (399).
Description: *Adult*: Berlese 86 (381); Willmann 837 (172); Forsslund 196 (592) fig.; Woodring 848 (426) , photo.; Gilyarov 207 (104) fig.; Balogh and Mahunka 1119 (pl. 133 fig. K).
Key: Gilyarov 207 (104); Balogh and Mahunka 1119 (215).
Add. References: Forsslund 196 (592); Hammen 340 (83); Luxton 531 (463).
Biology: Luxton 527 (167); Weigmann 815 (134); l031 (75).
Food: Luxton 527 (167); 531 (463); Behan and Hill 75 (498).
Miscellaneous: Woodring 848 (426) anat.
Ecology: Hammer 354 (9); Luxton 526 (175); 528 (521); 529 (57); 530 (265); Bohnsack 114 (35); 115 (74); Poldeman 660 (360); Wallwork 950 (196, 345); Behan 73 (390).

***Hermannia* sp.**

Distribution: *USA*: Alaska - Danks 971 (399); Mich. - Wallwork 789 (262).

Canada: N.S. - Rasmy and MacPhee 670 (174).
Food: Wallwork 789 (262).

BRACHYPYLINA Hull, 1918

HERMANNIELLOIDEA Grandjean, 1934

HERMANNIELLIDAE **Grandjean, 1934**

***Hermanniella* Berlese, l908**

Hermanniella Berlese, l908
Type-species: *Hermannia granulata* Nicolet, 1855 (84, p. 11)

***Hermanniella clavigera* Berlese, l908**

Type: SEA
Comb./Syn.: *Hermanniella clavigera* Berlese, 1908 (84, p. 11)
Distribution: *USA*: Mo. - Berlese 84 (11).
Palearctic: Krivoluckij 495 (183).
Description: *Adult*: Berlese 84 (11); 87 (pl. 20 fig. 56).
Ecology: Krivoluckij 495 (183).

Hermanniella granulata (Nicolet, 1855)

Type: Not designated
Comb./Syn.: *Hermannia granulata* Nicolet, 1855 (592, p. 469)
Hermanniella granulata (Nicolet, 1855) (214, p. 653)
Add. Comb./Syn. Ref.: Hammen 338 (64).

Distribution: *USA*: Mich. - Wallwork 788 (172); Va. - Sengbusch 719 (131).
Palearctic: Michael 564 (64); Hammen 338 (64); Berthet 107 (90); Lebrun 506 (27); 507 (103); Gilyarov 207 (105); Luxton 532 (185); Niedbala 604 (61); Krantz 490 (458).
Description: *Adult*: Nicolet 592 (469) fig.; Michael 564 (64); Grandjean 214 (653) fig.; 230 (14) chaet.; 252 (300) chaet.; Hammen 338 (64) fig.; Grandjean 298 (127); 299 (226) chaet.; Gilyarov 207 (105) fig.
Key: Michael 564 (64); Gilyarov 207 (105).
Add. References: Hammen 338 (64); Luxton 531 (461); Hammen 344 (20).

Food: Luxton 531 (461).
Ecology: Michael 564 (64); Hammen 338 (64); Sengbusch 719 (131); Wallwork 788 (172); Berthet 107 (90); Lebrun 506 (27); 507 (103); Luxton 532 (185); Niedbala 604 (61); Thomas 1024 (356); Luxton 987 (311).

Hermanniella occidentalis Ewing, 1918

Type: USNM
Comb./Syn.: *Hermanniella punctulata occidentalis* Ewing, 1918 (180, p. 87)
Hermanniella occidentalis Ewing, 1918 (853, p. 93)

Distribution: *USA*: Oreg. - Ewing 180 (87); Woolley 853 (93). **Description:** *Adult*: Ewing 180 (87) fig.; Woolley 853 (93) fig.
Ecology: Ewing 180 (87).

Hermanniella picea (C.L. Koch, 1839)

Type: Unknown
Comb./Syn.: *Nothrus piceus* C.L. Koch, 1839 (485, Vol. 29 (2))
Hermanniella picea (C.L. Koch, 1839) (829, p. 141)
Hermanniella piceus (C.L. Koch, 1839) (265, p. 207)
Hermanniella punctulata Berlese, 1908 (84, p. 12): (214, p. 658). **Type:** SEA
Add. Comb./Syn. Ref.: Grandjean 214 (655); Willmann 829 (141); Grandjean 265 (207).

Distribution: *USA*: Va. - Sengbusch 719 (131); l012 (22).
Palearctic: Berlese 84 (12); Grandjean 214 (655); 217 (31); Hammen 338 (67); Kunst 503 (37); Rajski 668 (22); Moritz 571 (156); Aoki 14 (125); Lebrun 507 (103); Krivoluckij 495 (183); Aoki 18 (408); Rajski 669 (238); Aoki 20 (87); Gilyarov 207 (105); Luxton 532 (185); Paik 938 (233).
Description: *Adult*: Berlese 84 (12); 87 (pl. 20 fig.58); Grandjean 214 (655) fig.; 217 (31) chaet.; 265 (207) chaet.; Hammen 338 (67); Aoki 14 (125) fig.; Gilyarov 207 (105) fig.
Nymph: Hammen 338 (67) fig.
Key: Gilyarov 207 (105).
Add. References: Hammen 338 (67); Moritz 571 (156); Hammen 344 (20).
Ecology: Grandjean 217 (31); Hammen 338 (67); Sengbusch 719 (131); Kunst 503 (37); Rajski 668 (22); Moritz 571 (156); Aoki 14 (125); Lebrun 507 (103); Krivoluckij 495 (183); Rajski 669 (238); Aoki 20 (87); Luxton 532 (185); Paik 938 (233); Sengbusch 1012 (22).
Remarks: Aoki's 1965 *H. punctulata* (14, p. 125) might not be the same as Berlese's (207, p. 108), however it is included here pending further study.

Hermanniella robusta Ewing, 1918

Type: USNM
Comb./Syn.: *Hermanniella punctulata robusta* Ewing, 1918 (180, p. 87)
Hermanniella robusta Ewing, 1918 (853, p. 92)

Distribution: *USA*: Oreg. - Ewing 180 (87); Woolley 853 (92); Tenn. - Crossley and Bohnsack 142 (631).
Description: *Adult*: Ewing 180 (87) fig.; Woolley 853 (92) fig.
Ecology: Ewing 180 (87); Crossley and Bohnsack 142 (631).

Hermanniella septentrionalis **Berlese, 1910**

Type: Lost
Comb./Syn.: *Hermanniella punctulata septentrionalis* Berlese, 1910 (87, p. 224)
Hermanniella septentrionalis Berlese, 1910 (207, p. 110)

Distribution: *USA*: Oreg. - Ewing 180 (87).
Palearctic: Berlese 87 (224); Rajski 668 (22); Rajski 669 (228); Gilyarov 207 (110).
Description: *Adult*: Berlese 87 (224) fig.; Grandjean 214 (656) fig.; Gilyarov 207 (110) fig.
Key: Gilyarov 207 (110).
Ecology: Berlese 87 (224); Ewing 180 (87); Rajski 668 (22); Rajski 669 (228).

Hermanniella subnigra (Ewing, 1909)

Syntype: USNM
Comb./Syn.: *Hermannia subnigra* Ewing, 1909 (170, p. 131)
Hermanniella punctulata columbiana Berlese, 1910 (87, p. 224) new syn.
Type: SEA
Add. Comb./Syn. Ref.: Jacot 452 (238).

Distribution: *USA*: Ill. - Ewing 170 (131); Mo. - Ewing 170 (131); Berlese 87 (224); N.C. - Pearse 649 (128) [!]; Oreg. - Ewing 180 (87).
Canada: B.C. - Sellnick 708 (121).
Australian: Sellnick 708 (121); Hammer 371 (16).
Description: *Adult*: Ewing 170 (131) fig. app.; Berlese 87 (224) fig.; Ewing 176 (105) fig.
Taxonomy: Woolley 853 (96).

Ecology: Ewing 170 (131); Berlese 87 (2243; Ewing 180 (87); Pearse 649 (128) [!]; Hammer 371 (16).

Hermanniella subnigra rigida Jacot, 1938

Type: FMNH; Paratype: FMNH
Comb./Syn.: *Hermanniella subnigra rigida* Jacot, 1938 (457, p. 649)
Distribution: *USA*: Ill. - Jacot 457 (649).
Description: *Adult*: Jacot 457 (649) fig. app.

Hermanniella subnigra setacea Jacot, 1937

Type: FMNH
Comb./Syn.: *Hermanniella subnigra setacea* Jacot, 1937 (452, p. 238)

Distribution: *USA*: Ky. - Jacot 452 (238).
Description: *Adult*: Jacot 452 (238).
Ecology: Jacot 452 (238).

Hermanniella sp.

Distribution: *USA*: Walter and Norton 1179 (tab. 1).
Canada: Que. - Matthewman and Pielou 552 (802); Behan 72 (40); Behan et al. 76 (263).
Food: Wallwork 789 (262).

***Sacculobates* Grandjean, 1962**

Sacculobates Grandjean, 1962
Type-species: *Sacculobates horologorium* Grandjean, 1962 (1132, p. 237).

***Sacculobates* sp.**

Distribution: *USA*: N.C. - Norton (RAN unpub.).

PLASMOSATIDAE GRANDJEAN, 1961

***Plasmobates* Grandjean, 1929**

Plasmobates Grandjean 1929

Type-species: *Plasmobates pagoda* Grandjean, 1929 (1129, p. 410).

Plasmobates sp.

Distribution: *USA*: Fla. - Norton (RAN unpub.).
Canada: Que. - Marshall 548 (75).

LIODOIDEA GRANDJEAN, 1954

LIODIDAE GRANDJEAN, 1954

Liodes von Heyden, 1826

Liodes von Heyden, 1826
Type-species: *Notaspis theleproctus* Hermann, 1804 (1063, p. 611). *Neoliodes* Berlese, 1888
Type-species: *Notaspis theleproctus* Hermann, 1804 (1046, p. 217: 564, p. 65).
Udetaliodes Jacot, 1929
Type-species: *Oribata concentrica* Say, 1821 (420, p. 31: 1092, p. 182).

Remarks: Jacot's (420, p. 31) mention of the type as "*Liodes concentricus* Banks" is considered a lapsus.

Liodes concentricus (Say, 1821)

Type: Unknown
Comb./Syn.: *Oribata concentrica* Say, 1821 (683, p. 73)
Liodes concentricus (Say, 1821) (45, p. 15)
Neoliodes concentricus (Say, 1821) (564, p. 65)
Udetaliodes concentricus (Say, 1821) (420, p. 31)

Distribution: *USA*: Osborn and Underwood 935 (9); Banks 52 (72); 63 (99); D.C. - Banks 45 (15); Ewing 169 (386); Jacot 420 (31); Fla. - Say 683 (73); Banks 45 (15); 51 (146); Ewing 169 (386); Ill. - Ewing 171 (415); Mich. - Ewing 171 (415); Pa. - Say 683 (73); Banks 45 (15); Ewing 169 (386); Wis. - Ewing 171 (415).

Palearctic: Michael 564 (65); Banks 52 (72); 63 (99).

Description: *Adult*: Banks 45 (15); Michael 564 (65); Banks 52 (72) fig.; Ewing 171 (415) fig.; Banks 63 (99) fig.

Key: Michael 564 (65).

Add. References: Michael 564 (65).

Ecology: Banks 45 (15); 52 (72); Ewing 171 (415); 169 (386); Banks 63 (99); Jacot 420 (31).

Liodes floridensis **(Banks, 1906) new comb.**

Syntypes: MCZ

Comb./Syn.: *Neoliodes floridensis* Banks, 1906 (56, p. 499)

Distribution: *USA*: Fla. - Banks 51 (146); 56 (499); Ewing 169 (386).

Description: *Adult*: Banks 56 (499) fig.

Remarks: Banks, 1904 (51, p. 146) used the name *Neoliodes floridensis* as a nomen nudum before the name was proposed in 1906 (56, p. 499).

Platyliodes **Berlese, 1916**

Platyliodes Berlese, 1916

Type-species: *Nothrus doderleini* Berlese, 1883 (92, p. 333).

Platyliodes macroprionus **Woolley and Higgins, 1969**

Type: USNM; Paratypes: FMNH

Comb./Syn.: *Platyliodes macroprionus* Woolley and Higgins 1969 (898, p. 145)

Distribution: *USA*: Wash. - Woolley and Higgins 898 (145).

Description: *Adult*: Woolley and Higgins 898 (145) fig.

Key: Woolley and Higgins 898 (145).

Ecology: Woolley and Higgins 898 (145).

Platyliodes scaliger **(C.L. Koch, 1839)**

Type: Unknown

Comb./Syn.: *Nothrus scaliger* C.L. Koch, 1839 (485, Vol. 29 (11))
Platyliodes scaliger (C.L. Koch, 1839) (829, p. 16)

Distribution: *USA*: Hammer 365 (69) [Q.I.]; Mich. - Wallwork 788 (172); N.Y. - Sengbusch 717 (157).
Palearctic: Willmann 829 (116); Grandjean 217 (31); Sellnick 709 (88); Karppinen 479 (33); Hammer 365 (69); Sellnick 713 (18); Bernini 96 (422); 98 (393); Gilyarov 207 (115); Lions 523 (170); Niedbala 604 (61); Nannelli 997 (346).
Description: *Adult*: Koch 485 (Vol. 29 (11)); Willmann 829 (116) fig.; Grandjean 217 (31) chaet.; 224 (115) fig.; 226 (360) chaet.; 229 (507) chaet.; 244 (46) chaet.; 251 (21) chaet.; 265 (206) chaet.; 289 (286) fig.; 299 (225) chaet.; Sellnick 713 (18) fig.; Balogh 42 (pl. 11 fig. 6); Gilyarov 207 (115) fig.
Key: Willmann 829 (116); Sellnick 709 (88); Woolley and Higgins 898 (146); Gilyarov 207 (115).
Add. References: Willmann 829 (116); Sengbusch 717 (157); Luxton 531 (463); Hammen 344 (31).
Morphology: Grandjean 224 (115).
Food: Luxton 531 (463).
Ecology: Willmann 829 (116); Grandjean 217 (31); Sengbusch 717 (157); Wallwork 788 (172); Sellnick 709 (88); Karppinen 479 (33); Hammer 365 (69); Sellnick 713 (18); Bernini 96 (422); 98 (393); Lions 523 (170); Wallwork 950 (266); Niedbala 604 (61); Nannelli 997 (346).

***Platyliodes* sp.**

Distribution: *Canada*: N.B. - Pielou and Verma 658 (1190); Que. - Pielou and Matthewman 657 (1311); Matthewman and Pielou 552 (833); Behan 72 (40); Behan et al. 76 (263).

***Poroliodes* Grandjean, 1934**

Poroloides Grandjean, 1934
Type-species: *Nothrus heleproctus* Hermann, 1804 sensu Michael, 1888 (224, p. 141).

***Poroliodes* sp.**

Distribution: *USA*: N.Y. - Norton (RAN unpub.).

***Teleioliodes* Grandjean, 1934**

Teleioloides Grandjean, 1934

Type-species: *Teleioliodes madininensis* Grandjean, 1934 (224, p. 144).

***Teleioliodes* sp.**

Distribution: *USA*: Fla. - Norton (RAN unpub.).

PLATEREMAEOIDEA Trägårdh, 1931 **[=GYMNODAMAEOIDEA Grandjean, 1954]**

GYMNODAMAEIDAE GRANDJEAN, 1954

***Adrodamaeus* Paschoal, 1982**

Adrodamaeus Paschoal, 1982
Type-species: *Damaeus magnisetosus* Ewing, 1909 (1167, p. 457).
Remarks: See under *Gymnodamaeus* Kulczynski, 1902

***Adrodamaeus magnisetosus* (Ewing, 1909)**

Type: USNM (see remarks)
Comb./Syn.: *Damaeus magnisetosus* Ewing, 1909 (170, p. 129)
Adrodamaeus magnisetosus (Ewing, 1909) (1166, p. 18)
Heterodamaeus magnisetosus (Ewing, 1909) (179, p. 128)

Distribution: *USA*: Ill. - Ewing 170 (129).
Description: *Adult*: Ewing 170 (129) fig. app.; Woolley 857 (212) fig.; Paschoal 1166 (18) fig. .
Key: Ewing 170 (129).
Ecology: Ewing 170 (129); Paschoal 1166 (18).
Remarks: Woolley (857, p. 212) did not specifically mention whether his figured specimen was a type, but it is implied. No type specimens are currently available in the USNM, but there is a specimen determined by Ewing.

***Adrodamaeus musci* Paschoal, 1984**

Type: IA
Comb./Syn.: *Adrodamaeus musci* Paschoal, 1984 (1166, p. 19)

Distribution: *USA*: Mo. - Paschoal 1166 (19).
Description: *Adult*: Paschoal 1166 (19) fig. .

Ecology: Paschoal 1166 (19).

Gymnodamaeus Kulczynski, 1902

Gymnodamaeus Kulczynski, 1902

Type-species: *Damaeus bicostatus* C.L. Koch, 1835 (1141, p. 49).

Heterodamaeus Ewing, 1917

Type-species: *Damaeus bicostatus* C.L. Koch, 1835 (179, p. 123: 66, p. 116).

Remarks: Ewing's (179, p. 123) *Heterodamaeus*, with *Damaeus bicostatus* Koch, 1835 as type species, is a junior objective synonym of *Gymnodamaeus*. Woolley's (857, p. 212) indication of *Heterodamaeus* as a new genus is here considered a lapsus. Paschoal and Johnston (1167, p.450) treated Woolley's *Heterodamaeus* as newly proposed, but since Woolley mentioned a single species, the type-species must be *Damaeus magnisetosus* Ewing, 1909, therefore, *Heterodamaeus* Woolley, 1957 becomes a homonym of *Heterodamaeus* Ewing 1917, and not a synonym of *Gymnodamaeus* as the authors state. *Adrodamaeus* Paschoal, 1982 (1167, p.450; 1166, p.15) was proposed as a replacement name for *Heterodamaeus* Woolley, 1957.

Gymnodamaeus bicostatus (C.L. Koch, 1835)

Type: Unknown

Comb./Syn.: *Damaeus bicostatus* C.L. Koch, 1835 (485, Vol. 2 (12))

Gymnodamaeus bicostatus (C.L. Koch, 1835) (8, p. 244)

Distribution: *USA*: Hammer 365 (69) [Q.I.]; Mich. - Wallwork 788 (172); 792 (623).

Canada: Alta. - Powell and Skaley 662 (20).

Palearctic: Michael 563 (417); 564 (59); André 5 (508); 8 (244); Willmann 829 (125); Kunst 503 (35); Sellnick 709 (98); Rajski 668 (22); Dalenius 144 (107); 145 (4); Byzova 124 (292); 125 (185); Hammer 365 (69); Rajski 669 (233); Rubcova 681 (386); Gilyarov 207 (119); Lions 523 (170); Tarba and Semenova 761 (130).

Description: *Adult*: Koch 485 (Vol. 2 (12)); Michael 561 (611); 564 (59); Willmann 829 (125) fig.; Grandjean 229 (507) chaet.; 230 (14) chaet.; 278 (206) chaet., fig. app.; Gilyarov 207 (119) fig.; Tarba and Semenova 761 (130) photo.; Paschoal 1159 (114) fig. .

***Nymph*:** Wallwork 788 (172) fig.

Key: Michael 564 (551); Willmann 829 (125); Sellnick 709 (98); Gilyarov 207 (119).

Add. References: Michael 561 (611); 564 (59); André 5 (508); Grandjean 211 (433); Willmann 829 (125); Luxton 531 (462).

Food: Luxton 531 (462).

Miscellaneous: Tarba and Semenova 761 (130) cut.

Ecology: Michael 564 (59); André 5 (508); 8 (244); Willmann 829 (125); Wallwork 788 (172); Kunst 503 (35); Sellnick 709 (98); Wallwork 792 (623); Rajski 668 (22); Dalenius 144 (107); 145 (4); Byzova 124 (292); 125 (185); Hammer 365 (651); Rajski 669 (233); Rubcova 681 (386); Powell and Skaley 662 (20); Lions 523 (170).

Remarks: Paschoal (1159, p. 117) suggested that this species might not occur in North America.

Gymnodamaeus gregarius Paschoal, 1982

Type: IA; Paratypes: IA, ADP

Comb./Syn.: *Gymnodamaeus gregarius* Paschoal, 1982 (1159, p. 119)

Distribution: *USA*: Wash. - Paschoal 1159 (119).

Description: *Adult*: Paschoal 1159 (119) fig. .

Ecology: Paschoal 1159 (119).

Gymnodamaeus guilfordidei Paschoal, 1982

Type: IA; Paratypes: IA, ADP

Comb./Syn.: *Gymnodamacus guilfordidei* Paschoal, 1982 (1159, p. 126)

Distribution: *USA*: Utah- Paschoal 1159 (126).

Description: *Adult*: Paschoal 1159 (126) fig. .

Ecology: Paschoal 1159 (126).

Gymnodamaeus knowltoni Paschoal, 1982

Type: IA; Paratypes: ADP

Comb./Syn.: *Gymnodamaeus knowltoni* Paschoal, 1982 (1159, p. 128)

Distribution: *USA*: Idaho - Paschoal 1159 (128); Utah - Paschoal 1159 (128).

Description: *Adult*: Paschoal 1159 (128) fig. .
Ecology: Paschoal 1159 (128).

Gymnodamaeus leurolomasus Woolley and Higgins, 1973

Type: FMNH; Paratypes: FMNH
Comb./Syn.: *Gymnodamaeus leurolomasus* Woolley and Higgins, 1973 (900, p. 40)

Distribution: *USA*: Colo. - Woolley and Higgins 900 (400).
Description: *Adult*: Woolley and Higgins 900 (40) fig.
Taxonomy: Paschoal 1159 (131).
Key: Woolley and Higgins 901 (415).
Ecology: Woolley and Higgins 900 (40).

Gymnodamaeus notoapodematus Paschoal, 1982

Type: IA
Comb./Syn.: *Gymnodamaeus notoapodematus* Paschoal, 1982 (1159, p. 122)

Distribution: *USA*: Wash. - Paschoal 1159 (122).
Description: *Adult*: Paschoal 1159 (122) fig. .
Ecology: Paschoal 1159 (122).

Gymnodamaeus orbicularius Paschoal, 1982

Type: IA
Comb./Syn.: *Gymnodamaeus orbicularius* Paschoal, 1982 (1159, p. 123)

Distribution: *USA*: Utah - Paschoal 1159 (123).
Description: *Adult*: Paschoal 1159 (123) fig. .
Ecology: Paschoal 1159 (123).

Gymnodamaeus ornatus Hammer, 1952

Syntypes: CNC
Comb./Syn.: *Gymnodamaeus ornatus* Hammer, 1952 (350, p. 27)
Allodamaeus ornatus (Hammer, 1952) (27, p. 115)

Distribution: *Canada*: Aoki and Fujikawa 27 (115); N.W.T. - Hammer 350 (27).

Description: *Adult*: Hammer 350 (27) fig.; Paschoal 1159 (130)

Key: Aoki and Fujikawa 27 (115); Woolley and Higgins 901 (415).

Ecology: Hammer 350 (27).

***Gymnodamaeus pearsei* Banks, 1947**

Type: MCZ; Paratype: IA

Comb./Syn.: *Gymnodamaeus pearsei* Banks, 1947 (66, p. 116)

Distribution: *USA*: N.C. - Pearse 649 (148); Banks 66 (116).

Description: *Adult*: Banks 66 (116) fig.; Paschoal 1159 (118).

Key: Woolley and Higgins 901 (415).

Ecology: Pearse 649 (148).

Remarks: Pearse, 1946 (649, p. 148) used *Gymnodamaeus pearsei* as a nomen nudum before Banks (66, p. 116) proposed the name.

***Gymnodamaeus saltuensis* Paschoal, 1982**

Type: CNC

Comb./Syn.: *Gymnodamaeus saltuensis* Paschoal, 1982 (1159, p. 122)

Distribution: *Canada*: Man. - Paschoal 1159 (122).

Description: *Adult*: Paschoal 1159 (122) fig. .

Ecology: Paschoal 1159 (122).

***Gymnodamaeus taedaceus* Paschoal, 1982**

Type: CNC

Comb./Syn.: *Gymnodamaeus taedaceus* Paschoal, 1982 (1159, p. 121)

Distribution: *Canada*: Alta. - Paschoal 1159 (121).

Description: *Adult*: Paschoal 1159 (121) fig. .

Ecology: Paschoal 1159 (121).

***Gymnodamaeus theliis* Woolley and Higgins, 1973**

Type: FMNH; Paratypes: FMNH
Comb./Syn.: *Gymnodamaeus theliis* Woolley and Higgins, 1973 (901, p. 412)

Distribution: *USA*: Colo. - Woolley and Higgins 901 (412): S.Dak. - Woolley and Higgins 901 (412); Wash. - Woolley and Higgins 901 (412).
Description: *Adult*: Woolley and Higgins 901 (412) fig.
Key: Woolley and Higgins 901 (412).
Ecology: Woolley and Higgins 901 (412).

Gymnodamaeus umbraticus Paschoal, 1982

Type: IA
Comb./Syn.: *Gymnodamaeus umbraticus* Paschoal, 1982 (1159, p. 125)

Distribution: *USA*: Utah- Paschoal 1159 (125).
Description: *Adult*: Paschoal 1159 (125) fig. .
Ecology: Paschoal 1159 (125).

Gymnodamaeus victoriae Paschoal, 1982

Type: CNC
Comb./Syn.: *Gymnodamaeus victoriae* Paschoal, 1982 (1159, p. 128)
Distribution: *Canada*: B.C. - Paschoal 1159 (128).
Description: *Adult*: Paschoal 1159 (128) fig. .
Ecology: Paschoal 1159 (128).

Gymnodamaeus sp.

Distribution: *USA*: Alaska - Behan 73 (390); Calif. - Ashley and Bohnsack 959 (618); Mich. - Wallwork 789 (262); Tenn. - Crossley and Bohnsack 142 (631).
Canada: Alta. - Powell and Skaley 662 (20); Ont. - Marshall 549 (422).
Food: Wallwork 789 (262).
Remarks: Wallwork (789, p. 262) is sub *Heterodamaeus* sp., but the generic placement is uncertain; it could be a member of *Adrodamaeus* Paschoal, 1982 (see remarks under *Gymnodamaeus* Kulczynski, l902).

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

Distribution: *Canada*: Man. - Oswald and Minty 621 (75).

Jacotella Banks, 1947

Jacotella Banks, 1947
Type-species: *Gymnodamaeus quadricaudicula* Jacot, 1937 (66, p. 116).

Jacotella enoplura Paschoal, 1983

Type: IA; Paratypes: ADP, IA
Comb./Syn.: *Jacotella enoplura* Paschoal, 1983 (1163, p. 132)

Distribution: *USA*: Oreg. - Paschoal 1163 (132); Wash. - Paschoal 1163 (132).
Description: *Adult*: Paschoal 1163 (132) fig. .
Ecology: Paschoal 1163 (132).

Jacotella quadricaudicula (Jacot, 1937)

Type: USNM (Cotypes)
Comb./Syn.: *Gymnodamaeus quadricaudiculus* Jacot, 1937 (455, p. 356)
Jacotella quadricaudicula (Jacot, 1937) (649, p. 148) [nomen nudum] (66, p. 116)
Gymnodamaeus minor Banks, 1947 (66, p. 117): (1163, p. 129). **Type:** MCZ; Paratypes: IA

Distribution: *USA*: N.C. - Jacot 455 (356); Pearse 649 (148); Banks 66 (116, 117); Paschoal 1163 (129).
Canada: N.B. - Paschoal 1163 (129).
Description: *Adult*: Jacot 455 (356); Banks 66 (116) fig.; 66 (117) fig.; Paschoal 1163 (129) fig. .
Key: Woolley and Higgins 901 (415).
Ecology: Jacot 455 (356); Pearse 649 (148); Banks 66 (116).
Remarks: Pearse 1946 (649, p. 148) used the names *Jacotella* [nomen nudum] and *Gymnodamaeus minor* [nomen nudum] before they were proposed by Banks 1947 (66, p. 116 and p. 117), respectively.

Jacotella whartoni Paschoal, 1983

Type: IA
Comb./Syn.: *Jacotella whartoni* Paschoal, 1983 (1163, p. 134)

Distribution: *USA*: Wash. - Paschoal 1163 (134).
Description: *Adult*: Paschoal 1163 (134) fig. .
Ecology: Paschoal 1163 (134).

Johnstonella **Paschoal, 1983**

Johnstonella Paschoal, 1983
Type-species: *Johnstonella subalpina* Paschoal, 1983 (1165, p. 205).

Johnstonella subalpina **Paschoal, 1983**

Type: IA; Paratypes: ADP
Comb./Syn.: *Johnstonella subalpina* Paschoal, 1983 (1165, p. 209)
Distribution: *USA*: Wash. - Paschoal 1165 (209).
Description: *Adult*: Paschoal 1165 (209) fig. .
Ecology: Paschoal 1165 (209).

Joshuella **Wallwork, 1972**

Joshuella Wallwork, 1972
Type-species: *Joshuella striata* Wallwork, 1972 (803, p. 95).

Joshuella agrosticula **Paschoal, 1983**

Type: IA; Paratypes: ADP, IA
Comb./Syn.: *Joshuella agrosticula* Paschoal, 1983 (1164, p. 200)
Distribution: *USA*: Colo. - Paschoal 1164 (200).
Description: *Adult*: Paschoal 1164 (200) fig. .
Ecology: Paschoal 1164 (200).

Joshuella bicentenaria **Paschoal, 1983**

Type: IA, Paratypes: ADP, IA
Comb./Syn.: *Joshuella bicentenaria* Paschoal, 1983 (1164, p. 202)

Distribution: *USA*: Calif. - Paschoal 1164 (202); Idaho - Paschoal 1164 (202); Utah Paschoal 1164 (202); Wash. - Paschoal 1164 (202).
Description: *Adult*: Paschoal 1164 (202) fig. .
Ecology: Paschoal 1164 (202).

Joshuella striata Wallwork, 1972

Type: USNM
Comb./Syn.: *Joshuella striata* Wallwork, 1972 (803, p. 95)

Distribution: *USA*: Calif. - Wallwork 803 (95); 80l (297); Walter and Norton 1179 (tab. l); N.M. - Wallwork et al . 1229 (169); Utah - Paschoal 1164 (198); Wash. - Paschoal 1164 (198).
Description: *Adult*: Wallwork 803 (95) fig.; Paschaol 164 (198).
Biology: Wallwork et al. 1229 (169).
Ecology: Wallwork 803 (95); 801 (297); 950 (346); 1029 (762); Wallwork et al. 1229 (169).

Joshuella sp.

Distribution: *Canada*: B.C. - Marshall 5550 (132).

Nortonella Paschoal, 1982

Nortonella Paschoal, 1982
Type-species: *Gymnodamaeus gildersleeveae* Hammer, 1952 (1161, p. 207).
Remarks: The spelling of the generic name as "*Nortella*" (1161, p. 207) is a lapsus.

Nortonella gildersleeveae (Hammer, 1952)

Syntypes: CNC
Comb./Syn.: *Gymnodamaeus gildersleeveae* Hammer, 1952 (350, p. 29)
Nortonella gi1dersleeveae (Hammer, 1952) (1161, p. 208)

Distribution: *USA*: Alaska - Bohnsack 114 (35); 115 (74); Colo. - Paschoal 1161 (208); Utah - Paschoal 1161 (208); Wash. - Paschoal 1161 (208).
Canada: Alta. - Powell and Skaley 662 (20); Man. - Oswald and Minty 620 (81); N.W.T. - Hammer 350 (29).
Description: *Adult*: Hammer 350 (29) fig.; Paschoal 1161 (208).
Key: Woolley and Higgins 901 (415).
Add. References: Bohnsack 115 (74); Paschoal 1161 (208).
Biology: Woolley and Higgins 900 (42).

Ecology: Hammer 350 (29); Bohnsack 114 (35); Oswald and Minty 620 (81); Powell and Skaley 662 (20); Danks 971 (399); Paschoal 1161 (208).

***Odontodamaeus* Paschoal, 1982**

Odontodamaeus Paschoal, 1982
Type-species: *Gymnodamaeus veriornatus* Higgins, 1961 (1160, p. 201).

***Odontodamaeus chalazionus* (Woolley, 1972)**

Type: FMNH; Paratypes: FMNH
Comb./Syn.: *Gymnodamaeus chalazionus* Woolley, 1972 (884, p. 98)
Odontodamaeus chalazionus (Woolley, 1972) (1160, p.204)

Distribution: *USA*: Colo. - Woolley 884 (98); 900 (37). **Description:**.*Adult*: Woolley 884 (98) fig. app., photo.; 885 (55) photo.; 1032 (706) photo.
Key: Woolley and Higgins 901 (415).
Ecology: Woolley 884 (98).

***Odontodamaeus veriornatus* (Higgins, 1961)**

Type: FMNH
Comb./Syn.: *Gymnodamaeus veriornatus* Higgins, 1961 (390, p. 27)
Odontodamaeus veriornatus (Higgins, 1961) (1160, p. 202)

Distribution: *USA*: Calif. - Paschoal 1160 (202); Idaho - Paschoal 1160 (202); Utah - Higgins 390 (27); Woolley 884 (97); Paschoal 1160 (202); Wyo. - Paschoal 1160 (202).
Description: *Adult*: Higgins 390 (27) fig. app.; Paschoal 1160 (202) fig. .
Key: Woolley and Higgins 90l (415).
Ecology: Higgins 390 (27); Paschoal 116 (202).

***Pleodamaeus* Paschoal, 1983**

Pleodamaeus Paschoal, 1983
Type-species: *Gymnodamaeus plokosus* Woolley and Higgins, 1973 (1162, p. 125).

***Pleodamaeus plokosus* (Woolley and Higgins, 1973)**

Type: FMNH; Paratypes: FMNH
Comb./Syn.: *Gymnodamaeus plokosus* Woolley and Higgins 1973 (900, p. 37)

Pleodamaeus plokosus (Woolley and Higgins, 1973) (1162, p. 125)

Distribution: *USA*: Colo. - Woolley and Higgins 900 (37); Paschoal 1162 (125); Idaho - Paschoal 1162 (125); S. Dak. - Woolley and Higgins 900 (37); Paschoal 1162 (125); Utah - Woolley and Higgins 900 (37); Paschoal 1162 (125); Wyo. - Woolley and Higgins 900 (37); Paschoal 1162 (125).
Canada: Sask. - Paschoal 1162 (125).
Description: *Adult*: Woolley and Higgins 900 (37) fig.
Key: Woolley and Higgins 901 (415).
Ecology: Woolley and Higgins 900 (37); Paschoal 1162 (125).

***Plesiodamaeus* Grandjean, l954**

Plesiodamaeus Grandjean, 1954
Type-species: *Damaeus craterifer* Haller, 1884 (1058, p. 206)

***Plesiodamaeus* sp.**

Distribution: *USA*: N.M. - Wallwork et al. 1229 (169).

PLATEREMAEIDAE Trägårdh, 1931

***Allodamaeus* Banks, 1947**

Allodamaeus Banks, 1947
Type-species: *Allodamaeus ewingi* Banks, 1947 (66, p. 119).
Remarks: Paschoal and Johnston (1167, p.457) rejected the synonymy of *Arthrodamaeus* Grandjean, 1954 with this genus.

Allodamaeus ewingi **Banks, 1947**

Type: MCZ; Paratype: IA
Comb./Syn.: *Allodamaeus ewingi* Banks, 1947 (66, p. 119)

Distribution: *USA*: N.C. - Pearse 649 (148); Banks 66 (119); Higgins and Mulaik 394 (131).
Palearctic: Grishina 323 (82).
Description: *Adult*: Banks 66 (119) fig.; Higgins and Mulaik 394 (131) fig.; Travé 778 (125) [!] chaet.
Nymph: Higgins and Mulaik 394 (131) fig.

Larva: Higgins and Mulaik 394 (131) fig.
Key: Aoki and Fujikawa 27 (113).
Ecology: Pearse 649 (148); Higgins and Mulaik 394 (131);. Grishina 323 (82).
Remarks: Pearse, 1946 (649, p. 148) used *Allodamaeus ewingi* as a nomen nudum before Banks (66, p. 119) proposed the name.

***Allodamaeus* sp.**

Distribution: *USA*: Alaska - Behan 73 (391); Calif. - Ashley and Bohnsack 959 (618).
Canada: Man. - Oswald and Minty 620 (81); Nfld. - Behan 73 (391); Ont. - Marshall 549 (422); Que. - Marshall 548 (76); Behan 72 (40); Behan et al. 76 (263).

***Pheroliodes* Grandjean, 1931**

Pheroliodes Grandjean, 1931
Type-species: *Cymberemaeus wehnckei* Grandjean, 1931 (1130, p. 249).

***Pheroliodes* sp.**

Distribution: *USA*: Fla. - Norton (RAN unpub.).

***Plateremaeus* Ber1ese, 1908**

Plateremaeus Berlese, l908
Type-species: *Damoeus [!] ornatissimus* Berlese 1888 (84, p. 11).

***Plateremaeus* sp.**

Distribution: *USA*: Calif. - Walter and Norton 1179 (tab. 1).

LICNODAMAEIDAE GRANDJEAN, l954

***Licnocepheus* Woolley, 1969**

Licnocepheus Woolley, 1969
Type-species: *Licnocepheus reticulatus* Woolley, 1969 (881, p. 478).

***Licnocepheus reticulatus* Woolley, 1969**

Type: FMNH; Paratypes: FMNH; USNM

Comb./Syn.: *Licnocepheus reticulatus* Woolley, 1969 (881, p. 478)

Distribution: *USA*: La. - Woolley 881 (478).

Description: *Adult*: Woolley 881 (478) fig.

Ecology: Woolley 881 (478).

***Licnodamaeus* Grandjean, 1931**

Licnodamaeus Grandjean, 1931

Type-species: *Licneremaeus undulatus* Paoli, 1908 (1130, p. 227)

***Licnodamaeus* sp.**

Distribution: *USA*: Calif. - Norton (RAN unpub.).

Canada: N.S. - Behan-Pelletier (VBP unpub.).

DAMAEOIDEA Berlese, 1896 **[=BELBOIDEA Dubinin, 1958]**

DAMAEIDAE BERLESE, 1896

***Belba* von Heyden, 1826**

Belba von Heyden, 1826

Type-species: *Notaspis corynopus* Hermann, 1804 (1063, p. 611).

***Belba (Protobelba) californica* (Banks, 1904)**

Syntypes: MCZ

Comb./Syn.: *Oribata californica* Banks, 1904 (53, p. 367)

Belba (Protobelba) californica (Banks 1904) (612, p. 611)

Damaeus californica (Banks, 1904) (169, p. 386)

Distribution: *USA*: Calif. - Banks 53 (367); Ewing 169 (386); Norton 612 (611); Oreg. - Norton 612 (611); Wash. - Norton 612 (611).
Description: *Adult*: Banks 53 (367) fig.; Norton 612 (611) fig.; 932 (531).
Tritonymph: Norton 612 (611) fig.
Deutonymph: Norton 612 (611) chaet.
Protonymph: Norton 612 (611) chaet.
Larva: Norton 612 (611) fig.
Ecology: Norton 612 (611); 933 (538).

***Belba corynopus* (Hermann, 1804)**

Type: Not designated
Comb./Syn.: *Notaspis corynopus* Hermann, 1804 (389, p. 89)
Belba corynopus (Hermann, 1804) (825, p. 122)
Damaeus sufflexus Michael, 1885 (562, p. 394): (829, p. 122).
Type: Unknown
Belba sufflexus (Michael, 1885) (77, Vol. 74 [4])
Oribata sufflexus (Michael, 1885) (700, p. 32)
Add. Comb./Syn.: Ref.: Michael 564 (58); Grandjean 232 (56); Hammen 338 (41); Sellnick 709 (109).

Distribution: *USA*: Ga. - Norton (RAN unpub.); N.C. - Norton (RAN unpub.).
Palearctic: Michael 562 (394); 561 (415); 564 (58); Willmann 829 (122); Grandjean 232 (56); Hammen 338 (41); Märkel 543 (478); Sellnick 709 (109); Moritz 571 (154); Lebrun 507 (103); Luxton 531 (440); 532 (183); Norton 608 (47); Suzuki 1022 (142).
Description: *Adult*: Hermann 389 (89) fig.; Michael 562 (394) fig.; 561 (415) fig.; 564 (58); Ewing 169 (372); Willmann 829 (122) fig.; Grandjean 232 (56) chaet., fig.; Woolley 887 (216) [!] fig.; Balogh 42 (pl. 13 fig. 1-2); Gilyarov 207 (131) fig.; Norton 608 (47) chaet. app.; Travé 778 (125) chaet.
Key: Michael 564 (58); Ewing 10 (372); Willmann 829 (122); Sellnick 709 (109); Gilyarov 207 (131).
Add. References: Ewing 169 (372); Willmann 829 (122); Hammen 344 (12).
Biology: Luxton 988 (337).
Food: Luxton 531 (440); Krantz 490 (459); Luxton 986 (104).
Miscellaneous: Lasebikan et al. 984 (52) extract.
Ecology: Michael 561 (415); Ewing 169 (372, 386); Willmann 829 (122); Grandjean 232 (56); Hammen 338 (41); Märkel 543 (478); Sellnick 709 (109); Moritz 571 (154); Lebrun 507 (103); Luxton 531 (440); Gilyarov 207 (131); Luxton 532 (183); 987 (311); 989 (336); 990 (387); Norton 933 (538).
Remarks: Ewing's (169, p. 372) North American records were erroneous; his specimens in the USNM collection represent a very different member of the Damaeidae (RAN).

***Belba jacoti* Wilson, 1936**

Type: FSCA
Comb./Syn.: *Belba jacoti* Wilson, 1936 (839, p. 263)

Distribution: *USA*: Fla. - Wilson 839 (263); Tenn. - Crossley and Bohnsack 142 (631).
Description: *Adult*: Wilson 839 (263) fig.; Baker and Wharton 36 (408) fig.; Norton 932 (531).
Ecology: Wilson 839 (263); Crossley and Bohnsack 142 (631).

***Belba nivalis* Kulczynski, 1902**

Type: Unknown
Comb./Syn.: *Oribata nivalis* Kulczynslci, 1902 (1141, p. 30; 1142, p. 90)
Belba nivalis (Kulczynski, 1902) (142, p. 631)

Distribution: *USA*: Tenn. - Crossley and Bohnsack 142 (631). *Palearctic*: Kulczynski 1141 (30); 1142 (90).
Description: *Adult*: Kulczynski 1141 (30) fig.; 1142 (90) fig.
Key: Kulczynski 1141 (17).
Ecology: Kulczynski 1141 (30); 1142 (90); Crossley and Bohnsack 142 (631).
Remarks: We consider the *USA* record doubtful.

***Belba* sp.**

Distribution: *USA*: Alaska - Hammer 354 (10); Calif. - Ashley and Bohnsack 959 (617); Ky. - Wallwork and Rodriguez 806 (703); Minn. - Freeman 200 (112); Wagner et al. 786 (14); N.Y. - Reeves 673 (27); Tenn. - Crossley and Bohnsack 142 (631).
Canada: Alta. - Powell and Skaley 662 (19); B.C. - Marshall 550 (132); Que. - Marshall 548 (76); Smith 743 (tab. 20).

***Caenobelba* Norton, 1980**

Caenobelba Norton, 1980
Type-species: *Caenobelba alleganiensis* Norton, 1980 (614, p. 496)

***Caenobelba alleganiensis* Norton, 1980**

Type: FMNH; Paratypes: CNC, HNHM, MCZ

Comb./Syn.: *Caenobelba alleganiensis* Norton, 1980 (614, p. 496)

Distribution: *USA*: Alaska - Behan 73 (391); Norton 614 (496); N.Y. - Norton 614 (496); Wash. - Norton 614 (496).
Canada: B.C. - Norton 614 (496); Ont. - Norton 614 (496).
Description: *Adult*: Norton 614 (496) chaet., fig.
Tritonymph: Norton 614 (496).
Deutonymph: Norton 614 (496).
Protonymph: Norton 614 (496).
Larva: Norton 614 (496).
Ecology: Behan 73 (391).

***Damaeus* C.L. Koch, 1835**

Damaeus C.L. Koch, 1835
Type-species: *Damaeus auritus* C.L. Koch, 1835 (485, Vol. 2 (11))
Remarks: In contrast to most works, the type of *Damaeus* C.L. Koch, 1835 is given as "*Damaeus onustus* Koch, 1841 (=*D. geniculatus* auct.)" in Gilyarov, 1975 (207, p. 122) and other Russian papers.

***Damaeus angustipes* (Banks, 1905)**

Syntype: MCZ
Comb./Syn.: *Oribata angustipes* Banks, 1905 (52, p. 69; 54, p. 136) (see remarks)
Damaeus angustipes (Banks, 1905) (172, p. 385)
Oribata gracilipes sensu Banks, 1904 (54, p. 136); non Kulczynski, 1902
Belba kingi Hartenstein, 1962 (377, p. 357): (609, p. 332).
Type: USNM
Damaeus kingi (Hartenstein, 1962) (673, p. 27)

Distribution: *USA*: Ky. - Norton 609 (332); N.Y. - Hartenstein 377 (357); 376 (203); Reeves 673 (27); Norton 609 (332); N.C. - Norton 609 (332); Va. - Banks 54 (136); Ewing 172 (385); Norton 609 (332).
Description: *Adult*: Banks 52 (69) fig.; 54 (136); 63 (99) fig.; Hartenstein 377 (357) fig.; Norton 608 (47) chaet., fig. app.; 609 (332) chaet., fig.
Tritonymph: Norton 608 (47) fig. app.; 69 (332) fig.
Deutonymph: Norton 608 (47) fig. app.; 609 (332) fig.
Protonymph: Hartenstein 377 (357) fig.; Norton 608 (47) fig. app.; 609 (332) fig.

Larva: Hartenstein 377 (357) fig.; Norton 608 (47) fig. app.; 609 (332) fig.

Egg: Hartenstein 377 (357) fig.

Key: Norton 609 (332).

Add. References: Sengbusch and Sengbusch 723 (210).

Biology: Hartenstein 377 (357); Sengbusch and Sengbusch 723 (210); Lebrun 723 (202); Butcher et al. 123 (258); Luxton 988 (337).

Food: Hartenstein 376 (203); Luxton 531 (462).

Ecology: Banks 54 (136); Ewing 172 (385); Reeves 673 (27); Norton 609 (332); 933 (535).

Remarks: Banks (52, p. 96) figured this species under the name *Oribata gracilipes*, a European species; he later (54, p. 136) proposed *Oribata angustipes* for this mite.

***Damaeus appalachicus* Norton, 1978**

Type: MCZ; Paratypes: CESF, CNC, FMNH

Comb./Syn.: *Damaeus appalachicus* Norton, 1978 (609, p. 348)

Distribution: *USA*: N.C. - Norton 609 (348), Tenn. - Norton 609 (348).

Description: *Adult*: Norton 609 (348) chaet., fig.

Key: Norton 609 (348).

Ecology: Norton 609 (348); 933 (536).

***Damaeus australis* (Banks, 1895)**

Syntype: MCZ

Comb./Syn.: *Belba australis* Banks, 1895 (45, p. 12)

Damaeus australis (Banks, 1895) (169, p. 386)

Oribata australis (Banks, 1895) (57, p. 613)

Damaeus atlanticus Norton, 1978 (609, p. 344) new syn.

Type: MCZ; Paratypes: CESF, CNC, FMNH, USNM

Distribution: *USA*: Colo. - Banks 46 (433); Fla. - Norton 609 (344); La. - Banks 45 (12); Ewing 169 (386); Norton 609 (344); Md. - Norton 609 (344); Miss. - Norton 609 (344); N.C. - Norton 609 (344); Pa. - Norton 609 (344); Va. - Norton 609 (344).

Description: *Adult*: Banks 45 (12); Norton 609 (344) chaet., fig. *Deutonymph*: Norton 609 (344) fig. *Protonymph*: Norton 609 (344) fig.

Larva: Norton 609 (344) fig.
Key: Banks 45 (12); Norton 609 (344).
Ecology: Banks 46 (433); Norton 609 (344); 933 (536).

Damaeus grossmani **(Wilson, 1936)**

Type: FSCA
Comb./Syn.: *Oribata grossmani* Wilson, 1936 (839, p. 256)
Damaeus grossmani (Wilson, 1936) (609, p. 340)

Distribution: *USA*: Ala. - Norton 609 (340); Fla. - Wilson 839 (256); Norton 609 (340); Ga. - Norton 609 (340); Miss. - Norton 609 (340); N.C. - Norton 609 (340).
Description: *Adult*: Wilson 839 (256) chaet., fig.; Norton 609 (340) chaet., fig.
Key: Norton 609 (340).
Ecology: Wilson 839 (256); Norton 609 (340); 933 (536).

Damaeus opilioides **Norton, 1978**

Type: MCZ; Paratypes: CESF, CNC, FMNH, USNM
Comb./Syn.: *Damaeus opilioides* Norton, 1978 (609, p. 342)
Distribution: *USA*: N.C. - Norton 609 (342).
Description: *Adult*: Norton 609 (342) chaet., fig. app.
Key: Norton 609 (342).
Ecology: Norton 609 (342); 933 (536).

Damaeus (Spatiodamaeus) verticillipes **(Nicolet, 1855)**

Type: Not designated
Comb./Syn.: *Damaeus verticillipes* Nicolet, 1855 (592, p. 462)
Belba verticillipes (Nicolet, 1855) (829, p. 121)
Damaeus (Spatiodamaeus) verticillipes (Nicolet, 1855) (609, p. 350)
Oribata verticillipes (Nicolet, 1855) (502, p. 28)
Damaeus quadrihastatus Märkel and Meyer, 1960 (547, p. 18): (188, p. 605).
Type: Not designated
Belba torva sensu Oudemans, 1897 (623, p. 184): (388, p. 45)
Add. Comb./Syn.: Ref.: Fonseca and Bahou 188 (605); Gilyarov 207 (125).

Distribution: *USA*: N.H. - Norton 609 (350).

Palearctic: Michael 561 (412); 564 (59); André 5 (508); 6 (245); Willmann 829 (121); Hammen 338 (45); Haarlov 326 (37); Märkel 543 (478); Märkel and Meyer 547 (18); Sellnick 709 (107); Dalenius 144 (107); 145 (4); Märkel 544 (326); Fonseca and Bahou 188 (605); Gilyarov 207 (125); Norton 609 (350).
Description: *Adult*: Nicolet 592 (462) fig.; Michael 561 (412) fig.; 564 (59); Kulczynski 502 (28)fig.; Willmann 829 (121) fig.; Grandjean 284 (214) chaet.; Märkel and Meyer 547 (18) fig.; Fonseca 185 (227) fig.; Fonseca and Bahou 188 (605).
Nymph: Michael 561 (412) fig.
Prelarva: Fonseca 187 (323) fig.
Key: Michael 564 (59); Willmann 829 (121); Sellnick 709 (107); Gilyarov 207 (125); Norton 609 (350).
Add. References: Willmann 829 (121); Hammen 338 (45); Luxton 531 (462); Hammen 344 (16); Norton 933 (536).
Biology: Fonseca 187 (323).
Food: Luxton 531 (462).
Miscellaneous: Fonseca 185 (227) anat.
Ecology: André 5 (508); 6 (245); Willmann 829 (121); Hammen 338 (45); Haarlov 326 (37); Märkel 543 (478); Märkel and Meyer 547 (18); Sellnick 709 (107); Dalenius 144 (107); 145 (4); Märkel 544 (326); Fonseca and Bahou 188 (605); Norton 609 (350).

***Damaeus* sp.**

Distribution: *USA*: N.M. - Wallwork et al. 1229 (169).

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

Distribution: *Canada*: N.W.T. - Oliver (179).

***Damaeus sp. nr. gracilipes* Kulczynski, 1902**

Distribution: *Canada*: Que. - Smith 743 (tab. 20).
Remarks: Smith's record is sub *Belba nr. gracilipes* Kulczal [!], 1902.

***Dasybelba* Woolley and Higgins, 1979**

Dasybelba Woolley and Higgins, 1979
Type-species: *Dasybelba perona* Woolley and Higgins, 1979 (952, p. 554).

Dasybelba aphelesa Woolley and Higgins, 1979

Type: FMNH
Comb./Syn.: *Dasybelba aphelesa* Woolley and Higgins, 1979 (952, p. 555)

Distribution: *USA*: Colo. - Woolley and Higgins 952 (555).
Description: *Adult*: Woolley and Higgins 952 (555) chaet., fig.
Ecology: Woolley and Higgins 952 (555).

Dasybelba perona Woolley and Higgins, 1979

Type: FMNH
Comb./Syn.: *Dasybelba perona* Woolley and Higgins, 1979 (952, p. 554)

Distribution: *USA*: Colo. - Woolley and Higgins 952 (554).
Description: *Adult*: Woolley and Higgins 952 (554) chaet., fig.
Ecology: Woolley and Higgins 952 (554).

Dyobelba Norton, 1979

Dyobelba Norton, 1979
Type-species: *Oribata carolinensis* Banks, 1947 (612, p. 616)

Dyobelba carolinensis (Banks, 1947)

Syntypes: MCZ, IA
Comb./Syn.: *Oribata carolinensis* Banks, 1947 (66, p. 119)
Dyobelba carolinensis (Banks, 1947) (612, p. 616)
Metabelba carolinensis (Banks, 1947) (469, p. 55)
Oribata diversipes Banks, 1947 (66, p. 120): (612, p. 616).
Type: MCZ

Distribution: *USA*: Ga. - Norton 612 (616); N.C. - Pearse 649 (148); Banks 66 (119); 66 (120); Norton 612 (616); Tenn. - Norton 612 (616); Va. - Norton 612 (616); W. Va. - Norton 612 (616).
Description: *Adult*: Banks 66 (119) fig.; 66 (120) fig.; Norton 612 (616) fig.
Tritonymph: Norton 612 (616) fig.
Deutonymph: Norton 612 (616) chaet.
Protonymph: Norton 612 (616) chaet.

Larva: Norton 612 (616) fig.
Ecology: Pearse 649 (148); Norton 612 (616).
Remarks: Pearse, 1946 (649, p. 148) used *Oribata diversipes* as a nomen nudum before Banks (66, p. 119) proposed the name.

***Dyobelba tectopediosa* (Jacot, 1938)**

Type: MCZ, USNM (Cotypes)
Comb./Syn.: *Oribata tectopediosa* Jacot, 1938 (456, p. 10)
Dyobelba tectopediosa (Jacot, 1938) (612, p. 616)

Distribution: *USA*: N.C. - Jacot 456 (10).
Description: *Adult*: Jacot 456 (10).
Ecology: Jacot 456 (10).

***Epidamaeus* Bulanova-Zachvatkina, 1957**

Epidamaeus Bulanova-Zachvatkina, 1957
Type-species: *Oribata bituberculata* Kulczynski, l902 (967, p. 552).

***Epidamaeus alachua* Wilson, 1936** new comb.

Type: FSCA
Comb./Syn.: *Belba alachua* Wilson, 1936 (839, p. 265)
Distribution: *USA*: Fla. - Wilson 839 (265).
Description: *Adult*: Wilson 839 (265) fig.
Ecology: Wilson 839 (265)
Remarks: This is regarded as a distinct species, pending a remounting of the type. It is probably a synonym of *Epidamaeus florida* (Wilson, 1936).

***Epidamaeus arcticolus* (Hammer, 1952)**

Syntypes: CNC, ZMC
Comb./Syn.: *Belba arcticola* Hammer, 1952 (350, p. 26)
Epidamaeus arcticola (Hammer, 1952) (207, p. 129)

Distribution: *USA*: Alaska - Hammer 354 (9); Behan 73 (390); MacLean et al. 534 (562); Behan-Pelletier and Norton 1043 (1254); Va. - Sengbusch 719 (130).

Canada: Gilyarov 207 (129); MacLean et al. 534 (562); Bulanova-Zachvatkina 968 (59); N.W.T. - Hammer 350 (26); Behan 73 (390); Behan-Pelletier and Norton 1043 (1254); Y.T. - Behan 73 (390).
Palearctic: Gilyarov 207 (129); MacLean et al. 534 (562); Bulanova-Zachvatkina 968 (59); Danks 971 (400); Behan-Pelletier and Norton 1043 (1254).
Description: *Adult*: Hammer 350 (26) fig.; Gilyarov 207 (129) fig.; Behan-Pelletier and Norton 1043 (1254) fig.
Key: Gilyarov 207 (129).
Food: Behan and Hill 75 (498).
Ecology: Hammer 350 (26); 354 (9); Sengbusch 719 (130); Behan 73 (390); MacLean et al. 534 (562); Bulanova-Zachvatkina 968 (59); Norton 933 (537); Behan-Pelletier and Norton 1043 (1254).
Remarks: The Virginia record is considered doubtful.

***Epidamaeus bakeri* (Hammer, 1952)**

Syntypes: CNC, ZMC
Comb./Syn.: *Belba bakeri* Hammer, 1952 (350, p. 27)
Epidamaeus bakeri (Hammer, 1952) (73, p. 390); non Hammer, 1955 (1043, p. 1261)

Distribution: *USA*: Alaska - Behan 73 (390); Bulanova-Zachvatkina 968 (59); Behan-Pelletier and Norton 1043 (1260); Va. - Sengbusch 1012 (22).
Canada: N.W.T. - Hammer 350 (27); Behan 73 (390); Behan-Pelletier and Norton 1043 (1260); 1121 (279); Y.T. - Behan 73 (390); Bulanova-Zachvatkina 968 (59); Behan-Pelletier and Norton 1043 (1260); 1121 (279).
Palearctic: Danks 971 (400).
Description: *Adult*: Hammer 350 (27) fig.; Behan-Pelletier and Norton 1043 (1260) fig.
Food: Behan and Hill 75 (498).
Ecology: Hammer 350 (27); Behan 73 (390); Sengbusch 1012 (22); Behan-Pelletier and Norton 1043 (1260); Danks 971 (400).
Remarks: According to Behan-Pelletier and Norton (1043, p. 1261), Hammer's (354, p. 9) specimens from Alaska are not conspecific with her type-series of *Belba bakeri* from *Canada*; rather the Alaskan specimens belong to the recently described species *Epidamaeus nasutus* Behan-Pelletier and Norton, 1985. The Virginia record is considered doubtful.

***Epidamaeus canadensis* (Banks, 1909)**

Type: MCZ
Comb./Syn.: *Oribata canadensis* Banks, 1909 (60, p. 139)
Epidamaeus canadensis (Banks, 1909) (612, p. 604)

Damaeus michaeli sensu Woolley, 1957 (857, p. 214); non Ewing, 1909

Distribution: *USA*: Ill. - Woolley 857 (214) [mi.].

Canada: Ont. - Banks 60 (139).

Description: *Adult*: Banks 60 (139) fig.; Woolley 857 (214) fig. [mi.].

Ecology: Banks 60 (139); Woolley 857 (214) [mi.].

Remarks: See under *Epidamaeus michaeli* (Ewing, 1909).

***Epidamaeus coxalis* (Hammer, 1952)**

Syntypes: CNC

Comb./Syn.: *Belba coxalis* Hammer, 1952 (350, p. 24)

Epidamaeus coxalis (Hammer, 1952) (207, p. 130)

Distribution: *USA*: Alaska - Behan-Pelletier and Norton 1043 (1262).

Canada: Gilyarov 207 (130); N.W.T. - Hammer 350 (24); Behan 73 (390); Behan-Pelletier and Norton 1121 (279); Y.T. - Behan 73 (390); Behan-Pelletier and Norton 1043 (1262).

Palearctic: Gilyarov 207 (130); Danks 971 (400).

Description: *Adult*: Hammer 350 (24) fig.; Behan-Pelletier and Norton 1043 (1262) fig.

Key: Gilyarov 207 (130).

Ecology: Hammer 350 (24); Behan 73 (390); Norton 933 (537); Behan-Pelletier and Norton 1043 (1262).

***Epidamaeus craigheadi* (Jacot, 1939)** new comb.

Type: MCZ, USNM (Cotypes)

Comb./Syn.: *Metabelba craigheadi* Jacot, 1939 (462, p. 324)

Distribution: *USA*: N.H. - Jacot 462 (324).

Description: *Adult*: Jacot 462 (324) fig. app.

Ecology: Jacot 462 (324).

***Epidamaeus floccosus* Behan-Pelletier and Norton, 1985**

Type: CNC; Paratypes: CNC, RNC, USNM

Comb./Syn.: *Epidamaeus floccosus* Behan-Pelletier and Norton, 1985 (1121, p. 280)

Distribution: *USA*: Alaska - Behan-Pelletier and Norton 1121 (280).

Description: *Adult*: Behan-Pelletier and Norton 1121 (280) fig.
Ecology: Behan-Pelletier and Norton 1121 (280).

***Epidamaeus florida* (Wilson, 1936)** new comb., new status

Type: FSCA
Comb./Syn.: *Belba globifer florida* Wilson, 1936 (839, p. 260)
Distribution: *USA*: Fla. - Wilson 839 (260); N.C. - Pearse 649 (148).
Description: *Adult*: Wilson 839 (260) fig.
Ecology: Wilson 839 (260); Pearse 649 (148).

***Epidamaeus fortispinosus* Hammer, 1967**

Syntypes: USNM
Comb./Syn.: *Epidamaeus fortispinosus* Hammer, 1967 (362, p. 13)

Distribution: *USA*: Alaska - Hammer 362 (13); Behan 73 (390); MacLean et al. 534 (562); Bulanova-Zachvatkina 968 (58); Behan-Pelletier and Norton 1043 (1263); 1121 (279).
Canada: Que. - Behan-Pelletier and Norton 1043 (1263). *Palearctic*: Gilyarov 207 (128); Behan 73 (390); MacLean et al. 534 (562); Bulanova-Zachvatkina 968 (58); Danks 971 (400); Behan-Pelletier and Norton 1043 (1263).
Description: *Adult*: Hammer 362 (13) fig.; Gilyarov 207 (128) fig.; Behan-Pelletier and Norton 1043 (1263) fig.
Key: Gilyarov 207 (128).
Ecology: Hammer 362 (l3); Behan 73 (390); MacLean et al. 534 (562); Bulanova-Zachvatkina 968 (58); Norton 933 (537); Behan-Pelletier and Norton 1043 (1263); Danks 971 (400).

***Epidamaeus gibbofemoratus* (Hammer, 1955)**

Type: USNM; Paratype: USNM
Comb./Syn.: *Belba gibbofemorata* Hammer, 1955 (354 p. 9)
Epidamaeus gibbofemorata (Hammer, 1955) (73, p. 390)

Distribution: *USA*: Alaska - Hammer 354 (9); Behan 73 (390).
Description: *Adult*: Hammer 354 (9) fig.; Behan-Pelletier and Norton 1121 (288) fig.
Ecology: Hammer 354 (9); Behan 73 (390); Danks 971 (400); Behan-Pelletier and Norton 1121 (288).
Remarks: Behan's (73, p. 390) records of *Epidamaeus gibbofemorata* from N.W.T. and Y.T. are erroneous (1121, p. 289).

***Epidamaeus globifer* (Ewing, 1913)** new comb.

Type: USNM
Comb./Syn.: *Damaeus globifer* Ewing, 1913 (176, p. 120)

Distribution: *USA*: Conn. - Garman 205 (25); Minn. - Ewing 176 (120); Freeman 200 (112); Woolley 857 (215).
Description: *Adult*: Ewing 176 (120) fig.; Woolley 857 (215) fig.
Ecology: Ewing 176 (120); Garman 205 (25); Freeman 200 (112); Woolley 857 (215).

***Epidamaeus hastatus* Hammer, 1967**

Type: USNM
Comb./Syn.: *Epidamaeus hastatus* Hammer, 1967 (362, p. 15)

Distribution: *USA*: Alaska - Hammer 362 (15); Behan 73 (390); Bulanova-Zachvatkina 968 (58); Behan-Pelletier and Norton 1121 (286).
Description: *Adult*: Hammer 362 (15) fig.; Behan-Pelletier and Norton 1121 (286) fig.
Ecology: Hammer 362 (15); Behan 73 (390); Behan-Pelletier and Norton 1121 (286).

***Epidamaeus (Akrodamaeus) inaequipes* (Banks, 1947)**

Type: MCZ
Comb./Syn.: *Belba inaequipes* Banks, 1947 (66, p. 121)
Epidamaeus (Akrodamaeus) inaequipes (Banks, 1947) (612, p. 605)

Distribution: *USA*: N.C. - Pearse 649 (148); Banks 66 (121).
Description: *Adult*: Banks 66 (121) fig.
Ecology: Pearse 649 (148).
Remarks: Pearse 1946 (649, p. 148) used *Belba inaequipes* as a nomen nudum before Banks (66, p. 121) proposed the name.

Epidamaeus kodiakensis Hammer, 1967

Syntypes: USNM
Comb/Syn.: *Epidamaeus kodiakensis* Hammer, 1967 (362, p. 11)

Distribution: *USA*: Alaska - Hammer 362 (11); Gilyarov 207 (129); Behan 73 (390); Bulanova-Zachvatkina 968 (58) [!]; Behan-Pelletier and Norton 1043 (1257).
Palearctic: Bulanova-Zachvatkina 968 (58) [!]; Behan-Pelletier and Norton 1043 (1257).
Description: *Adult*: Hammer 362 (11) fig.; Behan-Pelletier and Norton 1043 (1257) fig.
Key: Gilyarov 207 (129).
Ecology: Hammer 362 (11); Behan 73 (390); Bulanova-Zachvatkina 968 (58)[!]; Danks 971 (400); Behan-Pdletier and Norton 1043 (1257).

Epidamaeus koyukon Behan-Pelletier and Norton, 1985

Type: CNC; Paratypes: CNC, RNC, USNM
Comb./Syn.: *Epidamaeus koyukon* Behan-Pelletier and Norton, 1985 (1121 p. 289)

Distribution: *USA*: Alaska - Hammer 354 (9) [mi.].
Canada: N.W.T. - Hammer 350 (24) [mi.], Y.T. - Behan-Pelletier and Norton 1121 (289).
Description: *Adult*: Behan-Pelletier and Norton 1121 (289) fig.
Ecology: Behan-Pelletier and Norton 1121 (289).
Remarks: According to Behan-Pelletier and Norton (1121, p. 291), Hammer (354, p. 9) misidentified an Alaskan specimen of this species as *Belba tatrica* (Kulczynski, l902). We are assuming that other Alaskan and Canadian records (350, p. 24; 354, p. 9; 73, p. 390; 971, p. 400) likewise represent misidentifications.

Epidamaeus (Akrodamaeus) longiseta (Banks, 1906)

Type: MCZ
Comb./Syn.: *Oribata longiseta* Banks, 1906 (56, p. 498)
Damaeus longiseta (Barks, 1906) (169, p. 386)
Epidamaeus (Akrodamaeus) longiseta (Banks, 1906) (612, p. 606)

Distribution: *USA*: Ark. - Norton 612 (606); Del. - Norton 612 (606); Maine - Norton 612 (606); Mo. - Norton 612 (606); N.H. - Norton 612 (606); N.Y. - Norton 612 (606); Pa. - Norton 612 (606); Tex. -

Norton 612 (606); Va. - Banks 56 (498); Ewing 169 (386); Norton 612 (606); Wash. - Norton 612 (606).
Canada: Ont. - Norton 612 (606).
Description: *Adult*: Banks 56 (498) fig.; Norton 612 (606) fig. *Tritonymph*: Norton 612 (606) chaet.
Deutonymph: Norton 612 (606) fig.
Protonymph: Norton 612 (606) chaet.
Larva: Norton 612 (606) fig.
Ecology: Norton 612 (606).

***Epidamaeus longitarsalis* (Hammer, 1952)**

Type: CNC
Comb./Syn.: *Belba longitarsalis* Hammer, 1952 (350, p. 24)
Epidamaeus longitarsalis (Hammer, 1952) (73, p. 390)

Distribution: *USA*: Alaska - Behan 73 (390).
Canada: N.W.T. - Hammer 350 (24); Behan 73 (390); Bulanova-Zachvatkina 968 (59); Y.T. - Behan 73 (390).
Palearctic: Bulanova-Zachvatkina 968 (59); Karppinen and Krivolutsky 1071 (8).
Description: *Adult*: Hammer 350 (24) fig.
Ecology: Hammer 350 (24); Behan 73 (390); Danks 971 (400).

***Epidamaeus mackenziensis* (Hammer, 1952)**

Syntypes: CNC, ZMC
Comb./Syn.: *Belba mackenziensis* Hammer, 1952 (350, p. 25)
Epidamaeus mackenziensis (Hammer, 1952) (73, p. 390)

Distribution: *USA*: Alaska - Hammer 354 (9); Behan 73 (390); Bulanova-Zachvatkina 968 (59); Behan-Pelletier and Norton 1043 (1259); Behan-Pelletier and Norton 1121 (279).
Canada: N.W.T. - Hammer 350 (25); Behan 73 (390); Y.T. - Bulanova-Zachvatkina 968 (59); Behan-Pelletier and Norton 1043 (1259).
Description: *Adult*: Hammer 350 (25) fig.; Behan-Pelletier and Norton 1043 (1259) .
Nymph: Hammer 350 (25) fig.
Ecology: Hammer 350 (25); 354 (9); Behan 73 (390); Danks 971 (400); Behan-Pelletier and Norton 1043 (1259).

***Epidamaeus michaeli* (Ewing, 1909)** new comb.

Type: Not designated (see remarks)

Comb./Syn.: *Damaeus michaeli* Ewing, 1909 (170, p. 129)

Belba michaeli (Ewing, 1909) (839 p. 262)

Distribution: *USA*: Fla. - Wilson 839 (262); Ill.. - Ewing 170 (129); Miller 927 (143); Ohio - Miller 927 (143).

Description: *Adult*: Ewing 170 (129) fig.; Miller 927 (143); Wilson 839 (262).

Key: Ewing 170 (129).

Ecology: Ewing 170 (129); Miller 927 (143).

Remarks: The specimen described by Woolley (857, p. 214) is an "autotype" and has no status in questions of nomenclature. A comparison of Ewing's original description and that of Woolley indicates that the "autotype" represents a different species, i.e., *Epidamaeus canadensis* (Banks, 1909). Ewing's original description (170, p. 129) nicely fits a common distinct US mid-western *Epidamaeus* species, which needs fuller description.

***Epidamaeus nasutus* Behan-Pelletier and Norton, 1985**

Type: CNC; Paratypes: CNC, RNC, USNM

Comb./Syn.: *Epidamaeus nasutus* Behan-Pelletier and Norton, 1985 (1121, p. 279)

Distribution: *USA*: Alaska - Hammer 354 (9) [mi.]; Behan-Pelletier and Norton 1121 (279).

Canada: Y.T. - Behan-Pelletier and Norton 1121 (279).

Description: *Adult*: Behan-Pelletier and Norton 1121 (279) fig.

Ecology: Behan-Pelletier and Norton 1121 (279).

Remarks: Hammer (354, p. 9) is sub *Belba bakeri*.

***Epidamaeus olitor* (Jacot, 1937)** new comb.

Type: USNM (Cotypes)

Comb./Syn.: *Belba olitor* Jacot, 1937 (455, p. 355)

Distribution: *USA*: N.C. - Jacot 455 (355).

Description: *Adult*: Jacot 455 (355).

Ecology: Jacot 455 (355); Norton 933 (536).

***Epidamaeus puritanicus* (Banks, 1906)** new comb.

Type: USNM (Cotypes)

Comb./Syn.: *Oribata puritanica* Banks 1906 (56, p. 498)

Damaeus puritanicus (Banks, 1906) (169, p. 386)

Distribution: *USA*: Ill. - Norton 933 (537); Maine - Norton 933 (537); Mass. - Banks 56 (498); 59 (16); Ewing 169 (386); Mo. - Norton 933 (537); N.H. - Norton 933 (537).

Canada: Man. - Norton 933 (537); Ont. - Norton 933 (537).

Description: *Adult*: Banks 56 (498) fig.

Remarks: The North American records of *Epidamaeus grandjeani* Bulanova-Zachvatkina, 1957 (933, p. 537) relate to *Epidamaeus puritanicus* (Banks, 1906), the type of which was only recently relocated. It is likely that the two represent a single highly variable species with a wide geographic distribution, but further study is needed to clarify this.

***Epidamaeus tatricus* (Kulczynski, 1902)**

Type: Unknown

Comb./Syn.: *Oribata tatricus* Kulczynski, 1902 (1141, p. 38; 1142, p. 91)

Belba tatrica (Kulczynski, 1902) (829, p. 123)

Epidamacus tatricus (Kulczynski, 1902) (909, p. 1797)

Distribution: *USA*: Mich. - Wallwork 788 (172); Va. - Sengbusch 719 (130).

Canada: Schweizer 691 (263); Nfld. - Behan 73 (390); N.W.T. - Behan 73 (390).

Nearctic: Hammer 348 (42); 349 (35); 373 (21).

Palearctic: Kulczynski 1141 (38); 1142 (91); Willmann 829 (123); Schweizer 691 (263); 692 (tab. 8 no. 346); Dalenius 144 (107); 145 (4); Lebrun 508 (187); Gilyarov 207 (129); Hammer 373 (21); Bulanova-Zachvatkina 967 (58); Danks 971 (400).

Description: *Adult*: Kulczynski 1141 (38); 1142 (91); Willmann 829 (123) fig.; Schweizer 691 (263) fig.

Key: Willmann 829 (123); Gilyarov 207 (129).

Add. References: Willmann 829 (123); Luxton 531 (462).

Food: Luxton 531 (462).

Ecology: Willmann 829 (123); Hammer 348 (42); 350 (24); 354 (9); Schweizer 691 (263); 692 (tab. 8 no. 346); Sengbusch 719 (130); Wallwork 788 (172); Dalenius 144 (107); 145 (4); Lebrun 508 (187); Hammer 373 (21); Behan 73 (390); Bulanova-Zachvatkina 967 (58).
Remarks: All North American records are considered doubtful. See remarks under *Epidamaeus koyukon* Behan-Pelletier and Norton, 1985.

***Epidamaeus tenuissimus* Hammer, 1967**

Type: USNM
Comb./Syn.: *Epidamaeus tenuissimus* Hammer, 1967 (362, p. 9)

Distribution: *USA*: Alaska - Hammer 362 (9); Bulanova-Zachvatkina 968 (58); Behan-Pelletier and Norton 1121 (291).
Canada: B.C. - Behan-Pelletier and Norton 1121 (291).
Description: *Adult*: Hammer 362 (9) fig.; Behan-Pelletier and Norton 1121 (291) fig.
Ecology: Hammer 362 (9); Behan-Pelletier and Norton 1121 (291).

***Epidamaeus tritylos* Behan-Pelletier and Norton, 1983**

Type: CNC; Paratypes: CNC, RNC, USNM
Comb./Syn.: *Epidamaeus tritylos* Behan-Pelletier and Norton, 1983 (1043, p. 1264)

Distribution: *USA*: Alaska - Behan-Pelletier and Norton 1043 (1264); 1121 (279).
Canada: N.W.T. - Behan-Pelletier and Norton 1121 (279).
Palearctic: Behan-Pelletier and Norton 1043 (1264).
Description: *Adult*: Behan-Pelletier and Norton 1043 (1264) fig.
Ecology: Behan-Pelletier and Norton 1043 (1264).

***Epidamaeus* sp.**

Distribution: *USA*: Calif. - Hoy 1135 (75).
Canada: Alta. - Powell and Skaley 662 (20); Man. - Oswald and Minty 621 (74); N.B. - Pielou and Verma 658 (1190); Nfld. - Behan 73 (390); N.W.T. - Danks and Byers 147 (85); Ont. - Pielou and Verma 658 (1190); Freitag and Ryder 20l (40); Que. - Pielou and Matthewman 657 (1311); Pielou and Verma 658 (1190); Matthewman and Pielou 552 (802).

***Epidamaeus (Akrodamaeus)* sp.**

Distribution: *USA*: Calif. - Walter and Norton 1175 (tab. 1).

***Hungarobelba* Balogh, 1943**

Hungarobelba Balogh, 1943
Type-species: *Belba visnyai* Balogh, 1938 (37, p. 40).

***Hungarobelba* sp.**

Distribution: *USA*: Calif. - Walter and Norton 1179 (tab. 1). *Canada*: Alta. - Powell and Skaley 662 (19).

***Lanibelba* Norton, 1980**

Lanibelba Norton, 1980
Type-species: *Lanibelba pini* Norton, 1980 (614, p. 502).

***Lanibelba pini* Norton, 1980**

Type: FMNH; Paratypes: CNC, HNHM, MCZ
Comb./Syn.:*Lanibelba pini* Norton, 1980 (614, p. 502)

Distribution: *USA*: Ala. - Norton 614 (502); Fla. - Norton 614 (502); Ga. - Norton 614 (502); Ill. - Norton 614 (502); Ind. - Norton 614 (502); Iowa - Norton 614 (502); Miss. - Norton 614 (502); Mo. - Norton 614 (502); Nebr. - Norton 614 (502); N.C. - Norton 614 (502); N.H. - Norton 614 (502); N.Y. - Norton 614 (502); Tex. Norton 614 (502).
Canada: N.B. - Norton 614 (502).
Description: *Adult*: Norton 614 (502) chaet., fig.
Tritonymph: Norton 614 (502).
Deutonymph: Norton 614 (502).
Protonymph: Norton 614 (502).
Larva: Norton 614 (502).

***Metabelba* Grandjean, 1936**

Metabelba Grandjean, 1936
Type-species: *Damaeus papillipes* Nicolet, 1855 (232, p. 67).

***Metabelba cremersi* van der Hammen, 1952**

Type: RNH
Comb./Syn.: *Metabelba cremersi* van der Hammen, 1952 (338, p. 42)

Distribution: *USA*: Va. - Sengbusch 719 (130).
Palearctic: Hammen 338 (42).
Description: *Adult*: Hammen 338 (42) fig.
Ecology: Hammen 338 (42); Sengbusch 719 (130).
Remarks: The *USA* record is considered doubtful (933, p. 538).

Metabelba papillipes **(Nicolet, 1855)**

Type: Not designated
Comb./Syn.: *Damaeus papillipes* Nicolet, 1855 (592, p. 463)
Metabelba papillipes (Nicolet, 855) (232, p. 56)
Add. Comb./Syn. Ref.: Grandjean 232 (56); Hammen 338 (41).

Distribution: *USA*: N.H. - Norton 933 (538).
Palearctic: Grandjean 232 (56); Travé 774 (82); Haarlov 326 (40); Sellnick 709 (107); Rajski 668 (22); Travé 777 (230); Byzova 124 (292); Lebrun 507 (103); Rajski 669 (234); Rubcova 681 (386); Gilyarov 207 (136); Luxton 532 (183).
Description: *Adult*: Nicolet 592 (463); Hammen and Strenzke 346 (144); Grandjean 279 (489) chaet.; 284 (214) chaet.; Baker et al. 35 (162) fig.; Gilyarov 207 (136) fig.
Taxonomy Grandjean 232 (56); Hammen and Strenzke 346 (142).
Key: Hammen and Strenzke 346 (153); Sellnick 709 (107); Gilyarov 207 (136).
Add. References: Rajski 668 (22).
Ecology: Travé 774 (82); Haarlov 326 (40); Sellnick 709 (107); Rajski 668 (22); Travé 777 (230); Byzova 124 (292); Lebrun 507 (103); Rajski 669 (234); Rubcova 681 (386); Luxton 532 (183).

Metabelba pulverulenta **(C.L. Koch, 1839)**

Type: Unknown
Comb./Syn.: *Nothrus pulverulenta* C.L. Koch, 1839 (Vol. 29 (3)).
Belba pulverulenta (C.L. Koch, 1839) (829, p. 120)
Damaeus pulverulentus (C.L. Koch, 1839) (564, p. 58)
Metabelba pulverulenta (C.L. Koch, 1839) (232, p. 56)
Oribata pulverulentus (C.L. Koch, 1839) (700, p. 32)
Metabelba pulverosa Strenzke, 1953 (346, p. 148): (119, p. 1333). **Type:** RNH (Paratypes)

Damaeus verticillipes sensu Michael, 1888 (561, p. 412): (829, p. 120); non Nicolet, 1855

Distribution: *USA*: Va. - Sengbusch 719 (130).
Palearctic: Michael 561 (412) [mi.]; 564 (58); Willmann 829 (120); MacFadyen 533 (109); Schweizer 691 (264); 692 (tab. 8 no. 347); Sellnick 709 (108); Hammer 370 (416); Kurcheva 504 (95); Rubcova 681 (386); Gilyarov 207 (136); Bukva et al. 118 (243); Norton 608 (47).
Description: *Adult*: Koch 485 (Vol. 29 (3)); Michael 561 (412) [mi.] fig.; 564 (58); Willmann 829 (120) fig. app.; Hammen and Strenzke 346 (148) fig.; Schweizer 691 (264) fig.; Gilyarov 207 (136) fig.; Norton 608 (47) chaet. app.
Key: Michael 564 (58); Willmann 829 (120); Hammen and Strenzke 346 (153); Sellnick 709 (108); Gilyarov 207 (136).
Add. References: Willmann 829 (120); Luxton 531 (462).
Food: Luxton 531 (462).
Ecology: Michael 561 (412) [mi.]; 564 (58); Willmann 829 (120); MacFadyen 533 (109); Schweizer 691 (264); 692 (tab. 8 no. 347); Sengbusch 719 (130); Sellnick 709 (108); Hammer 370 (416); Kurcheva 504 (95); Rubcova 681 (386); Bukva et al. 118 (243).
Remarks: Michael (561, p.412) is sub Damaeus verticillipes. The *USA* record is considered doubtful (933, p. 538).

Porobelba **Grandjean, 1936**

Porobelba Grandjean, 1936
Type-species: *Oribata spinosus* Sellnick, 1920 (232, p. 67)

Porobelba parki **Jacot, 1937**

Type: FMNH; Paratypes: FMNH
Comb./Syn.: *Porobelba parki* Jacot, 1937 (452, p. 243)
Add. Comb./Syn. Ref.: Norton 608 (46).

Distribution: *USA*: Ill. - Jacot 452 (243); Ind. - Jacot 452 (243); Ky.- Jacot 452 (243).
Description: *Adult*: Jacot 452 (243) fig.
Ecology: Jacot 452 (243); Sengbusch 1012 (22).

Quatrobelba **Norton, 1980**

Quatrobelba Norton, 1980
Type-species: *Quatrobelba montana* Norton, 1980 (614, p. 506).

Quatrobelba montana Norton, 1980

Type: FMNH; Paratypes: CNC, HNHM, MCZ
Comb./Syn.: *Quatrobelba montana* Norton, 1980 (614, p. 506)

Distribution: *USA*: Calif. - Norton 614 (506); Colo. - Norton 614 (506); Idaho - Norton 614 (506); Mont. - Norton 614 (506); S. Dak. - Norton 614 (506); Wash. - Norton 614 (506); Wyo. - Norton 614 (506).
Canada: Alta. - Norton 614 (506).
Description: *Adult*: Norton 614 (506) fig.
Deutonymph: Norton 614 (506).
Protonymph: Norton 614 (506).
Larva: Norton 614 (506).
Ecology: Norton 614 (506).

CEPHEOIDEA Berlese, 1896

CEPHEIDAE BERLESE, 1896

Cepheus C.L. Koch, 1835

Cepheus C.L. Koch, 1835
Type-species: *Cepheus latus* C.L. Koch, 1835 (485, Vol. 3 (11)).

Tegeocranus Nicolet, 1855
Type-species: *Tegeocranus cepheiformis* 1855 (592, p. 464: 417, p. 262).

Cepheus corae Jacot, 1928

Type: MCZ
Comb./Syn.: *Cepheus corae* Jacot, 1928 (417, p. 264)

Distribution: *USA*: Alaska - Hammer 354 (17); Marshall 548 (76) [!]; Behan 73 (391); Conn. - Jacot 417 (264); Marshall 548 (76) [!]; Maine - Jacot 417 (264); Mich. - Wallwork 788 (172); Marshall 548 (76) [!]; Minn. - Freeman 200 (115); Marshall 548 (76) [!]; Wagner et al. 786 (14); N.Y. - Norton and MacNamara 615 (91); N.C. - Pearse 649 (148).
Canada: Nfld. - Behan 73 (391); Que. - Pielou 656 (1237); Marshall 548 (76) [!]; Pielou and Verrna 658 (1190); Behan 72 (40); Behan et al. 76 (263).
Description: *Adult*: Jacot 417 (264) fig.; Hammer 354 (17) fig. *Nymph*: Jacot 417 (264) fig.

Ecology: Jacot 417 (264); Pearse 649 (148); Freeman 200 (115); Hammer 354 (17); Wallwork 788 (172); Pielou 656 (1237); Marshall 548 (76) [!]; Pielou and Verma 658 (1190); Behan 72 (40); Wagner et al. 786 (14); Behan 73 (391); Behan et al. 76 (263); Danks 971 (400).

Cepheus latus C.L. Koch, 1835

Type: Unknown
Comb./Syn.: *Cepheus latus* C.L. Koch, 1835 (485, Vol. 3 (11))

Carabodes latus (C.L. Koch, 1835) (829, p. 147)

Tegeocranus latus (C.L. Koch, 1835) (561, p. 310)

Add. Comb./Syn. Ref.: Jacot 417 (262); Aoki 13 (295); Subias 755 (123).

Distribution: *USA*: Gilyarov 207 (147) [?] .

Canada: N.W.T. - Behan 73 (391).

Palearctic: Michael 561 (310); 563 (417); 564 (35); Jacot 417 (263); Willmann 829 (147); Schweizer 691 (297); 692 (tab. 9 no. 388); Sellnick 709 (94); Rajski 668 (21); Aoki 13 (295); Block 110 (245); Moritz 572 (69); Aoki 18 (409); Rajski 669 (233); Hammer 370 (423); Aoki 22 (64); Gilyarov 207 (147); Luxton 532 (182); Lions 523 (171); Hammer 373 (22); Subias 755 (123); Danks 971 (400).

Description: *Adult*: Koch 485 (Vol. 3 (11)); Michael 561 (310) fig.; 564 (35); Jacot 417 (262); 417 (263); Willmann 829 (147) fig.; Schweizer 691 (297) fig.; Aoki 22 (64) fig.; Gilyarov 207 (147) fig.

Nymph: Michael 561 (310) fig.

Larva: Michael 561 (310) fig.

Key: Michael 564 (35); Willmann 829 (147); Sellnick 709 (94); Gilyarov 207 (147).

Add. References: Willmann 829 (147); Aoki 13 (295); Moritz 572 (69); Luxton 531 (461).

Food: Luxton 531 (461); Krantz 490 (459).

Miscellaneous: Michael 561 (310) anat.

Ecology: Michad 561 (310); 564 (35); Jacot 417 (263); Willmann 829 (147); Schweizer 691 (297); 692 (tab. 9 no. 388); Sellnick 709 (94); Rajski 668 (21); Block 110 (245); Moritz 572 (69); Rajski 669 (233); Hammer 370 (423); Aoki 22 (64); Luxton 532 (182); Lions 523 (171); Hammer 373 (22); Subias 755 (123); Behan 73 (391); Danks 971 (400).

Remarks: There has been much confusion concerning the identity of *C. latus* Koch, 1835 and *C. latus* Nicolet, 1855, which are different species. The latter is now considered a distinct species or as a synonym of *Xenillus clypeator* Robineau-Desvoidy, 1839. The basis for the *USA* record (207, p.147) is perhaps Wallwork's (788, p.172) questionable record from Michigan (see below).

Cepheus mirabiloides Jacot, 1938

Type: MCZ, USNM (Cotypes)
Comb./Syn.: *Cepheus mirabiloides* Jacot, 1938 (456, p. 13)

Distribution: *USA*: N.C. - Jacot 456 (13).
Description: *Adult*: Jacot 456 (13); Baker and Wharton 36 (412) fig.
Ecology: Jacot 456 (13).

Cepheus sp.

Distribution: *USA*: Mich. - Wallwork 788 (172).
Canada: Alta. - Powell and Skaley 662 (20); N.B. - Pielou and Verma 658 (1190); Que. - Pielou and Verma 658 (1190); Behan 72 (40); Behan et al. 76 (263).

Cepheus sp. nr. *corae* Jacot, 1928

Distribution: *Canada*: Alta. - Powell and Skaley 662 (20); Man. - Oswald and Minty 621 (74).

Cepheus latus ? C.L. Koch, 1935

Distribution: *USA*: Mich. - Wallwork 788 (172).

Conoppia Berlese, 1908

Conoppia Berlese, 1908
Type-species: *Oppia microptera* Berlese, 1885 (84, p. 7).

Phyllotegeus Berlese, 1913
Type-species: *Leiosoma palmicinctum* Michael, 1884 (88, p. 92: 42, p. 179).

Conoppia microptera (Berlese, 1885)

Remarks: Krantz (490, p.459) recorded this species, which also appears in the literature as *Oppia microptera* Berlese, 1885 and *Notaspis microptera* (Berlese, 1885), as Holarctic, but its occurrence in North America has not been confirmed, although the genus is known from West Virginia (RAN unpub.) and N.W.T. (73, p. 391). This species is apparently a complex and requires redescription (207,

p.155). *C. microptera* was synonymized by Grandjean (1133, p. 664) and Subias and Iturrondobeitia (1020, p. 83) with *Conoppia palmicincta* (Michael, 1884). Jacot (442, p. 430) mentioned it as *Phyllotegeus palmicinctus*.

***Conoppia* sp. nr. *microptera* (Berlese, 1885)**

Distribution: *Canada*: N.W.T. - Behan 73 (391).

***Eupterotegaeus* Berlese, 1916**

Eupterotegaeus Berlese, 1916
Type-species: *Tegeocranus ornatissimus* Berlese, 1908 (90, p. 61).

Diodontocepheus Mihelčič, 1958
Type-species: *Diodontocepheus steinbocki* Mihelčič, 1958 (1151, p. 147: 42, p. 178).

***Eupterotegaeus flavus* (Ewing, 1918)** new comb.

Type: USNM; OSU (Cotypes)
Comb./Syn.: *Cepheus flavus* Ewing, 1918 (180, p. 86)
Carabodes flavus (Ewing, 1918) (854, p. 113)

Distribution: *USA*: Oreg. - Ewing 180 (86); Woolley 854 (113).
Description: *Adult*: Ewing 180 (86) fig. app.; Woolley 854 (113) fig.
Ecology: Ewing 180 (86).

***Eupterotegaeus ornatissimus* (Berlese, 1908)**

Type: SEA
Comb./Syn.: *Tegeocranus ornatissimus* Berlese, 1908 (84, p. 9)
Eupterotegaeus ornatissimus (Berlese, 1908) (90, p. 61)
Scutovertex ornatissimus (Berlese, 1908) (87, p. 227)

Distribution: *Canada*: Nfld. - Behan 73 (391) [!]; Que. - Behan 72 (40) [!]; Behan et al. 76 (263) [!].
Nearctic: Gilyarov 207 (153) [?].
Palearctic: Berlese 84 (9); 87 (227); 90 (61); Gilyarov 207 (153).
Description: *Adult*: Berlese 84 (9); 87 (227) fig.; 90 (61); Balogh (42 pl. 13 fig. 12-13); Gilyarov 207 (153) fig.

Ecology: Berlese 87 (227); 90 (61); Behan 72 (40) [!]; Gilyarov 207 (153); Behan 73 (391) [!]; Behan et al. 76 (263) [!].

Eupterotegaeus rhamphosus Higgins and Woolley, 1968

Type: USNM; Paratypes: FMNH
Comb./Syn.: *Eupterotegaeus rhamphosus* Higgins and Woolley, 1968 (401, p. 179)

Distribution: *USA*: Oreg. - Higgins and Woolley 401 (179). **Description:** *Adult*: Higgins and Woolley 401 (179) fig.
Key: Higgins and Woolley 401 (179).

Eupterotegaeus rostratus Higgins and Woolley, 1963

Type: USNM
Comb./Syn.: *Eupterotegaeus rostratus* Higgins and Woolley, 1963 (398, p. 3)

Distribution: *USA*: Colo. - Higgins and Woolley 398 (3); Wash. - Higgins and Woolley 398 (3); Wyo. - Higgins and Woolley 398 (3). *Canada*: Alta. - Carter and Cragg 130 (382); 131 (169); Mitchell 566 (306); 568 (516); 928 (89).
Description: *Adult*: Higgins and Woolley 398 (3) fig.
Key: Higgins and Woolley 401 (182).
Biology: Mitchell 567 (67); Luxton 988 (315).
Ecology: Higgins and Woolley 398 (3); Carter and Cragg 130 (382); 131 (169); Mitchell 566 (306); 568 (516); 928 (89).

Eupterotegaeus spinatus Higgins and Woolley, 1963

Type: USNM
Comb./Syn.: *Eupterotegaeus spinatus* Higgins and Woolley, 1963 (398, p. 5)

Distribution: *USA*: Utah - Higgins and Woolley 398 (5). **Description:** *Adult*: Higgins and Woolley 398 (5) fig.
Key: Higgins and Woolley 401 (182).
Ecology: Higgins and Woolley 398 (5).

Eupterotegaeus sp.

Distribution: *Canada*: Alta. - Powell and Skaley 662 (20).

Ommatocepheus Berlese, 1913

Ommatocepheus Berlese, 1913
Type-species: *Cepheus ocellatus* Michael, 1882 (88, p. 98).

Ommatocepheus clavatus Woolley and Higgins, 1964

Type: USNM
Comb./Syn.: *Ommatocepheus clavatus* Woolley and Higgins, 1964, (890, p. 26)
Distribution: *USA*: N.C. - Woolley and Higgins 890 (26). **Description:** *Adult*: Woolley and Higgins 890 (26) fig.

Ommatocepheus sp.

Distribution: *USA*: Mich. - Wallwork 788 (172); N.Y. - Norton and MacNamara 615 (91).
Ecology: Wallwork 788 (172).

Oribatodes Banks, 1895

Oribatodes Banks, 1895
Type-species: *Oribatodes mirabilis* Banks, 1895 (45, p. 10).

Oribatodes mirabilis (Banks, 1895)

Syntypes: MCZ, USNM
Comb./Syn.: *Oribatodes mirabilis* Banks, 1895 (45, p. 10)
Oribata mirabilis (Banks, 1895) (564, p. 23)
Cepheus lamellatus Banks, 1906 (56, p. 497): (417, p. 264). **Type:** MCZ
Carabodes lamellatus (Banks, 1906) (63, p. 98)
Tegcocranus lamellatus (Banks, 1906) (57, p. 613)
Tegeocranus longisetus Berlese, 1910 (87, p. 228): (417, p. 264). **Type:** SEA

Distribution: *USA*: Banks 57 (613); Conn. - Jacot 417 (264); D.C. - Berlese 87 (228); Jacot 417 (264); Ill. - Ewing 169 (371); Mass. - Banks 56 (497); 59 (16); Jacot 417 (264); N.Y. - Banks 45 (10); Michael 564 (23); Ewing 169 (379); Jacot 417 (264); Norton and MacNamara 615 (91).
Description: *Adult*: Banks 45 (10); Michael 564 (23); Banks 56 (497) fig.; Ewing 169 (371); Berlese 87 (228) fig.; Banks 63 (98) fig.; Jacot 417 (264).

Key: Michael 564 (23); Ewing 169 (371).
Ecology: Banks 45 (10); Michael 564 (23); Ewing 169 (371); 169 (379); Berlese 87 (228); Jacot 417 (264).

***Sadocepheus* Aoki, 1965**

Sadocepheus Aoki, 1965
Type-species: *Sadocepheus undulatus* Aoki, 1965 (12, p. 4).

***Sadocepheus subniger* (Ewing, l917)** new comb.

Syntype: USNM
Comb./Syn.: *Tegeocranus subniger* Ewing, 1917 (178, p. 163)
Cepheus subniger (Ewing, 1917) (854, p. 116)

Distribution: *USA*: Iowa - Ewing 178 (163).
Description: *Adult*: Ewing 178 (163) fig.; Woolley 854 (116) fig.
Ecology: Ewing 178 (163).

***Sphodrocepheus* Woolley and Higgins, 1963**

Sphodrocepheus Woolley and Higgins, 1963
Type-species: *Sphodrocepheus tridactylus* Woolley and Higgins, 1963 (889, p. 145).

***Sphodrocepheus anthelionus* Woolley and Higgins, 1968**

Type: USNM
Comb./Syn.: *Sphodrocepheus anthelionus* Woolley and Higgins, 1968 (896, p. 176)

Distribution: *USA*: Oreg. - Woolley and Higgins 896 (176); Utah - Woolley and Higgins 896 (176); Wash. - Woolley and Higgins 896 (176).
Canada: B.C. - Woolley and Higgins 896 (176).

Description: *Adult*: Woolley and Higgins 896 (176) fig.
Ecology: Woolley and Higgins 896 (176).

***Sphodrocepheus tridactylus* Woolley and Higgins, 1963**

Type: USNM
Comb./Syn.: *Sphodrocepheus tridactylus* Woolley and Higgins, 1963 (889, p. 145)

Distribution: *USA*: Calif. - Woolley and Higgins 889 (145); Oreg. - Woolley and Higgins 889 (145); 896 (176); Utah - Woolley and Higgins 889 (145); Wash. - Woolley and Higgins 889 (145).
Description: *Adult*: Woolley and Higgins 889 (145) fig.
Ecology: Woolley and Higgins 889 (145); 896 (176).

MICROTEGEIDAE BALOGH, 1975

Remarks: The affinities of this family have yet to be seriously analysed, and may not lie with the Cepheoidea; immatures are as yet unknown.

***Microtegeus* Berlese, 1916**

Microtegeus Berlese, 1916
Type-species: *Tegeocranus (Microtegeus) undulatus* Berlese, 1916 (90, p. 62).

***Microtegeus* sp.**

Distribution: *USA*: Fla. - Norton (RAN unpub.); LA - Behan-Pelletier (VBP unpub.).
Remarks: Pérez-Inigo and Baggio (1217, p. 191) recently produced a key to the genus.

EUTEGAEIDAE BALOGH, 1965

Remarks: Immatures in this family are typical of cepheoids; hence it is moved from the Polypterozetoidea, where it has been placed previously (42, p. 148).

***Neoeutegaeus* Aoki, 1965**

Neoeutegaeus Aoki, 1965
Type-species: ? *Eutegaeus silvicola* Hammer, 1962 (1116, p. 308).

***Neoeutegaeus* sp.**

Distribution: *USA*: Calif. - Wallwork 801 (296).

POLYPTEROZETOIDEA Grandjean, 1959

POLYPTEROZETIDAE GRANDJEAN, l959

***Polypterozetes* Berlese, 1916**

Polypterozetes Berlese, 1916

Type-species: *Polypterozetes cherubin* Berlese, 1916 (90, p. 60).

***Polypterozetes* sp.**

Distribution: *USA*: N.C. - Norton (RAN unpub.).

PODOPTEROTEGAEIDAE PIFFL, 1972

Remarks: The placement of this family in the Polyterozetoidea follows Piffl (1005, p. 312).

***Podopterotegaeus* Aoki, 1969**

Podopterotegaeus Aoki, 1969

Type-species: *Podopterotegaeus tectus* Aoki, 1969 (17, p. 132).

***Podopterotegaeus* sp.**

Distribution: *USA*: Mich. - Piffl 1005 (281).

Canada: Ont. - Behan-Pelletier (VBP unpub.).

Description: *Tritonymph*: Piffl 1005 (281) fig.

EREMAEOZETIDAE PIFFL, 1972

Remarks: This family was proposed twice in the same year, by Balogh (42, p.148) and Piffl (1005, p. 313); we have not established priority, but have provisionally selected Piffl because he has given a fuller description.

***Eremaeozetes* Berlese, 1913**

Eremaeozetes Berlese, 1913

Type-species: *Eremaeozetes tuberculatus* Berlese, 1913 (88, P. 92).

Eremaeozetes sp.

Distribution: *USA*: N.C. - Norton (RAN unpub.).

Ametroproctus Higgins and Woolley, 1968

Ametroproctus Higgins and Woolley, 1968
Type-species: *Ametroproctus oresbios* Higgins and Woolley, 1968 (402, P. 44).
Coropoculia Aoki and Fujikawa, 1972
Type-species: *Coropoculia reticulata* Aoki and Fujikawa, 1972 (1196, p. 258).

Ametroproctus oresbios Higgins and Woolley, 1968

Type: FMNH; Paratypes: FMNH
Comb./Syn.: *Ametroproctus oresbios* Higgins and Woolley 1968 (402, p. 44)
Distribution: *USA*: Colo. - Higgins and Woolley 402 (44); Utah - Higgins and Woolley 402 (44); Wash. - Higgins and Woolley 402 (44).
Description: *Adult*: Higgins and Woolley 402 (44) fig.; Balogh 42 (Pl. 16 fig. 1-2).
Ecology: Higgins and Woolley 402 (44).

CHARASSOBATOIDEA Grandjean, 1958 new status

Remarks: The Charassobatidae is not a member of the Polypterozetoidea, as defined by Piffl (1005, p. 312), where it is included by Balogh (42, p. 148). We treat it here as a monobasic superfamily, pending further study of included taxa.

CHARASSOBATIDAE GRANDJEAN, 1958

Charassobates Grandjean, 1929

Charassobates Grandjean, 1929
Type-species: *Charassobates cavernosus* Grandjean, 1929 (1129, p. 400).

Charassobates sp.

Distribution: *USA*: Fla. - Norton (RAN unpub.).

MICROZETOIDEA Grandjean, 1936

MICROZETIDAE GRANDJEAN, 1936

Berlesezetes Mahunka, 1980

Berlesezetes Mahunka, 1980
Type-species: *Microzetes auxilliaris* Grandjean, 1936 (991, p. 397).

Berlesezetes appalachicolus (Jacot, 1938) new comb.

Type: FMNH, MCZ, USNM (Cotypes)
Comb./Syn.: *Microzetes auxiliaris appalachicola* Jacot, 1938 (456, p. 14)
Microzetes appalachicola Jacot, 1938 (36, p. 426)

Distribution: *USA*: Ky. - Cockfield and Potter 1124 (1264); La. - Higgins and Woolley 403 (142); Miss. - Higgins and Woolley 403 (142); N.C. - Jacot 456 (14); N.M. - Wallwork et al. 1229 (169); Tenn. - Crossley and Bohnsack 142 (631).
Description: *Adult*: Jacot 456 (14); Baker and Wharton 36 (426) fig.; Higgins and Woolley 403 (142) fig.
Ecology: Jacot 456 (14); Crossley and Bohnsack 142 (631); Cockfield and Potter 1124 (1264); Wallwork et al. 1229 (169).
Remarks: The new combination resulted from *Microzetes* sensu Grandjean, 1936 (976, p. 66), non Berlese, 1913 (88, p. 88) being replaced by *Berlesezetes* Mahunka, 1980 (991, p. 397).

Kalyptrazetes Balogh, 1972

Kalyptrazetes Balogh, 1972 (=*Allozetes* Higgins, 1965, preoccupied name)
Type-species: *Allozetes harpezus* Higgins, 1965 (392, p. 55: 42, p. 149).
Remarks: Balogh (42, p. 149) indicated that Higgins, 1969 was the original author of *Kalyptrazetes*, but we have been unable to confirm publication of this name by Higgins, despite communication with both authors. We treat the name here as first made available by Balogh (42, p. 149).

Kalyptrazetes harpezus (Higgins, 1965)

Type: FMNH
Comb./Syn.: *Allozetes harpezus* Higgins, 1965 (392, p. 55)
Kalyptrazetes harpezus Higgins, 1965 (42, pl. 18 fig. 13-14)
Distribution: *USA*: N.C. - Higgins 392 (55).
Description: *Adult*: Higgins 392 (55) fig.; Balogh 42 (pl.18 fig. 13-14).

AMEROBELBOlDEA Grandjean, 1954 **[=EREMULOIDEA Grandjean, 1965]**

AMEROBELBlDAE GRANDJEAN, 1954

***Grypoceramerus* Suzuki and Aoki, 1970**

Grypoceramerus Suzuki and Aoki, 1970
Type-species: *Grypoceramerus acutus* Suzuki and Aoki, 1970 (1175, p. 208).

***Grypoceramerus* sp.**

Distribution: *USA*: Ga. - Norton (RAN unpub.); Oreg. - Norton (RAN unpub.).

***Gymnodampia* Jacot, 1937**

Gymnodampia Jacot, 1937
Type-species: *Amerobelba setata* Berlese, 1916 (452, p. 243).

***Gymnodampia setata* (Berlese, 1916)**

Type: SEA
Comb./Syn.: *Amerobelba setata* Berlese, 1916 (92, p. 332)
Gymnodampia setata (Berlese, 1916) (452, p. 243)
Distribution: *USA*: Conn. - Jacot 452 (243); Mo. - Berlese 92 (332); N.C. - Jacot 452 (243).
Description: *Adult*: Berlese 92 (332).
Ecology: Berlese 92 (332).

CTENOBELBlDAE GRANDJEAN, 1965

***Ctenobelba* Balogh, 1943**

Ctenobelba Balogh, 1943
Type-species: *Eremobelba pectinigera* Berlese, 1910 (37, p. 127).
Elapheremaeus Grandjean 1944
Type-species: *Eremobelba pectinigera* Berlese, 1910 (249, p. 416: 284, p. 219)

***Ctenobelba* sp.**

Distribution: *USA*: N.Y. - Norton (RAN unpub.).

EREMULIDAE GRANDJEAN, 1965

***Epieremulus* Berlese, 1916**

Epieremulus Berlese, 1916
Type-species: *Eremulus (Epieremulus) geometricus* Berlese, 1916 (92, p. 332).

***Epieremulus geometricus* (Berlese, 1916)**

Type: SEA
Comb./Syn.: *Eremulus (Epieremulus) geometricus* Berlese, 1916 (92, p. 332)
Epieremulus geometricus (Berlese, 1916) (42, p. 151)
Distribution: *USA*: Mo. - Berlese 92 (332).
Description: *Adult*: Berlese 92 (332).
Taxonomy: Balogh 42 (151).

***Eremulus* Berlese, 1908**

Eremulus Berlese, 1908
Type-species: *Eremulus flagellifer* Berlese, 1908 (84, p. 10)

Remarks: North American species were not included in a r

***Eremulus cingulatus* Jacot, 1937**

Type: MCZ, USNM (Cotypes)
Comb./Syn.: *Eremulus cingulatus* Jacot, 1937 (455, p. 364)
Distribution: *USA*: N.C. - Jacot 455 (364);. Woolley and Higgins 888 (98).
Description: *Adult*: Jacot 455 (364); Woolley and Higgins 888 (98) fig.
Ecology: Jacot 455 (364).

***Eremulus modestus* Berlese, 1908**

Type: Lost
Comb./Syn.: *Eremulus modestus* Berlese, 1908 (84, p. 10)
Distribution: *Nearctic*: Berlese 84 (10).
Palearctic: Berlese 84 (10).
Description: *Adult*: Berlese 84 (10); 87 (pl. 21 fig. 79). **Remarks:** Berlese's record (84, p. 10) is most likely from District of Columbia, Florida or Missouri (426, p. 239; 452, p. 238).

***Eremulus pectinatus* Jacot, 1937**

Type: USNM (Cotypes)
Comb./Syn.: *Eremulus pectinatus* Jacot, 1937 (455, p. 365) **Distribution:** *USA*: N.C. - Jacot 455 (365).
Description: *Adult*: Jacot 455 (365) fig.
Ecology: Jacot 455 (365).

***Eremulus spinifer* Woolley and Higgins, 1963**

Type: USNM
Comb./Syn.: *Eremulus spinifer* Woolley and Higgins, 1963 (888, p. 99)
Distribution: *USA*: Mo. - Woolley and Higgins 888 (99). **Description:** *Adult*: Woolley and Higgins 888 (99) fig. app. **Ecology:** Woolley and Higgins 888 (99).

***Eremulus* sp.**

Distribution: *USA*: N.Y. - Reeves 673 (27).

DAMAEOLIDAE GRANDJEAN, 1965

***Damaeolus* Paoli, 1908**

Damaeolus Paoli, 1908
Type-species: *Dameosoma asperatum* Berlese, 1904 (648, p. 80).

***Damaeolus asperatus* (Berlese, 1904)**

Type: SEA
Comb./Syn.: *Dameosoma asperatum* Berlese, 1904 (80, p. 274) *Damaeolus asperatus* (Berlese, 1904) (648, p. 80)
Distribution: *USA*: D.C. - Paoli 648 (81); Schuster 689 (221). *Palearctic*: Berlese 80 (274); Paoli 648 (81); Csiszar and Jeleva 143 (278); Schuster 689 (221); Rafalski 666 (362); Bernini 96 (423); Gilyarov 207 (162).

Description: *Adult*: Berlese 80 (274); Paoli 648 (81) fig.; Schuster 689 (221); Balogh 42 (pl. 20 fig. 12, pl. 65 fig. 17); Gilyarov 207 (162) fig.
Key: Paoli 648 (81).
Add. References: Schuster 689 (221); Hammen 344 (15).
Ecology: Berlese 80 (274); Paoli 648 (81); Schuster 689 (221); Rafalski 666 (362); Bernini 96 (423).

Fosseremus Grandjean, 1954

Fosseremus Grandjean, 1954
Type-species: *Dameosona laciniatum* Berlese, 1905 (1059, p. 340).

Fosseremus americanus (Jacot, 1938)

Type: USNM (Cotype)
Comb./Syn.: *Damaeolus laciniatus americanus* Jacot, 1938 (456, p. 12)
Fosseremus americanus (Jacot, 1938) (469, p. 55)

Distribution: *USA*: N.C. - Jacot 456 (12) [!]; Grandjean 310 (370).
Description: *Adult*: Jacot 456 (12) [!] .
Taxonomy: Grandjean 310 (370); Johnston 469 (55).
Ecology: Jacot 456 (12) [!] .

Fosseremus quadripertitus Grandjean, 1965

Type: Not designated
Comb./Syn.: *Fosseremus quadripertitus* Grandjean, 1965 (310, p. 343)
Damaeolus laciniatus sensu Paoli, 1908 (648, p. 82); non Berlese, 1905 (310, p. 343)
Distribution: *USA*: D.C. - Paoli 648 (82) [mi.].
Palearctic: Paoli 648 (82) [mi.]; Grandjean 310 (343); Aoki 18 (412); Bernini 96 (423); Luxton 532 (184); Nakamura 582 (250). *Oriental*: Prasad 664 (18); Mahunka 542 (361).
Australian: Hammer 361 (51); Aoki 18 (412); Spain and Luxton 947 (199).
Description: *Adult*: Paoli 648 (82) [mi.] fig.; Grandjean 310 (343) chaet., fig.; Hammer 361 (51) fig.; Grandjean 915 (724) chaet.; Balogh 42 (pl. 65 fig. 14-15).
Tritonymph: Grandjean 310 (343) fig.
Deutonymph: Grandjean 310 (343) fig.
Protonymph: Grandjean 310 (343).
Larva: Grandjean 310 (343).
Key: Paoli 648 (82) [mi.] .
Add. References: Hammen 344 (18).

Ecology: Paoli 648 (82) [mi.]; Grandjean 310 (343); Hammer 361 (51); Aoki 18 (412); Bernini 96 (423); Rajski 669 (242); Spain and Luxton 947 (199); Prasad 664 (18); Luxton 532 (184); Mahunka 542 (361); Nakamura 582 (250).
Remarks: Paoli (648, p. 82) is sub *Damaeolus laciniatus*.

EREMOBELBIDAE BALOGH, 1961

***Eremobelba* Berlese, 1908**

Eremobelba Berlese, 1908
Type-species: *Eremaeus leporosus* Haller, 1884 (84, p. 9).

***Eremobelba flagellaris* Jacot, 1938**

Type: USNM (Cotypes)
Comb./Syn.: *Eremobelba leporosus flagellaris* Jacot, 1938 (456, p. 12)
Eremobelba flagellaris Jacot, 1938 (649, p. 148)
Distribution: *USA*: Conn. - Krantz 490 (pl. 157 fig. 1-2) [!]; N.C. - Jacot 456 (12); Pearse 649 (148); Marshall 548 (76). *Canada*: Ont. - Marshall 549 (422); Que. - Marshall 548 (76).
Description: *Adult*: Jacot 456 (12); Krantz 490 (pl. 157 fig. 1-2) [!].
Ecology: Jacot 456 (12); Pearse 649 (148); Marshall 548 (76).

***Eremobelba gracilior* Berlese, 1908**

Type: SEA
Comb./Syn.: *Eremobelba gracilior* Berlese, 1908 (84, p. 10)
Distribution: *USA*: Berlese 84 (10); Grandjean 249 (416); Hammer 365 (70) [Q.I.]; N.C. - Pearse 649 (148); Banks 66 (124); Va. - Sengbusch 1012 (22).
Mexico: Hammer 365 (70) [Q.I.]
Palearctic: Krivoluckij 495 (183).
Description: *Adult*: Berlese 84 (100); 87 (pl. 21 fig. 74); Banks 66 (124) fig.
Ecology: Pearse 649 (148); Krivoluckij 495 (183); Hammer 365 (70) [Q.I.]; Sengbusch 1012 (22).
Remarks: We assume that Berlese's (84, p. 10) and Grandjean's (249, p.416) records are from the *USA* (see 426, p. 239; 452, p. 238).

***Eremobelba leporoides* Jacot, 1938**

Type: USNM (Cotypes)
Comb./Syn.: *Eremobelba leporosus leporoides* Jacot, 1938 (456, p. 11)
Eremobelba leporoides Jacot, 1938 (469, p. 55)
Distribution: *USA*: N.C. - Jacot 456 (11).

Description: *Adult*: Jacot 456 (11).
Ecology: Jacot 456 (11).

Eremobelba neosota (Banks, 1909)

Type: MCZ
Comb./Syn.: *Oribata neosota* Banks, 1909 (60, p. 140)
Eremobelba neosota (Banks, 1909) (612, p. 604)
Eremobelba nervosa Hartenstein, 1962 (378, p. 361) new syn. **Type:** USNM
Distribution: *USA*: N.Y. - Hartenstein 376 (203); 378 (361); Reeves 673 (27).
Canada: Ont. - Banks 60 (140).
Description: *Adult*: Banks 60 (140) fig.; Hartenstein 378 (361) fig.
Tritonymph: Hartenstein 378 (361) fig.
Deutonymph: Hartenstein 378 (361) fig.
Protonymph: Hartenstein 378 (361) fig.
Larva: Hartenstein 378 (361) fig.
Egg: Hartenstein 378 (361) fig.
Biology: Hartenstein 378 (361); Lebrun 511 (202); Butcher et al. 123 (258); Luxton 988 (338).
Food: Hartenstein 376 (203); 378 (361); Luxton 531 (462).
Ecology: Banks 60 (140); Reeves 673 (27).

Eremobelba sp.

Distribution: *USA*: Ky. - Cockfield and Potter 1124 (1264); Tenn. - Crossley and Bohnsack 142 (631).

AMERIDAE GRANDJEAN, 1965

Amerus Berlese, 1896

Amerus Berlese, 1896
Type-species: *Belba troisii* Berlese, 1883 (1047, p. 40).

Amerus sp.

Distribution: *USA*: Calif. - Hoy and Shea 1137 (738).

Caenosamerus Higgins and Woolley, 1969

Caenosamerus Higgins and Woolley, 1969
Type-species: *Caenosamerus litosus* Higgins and Woolley, 1969 (455, p. 544).

Caenosamerus litosus Higgins and Woolley, 1969

Type: USNM
Comb./Syn.: *Caenosamerus litosus* Higgins and Woolley, 1969 (405, p. 544)
Distribution: *USA*: N.C. - Higgins and Woolley 405 (544).
Description: *Adult*: Higgins and Woolley 405 (544) fig.; Balogh 42 (pl. 68 fig. 8-9).

BASILOBELBIDAE BALOGH, 1961

Basilobelba Balogh, l958

Basilobelba Balogh, l958
Type-species: *Damaeus retiarius* Warburton, 1912 (38, p. 10).

Hammation Grandjean, l959
Type-species: *Hammation sollertius* Grandjean, l959 (1131, p. 173: 42, p. 179).

Basilobelba sp.

Distribution: *USA*: Calif. - Norton (RAN unpub.); Miss. - Norton (RAN unpub.).

EREMAEOIDEA Sellnick, 1928

EREMAEIDAE SELLNICK, 1928

Eremaeus C.L. Koch, 1835

Eremaeus C.L. Koch, 1935
Type-species: *Eremaeus hepaticus* C.L. Koch, 1835 (485, Vol. 3 (23)).

Eremaeus brevitarsus (Ewing, 1917)

Syntype: USNM (see remarks)
Comb./Syn.: *Damaeus brevitarsus* Ewing, 1917 (178, p. 164)
Eremaeus brevitarsus (Ewing, 1917) (200, p. 112)
Distribution: *USA*: Iowa - Ewing 178 (164); Woolley 855 (154); Minn. - Freeman 200 (112); Va. - Sengbusch 1012 (22).
Description: *Adult*: Ewing 178 (164) fig.; Woolley 855 (154) fig.
Ecology: Ewing 178 (164); Freeman 200 (112); Sengbusch 1012 (22).
Remarks: The syntypes in the USNM are actually labelled "*Damaeosoma brevitarsus*".

Eremaeus foveolatus Hammer, 1952

Syntype: CNC
Comb./Syn.: *Eremaeus foveolatus* Hammer, 1952 (350, p. 37)
Distribution: *USA*: Alaska - Behan 73 (391); MacLean et al. 534 (562); Colo. - Woolley 868 (30).
Canada: Gilyarov 207 (160); MacLean et al. 534 (562); Alta. - Mitchell 566 (306); B.C. - Marshall 550 (132). N.W.T. - Hammer 350 (37). Behan 73 (391). Que. Behan 73 (391); Y.T. - Behan 73 (391).
Palearctic: Gilyarov 207 (160); MacLean et al. 534 (562); Karppinen and Krivolutsky 1071 (9).
Description: *Adult*: Hammer 350 (37) fig.; Woolley 868 (30); Gilyarov 207 (160) fig.
Key: Gilyarov 207 (160) fig.
Food: Behan and Hill 75 (498).
Ecology: Hammer 350 (37); Mitchell 566 (306); Behan 73 (391); MacLean et al. 534 (562); Marshall 550 (132); Danks 971 (400).

Eremaeus grandis Hammer, 1952

Type: CNC
Comb./Syn.: *Eremaeus grandis* Hammer, 1952 (350, p. 37)
Distribution: *USA*: Alaska - Hammer 354 (14); Behan 73 (391).
Canada: N.W.T. - Hammer 350 (37); Behan 73 (391); Y.T. - Behan 73 (391).
Description: *Adult*: Hammer 350 (37) fig.
Food: Behan and Hill 75 (508).
Ecology: Hammer 350 (37); 354 (14); Behan 73 (391); Danks 971 (40).

Eremaeus hepaticus C.L. Koch, 1835

Type: Unknown
Comb./Syn.: *Eremaeus hepaticus* C.L. Koch, 1835 (485 Vol. 3 (23)) *Notaspis hepatica* (C.L. Koch, 1835) (564 p. 47)
Notaspis dentilamellatus Storkan, 1925 (1174, p. 24): (755, p. 125). **Type:** Unknown
Eremaeus hepaticus acruciata Mihelčič, 1952 (1146, p. 102): (1084, p. 596). **Type:** Unknown
Eremaeus setiger Mihelčič, 1957 (1150, p. 60): (1084, p. 596). **Type:** Unknown
Distribution: *USA*: Va. - Sengbusch 1012 (22).
Palearctic: Michael 564 (47); Willmann 829 (135); Travé 774 (88); Sellnick 707 (50). Travé 777 (230); Byzova 124 (292); Gilyarov 207 (160); Subias 755 (125).
Description: *Adult*: Koch 489 (Vol. 3 [23]) fig.; Berlese 77 (Vol. 15 [9]) fig.; Storkan 1174 (24) fig.; Sellnick 700 (37); Willmann 829 (135) fig.; Grandjean 215 (293) chaet.; 217 (31) chaet.; Gilyarov 207 (l60) fig.
Key: Gilyarov 207 (160).
Add. References: Hammen 344 (17); Subias 755 (125).
Morphology: Grandjean 218 (221); 286 (101).

Ecology: Travé 774 (88); Sellnick 707 (50); Travé 777 (230); Byzova 124 (292); Subias 755 (125); Sengbusch 1012 (22).

Eremaeus plumosus Woolley, 1964

Type: USNM; Paratypes: FMNH
Comb./Syn.: *Eremaeus plumosus* Woolley, 1964 (868, p. 29)
Distribution: *USA*: Colo. - Woolley 868 (29).
Description: *Adult*: Woolley 868 (29) fig.; 887 (217) fig.

Eremaeus proximus Berlese, 1916

Type: SEA
Comb./Syn.: *Eremaeus proximus* Berlese, 1916 (92, p. 331)
Distribution: *USA*: Mo. - Berlese 92 (331).
Description: *Adult*: Berlese 92 (331).
Ecology: Berlese 92 (331).

Eremaeus stiktos Higgins, 1962

Type: FMNH; Paratypes: FMNH
Comb./Syn.: *Eremaeus stiktos* Higgins, 1962 (391, p. 89) **Distribution:** *USA*: Calif. - Hoy 1135 (75); Utah - Higgins 391 (89); Wash. - Higgins 391 (89).
Description: *Adult*: Higgins 391 (89) fig.
Ecology: Higgins 391 (89); Hoy 1135 (75).

Eremaeus translamellatus Hammer, 1952

Syntype: CNC
Comb./Syn.: *Eremaeus translamellatus* Hammer, 1952 (351, p. 39)
Distribution: *USA*: Alaska - Hammer 354 (14); Behan 73 (391); MacLean et al. 534 (562); Va. - Sengbusch 1012 (22).
Canada: Strenzke 754 (40); MacLean et al. 534 (562); N.W.T. - Hammer 351 (39); Behan 73 (391); Y.T. - Behan 73 (391).
Nearctic: Strenzke 754 (40).
Palearctic: Strenzke 754 (40); Travé 777 (231); Gilyarov 207 (159); Behan 73 (391); MacLean et al. 534 (562).
Description: *Adult*: Hammer 351 (39) fig.; Strenzke 754 (40) fig.
Ecology: Hammer 351 (39); 354 (14); Strenzke 754 (40); Travé 777 (231); Behan 73 (391); MacLean et al. 534 (562); Sengbusch 1012 (22).

Eremaeus sp.

Distribution: *USA*: N.Y. - Reeves 673 (27); Norton and MacNamara 615 (91).
Canada: Alta. - Powell and Skaley 662 (20); Mitchell 566 (306); 568 (516); Man. - Oswald and Minty 620 (81); N.S. - Rasmy and MacPhee 670 (174); N.W.T. Danks 971 (400); Ont. - Freitag and Ryder 201 (40); Que. - Behan 72 (40); Behan et al. 76 (263); Forest et al. 1051 (37).

Eremaeus foveolatus (?) Hammer, 1952

Distribution: *USA*: Mich. - Wallwork 788 (172).

Eremaeus sp. nr. *grandis* Hammer, 1952

Distribution: *Canada*: Alta. - Powell and Skaley 662 (20).

Eremaeus cf. woolleyi

Distribution: *USA*: Calif. - Ashley and Bohnsack 959 (618).
Ecology: Ashley and Bohnsack 959 (618).
Remarks: These authors might be referring to *Kartoeremaeus woolleyi* Higgins, 1979 (981, p. 542), because we are unaware of a species "*woolleyi*" in the genus *Eremaeus*.

Eueremaeus Mihelčič, 1963

Eueremaeus Mihelčič, 1963
Type-species: *Eremaeus oblongus* C.L. Koch, 1835 (1084, p. 583: 42, p. 178).

Eueremaeus columbianus (Berlese, 1916) new comb.

Type: SEA
Comb./Syn.: *Eremaeus columbianus* Berlese, 1916 (90, p. 64)
Distribution: *USA*: Mo. - Berlese 90 (64); Va. - Sengbusch 719 (130).
Description: *Adult*: Berlese 90 (64).
Ecology: Sengbusch 719 (130).

Eueremaeus oblongus (C.L. Koch, 1835)

Type: Unknown
Comb./Syn.: *Eremaeus oblongus* C.L. Koch, 1835 (485, Vol. 3 (24))
Eueremaeus oblongus (C.L. Koch, 1835) (1084, p. 583)
Notaspis oblonga (C.L. Koch, 1835) (561, p. 374)
Eremaeus major Mihelčič, 1953 [?] (see remarks): (1084, p. 596). **Type:** Unknown
Add. Comb./Syn. Ref.: Michael 564 (48); Willmann 829 (135); Hammen 338 (61); Gilyarov 207 (160).

Distribution: *USA*: Hammer 365 (70) [Q.I.]; Ill. - Ewing 173 (104); N.C. - Jacot 450 (370); Va. - Sengbusch 719 (130).
Canada: Man. - Hammer 350 (37)
Nearctic: Hammer 348 (42); 349 (36); 350 (37); 352 (411); Schweizer 691 (274); Travé 775 (212).
Palearctic: Michael 561 (374); 563 (417); 564 (48); Willmann 829 (135); Tuxen 779 (333); Willmann 835 (229); Hammer 348 (42); 349 (36); Hammen 338 (61); Hammer 350 (37); Strenzke 754 (41); Schweizer 691 (274); 692 (tab. 9 no. 354); Kunst 503 (36); Travé 775 (212); Rajski 668 (22); Travé 777 (230); Byzova 124 (291); Block 110 (245); Lebrun 507 (103); Seyd 729 (141); Wood 843 (116); Fager 181 (140); Hammer 365 (70); Rajski 669 (226); Bernini 98 (393) [!]; Molodova and Golosova 570 (427); Gilyarov 207 (160).
Description: *Adult*: Koch 485 (Vol. 3 (24)); Michael 560 (198); Berlese 77 (Vol. 15 (10)) fig.; Michael 561 (374) fig.; 564 (48); Ewing 173 (104) fig.; Willmann 829 (135) fig.; Hammer 350 (37) fig.; Strenzke 754 (41) fig.; Schweizer 691 (274) fig.; Kunst 503 (36) fig.; Gilyarov 207 (160) fig.
Nymph: Michael 560 (198) fig.; 561 (374) fig.
Key: Michael 564 (48); Willmann 829 (135); Gilyarov 207 (160).
Add. References: Berlese 77 (Vol. 15 (10)); Michael 564 (48); Willmann 829 (135); Hammen 338 (61); 344 (17).
Morphology: Grandjean 224 (123).
Ecology: Michael 560 (198); 561 (374); Willmann 829 (135); Tuxen 779 (333); Hammer 348 (42); Hammen 338 (61); Hammer 350 (37); 352 (411); Schweizer 691 (274); 692 (tab. 9 no. 354); Sengbusch 719 (130); Kunst 503 (36); Travé 775 (212); Rajski 668 (22); Travé 777 (230); Byzova 124 (291); Block 110 (245); Lebrun 507 (103); Seyd 729 (141); Wood 843 (116); Fager 181 (140); Hammer 365 (70); Rajski 669 (226); Bernini 98 (393) [!]; Molodova and Golosova 570 (427); Wallwork 950 (343).
Remarks: We were unable to confirm the name *Eremaeus major* Mihelčič, 1953, although there is an *Eremaeus oblongus major* Mihelčič, 1957 (1150, p. 61).

***Eueremaeus politus* (Banks, 1947)** new comb.

Type: MCZ; Paratypes: IA
Comb./Syn.: *Eremaeus politus* Banks, 1947 (66, p. 126)
Distribution: *USA*: N.C. - Pearse 649 (128); Banks 66 (126).
Description: *Adult*: Banks 66 (126) fig.
Ecology: Pearse 649 (128).
Remarks: Pearse 1946 (649, p. 128) used *Eremaeus politus* as a nomen nudum before Banks (66, 126) proposed the name.

***Eueremaeus quadrilamellatus* (Hammer, 1952)** new comb.

Type: Unknown (see remarks)
Comb./Syn.: *Eremaeus quadrilamellatus* Hammer, 1952 (350, p. 39)

Distribution: *USA*: Alaska - Hammer 354 (14); Behan 73 (391); Va. - Sengbusch 719 (130).
Canada: Gilyarov 207 (160); N.W.T. - Hammer 350 (39); Behan 73 (391); Y.T. - Behan 73 (391).
Description: *Adult*: Hammer 350 (39) fig.; Gilyarov 207 (160) fig.
Key: Gilyarov 207 (160).
Ecology: Hammer 350 (39); 354 (14); Sengbusch 719 (130); Behan 73 (391); Danks 971 (400).
Remarks: There is no specimen on the type slide of *Eremaeus quadrilamellatus* Hammer, 1952 in the CNC (V. Behan-Pelletier, pers. comm.).

Eueremaeus silvestris (Forsslund, 1957)

Type: SMNH
Comb./Syn.: *Eremaeus silvestris* Forsslund, 1957 (195, p. 213)
Eueremaeus silvestris (Forsslund, 1957) (1084, p. 585)
Eremaeus granulatus Mihelčič, 1955 (1148, p. 308): (1084, p. 596). **Type:** Unknown
Eremaeus figuratus Winkler, 1956 (1186, p. 208): (1084, p. 596). **Type:** Unknown
Distribution: *USA*: N.Y. - Reeves 672 (284).
Palearctic: Forsslund 192 (190); 193 (352); 195 (213); Kunst 503 (36); Rajski 668 (22); Dalenius 144 (108); 145 (4); Vanek 784 (255); Lions 520 (440); 519 (506); Bernini 96 (423); Rajski 669 (226); Bernini 98 (393); Grishina 323 (83); Rubcova 681 (386); Gilyarov 207 (160); Luxton 532 (184); Lions 523 (171).
Description: *Adult*: Forsslund 195 (213) fig. app.; Gilyarov 207 (160) fig.
Key: Gilyarov 207 (160).
Food: Nannelli 996 (304).
Ecology: Forsslund 192 (190); 193 (352); 195 (213); Kunst 503 (36); Rajski 668 (22); Dalenius 144 (108); 145 (4); Vanek 784 (255); Lions 519 (506); 520 (440); Reeves 672 (284); Bernini 96 (423); Rajski 669 (226); Bernini 98 (393); Grishina 323 (83); Rubcova 681 (386); Luxton 532 (184); Lions 523 (171); Nannelli 997 (347).
Remarks: Forsslund (192, p. 90 and 193, p. 352) used the name as a nomen nudum; he described the species in 1957.

Eueremaeus sp. nr. *oblongus* C.L. Koch, 1835

Distribution: *Canada*: Man. - Pielou and Verma 658 (1190); N.B. - Pielou and Verma 658 (1190); Ont. - Pielou and Verma 658 (1190); Que. - Pielou and Matthewman 657 (1311); Pielou and Verma 658 (1190); Matthewman and Pielou 552 (802).
Remarks: These records were cited in the genus *Eremaeus*.

Kartoeremaeus Higgins, 1979

Kartoeremaeus Higgins, 1979.

Type-species: *Kartoeremaeus woolleyi* Higgins, 1979 (981, p. 542)

***Kartoeremaeus chiatous* Higgins, 1979**

Type: FMNH; Paratypes: FMNH
Comb./Syn.: *Kartoeremaeus chiatous* Higgins, 1979 (981, p. 543)
Distribution: *USA*: Calif. - Higgins 981 (543).
Description: *Adult*: Higgins 981 (543) fig.

***Kartoeremaeus magniporus* (Wallwork, 1972)** new comb.

Type: USNM
Comb./Syn.: *Eremaeus magniporus* Wallwork, 1972 (803, p. 98)
Distribution: *USA*: Calif. - Wallwork 803 (98); 801 (297); Walter and Norton 1179 (tab. 1).
Description: *Adult*: Wallwork 803 (98) fig.
Ecology: Wallwork 803 (98); 801 (297); 950 (287); Walter and Norton 1179 (tab 1).

***Kartoeremaeus reevesi* Higgins, 1979**

Type: FMNH; Paratypes: FMNH
Comb./Syn.: *Kartoeremaeus reevesi* Higgins, 1979 (981, p. 543)
Distribution: *USA*: N.H. - Higgins 981 (543).
Description: *Adult*: Higgins 981 (543) fig.

***Kartoeremaeus tetrosus* Higgins, 1979**

Type: FMNH; Paratypes: FMNH
Comb./Syn.: *Kartoeremaeus tetrosus* Higgins, 1979 (981, p. 545)
Distribution: *USA*: Colo. - Higgins 981 (545).
Description: *Adult*: Higgins 981 (545) fig.

***Kartoeremaeus trionus* Higgins, 1979**

Type: FMNH
Comb./Syn.: *Kartoeremaeus trionus* Higgins, 1979 (981, p. 545) **Distribution:** *USA*: Colo. - Higgins 981 (545).
Description: *Adult*: Higgins 981 (545) fig.

***Kartoeremaeus woolleyi* Higgins, 1979.**

Type: FMNH; Paratypes: FMNH
Comb./Syn.: *Kartoeremaeus woolleyi* Higgins, 1979 (981, p. 542) **Distribution:** *USA*: Calif. - Higgins 981 (542); Colo. - Higgins 981 (542); Idaho - Higgins 981 (542); Utah - Higgins 981 (542); Wyo. - Higgins 981 (542).

Description: *Adult*: Higgins 981 (542) fig.

MEGEREMAEIDAE WOOLLEY AND HIGGINS, 1968

***Megeremaeus* Higgins and Woolley, 1965**

Megeremaeus Higgins and Woolley, 1965
Type-species: *Megeremaeus montanus* Higgins and Woolley, 1965 (399, p. 259)

***Megeremaeus ditrichosus* Woolley and Higgins, 1968**

Type: USNM; Paratype: FMNH
Comb./Syn.: *Megeremaeus ditrichosus* Woolley and Higgins (895, p. 174)
Distribution: *USA*: Oreg. - Woolley and Higgins 895 (174).
Description: *Adult*: Woolley and Higgins 895 (174) fig.

***Megeremaeus montanus* Higgins and Woolley, 1965**

Type: USNM; Paratype: FMNH
Comb./Syn.: *Megeremaeus montanus* Higgins and Woolley, 1965 (399, p. 259)
Distribution: *USA*: Oreg. - Higgins and Woolley 399 (259); Wash. - Higgins and Woolley 399 (259); Woolley and Higgins 895 (174); Wyo. - Higgins and Woolley 399 (259).
Description: *Adult*: Higgins and Woolley 399 (259) fig.; Woolley and Higgins 895 (174) fig.
Ecology: Higgins and Woolley 399 (259).

ZETORCHESTOIDEA Michael, 1898

ZETORCHESTIDAE MICHAEL, 1898

***Zetorchestes* Berlese, 1888**

Zetorchestes Berlese, 1888, (=*Leptorchistis*; correct *Leptorchestes* Canestrini and Berlese, 1885, preoccupied name)
Type-species: *Carabodes micronychus* Berlese, 1883 (1201, p. 207; 77, Vol. 49 (7)).

***Zetorchestes equestris* Berlese, 1908**

Type: SEA
Comb./Syn.: *Zetorchestes equestris* Berlese, 1908 (84, p. 12)
Distribution: *USA*: Mo. - Berlese 84 (12); Ewing 172 (373) [mi.]; Grandjean 273 (2) [!]; Woolley 853 (90); N.C. - Pearse 649 (148); Banks 66 (125); Tenn. - Crossley and Bohnsack 142 (631).
Description: *Adult*: Berlese 84 (12); Banks 66 (125) fig.; Woolley 853 (90) fig.

Ecology: Pearse 649 (148); Woolley 853 (90); Crossley and Bohnsack 142 (631).
Remarks: Ewing's record (172, p. 373) is sub *Zetorchestes micronychus* (Berlese, 1883); this is certain, because his material came from Columbia, Missouri and was collected by C.R. Crosby, the same collector who sent specimens of oribatid mites to Berlese. His specimens were apparently divided between Berlese and Ewing, and several synomymies have resulted. Krantz (940, p. 460) regarded *Z. micronychus* as cosmopolitan, but the only record from North America is Ewing's.

GUSTAVIOlDEA Oudemans, 1900 **[=LIACAROlDEA Sellnick, 1928]**

TENUIALIDAE JACOT, 1929

***Hafenferrefia* Jacot, 1939**

Hafenferrefia Jacot, 1939
Type-species: *Galumna nitidula* Banks, 1906 (462, p. 325)
Hafenrefferiella Sellnick, 1952
Type-species: *Hafenrefferiella nevesi* Sellnick, 1952 (1220, p. 228: 999, p. 205)

***Hafenferrefia nitidula* (Banks, 1906)**

Type: MCZ [see 999, p. 205]
Comb./Syn.: *Galumna nitidula* Banks, 1906 (56, p. 491)
Hafenferrefia nitidula (Banks, 1906) (462, p. 325)
Distribution: *USA*: N.H. - Banks 56 (491); 59 (15); Jacot 462 (325).
Description: *Adult*: Banks 56 (491) fig.; Norton 999 (205) fig.
Remarks: The species described and figured by Higgins and Woolley (395, p. 213; 892, p. 235) is not Banks' *nitidula*, but *Petenuiala pacifica* Norton, 1983.

Hafenferrefia sp.

Distribution: *Canada*: Alta. - Powell and Skaley 662 (21); Que. - Pielou and Verma 658 (1190).
Remarks: These records are sub *Hafenrefferiella*.

***Peltenuiala* Norton, 1983**

Peltenuiala Norton, 1983.
Type-species: *Peltenuiala pacifica* Norton, 1983 (999, p. 208).

***Peltenuiala pacifica* Norton, 1983**

Type: FMNH; Paratypes: MCZ, HNC

Comb./Syn.: *Peltenuiala pacifica* Norton, 1983 (999, p. 208)
Hafenferrefia nitidula sensu Higgins and Woolley, 1957 (395, p. 213)
Distribution: *USA*: Oreg. - Higgins and Woolley 395 (213) [mi.]; Wash. - Higgins and Woolley 395 (213) [mi.].
Description: *Adult*: Higgins and Woolley 395 (213) [mi.] fig.; Norton 999 (208) fig.
Key: Higgins and Woolley 395 (213) [mi.] .
Ecology: Higgins and Woolley 395 (213) [mi.].
Remarks: Higgins and Woolley (395, p. 213) is sub *Hafenferrefia nitidula.*

Tenuiala **Ewing, 1913**

Tenuiala Ewing, 1913
Type-species: *Tenuiala nuda* Ewing, 1913 (177, p. 134).

Tenuiala kurta **Woolley and Higgins, 1955**

Type: USNM; Paratypes: BM(NH), CNC, FMNH
Comb./Syn.: *Tenuiala kurta* Woolley and Higgins, 1955 (886, p. 48)
Distribution: *USA*: Colo. - Woolley and Higgins 886 (48); Higgins and Woolley 395 (218); Idaho - Woolley and Higgins 886 (48); Oreg. - Higgins and Woolley 395 (218); Utah - Woolley and Higgins 886 (48); Higgins and Woolley 395 (218).
Description: *Adult*: Woolley and Higgins 886 (48) fig.; 892 (235) fig. app.; Woolley 883 (1254) photo.
Nymph: Woolley and Higgins 886 (48) fig.
Taxonomy: Norton 999 (205).
Key: Higgins and Woolley 395 (218); Woolley and Higgins 892 (235).
Ecology: Woolley and Higgins 886 (48).

Tenuiala nuda **Ewing, 1913**

Type: USNM; OSU (Cotypes)
Comb./Syn.: *Tenuiala nuda* Ewing, 1913 (177, p. 134)
Distribution: *USA*: Calif. - Higgins and Woolley 395 (216); Woolley and Higgins 892 (235); Colo. - Woolley and Higgins 892 (235); Oreg. - Ewing 177 (134); Woolley and Higgins 892 (235); Utah - Woolley and Higgins 886 (46); Higgins and Woolley 395 (216); Wash. - Higgins and Woolley 395 (216); Woolley and Higgins 892 (235).
Description: *Adult*: Ewing 177 (134) fig.; Baker and Wharton 36 (420) fig.; Woolley and Higgins 886 (46) fig.; 892 (235) fig. app.; Woolley 887 (218) fig.; Balogh 42 (pl. 22 fig. 13-14).
Taxonomy: Norton 999 (204).
Key: Higgins and Woolley 395 (216); Woolley and Higgins 892 (235).
Ecology: Ewing 177 (134); Woolley and Higgins 886 (46); 892 (235).

Tenuiala sp.

Distribution: *Canada*: Que. - Behan 72 (42); Behan et al. 76 (263).

Tenuialoides Woolley and Higgins, 1966

Tenuialoides Woolley and Higgins, 1966
Type-species: *Tenuialoides medialis* Woolley and Higgins, 1966 (892, p. 234).

Tenuialoides medialis Woolley and Higgins, 1966

Type: USNM; Paratype: FMNH
Comb./Syn.: *Tenuialoides medialis* Woolley and Higgins, 1966 (842, p. 234)
Distribution: *USA*: N.C. - Woolley and Higgins 892 (234).
Description: *Adult*: Woolley and Higgins 892 (234) fig.; Balogh (42 pl. 22 fig. 15).
Taxonomy: Norton 999 (208).
Key: Woolley and Higgins 892 (234).

LIACARIDAE SELLNICK, 1928

Adoristes Hull, 1916

Adoristes Hull, 1916
Type-species: *Oribates ovatus* C.L. Koch, 1839 (410, p. 383).

Adoristes ammonoosuci Jacot, 1938

Type: MCZ; USNM (Cotypes)
Comb./Syn.: *Adoristes ovatus ammonoosuci* Jacot,1938 (460, p. 574)
Adoristes ammonoosuci Jacot, 1938 (872, p. 271)
Distribution: *USA*: N.H. - Jacot 460 (574); N.Y. - Norton and MacNamara 615 (91); S.C. - Woolley 872 (271).
Canada: Que. - Marshall 547 (76).
Description: *Adult* Jacot 460 (574); Woolley 872 (271) fig.; Balogh (42 pl. 23 fig. 2-3).
Key: Woolley 872 (271).
Ecology: Jacot 460 (574); Marshall 547 (76).

Adoristes poppei (Oudemans, 1906)

Type: RNH
Comb./Syn.: *Liacarus poppei* Oudemans, 1906 (936, p. 52)

Adoristes poppei (Oudemans, 1906) (829, p. 150)
Distribution: *USA*: Hammer 365 (70) [Q.I.]; Minn. - Freeman 200 (112).
Palearctic: Willmann 829 (150); Schweizer 691 (303); 692 (tab. 10 no. 401); Byzova 124 (292); 125 (185); Hammer 365 (70); Bernini 96 (423); Rubcova 681 (386); Gilyarov 207 (175); Usher 781 (356); 782 (366).
Description: *Adult*: Oudemans 936 (52) fig.; Willmann 829 (150) fig.; Hammen 338 (77); Schweizer 691 (303) fig.; Gilyarov 207 (175) fig.
Key: Willmann 829 (150); Woolley 872 (275); Gilyarov 207 (175).
Ecology: Willmann 829 (150); Freeman 200 (112); Schweizer 691 (303); 692 (tab. 10 no. 401); Byzova 124 (292); 125 (185); Hammer 365 (70); Bernini 96 (423); Rubcova 681 (386); Usher 781 (356); 782 (366).

Adoristes sp.

Distribution: *USA*: La. - Woodring 1111 (423).
Canada: Ont. - Freitag and Ryder 201 (40); Que. - Behan 72 (40); Behan et al. 76 (263).
Morphology: Woodring 1111 (423).

Adoristes sp. ? *poppei* (Oudemans, 1906)

Distribution: *Canada*: Que. - Marshall 548 (76).

Dorycranosus Woolley, 1969

Dorycranosus Woolley, 1969
Type-species: *Liacarus abdominalis* Banks, 1906 (882, p. 184).

Dorycranosus abdominalis (Banks, 1906)

Type: Unknown
Comb./Syn.: *Liacarus abdominalis* Banks, 1906 (56, p. 495)
Dorycranosus abdominalis (Banks, 1906) (882, p. 184)
Distribution: *USA*: Banks 57 (613); Alaska - Behan 73 (391); Calif. - Banks 56 (495).
Description: *Adult*: Banks 56 (495) fig.; Woolley 882 (184) fig.; 1112 (252) fig.
Taxonomy: Woolley 1112 (252).
Ecology: Behan 73 (391).

Dorycranosus acutidens (Aoki, 1965)

Type: NSM
Comb./Syn.: *Liacarus acutidens* Aoki, 1965 (12, p. 1)
Dorycranosus acutidens (Aoki, 1965) (882, p. 183)

Distribution: *USA*: Alaska - Behan 73 (391).
Palearctic: Aoki 12 (1); Fujikawa and Aoki 204 (161); Gilyarov 207 (181).
Description: *Adult*: Aoki 12 (1) fig.; Woolley 882 (183) fig.; Fujikawa and Aoki 204 (161) fig.; Woolley 1112 (252) fig.; Gilyarov 207 (181) fig.
Taxonomy: Woolley 1112 (252).
Key: Gilyarov 207 (181).
Ecology: Fujikawa and Aoki 204 (161); Behan 73 (391).

***Dorycranosus aequidentatus* (Ewing, 1918)**

Syntypes: USNM
Comb./Syn.: *Liacarus aequidentatus* Ewing, 1918 (180, p. 86)
Dorycranosus aequidentatus (Ewing, 1918) (882, p. 187)
Distribution: *USA*: Oreg. - Ewing 180 (86); Woolley 858 (9); 876 (355); 882 (187); Tenn. - Crossley and Bohnsack 142 (631); Utah - Woolley 882 (187); Wash. - Woolley 882 (187).
Description: *Adult*: Ewing 180 (86) fig.; Woolley 858 (9) fig.; 882 (187) fig.; 1112 (252) fig.
Taxonomy: Woolley 1112 (252).
Key: Woolley 858 (9).
Ecology: Ewing 180 (86); Woolley 858 (9); Crossley and Bohnsack 142 (631); Woolley 876 (355).

***Dorycranosus altaicus* Krivoluckij, 1974**

Type: Unknown
Comb./Syn.: *Dorycranosus altaicus* Krivoluckij, 1974 (498, p. 1884)
Distribution: *USA*: Alaska - Behan 73 (391).
Canada: N.W.T. - Behan 73 (391); Que. - Behan 73 (391); Y.T. - Behan 73 (391).
Palearctic: Krivoluckij 498 (1884); Gilyarov 207 (181); Danks 971 (401).
Description: *Adult*: Krivoluckij 498 (1884) fig.; Gilyarov 207 (181) fig.
Key: Gilyarov 207 (181).
Ecology: Behan 73 (391); Danks 971 (401).

***Dorycranosus columbianus* (Berlese, 1908)**

Type: SEA
Comb./Syn.: *Liacarus columbianus* Berlese, 1908 (84, p. 8)
Dorycranosus columbianus (Berlese, 1908) (882, p. 183)
Distribution: *USA*: Mo. - Berlese 84 (8); Woolley 882 (183). *Palearctic*: Berlese 87 (230).
Description: *Adult*: Berlese 84 (8); 87 (230) fig.; Woolley 882 (183) fig.; 1112 (252) fig.
Taxonomy: Woolley 1112 (252).

Dorycranosus floridensis (Berlese, 1908)

Type: SEA

Comb./Syn.: *Liacarus floridensis* Berlese, 1908 (84, p. 8)

Dorycranosus floridensis (Berlese, 1908) (882, p. 186)

Distribution: *USA*: Fla. - Berlese 84 (8); Woolley 882 (186). **Description:** *Adult*: Berlese 84 (8); 87 (pl. 21 fig. 85); Woolley 882 (186); 1112 (252) fig.

Taxonomy: Woolley 882 (186); 1112 (252).

Dorycranosus frontinalis (Banks, 1906)

Type: MCZ

Comb./Syn.: *Liacarus frontinalis* Banks, 1906 (56, p. 495)

Dorycranosus frontinalis (Banks, 1906) (882, p. 184)

Distribution: *USA*: Banks 57 (613); Va. - Banks 56 (495).

Description: *Adult*: Banks 56 (495) fig.; Woolley 882 (184) fig.; 1112 (252) [!] fig.

Taxonomy: Woolley 1112 (252) [!] .

Dorycranosus fusiformis (Ewing, 1917)

Type: USNM

Comb./Syn.: *Liacarus fusiformis* Ewing, 1917 (178, p. 161)

Dorycranosus fusiformis (Ewing, 1917) (882, p. 187)

Distribution: *USA*: Iowa - Ewing 178 (161); Woolley 858 (8); Utah - Woolley 882 (187).

Description: *Adult*: Ewing 178 (161) fig.; Woolley 858 (8) fig.; 882 (187) fig.; 1112 (252) fig.

Taxonomy: Woolley 1112 (252).

Ecology: Ewing 178 (161); Woolley 858 (8).

Dorycranosus magnilamellatus (Ewing, 1909)

Type: USNM

Comb./Syn.: *Liacarus magnilamellatus* Ewing, 1909 (882, p. 186)

Dorycranosus magnilamellatus (Ewing, 1909) (882, p. 186)

Distribution: *USA*: Mo. - Ewing 170 (125); Woolley 858 (4). **Description:** *Adult*: Ewing 170 (125) fig.; Woolley 858 (4) fig.; 882 (186) fig.

Taxonomy: Woolley 882 (186).

Key: Ewing 170 (125); Woolley 858 (4).

Ecology: Ewing 170 (125); Woolley 858 (4).

Dorycranosus nitidus (Banks, 1895) new comb.

Type: MCZ; Paratypes: USNM
Comb./Syn.: *Cepheus nitidus* Banks, 1895 (45, p. 10).
Liacarus nitidus (Banks, 1895) (52, p. 67)
Liacarus glaber Ewing, 1909 (170, p. 124): (882, p. 186). **Type:** USNM
Dorycranosus glaber (Ewing, 1909) (882, p. 186)
Liacarus nitidus fissuratus Jacot, 1937 (452, p. 243): (882, p. 186). **Type:** FMNH
Add. Comb./Syn. Ref.: Banks 59 (16); Ewing 169 (366).
Distribution: *USA*: Colo. - Woolley 882 (186); D.C. - Banks 45 (10); 59 (16); Ill. Ewing 170 (124); 169 (366); Jacot 452 (243); Woolley 858 (2); 882 (186); Ind. - Banks 58 (747); N.H. - Banks 59 (16); N.J. - Banks 45 (10); 59 (16); Ewing 169 (366); Weiss 819 (109); N.M. - Woolley 882 (186); N.Y. - Banks 45 (10); 59 (16); Ewing 169 (366); Utah - Woolley 882 (186).
Description: *Adult*: Banks 45 (10); 52 (67) fig.; Ewing 170 (124) fig.; 169 (366); Banks 63 (95) fig.; Jacot 452 (243) fig.; Woolley 858 (2) fig.; 882 (186) fig.; 1112 (252) fig.
Taxonomy: Woolley 1112 (252).
Key: Banks 45 (10); Ewing 170 (124); 169 (366); Woolley 858 (2).
Ecology: Banks 45 (10); 52 (67); Ewing 170 (124); Banks 63 (95); Weiss 819 (109); Woolley 858 (2).

Dorycranosus paoliensis Woolley, 1969

Type: FMNH; Paratypes: FMNH
Comb./Syn.: *Dorycranosus paoliensis* Woolley, 1969 (882, p. 187)
Distribution: *USA*: Ga. - Woolley 882 (187); Ind. - Woolley 882 (187).
Description: *Adult*: Woolley 882 (187) fig.; Balogh 42 (pl. 68 fig. 10-11).
Ecology: Woolley 882 (187).

Dorycranosus parallelus (Hammer, 1967)

Type: ZIL
Comb./Syn.: *Liacarus parallelus* Hammer, 1967 (362, p. 19)
Dorycranosus parallelus (Hammer, 1967) (207, p. 181)
Distribution: *USA*: Alaska - Hammer 362 (19).
Palearctic: Gilyarov 207 (181).
Description: *Adult*: Hammer 362 (19) fig.; Gilyarov 207 (181) fig.
Key: Gilyarov 207 (181).
Ecology: Hammer 362 (19).

Dorycranosus sp.

Distribution: *Canada*: Alta. - Powell and Skaley 662 (20); Ont. - Freitag and Ryder 201 (40).
Remarks: Freitag and Ryder (201, p. 40) is sub *Liacarus (Dorycranosus).*

Liacarus Michael, 1898

Liacarus Michael, 1898 (=*Leiosoma* Nicolet, 1855, preoccupied name)
Type-species: *Oribata nitens* Gervais, 1844 (592, p. 439; 564, p. 40).

Liacarus bidentatus Ewing, 1918

Type: USNM
Comb./Syn.: *Liacarus bidentatus* Ewing, 1918 (180, p. 85)
Distribution: *USA*: Alaska - Behan 73 (391); Calif. - Woolley 876 (355); N.C. - Woolley 876 (355); Oreg. - Ewing 180 (85); Woolley 858 (6); 876 (355); Wash. - Woolley 876 (355); Wyo. - Woolley 876 (355).
Canada: B.C. - Woolley 876 (355); Y.T. - Behan 73 (391).
Description: *Adult*: Ewing 180 (85) fig.; Woolley 858 (6) fig.; 876 (355) fig.; 1112 (252) fig.
Taxonomy: Woolley 1112 (252).
Key: Woolley 858 (6).
Ecology: Ewing 180 (85); Woolley 858 (6); 876 (355); Behan 73 (391); Danks 971 (401).

Liacarus castanea (Banks, 1906) new comb.

Syntype: MCZ
Comb./Syn.: *Notaspis castanea* Banks, l906 (56, p. 496)
Distribution: *USA*: Calif. - Banks 56 (496).
Description: *Adult*: Banks 56 (496) fig.

Liacarus cidarus Woolley, 1968

Type: FMNH; Paratypes: FMNH
Comb./Syn.: *Liacarus cidarus* Woolley, 1968 (876, p. 363)
Distribution: *USA*: Calif. - Woolley 876 (363); Colo. - Woolley 876 (363); Utah - Woolley 876 (363); Wyo. - Woolley 876 (363).
Description: *Adult*: Woolley 876 (363) fig.; Arlian and Woolley 31 (512) chaet., fig.; Woolley 883 (1254) photo.; 1112 (252) fig.; 885 (55) photo.
Tritonymph: Arlian and Woolley 31 (512) fig.
Deutonymph: Arlian and Woolley 31 (512) fig.
Protonymph: Arlian and Woolley 31 (512) fig.
Larva: Arlian and Woolley 31 (512) fig.
Taxonomy: Woolley 1112 (252).

Biology: Arlian and Woolley 31 (512); 32 (297); Luxton 988 (339). **Food:** Arlian and Woolley 32 (297).
Ecology: Woolley 876 (363).
Remarks: The extensive medial fusion of lamellae is consistent with the placement of this species in *Birsteinius* Krivolutskij, 1965, but it has six pairs of genital setae.

Liacarus detosus Woolley, 1968

Type: USNM; Paratypes: FMNH
Comb./Syn.: *Liacarus detosus* Woolley, 1968 (876, p. 361)
Distribution: *USA*: N.C. - Woolley 876 (361); S.C. - Woolley 876 (361); Tenn. - Woolley 876 (361).
Description: *Adult*: Woolley 876 (361) fig.; 1112 (252) fig. **Taxonomy:** Woolley 1112 (252).
Ecology: Woolley 876 (361).
Remarks: Same as for *Liacarus cidarus* Woolley, 1968 above.

Liacarus latus Ewing, 1909

Type: Not designated ("Autotype" in USNM)
Comb./Syn.: *Liacarus latus* Ewing, 1909 (170, p. 124)
Distribution: *USA*: Ill. - Ewing 170 (124); Woolley 858 (1); N.C. - Woolley 876 (354); Oreg. - Krantz 490 (pl. 157 fig. 3). **Description:** *Adult*: Ewing 170 (124) fig.; Woolley 858 (1) fig.; 876 (354) fig.; Krantz 490 (pl. 157 fig. 3); Woolley 1112 (252) fig.
Taxonomy: Woolley 1112 (252).
Key: Ewing 170 (124); Woolley 858 (1).
Ecology: Ewing 170 (124); Woolley 858 (1).

Liacarus lectronus Higgins and Woolley, 1969

Type: USNM; Paratypes: FMNH
Comb./Syn.: *Liacarus lectronus* Higgins and Woolley 1969 (404, p. 140)
Distribution: *USA*: Calif. - Higgins and Woolley 404 (140). **Description:** *Adult*: Higgins and Woolley 404 (140) fig.
Ecology: Higgins and Woolley 404 (140); Ashley and Bohnsack 959 (618).

Liacarus lucidus Ewing, 1909

Type: Unknown
Comb./Syn. *Liacarus lucidus* Ewing, 1909 (169, p. 365)
Distribution: *USA*: Ill. - Ewing 169 (365).
Description: *Adult*: Ewing 169 (365) fig.
Key: Ewing 169 (365).

Liacarus medialis Banks, 1910

Type: MCZ
Comb./Syn.: *Liacarus medialis* Banks, 1910 (61, p. 10)
Distribution: *USA*: N.C. - Pearse 649 (128); Va. - Banks 61 (10). **Description:** *Adult*: Banks 61 (10) fig.
Ecology: Pearse 649 (128).

Liacarus nitens (Gervais, 1844)

Type: Not designated
Comb./Syn.: *Oribata nitens* Gervais, 1844 (206, p. 259)
Leiosoma nitens (Gervais, 1844) (592, p. 441)
Liacarus nitens (Gervais, 1844) (829, p. 152)
Notaspis nitens (Gervais, 1844) (564, p. 41)
Distribution: *USA*: Va. - Sengbusch 719 (131).
Palearctic: Michael 564 (41); Willmann 829 (152); Grandjean 243 (465); Krivoluckij 495 (185); Lebrun 508 (186); Aoki 17 (126); Bernini 96 (423); 98 (394); Gilyarov 207 (177).
Description: *Adult*: Gervais 206 (259); Michael 564 (41); Willmann 829 (152) fig.; Grandjean 314 (378) fig.; Woolley 1112 (252) fig.; Gilyarov 207 (177) fig.; Travnicek 1102 (203) fig.
Tritonymph: Travnicek 1102 (203) fig.
Deutonymph: Travnicek 1102 (203) fig.
Protonymph: Travnicek 1102 (203) fig.
Larva: Travnicek 1102 (203) fig.
Taxonomy: Woolley 1112 (252).
Key: Michael 564 (41); Willmann 829 (152); Gilyarov 207 (177).
Add. References: Willmann 829 (152).
Morphology: Grandjean 314 (378).
Biology: Grandjean 243 (465).
Ecology: Michael 564 (41); Willmann 829 (152); Sengbusch 719 (131); Krivoluckij 495 (185); Lebrun 508 (186); Aoki 17 (126); Bernini 96 (423); 98 (394).
Remarks: We consider the *USA* record doubtful.

Liacarus robustus Ewing, 1918

Syntypes: USNM
Comb./Syn.: *Liacarus robustus* Ewing, 1918 (180, p. 85)
Distribution: *USA*: Oreg. - Ewing 180 (85); Woolley 858 (8); 876 (357); Wash. - Woolley 876 (357).
Description: *Adult*: Ewing 180 (85) fig.; Woolley 858 (8) fig.; 876 (357) fig.; 1112 (252) fig.
Taxonomy: Woolley 1112 (252).
Ecology: Ewing 180 (85); Woolley 85 (8).

Liacarus spiniger Jacot, 1937

Type: MCZ, USNM (Cotypes)
Comb./Syn.: *Liacarus spiniger* Jacot, 1937 (455, p. 365)
Distribution: *USA*: Ala. - Woolley 876 (359); Ga. - Woolley 876 (359); N.C. - Jacot 455 (365); Woolley 876 (359); S.C. - Woolley 876 (359).
Description: *Adult*: Jacot 455 (365); Woolley 876 (359) fig.; 1112 (252) fig.
Taxonomy: Woolley 1112 (252).
Ecology: Jacot 455 (365); Woolley 876 (359).

Liacarus subterraneus (C.L. Koch, 1844)

Type: Unknown
Comb./Syn.: *Oribates subterraneus* C.L. Koch, 1844 (485, Vol. 38 (11))
Leiosoma subterraneus (C.L. Koch, 1844) (560, p. 187)
Leiosoma lativentris Nicolet, 1855 (592, p. 444): (338, p. 79). **Type:** Not designated.
Liacarus gracilis Mihelčič, 1954 (1193, p. 306): (207, p. 177). **Type:** Unknown.
Leiosoma globosum sensu Berlese, 1885, (77, Vol. 20 (4)); non Koch, 1844 (338, p. 79)
Liacarus globosa sensu Sellnick, 1928 (700, p. 31); non Koch, 1844 (338, p. 79)
Liacarus tremellae sensu Willmann, 1931 (829, p. 152); non Linnaeus, 1761 (338, p. 79)
Distribution: *USA*: Va. - Sengbusch 719 (131).
Palearctic: Michael 560 (187); Willmann 829 (152) [mi.]; Hammen 338 (79); Gilyarov 207 (177).
Description: *Adult*: Koch 485 (Vol. 38 (11)); Michael 560 (187); Willmann 829 (152) [mi.] fig.; Gilyarov 207 (177) fig.; Travnicek 1101 (117) fig.
Tritonymph: Travnicek 1101 (117) fig.
Deutonymph: Travnicek 1101 (117) fig.
Protonymph: Travnicek 1101 (117) fig.
Larva: Travnicek 1101 (117) fig.
Key: Willmann 829 (152) [mi.]; Woolley 858 (10); Gilyarov 207 (177).
Add. References: Hammen 338 (79).
Food: Luxton 986 (104).
Miscellaneous: Lasebikan et al. 984 (52) extract.; Travnicek 1100 (223) anat.
Ecology: Michael 560 (187); Willmann 829 (152) [mi.]; Hammen 338 (79); Sengbusch 719 (131).
Remarks: Willmann (829, p. 152) is sub *Liacarus tremellae*. We consider the *USA* record doubtful.

Liacarus sp.

Distribution: *USA*: Mich. - Wallwork 788 (172); N.Y. - Reeves 673 (27); Norton and MacNamara 615 (91).
Canada: Que. - Marshall 548 (76).

Opsioristes Woolley, 1967

Opsioristes Woolley, 1967
Type-species: *Opsioristes eurhostus* Woolley, 1967 (872, p. 275).

Opsioristes eurhostus Woolley, 1967

Type: FMNH
Comb./Syn.: *Opsioristes eurhostus* Woolley, 1967 (872, p. 275)
Distribution: *USA*: Colo. - Woolley 872 (275); Oreg. - Woolley 872 (275); Wash. - Woolley 872 (275).
Description: *Adult*: Woolley 872 (275) fig.; Balogh 42 (pl. 23 fig. 6-7); Woolley 1112 (252) fig.
Taxonomy: Woolley 1112 (252).
Ecology: Woolley 872 (275).

Procorynetes Woolley, 1969

Procorynetes Woolley, 1969
Type-species: *Liacarus nigerrimus* Berlese, 1916 (882, p. 190)

Procorynetes sp.

Distribution: *USA*: Alaska - Behan 73 (391); Danks 971 (401).
Canada: N.W.T. - Behan 73 (391); Que. - Behan 73 (391); Danks 971 (401).

Rhaphidosus Woolley, 1969

Rhaphidosus Woolley, 1969
Type-species: *Liacarus carolinensis* Banks, 1906 (882, p. 191).

Rhaphidosus acuminatus Woolley, 1969

Type: FMNH; Paratypes: FMNH
Comb./Syn.: *Rhaphidosus acuminatus* Woolley, 1969 (882, p. 191)
Distribution: *USA*: Colo. - Woolley 882 (191).
Description: *Adult*: Woolley 882 (191) fig.; 1112 (252) fig. **Taxonomy:** Woolley 1112 (252).
Ecology: Woolley 882 (191).

Rhaphidosus carbonaria (Banks, 1906)

Type: MCZ

Comb./Syn.: *Notaspis carbonaria* Banks, 1906 (56, p. 496)
Rhaphidosus carbonaria (Banks, 1906) (882, p. 183)
Distribution: *USA*: Calif. - Banks 56 (496); Ewing 169 (384); Woolley 882 (183).
Description: *Adult*: Banks 56 (496) fig.

***Rhaphidosus carolinensis* (Banks, 1906)**

Type: MCZ
Comb./Syn.: *Liacarus carolinensis* Banks, 1906 (56, p. 494)
Rhaphidosus carolinensis (Banks, 1906) (882 p. 191)
Distribution: *USA*: N.C. - Banks 56 (494); Woolley 882 (191); Va. - Sengbusch 719 (131).
Description: *Adult*: Banks 56 (494) fig.; 63 (97) fig.; Woolley 1112 (252) fig.
Taxonomy: Woolley 1112 (252).
Ecology: Sengbusch 719 (131).

XENILLIDAE WOOLLEY AND HIGGINS, 1966

***Leuroxenillus* Woolley and Higgins, 1966**

Leuroxenillus Woolley and Higgins, 1966
Type-species: *Leuroxenillus trichionus* Woolley and Higgins, 1966 (893, p. 218).

***Leuroxenillus trichionus* Woolley and Higgins, 1966**

Type: FMNH; Paratypes: FMNH
Comb./Syn.: *Leuroxenillus trichionus* Woolley and Higgins, 1966 (893, p. 218)

Distribution: *USA*: Oreg. - Woolley and Higgins 893 (218). **Description:** *Adult*: Woolley and Higgins 893 (218) fig.
Key: Woolley and Higgins 893 (218).
Ecology: Woolley and Higgins 893 (218).

***Stenoxenillus* Woolley and Higgins, 1966**

Stenoxenillus Woolley and Higgins, 1966
Type-species: *Stenoxenillus atraktus* Woolley and Higgins, 1966 (893, p. 212).

***Stenoxenillus atraktus* Woolley and Higgins, 1966**

Type: FMNH

Comb./Syn.: *Stenoxenillus atraktus* Woolley and Higgins 1966 (893, p. 212)

Distribution: *USA*: Ala. - Woolley and Higgins 893 (212); N.C. - Woolley and Higgins 893 (212).

Description: *Adult*: Woolley and Higgins 893 (212) fig.; Balogh 42 (pl. 23 fig 10-11).

Ecology: Woolley and Higgins 893 (212).

***Stonyxenillus* Balogh, 1972**

Stonyxenillus Balogh, 1972 (see remarks)

Type-species: *Stonyxenillus anakolosus* Woolley and Higgins, 1966.

Remarks: When *Stonyxenillus* was first mentioned in the literature (893, p. 212), it was not available due to absence of a type-species designation (see 797, Article 13). Balogh's listing of *S. anakolosus* Woolley and Higgins, 1966 as type-species, with a diagnosis in his key (42, p. 66, 154), made the name available, but with Balogh, 1972 as author.

***Stonyxenillus akidosus* Woolley and Higgins, 1966**

Type: FMNH; Paratypes: FMNH

Comb./Syn.: *Stonyxenillus akidosus* Woolley and Higgins, 1966 (893, p. 217)

Distribution: *USA*: Va. - Woolley and Higgins 893 (217). **Description:** *Adult*: Woolley and Higgins 893 (217) fig.

Ecology: Woolley and Higgins 893 (217).

***Stonyxenillus anakolosus* Woolley and Higgins, 1966**

Type: FMNH

Comb./Syn.: *Stonyxenillus anakolosus* Woolley and Higgins, 1966 (893, p. 216)

Distribution: *USA*: Ala. - Woolley and Higgins 893 (216); N.C. - Woolley and Higgins 893 (216); Tenn. - Woolley and Higgins 893 (216).

Description: *Adult*: Woolley and Higgins 893 (216) fig.

Ecology: Woolley and Higgins 893 (216).

***Stonyxenillus spilotus* Woolley and Higgins, 1966**

Type: FMNH; Paratypes: FMNH

Comb./Syn.: *Stonyxenillus spilotus* Woolley and Higgins, 1966 (893, p. 214)

Distribution: *USA*: N.C. - Woolley and Higgins 893 (214). **Description:** *Adult*: Woolley and Higgins 893 (214) fig.; Balogh 42 (pl. 23 fig. 14-15).
Ecology: Woolley and Higgins 893 (214).

Xenillus Robineau-Desvoidy, 1839

Xenillus Robineau-Desvoidy, 1839
Type-species: *Xenillus clypeator* Robineau-Desvoidy, 1839 (1093, p. 455).
Banksia Oudemans and Voigts, 1905 (=*Kochia* Oudemans, 1900, preoccupied name) (see remarks)
Type-species: *Notaspis tegeocranus* Hermann, 1804 (626, p. 151; 1104, p. 248: 1092, p. 192).
Pseudocepheus Jacot, 1928
Type-species: *Cepheus vulgaris* Nicolet, 1855 (417, p. 263: 42, p. 180).

Remarks: Although this paper (1104) is by Voigts and Oudemans, the authors of *Banksia* are Oudemans and Voigts.

Xenillus gelasinus Woolley and Higgins, 1966

Type: FMNH
Comb./Syn.: *Xenillus gelasinus* Woolley and Higgins, 1966 (893, p. 204)
Distribution: *USA*: Utah - Woolley and Higgins 893 (204).
Description: *Adult*: Woolley and Higgins 893 (204) fig.
Ecology: Woolley and Higgins 893 (204).

Xenillus ionthadosus Woolley and Higgins, 1966

Type: FMNH; Paratypes: FMNH
Comb./Syn.: *Xenillus ionthadosus* Woolley and Higgins, 1966 (893, p. 201)
Distribution: *USA*: Ga. - Woolley and Higgins 893 (201); La. - Woolley and Higgins 893 (201); N.C. - Woolley and Higgins 893 (201); Utah - Woolley and Higgins 893 (201) .
Description: *Adult*: Woolley and Higgins 893 (201) fig.
Ecology: Woolley and Higgins 893 (201).

Xenillus latus (Nicolet, 1855)

Type: Not designated
Comb./Syn.: *Cepheus latus* Nicolet, 1855 (592, p. 446)
Kochia lata (Nicolet, 1855) (626, p. 151)
Banksia lata (Nicolet, 1855) (700, p. 27)
Xenillus latus (Nicolet, 1855) (829, p. 145)
Cepheus permixtus André, 1925 (7, p. 155). **Type:** See remarks

Xenillus permixtus (André, 1925) (669, p. 226)
Add. Comb./Syn. Ref.: Hammen 338 (71) [mi.]; Gilyarov 207 (175) [mi.].
Distribution: *USA*: Mich. - Wallwork 788 (172) (?); Wallwork 789 (262).
Palearctic: Michael 561 (295); 564 (32); Willmann 829 (145); Hammen 338 (71) [mi.]; Schweizer 691 (301); Travé 774 (89) [mi.]; Schweizer 692 (tab. 9 no. 398); Kunst 503 (37) [mi.]; Rajski 668 (25) [mi.]; Travé 777 (231) [mi.]; Rajski 669 (226); 669 (232) [mi.]; Bernini 98 (394) [mi.]; Kurcheva 504 (95); Gilyarov 207 (175) [mi.].
Description: *Adult*: Nicolet 592 (446) fig.; Michael 561 (295) fig.; 564 (32). Willmann 829 (145) fig.; Schweizer 691 (301) fig.; Grandjean 292 (88) [mi.] fig., 293 (260) [mi.] fig.; Woolley and Higgins 893 (202) fig.; Grandjean 317 (440) [mi.] fig.; Gilyarov 207 (175) [mi.] fig.
Taxonomy: André 7 (155); Grandjean 252 (324) [mi.].
Key: Michael 564 (32); Willmann 829 (145); Gilyarov 207 (175) [mi.].
Add. References: Michael 564 (32); Willmann 829 (145); Hammen 338 (71) [mi.]; Woolley and Higgins 893 (202); Hammen 344 (13, 36).
Morphology: Grandjean 292 (88) [mi.]; 293 (260) [mi.]; 317 (440) [mi.].
Food: Wallwork 789 (262).
Miscellaneous: Travnicek 1100 (223) [mi.] anat.
Ecology: Michael 561 (295); Willmann 829 (145); Hammen 338 (71) [mi.]; Schweizer 691 (301); Travé 774 (89) [mi.]; Schweizer 692 (tab. 9 no. 398); Kunst 503 (37) [mi.]; Rajski 668 (25) [mi.]; Travé 777 (231) [mi.]; Rajski 669 (226). 669 (232) [mi.]; Bernini 98 (394) [mi.]; Kurcheva 504 (95).

Remarks: All misidentifications here are sub *Xenillus clypeator*. There is much confusion in the literature concerning *Notaspis tegeocranus* Hermann, 1804, *Xenillus clypeator* Robineau-Desvoidy, 1839 and *Cepheus latus* Nicolet, 1855 [see Jacot (421, p. 125); Woolley and Higgins (893, p. 202); Pérez-Inigo (652, p. 277)]. *Xenillus permixtus* André, 1925 is a replacement name for *Cepheus latus* Nicolet, 1855. We consider the *USA* record doubtful.

***Xenillus niger* (Ewing, 1909)** new comb.

Type: Not designated ("Autotype" in USNM)
Comb./Syn.: *Liacarus niger* Ewing, 1909 (169, p. 366)
Distribution: *USA*: Ill. - Ewing 169 (366).
Description: *Adult*: Ewing 169 (366) fig.
Key: Ewing 169 (366).
Ecology: Ewing 169 (366).

***Xenillus occultus* Banks, 1947**

Type: Lost (see remarks)
Comb./Syn.: *Xenillus occultus* Banks, 1947 (66, p. 125)

Xenillus phryxothrixus Woolley and Higgins, 1966 (893, p. 209) new syn. **Type:** FMNH; Paratypes: FMNH (see remarks).
Distribution: *USA*: Ala. - Woolley and Higgins 893 (209); N.C. - Banks 66 (125); Woolley and Higgins 893 (209).
Description: *Adult*: Banks 66 (125) fig.; Woolley and Higgins 893 (209) fig.
Ecology: Woolley and Higgins 893 (209).
Remarks: The synonymy is based on topotype material studied by RAN.

***Xenillus punctulatus* (Banks, 1895)** new comb.

Syntype: MCZ
Comb./Syn.: *Cepheus punctulatus* Banks, 1895 (45, p. 10)
Notaspis punctulatus (Banks, 1895) (52, p. 72)
Distribution: *USA*: N.Y. - Banks 45 (10); Michael 564 (33); Ewing 169 (384).
Description: *Adult*: Banks 45 (100); Michael 564 (33).
Key: Banks 45 (100); Michael 564 (33).
Ecology: Banks 45 (10); Michael 564 (33); Banks 52 (72); Ewing 169 (384).

***Xenillus* sp.**

Distribution: *USA*: N.Y. - Norton and MacNamara 615 (91).
Canada: Man. - Oswald and Minty 621 (75).

ASTEGISTIDAE BALOGH, 1961

***Astegistes* Hull, 1916**

Astegistes Hull, 1916
Type-species: *Zetes pilosus* C.L. Koch, 1841 (=*Liacarus bicornis* Warburton and Pearce, 1905) (410, p. 383; 829, p. 151).
Remarks: Hull, 1916 (410, p. 383) gave the type-species as *Liacarus bicornis* Warburton and Pearce, 1905, but the latter species has been regarded as a synonym of *Zetes pilosus* C.L. Koch, 1841 and *Acarus muscorum* Scopoli, 1763 (36, p. 417; 829, p. l5l; 1092, p. 193).

Cultrozetes Sellnick, 1922
Type-species: *Zetes pilosus* C.L. Koch, 1841 (1172, p. 98: 700, p. 30).

***Astegistes* sp.**

Distribution: *USA*: Tenn. - Norton (RAN unpub.).
Canada: N.B. - Behan-Pelletier (VBP unpub.); Ont.- Behan-Pelletier (VBP unpub.).

Cultroribula Berlese, 1908

Cultroribula Berlese, 1908
Type-species: *Notaspis juncta* Michael, 1885 (84, p. 9).

Cultroribula bicultrata (Berlese, 1905)

Type: SEA
Comb./Syn.: *Dameosoma bicultratum* Berlese, 1905 (83, p. 236)
Cultroribula bicultrata (Berlese, 1905) (87, p. 233)
Cultroribula trifurcata Jacot, 1939 (464, p. 197): (207, p. 184). **Type:** USNM (Cotypes)
Cultroribula szent-ivanovi [!] [=*szent-ivanyi*] Balogh, 1943 (37, p. 70): (207, p. 184). **Type:** Unknown
Cultroribula falcata Evans, 1952 (160, p. 38): (207, p. 184). **Type:** BM(NH)
Cultroribula trifurcata rotundata Krivoluckij, 1962 (491, p. 1894): (207, p. 184). **Type:** Unknown
Add. Comb./Syn. Ref.: Sublas 755 (140).
Distribution: *USA*: Calif. - Walter and Norton 1179 (tab. 1); N.C. - Jacot 464 (197); Marshall 548 (77).
Canada: Que. - Marshall 548 (77).
Palearctic: Balogh 37 (135); Evans 160 (38); Kunst 503 (37); Rajski 668 (21); Krivoluckij 491 (1894); Moritz 571 (155); Byzova 125 (185); Moritz 572 (70); Rajski 669 (232); Hammer 370 (423); Molodova and Golosova 570 (427); Grishina 323 (82); Kurcheva 504 (95); Rubcova 681 (386); Gilyarov 207 (184); Lions 523 (172); Hammer 373 (26); Subias 755 (140); Wauthy 808 (152).
Description: *Adult*: Berlese 83 (236); 87 (pl. 20 fig. 67); Jacot 464 (197); Evans 160 (38) fig.; Krivoluckij 491 (1894) fig.; Bernini 95 (346) fig.; Gilyarov 207 (184) fig.
Key: Gilyarov 207 (184).
Add. References: Moritz 572 (70).
Ecology: Jacot 464 (197); Evans 160 (38); Kunst 503 (37); Rajski 668 (21); Moritz 571 (155); Byzova 125 (185); Moritz 572 (70); Marshall 548 (77); Rajski 669 (232); Hammer 370 (423); Molodova and Golosova 570 (427); Grishina 323 (82); Kurcheva 504 (95); Rubcova 681 (386); Lions 523 (172); Hammer 373 (26); Subias 755 (140); Wauthy 808 (152).

Cultroribula confinis Berlese, 1908

Type: Lost
Comb./Syn.: *Cultroribula confinis* Berlese, 1908 (84, p. 9)
Distribution: *USA*: N.C. - Jacot 450 (370).
Nearctic: Berlese 84 (9).
Palearctic: Krivoluckij 495 (184); Gilyarov 207 (184).
Description: *Adult*: Berlese 84 (9); 87 (pl. 20 fig. 68); Gilyarov 207 (184) fig.

Key: Gilyarov 207 (184).
Ecology: Krivoluckij 495 (184).

Remarks: It is likely that the single North American record (84, p. 9) refers to a species later described by Jacot as *Cultroribula divergens*.

Cultroribula dentata Willmann, 1950

Type: WHPC
Comb./Syn.: *Cultroribula dentata* Willmann, 1950 (836, p. 192)
Distribution: *USA*: Alaska - Hammer 354 (17); Behan 73 (391).
Canada: N.W.T. - Hammer 350 (43); Behan 73 (391); Y.T. - Behan 73 (391).
Palearctic: Willmann 836 (192); Sellnick 709 (97); Grishina 323 (82); Gilyarov 207 (184); Danks 971 (401).
Description: *Adult*: Willmann 836 (192) fig.; Hammer 350 (43) fig.; Gilyarov 207 (184) fig.
Key: Sellnick 709 (97); Gilyarov 207 (184).
Food: Behan and Hill 75 (500).
Ecology: Willmann 836 (192); Hammer 350 (43); 354 (17); Sellnick 709 (97); Grishina 323 (82); Behan 73 (391); Danks 971 (401).

Cultroribula divergens Jacot, 1939

Syntype: USNM
Comb./Syn.: *Cultroribula divergens* Jacot, 1939 (464, p.197)
Distribution: *USA*: Ky. - Wallwork and Rodriguez 806 (703); N.C. - Jacot 464 (197).
Canada: Que. - Smith 743 (tab. 20).
Description: *Adult*: Jacot 464 (197); Baker and Wharton 36 (417) fig.
Ecology: Jacot 464 (197); Wallwork and Rodriguez 806 (703); Smith 743 (tab. 20).

Cultroribula juncta (Michael, 1885)

Syntypes: BM(NH)
Comb./Syn.: *Notaspis juncta* Michael, 1885 (562, p. 390)
Cultroribula juncta (Michael, 1885) (829, p. 151)
Oribatula juncta (Michael, 1885) (829, p. 151) [?]
Distribution: *USA*: N.Y. - Reeves 673 (27); Tenn. - Crossley and Bohnsack 142 (631); Kowal 488 (595).
Palearctic: Michael 562 (390); 561 (365); 564 (49); Willmann 829 (151); Sellnick 709 (97); Byzova 125 (185); Lebrun 507 (103); Gilyarov 207 (184); Luxton 532 (180).
Description: *Adult*: Michael 562 (390) fig.; 561 (365) fig.; 564 (49); Willmann 829 (151) fig.; Gilyarov 207 (184) fig.

Key: Michael 564 (49); Willmann 829 (151); Sellnick 709 (97); Gilyarov 207 (184).
Add. References: Willmann 829 (151).
Food: Kowal 488 (595); Crossley 141 (72).
Ecology: Michael 562 (390); 561 (365); 564 (49); Willmann 829 (151); Crossley and Bohnsack 142 (631); Sellnick 709 (97); Byzova 125 (185); Lebrun 507 (103); Reeves 673 (27); Luxton 532 (180); 987 (311).

Cultroribula magnifica Berlese, 1908

Type: SEA
Comb/Syn.: *Cultroribula magnifica* Berlese, 1908 (84, p. 9)
Distribution: *Nearctic*: Berlese 84 (9).
Description: *Adult*: Berlese 84 (9); 87 (pl. 20 fig. 69).
Remarks: Berlese's record (84, p.9) is most likely from District of Columbia, Florida or Missouri (see 426, p. 239; 452, p. 238).

Furcoribula Balogh, 1943

Furcoribula Balogh, 1943
Type-species: *Notaspis furcillata* Nordenskiold, 1901 (37, p. 70)

Furcoribula bilamellata (Hall, 1911) new comb.

Type: Unknown
Comb./Syn.: *Notaspis bilamellatus* Hall, 1911 (332, p. 505)
Distribution: *USA*: Calif. - Hall 332 (505).
Description: *Adult*: Hall 332 (505) fig.
Ecology: Hall 332 (505).

Furcoribula furcillata (Nordenskiold, 1901)

Type: SMNH
Comb./Syn.: *Notaspis furcillata* Nordenskiold, 1901 (606, p. 22)
Cultroribula furcillata (Nordenskiold, 1901) (829, p. 151)
Furcoribula furcillata (Nordenskiold, 1901) (42, pl. 65 fig. 12)
Cultroribula confinis magna Ewing, 1917 (178, p. 162) new syn. **Syntypes:** USNM
Distribution: *USA*: Ill. - Ewing 178 (162).
Palearctic: Willmann 829 (151); Sellnick 709 (97); Rubcova 681 (386); Gilyarov 207 (182).
Description: *Adult*: Nordenskiold 606 (22) fig.; Ewing 178 (162) fig.; Willmann 829 (151) fig.; Balogh 42 (pl. 65 fig. 12); Gilyarov 207 (182) fig.
Taxonomy: Krivoluckij 491 (1893).

Key: Willmann 829 (151); Sellnick 709 (97); Gilyarov 207 (182).
Add. References: Willmann 829 (151).
Ecology: Ewing 178 (162); Willmann 829 (151); Sellnick 709 (97); Rubcova 681 (386).

METRIOPPIIDAE BALOGH, 1943

***Ceratoppia* Berlese, 1908**

Ceratoppia Berlese, 1908
Type-species: *Notaspis bipilis* Hermann, 1804 (84, p. 7)

***Ceratoppia bipilis* (Hermann, 1804)**

Type: Not designated
Comb./Syn.: *Notaspis bipilis* Hermann, 1804 (389, p. 95)
Ceratoppia bipilis (Hermann, 1804) (8, p. 243)
Oppia bipilis (Hermann, 1804) (77, Vol. 20 (8))
Eremaeus bipilis (Hermann, 1804) (626, p. 150)
Oribata bipilis (Hermann, 1804) (206, p. 259)
Ceratoppia herculeana Berlese, 1908 (84, p. 7) (207, p. 173). **Type:** Not designated ("Autotype" at SEA)
Add. Comb./Syn. Ref.: Michael 561 (356); 564 (46); Willmann 829 (140); Grandjean 232 (70); Baker and Wharton 36 (409); Hammen 338 (62); Gilyarov 207 (173); Subias 755 (133).
Distribution: *USA*: Schweizer 691 (277); Travé 775 (213); Vanek 783 (294); Hammer 365 (70) [Q.I.]; Alaska - Hammer 354 (15); Behan 73 (391); MacLean et al. 534 (562); Calif. - Price 665 (130); Ill. - Ewing 172 (373); Mich. - Wallwork 788 (172); Minn. - Freeman 200 (122); N.Y. - Reeves 672 (284); 673 (27); Norton and MacNamara 615 (91); Oreg. - Ewing 180 (86); Tenn. - Crossley and Bohnsack l42 (631); Va. - Sengbusch 719 (131).
Canada: Schweizer 691 (277); Travé 775 (213); MacLean et al. 534 (562); Alta. - Powell and Skaley 662 (20); Man. - Hammer 350 (40); Oswald and Minty 620 (82); N.B. - Pielou and Verma 658 (1190); Nfld. - Behan 73 (391); N.W.T. Hammer 350 (40); Behan 73 (391); Ont. - Marshall 549 (422); Que. - Pielou and Matthewman 657 (1311); Behan 72 (41); 73 (391); Behan et al. 76 (263); Y.T. Behan 73 (391).
Palearctic: Michael 561 (356); 563 (417); Berlese 84 (7); Ewing 172 (373); André 8 (243); Willmann 829 (140); Jorgensen 472 (8); Grandjean 232 (70); Weis-Fogh 817 (204); Hammen 338 (62); MacFadyen 533 (109); Schweizer 691 (277, 279); Haarlov 326 (34); Schweizer 692 (tab. 9 no. 356, no. 358); Haarlov 327 (145); Sellnick 709 (124); Travé 775 (213); Rajski 668 (21); Aoki 10 (179); Vanek 783 (294); Dalenius 144 (108). Moritz 571 (155); Travé 777 (23l); Byzova 124 (292); 125 (185); Berthet and Gerard 109 (217); Block 110 (245); Lebrun 506 (49); Moritz 572 (69); Lions 519 (507);

520 (440); Seyd 729 (141); Lebrun 508 (187); Aoki 17 (124); Hammer 365 (70); Aoki 18 (414); Bernini 96 (423); 98 (394); Hammer 370 (416); Molodova and Golosova 570 (426); Aoki 22 (64); Grishina 323 (82); Kurcheva 504 (95); Rubcova 681 (386); Gilyarov 207 (173); Luxton 532 (186); Usher 781 (356); 782 (366); Lions 523 (171); Solhoy 744 (l9); Hammer 373 (28); Niedbala 604 (62); Subias 755 (133); MacLean et al. 534 (562); Danks 971 (401).

Description: *Adult*: Hermann 389 (95); Michael 560 (195); 561 (356) fig.; 564 (46); Berlese 84 (7); Ewing 169 (369); Berlese 87 (230) fig.; Willmann 829 (140) fig.; Grandjean 217 (31) chaet.; 230 (14) chaet., fig. app.; 247 (51) chaet.; 251 (13) chaet.; 265 (214) chaet.; Baker and Wharton 36 (409) fig.; Hammer 350 (40) fig.; 354 (15) fig.; Grandjean 287 (111); Schweizer 691 (277, 279) fig.; Vanek 783 (294) fig.; Aoki 17 (124) fig. app.; Woolley 887 (2l7) fig.; Grandjean 318 (860) fig.; Balogh 42 (pl. 24 fig. 12); Aoki 22 (64) fig.; Gilyarov 207 (173) fig.; Wallwork 950 (340) photo.

Nymph: Michael 560 (195) fig.; 561 (356) fig.

Tritonymph: Grandjean 230 (14) fig. app.

Deutonymph: Grandjean 230 (14) fig. app.

Larva: Grandjean 287 (111) fig.

Prelarva: Grandjean 287 (111) fig.

Key: Michael 564 (46); Ewing 169 (369); Willmann 829 (140); 833 (152); Sellnick 705 (124). Gilyarov 207 (173).

Add. References: Michael 561 (356); 564 (46); Willmann 829 (140); Hammen 338 (62); Lebrun 511 (202); Sengbusch and Sengbusch 723 (210); Luxton 531 (462); Hammen 344 (14, 26).

Morphology: Woolley 887 (217).

Biology: Lebrun 511 (202); Sengbusch and Sengbusch 723 (210); Luxton 988 (339).

Food: Hartenstein 376 (203); Luxton 531 (462); Wallwork 950 (340); Behan and Hill 75 (498).

Miscellaneous: Grandjean 318 (860) anat.; Lasebikan et al. 984 (52) extract.

Ecology: Ewing 172 (373); 180 (86); Willmann 829 (140); Grandjean 232 (70); WeisFogh 817 (204); Freeman 200 (122); Hammen 338 (62); Hammer 350 (40); MacFadyen 533 (109); Hammer 354 (15); Grandjean 287 (111); Schweizer 691 (277, 279); Haarlov 326 (34); Schweizer 692 (tab. 9 no. 356, no. 358); Sengbusch 719 (131); Wallwork 788 (172); Crossley and Bohnsack 142 (631); Haarlov 327 (145); Sellnick 709 (124); Travé 775 (213); Rajski 668 (21); Aoki 10 (179); Dalenius 144 (108); Moritz 571 (155); Travé 777 (23l); Byzova 124 (292); 125 (185); Berthet and Gerard 109 (217); Block 110 (245); Lebrun 506 (49); Moritz 572 (69); Lions 519 (507); 520 (440); Pielou and Matthewman 657 (1311); Seyd 729 (141); Lebrun 508 (187); Reeves 672 (284); Pielou and Verma 658 (1190); Hammer 365 (70); Reeves 673 (27); Bernini 96 (423); Oswald and Minty 620 (82); Rajski 669 (240); Bernini 98 (394); Behan 72 (41); Hammer 370 (416); Molodova and Golosova 570 (426); Aoki 22 (64); Grishina 323 (82); Kurcheva 504 (95); Price 665 (130); Rubcova 681 (386); Luxton 532 (186); Powell and Skaley 662 (20); Usher 781 (356); 782 (366); Lions 523 (171); Solhoy 744 (19); Wallwork 950 (340); Hammer 373 (28); Niedbala 604 (62); Subias 755 (133); Behan 73 (39l); Behan et al. 76 (263); MacLean et al. 534 (562); Thomas 1024 (356); Danks 971 (401).

Remarks: Hammer (354, p.16) indicated that her 1952 material from Northern *Canada* comprised two species: *Ceratoppia bipilis* and *C. quadridentata* (Haller, 1882).

Ceratoppia bipilis spinipes (Banks, 1906)

Type: MCZ
Comb./Syn.: *Oppia spinipes* Banks, 1906 (56, p. 496)
Ceratoppia bipilis spinipes (Banks, 1906) (447, p. 546)
Notaspis spinipes (Banks, 1906) (169, p. 368)
Oppia canadensis Banks, 1906 (56, p. 497): (447, p 546) **Type:** Unknown
Notaspis canadensis (Banks, 1906) (169, p 384)
Oppia montana Banks, 1906 (56, p 497) (447, p 547). **Type:** MCZ *Notaspis montana* (Banks, 1906) (63, p. 97)
Ceratoppia bipilis brevicuspis Jacot, 1934 (439, p. 260): (447, p. 546). **Type:** USNM (Cotypes)
Distribution: *USA*: Conn. - Jacot 439 (260); Fla. - Jacot 447 (546); Ill. - Ewing 169 (368, 369); Maine - Jacot 447 (546); Md. - Krull 1211 (522); N.H. - Banks 56 (497); 59 (16); Jacot 447 (546); N.Y. - Jacot 439 (260); Va. - Banks 56 (496); Jacot 439 (260); W. Va. - Jacot 439 (260).
Canada: Ont. - Banks 56 (497); Ewing 169 (384).
Description: *Adult*: Banks 56 (496, 497) fig.; Ewing 169 (368); Banks 63 (97) fig.; Jacot 439 (260); 447 (546).
Key: Ewing 169 (368).
Ecology: Ewing 169 (368, 369); Jacot 439 (260); Krull 1211 (522).
Remarks: *Ceratoppia bipilis* (Hermann, 1804) is a highly variable species as presently conceived. We tentatively follow Jacot's (447, p. 546-547) proposed synonymy of Bank's several species, but they need re-investigation.

Ceratoppia quadridentata (Haller, 1882)

Type: Unknown
Comb./Syn.: *Notaspis bipilis quadridentata* Haller, 1882 (335, p. 305)
Ceratoppia quadridentata (Haller, 1882) (232, p. 71)
Add. Comb./Syn. Ref.: Grandjean 232 (71); Aoki 17 (125).
Distribution: *USA*: Alaska - Bohnsack 114 (35); Aoki 17 (125); Bohnsack 115 (74).
Palearctic: Michael 564 (46); Schweizer 691 (278); 692 (tab. 9 no. 357); Kunst 503 (37); Sellnick 709 (124); Vanek 783 (295); Byzova 125 (185); Moritz 572 (69); Krivoluckij 495 (183); Aoki 17 (125); Bernini 96 (423); 98 (394); Grishina 323 (82); Rubcova 681 (186); Gilyarov 207 (173); Aoki 25 (146); Iturrondobeitia and Subias 982 (89).
Description: *Adult*: Haller 335 (305); Schweizer 691 (278) fig.; Vanek 783 (295); Aoki 17 (l25) fig.; Gilyarov 207 (173) fig.
Key: Willmann 833 (152); Sellnick 709 (124); Gilyarov 207 (173).

Add. References: Aoki 17 (125); Luxton 531 (462); Bohnsack 115 (74).
Food: Luxton 531 (462); Nannelli 996 (305).
Ecology: Michael 564 (46); Schweizer 691 (278); 692 (tab. 9 no. 357); Kunst 503 (37); Sellnick 709 (124); Vanek 783 (295); Byzova 125 (185); Moritz 572 (69); Krivoluckij 495 (183); Bohnsack 114 (35); Bernini 96 (423); 98 (394); Bohnsack 115 (74); Grishina 323 (82); Rubcova 681 (186); Aoki 25 (146); Iturrondobeitia and Subias 982 (89).

Ceratoppia quadridentata arctica Hammer, 1955

Type: USNM
Comb./Syn.: *Ceratoppia quadridentata arctica* Hammer, 1955 (354, p. 15)
Distribution: *USA*: Alaska - Hammer 354 (15); 362 (17); Behan 73 (391); MacLean et al. 534 (562).
Canada: MacLean et al. 534 (562); Alta. - Powell and Skaley 662 (20); N.W.T.- Hammer 354 (15); Behan 73 (391); Que. - Behan 73 (391); Y.T. - Behan 73 (391).
Palearctic: Behan 73 (391); MacLean et al. 534 (562).
Description: *Adult*: Hammer 354 (15) fig.
Ecology: Powell and Skaley 662 (20); Behan 73 (391); MacLean et al. 534 (562); Behan 961 (724).
Remarks: Although this subspecies is separated here, *Ceratoppia quadridentata* contains a number of geographical forms that are difficult to separate (17, p. 126).

Ceratoppia sexpilosa Willmann, 1938

Type: WHPC
Comb./Syn.: *Ceratoppia sexpilosa* Willmann, 1938 (833, p.151)
Distribution: *USA*: Alaska - Hammer 362 (17); Behan 3 (391); MacLean et al. 534 (562).
Palearctic: Kunst 503 (37); Sellnick 709 (124); Hammer 362 (17); Molodova and Golosova 570 (426); Aoki 21 (249); Gilyarov 207 (171); Behan 73 (391); MacLean et al. 534 (562); Danks 971 (401).
Description: *Adult*: Willmann 833 (151); Hammer 362 (17) fig.; Gilyarov 207 (171) fig. **Taxonomy:** Balogh 37 (57).
Key: Willmann 833 (152); Sellnick 709 (124).
Add. References: Luxton 531 (462).
Food: Luxton 531 (462).
Ecology: Kunst 503 (37); Sellnick 709 (124); Hammer 362 (17); Molodova and Golosova 570 (426); Aoki 21 (249); Wallwork 950 (329); Behan 73 (391); MacLean et al. 534 (562); Danks 971 (401).

Ceratoppia sphaerica (L. Koch, 1879)

Type: Unknown
Comb./Syn.: *Oppia sphaerica* L. Koch, 1879 (487, p. 117)
Ceratoppia sphaerica (L. Koch, 1879) (232, p. 71)
Ceratoppia bipilis sphaerica (L. Koch, 1879) (348, p. 42)

Eremaeus bipilis sphaerica (L. Koch, 1879) (502, p. 351)
Notaspis bipilis sphaerica (L. Koch, 1879) (770, p. 24)
Distribution: *USA*: Alaska - Hammer 354 (16); 363 (19, 27); Bohnsack 114 (35); 115 (74); Behan 73 (391); MacLean et al. 534 (562).
Canada: Hammer 354 (16); N.W.T. - Behan 73 (391).
Nearctic: Hammer 348 (42); 349 (16); 354 (16); 363 (19, 27); Gilyarov 207 (173) [!]; MacLean et al. 534 (562).
Palearctic: Kulczynski 502 (351); Hammer 348 (42); 349 (16); 354 (16); 363 (19, 27); Zlotin and Krivoluckij 906 (256); Gilyarov 207 (173) [!]; Behan 73 (391); MacLean et al. 534 (562); Danks 971 (401).
Description: *Adult*: Koch 487 (117) fig.; Kulczynski 502 (351); Trägårdh 770 (24) fig.; 772 (9) fig.; Hammer 348 (42); 354 (16) fig.; Gilyarov 207 (173) [!] fig.
Taxonomy: Grandjean 232 (71).
Key: Gilyarov 207 (173) [!].
Add. References: Hammer 349 (16); Bohnsack 115 (74).
Food: Behan and Hill 75 (500).
Ecology: Hammer 348 (42); 349 (16); 354 (16); 363 (19, 27); Bohnsack 114 (35); Zlotin and Krivoluckij 906 (256); Behan 73 (391); MacLean et al. 534 (562); Danks 971 (401).

***Ceratoppia* sp.**

Distribution: *USA*: Alaska - Behan 73 (392); Danks 971 (401).
Canada: Alta. - Powell and Skaley 662 (20); Man. - Oswald and Minty 620 (82).

***Metapyroppia* Woolley, 1969**

Metapyroppia Woolley, 1969
Type-species: *Metapyroppia doratosa* Woolley, 1969 (879, p. 137).

Metapyroppia doratosa Woolley, 1969

Type: FMNH
Comb./Syn.: *Metapyroppia doratosa* Woolley, 1969 (879, p. 137)
Distribution: *USA*: Tenn. - Woolley 879 (137).
Description: *Adult*: Woolley 879 (137) fig.
Ecology: Woolley 879 (137).

***Metrioppia* Grandjean, 1931**

Metrioppia Grandjean, 1931

Type-species: *Metrioppia helvetica* Grandjean, 1931 (213, p. 131).

Peloppia Sellnick, 1931
Type-species: *Peloppia serrata* Sellnick 1931 (703, p. 185: 42, p. 179).

***Metrioppia atlantica* Jacot, 1938**

Type: USNM (Cotypes)
Comb./Syn.: *Metrioppia serrata atlantica* Jacot, 1938 (456, p. 13)
Metrioppia atlantica Jacot, 1938 (469, p. 57)
Distribution: *USA*: N.C. - Jacot 456 (13).
Description: *Adult*: Jacot 456 (13).
Ecology: Jacot 456 (13).

***Metrioppia helvetica* Grandjean, 1931**

Type: Not designated
Comb./Syn.: *Metrioppia helvetica* Grandjean, 1931 (213, p. 131)
Ceratoppia microseta Hammer, 1952 (350, p. 41): (354, p. 14). **Type:** Unknown (see remarks)
Distribution: *USA*: Alaska - Hammer 354 (14); Behan 73 (392); McLean et al. 534 (562); Tenn. - Crossley and Bohnsack 142 (631).
Canada: Hammer 354 (14); Gilyarov 207 (173); McLean et al. 534 (562); N.W.T. - Hammer 350 (41); Y.T. - Behan 73 (392).
Palearctic: Grandjean 213 (131); Hammer 354 (14); Sellnick 709 (125); Gilyarov 207 (171); 207 (173); Behan 73 (392); McLean et al. 534 (562).
Description: *Adult*: Grandjean 213 (131) fig.; Hammer 350 (41) fig.; Gilyarov 207 (171, 173) fig.
Larva: Hammer 350 (41) fig. app.
Key: Sellnick 709 (125); Gilyarov 207 (171, 173).
Add. References: Hammen 344 (24). .
Ecology: Grandjean 213 (131); Hammer 350 (41); 354 (14); Crossley and Bohnsack 142 (631); Sellnick 709 (125); Behan 73 (392); McLean et al. 534 (562); Danks 971 (401).
Remarks: Although most of Hammer's (350) material of new oribatid species from arctic *Canada* was deposited in the CNC, specimens of *Ceratoppia microseta* Hammer 1952 were not included (pers. comm. with E.E. Lindquist, 1977; V. Behan-Pelletier, 1985).

***Metrioppia oregonensis* Woolley and Higgins, 1969**

Type: USNM; Paratypes: FMNH
Comb./Syn.: *Metrioppia oregonensis* Woolley and Higgins, 1969 (899, p. 580)
Distribution: *USA*: Oreg. - Woolley and Higgins 899 (580). **Description:** *Adult*: Woolley and Higgins 899 (580) fig.

Ecology: Woolley and Higgins 899 (580).

Metrioppia serrata (Sellnick, 1931)

Type: Destroyed
Comb./Syn.: *Peloppia serrata* Sellnick, 1931 (703, p. 185)
Metrioppia serrata (Sellnick, 1931) (456, p. 13)
Distribution: *USA*: Va. - Sengbusch 719 (131).
Mexico: Sellnick 703 (185).
Description: *Adult*: Sellnick 703 (185) fig.
Ecology: Sengbusch 719 (131).
Remarks: We consider the *USA* record doubtful.

Metrioppia sp.

Distribution: *USA*: Calif. - Walter and Norton 1179 (tab. 1).

Paenoppia Woolley and Higgins, 1965

Paenoppia Woolley and Higgins, 1965
Type-species: *Paenoppia forficula* Woolley and Higgins, 1965 (891, p. 59).

Paenoppia forficula Woolley and Higgins, 1965

Type: USNM; Paratypes: FMNH
Comb./Syn.: *Paenoppia forficula* Woolley and Higgins 1965 (891, p. 59)
Distribution: *USA*: Colo. - Woolley and Higgins 891 (59). **Description:** *Adult*: Woolley and Higgins 891 (59) fig.; Balogh 42 (pl. 25 fig. 7-8).
Ecology: Woolley and Higgins 891 (59).

Parapyroppia Pérez-Inigo and Subias, 1979

Parapyroppia Pérez-Inigo and Subias, 1979
Type-species: *Parapyroppia monodactyla* Pérez-Inigo and Subias 1979 (939, p. 303).

Parapyroppia lamellata (Ewing, 1909) new comb.

Syntypes: USNM
Comb./Syn.: *Notaspis lamellata* Ewing, 1909 (170, p. 127)
Distribution: *USA*: Mo. - Ewing 170 (127).
Description: *Adult*: Ewing 170 (127) fig.
Key: Ewing 170 (127).

Ecology: Ewing 170 (127).

Pyroppia Hammer, 1955

Pyroppia Hammer, l955
Type-species: *Pyroppia lanceolata* Hammer, 1955 (354, p. 14).

Pyroppia dentata Krivoluckij, 1974

Type: Unknown
Comb./Syn.: *Pyroppia dentata* Krivoluckij, 1974 (501, p. 1171)
Distribution: *USA*: Alaska - Behan 73 (392).
Palearctic: Krivoluckij 501 (1171); Gilyarov 207 (173). **Description:** *Adult*: Krivoluckij 501 (1171) fig.; Gilyarov 207 (173) fig.
Key: Gilyarov 207 (173).
Ecology: Behan 73 (392).

Pyroppia lanceolata Hammer, 1955

Type: USNM; Paratype: BM(NH)
Comb./Syn.: *Pyroppia lanceolata* Hammer, 1955 (354, p. 14) **Distribution:** *USA*: Alaska - Hammer 354 (14); Bohnsack 114 (35); 115 (74); Gilyarov 207 (174); Behan 73 (392); MacLean et al. 534 (562).
Palearctic: Gilyarov 207 (174); Behan 73 (392); MacLean et al. 534 (562); Danks 971 (401).
Description: *Adult*: Hammer 354 (14) fig.; Woolley 887 (218) fig.; Balogh 42 (pl. 25 fig. 13); Gilyarov 207 (174) fig.
Key: Gilyarov 207 (174).
Food: Behan and Hill 75 (500).
Ecology: Hammer 354 (14); Bohnsack 114 (35); 115 (74); Behan 73 (392); MacLean et al. 534 (562); Danks 971 (401).

Pyroppia serrifrons (Banks, 1923) new comb.

Type: USNM; Paratype: MCZ
Comb./Syn.: *Notaspis serrifrons* Banks, 1923 (65, p. 237) **Distribution:** *USA*: Alaska - Banks 65 (237).
Description: *Adult*: Banks 65 (237) fig.

Pyroppia sp.

Distribution: *Canada*: Que. - Behan 72 (41); 73 (263).
Morphology: Woodring 1111 (423).

GUSTAVIIDAE Oudemans, 1900

***Gustavia* Kramer, 1879**

Gustavia Kramer, 1879
Type-species: *Leiosoma microcephala* Nicolet, 1855 (=*Gustavia sol* Kramer, 1879) (1210, p. 16; 829, p. l57; 3, p. 418).

Serrarius Michael, 1883
Type-species: *Leiosoma microcephalus* Nicolet, 1855 (561, p. 272: 829, p. 157).

Neozetes Berlese, 1885
Type-species: *Neozetes bicornis* Berlese, 1885 (77, Vol. 20 (7): 564, p. 26).

***Gustavia connexus* (Berlese, 1916)** new comb.

Type: SEA

Comb./Syn.: *Serrarius connexus* Berlese, 1916 (92, p. 326)

Distribution: *USA*: Mo. - Berlese 92 (326).

Description: *Adult*: Berlese 92 (326).

Ecology: Berlese 92 (326).

***Gustavia parvula* (Banks, 1909)** new comb.

Type: MCZ

Comb./Syn.: *Liacarus parvulus* Banks, 1909 (60, p. 139)

Distribution: *USA*: Minn. - Freeman 200 (113).

Canada: Ont. - Banks 60 (139).

Description: *Adult*: Banks 60 (139) fig.

Ecology: Banks 60 (139); Freeman 200 (113).

***Gustavia* sp.**

Distribution: *USA*: Minn. - Wagner et al. 786 (14); N.Y. - Norton and MacNamara 615 (91).

Canada: Man. - Oswald and Minty 620 (81); 621 (75).

KODIAKELLIDAE HAMMER, 1967

Remarks: When first proposed, Hammer (362, p. 20) did not mention superfamilial affinities of Kodiakellidae. Balogh (42, p. 164) placed it in the Cymbaeremaeoidea and Pérez-Inigo and Subias (654, p. 103) proposed relationships with Cepheoidea or Eremaeoidea, but studies of immatures (RAN unpub.) indicate that its closest relatives seem to be in the Gustavioidea [=Liacaroidea].

Kodiakella Hammer, 1967

Kodiakella Hammer, 1967

Type-species: *Kodiakella lutea* Hammer, 1967 (362, p. 20).

Kodiakella lutea Hammer, 1967

Type: USNM

Comb./Syn.: *Kodiakella lutea* Hammer, 1967 (362, p. 20) **Distribution:** *USA*: Alaska - Hammer 362 (20).

Description: *Adult*: Hammer 362 (20) fig.

Ecology: Hammer 362 (20).

CARABODOIDEA C.L. Koch, 1837

CARABODIDAE C.L. KOCH, 1837

Austrocarabodes Hammer, 1966

Austrocarabodes Hammer, 1966

Type-species: *Carabodes ensifer* Hammer, 1966 (361, p. 59).

Austrocarabodes sp.

Distribution: *USA* Tex. - Norton (RAN unpub.).

Carabodes C.L. Koch, 1835

Carabodes C.L. Koch, 1835

Type-species: *Carabodes coriaceus* C.L. Koch, 1835 (485, Vol. 3 (l5)).

Neocepheus Willmann, 1936

Type-species: *Neocepheus hummelincki* Willmann, 1936 (1109, p. 434: 42, p. 179).

Carabodes areolatus Berlese, 1916

Type: SEA

Comb./Syn.: *Carabodes areolatus* Berlese 1916 (92, p. 331)

Distribution: *USA*: Hammer 365 (69) [Q.I.]; N.Y. - Sengbusch 717 (158); Hartenstein 376 (203); Reeves 672 (284); Tenn. - Crossley and Bohnsack 142 (631); Va. - Sengbusch 719 (131).

Canada: Man. - Pielou and Verma 658 (1190); N.B. - Pielou and Verma 658 (1190); Ont. - Pielou and Verma 658 (1190); Que. - Pielou 656 (1237); Pielou and Matthewman 657 (1311); Matthewman and Pielou 552 (802); Behan 72 (41).

Nearctic: Schweizer 691 (293); Rajski 669 (235).

Palearctic: Berlese 92 (331); Willmann 829 (149); 835 (230); Sellnick and Forsslund 715 (378); Schweizer 691 (293); 692 (tab. 9 no. 381); Märkel 543 (479); Kunst 503 (37); Sellnick 709 (95); Rajski 668 (21); Dalenius 145 (5); Travé 777 (231); Hammer 365 (69); Bernini 96 (403); Rajski 669 (235); Bernini 98 (394); Kurcheva 504 (95); Rubcova 681 (386); Gilyarov 207 (187); Lions 523 (171); Niedbala 604 (61); Wauthy 808 (149).

Description: *Adult*: Berlese 92 (331); Willmann 829 (149) fig.; 835 (230); Sengbusch 717 (158) fig.; Sellnick and Forsslund 715 (378) fig.; Schweizer 691 (293) fig.; Bernini 96 (403) photo.; Gilyarov 207 (187) fig.

Key: Willmann 829 (149); Sellnick 709 (95); Gilyarov 207 (187).

Add. References: Luxton 531 (463).

Food: Hartenstein 376 (203); Luxton 531 (463).

Ecology: Berlese 92 (331); Willmann 829 (149); Sengbusch 717 (158); Sellnick and Forsslund 715 (378); Schweizer 691 (293); 692 (tab. 9 no. 381); Sengbusch 719 (131); Märkel 543 (479); Kunst 503 (37); Crossley and Bohnsack 142 (631); Sellnick 709 (95); Rajski 668 (21); Dalenius 145 (5); Travé 777 (231); Pielou 656 (1237); Pielou and Matthewman 657 (1311); Reeves 672 (284); Pielou and Verma 658 (1190); Hammer 365 (69); Bernini 96 (403); Rajski 669 (235); Bernini 98 (394); Matthewman and Pielou 552 (802); Behan 72 (41); Kurcheva 504 (95); Rubcova 681 (386); Lions 523 (171); Niedbala 604 (61); Wauthy 808 (149).

Carabodes brevis Banks, 1896

Type: MCZ

Comb./Syn.: *Carabodes brevis* Banks, 1896 (48, p. 77)

Distribution: *USA*: N.Y. - Banks 48 (77); Michael 564 (37); Ewing 169 (385).

Description: *Adult*: Banks 48 (77); Michael 564 (37); Banks 52 (72) fig.; 63 (100) fig.; Norton 611 (614) fig.

Key: Michael 564 (37).

Ecology: Banks 48 (77); Michael 564 (37); Ewing 169 (385).

Carabodes clavatus Jacot, 1938

Type: USNM (Cotypes)
Comb./Syn.: *Carabodes gibbiceps clavata* Jacot, 1938 (456, p. 13)
Carabodes clavata Jacot, 1938 (469, p. 54)
Distribution: *USA*: N.C. - Jacot 456 (13).
Description: *Adult*: Jacot 456 (13).
Ecology: Jacot 456 (13).

Carabodes coriaceus C.L. Koch, 1835

Type: Unknown
Comb./Syn.: *Carabodes coriaceus* C.L. Koch, 1835 (485, Vol. 3, (15))
Tegeocranus coriaceus (C.L. Koch, 1835) (560, p. 199)
Add. Comb./Syn. Ref.: Michael 564 (37); Willmann 829 (148); Hammen 338 (74).
Distribution: *USA*: Va. - Sengbusch 719 (131).
Palearctic: Koch 485 (Vol. 3 (15)); Michael 561 (316); 563 (417); 564 (37); Willmann 829 (148). Harnrnen 338 (74); Sellnick and Forsslund 715 (381); Kunst 503 (37); Sellnick 709 (96); Rajski 668 (21); Moritz 571 (155); Travé 777 (231); Berthet 107 (90). Lebrun 506 (27); 507 (103); Moritz 572 (69); Vanek 784 (255); Rajski 669 (234); Hammer 370 (423); Gilyarov 207 (186); Luxton 532 (181); Subias 755 (141).
Description: *Adult*: Michael 560 (199); 561 (316) fig.; 564 (37); Willmann 829 (148) fig.; Sellnick and Forsslund 715 (381) fig.; Gilyarov 207 (186) fig.
Nymph: Michael 560 (199) fig.; 561 (316) fig.
Taxonomy: Sellnick and Forsslund 715 (381).
Key: Michael 564 (37); Willmann 829 (148); Sellnick and Forsslund 715 (381); Sellnick 709 (96); Gilyarov 207 (186).
Add. References: Michael 564 (37); Willmann 829 (148); Hammen 338 (74); Luxton 531 (463); Subias 755 (141).
Food: Luxton 531 (463).
Miscellaneous: Purrini 1007 (305) parasit.
Ecology: Michael 561 (316). Willmann 829 (148); Hammen 338 (74); Sengbusch 719 (131); Kunst 503 (37); Sellnick 709 (96); Rajski 668 (21); Moritz 571 (155); Travé 777 (231); Berthet 107 (90);

Lebrun 506 (27); 507 (103); Moritz 572 (69); Vanek 784 (255); Rajski 669 (234); Hammer 370 (423); Luxton 532 (181); Subias 755 (141); Luxton 987 (311).

Carabodes falcatus Jacot, 1937

Type: USNM (Cotypes)
Comb./Syn.: *Carabodes falcatus* Jacot, 1937 (455, p. 365) **Distribution:** *USA*: N.C. - Jacot 455 (365).
Description: *Adult*: Jacot 455 (365) fig.
Ecology: Jacot 455 (365).

Carabodes floridus Berlese, 1913

Type: SEA
Comb./Syn.: *Carabodes floridus* Berlese, 1913 (88, p. 94)
Distribution: *USA*: Fla. - Berlese 88 (94); Mo. - Berlese 88 (94). **Description:** *Adult*: Berlese 88 (94) fig.
Ecology: Berlese 88 (94).

Carabodes gibbiceps Berlese, 1916

Type: SEA
Comb./Syn.: *Carabodes gibbiceps* Berlese, 1916 (92, p. 330)
Distribution: *USA*: Mo. - Berlese 92 (330).
Description: *Adult*: Berlese 92 (33).
Ecology: Berlese 92 (330).

Carabodes granulatus Banks, 1895

Syntype: MCZ
Comb./Syn.: *Carabodes granulatus* Banks, 1895 (47, p. 129)
Carabodes ono Jacot, 1937 (452, p. 241): (611, p. 615). **Type:** FMNH ("Paratypes"); USNM (Cotypes)
Distribution: *USA*: Ill. - Jacot 452 (241); Ky. - Jacot 452 (241); N.Y. - Banks 47 (129); Michael 564 (38); Ewing 169 (385); Norton and MacNamara 615 (91); N.C. - Jacot 452 (241); Norton 611 (614).
Description: *Adult*: Banks 47 (129); Michael 564 (38); Jacot 452 (241) fig.; Norton 611 (614) fig.
Key: Michael 564 (38).
Ecology: Banks 47 (129); Michael 564 (38); Ewing 169 (385); Jacot 452 (241); Norton 611 (614).
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Carabodes labyrinthicus (Michael, 1879)

Syntypes: BM(NH)
Comb./Syn.: *Tegeocranus labyrinthicus* Michael, 1879 (559, p. 249)
Cepheus heimi Oudemans, 1903 (630, p. 83; 631, p. 312): (338, p. 74). **Type:** RNH

Carabodes vermiculatus Berlese, 1916 (92, p. 330): (96, p. 403). **Type:** SEA
Add. Comb./Syn. Ref.: Michael 564 (38); Willmann 829 (149); Subias 755 (143).
Distribution: *USA*: Hammer 365 (69) [Q.I.]; Alaska - Hammer 354 (17); Marshall 548 (77); Rajski 669 (238); Behan 73 (392); MacLean et al. 534 (562); Va. - Sengbusch 102 (22).
Canada: MacLean et al. 534 (562); N.W.T. - Hammer 350 (42); Marshall 548 (77); Behan 73 (392); Que - Marshall 548 (77); Behan 72 (41); Behan et al. 76 (263); Y.T. - Behan 73 (392).
Nearctic: Willmann 835 (231); Hammer 348 (43); 349 (18); 350 (42); Schweizer 691 (294); Marshall 548 (77); Rajski 669 (238); MacLean et al. 534 (562).
Palearctic: Michael 560 (200); 561 (319); 564 (38); Oudemans 631 (312); Willmann 829 (149); 835 (231); Forsslund 192 (109); Hammer 348 (43); Forsslund 193 (353); Hammer 349 (18); Hammen 338 (74); Hammer 350 (42); Sellnick and Forsslund 715 (387); Schweizer 691 (294); 692 (tab. 9 no. 383); Märkel 543 (479); Kunst 503 (37); Sellnick 709 (96); Travé 775 (213); Rajski 668 (21); Tarras-Wahlberg 765 (29); Dalenius 144 (108); Vanek 783 (295); Dalenius 145 (5); Moritz 571 (155); Travé 777 (231); Berthet 107 (90); Lebrun 506 (52); 507 (103); Madge 538 (122); Moritz 572 (69); Vanek 784 (255); Fager 181 (140); Marshall 548 (77); Hammer 365 (69); Pérez-Inigo 651 (149); Rajski 669 (238); Bernini 98 (394); Hammer 370 (416); Molodova and Golosova 570 (427); Kurcheva 504 (96); Rubcova 681 (386); André 4 (9); Gilyarov 207 (187) [!]; Luxton 532 (181); Niedbala 604 (61); Subias 755 (143); Krantz 490 (460); MacLean et al. 534 (562); Danks 971 (401).
Description: *Adult*: Michael 559 (249) fig.; 560 (200); 561 (319) fig.; 564 (38); Oudemans 631 (312) fig.; Willmann 829 (149) fig.; Grandjean 251 (21) chaet.; 265 (207) chaet.; Hammen 338 (74); Hammer 350 (42) fig.; Sellnick and Forsslund 715 (387) fig.; Schweizer 691 (294) fig.; Gilyarov 207 (187) [!] fig.
Nymph: Michael 560 (200) fig.; 561 (319) fig.
Tritonymph: Hammen 338 (74) fig.; André 4 (9) fig.
Deutonymph: André 4 (9) fig.
Protonymph: André 4 (9) fig.
Larva: André 4 (9) fig.
Key: Michael 564 (38); Willmann 829 (149); Sellnick and Forsslund 715 (387); Sellnick 709 (96); Gilyarov 207 (187) [!].
Add. References: Willmann 829 (149); Hammen 338 (74); Marshall 548 (77).
Biology: André 4 (9); Luxton 988 (315).
Food: Luxton 986 (107).
Miscellaneous: Lasebikan et al. 984 (54) extract.
Ecology: Michael 560 (200); 561 (319); 564 (38); Oudemans 631 (312); Willmann 829 (149); Forsslund 192 (109); Hammer 348 (43); Forsslund 193 (353); Hammer 349 (18); Hammen 338 (74); Hammer 350 (42); 354 (17); Schweizer 691 (294); 692 (tab. 9 no. 383); Märkel 543 (479); Kunst 503 (37); Sellnick 709 (96); Travé 775
(213); Rajski 668 (21); Tarras-Wahlberg 765 (29); Dalenius 144 (108); Vanek 783 (295); Dalenius 145 (5); Moritz 571 (155); Travé 777 (231); Berthet 107 (90); Lebrun 506 (52); 507 (103); Madge 538

(122); Moritz 572 (69); Vanek 784 (255); Fager 181 (140); Marshall 548 (77); Hammer 365 (69); Pérez-Inigo 651 (149); Rajski 669 (238). Bernini 98 (394); Behan 72 (41); Hammer 370 (416); Molodova and Golosova 570 (427); Kurcheva 504 (96); Rubcova 681 (386); Luxton 532 (181); Wallwork 950 (340); Niedbala 604 (61); Subias 755 (143); Behan 73 (392); Behan et al. 76 (263); Krantz 490 (460); MacLean et al. 534 (562); Sengbusch 1012 (22); Luxton 987 (311); Danks 971 (401).

Carabodes minusculus Berlese, 1923

Type: SEA
Comb./Syn.: *Carabodes minusculus* Berlese, 1923 (94, p. 257)
Carabodes labyrinthicus sensu Berlese (partim) unpublished data; non Michael, 1879 (96, p. 404)
Carabodes tectocephoides Berlese unpublished data (96, p. 404)
Carabodes castrii Mahunka, 1966 (541, p. 379): (96, p. 404).
Type: Unknown
Add. Comb./Syn. Ref.: Bernini 96 (405); 106 (3).
Distribution: *USA*: Hammer 365 (69) [Q.I.]; Va. - Sengbusch 719 (131).
Palearctic: Berlese 94 (257); Evans 160 (38); Schweizer 691 (295); Travé 774 (89); Schweizer 692 (tab. 9 no. 385); Sellnick 709 (97); Rajski 668 (21); Travé 777 (231); Block 110 (245); Lebrun 507 (103); Block 113 (31); Luxton 528 (524); Seyd 729 (141); Zheleva 905 (185); Seyd 730 (38); Hammer 365 (69); Bernini 96 (405); Rajski 669 (234); Bernini 98 (394); Rubcova 681 (386); Gilyarov 207 (187); Luxton 532 (181); Bernini 106 (3); Solhoy 744 (19); Krantz 490 (460).
Description: *Adult*: Berlese 94 (257); Schweizer 691 (295) fig.; Bernini 96 (405) fig., photo.; Gilyarov 207 (187) fig.; Bernini 106 (3) chaet., fig., photo.
Key: Sellnick 709 (97); Gilyarov 207 (187); Bernini 106 (3).
Add. References: Bernini 106 (3).
Biology: Luxton 988 (330).
Ecology: Evans 160 (38); Schweizer 691 (295); Travé 774 (89); Schweizer 692 (tab. 9 no. 385); Sengbusch 719 (131); Sellnick 709 (97); Rajski 668 (21); Travé 777 (231); Block 110 (245); Lebrun 507 (103); Block 113 (31); Luxton 528 (524); Seyd 729 (141); Zheleva 905 (185); Seyd 730 (38); Hammer 365 (69); Bernini 96 (405); Rajski 669 (234); Bernini 98 (394); Rubcova 681 (386); Luxton 532 (181); Bernini 106 (3); Solhoy 744 (19); Wallwork 950 (340); Krantz 490 (460).
Remarks: Bernini, 1976 (106, p. 39) showed that the species previously called *Carabodes minusculus* Berlese, 1923 is a species complex and he distinguished seven species: *C. minusculus* Berlese, 1923, *C. willmanni* Bernini, 1975, *C. poggii* Bernini, 1976, *C. shatzi* Bernini, 1976, *C. dissimilis* Bernini, 1976, *C. pulcher* Bernini, 1976, and *C. manganoi* Bernini, 1976. Two of these (*C. willmanni and C. minusculus*) have been reported from North America and are listed separately in this catalogue.

Carabodes niger Banks, 1895

Type: MCZ; Paratype: USNM
Comb./Syn.: *Carabodes niger* Banks, 1895 (45, p. 12)
Distribution: *USA*: N.Y. - Banks 45 (12); Michael 564 (39); Ewing 169 (385); Norton 611 (613); N.C. - Norton 611 (613); Ohio - Norton 611 (613); Va. - Sengbusch 719 (131).
Description: *Adult*: Banks 45 (12); Michael 564 (39); Norton 611 (613) chaet., fig.
Key: Michael 564 (39).
Ecology: Banks 45 (12); Michael 564 (39); Banks 52 (72); Ewing 169 (385); Banks 63 (99); Sengbusch 719 (131); Norton 611 (613).

Carabodes radiatus Berlese, 1916

Type: SEA
Comb./Syn.: Carabodes radiatus Berlese, 1916 (92, p. 328)
Distribution: *USA*: Mo. - Berlese 92 (328).
Description: *Adult*: Berlese 92 (328).
Ecology: Berlese 92 (328).

Carabodes rugosior Berlese, 1916

Type: Unknown
Comb./Syn.: *Carabodes femoralis rugosior* Berlese, 1916 (92, p. 327)
Carabodes rugosior Berlese, 1916 (615, p. 91)
Distribution: *USA*: N.Y. - Norton and MacNamara 615 (91).
Palearctic: Berlese 92 (327); Moritz 571 (155); Byzova 125 (185); Krivoluckij 495 (183); Gilyarov 207 (187).
Description: *Adult*: Berlese 92 (327); Sellnick and Forsslund 715 (386) fig.; Gilyarov 207 (187) fig.
Taxonomy: Grandjean 272 (262).
Key: Gilyarov 207 (187).
Ecology: Berlese 92 (327); Moritz 571 (155); Byzova 125 (185); Krivoluckij 495 (183).

Carabodes willmanni Bernini, 1975

Type: FBPC
Comb./Syn.: *Carabodes willmanni* Bernini, 1975 (104, p. 455)
Add. Comb./Syn. Ref.: Bernini 104 (455); 106 (21).
Distribution: *USA*: Bernini 106 (21); N.H. - Bernini 104 (455).
Palearctic: Willmann 829 (149) [mi.]; Hammen 338 (75) [mi.]; Sellnick and Forsslund 715 (388) [mi.]; Bernini 104 (455); 106 (21); Bellido 907 (419).
Description: *Adult*: Willmann 829 (149) [mi.] fig.; Sellnick and Forsslund 715 (388) [mi.] fig.; Pérez-Inigo 652 (282) [mi.] fig.; Bernini 104 (455) chaet., fig., photo.; l06 (21); Bellido 907 (419) fig.
Tritonymph: Bellido 907 (419) fig.

Deutonymph: Bellido 907 (419) fig.
Protonymph: Bellido 907 (419) fig.
Larva: Bellido 907 (419) fig.
Prelarva: Bellido 907 (419) fig.
Egg: Bellido 907 (419) fig.
Taxonomy: Strenzke 752 (124) [mi.]; Pérez-Inigo 653 (420) [mi.].
Key: Willmann 829 (149) [mi.]; Bernini 106 (21).
Add. References: Hammen 338 (75) [mi.].
Biology: Luxton 988 (337).
Ecology: Willmann 829 (149) [mi.]; Hammen 338 (75) [mi.]; Sellnick and Forsslund 715 (388) [mi.]; Bernini 104 (455); Bellido 962 (195).
Remarks: All misidentifications are sub *Carabodes minusculus*. See remarks under *Carabodes minusculus* Berlese, 1923.

***Carabodes* sp.**

Distribution: *USA*: N.Y. - Norton and MacNamara 615 (91); Tenn. - Crossley and Bohnsack 142 (631).
Canada: Alta. - Powell and Skaley 662 (20); Man. - Oswald and Minty 620 (80); 621 (74); Ont. - Marshall 549 (422); Que. - Marshall 548 (77); Behan 72 (41); Behan et al. 76 (263).

***Carabodes sp. nr. areolatus* Berlese, 1916**

Distribution: *USA*: N.Y. - Reeves 672 (284).
Canada: Ont. - Freitag and Ryder 201 (40); Que. - Behan 72 (41).

***Carabodes sp. cf. areolatus* Berlese, 1916**

Distribution: *Canada*: Que. - Behan et al. 76 (263).

***Cubabodes* Balogh and Mahunka, 1974**

Cubabodes Balogh and Mahunka, 1974
Type-species: Cubabodes hexagonalis Balogh and Mahunka, 1974 (see remarks).
Remarks: Balogh, J. and S. Mahunka. 1974. A foundation of the oribatid (Acari) fauna of Cuba. Acta zool. hung. 20: 1-25; p. 10.

*Cubabodes sp***.**

Distribution: *USA*: Fla. - Norton (RAN unpub.); Miss. - Norton (RAN unpub.).

Kalloia Mahunka, 1985

Kalloia Mahunka, 1985
Type-species: Kalloia simpliseta Mahunka, 198S (see remarks).
Remarks: Mahunka, S. 1985. Mites (Acarina) from St. Lucia (Antilles) 2. Oribatida. Acta zool. hung. 31: 119-178; p. 144.

Kalloi simpliseta Mahunka, 1985

Distribution: *USA*: Fla. - Norton (RAN unpub.).

Odontocepheus Berlese, 1913

Odontocepheus Berlese, 1913
Type-species: *Tegeocranus elongatus* Michael, 1879 (88, p. 95).

Odontocepheus oblongus (Banks, 1895)

Type: MCZ
Comb./Syn.: *Carabodes oblonga* Banks, 1895 (45, p. 12)
Odontocepheus oblonga (Banks, 1895) (469, p. 54)
Distribution: *USA*: N.Y. - Banks 45 (12); Ewing 169 (385); Norton and MacNamara 615 (91).
Description: *Adult*: Banks 45 (12).
Key: Banks 455 (12).
Ecology: Banks 45 (12); 52 (72); Ewing 169 (385); Banks 63 (99); Jacot 442 (427).
Remarks: This species was considered a synonym of *Odontocepheus elongatus* (Michael, 1879) (564, p. 37; 652, p. 290; 611, p. 613). Subsequent studies of type and topotype specimens show consistent differences between British and New York populations; the synonymy is rejected here.

OTOCEPHEIDAE BALOGH, 1961

Remarks: Travé (1026, p. 300) justified the placement of this family in the Carabodoidea.

Dolicheremaeus Jacot, 1938

Dolicheremaeus Jacot, 1938
Type-species: *Dolicherernaeus rubripedes* Jacot, 1938 (461, p. 51).
Tetracondyla Newell, l956
Type-species: *Tetracondyla pallida* Newell, 1956 (1086, p. 113: 42, p. 180). *Dicondyla* Aoki, 1965
Type-species: *Dicondyla aurita* Aoki, 1965 (1038, p. 175: 42, p. 178).

Dolicheremaeus longipilus (Higgins and Woolley, 1963) new comb.

Type: USNM (see remarks)
Comb./Syn.: *Autogneta longipilus* Higgins and Woolley,1963 (397, p.92)
Distribution: *USA*: N.C. - Higgins and Woolley 397 (92); Oreg. - Higgins and Woolley 397 (92); S.C. - Higgins and Woolley 397 (92).
Description: *Adult*: Higgins and Woolley 397 (92) fig.
Key: Higgins and Woolley 397 (92).
Ecology: Higgins and Woolley 397 (92).
Remarks: The holotype, which was once confirmed to be present in the USNM, has apparently been lost. The additional, non-type specimens mentioned in the original description are in the FMNH.

Dolicheremaeus rubripedes Jacot, 1938

Type: MCZ, USNM (Cotypes)
Comb./Syn.: *Dolicheremaeus rubripedes* Jacot, 1938 (461, p. 51)
Distribution: *USA*: Fla. - Jacot 461 (51).
Description: *Adult*: Jacot 461 (51) fig.
Ecology: Jacot 461 (51).

TECTOCEPHEOIDEA Grandjean, 1954 new status

TECTOCEPHEIDAE GRANDJEAN, 1954

Tectocepheus Berlese, 1896

Tectocepheus Berlese, 1896
Type-species: *Tegeocranus velatus* Michael, 1880 (77, Vol. 79 (10)).

Tectocepheus minor Berlese, 1903

Type: SEA
Comb./Syn.: *Tectocepheus minor* Berlese, 1903 (79, p. 252)
Tectocepheus velatus minor Berlese, 1903 (363, p. 10)
Distribution: *USA*: Va. - Sengbusch 719 (131).
Palearctic: Berlese 79 (252); Willmann 829 (142); Haarlov 326 (51); Travé 777 (231); Krivoluckij 495 (183); Bernini 101 (386); Rubcova 681 (386); Subias 755 (155).
Oriental: Mahunka 542 (361).
Australian: Hammer 363 (10); Spain and Luxton 947 (206); Bernini 101 (386); Hammer 371 (21).
Description: *Adult*: Berlese 79 (252); 89 (pl. 11 fig. 31); Hammer 363 (10) fig.; Bernini 101 (386) fig.

Key: Willmann 829 (142).
Add. References: Willmann 829 (142); Bernini 101 (386); Subias 755 (155).
Biology: Grandjean 243 (465).
Ecology: Berlese 79 (252); Willmann 829 (142); Haarlov 326 (51); Sengbusch 719 (131); Travé 777 (231); Krivoluckij 495 (183); Hammer 363 (10); Spain and Luxton 947 (206); Bernini 101 (386); Hammer 371 (21); Rubcova 681 (386); Mahunka 542 (361); Subias 755 (155).

Tectocepheus minor expansus Berlese, 1914

Type: SEA
Comb./Syn.: *Tectocepheus minor expansus* Berlese, 1914 (89, p. 132)
Tectocepheus velatus expansus Berlese, 1914 (455, p. 366)
Tectocepheus expansus Berlese, 1914 (649, p. 148)
Distribution: *USA*: Berlese 89 (132); Jacot 455 (366); N.C. - Pearse 649 (148).
Description: *Adult*: Berlese 89 (132) fig.; Jacot 455 (366).
Ecology: Pearse 649 (148).

Tectocepheus sarekensis Trägårdh, 1910

Type: Unknown
Comb./Syn.: *Tectocepheus velatus sarekensis* Trägårdh, 1910 (771, p. 567)
Tectocepheus sarekensis Trägårdh, 1910 (37, p. 61)
Tectocepheus velatus angulatus Mihelčič, 1957 (1150, p. 67): (652, p. 291). **Type:** Unknown
Tectocepheus velatus ibericus Mihelčič, 1957 (1150, p. 66): (652, p. 291). **Type:** Unknown
Tectocepheus velatus inflexus Mihelčič, 1957 (1150, p. 67): (652, p. 291). **Type:** Unknown
Distribution: *USA*: Alaska - Watson et al. 1180 (575); Danks 971 (401).
Palearctic: Willmann 829 (142); Dalenius 144 (108); 145 (5); Moritz 571 (158); Travé 777 (231); Murphy et al. 581 (187); Lebrun 507 (103); Moritz 572 (72); Subias 755 (153).
Australian: Hammer 363 (9). Spain and Luxton 947 (206).
Description: *Adult*: Tragårdh 771 (567) fig.; Willmann 829 (142) fig.; Murphy et al. 581 (187) fig.; Balogh 42 (pl. 28 fig. 8).
Taxonomy: Sellnick 700 (28); Balogh 37 (61); Knulle 1072 (281); Haarlov 326 (50); Pérez-Inigo 652 (291).
Key: Balogh 37 (61); Sellnick 709 (93).
Add. References: Subias 755 (153).
Biology: Murphy et al. 581 (187).
Ecology: Willmann 829 (142); Dalenius 144 (108); 145 (5); Moritz 571 (158); Travé 777 (231); Lebrun 507 (103); Moritz 572 (72); Hammer 363 (9); Spain and Luxton 947 (206); Jalil 468 (406); Zyromska-Rudzka 1033 (160); Mochnacka-Lawacz and Zyromska-Rudzka 995 (492); Subias 755 (153); Zyromska-Rudzka 1034 (108); Danks 971 (401).

Remarks: This species is widely distributed in North America (RAN unpub.), but the above Alaskan records are the only published ones.

Tectocepheus velatus (Michael, 1880)

Syntypes: BM(NH)
Comb./Syn.: *Tegeocranus velatus* Michael, 1880 (560, p. 190)
Scutovertex velatus (Michael, 1880) (626, p. 151)
Add. Comb./Syn. Ref.: André 7 (155); Willmann 829 (142); Sengbusch 717 (158); Hammen 338 (70).
Distribution: *USA*: Hammer 365 (69) [Q.I.]; Alaska - Hammer 354 (16); Behan 73 (392); MacLean et al. 534 (562); Calif. - Walter and Norton 1179 (tab. 1); Ill. Ewing 169 (370); 172 (373); Hammer 349 (17); Ky. - Wallwork and Rodriguez 806 (703); Ibarra et al. 412 (155); Mich. - Wallwork 788 (172); 789 (262); 790 (561); 792 (623); Minn. - Wagner et al. 786 (14); N.Y. - Sengbusch 717 (158); Abbatiello 1 (1); Reeves 673 (27); N.C. - Jacot 450 (370); N. M. - Wallwork et al . 1229 (169); Tenn. - Crossley and Bohnsack 142 (631); Va. - Sengbusch 719 (131).
Canada: MacLean et al. 534 (562); Alta. - Hammer 350 (41); B.C. - Marshall 550 (132); Man. - Hammer 350 (41); Oswald and Minty 620 (82); 621 (75); Nfld. Hammer 350 (41); Behan 73 (392); N.W.T. - Hammer 350 (41); Oliver 619 (179); Behan 73 (392); Ont. - Marshall 549 (422); Que. - Marshall 548 (77); Behan 72 (41); 73 (392); Behan et al. 76 (263); Smith 743 (tab. 20); Y.T. - Behan 73 (392).
Nearctic: Jorgensen 472 (8), Haarlov 324 (37); Willmann 835 (230); Hammer 348 (43); Forsslund 193 (352); Hammer 349 (17); 352 (411); 353 (18); Schweizer 691 (299); Travé 774 (90); Lions 520 (442); Aoki 18 (420); Rajski 669 (238); MacLean et al. 534 (562).
Palearctic: Michael 560 (190); 561 (313); 564 (35); Ewing 172 (373); André 7 (155); Willmann 829 (142); Jacot 455 (366); Haarlov 324 (37); Tuxen 779 (333); Willmann 835 (230); Forsslund 192 (98); Hammer 348 (43); Forsslund 193 (352); Hammer 349 (17); Weis-Fogh 817 (205); Hammen 338 (70); MacFadyen 533 (109); Schweizer 691 (299); Travé 774 (90); Haarlov 326 (49); Schweizer 692 (tab. 9 no. 395); Märkel 543 (479); Sellnick 707 (50); 709 (93); Rajski 668 (25); Tarras-Wahlberg 765 (31); Aoki 10 (179);
Dalenius 144 (108); Davis and Murphy 149 (5); Dalenius 145 (4);
Davis 148 (67); Märkel 544 (326); Moritz 571 (158); Travé 777 (231); Berthet 107 (62); Byzova 124 (292); 125 (185); Lebrun 505 (375); Märkel 545 (170); Murphy and Jalil 581 (187); Abd-el-hamid 2 (426); Berthet and Gerard 109 (217); Block 110 (245); Lebrun 506 (27); 507 (103); Moritz 572 (72); Vanek 784 (255); Block 112 (161); Krivoluckij 495 (183); Lions 5l9 (506); 520 (442); Luxton 528 (525); Seyd 729 (141); Tarman 763 (99); Wood 843 (116); Fager 181 (126); Aoki 17 (135); Hammer 365 (69); Zlotin and Krivoluckij 906 (255); Aoki 18 (420); Hammer 367 (99); Rajski 669 (238); Bernini 98 (394); Hammer 370 (417); Jalil 468 (406); Molodova and Golosova 570 (426); Grishina 323 (83); Rubcova 681 (386); Polderrnan 660 (360); Hammer 372 (189); Luxton 532 (191); Usher 781 (356); 782 (366); Aoki 25 (146); Lions 523 (172); Nakamura 582 (250); Solhoy 744 (19); Tarba and

Semenova 761 (132); Niedbala 604 (61); Behan 73 (392); MacLean et al. 534 (562); Aoki and Kuriki 958 (231); Danks 971 (401).
Australian: Aoki 16 (772); Hammer 366 (281); Spain and Luxton 947 (206); Hammer 369 (34); 371 (21).
Subantarctic: Travé 1025 (527).
Description: *Adult*: Michael 560 (190) fig.; 561 (313) fig.; 564 (35); Ewing 169 (370); Willmann 829 (142) fig.; Jacot 455 (366); Haarlov 324 (37) fig.; Sengbusch 717 (158) fig.; Haarlov 325 (424) fig.; Hammer 350 (41) fig.; Schweizer 691 (299) fig.; Grandjean 299 (226) chaet.; Murphy and Jalil 581 (187) fig.; Abd-el-hamid 2 (426) chaet., fig.; Gilyarov 207 (19) fig.; Tarba and Semenova 761 (132) photo.; Suzuki 1021 (51) chaet.
Nymph: Michael 560 (190) fig.; 561 (313) fig.
Tritonymph: Haarlov 326 (49) fig.
Key: Michael 564 (35); Ewing 169 (370); Willmann 829 (142); Sellnick 709 (93); Gilyarov 207 (190).
Add. References: Michael 564 (35); Ewing 169 (370); Willmann 829 (142); Jacot 455 (366); Hammer 349 (17); Sengbusch 717 (158); Hammen 338 (70); Abd-el-hamid 2 (426); Marshall 548 (77); Luxton 531 (462).
Biology: Grandjean 243 (465); Murphy and Jalil 581 (187); Lebrun 511 (202); Butcher et al. 123 (258); Mitchell 567 (67); Luxton 988 (313).
Food: Wallwork 789 (262); Woolley 863 (252); Luxton 531 (462); Behan and Hill 75 (498).
Miscellaneous: Tarba and Semenova 761 (132) cut.; Lasebikan et al. 984 (52) extract.
Ecology: Michael 560 (190); 561 (313); 564 (35); Ewing 169 (370); 172 (373); André 7 (155); Willmann 829 (142); Haarlov 324 (37); Tuxen 779 (333); Willmann 835 (230); Forsslund 192 (98); Hammer 348 (43); Forsslund 193 (352); Hammer 349 (17); Weis-Fogh 817 (205); Sengbusch 717 (158); Haarlov 325 (424); Hammen 338 (70). Hammer 350 (41); 352 (411); MacFadyen 533 (109); Hammer 353 (18); 354 (16), Schweizer 691 (299); Travé 774 (90); Haarlov 326 (49); Schweizer 692 (tab. 9 no. 395); Sengbusch 719 (131); Wallwork 788 (172); Märkel 543 (479); Kunst 503 (37); Wallwork 790 (561); Crossley and Bohnsack 142 (631); Eitminavichyute 155 (43); Haarlov 327 (130); Sellnick 709 (93); Wallwork 792 (623); Woolley 863 (252); Rajski 668 (25); Tarras-Wahlberg 765 (31); Wallwork and Rodriguez 806 (703); Aoki 10 (179); Dalenius 144 (108); Davis and Murphy 149 (5); Dalenius 145 (4); Davis 148 (67); Märkel 544 (326); Moritz 571 (158); Oliver 619 (179); Travé 777 (231); Berthet 107 (62); Byzova 124 (292); 125 (185); Lebrun 505 (375); Märkel 545 (170); Murphy and Jalil 581 (187); Berthet and Gerard 109 (217); Block 110 (245); Ibarra et al. 412 (155); Lebrun 506 (27); 507 (103); Moritz 572 (n); Vanek 784 (255); Abbatiello 1 (1); Aoki 16 (772); Block 112 (161); Hammer 360 (275); Krivoluckij 495 (183); Lions 519 (506); 520 (442); Luxton 528 (525); Seyd 729 (141); Tarrnan 763 (99); Wood 843 (116); Fager 181 (126); Marshall 548 (77); Harnrner 365 (69); Reeves 673 (27); Zlotin and Krivoluckij 906 (255); Aoki 18 (420); Bernini 96 (423); Hammer 367 (99); 366 (281); Oswald and Minty 620 (82); Rajski 669 (238); Bernini 98 (394); Oswald and Minty 621 (75); Spain and Luxton 947 (206); Behan 72 (41); Hammer 369 (34); 370 (417); Jalil 468 (406); Molodova and Golosova 570 (426); Hammer 371 (21); Grishina 323 (83); Rubcova 681 (386);

Polderman 660 (360); Gilyarov 207 (190); Hammer 372 (189); Luxton 532 (191); Usher 781 (356); 782 (366); Aoki 25 (146); Lions 523 (172); Nakamura 582 (250); Solhoy 744 (l9); Wallwork 950 (353); Hammer 373 (31); Niedbala 604 (61); Wagner et al. 786 (14); Behan 73 (392); Behan et al. 76 (263); MacLean et al. 534 (562); Smith 743 (tab. 20); Marshall 550 (132); Thomas 1024 (356); Aoki and Kuriki 958 (231); Smith et al. 1223 (60); Nannelli 997 (348); Danks 971 (401); Luxton 987 (311); 989 (366); 990 (395); Hågvar and Amundsen 1208 (12); Hågvar and Kjondal 1209 (411).

Tectocepheus sp.

Distribution: *Canada*: Alta. - Powell and Skaley 662 (20); Ont. - Freitag and Ryder 20l (41); Que. - Forest et al. 1051 (31).

Tectocepheus sp. nr. velatus (Michael, 1880)

Distribution: *USA*: N.Y. - Norton and MacNamara 615 (91).

Tegeocranellus Berlese, 1913

Tegeocranellus Berlese, 1913
Type-species: *Tegeocranus laevis* Berlese, 1905 (88, p. 93).

Tegeocranellus sp.

Distribution: *USA*: N.Y. - Norton (RAN unpub.).
Canada: N.S. - Behan-Pelletier (VBP unpub.).
Remarks: As Grandjean (1206, p. 100) has noted, the systematic relationships of this genus will be in doubt until the immature instars are described. Its closest relatives are probably not in the Tectocepheidae, although it has been provisionally placed here (42, p. 156).

OPPIOIDEA Grandjean, 1951

Remarks: Authorship of the family-group name Oppiidae is usually given to Grandjean, 1954 (277, p. 436). However, Grandjean, 1951 (271, p. 96) used the name in a way that satisfies the criteria of availability of the ICZN (1218, Articles 11 and 13).

OPPIIDAE GRANDJEAN, 1951

Aeroppia Balogh, 1965

Aeroppia Balogh, 1965 (see remarks)
Type-species: *Aeroppia peruensis* Hammer, 1961 (41, p. 60).

Remarks: Since Hammer, 1961 (357, p. 65) did not designate a type-species for this genus, the author is Balogh, 1965 (41, p. 60) until the ICZN is petitioned to recognize the original author (see 747, Article 13).

***Aeroppia floridana* (Banks, 1896)** new comb.

Type: MCZ; Paratype: USNM
Comb./Syn.: *Belba floridana* Banks, 1896 (48, p. 76)
Oribata floridana (Banks, 1896) (51, p. 146)
Damaeus floridanus (Banks, 1896) (169, p. 386)
Oribata consimilis Banks, l910 (61, p. 10) new syn. **Type:** MCZ
Oppia consimilis (Banks, 1910) (612, p. 604)
Distribution: *USA*: Fla. - Banks 48 (76); 51 (146); Ewing 169 (386); Va. - Banks 61 (10).
Description: *Adult*: Banks 48 (76); 61 (10) fig.
Remarks: Like some other described species of *Aeroppia*, including *A. magnipilosa* (Ewing 1909), this species is inconsistent with Balogh's (1118, p. 40) restricted concept of *Aeroppia* in that it has five pairs of genital setae rather than six.

***Aeroppia magnipilosa* (Ewing, 1909)** new comb.

Type: Not designated ("Autotype" in USNM; see remarks)
Comb./Syn.: *Damaeus magnipilosa* Ewing, 1909 (170, p. 130)
Lucoppia magnipilosus (Ewing, 1909) (927, p. 143)
Aeroppia columbiana Hammer, 1961 (357, p. 68) new syn.
Add. Comb./Syn. Ref.: Woolley 855 (147).
Distribution: *USA*: D.C. - Woolley 855 (147); Ill. - Ewing 170 (130); Miller 927 (143); Woolley 855 (147); Mo. - Woolley 855 (147); Ohio - Miller 927 (143).
Description: *Adult*: Ewing 170 (130) fig.; Miller 927 (143); Woolley 855 (147) fig.
Taxonomy: Coetzer 135 (28).
Key: Ewing 170 (130).
Ecology: Ewing 170 (130); Miller 927 (143); Woolley 855 (147).
Remarks: The "autotype" in the USNM is labelled "*Lucoppia magnipilosa*". It is from Des Moines, Iowa; the specimen figured by Woolley (855, p. 147) is from Columbia, Missouri. *Aeroppia columbiana* Hammer, 1961 was described and figured from a specimen in the Berlese collection (357, p. 68) and is also from Columbia, Missouri. Both Ewing and Berlese received specimens that were collected from Missouri by C.R. Crosby, and this is one of several instances where species were named twice. The "cotype" of *A. magnipilosa* corresponds most closely with Hammer's figure, as do topotype specimens examined by RAN. Like *Aeroppia floridana* (Banks, 1896), this species has five pairs of genital setae.

Amerioppia Balogh, 1965

Amerioppia Balogh, 1965 (see remarks)
Type-species: *Amerioppia rudentigera* Hammer, 1961 (41, p. 60).
Remarks: Since Hammer, 1961 (357, p. 54) did not designate a type-species for this genus, the author is Balogh, 1965 (41, p.60), until the ICZN is petitioned to recognize the original author (see 747, Article 13).

Amerioppia minuta (Ewing, 1917)

Type: USNM (see remarks)
Comb./Syn.: *Damaeus minutus* Ewing, 1917 (178, p. 164)
Amerioppia minuta (Ewing, 1917) (1118, p. 46)
Damaeosoma minuta (Ewing, 1917) (1211, p. 522)
Oppia minuta (Ewing, 1917) (857, p. 218); non Banks, 1895; nec Bulanova-Zachvatkina, 1964
Distribution: *USA*: Ill. - Ewing 178 (l64); Metz and Sharma 558 (200); Md. - Krull 1211 (522).
Description: *Adult* Ewing 178 (164) fig., Woolley 857 (218) fig.; Metz and Sharma 558 (200).
Ecology: Krull 1211 (522).
Remarks: Prior to its transfer to *Amerioppia, Oppia minuta* (Ewing, 1917) was a senior secondary homonym of *Oppia minuta* Bulanova-Zachvatkina, 1964. The type specimen is labeled "*Damaeosoma minuta*", even though originally assigned to *Damaeus*.

Brachioppiella Balogh, 1965

Brachioppiella Balogh, 1965 (see remarks)
Type-species: *Brachioppiella periculosa* Hammer, 1962 (41, p. 60).
Remarks: Since Hammer, 1962 (358, p.47) did not designate a type-species for this genus, the author is Balogh, 1965 (41, p.60) until the ICZN is petitioned to recognize the original author (see 747, Article 13).

cf. *Brachioppiella* sp.

Distribution: *USA*: Calif. - Ashley and Bohnsack 959 (618).

Cosmoppia Balogh, 1983

Cosmoppia Balogh, 1983
Type-species: *Eremaeus ornatus* Oudemans, 1900 (1118, p. 24).

Cosmoppia ornata (Oudemans, 1900)

Comb./Syn.: *Eremaeus ornatus* Oudemans, 1900 (626, p. I53)
Cosmoppia ornata (Oudemans, 1900) (1118, p. 24)
Dameosoma ornatum (Oudemans, 1900) (700, p. 34)
Oppia ornata (Oudemans, 1900) (829, p. 130)
Oppiella ornata (Oudemans, 1900) (727, p. 338)
Dameosoma tricarinatum Paoli, 1908 (648, p. 54): (338, p. 56). **Type:** SEA
Dameosoma splendens sensu Berlese, 1895 (77, Vol. 77 (10)); non C.L. Koch, 1841 (338, p. 56)
Add. Comb./Syn. Ref.: Sellnick 709 (116); Seniczak 727 (338); Subias 755 (179).
Distribution: *USA*: Sellnick 709 (116); Fla. - Paoli 648 (54).
Nearctic: Hammer 348 (42); Forsslund 193 (352); Hammer 349 (15); 352 (411); Strenzke 754 (38); Schweizer 691 (286); Sellnick 709 (116); Rajski 669 (236); Gilyarov 207 (220).
Palearctic: Paoli 648 (54); Willmann 829 (130); Tuxen 779 (333); Forsslund 192 (198); Hammer 348 (42); Forsslund 193 (352); Hammer 349 (15); Evans 160 (36); Hammen 338 (56); Strenzke 754 (38); Schweizer 691 (286); 692 (tab. 9 no. 368); Kunst 503 (36); Sellnick 709 (116); Travé 775 (213); Rajski 668 (23); Dalenius 144 (107); 145 (4); Märkel 544 (326); Moritz 571 (156); Travé 777 (231); Berthet 107 (40); Byzova 124 (293); 125 (185); Lebrun 505 (375); Märkel 545 (170); Berthet and Gerard 109 (217); Block 110 (245); Lebrun 505 (52); 507 (103); Moritz 572 (70); Krivoluckij 495 (184); Seyd 729 (141); Wood 843 (116); Bernini 96 (424); Rajski 669 (236); Bernini 98 (394); Hammer 370 (422); Seniczak 724 (183); Rubcova 681 (386); Gilyarov 207 (220); Luxton 532 (188); Lebrun 514 (422); Niedbala 604 (61); Subias 755 (179).
Description: *Adult*: Oudemans 626 (153) fig.; Paoli 648 (54) fig.; Willmann 829 (130) fig.; Schweizer 691 (286) fig.; Seniczak 724 (183) chaet., fig.; Gilyarov 207 (220) fig.
Tritonymph: Seniczak 724 (183) fig.
Deutonymph: Seniczak 724 (183) fig.
Protonymph: Seniczak 724 (183) fig.
Larva: Seniczak 724 (183) fig.
Key: Paoli 648 (54); Willmann 829 (130); Sellnick 709 (116); Gilyarov 207 (220).
Add. References: Willmann 829 (130); Hammer 349 (15); Hammen 338 (56); Subias 755 (179).
Biology: Luxton 988 (313).
Miscellaneous: Lasebikan et al. 984 (52) extract.
Ecology: Paoli 648 (54); Willmann 829 (130); Tuxen 779 (333); Forsslund 192 (198); Hammer 348 (42); Forsslund 193 (352); Hammer 349 (15); Evans 160 (36); Hammen 338 (56); Hammer 352 (411); Strenzke 754 (38); Schweizer 691 (286); 692 (tab. 9 no. 368); Kunst 503 (36); Sellnick 709 (116); Travé 775 (213); Rajski 668 (23); Dalenius 144 (107); 145 (4); Märkel 544 (326); Moritz 571 (156); Travé 777 (231). Berthet 107 (400); Byzova 124 (293); 125 (185); Lebrun 505 (375); Märkel 545 (170), Berthet and Gerard 109 (217); Block 110 (245); Lebrun 506 (52); 507 (103); Moritz 572 (70); Krivoluckij 495 (184); Seyd 729 (141); Wood 843 (116); Bernini 96 (424). Rajski 669 (236); Bernini 98 (394); Hammer 370 (422); Seniczak 724 (183); Rubcova 681 (386); Luxton 532 (188); Lebrun 514

(422); Wallwork 950 (349). Niedbala 604 (61); Subias 755 (179); Krantz 490 (459); Luxton 987 (311); 989 (366); 990 (398).

***Lanceoppia* Balogh, 1965**

Lanceoppia Balogh, 1965 (see remarks)
Type-species: *Lanceoppia hexapil* Hammer, 1962 (41, p. 60).

Remarks: Since Hammer 1962 (358, p. 42) did not designate a type-species for this genus, the author is Balogh, 1965 (41, p. 60) until the ICZN is petitioned to recognize the original author (see 747, Article 13). *Lancetoppia* Hammer, 1968 (364, p. 32) is an improper emendation of *Lanceoppia* Hammer, 1962. Furthermore, the former is unavailable because it has no type-species and cannot be regarded as a synonym of *Lanceoppia* Balogh, 1965 as proposed by Balogh, 1983 (1118, p. 38).

***Lanceoppia* spp.**

Distribution: *USA*: Hammer 365 (71) [Q.I.].
Canada: Hammer 365 (71).

***Machuella* Hammer, 1961**

Machuella Hammer, 1961
Type-species: *Machuella ventrisetosa* Hammer 1961 (357, p. 70).

***Machuella* sp.**

Distribution: *USA*: Ga. - Norton (RAN unpub.).

***Microppia* Balogh, 1983**

Microppia Balogh, 1983
Type-species: *Dameosoma minus* Paoli, 1908 (1118, p. 25).

***Microppia gracile* (Paoli, 1908)** new comb.

Type: SEA
Comb./Syn.: *Dameosoma gracile* Paoli, 1908 (648, p. 49)
Distribution: *USA*: Mo. - Paoli 648 (49).
Description: *Adult*: Paoli 648 (49) fig.
Key: Paoli 648 (49).

Ecology: Paoli 648 (49). .
Remarks: The generic placement of this species is uncertain, but it has many similarities with *Microppia* Balogh, 1983 to which it is tentatively assigned.

Microppia minus (Paoli, 1908)

Type: SEA
Comb./Syn.: *Dameosoma minus* Paoli, 1908 (648, p. 48)
Microppia minus (Paoli, 1908) (1118, p. 25)
Oppia minus (Paoli, 1908) (819, p. 205)
Oppiella minus (Paoli, 1908) (727, p. 338)
Distribution: *USA*: Alaska - Behan 73 (392); D.C. - Paoli 648 (48); Ky. - Cockfield and Potter 1124 (1264).
Canada: Man. - Oswald and Minty 620 (82); 621 (75); N.W.T. - Hammer 350 (35) [!]; Behan 73 (392); Que. - Smith 743 (tab. 20).
Palearctic: Paoli 648 (48); Weis-Fogh 819 (205); Evans 160 (36); Travé 774 (90); Haarlov 326 (42); Kunst 503 (36); Haarlov 327 (130); Sellnick 709 (121); Rajski 668 (23); Sitnikova 740 (295); Davis 148 (70); Moritz 571 (156); Sitnikova 742 (86); Travé 777 (231); Byzova 125 (185) [!]; Lebrun 507 (103); Moritz 572 (70); Vanek 784 (255) ?; Krivoluckij 495 (184); Moskacheva 579 (1402); Wood 843 (116); Zlotin and Krivoluckij 906 (255); Rajski 669 (233); Bernini 98 (394); Grishina 323 (82); Kurcheva 504 (95); Rubcova 681 (386); Gilyarov 207 (216); Luxton 532 (188); Seniczak 727 (338); Lions 523 (171); Niedba1a 604 (61); Subias 755 (178); Danks 971 (402).
Australian: Spain and Luxton 947 (203).
Subantarctic: Travé 1025 (527).
Description: *Adult*: Paoli 648 (48) fig.; Hammer 350 (35) [!] fig.; Haarlov 326 (42); Fonseca 186 (584) photo.; Gilyarov 207 (216) fig.
Nymph: Haarlov 326 (42) fig.
Key: Paoli 648 (48); Sellnick 709 (121); Gilyarov 207 (216).
Add. References: Niedbala 597 (218); Subias 755 (178).
Ecology: Paoli 648 (48); Weis-Fogh 819 (205); Evans 160 (36); Hammer 350 (35) [!]; Travé 774 (90); Haarlov 326 (42); Kunst 503 (36); Haarlov 327 (130); Sellnick 709 (121); Rajski 668 (23); Sitnikova 740 (295); Davis 148 (70); Moritz 571 (156); Sitnikova 742 (86); Travé 777 (231); Byzova 125 (185) [!]; Lebrun 507 (103); Moritz 572 (70); Vanek 784 (255) ?; Krivoluckij 495 (184); Moskacheva 579 (1402); Wood 843 (116); Zlotin and Krivoluckij 906 (255); Bernini 96 (424); Oswald and Minty 620 (82); Rajski 669 (233); Bernini 98 (394); Oswald and Minty 621 (75); Spain and Luxton 947 (203); Grishina 323 (82); Kurcheva 504 (95); Rubcova 681 (386); Luxton 532 (188); Lions 523 (171); Wallwork 950 (349); Zyromska-Rudzka 1033 (160); Niedbala 604 (61); Subias 755 (l78); Behan 73 (392); Krantz 490 (459); Smith 743 (tab. 20); Zyromska-Rudzka 1034 (108); Luxton 987 (311); 989 (366); Smith et al. 1223 (60); Danks 971 (402); Cockfield and Potter 1124 (1264).

***Microppia simplex* (Jacot, 1938)** new comb.

Type: USNM (Cotypes)
Comb./Syn.: *Oppia minus simplex* Jacot, 1938 (456, p. 11)
Oppia simplex Jacot, 1938 (469, p. 57)
Distribution: *USA*: N.C. - Jacot 456 (11).
Description: *Adult*: Jacot 456 (11).
Ecology: Jacot 456 (11).
Remarks: *Oppia minutissimus* Sellnick, 1951 is probably a junior synonym. In any event, Reeves' (673, p.27) record of *O. minutissimus* from New York is based on *Microppia simplex* (Jacot, 1938). *Oppia simplex* Mihelčič, 1956 and *O. simplex* Balogh, 1962 are junior primary homonyms of *Oppia simplex* Jacot, 1938 and must be renamed (see 747, Article 59).

***Microppia simplissimus* (Jacot, 1938)** new comb.

Type: FMNH (Cotype)
Comb./Syn.: *Oppia minus simplissimus* Jacot, 1938 (457, p. 651)
Opiella [!] simplissimus (Jacot, 1938) (550, p. 132)
Distribution: *USA*: Ill. - Jacot 457 (651).
Canada: B.C. - Marshall 550 (132) [!]; Que. - Marshall 548 (78) [mi.].
Description: *Adult*: Jacot 457 (651).
Ecology: Jacot 457 (651); Marshall 548 (78) [mi.]; 550 (132) [!]. **Remarks:** Marshall (548, p. 78)is sub *Oppia minus*.

***Multioppia* Balogh, 1965**

Multioppia Balogh, 1965 (see remarks)
Type-species: *Multioppia radiata* Hammer, 1961 (41, p. 60).

Remarks: Since Hammer, 1961 (357, p. 62) did not designate a type-species for this genus, the author is Balogh, 1965 (41, p. 60) until the ICZN is petitioned to recognize the original author (see 747, Article 13).

***Multioppia carolinae* (Jacot, 1938)**

Type: USNM (Cotypes)
Comb./Syn.: *Oppia carolinae* Jacot, 1938 (457, p. 649)
Multioppia carolinae (Jacot, 1938) (920, p. 57)
Distribution: *USA*: N.C. - Jacot 457 (649); Metz and Sharma 558 (200).
Canada: Que. - Smith 743 (tab. 20).
Description: *Adult*: Jacot 457 (649) fig.; Metz and Sharma 558 (200).

Ecology: Jacot 457 (649); Smith 743 (tab. 20).

***Multioppia carolinae barbatis* (Jacot, 1938)**

Type: FMNH
Comb./Syn.: *Oppia carolinae barbatis* Jacot, 1938 (457, p. 651)
Multioppia carolinae barbatis (Jacot, 1938) (920, p. 57)
Distribution: *USA*: Ill. - Jacot 457 (651).
Description: *Adult*: Jacot 457 (651) fig. app.
Ecology: Jacot 457 (651).

***Multioppia* sp.**

Distribution: *USA*: La. - Woodring 1111 (423).
Canada: Que. - Marshall 548 **(77).**
Morphology: Woodring 1111 (423).

***Oppia* C.L. Koch, 1835**

Oppia C.L. Koch, 1835
Type-species: *Oppia nitens* C.L. Koch, 1835 (485, Vol 3 (10)).

Dameosoma Berlese, 1892
Type-species: *Belba denticulata* Canestrini and Canestrini, 1882 (77, Vol. 63 (3); 648, p. 35: 829, p. 128).

Dissorhina Hull, 1916
Type-species: *Notaspis splendens* C.L. Koch, 1841 (410, p. 401: 829, p. 128).

Zetobelba Hull, 1916
Type-species: *Zetobelba jugorum* Hull, 1916 (410, p. 399: 829, p. 128).

***Oppia cephalota* (Hall, 1911)**

Type: Unknown
Comb./Syn.: *Damaeus cephalotus* Hall, 1911 (332, p.504)
Oppia cephalota (Hall, 1911) (609, p. 332)
Distribution: *USA*: Conn. - Hall 332 (504).
Description: *Adult*: Hall 332 (504) fig.
Ecology: Hall 332 (504).

Oppia coloradensis Woolley, 1969

Type: USNM; Paratypes: FMNH
Comb./Syn.: *Oppia coloradensis* Woolley,1969 (880, p. 133)
Distribution: *USA*: Colo. - Woolley 880 (133); Metz and Sharma 558 (200).
Description: *Adult*: Woolley 880 (133) fig.; Brody 116 (421) photo.; Woolley 883 (1255) photo.; Woolley and Yamarnoto 903 (1005) photo.; Woolley 885 (55) photo.; Metz and Sharrna 558 (200); Woolley 1032 (708) photo.
Tritonymph: Brody 116 (421) photo.
Deutonymph: Brody 116 (421) photo.
Miscellaneous: Brody 116 (421) cut.
Ecology: Woolley 880 (133).
Remarks: The type specimen has five pairs of genital setae, not four as originally described.

Oppia durhamensis Metz and Sharma, 1975

Type: MCZ; Paratype: USNM
Comb./Syn.: *Oppia durhamensis* Metz and Sharma, 1975 (558, p.198)
Distribution: *USA*: N.C. - Metz and Sharma 558 (198).
Description: *Adult*: Metz and Sharma 558 (198) fig.
Tritonymph: Metz and Sharma 558 (198) fig.
Deutonymph: Metz and Sharma 558 (198).
Protonymph: Metz and Sharma 558 (198).
Larva: Metz and Sharma 558 (198).
Biology: Metz and Sharma 558 (198).
Food: Metz and Sharma 558 (198).
Ecology: Metz and Sharma 558 (198).
Remarks: The bifurcate sensillus of this species is inconsistent with Balogh's (1118, p. 52) concept of *Oppia* C.L. Koch, 1835.

Oppia minuta (Banks, 1895) new comb.

Type: MCZ; Paratypes: USNM
Comb./Syn.: *Belba minuta* Banks, 1895 (45, p. 12)
Oribata minuta (Banks, 1895) (52, p. 70)
Oribata perolata Banks, 1909 (60, p. 140) new syn. **Type:** MCZ
Oppia perolata (Banks, 1909) (612, p. 604)
Distribution: *USA*: Ill. - Banks 45 (12); N.J. - Banks 45 (12); Weiss 819 (109); N.Y. - Banks 45 (12).
Canada: Ont. - Banks 60 (140).
Description: *Adult*: Banks 45 (12); 52 (70) fig.; 60 (140) fig.; 63 (99) fig.
Key: Banks 45 (12).

Ecology: Banks 45 (12); 52 (70); 60 (140); 63 (99); Weiss 819 (109).
Remarks: This species is very similar to, and possibly conspecific with, the European *Oppia nitens* (C.L. Koch, 1835) as Ewing (169, p. 372) has previously suggested. Secondary homonymy with *Oppia minuta* (Ewing, 1917) is avoided by transfer of the latter to *Amerioppia* Hammer, 1961; it is avoided with *Oppia minuta* Bulanova-Zachvatkina, 1964 by recombination of the latter species to *Microppia minuta* (Bulanova-Zachvatkina, 1964) new comb.

Oppia myrmecophila (Sellnick, 1928)

Type: Destroyed
Comb./Syn.: *Dameosoma myrmecophila* Sellnick, 1928 (700, p. 36)
Oppia nitens myrmecophila (Sellnick, 1928) (717, p. 157)
Oppia myrmecophila (Sellnick, 1928) (709, p. 121)
Distribution: *USA*: N.Y. - Sengbusch 717 (157).
Palearctic: Sellnick 709 (121).
Description: *Adult*: Sellnick 700 (36) fig.
Key: Sellnick 709 (121).
Ecology: Sellnick 709 (121).
Remarks: The single *USA* record is possibly based on a misidentification of *Oppia minuta* (Banks, 1895) or *Oppia nitens* C.L. Koch, 1835.

Oppia nitens C.L. Koch, 1835

Type: Unknown
Comb./Syn.: *Oppia nitens* C.L. Koch, 1835 (485, Vol. 3 (10))
Damaeus nitens (C.L. Koch, 1835) (561, p. 409)
Dameosoma nitens (C.L. Koch, 1835) (700, p. 35)
Add. Comb./Syn. Ref.: Ewing 169 (372); Willmann 829 (132); Hammen 338 (57).
Distribution: *USA*: Hammer 365 (70) [Q.I.]; Ill. - Ewing 169 (372); 173 (108); N.Y. - Sengbusch 717 (155); Reeves 673 (27); Va. - Sengbusch 719 (131).
Palearctic: Michael 561 (409); 564 (57); Willmann 829 (132); Hammer 349 (36); Schweizer 691 (290); Travé 774 (89); Schweizer 692 (tab. 9 no. 374); Sellnick 709 (121); Travé 777 (231); Lions 519 (507); 520 (441); Wood 843 (116); Hammer 365 (70); Kurcheva 504 (95); Gilyarov 207 (216); Metz and Sharma 558 (200); Seniczak 726 (263); 727 (331).
Description: *Adult*: Koch 485 (Vol. 3 (10)); Michael 561 (409) fig.; 564 (57), Ewing 169 (372) fig.; 173 (108) fig.; Willmann 829 (132) fig.; Grandjean 25l (21) chaet.; 252 (300) chael.; Schweizer 691 (290) fig.; Gilyarov 207 (216) fig.; Metz and Sharma 558 (200); Seniczak 726 (263) chaet., fig.; 727 (331) fig.
Nymph: Grandjean 232 (90) chaet.
Tritonymph: Seniczak 726 (263) fig.; 727 (331) fig.

Larva: Seniczak 726 (263) fig.
Key: Michael 564 (57); Ewing 169 (372); Willmann 829 (132). Sellnick 709 (121); Gilyarov 207 (216).
Add. References: Willmann 829 (132); Hammen 337 (119); 338 (57); Luxton 531 (462); Hammen 344 (26).
Biology: Lebrun 511 (202); Sengbusch and Sengbusch 723 (207); Luxton 988 (339).
Food: Woodring 845 (102); Luxton 531 (462); Seniczak 727 (331); Krantz 470 (459); Stefaniak and Seniczak 1017 (202).
Ecology: Michael 561 (409); 564 (57); Sengbusch 717 (155); Schweizer 691 (290); Travé 774 (89); Schweizer 692 (tab. 9 no. 374); Sengbusch 719 (131); Sellnick 709 (121); Travé 777 (231); Lions 519 (507); 520 (441); Wood 843 (116); Hammer 365 (70); Reeves 673 (27); Kurcheva 504 (95); Seniczak 726 (263).

***Oppia parviaures* Jacot, 1939**

Type: USNM (Cotypes)
Comb./Syn.: *Oppia parviaures* Jacot, 1939 (465, p. 198)
Oppia elongata Jacot, 1938 (456, p. 11): (464, p. 198). **Type:** See remarks
Distribution: *USA*: N.C. - Jacot 456 (11).
Description: *Adult*: Jacot 456 (11).
Ecology: Jacot 456 (11).
Remarks: *Oppia parviaures* was a replacement name for *Oppia elongata* Jacot, 1938 (preoccupied name). It is not an *Oppia* sensu stricto of Balogh, 1983, but generic placement is uncertain.

***Oppia rigida* (Ewing, 1909)** new comb.

Type: Unknown
Comb./Syn.: *Damaeus rigida* Ewing, 1909 (170, p. 130)
Distribution: *USA*: Ill. - Ewing 170 (130).
Description: *Adult*: Ewing 170 (130) fig.
Key: Ewing 170 (130).
Ecology: Ewing 170 (130).

***Oppia* sp.**

Distribution: *USA*: Calif. - Walter and Norton 1179 (tab. 1); Mich. - Wallwork 788 (172); 789 (262); Minn. - Wagner et al. 786 (14); N.M. - Wallwork et al. 1229 (169); Tenn. - Crossley and Bohnsack 142 (631).
Canada: Man. - Pielou and Verma 658 (1191); N.B. - Pielou and Verrna 658 (1191); Ont. - Pielou and Verma 658 (1191); Freitag and Ryder 201 (40); Que. - Pielou and Matthewman 657 (1311); Pielou and Verma 658 (1191); Matthewman and Pielou 552 (802).

Food: Wallwork 789 (262).

Oppia sp. cf. nitens (C.L. Koch, 1835)

Distribution: *Canada*: Que. - Forest et al. 1051 (37).

Oppia concolor grp. nr. simplex (Balogh, 1962)

Distribution: *Canada*: N.S. - Rasmy and MacPhee 670 (174).
Remarks: The species *simplex* Balogh, 1962 is now in the genus *Fusuloppia* Balogh, 1983 (1118, p. 51).

Oppiella Jacot, 1937

Oppiella Jacot, 1937
Type-species: *Eremaeus novus* Oudemans, 1902 (455, p. 356).

Oppiella clavigera (Hammer, 1952) new comb.

Type: CNC
Comb./Syn.: *Oppia clavigera* Hammer, 1952 (350, p. 33)
Distribution: *USA*: Alaska- Hammer 354 (12); Bohnsack 114 (35); 115 (74); Behan 73 (392); MacLean et al. 534 (562).
Canada: Hammer 353 (18); Gilyarov 207 (216); MacLean et al. 534 (562); Man. - Hammer 350 (33); N.W.T. - Hammer 350 (33); Behan 73 (392); Y.T. - Behan 73 (392).
Nearctic: Hammer 353 (l8); 354 (12).
Palearctic: Karppinen 479 (35); Gilyarov 207 (216); MacLean et al. 534 (562); Danks 971 (402).
Description: *Adult*: Hammer 350 (33) fig.; Gilyarov 207 (216) fig.
Key: Gilyarov 207 (216).
Add. References: Bohnsack 115 (74). .
Ecology: Hammer 350 (33); 353 (18); 354 (12); Karppinen 479 (35); Bohnsack 114 (35); 115 (74); Behan 73 (392); MacLean et al. 534 (562); Danks 971 (402).
Remarks: Balogh (1118, p. 27) first raised the possibility of the above recombination, which examination of the type-specimen has confirmed.

Oppiella fallax (Paoli, 1908) new comb.

Type: SEA
Comb./Syn.: *Dameosoma fallax* Paoli, 1908 (648, p. 64)
Oppia fallax (Paoli, 1908) (829, p. 130)
Distribution: *USA*: Mich. - Wallwork 788 (172) .

Palearctic: Paoli 648 (64); Willmann 829 (130) ?; Hammer 349 (36); Weis-Fogh 819 (205); Sellnick 709 (120); Moskacheva 579 (1402); Gilyarov 207 (218); Lions 523 (171).
Description: *Adult*: Paoli 648 (64) fig.; Willmann 829 (130) ? fig.; Gilyarov 207 (218) fig.
Key: Paoli 648 (64); Willmann 829 (130) ?; Sellnick 709 (120); Gilyarov 207 (218).
Ecology: Paoli 648 (64); Willmann 829 (130) ?; Weis-Fogh 819 (205); Wallwork 788 (172); Sellnick 709 (120); Moskacheva 579 (1402); Bernini 96 (424); Lions 523 (171).

***Oppiella lignivora* (Jacot, 1939)** new comb.

Type: USNM (Cotypes)
Comb./Syn.: *Oppia lignivora* Jacot, 1939 (462, p. 322)
Notaspis splendens sensu Michael, 1888 (561, p. 393): (462, p. 322); non C.L. Koch, 1841
Dameosoma splendens sensu Paoli, 1908 (648, p. 52): (462, p. 322); non C.L. Koch, 1841
Distribution: *USA*: Fla. - Paoli 648 (52) [mi.]; N.H. - Jacot 462 (322).
Palearctic: Michael 561 (393) [mi.]; 563 (417) [mi.]; Paoli 648 (52) [mi.]; Jacot 462 (322).
Description: *Adult*: Michael 561 (393) [mi.] fig.; Paoli 648 (52) [mi.] fig.; Jacot 462 (322) . .
Nymph: Michael 561 (393) [mi.] fig.
Key: Paoli 648 (52) [mi.].
Ecology: Paoli 648 (52) [mi.]; Jacot 462 (322).
Remarks: Michael (561, p. 393; 563, p. 417) are sub *Notaspis splendens*; Paoli (648, p. 52) is sub *Dameosoma splendens*. Jacot, 1939 (462, p. 322) proposed the new name (*Oppia lignivora*) for the species that had been "wrongly determined" by some authors as *Oppia splendens* C.L. Koch, 1841.

***Oppiella maritima* (Willmann, 1929)**

Type: WHPC
Comb./Syn.: *Dameosoma falcatum maritima* Willmann, 1929 (827, p. 45)
Oppia maritima (Willmann, 1929) (829, p. 131)
Oppiella maritima (Willmann, 1929) (370, p. 417)
Oppia fissurata Hammer, 1952 (350, p. 34): (354, p. 12). Syntype: CNC
Distribution: *USA*: Alaska - Hammer 354 (12); Bohnsack 114 (35); Behan 73 (392); MacLean et al. 534 (512).
Canada: Hammer 354 (12); MacLean et al. 534 (512); Nfld. - Behan 73 (392); N.W.T. - Hammer 350 (34); Behan 73 (392); Y.T. - Behan 73 (392).
Nearctic: Haarlov 324 (36); Hammer 348 (42); 349 (15); Evans 160 (36); Hammer 352 (411); 354 (12).
Palearctic: Willmann 829 (131); Hammer 349 (15); Evans 160 (36); Hammer 354 (12); Sellnick 709 (118); Moritz 571 (156); Lebrun 507 (103); Zlotin and Krivoluckij 906 (255); Hammer 370 (417); Grishina 323 (82); Kurcheva 504 (95); Rubcova 681 (386); Gilyarov 207 (215); Luxton 532 (188); Behan 73 (392); MacLean et al. 534 (512); Danks 971 (402).

Description: *Adult*: Willmann 827 (45) fig.; 829 (131) fig.; Hammer 350 (34) fig.; Gilyarov 207 (215) fig.
Key: Willmann 829 (131); Sellnick 709 (118); Gilyarov 207 (215).
Ecology: Willmann 829 (131); Haarlov 324 (36); Hammer 349 (15); Evans 160 (36); Hammer 350 (34); 352 (411); 354 (12); Sellnick 709 (118); Moritz 571 (156); Lebrun 507 (103); Bohnsack 114 (35); Zlotin and Krivoluckij 906 (255); Hammer 370 (417); Grishina 323 (82); Kurcheva 504 (95); Rubcova 681 (386); Luxton 532 (188); Wallwork 950 (349); Behan 73 (392); MacLean et al. 534 (512); Danks 971 (402).

Oppiella nova (Oudemans, 1902)

Comb /Syn.: *Eremaeus novus* Oudemans, 1902 (629, p. 36)
Oppia nova (Oudemans, 1902) (338 p. 51)
Dameosoma corrugatum Berlese, 1904 (80, p. 273): (338, p. 5l). **Type:** SEA
Oppia corrugata (Berlese, 1904) (450, p. 370)
Oppiella corrugata (Berlese, l904) (455, p. 356)
Dameosoma uliginosum Willmann, 1919 (822, p. 554): (338, p. 51). **Type:** WHPC
Oppia uliginosum (Willmann, 1919) (709, p. 118)
Dameosoma neerlandicum sensu Sellnick, 1928 (700, p. 35); non Oudemans, 1900 (338, p. 51)
Oppia neerlandica sensu Willmann, 1931 (829, p. 128); non Oudemans, 1900 (338, p. 51)
Add. Comb./Syn. Ref.: Bernini 101 (431); Gilyarov 207 (211); Subias 755 (184).
Distribution: *USA*: Alaska - Behan 73 (392); MacLean et al. 534 (562); Calif. - Walter and Norton 1179 (tab. 1); Fla. - Paoli 648 (62); Ky. - Wallwork and Rodriguez 806 (703); Ibarra et al. 412 (155); Mich. - Wallwork 789 (262) [mi.]; 790 (561) [mi.]; 792 (624) [mi.]; Minn. - Wagner et al . 786 (14); Mo. - Paoli 648 (62); N.Y. - Sengbusch 717 (157) [mi.]; Hartenstein 376 (203); Reeves 673 (27); N.C. - Jacot 450 (370); Ohio - Miller 927 (143); Tex. - Ehler and Frankie 1050 (345); Va. - Sengbusch 719 (131).
Canada: Aoki 18 (421); MacLean et al. 534 (562); B.C. - Marshall 550 (132); Man. - Hammer 350 (31) [mi.]; Oswald and Minty 620 (82); 621 (75); N.W.T. - Behan 73 (392); Que. - Marshall 548 (78); Behan 72 (41); Behan et al. 76 (263); Smith 743 (tab. 20); Y.T. - Behan 73 (392).
Nearctic: Schweizer 691 (286); Travé 775 (213); MacLean et al. 534 (562); Danks 971 (402) [mi.] .
Palearctic: Berlese 80 (273); 82 (173); Paoli 648 (62); Willmann 829 (128) [mi.]; Hammen 338 (51); Schweizer 691 (286); Haarlov 326 (42); Schweizer 692 (tab. 9 no. 286); Märkel 543 (478); Tarman 762 (81); Haarlov 327 (134); Sellnick 709 (118); Travé 775 (213); Rajski 668 (23); Sitnikova 740 (295); Tarras-Wahlberg 765 (30); Dalenius 144 (107); 145 (4); Davis 148 (67); Märkel 544 (326); Moritz 571 (156); Sitnikova 742 (86); Travé 777 (231); Berthet 107 (26); Byzova 124 (293); 125 (185); Lebrun 505 (375); Märkel 545 (170); Aoki 12 (6); Berthet and Gerard 109 (217); Lebrun 506 (27); 507 (103); Moritz 572 (70); Vanek 784 (255); Krivoluckij 495 (184); Zheleva 905 (185); Moskacheva 579 (1402); Fager 181 (126); Aoki 17 (135); Fonseca and Kiffer 189 (386); Hammer 367 (99); Bernini 98 (394); Hammer 370 (417); Molodova and Golosova 570 (426); Seniczak 724 (183); Rubcova 681 (386);

Polderman 660 (360); Hammer 372 (189); Luxton 532 (188); Seniczak 727 (338); Aoki 25 (146); Lebrun 514 (422); Lions 523 (171); Nakamura 582 (250); Niedbala 604 (61); Subias 755 (184); MacLean et al. 534 (562); Aoki and Kuriki 958 (231); Danks 971 (402) [mi.] .
Oriental: Mahunka 542 (361).
Australian: Hammer 365 (70) [Q.I.]; 366 (280); Spain and Luxton 947 (203); Hammer 369 (28); 371 (21).
Neotropical: Hammer 355 (50) [mi.]; 358 (34); 359 (13); Balogh and Mahunka 44 (52).
Subantarctic: Travé 1025 (527).
Description: *Adult*: Oudemans 629 (36); Berlese 80 (273); 82 (173) fig.; Paoli 648 (62) fig.; Willmann 829 (128) [mi.] fig.; Sengbusch 717 (157) [mi.] fig.; Hammen 338 (51) fig.; Hammer 350 (31) [mi.] fig.; Schweizer 691 (286) fig.; Hammer 355 (50) [mi.] fig.; Woodring and Cook 849 (108) [mi.] fig.; Hammer 367 (99) fig.; Balogh 42 (pl. 34 fig. 6); Seniczak 724 (183) chaet., fig.; Gilyarov 207 (211) fig.; Seniczak 727 (338) chaet., fig.
Tritonymph: Woodring and Cook 849 (108) [mi.] fig. app.; Seniczak 724 (183) fig.; 727 (338) fig.
Deutonymph: Woodring and Cook 849 (108) [mi.] fig. app.; Seniczak 724 (183) fig.
Protonymph: Woodring and Cook 849 (108) [mi.] fig.; Seniczak 724 (183) fig.
Larva: Woodring and Cook 849 (108) [mi.] fig.; Seniczak 724 (183) fig.
Key: Paoli 648 (62); Willmann 829 (128) [mi.]; Sellnick 709 (118); Gilyarov 207 (211).
Add. References: Sengbusch 717 (157) [mi.]; Hammen 338 (51); Bernini 101 (431); Subias 755 (184).
Biology: Woodring and Cook 849 (108) [mi.]; Woodring 845 (103); Kirk 483 (4174-B); Lebrun 511 (202); Mitchell 567 (67); Luxton 988 (339).
Food: Wallwork 789 (262) [mi.]; Hartenstein 376 (203); Woodring and Cook 849 (108) [mi.]; Woodring 845 (103); Fonseca and Kiffer 189 (386); Luxton 531 (462).
Miscellaneous: Lasebikan et al. 984 (52) extract.
Ecology: Berlese 80 (273); Paoli 648 (62); Miller 927 (143); Willmann 829 (128) [mi.]; Hammen 338 (51); Hammer 350 (31) [mi.]; Schweizer 691 (286); Haarlov 326 (42); Schweizer 692 (tab. 9 no. 286); Sengbusch 719 (131); Hammer 355 (50) [mi.]; Märkel 543 (478); Tarman 762 (81); Wallwork 790 (561) [mi.]; Haarlov 327 (l34); Sellnick 709 (118); Travé 775 (213); Wallwork 792 (624) [mi.]; Rajski 668 (23); Sitnikova 740 (295); Tarras-Wahlberg 765 (30); Wallwork and Rodriguez 806 (703); Dalenius 144 (107); Hammer 358 (34); 359 (13); Woodring and Cook 849 (108) [mi.]; Dalenius 145 (4); Davis 148 (67); Märkel 544 (326); Moritz 571 (156); Sitnikova 742 (86); Travé 777 (231); Berthet 107 (26); Byzova 124 (293); 125 (185); Lebrun 505 (375); Märkel 545 (170); Aoki 12 (6); Berthet and Gerard 109 (217); Ibarra et al. 412 (155); Lebrun 506 (27); 507 (103); Moritz 572 (70); Vanek 784 (255); Krivoluckij 495 (184); Zheleva 905 (185); Moskacheva 579 (1402); Fager 181 (126); Marshall 548 (78); Aoki 17 (135); Hammer 365 (70); Reeves 673 (27); Aoki 18 (421); Bernini 96 (424); Hammer 366 (280); 367 (99); Oswald and Minty 620 (82); Rajski 669 (242); Bernini 98 (394); Oswald and Minty 621 (75); Spain and Luxton 947 (203); Behan 72 (41); Hammer 369 (28); 370 (417); Molodova and Golosova 570 (426); Seniczak 724 (183); Bernini 101 (431); Hammer 371 (21); Rubcova 681 (386); Polderman 660 (360); Gilyarov 207 (211); Hammer 372 (189); Luxton 532 (188);

Aoki 25 (146); Lebrun 514 (422); Lions 523 (171); Mahunka 542 (361); Nakamura 582 (250); Wallwork 950 (349); Zyromska-Rudzka 1033 (160); Hammer 373 (32); Niedbala 604 (61); Subias 755 (184); Wagner et al. 786 (14); Behan 73 (392); Behan et al. 76 (263); Krantz 490 (459); MacLean et al. 534 (562); Smith 743 (tab. 20); Zyromska-Rudzka 1034 (108); Marshall 550 (132); Aoki and Kuriki 958 (231); Smith et al. 1223 (62); Luxton 987 (311); 989 (366); 990 (399); Hoy 1135 (75); Hågvar and Amundsen 1208 (13); Hågvar and Kjondal 1209 (411).
Remarks: *Oppiella nova* (Oudemans, 1902) and *Oppiella neerlandica* (Oudemans, 1900) have been confused in the literature and we cannot correctly separate those records for which only ecological data are available. Where figures have been given, all North American records of *O. neerlandica* are based on *O. nova*. So also are Willmann (829, p. 128); Hammer (355, p. 50) and Wallwork (789, p. 262; 790, p. 561).

***Oppiella nova apicalis* Jacot, 1937**

Type: USNM (Cotypes)
Comb./Syn.: *Oppiella corrugata apicalis* Jacot, 1937 (455, p. 357)
Opiella [!] apicalis Jacot, 1937 (649, p. 148)
Distribution: *USA*: N.C. - Jacot 455 (357); Pearse 649 (148) [!]; Banks 66 (122); Va. - Banks 66 (122).
Description: *Adult*: Jacot 455 (357) fig.; Banks 66 (122).
Ecology: Jacot 455 (357); Pearse 649 (148) [!].
Remarks: We reject the synonymy of *Oppiella corrugata squarrosa* Jacot, 1937 with *O. corrugata apicalis* Jacot, 1937 (66, p. 122) pending further study.

***Oppiella nova squarrosa* Jacot, 1937**

Type: USNM (Cotypes)
Comb./Syn.: *Oppiella corrugata squarrosa* Jacot, 1937 (455, p. 357)
Opiella [!] squarrosa Jacot, 1937 (649, p. 148)
Distribution: *USA*: Conn. - Jacot 455 (357); Maine - Jacot 455 (357); N.C. - Pearse 649 (148) [!]; Ohio - Jacot 455 (357).
Description: *Adult*: Jacot 455 (357) fig.
Ecology: Jacot 455 (357); Pearce 649 (148) [!].
Remarks: Same as for *Oppiella nova apicalis* Jacot, 1937.

***Oppiella splendens* (C.L. Koch, 1841)** new comb.

Type: Unknown
Comb./Syn.: *Dameosoma splendens* C.L. Koch, 1841 (485, Vol. 32 (6))
Eremaeus splendens (C.L. Koch, 1841) (626, p. 156)
Notaspis splendens (C.L. Koch, 1841) (829, p. 131); non Michael, 1888 (462, p. 322)
Oppia splendens (C.L. Koch, 1841) (829, p. 131)

Add. Comb./Syn. Ref.: Sengbusch 717 (157); Hammen 338 (56).
Distribution: *USA*: N.Y. - Sengbusch 717 (157).
Nearctic: Hammer 348 (42); 349 (16); Schweizer 691 (287).
Palearctic: Willmann 829 (131); Tuxen 779 (333); Hammer 348 (42); 349 (16); WeisFogh 819 (205); Schweizer 691 (287); 692 (tab.9 no. 369); Sellnick 709 (121); Berthet 107 (90); Byzova 125 (186); Märkel 545 (170); Block 110 (245); Lebrun 506 (52); 507 (103); Bernini 98 (394); Grishina 323 (83); Gilyarov 207 (220); Luxton 532 (188).
Australian: Hammer 349 (16).
Description: *Adult*: Koch 485 (Vol. 32 (6)); Willmann 829 (131) fig.; Schweizer 691 (287) fig.; Gilyarov 207 (220) fig.
Key: Willmann 829 (131); Sellnick 709 (121); Gilyarov 207 (220).
Add. References: Willmann 829 (131); Hammer 349 (16); Sengbusch 717 (157); Hammen 338 (56).
Ecology: Willmann 829 (131); Tuxen 779 (333); Hammer 348 (42); 349 (16); Weis-Fogh 819 (205); Schweizer 691 (287); 692 (tab. 9 no. 369); Sellnick 709 (121); Berthet 107 (90); Byzova 125 (186); Märkel 545 (170); Block 110 (245); Lebrun 506 (52); 507 (103); Bernini 98 (394); Grishina 323 (83); Luxton 532 (188).

Oppiella subpectinata (Oudemans, 1900)

Type: RNH
Comb./Syn.: *Eremaeus subpectinatus* Oudemans, 1900 (626, p. 152)
Dameosoma subpectinatum (Oudemans, 1900) (700, p. 35)
Oppia subpectinata (Oudemans, 1900) (829, p. 132)
Oppiella subpectinata (Oudemans, 1900) (727, p. 338)
Belba pectinata sensu Berlese, 1892, (77, Vol. 61 (8)); non Michael, 1885 (338, p. 57)
Dameosoma clavipectinatum sensu Paoli, 1908 (648, p. 51); non Michael, 1885 (338, p. 57)
Distribution: *USA*: N.Y. - Reeves 673 (27); Tenn. - Crossley and Bohnsack 142 (631).
Palearctic: Paoli 648 (51) [mi.]; Willmann 829 (132); Tuxen 779 (333); Willmann 835 (228); Forsslund 192 (112); 193 (352); Hammer 349 (36); Hammen 338 (57); MacFadyen 533 (109); Schweizer 691 (288); Travé 774 (90); Schweizer 692 (tab. 9 no. 372); Märkel 543 (478); Kunst 503 (36); Sellnick 709 (121); Rajski 668 (23); Dalenius 144 (108); 145 (4); Märkel 544 (326); Moritz 571 (156); Travé 777 (231); Berthet 107 (60); Byzova 125 (186); Lebrun 505 (375); Märkel 545 (170); Block 110 (245); Lebrun 506 (27); 507 (103); Moritz 572 (70); Vanek 784 (255); Wood 843 (116); Fager 181 (126); Rajski 669 (233); Gilyarov 207 (223); Luxton 532 (188); Seniczak 725 (250); 727 (338).
Description: *Adult*: Oudemans 626 (152) fig.; Paoli 648 (51) [mi.] fig.; Willmann 829 (132) fig.; Schweizer 691 (288) fig.; Fonseca 186 (584) photo.; Gilyarov 207 (223) fig.; Seniczak 725 (250) chaet., fig.

Tritonymph: Seniczak 725 (250) fig.

Deutonymph: Seniczak 725 (250) fig.

Protonymph: Seniczak 725 (250) fig.

Larva: Seniczak 725 (250) fig.

Taxonomy: Seniczak 727 (338).

Key: Paoli 648 (51)[mi.]; Willmann 829 (132); Sellnick 709 (121); Gilyarov 207 (223).

Add. References: Willmann 829 (132); Hammen 338 (57); Luxton 531 (462).

Biology: Mitchell 567 (67); Luxton 988 (313).

Food: Luxton 531 (462).

Ecology: Paoli 648 (51) [mi.]; Willmann 829 (132); Tuxen 779 (333); Willmann 835 (228); Forsslund 192 (112); 193 (352); Hammen 338 (57); MacFadyen 533 (109); Schweizer 691 (288); Travé 774 (90); Schweizer 692 (tab. 9 no. 372); Märkel 543 (478); Kunst 503 (36); Crossley and Bohnsack 142 (631); Sellnick 709 (121); Rajski 668 (23); Dalenius 144 (108); 145 (4); Märkel 544 (326); Moritz 571 (156); Travé 777 (231); Berthet 107 (60); Byzova 125 (186); Lebrun 505 (375); Märkel 545 (170); Block 110 (245); Lebrun 507 (103); 506 (27); Moritz 572 (70); Vanek 784 (255); Wood 843 (116); Fager 181 (126); Reeves 673 (27); Rajski 669 (233); Luxton 532 (188); Seniczak 725 (250); Wallwork 950 (349); Luxton 987 (311); 989 (366); 990 (397).

Remarks: Paoli (648, p. 51) is sub *Dameosoma clavipectinatum*.

***Oppiella translamellata* (Willmann, 1923)**

Type: WHPC

Comb./Syn.: *Dameosoma translamellata* Willmann, 1923 (823, p. 474)
Oppia translamellata (Willmann, 1923) (829, p. 129)
Oppiella translamellata (Willmann, 1923) (727, p. 338)
Distribution: *USA*: Alaska - Behan 73 (392); MacLean et al. 534 (562); Tenn. - Crossley and Bohnsack 142 (631).
Canada: MacLean et al. 534 (562); Nfld. - Behan 73 (392); N.W.T. - Hammer 350 (33); Behan 73 (392); Que. - Behan 73 (392); Smith 743 (tab. 20); Y.T. - Behan 73 (392).
Nearctic: Jorgensen 472 (8); Willmann 835 (228); Hammer 348 (42); Forsslund 193 (351); Hammer 349 (14); 352 (411); Strenzke 754 (39); Rajski 669 (237); MacLean et al. 534 (562).
Palearctic: Willmann 829 (129); Tuxen 779 (333); Willmann 835 (228); Forsslund 192 (106); Hammer 348 (42); Forsslund 193 (351); Hammer 349 (14); Strenzke 754 (39); Sellnick 709 (119); Rajski 668 (23); Dalenius 144 (107); 145 (4); Byzova 124 (293); 125 (185); Lebrun 507 (103); Wood 843 (116); Zlotin and Krivoluckij 906 (255); Rajski 669 (237); Hammer 370 (422); Molodova and Golosova 570

(426); Rubcova 681 (386); Gilyarov 207 (218); Luxton 532 (188); Seniczak 727 (338); Solhoy 744 (l9); Behan 73 (392); MacLean et al. 534 (562); Danks 971 (402).
Description: *Adult*: Willmann 823 (474); 829 (129) fig.; Hammer 350 (33) fig.; Gilyarov 207 (218) fig.
Taxonomy: Seniczak 727 (338).
Key: Willmann 829 (129); Sellnick 709 (119); Gilyarov 207 (218).
Add. References: Willmann 829 (129); Hammer 349 (14).
Ecology: Willmann 829 (129); Tuxen 779 (333); Willmann 835 (228); Forsslund 192 (106); Hammer 348 (42); Forsslund 193 (351); Hammer 349 (14); 350 (33); 352 (411); Strenzke 754 (39); Crossley and Bohnsack l42 (631); Sellnick 709 (119); Rajski 668 (23); Dalenius 144 (107); 145 (4); Byzova 124 (293); 125 (185); Lebrun 507 (103); Wood 843 (116); Zlotin and Krivoluckij 906 (255); Rajski 669 (237); Hammer 370 (422); Molodova and Golosova 570 (426); Rubcova 681 (386); Luxton 532 (188); Solhoy 744 (19); Wallwork 950 (349); Behan 73 (392); MacLean et al. 534 (562); Smith 743 (tab. 20); Danks 971 (402).

Oppiella unicarinata (Paoli, 1908)

Type: SEA
Comb./Syn.: *Dameosoma unicarinatum* Paoli, 1908 (648, p. 56)
Oppia unicarinata (Paoli, 1908) (829, p. 129)
Oppiella unicarinata (Paoli, 1908) (548, p. 78)
Add. Comb./Syn. Ref.: Willmann 829 (129); Hammen 338 (55); Marshall 548 (78); Bernini 101 (424); Subias 755 (182).
Distribution: *USA*: Forsslund 193 (351); Fla. - Paoli 648 (56); Strenzke 754 (39); Va. - Sengbusch 719 (131).
Nearctic: Forsslund 193 (351); Strenzke 754 (39); Schweizer 691 (286); Travé 775 (214); Rajski 669 (236).
Palearctic: Paoli 648 (56); Willmann 829 (129); Tuxen 779 (333); Forsslund 192 (99); 193 (351); Hammer 349 (36); Hammen 338 (55); Strenzke 754 (39); Schweizer 691 (286); 692 (tab. 9 no. 366); Travé 775 (214); Rajski 668 (23); Dalenius 144 (107); 145 (4); Byzova 124 (293); 125 (185); Marshall 548 (78); Zlotin and Krivoluckij 906 (255); Bernini 96 (424); Rajski 669 (236); Bernini 98 (394); Hammer 370 (417); Molodova and Golosova 570 (427); Bernini 101 (424); Grishina 323 (82); Rubcova 681 (386); Gilyarov 207 (2l8); Luxton 532 (188); Tarba and Semenova 761 (128); Niedbala 604 (61); Subias 755 (182).
Description: *Adult*: Paoli 648 (56) fig.; Willmann 829 (l29) fig.; Hammen 338 (55) fig.; Schweizer 691 (286) fig.; Bernini 10l (424) fig.; Gilyarov 207 (218) fig.; Tarba and Semenova 761 (128) fig.
Key: Paoli 648 (56); Willmann 829 (129); Gilyarov 207 (218).
Add. References: Willmann 829 (129); Subias 755 (182).
Miscellaneous: Tarba and Semenova 761 (128) cut.
Ecology: Paoli 648 (56); Willmann 829 (129); Tuxen 779 (333); Forsslund 192 (99); 193 (351); Hammen 338 (55); Strenzke 754 (39); Schweizer 691 (286); 692 (tab. 9 no. 366); Sengbusch 719

(131); Travé 775 (2l4); Rajski 668 (23); Dalenius 144 (107); 145 (4); Byzova 124 (293); 125 (185); Marshall 548 (78); Zlotin and Krivoluckij 906 (255); Bernini 96 (424); Rajski 669 (236); Bernini 98 (394); Hammer 370 (417); Molodova and Golosova 570 (427); Grishina 323 (82); Rubcova 681 (386); Luxton 532 (188); Wallwork 950 (349); Niedbala 604 (61); Subias 755 (182).

Oppiella washburni (Hammer, 1952)

Type: CNC
Comb./Syn.: *Oppia washburni* Hammer, 1952 (350, p. 32)
Oppiella washburni (Hammer, 1952) (1118, p. 27)
Distribution: *USA*: Alaska - Hammer 354 (12); Behan 73 (392).
Canada: Alta. - Hammer 350 (32); Man. - Hammer 350 (32); N.W.T. - Hammer 350 (32); Behan 73 (392).
Description: *Adult*: Hammer 350 (32) fig.
Ecology: Hammer 350 (32); 354 (12); Behan 73 (392); Danks 971 (402).

Oppiella sp.

Distribution: *USA*: Calif. - Walter and Norton 1179 (tab. 1); N.M. - Wallwork et al. 1229 (169).
Canada: Alta. - Powell and Skaley 662 (20); Que. - Marshall 548 (78).

Oppiella sp.? unicarinata (Paoli, 1908)

Distribution: *Canada*: Que. - Marshall 548 (78).

Quadroppia Jacot, 1939

Quadroppia Jacot, 1939
Type-species: *Notaspis quadricarinata* Michael, 1885 (462, p. 323).

Quadroppia ferrumequina (Jacot, 1938)

Type: USNM (Cotypes)

Comb./Syn.: *Oppia quadricarinata ferrumequina* Jacot, 1938 (456, p. 11)

Quadroppia ferrumequina (Jacot, 1938) (462, p. 324)

Distribution: *USA*: N.C. - Jacot 456 (11)

Canada: B.C. - Marshall 550 (132).

Description: *Adult*: Jacot 456 (11).

Taxonomy: Lions 1078 (388).

Ecology: Jacot 456 (11); Marshall 550 (132).

Quadroppia illnoisensis (Jacot, 1938)

Type: FMNH (Cotypes) (see remarks)

Comb./Syn.: *Oppia quadricarinata illinoisensis* Jacot, 1938 (457, p. 651)

Quadroppia illinoisensis (Jacot, 1938) (462, p. 324)

Distribution: *USA*: Ill. - Jacot 457 (651).

Description: *Adult*: Jacot 457 (651) fig.

Ecology: Jacot 457 (651).

Remarks: one cotype slide is labeled "*Oppia*" *quadricarinata illinoisensis*; the other two "*Oppiella*" *quadricarinata illinoisensis*.

Quadroppia quadricarinata (Michael, 1885)

Syntypes: BM(NH)
Comb./Syn.: *Notaspis quadricarinata* Michael, 1885 (562, p. 393)
Dameosoma quadricarinatum (Michael, 1885) (648, p. 70)
Oppia quadricarinata (Michael, 1885) (829, p. 128)
Oppiella quadricarinata (Michael, 1885) (727, p. 338)
Quadroppia quadricarinata (Michael, 1885) (462, p. 323)
Add. Comb./Syn. Ref.: Michael 564 (51); Hammen 338 (50); Bernini 101 (432); Subias 755 (190).
Distribution: *USA*: Forsslund 193 (351); Alaska - Hammer 354 (12); Travé 774 (90); Behan 73 (392); Calif. - Walter and Norton 1179 (tab. 1); Mo. - Paoli 648 (70); N.Y. - Reeves 673 (27); Va. - Sengbusch 719 (131).
Canada: Travé 774 (90); Man. - Hammer 350 (31); N.W.T. - Hammer 350 (31); Behan 73 (392); Y.T. - Behan 73 (392).
Nearctic: Jorgensen 472 (8); Hammer 348 (42); Forsslund 193 (351); Hammer 349 (13); 352 (411); Strenzke 754 (38); Schweizer 691 (285); Travé 774 (90); Sellnick 709 (116); Aoki 18 (422); Rajski 669 (240); Gilyarov 207 (210); Hammer 373 (32). *Palearctic*: Michael 561 (385); 562 (393); 564 (51); Paoli 648 (70); Willmann 829 (128); Tuxen 779 (333); Forsslund 192 (190); Hammer 348 (42); Forsslund 193 (351); Hammer 349 (13); Weis-Fogh 819 (205); Hammen 338 (50); Strenzke 754 (38); Schweizer 691 (285); Travé 774 (90); Schweizer 692 (tab. 9 no. 364); Kunst 503 (36); Haarlov 327 (145); Sellnick, 709 (116); Davis and Murphy 149 (5); Rajski 668 (23); Aoki 10 (179); Dalenius 144 (107); 145 (4); Davis 148 (70); Moritz 571 (156); Travé 777 (231); Berthet 107 (90); Byzova 124 (293); 125 (185); Lebrun 505 (375); Berthet and Gerard 109 (217); Block 110 (245); Lebrun 506 (27); 507 (103); Moritz 572 (71); Vanek 784 (255); Karppinen 479 (34); Krivoluckij 495 (184); Luxton 528 (521); Wood 843 (116); Aoki 17 (135); 18 (422); Rajski 669 (240); Molodova and Golosova 570 (426); Bernini 101 (432); Grishina 323 (82); Kurcheva 504 (95); Rubcova 681 (386); Gilyarov 207 (210); Hammer 372 (189); Luxton 532 (188); Seniczak 727 (338); Aoki 25 (147); Lebrun 514 (422); Lions

523 (171); Nakamura 582 (250); Solhoy 744 (19); Tarba and Semenova 761 (130); Hammer 373 (32); Niedbala 604 (61); Subias 755 (190); Aoki and Kuriki 958 (231); Danks 971 (402).
Oriental: Mahunka 542 (361).

Australian: Spain and Luxton 947 (203).
Neotropical: Gilyarov 207 (210).
Description: *Adult*: Michael 562 (393) fig.; 561 (385) fig.; 564 (51); Paoli 648 (70) fig.; Willmann 829 (128) fig.; Hammer 350 (31) fig.; Schweizer 691 (285) fig.; Balogh 42 (pl. 34 fig. 7); Gilyarov 207 (210) fig.; Lions 524 (540) chaet., fig. app., photo.
Taxonomy: Jacot 462 (323).
Key: Michael 564 (51); Paoli 648 (70); Willmann 829 (128); Sellnick 709 (116).
Add. References: Willmann 829 (128); Hammer 349 (13); Hammen 337 (119); 338 (50); Bernini 101 (432); Subias 755 (190).
Biology: Luxton 988 (313).
Miscellaneous: Tarba and Semenova 761 (130) cut.
Ecology: Michael 561 (385); 564 (51); Paoli 648 (70); Willmann 829 (128); Tuxen 779 (333); Forsslund 192 (190); Hammer 348 (42); Forsslund 193 (351); Hammer 349 (13); Weis-Fogh 819 (205); Hammen 338 (50); Hammer 350 (31); 352 (411); 354 (12); Strenzke 754 (38); Schweizer 691 (285); Travé 774 (90); Schweizer 692 (tab. 9 no.364); Sengbusch 719 (131); Kunst 503 (36); Haarlov 327 (145); Sellnick 709 (116); Davis and Murphy 149 (5); Rajski 668 (23); Aoki 10 (179); Dalenius 144 (IO7); 145 (4); Davis 148 70); Moritz 571 (156); Travé 777 (231); Berthet 107 (90); Byzova 124 (293); 125 (185); Lebrun 505 (375); Berthet and Gerard 109 (217); Block 110 (245); Lebrun 506 (27); 507 (IO3); Moritz 572 (71); Vanek 784 (255); Karppinen 479 (34); Krivoluckij 495 (184); Luxton 528 (521); Wood 843 (116); Aoki 17 (135); Reeves 673 (27); Aoki 18 (422); Bernini 96 (424); Rajski 669 (240); Spain and Luxton 947 (203); Molodova and Golosova 570 (426); Bernini 101 (432); Grisina 323 (82); Kurcheva 504 (95); Rubcova 681 (386); Hammer 372 (189); Luxton 532 (188); Aoki 25 (147); Lebrun 514 (422); Lions 523 (171); Mahunka 542 (361); Nakamura 582 (250); Solhoy 744 (19); Wallwork 950 (349); Hammer 373 (32); Niedbala 604 (61); Subias 755 (190);Behan 73 (392); Nannelli 997 (348); Aoki and Kuriki 958 (231); Danks 971 (402); Luxton 987 (311); 989 (366); 990 (400).

***Quadroppia skookumchucki* Jacot, 1939**

Type: MCZ, USNM (Cotypes)
Comb./Syn.: *Quadroppia skookumchucki* Jacot, 1939 (462, p. 324)
Distribution: *USA*: N.H. - Jacot 462 (324).
Description: *Adult*: Jacot 462 (324) fig.
Taxonomy: Balogh 1118 (22).
Ecology: Jacot 462 (324).

Quadroppia sp.

Distribution: *USA*: Minn. - Wagner et al. 786 (14).

Quadroppia sp. ? circumita Hammer, 1961

Distribution: Canada: Que. - Marshall 548 (78).

Ramusella Hammer, 1962

Ramusella Hammer, 1962
Type-species: *Ramusella puertomonttensis* Hammer, 1962 (358, p. 50).

Ramusella (Insculptoppia) clavipectinata (Michael, 1885)

Syntypes: BM(NH)
Comb./Syn.: *Notaspis clavipectinata* Michael, 1885 (562, p. 392)
Dameosoma clavipectinatum (Michael, 1885) (70O, p. 35).
Eremaeus clavipectinata (Michael, 1885) (829, p. 133)
Oppia clavipectinata (Michael, 1885) (829, p. 133)
Ramusella (Insculptoppia) clavipectinata (Michael, 1885) (IOI9, p. 296)
Xenillus clavipectinatus (Michael, 1885) (635, p. 282)
Add.Comb./Syn. Ref.: Hammen 338 (58).
Distribution: *USA*: Hammer 365 (71) [Q.I.]; Calif. - Wallwork 803 (94); 801 (297).
Palearctic: Michael 561 (387); 562 (392); 564 (49); Willmann 829 (133); Weis-Fogh 819 (205); Haarlov 326 (41); Sellnick 707 (50); Haarlov 327 (130); Sellnick 709 (122). Davis 148 (67); Moritz 571 (156); Lebrun 507 (103); Wood 843 (116); Fager 181 (126); Hammer 365 (71); Bemini 96 (423); Hammer 370 (423); Polderman 660 (360); Gilyarov 207 (222); Luxton 532 (188).
Description: *Adult*: Michael 562 (392) fig.; 561 (387) fig.; 564 (49); Willmann 829 (133) fig.; Gilyarov 207 (222) fig.
Taxonomy: Subias 1019 (296).
Key: Michael 564 (49); Willmann 829 (133); Sellnick 709 (122); Gilyarov 207 (222); Subias 1019 (310).
Add. References: Michael 564 (49); Willmann 829 (133); Hammen 338 (58).
Ecology: Michael 561 (387); Willmann 829 (133); Weis-Fogh 819 (205); Hammen 338 (58); Haarlov 326 (41); 327 (130); Sellnick 709 (122); Davis 148 (67); Moritz 571 (156); Lebrun 507 (103); Wood 843 (116); Fager 181 (126); Hammer 365 (71); Bernini 96 (423); Hammer 370 (423); Wallwork 803 (94); 801 (297); Polderman 660 (360); Luxton 532 (188); Wallwork 950 (330).

***Ramusella (Insculptoppia) maculata* (Hammer, 1952)** new comb.

Syntypes: CNC
Comb./Syn.: *Oppia maculata* Hammer, 1952 (350, p. 35)
Distribution: *USA*: Alaska - Hammer 354 (12); Behan 73 (392).
Canada: Man. - Hammer 350 (35); Marshall 548 (77); N.W.T. - Hammer 350 (35); Marshall 548 (77); Behan 73 (392); Que. - Marshall 548 (77).
Palearctic: Byzova 125 (185); Marshall 548 (77); Grisina 323 (82); Gilyarov 207 (220); Karppinen and Krivolutsky 1071 (11).
Description: *Adult*: Hammer 350 (35) fig.; Gilyarov 207 (220) fig.
Key: Gilyarov 207 (220).
Ecology: Hammer 350 (35); 354 (12); Byzova 125 (185); Marshall 548 (77); Grisina 323 (82); Behan 73 (392).

***Ramusella (Insculptoppia) manifera* (Hammer, 1955)** new comb.

Type: USNM
Comb./Syn.: *Oppia manifera* Hammer, 1955 (354, p. 12)
Distribution: *USA*: Alaska - Hammer 354 (12).
Palearctic: Karppinen 479 (35); Gilyarov 207 (222).
Description: *Adult*: Hammer 354 (12) fig.; Gilyarov 207 (222) fig.
Key: Gilyarov 207 (222).
Ecology: Hammer 354 (12); Karppinen 479 (35).

***Ramusella* sp.**

Distribution: *USA*: Ky. - Cockfield and Potter 1124 (1264).

***Ramusella sp. nr. clavipectinata* (Michael, 1885)**

Distribution: Canada: N.S. - Rasmy and MacPhee 670 (174).
Remarks: This record is sub the genus *Oppia*.

***Ramusella (Insculptoppia) sp. cf. elliptica* (Berlese, 1908)**

Distribution: *USA*: N.M. - Wallwork et al. 1229 (169).

***Striatoppia* Balogh, 1958**

Striatoppia Balogh, 1958
Type-species: *Striatoppia machadoi* Balogh, 1958 (38, p. 16).

Striatoppia foliosa (Jacot, 1937)

Type: USNM (Cotypes)
Comb./Syn.: *Oppiella foliosa* Jacot, 1937 (455, p. 358)
Mystroppia foliosa Jacot, 1937) (412, p. 155)
Striatoppia foliosa (Jacot, 1937) (38, p. 16)
Distribution: *USA*: Ky. - Ibarra et al. 412 (155); N.C. - Jacot 455 (358).
Description: *Adult*: Jacot 455 (358) fig.
Ecology: Jacot 455 (358); Ibarra et al. 412 (155).

Striatoppza stipularis (Jacot, 1937)

Type: USNM (Cotypes)
Comb./Syn.: *Oppiella stipularis* Jacot, 1937 (455, p. 360)
Striatoppia stipularis (Jacot, 1937) (1118, p. 32)
Distribution: *USA*: N.C. - Jacot 455 (360).
Description: *Adult*: Jacot 455 (360) fig.
Ecology: Jacot 455 (360).

Subiasella Balogh, 1983

Subiasella Balogh, 1983
Type-species: *Oppia exiguus* Hammer, 1971 (1118, p. 56).

Subiasella sp.

Distribution: *USA*: N.C. - Norton (RAN unpub.).

SUCTOBELBIDAE JACOT, 1938

Remarks: Although Grandjean, 1954 has been cited as the author of this family name (42, p. 160), the tribe Suctobelbini was first proposed by Jacot, 1938 (4S7, p. 6SI). Jacot, therefore, is also the authority for Suctobelbidae.

Allosuctobelba Moritz, 1970

Allosuctobelba Moritz, 1970
Type-species: *Suctobelba grandis* Paoli, 1908 (IO85, p. 137).

Allosuctobelba gigantea (Hammer, 1955) new comb.

Type: USMM

Comb./Syn.: *Suctobelba gigantea* Hammer, 1955 (354, p. 11)
Distribution: *USA*: Alaska - Hammer 354 (11).
Description: *Adult*: Hammer 354 (I1) fig.
Ecology: Hammer 354 (11).

Allosuctobelba grandis (Paoli, 1908)

Type: SEA
Comb./Syn.: *Suctobelba grandis* Paoli, 1908 (648, p. 78)
Allosuctobelba grandis (Paoli, 1908) (1085, p. 137)
Suctobelba grandis europaea Willmann, 1933 (831, p. 376): (18, p. 422)
Type: WHPC
Distribution: *USA*: Ill. - Jacot 457 (653); Mo. - Paoli 648 (78).
Nearctic: Strenzke 751 (149); Schweizer 691 (292); Gilyarov 207 (203).
Palearctic: Forsslund l90 (386); Grandjean 271 (92); Strenzke 751 (149); Schweizer 691 (292); 692 (tab. 9no. 379); Markel 543 (478); Aoki 18 (422); Bernini 98 (387); Suzuki 757 (42); Gilyarov 207 (203); Luxton 532 (190).
Description: *Adult*: Paoli 648 (78) fig.; Willmann 831 (376); Forsslund 190 (386) fig.; Grandjean 271 (92) fig.; Strenzke 751 (149) fig.; Schweizer 691 (292) fig.; Aoki 18 (422) fig.; Suzuki 757 (42) fig.; Gilyarov 207 (203) fig.
Key: Paoli 648 (78); Strenzke 749 (340); Gilyarov 207 (203).
Add. References: Krivoluckij 497 (121); Aoki 18 (422); Bernini 98 (387); Aoki and Fukuyama 28 (209).
Ecology: Paoli 648 (783; Grandjean 271 (92); Strenzke 751 (149); Schweizer 691 (292); 692 (tab. 9 no. 379); Märkel 543 (478); Bernini 98 (387); Luxton 532 (190).

Allosuctobelba obtusa (Jacot, 1938) new comb.

Type: MCZ, USNM (Cotypes)
Comb./Syn.: *Suctobelba grandis obtusa* Jacot, 1938 (456, p. 12)
Suctobelba obtusa Jacot, 1938 (490, pl. 159 fig. 3)
Distribution: *USA*: Conn. - Krantz 490 (pl. 159 fig. 3); N.C. - Jacot 456 (12).
Description: *Adult*: Jacot 456 (12); Krantz 490 (pl. 159 fig. 3).
Ecology: Jacot 456 (12).

Allosuctobelba sp. nr. gigantea Hammer, 1955

Distribution: Canada: Que. - Marshall 548 (79).
Remarks: This record is sub *Suctobelba*.

Parisuctobelba Higgins and Woolley, 1976

Parisuctobelba Higgins and Woolley, 1976
Type-species: *Parisuctobelba septenia* Higgins and Woolley, 1976 (408, p. 498).

***Parisuctobelba septenia* Higgins and Woolley, 1976**

Type: FMNH
Comb./Syn.: *Parisuctobelba septenia* Higgins and Woolley, 1976 (408, p. 498)
Distribution: *USA*: Colo. - Higgins and Woolley 408 (498).
Description: *Adult*: Higgins and Woolley 408 (498) fig.
Ecology: Higgins and Woolley 408 (498).

***Rhinosuctobelba* Woolley and Higgins, 1969**

Rhinosuctobelba Woolley and Higgins, 1969
Type-species: *Rhinosuctobelba dicerosa* Woolley and Higgins, 1969 (897, p 10)

***Rhinosuctobelba dicerosa* Woolley and Higgins, 1969**

Type: USNM; Paratypes: FMNH
Comb./Syn.: *Rhinosuctobelba dicerosa* Woolley and Higgins, 1969 (897, p. IO)
Distribution: *USA*: Wash. - Woolley and Higgins 897 (10).
Description: *Adult*: Woolley and Higgins 897 (10) fig.

***Rhynchobelba* Willmann, 1953**

Rhynchobelba Willmann, 1953
Type-species: *Rhynchobelba inexpectata* Willmann, 1953 (1185, p. 50l).

***Rhynchobelba* sp.**

Distribution: *USA*: Walter and Norton 1179 (tab. 1).

***Suctobelba* Paoli, l908**

Suctobelba Paoli, l908
Type-species: *Notaspis trigona* Michael, 1888 (648, p. 73).

***Suctobelba cornigera* (Berlese, 1902)**

Type: SEA
Comb./Syn.: *Dameosoma cornigerum* Berlese, 1902 (78, p. 697)
Suctobelba cornigera (Berlese, 1902) (648, p. 76)

Dameosoma bellum Berlese, 1904 (80, Vol. 1 (2)): (648, p. 76). **Type:** SEA
Distribution: *USA*: Mo. - Paoli 648 (76).
Nearctic: Willmann 835 (228); Schweizer 691 (292).
Palearctic: Berlese 78 (697); 80 (274); Paoli 648 (76); Willmann 835 (228); Schweizer 691 (292); 692 (tab. 9 no. 378); Sellnick 709 (114); Calugar 126 (409).
Description: *Adult*: Berlese 78 (697); 80 (274); Paoli 648 (76) fig.; Schweizer 691 (292) fig.
Key: Paoli 648 (76); Sellnick 709 (114).
Ecology: Berlese 78 (697); 80 (274); Paoli 648 (76); Willmann 835 (228); Schweizer 691 (292); 692 (tab. 9 no. 378); Sellnick 709 (114); Calugar 126 (409).

***Suctobelba tumulata* Higgins and Woolley, 1976**

Type: FMNH; Paratype: FMNH
Comb./Syn.: *Suctobelba tumulata* Higgins and Woolley, 1976, (408, p. 496)
Distribution: *USA*: Colo. - Higgins and Woolley 408 (496).
Description: *Adult*: Higgins and Woolley 408 (496) fig.
Ecology: Higgins and Woolley 408 (496).

***Suctobelba* sp.**

Distribution: *USA*: Minn. - Wagner et al. 786 (14); N.Y. - Reeves 673 (27) Tenn. Crossley and Bohnsack 142 (631); Va. - Sengbusch 719 (131).
Canada: Alta. - Powell and Skaley 662 (20); Que. - Marshall 548 (79); Behan 72 (41); Behan et al. 76 (263).

***Suctobelbella* Jacot, 1937**

Suctobelbella Jacot,1937
Type-species: *Suctobelbella serratirostrum* Jacot, 1937 (455, 361).

***Suctobelbella acutidens* (Forsslund, 1941)**

Type: SMNH
Comb./Syn.: *Suctobelba acutidens* Forsslund, 1941 (190, p. 391)
Suctobelbella acutidens (Forsslund, 1941) (IO1, p. 432)
Add.Comb./Syn. Ref.: Strenzke 751 (157); Subias 755 (l64).
Distribution: *USA*: Alaska - Hammer 354 (12); Behan 73 (392); Va. - Sengbusch 1012 (22).
Canada: Nfld. - Behan 73 (392); N.W.T. - Hammer 350 (30); Behan 73 (392); Que. - Behan 73 (392); Y.T. - Behan 73 (392).
Nearctic: Hammer 352 (411); 373 (37).

Palearctic: Forsslund l90 (391); 192 (107); 193 (350); Strenzke 75l (157); Haarlov 326 (48);327 (160); Sellnick 709 (113); Davis 148 (67); Moritz 571 (157); Byzova 124 (293); 125 (185); Moritz 572 (71); Vanek 784 (255); Hammer 370 (422); Molodova and Golosova 570(426). Bernini 10I (432); Grisina 323 (83); Moritz 575 (6); Rubcova 681 (386); Gilyarov 207 (199); Hammer 373 (37); Subias 755 (164); Danks 971 (402).
Description: *Adult*: Forsslund 190 (391)fig.; Strenzke 75l (157)fig.; Hammer 350 (30) fig.; Moritz 574 (6) fig.; Gilyarov 207 (199) fig.
Key: Strenzke 749 (340); Sellnick 709 (113); Gilyarov 207 (199).
Add. References: Bernini 101 (432); Subias 755 (164).
Ecology: Forsslund 192 (IO7); 193 (350); Strenzke 751 (157); Hammer 350 (30); 352 (411); 354 (12); Haarlov 326 (48); 327 (160); Sellnick 709 (113); Davis 148 (67); Moritz 571 (157); Byzova 124 (293).125 (185); Moritz 572 (71); Vanek 784 (255); Hammer 370 (422); Molodova and Golosova 570 (426); Bernini 10l (432); Grisina 323 (83); Moritz 575 (6); Rubcova 681 (386); Wallwork 950 (353); Hammer 373 (37); Subias 755 (164); Behan 73 (392); Sengbusch 1012 (22); Danks 971 (402).

***Suctobelbella frothinghami* Jacot, 1937**

Type: USNM
Comb./Syn.: *Suctobelbella frothinghami* Jacot, 1937 (455, p. 362)
Suctobelba forthinghami [!] (Jacot, 1937) (548, p. 78)
Distribution: *USA*: N.C. - Jacot 455 (362); Marshall 548 (78) [!]; Va. - Sengbusch 1012 (22).
Canada: Que. - Marshall 548 (78) [!].
Description: *Adult*: Jacot 455 (362) fig.
Ecology: Jacot 455 (362); Marshall 548 (78) [!]; Sengbusch 1012 (22).

***Suctobelbella hammerae* (Krivoluckij 1965)**

Type: ZIN
Comb./Syn.: *Suctobelba hammeri* Krivoluckij, 1965 (493, p. 415) (see remarks)
Suctobelbella hammeri (Krivoluckij, 1965) (681, p. 386)
Suctobelba sarekensis sensu Hammer, 1952 (350, p. 30); non Forsslund, 1941 (493, p. 416)
Distribution: *Canada*: Man. - Hammer 350 (30) [mi.]; N.W.T. - Hammer 350 (30) [mi.].
Palearctic: Byzova 124 (293); 125 (185); Krivoluckij 493 (415); 495 (184); Molodova and Golosova 570 (427); Grisina 323 (83); Kurcheva 504 (95); Rubcova 681 (386); Gilyarov 207 (199).
Description: *Adult*: Hammer 350 (30) [mi.] fig.; Krivoluckij 493 (415) fig.; Gilyarov 207 (199) fig.
Key: Gilyarov 207 (199).
Ecology: Hammer 350 (30) [mi.]; Byzova 124 (293); 125 (185); Krivoluckij 495 (184); Molodova and Golosova 570 (427); Grisina 323 (83). Kurcheva 504 (95). Rubcova 681 (386).
Remarks: This species was first recorded by Hammer, 1952 (350, p. 30) but was misidentified as *Suctobelba sarekensis* Forsslund, 1941. It was listed by Byzova 1964 (124, p. 293; 125, p. 185) [nomen

nudum] before the description appeared in the literature (493, p. 415). The species was named after Marie Hammer hence the emendation (see 1218, Article 31 (ii)).

***Suctobelbella hurshi* Jacot, 1937**

Type: USNM (Cotypes)
Comb./Syn.: *Suctobelbella hurshi* Jacot, 1937 (455, p. 364)
Suctobelba hurshi (Jacot, 1937) (548, p. 79)
Distribution: *USA*: N.C. - Jacot 455 (364); Marshall 548 (79).
Canada: Que. - Marshall 548 (79).
Description: *Adult*: Jacot 455 (364) fig.
Ecology: Jacot 455 (364); Marshall 548 (79); Sengbusch 1012 (22).

***Suctobelbella laevis* Jacot, 1938**

Type: USNM (Cotypes)
Comb./Syn.: *Suctobelbella laevis* Jacot, 1938 (457, p. 654)
Distribution: *USA*: N.C. - Jacot 457 (654).
Description: *Adult*: Jacot 457 (654) fig.
Ecology: Jacot 457 (654).

***Suctobelbella laxtoni* Jacot, 1937**

Type: USNM (Cotypes)
Comb./Syn.: *Suctobelbella laxtoni* Jacot, 1937 (455, p. 363)
Suctobelba laxtoni (Jacot, 1937) (548, p. 79)
Distribution: *USA*: N.C. - Jacot 455 (363); Marshall 548 (79).
Canada: Que. - Marshall 548 (79).
Description: *Adult*: Jacot 455 (363) fig.
Ecology: Jacot 455 (363); Marshall 548 (79).

***Suctobelbella longicuspis* Jacot, 1937**

Type: USNM (Cotypes)
Comb./Syn.: *Suctobelbella longicuspis* Jacot, 1937 (455, p. 363)
Suctobelba longicuspis (Jacot, 1937) (548, p. 79)
Distribution: *USA*: N.C. - Jacot 455 (363); Marshall 548 (79); Va. - Sengbusch 1012 (22).
Canada: Que. - Marshall 548 (79).
Description: *Adult*: Jacot 455 (363) fig.
Ecology: Jacot 455 (363); Marshall 548 (79); Sengbusch 1012 (22).

***Suctobelbella longicuspis lanceolata* Jacot, 1939**

Type: USNM (Cotypes)
Comb./Syn.: *Suctobelbella longicuspis lanceolata* Jacot, 1939 (462, p. 324)
Distribution: *USA*: N.H. - Jacot 462 (324).
Description: *Adult*: Jacot 462 (324) fig.

Suctobelbella palustris **(Forsslund, 1953)**

Type: SMNH
Comb./Syn.: *Suctobelba palustris* Forsslund, 1953 (911, p. I52)
Suctobelbella palustris (Forsslund, 1953) (681, p. 386)
Distribution: *USA*: Tenn. - Crossley and Bohnsack 142 (631); Va. - Sengbusch 1012 (22).
Canada: N.W.T. - Hammer 350 (30); Forsslund 911 (152).
Palearctic: Hammer 350(30); Forsslund 911 (152); Karppinen 478 195); Kunst 503 (36); Sellnick 709 (113); Krivoluckij 495 (184); Hammer 370 (422); Rubcova 681 (386); Gilyarov 207 (199); Hammer 373 (37).
Description: *Adult*: Hammer 350 (30) fig.; Forsslund 911 (152) fig.; Gilyarov 207 (199) fig.
Key: Strenzke 749 (341); Sellnick 709 (113); Gilyarov 207 (199).
Ecology: Hammer 350(30); Forsslund 911 (152); Karppinen 478 195); Kunst 503 (36); Crossley and Bohnsack 142 (631); Sellnick 709 (113); Krivoluckij 495 (184); Hammer 370 (422); Rubcova 681 (386); Wallwork 950 (330); Hammer 373 (37); Sengbusch 1012 (22). **Remarks:** This name was used as a nomen nudum by Forsslund in 1950 and mentioned by Strenzke, 1951 (751, p. 159) and Hammer, 1952 (350, p. 30) before it was proposed by Forsslund, 1953 (911, p. 152).

Suctobelbella punctata **(Hammer, 1955)**

Type: USNM
Comb./Syn.: *Suctobelba punctata* Hammer, 1955 (354, p. Il)
Suctobelbella punctata (Hammer, 195S) (73, p. 392)
Distribution: *USA*: Alaska - Hammer 354 (ll); Behan 73 (392).
Description: *Adult*: Hammer 354 (Il) fig.
Ecology: Hammer 354 (11); Behan 73 (392).

Suctobelbella sarekensis **(Forsslund, 1941)**

Type: SMNH
Comb./Syn.: *Suctobelba sarekensis* Forsslund, 1941 (190, p. 392)
Suctobelbella sarekensis (Forsslund, 1941) (681, p. 386)
Suctobelba cornigera sensu Tragardh, 1910 (771, p. 512); non Berlese, 1902 (190, p. 392)
Distribution: *USA*: Alaska - Hammer 354 (11); Behan 73 (392); Va. - Sengbusch 719 (131) [!].
Canada: Nfld. - Behan 73 (392); N.W.T. - Behan 73 (392); Y.T. - Behan 73 (392).

Palearctic: Forsslund l90 (392); Tuxen 779 (333); Forsslund 192 (IIO); 193 (350); Hammer 349 (35); Strenzke 751 (154); Evans 160 (35); Kunst 503 (36); Sellnick 709 (113); Dalenius 144 (IO7); 145 (4); Moritz 571 (157); 572 (71); Hammer 370 (422); Rubcova 681 (386); Gilyarov 207 (199); Lions 523 (171); Danks 971 (402).
Description: *Adult*: Tragårdh 771 (512) fig. [mi.]; Forsslund 190 (392) fig.; Strenzke 751 (154) fig.; Gilyarov 207 (199) fig.
Key: Strenzke 749 (342); Sellnick 709 (113); Gilyarov 207 (199).
Ecology: Forsslund 190 (392); Tuxen 779 (333); Forsslund 192 (110); 193 (350); Strenzke 751 (154); Evans 160 (35); Hammer 354 (11); Sengbusch 719 (131) [!]; Kunst 503 (36); Sellnick 709 (113); Dalenius 144 (107); 145 (4); Moritz 571 (157); 572 (71); Hammer 370 (422); Rubcova 681 (386); Lions 523 (I 71); Wallwork 950 (230); Behan 73 (392); Danks 971 (402).

***Suctobelbella serratirostrum* Jacot, 1937**

Type: USNM (Cotypes)
Comb./Syn.: *Suctobelbella serratirostrum* Jacot 1937 (455, p. 361)
Distribution: *USA*: N.C. - Jacot 455 (361).
Description: *Adult*: Jacot 455 (361) fig.
Ecology: Jacot 455 (361).

***Suctobelbella setosoclavata* (Hammer, 1952)**

Syntypes: CNC
Comb./Syn.: *Suctobelba setosoclavata* Hammer, 1952 (350, p. 30)
Suctobelbella setosclavata [!] (Hammer, 1952) (73, p. 392)
Distribution: *USA*: Alaska - Behan 73 (392) [!]; Mich. - Wallwork 788 (172).
Canada: N.W.T. - Hammer 350 (30); Behan 73 (392) [!]; Y.T. - Behan 73 (392) [!].
Description: *Adult*: Hammer 350 (30) fig.
Ecology: Hammer 350 (30); Wallwork 788 (172); Behan 73 (392) [!]; Danks 971 (402).

***Suctobelbella subtrigona* (Oudemans, 190O)**

Type: RNH
Comb./Syn.: *Eremaeus subtrigonus* Oudemans, 190O (626, p. l52)
Suctobelba subtrigona (Oudemans, 190O) (829, p. 127)
Suctobelbella subtrigona (Oudemans, 190O) (573, p. 89)
Xenillus subtrigonus (Oudemans, 1900) (642, p. 34)
Suctobelba intermedia Willmann, 1939, (835, p. 449): (338, p. SO). **Type:** WHPC
Add.Comb./Syn. Ref.: Strenzke 75I (161); Gilyarov 207 (200); Subias 755 (169).
Distribution: Nearctic: Hammer 348 (42); 349 (13).

Palearctic: Willmann 829 (127); Forsslund l90 (394); Hammer 348 42); 349 (13); Strenzke 751 (161); Hammen 338 (SO); MacFadyen 533 (109); Haarlov 326 (48); Märkel 543 (478); Kunst 503 (36); Sellnick 709 (114); Moritz 571 (157); Berthet 107 (40); Lebrun 505 (375); Berthet and Gerard 109 (217); Block 110 (245); Lebrun 507 (103); Moritz 572 (71); Wood 843 (116); Moritz 573 (89); Rubcova 681 (386); Gilyarov 207 (200); Luxton 532 (190, 191); Subias 755 (169).
Neotropical: Hammer 349 (13).
Description: *Adult*: Oudemans 626 (152) fig.; Willmann 829 (127) fig.; 835 (449) fig.; Forsslund l90 (394) fig.; Strenzke 75l (161) fig.; Moritz 573 (89) fig.; Gilyarov 207 (20O) fig.
Key: Willmann 829 (127); Strenzke 749 (341); Sellnick 709 (114); Gilyarov 207 (200).
Add. References: Willmann 829 (127); Hammer 349 (13); Hammen 338 (50).
Ecology: Willmann 829 (127); Forsslund l90 (394); Hammer 348 42); 349 (13); Strenzke 75l (161); Hammen 338 (50); MacFadyen 533 (109); Haarlov 326 (48); Märkel 543 (478); Kunst 503 (36); Sellnick 709 (114); Moritz 571 (157); Berthet 107 (40); Lebrun 505 (375); Berthet and Gerard 109 (217); Block 110 (245); Lebrun 507 (103); Moritz 572 (71); Wood 843 (116); Rubcova 681 (386); Luxton 532 (190, I91); Wallwork 950 (353); Zyromska-Rudzka 1033 (160); Subias 755 (169); Zyromska-Rudzka 1034 (IO8) .

***Suctobelbella* sp.**

Distribution: *USA*: Calif. - Walter and Norton 1179 (tab. 1)
Canada: Alta. - Powell and Skaley 662 (20); B.C. - Marshall 550 (132).

***Suctobelbila* Jacot, 1937**

Suctobelbila Jacot, 1937
Type-species: *Suctobelbila punctillata* Jacot, 1937 (452, p. 241).
Suctoppia Balogh, l958
Type-species: *Suctoppia globulifera* Balogh, l958 (38, p. 17: 42, p. 180).

***Suctobelbila elizabethae* Jacot, 1938**

Type: FMNH (Paratypes) (see remarks)
Comb./Syn.: *Suctobelbila elizabethae* Jacot, 1938 (457, p. 653)
Distribution: *USA*: Ill. - Jacot 457 (653).
Description: *Adult*: Jacot 457 (653) fig.
Ecology: Jacot 457 (653).
Remarks: The paratype designation is in Jacot's handwriting, but no holotype is known.

***Suctobelbila punctillata* Jacot, 1937**

Type: USNM (Cotypes)
Comb./Syn.: *Suctobelbila punctillata* Jacot, 1937 (452, p. 241)
Distribution: *USA*: N.C. - Jacot 452 (241) .
Description: *Adult*: Jacot 452 (241) fig.
Ecology: Jacot 452 (241).

***Suctobelbila spicata* Jacot, 1938**

Type: FMNH; Paratype: FMNH
Comb./Syn.: *Suctobelbila spicata* Jacot, 1938 (457, p. 653)
Distribution: *USA*: Ill. - Jacot 457 (653).
Description: *Adult*: Jacot 457 (653) fig.
Ecology: Jacot 457 (653).

***Suctobelbila spicata lanceolata* Jacot, 1938**

Type: USNM (Cotypes)
Comb./Syn.: *Suctobelbila spicata lanceolata* Jacot, 1938 (457, p. 654)
Distribution: *USA*: N.C. - Jacot 457 (654).
Description: *Adult*: Jacot 457 (654).
Ecology: Jacot 457 (654).

EREMELLIDAE BA10GH, 1961

***Eremella* Berlese, 1913**

Eremella Berlese, 1913
Type-species: *Eremella vestita* Berlese, 1913 (88, p. 96).

***Eremella* sp.**

Distribution: *USA*: Ariz. - Norton (RAN unpub.).

AUTOGNETIDAE GRANDJEAN, 1960

***Autogneta* Hull, 1916**

Autogneta Hull, 1916
Type-species: *Notaspis longilamellata* Michael, 1888 (410, p. 400).

Autogneta amica Jacot, 1938

Type: USNM (Cotypes)
Comb./Syn.: *Autogneta longilamellata amicus* Jacot, 1938 (456, p 11)
Autogneta amica Jacot 1938 (66, p. 122)
Distribution: *USA*: N.C. - Jacot 456 (11); Pearse 649 (148); Banks 66 (122); Higgins and Woolley 397 (92).
Description: *Adult*: Jacot 456 (11); Banks 66 (122) fig.; Higgins and Woolley 397 (92) fig.
Key: Higgins and Woolley 397 (92).
Ecology: Jacot 456 (11); Pearse 649 (148); Banks 66 (122); Higgins and Woolley 397 (92).

Autogneta flumengalei Jacot, 1939

Type: USNM (Cotypes)
Comb./Syn.: *Autogneta longilamellata flumengalei* Jacot, 1939 (462, p. 323)
Autogneta flumengalei Jacot, 1939 (397, p. 96)
Distribution: *USA*: N.H. - Jacot 462 (323).
Description: *Adult*: Jacot 462 (323) fig.; Higgins and Woolley 397 (96) fig.
Key: Higgins and Woolley 397 (96).
Ecology: Jacot 462 (323).

Autogneta longilamellata (Michael, 1885)

Syntypes: BM(NH)
Comb./Syn.: *Notaspis longilamellata* Michael, 1885 (562, p. 391)
Autogneta longilamellata (Michael, 1885) (192, p. 242)
Dameosoma longilamellatum (Michael, 1885) (648, p. 58)
Oppia longilamellata (Michael, 1885) (829, p. 130)
Add.Comb./Syn. Ref.: Hammen 338 (58); Grandjean 306 (673).
Distribution: *USA*: Alaska - Hammer 354 (12); Behan 73 (393).
Canada: N.B. - Pielou and Verma 658 (1191); Nfld. - Behan 73 (393); N.W.T. - Behan 73 (393); Ont. - Pielou and Verma 658 (1191); Que. - Pielou and Verma 658 (1191); Y.T. - Behan 73 (393).
Nearctic: Forsslund 193 (352).
Palearctic: Michael 561 (392); 562 (391); 563 (417); 564 (50); Paoli 648 (58); Willmann 829 (130); 835 (228); Forsslund 192 (242); 193 (352); 194 (113). Hammen 338 (58); Sellnick 709 (115); Rajski 668 (21); Grandjean 306 (673); Moritz 572 (69); Rajski 669 (233); Hammer 370 (422); Gilyarov 207 (225); Lions 523 (172); Danks 971 (402).
Description: *Adult*: Michael 562 (391) fig.; 561 (392) fig.; 564 (50); Paoli 648 (58) fig.; Willmann 829 (130) fig.; Forsslund 194 (113) fig.; Grandjean 306 (673); Higgins and Woolley 397 (95) fig.; Grandjean 307 (179) chaet.; Gilyarov 207 (225) fig.
Nymph: Grandjean 306 (673).

Tritonymph: Grandjean 306 (673) fig.
Key: Michael 564 (50); Paoli 648 (58); Willmann 829 (130); Sellnick 709 (115); Higgins and Woolley 397 (95); Gilyarov 207 (225).
Add. References: Paoli 648 (58); Willmann 829 (130); Hammen 338 (58); 344 (12).
Ecology: Michael 561 (392); Willmann 829 (130); 835 (228). Forsslund 192 (242). 193 (352); Hammen 338 (58); Hammer 354 (12); Sellnick 709 (115); Rajski 668 (21); Grandjean 306 (673); Moritz 572 (69); Pielou and Verma 658 (ll91); Rajski 669 (233); Hammer 370 (422); Lions 523 (172); Behan 73 (393); Danks 971 (402).

***Autogneta* sp.**

Distribution: *USA*: Calif. - Hoy 1135 (75).

***Conchogneta* Grandjean, 1963**

Conchogneta Grandjean, 1963
Type-species: *Autogneta delacarlica* Forsslund, 1947 (306, p. 653).

***Conchogneta traegardhi* (Forsslund, 1947)**

Type: SMNH
Comb./Syn.: *Autogneta tradgardhi* Forsslund, 1947 (194, p. 114)
Conchogneta tradgardhi (Forsslund, 1947) (306, p. 681)
Add.Comb./Syn. Ref.: Hammen 338 (58); Gilyarov 207 (225).
Distribution: *Canada*: Que. - Behan 72 (41) [mi.]; Behan et al. 76 (263) [mi.].
Palearctic: Forsslund 192 (106); 193 (351); 194 (116); Hammen 338 (58); Dalenius 144 (IO7); 145 (4); Byzova 125 (185); Gilyarov 207 (225).
Description: *Adult*: Forsslund 194 (116) fig.; Hammen 338 (59).
Taxonomy: Grandjean 306 (681).
Key: Forsslund 194 (112); Gilyarov 207 (225).
Ecology: Forsslund 192 (106); 193 (351); 194 (116); Hammen 338 (58). Dalenius 144 (107); 145 (4); Behan 72 (41) [mi.]; Behan et al. 76 (263) [mi.] .
Remarks: Behan (72, p. 41) is sub *Conchogneta delacarlica*; Behan et al. (76, p. 263) sub *C. dalecarlica* [!]. Forsslund used the name as a nomen nudum (192, p. 106. 193, p. 351) before he described the species (194, p. 114).

***Eremobodes* Jacot, 1937**

Eremobodes Jacot, 1937

Type-species: *Eremobodes pectinatus* Jacot, 1937 (452, p. 239).

***Eremobodes pectinatus* Jacot, 1937**

Type: USNM (Cotypes)
Comb./Syn.: *Eremobodes pectinata* Jacot, 1937 (452, p. 239)
Distribution: *USA*: N.C. - Jacot 452 (239).
Description: *Adult*: Jacot 452 (239) fig.; Balogh 42 (pl. 31 fig. 4-5).
Ecology: Jacot 452 (239).

CALEREMAEIDAE GRANDJEAN, 1965

***Caleremaeus* Berlese, 1910**

Caleremaeus Berlese, l910

Type-species: *Notaspis monilipes* Michael, 1882 (87, p. 20O).

***Caleremaeus retractus* (Banks, 1947)** new comb.

Type: MCZ; Paratype: USNM

Comb./Syn.: *Carabodoides retracta* Banks, 1947 (66, p. 123)

Distribution: *USA*: N.C. - Pearse 649 (148); Banks 66 (123).

Description: *Adult*: Banks 66 (123) fig.

Ecology: Pearse 649 (148); Banks 66 (123).

Remarks: Pearse 1946 (649, p. 148) listed this name as a nomen nudum before it was proposed by Banks 1947 (66, p. 123).

***Veloppia* Hammer, 1955**

Veloppia Hammer, 1955

Type-species: *Veloppia pulchra* Hammer, 1955 (354, p. 13)

***Veloppia kananaskis* Norton, 1978**

Type: MCZ; Paratypes: CNC, HNHM, USNM

Comb./Syn.: *Veloppia kananaskis* Norton, 1978 (610, p. 71)

Distribution: *Canada*: Alta. - Norton 610 (71).

Description: *Adult*: Norton 610 (71) chaet., fig., photo.

Tritonymph: Norton 610 (71) fig.

Larva: Norton 610 (71) fig.

Ecology: Norton 610 (71).

***Veloppia pulchra* Hammer, 1955**

Type: USNM

Comb./Syn.: *Veloppia pulchra* Hammer, 1955 (354, p. 13)

Distribution: *USA*: Alaska - Hammer 354 (13); Behan 73 (391). *Canada*: Nfld. - Behan 73 (391).

Description: *Adult*: Hammer 354 (13) fig.

Ecology: Hammer 354 (13); Behan 73 (391); Danks 971 (40O).

***Veloppia* sp.**

Distribution: *USA*: Tenn. - Crossley and Bohnsack 142 (631).
Remarks: This probably relates to a small, undescribed, damaeoid mite that is common in the Southeast *USA*. We have never observed specimens of a true *Veloppia* from the contiguous *USA*; the distribution is *Canada* and Alaska.

MACHADOBELBIDAE BALOGH, 1972

***Machadobelba* Balogh, 1958**

Machadobelba Balogh, 1958
Type-species: *Machadobelba symmetrica* Balogh, 1958 (38, p. 13).

***Machadobelba* sp.**

Distribution: *USA*: N.M. - Wallwork et al. 1229 (169).
Remarks: This record is doubtful (J.A. Wallwork, pers. comm., July 1986); specimens are currently unavailable for verification.

ANDEREMAEIDAE BALOGH, 1972

***Carabodoides* Jacot, 1937**

Carabodoides Jacot, 1937
Type-species: *Carabodoides saccharomycetoides* Jacot, 1937 (452, p. 240).

***Carabodoides apicalis* (Banks, 1895)**

Type: MCZ
Comb./Syn.: *Carabodes apicalis* Banks 1895 (45, p. 13)
Carabodoides apicalis (Banks 1895) (452, p. 240)
Distribution: *USA*: N.Y. - Banks 45 (13); Michael 564 (37); Ewing 169 (385).
Description: *Adult*: Banks 45 (13);. Michael 564 (37).
Key: Banks 45 (13); Michael 564 (37).

***Carabodoides saccaromycetoides* Jacot, 1937**

Type: USNM (not confirmed)
Comb./Syn.: *Carabodoides saccharomycetoides* Jacot, 1937 (452, p. 240)
Distribution: *USA*: N.Y. - Norton and MacNamara 615 (91); N.C. - Jacot 452 (240).
Description: *Adult*: Jacot 452 (240) fig.
Ecology: Jacot 452 (240).

THYRISOMIDAE GRANDJEAN, 1954

Remarks: Fujikawa's (1979) revision of Thyrisomidae Grandjean, 1954, [=Banksinomidae Kunst, 1971, Oribellidae Kunst, 1971 and Pantelozetidae Kunst, 1971] indicated that it would be difficult to assign already published information particularly ecological papers, to a particular genus. The listing here places information for *Banksinoma, Gemmazetes, Oribella*, and *Pantelozetes* sensu Fujikawa (912, p. 433). Thyrisomidae is the oldest name for this taxon; it cannot be rejected because of the junior synonymy of its nominal genus Thyrisoma (see 747, Article 40).

***Banksinoma* Oudemans, 1930**

Banksinoma Oudemans, 1930
Type-species: *Notaspis lanceolata Oudemansi* Fujikawa, 1979 (see remarks) (=*Notaspis castaneus* Hermann, 1804 sensu Oudemans, 1930) (1216, p. 74; 912, p. 437).

Thyrisoma Grandjean, 1953
Type-species: *Notaspis lanceolata* Michael, 1888 (274, p. l55).
Remarks: The use of this name involves a possible misidentification of the type-species; all such cases must be submitted to the ICZN.

***Banksinoma lanceolata* (Michael, 1885)**

Syntypes: BM(NH)
Comb./Syn.: *Notaspis lanceolata* Michael, 1885 (562, p. 394)
Banksinoma lanceolata (Michael, 1885) (96, p. 424)

Oribella lanceolata (Michael, 1885) (84, p. 9)
Thyrisoma lanceolata (Michael, 1885) (274, p. 155)
Oribella castanea sensu Willmann, 1931 (829, p. 133); non Hermann, 1804 (207, p. 195)
Xenillus castaneus sensu Sellnick, 1928 (70O, p. 37); non Hermann, 1804 (755, p. 159)
Distribution: *Nearctic*: Rajski 669 (237).
Palearctic: Michael 561 (398); 562 (394); 564 (50); Willmann 829 (133) [mi.]; Hammer 349 (36); Grandjean 274 (155); Sellnick 709 (125); Tarras-Wahlberg 765 (30); Dalenius 144 (IO8); Bernini 96 (424); Rajski 669 (237); Bernini 98 394); Polderman 660 (360); Gilyarov 207 (l95); Luxton 532 (191); Usher 781 (356); 782 (366); Subias 755 (l59).
Description: *Adult*: Michael 562 (394) fig.; 561 (398) fig.; 564 (50); Willmann 829 (133) [mi.] fig.; Gilyarov 207 (l95) fig.; Fujikawa 912 (437) fig.
Taxonomy: Berlese 84 (9); Grandjean 274 (155).
Key: Michael 564 (SO); Willmann 829 (133) [mi.]; Sellnick 709 (125); Gilyarov 207 (195); Fujikawa 912 (437).
Add. References: Subias 755 (l59).
Ecology: Michael 561 (398);564 (50); Willmann 829 (133) [mi.]; Sellnick 709 (125); Tarras-Wahlberg 765 (30); Dalenius 144 (108); Bernini 96 (424); Rajski 669 (237); Bernini 98 (394); Polderman 660 (360); Luxton 532 (l91); Usher 781 (356); 782 (366); Wallwork 950 (314); 950 (262); Subias 755 (lS9).
Remarks: Willmann (829,p.133)is sub *Oribella castanea*. See also information under *Oribella castanea* (Hermann, 1804) in the Nomina Inquirendae section herein. Rajski (669, p.237) indicated that this species should occur in North America, but this has not been confirmed, possibly because of misidentification of *B. lanceolata* (Michael, 1885) under *Notaspis castanea* Hermann, 1804. Its nominal subspecies *bifurcata* and *canadensis* are known from North America.

***Banksinoma lanceolata bifurcata* (Jacot, 1938)**

Type: FMNH; Paratypes: FMNH
Comb./Syn.: *Oribella lanceolata bifurcata* Jacot, 1938 (457, p. 649)
Banksinoma bifurcata (Jacot, 1938) (912, p. 44S)
Distribution: *USA*: Ill. - Jacot 457 (649).
Description: *Adult*: Jacot 457 (649) fig.
Key: Fujikawa 912 (445).
Ecology: Jacot 457 (649).
Remarks: Jacot observed and figured the tips of the chelicerae, which he mistook for

***Banksinoma lanceolata canadensis* Fujikawa, 1979**

Type: MHPC [see 912, p. 444]
Comb./Syn.: *Banksinoma lanceolata canadensis* Fujikawa, 1979 (912, p. 442)

Oribella castanea sensu Hammer, 1952 (350, p. 36); non Hermann, 1804 (912, p. 442)
Distribution: *Canada*: N.W.T. - Hammer 350 (36) [mi.].
Description: *Adult*: Hammer 350 (36) [mi.] fig.; Fujikawa 912 (442) fig.
Key: Fujikawa 912 (442).
Ecology: Hammer 350 (36) [mi.]. Remarks: Hammer (350, p. 36) is sub *Oribella castanea*.

***Banksinoma ovata* (Wallwork, 1962)**

Type: Unknown
Comb./Syn.: *Thyrisoma ovata* Wallwork, 1962 (795, p. 161)
Banksinoma ovata (Wallwork, 1962) (42, pl. 31 fig. 6-7)
Distribution: *USA*: Mich. - Wallwork 795 (161).
Description: *Adult*: Wallwork 795 (161) fig.; Balogh 42 (pl.31 fig. 6)
Taxonomy: Fujikawa 912 (447).
Key: Fujikawa 912 (447). .

***Banksinoma setosa* Rjabinin, 1974**

Type: Unknown
Comb./Syn.: *Banksinoma setosa* Rjabinin, 1974 (940, p. 1169)
Distribution: *Canada*: Nfld. - Behan 73 (393).
Palearctic: Rjabinin 940 (1169); Gilyarov 207 (195).
Description: *Adult*: Rjabinin 940 (1169) fig.; Gilyarov 207 (195) fig.
Taxonomy: Fujikawa 912 (448).
Key: Gilyarov 207 (195); Fujikawa 912 (448).
Ecology: Behan 73 (393).

***Banksinoma spinifera* (Hunmer, 1952)**

Type: CNC
Comb./Syn.: *Oribella spinifera* Hammer, 1952 (350, p. 36)
Banksinoma spinifera (Hammer, 1952) (912, p. 445)
Thyrisoma spinifera (Hammer, 1952) (795, p. 161)
Distribution: *USA*: Calif. - Walter and Norton 1179 (tab. 1); N.M. - Hammer 350 (36).
Canada: Man. - Hammer 350 (36); Que. - Smith 743 (tab. 20).
Description: *Adult*: Hammer 350 (36) fig.
Taxonomy: Wallwork 795 (161).
Key: Fujikawa 912 (445).
Ecology: Hammer 350 (36); Smith 743 (tab. 20).

***Banksinoma* sp.**

Distribution: *USA*: Alaska - Behan 73 (393).

***Gemmazetes* Fujikawa, 1979**

Gemmazetes Fujikawa, 1979

Type-species: *Oribella crosbyi* Berlese, l908 (912, p. 461).

***Gemmazetes alpestris* (Willmann, 1929)**

Type: WHPC

Comb./Syn.: *Xenillus alpestris* Willmann, 1929 (827, p. 44)

Gemmazetes alpestris (Willmann, 1929) (912, p. 462)

Oribella alpestris (Willmann, 1929) (829, p. 134)

Pantelozetes alpestris (Willmann, 1929) (362, p. 22)

Distribution: *USA*: Alaska - Hammer 354 (14); 362 (22); Behan 73 (393).

Palearctic: Willmann 829 (134); Schweizer 691 (291); 692 (tab. 9 no. 376); Sellnick 709 (125); Hammer 362 (22); Gilyarov 207 (195); Hammer 373 (24); Danks 971 (402).

Description: *Adult*: Willmann 827 (44) fig.; 829 (134) fig.; Schweizer 691 (291) fig.

Key: Willmann 829 (134); Sellnick 709 (125); Gilyarov 207 (195); Fujikawa 912 (462).

Ecology: Willmann 829 (134); Hammer 354 (14); Schweizer 691 (291); 692 (tab. 9 no. 376); Sellnick 709 (125); Hammer 362 (22); 373 (24); Behan 73 (393); Danks 971 (402).

***Gemmazetes clavatus* (Jacot, 1937)** new status

Type: FMNH

Comb./Syn.: *Oribella crosbyi clavata* Jacot, 1937 (452, p. 242)

Gemmazetes crosbyi clavata (Jacot, 1937) (912, p. 461)

Distribution: *USA*: Ky. - Jacot 452 (242).

Description: Adult: lacot 452 (242) fig.

Taxonomy: Fujikawa 912 (461).

Key: Fujikawa 912 (461).

Ecology: Jacot 452 (242).

***Gemmazetes crosbyi* (Berlese, 1908)**

Type: SEA

Comb./Syn.: *Oribella crosbyi* Berlese, 1908 (84, p. 9)
Gemmazetes crosbyi (Berlese, 1908) (912, p. 461)
Liebstadia crosbyi (Berlese, 1908) (949, p. 50O)
Distribution: U5A: Mo. - Berlese 84 (9); Va. - Sengbusch 719 (131).
Palearctic: Berlese 84 (9); Lebrun 508 (187).
Description: *Adult*: Berlese 84 (9); 87 (pl. 21 fig. 84); Fujikawa 912 (461).
Taxonomy: Vitzthum 949 (50O); Fujikawa 912 (461).
Key: Fujikawa 912 (461).
Ecology: Sengbusch 719 (131).

Gemmazetes sp. nr. cavatica Kunst, 1962

Distribution: *USA*: Alaska - Behan 73 (393).
Remarks: This record is sub *Oribella*.

Gemmazetes sp. nr. clavatus (Jacot, 1937)

Distribution: *USA*: Calif. - Walter and Norton 1179 (tab 1)

Oribella Berlese, l908

Oribella Berlese, l908
Type-species: *Notaspis pectinata* Michael, 1885 (84, p. 9; 912, p. 454)

Oribella sp.

Distribution: *USA*: Calif. - Ashley and Bohnsack 959 (618); N.Y. - Reeves 673 (27).
Remarks: It is likely that the records refer to a *Gemmazetes* species and not to oribella sensu Fujikawa, 1979.

Pantelozetes Grandjean, 1953

Pantelozetes Grandjean, 1953

Type-species: *Xenillus paolii* Oudemans, 1917 (274, p. 155).

Pantelozetes paolii (Oudemans, 1913)

Type: RNH

Comb./Syn.: *Xenillus paolii* Oudemans, 1913 (634, p. 375)

Oribella paolii (Oudemans, 1913) (829, p. 134)

Pantelozetes paolii (Oudemans, 1913) (668, p. 24)

Eremaeus pectinatus sensu Oudemans, 190O (626, p. I55): (338, p. 60)

Add.Comb./Syn. Ref.: Grandjean 274 (155); Moritz 571 (156).

Distribution: *USA*: Hammer 365 (70) [!] [Q.I.]; Alaska - Behan 73 (393).

Canada: Hammer 365 (70) [!].

Palearctic: Willmann 829 (134); Hammer 349 (36); Hammen 338 (60); MacFadyen 533 (109); Grandjean 274 (155); Schweizer 691 (290) [!]; 692 (tab. 9 no. 375) [!]; Sellnick 709 (125); Rajski 668 (24); Moritz 571 (156); Block 1 10 (245); Lebrun SO7 (IO3); Moritz 572 (71); Bernini 96 (424); Hammer 367 (99); Rajski 669 (231); Bernini 98 (394); Grishina 323 (83)[!]; Gilyarov 207 (195)[!]; Luxton 532 (191); Danks 971 (403).

Description: *Adult*: Oudemans 642 (38) fig.; Willmann 829 (134) fig.; Schweizer 691 (290) [!] fig.; Grandjean 308 (532) chaet.; Hammer 367 (99) fig.; Gilyarov 207 (195) [!] fig.; Fujikawa 912 (455).

Taxonomy: Oudemans 634 (375); Fujikawa 912 (455).

Key: Willmann 829 (134); Sellnick 709 (125); Gilyarov 207 (195) [!]; Fujikawa 912 (455).

Add. References: Willmann 829 (134); Hammen 338 (60); Grandjean 274 (155). Hammen 344 (29).

Biology: Luxton 988 (313).

Miscellaneous: Lasebikan et al. 984 (56) extract.

Ecology: Willmann 829 (134); Hammen 338 (60); MacFadyen 533 (109); Schweizer 691 (290) [!]; 692 (tab. 9 no. 375) [!]; Sellnick 709 (125); Rajski 668 (24); Moritz 571 (156); Block IIO (245); Lebrun 507 (103); Moritz 572 (71); Hammer 365 (70) [!]; Bernini 96 (424); Hammer 367 (99); Rajski 669 (231); Bernini 98 (394); Grishina 323 (83) [!]; Luxton 532 (191); Wallwork 950 (349); Zyromyska-Rudzka IO33 (160); Behan 73 (393); Zyromska-Rudzka IO34 (108); Danks 971 (403); Luxton 987 (311); 989 (366); 990 (394).

SPINOZETDDAE BA10GH, 1975

***Spinozetes* Piffl, 1966**

Spinozetes Piffl, 1966

Type-species: *Spinozetes inexpectatus* Piffl, 1966 (1169, p. 5IO).

Mirus Kulijew, 1967

Type-species: *Mirus pectinatus* Kulijew, 1967 (1143, p. 85: 42, p. 179).

Spinozetes sp.

Distribution: *USA*: Calif. - Norton (RAN unpub.).

HYDROZETOIDEA Grandjean, 1954

HYDROZETIDAE GRANDJEAN, 1954

Hydrozetes Berlese, l902

Hydrozetes Berlese, l902
Type-species: *Notaspis lacustris* Michael, 1882 (78, p. 698).

Hydrozetes californiensis Habeeb, 1974

Type: Unknown
Comb./Syn.: *Hydrozetes californiensis* Habeeb, 1974 (330, p. 4)
Distribution: VSA: Calif. - Habeeb 330 (4); 331 (4).
Description: *Adult*: Habeeb 330 (4) fig.; 331 (4) fig.
Ecology: Habeeb 330 (4); 331 (4).

Hydrozetes confervae (Schrank, 1781)

Type: Unknown
Comb./Syn.: *Acarus confervae* Schrank, 1781 (684, p. 511)
Eremaeus confervae (Schrank, 1781) (626, p. I5I)
Hydrozetes confervae (Shrank, 1781) (85, p. 266)
Oppia confervae (Schrank, 1781) (623, p. 175)
Xenillus confervae (Schrank, 1781) (645 p. 786)
Hydrozetes terrestris Berlese, 1910 (85, p. 266): (259, p. 328). **Type:** SEA
Cepheus (Carabodes) coriaceus sensu Oudemans, 1896 (622, p. 54): (338 p. 63); non C.L. Koch, 1835
Add.Comb./Syn. Ref.: Willmann 829 (138); Grandjean 259 (328); 263 (224); Hammen 338 (63).
Distribution: *USA*: Calif. - Wallwork 803 (101).
Nearctic: Willmann 835 (229); Hammer 348 (42); 349 (36); Strenzke 754 (43).
Palearctic: Berlese 85 (266); Willmann 829 (138,139); 835 (229); Hammer 348 (42); Newell 590 (256,257); Hammer 349 (36); Hammen 338 (63); Strenzke 754 (43); Sellnick 709 (123); Dalenius 144 (108); Gilyarov 207 (229).
Description: *Adult*: Schrank 684 (511); Berlese 85 (266); Willmann 829 (138, 139) fig.; Grandjean 259 (328) fig. app.; 265 (221) chaet.; Gilyarov 207 (229) fig.; Krantz 490 (pl. 143 fig. 2).
Nymph: Grandjean 259 (328); 263 (224).

Key: Willmann 829 (138, 139); Newell 590 (256, 257); Sellnick 709 (123); Gilyarov 207 (229).
Add. References: Willmann 829 (138, 139); 835 (229); Hammen 338 (63); 344 (21).
Ecology: Berlese 85 (266); Willmann 829 (138); 835 (229); Hammer 348 (42); Strenzke 754 (43); Sellnick 709 (123); Dalenius 144 (108); Wallwork 803 (101); 950 (155, 308).

Hydrozetes indicator Habeeb, 1974

Type: Unknown
Comb./Syn.: *Hydrozetes indicator* Habeeb, 1974 (330, p. I)
Hydrozetes lacustris sensu Newell, 1945; non Michael, 1882 (330, p. I)
Distribution: *USA*: Conn. - Newell 590 (257) [mi.].
Description: *Adult*: Newell 590 (257) [mi.] fig.
Key: Newell 590 (257) [mi.].
Remarks: Newell (590, p. 257) is sub *Hydrozetes lacustris*.

Hydrozetes laccosis Woolley, 1969

Type: FMNH; Paratypes: FMNH
Comb./Syn.: *Hydrozetes laccosis* Woolley, 1969 (878, p. 25I)
Distribution: *USA*: Colo. - Woolley 878 (251).
Description: *Adult*: Woolley 878 (251) fig.
Ecology: Woolley 878 (251).

Hydrozetes lacustris (Michael, 1882)

Syntypes: BM(NH)
Comb./Syn.: *Notaspis lacustris* Michael. 1882 (926, p. 12)
Hydrozetes lacustris Michael, 1882 (829, p. 138)
Scutovertex lacustris (Michael, 1882) (IO47, p. 46)
Notaspis speciosus Chinaglia, 1917 (IO49, p. 347): (829, p. 138)
Add.Comb./Syn. Ref.: Grandjean 259 (328); 263 (225); Hammen 338 (62).
Distribution: *Canada*: B.C. - Conroy and Scudder 138 (309); Man. - Conroy 137 (68); 970 (140).
Palearctic: Michael 561 (399); 564 (49); Willmann 829 (138); Hammen 338 (62); Haarlov 326 (39); Sitnikova 738 (166); Haarlov 327 (164); Sellnick 709 (123); Block l10 (245); Gilyarov 207 (227).
Description: *Adult*: Michael 926 (12) fig.; 561 (399) fig.; 564 (49); Willmann 829 (138) fig.; 830 (260) fig.; Grandjean 251 (13) chaet.; 259 (328) fig.; 265 (221) chaet.; 30O (634) chaet.; Gilyarov 207 (227) fig.
Taxonomy: Newell 591 (298).
Key: Michael 564 (49); Willmann 829 (138); Sellnick 709 (123); Gilyarov 207 (227). Add. References: Willmann 829 (138); Hammen 338 (62); 344 (21).

Ecology: Michael 561 (399); 564 (49); Willmann 829 (138); Hammen 338 (62); Haarlov 326 (39); Sitnikova 738 (166); Haarlov 327 (164); Sellnick 709 (123); Block l10 (245); Conroy 137 (6:8); Conroy and Scudder 138 (309); Conroy 970 (140).

Hydrozetes oryktosis Woolley, 1969

Type: USNM (Cotypes, not confirmed)
Comb./Syn.: *Hydrozetes orykosis* Woolley, 1969 (878, p. 253)
Distribution: *USA*: Mich. - Woolley 878 (253).
Description: *Adult*: Woolley 878 (253) fig.
Ecology: Woolley 878 (253).
Remarks: This species is known as a fossil only.

Hydrozetes petrunkevitchi Newell, 1945

Type: Unknown

Comb./Syn.: *Hydrozetes petrunkevitchi* Newell, 1945 (590, p. 259)

Distribution: *USA*: Fla. - Newell 590 (259).

Description: *Adult*: Newell 590 (259) fig.; Woolley 878 (250).

Nymph: Grandjean 263 (227).

Key: Newell 590 (259).

Ecology: Newell 590 (259).

Hydrozetes thienemanni Strenzke, 1943

Type: Unknown

Comb./Syn.: *Hydrozetes thienemanni* Strenzke, 1943 (748, p. 57)

Hydrozetes incisus Grandjean, 1948 (259, p. 328): (264, p. 552). **Type:** Not designated

Distribution: *USA*: Alaska - MacLean et al. 534 (562).

Palearctic: Grandjean 259 (328); Haarlov 326 (39); Gilyarov 207 (229); MacLean et al. 534 (562).

Description: *Adult*: Strenzke 748 (57); Grandjean 259 (328) chaet., fig. ; 263 (226) chaet.; 264 (552) chaet.; 265 (221) chaet.; 311 (354) chaet.; Gilyarov 207 (229) fig.

Tritonymph: Grandjean 259 (328) fig.

Deutonymph: Grandjean 259 (328).

Protonymph: Grandjean 259 (328).

Larva: Grandjean 259 (328).

Taxonomy: Strenzke 752 (117); Grandjean 311 (354).

Key: Gilyarov 207 (229).

Add. References: Haarlov 326 (39).

Ecology: Haarlov 326 (39); MacLean et al. 534 (562).

Hydrozetes videor Habeeb, 1974

Type: Unknown

Comb./Syn.: *Hydrozetes videor* Habeeb, 1974 (330, p. 1)

Distribution: *USA*: N.Y. - Habeeb 330 (l).

Description: *Adult*: Habeeb 330 (l) fig.

Ecology: Habeeb 330 (l).

Hydrozetes sp.

Distribution: *USA*: Alaska - Behan 73 (393); Danks 971 (403).

Canada: Alta. - Baker and Wighton 1197 (773); Que. - Behan 73 (393).

Remarks: The record of Baker and Wighton (1197, p. 773) is a fossil species.

LIMNOZETIDAE GRANDJEAN, l954

Limnozetes Hull, 1916

Limnozetes Hull, 1916

Type-species: *Acarus ciliatus* Schrank, 1803 (=*Oribata sphagni* Michael, 1884) (410, p. 391; 1092, p. 199).

Limnozetes canadensis Hammer, 1952

Type: CNC

Comb./Syn.: *Limnozetes canadensis* Hammer, 1952 (350, p. 55)

Distribution: *USA*: Alaska - Behan 73 (393); Va. - Sengbusch 719 (132).

Canada: Man. - Hammer 350 (55); N.W.T. - Behan 73 (393); Y.T. - Behan 73 (393).

Description: *Adult*: Hammer 350 (55) fig.

Ecology: Hammer 350 (55); Sengbusch 719 (132); Behan 73 (393); Danks 971 (403).

AMERONOTHROIDEA Willmann, 1931

AMERONOTHRIDAE WILLMANN, 1931

Remarks: Weigmann and Schulte (1181, p. 161) have developed an argument for combining Ameronothridae and Podacaridae into a single family, which is followed here.

***Alaskozetes* Hammer, 1955**

Alaskozetes Hammer, l955

Type-species: *Alaskozetes coriaceus* Hammer, (354, p. 16).

***Alaskozetes coriaceus* Hammer, 1955**

Type: BM(NH) (not confirmed) [see 796, p. 754]

Comb/Syn.: *Alaskozetes coriaceus* Hammer, 1955 (354, p. 16)

Distribution: *USA*: Alaska - Hammer 354 (16); Wallwork 796 (754).

Description: *Adult*: Hammer 354 (16) fig.

Ecology: Hammer 354 (16); Danks 971 (403).

***Ameronothrus* Berlese, 1896**

Ameronothrus Berlese, 1896

Type-species: *Eremaeus lineatus* Thorell, 1871 (1047, p. 32).

Hygroribates Jacot, 1934

Type-species: *Nothrus (?) marinus* Banks, 1896 (437, p. 331: 1170, p. 39).

***Ameronothrus lineatus* (Thorell,** 1871)

Type: SMNH

Comb./Syn.: *Eremaeus lineatus* Thorell, 1871 (767, p. 696)

Ameronothrus lineatus (Thorell, 1871) (754, p. 44)

Scutovertex lineatus (Thorell, 1871) (64, p. 13)

Scutovertex corrugatus Michael, 1888 (561, p. 567): (1170, p. 51). **Type:** Unknown

Ameronothrus corrugatus (Michael, 1888) (IO47, p. 32)

Distribution: *USA*: Alaska - Behan 73 (393).

Canada: N.W.T. - Banks 64 (13).

Nearctic: Strenzke 754 (44); Gilyarov 207 (234); Schulte 686 (339).

Palearctic: Michael 561 (567);564 (29); Strenzke 754 (44); Sellnick 709 (90); Block 112 (161); Gilyarov 207 (234); Schulte 686 (339); Danks 971 (403); Schubart 1170 (51) .
Description: *Adult*: Thorell 767 (696); Gilyarov 207 (234) fig.; Krantz 490 (pl. 160 fig. 2); Schubart 1170 (51) fig. Q, chaet.
Nymph: Michael 561 (567).
Tritonymph: Schubart 1170 (5l) fig.
Prelarva: Schubart 1170 (5l) fig.
Key: Michael 564 (29); Sellnick 709 (90); Gilyarov 207 (234).
Ecology: Michael 561 (567);564 (29); Banks 64 (13); Strenzke 754 (44); Sellnick 709 (90); Block 112 (161); Schulte et al. 687 (359); Behan 73 (393); Schulte 1011 (61); Danks 971 (403).

Ameronothrus maculatus (Michael, 1882)

Syntypes: BM(NH)
Comb./Syn.: *Scutovertex maculatus* Michael, 1882 (926, p. 13)
Ameronothrus maculatus (Michael, 1882) (IO47, p. 32)
Scutovertex maculatus groenlandica Tragardh, 1904 (770,p.21): (1170,p.49). **Type:**Unknown
Scutovertex maculatus insularis Hull, 1916 (410, p. 385): (1170, p. 49). **Type:** Unknown
Scutovertex maculatus pseudomaculatus Hull, 1916 (410, p. 385): (1170, p. 49). **Type:** Unknown
Scutovertex pseudomaculatus Hull, 1914 (1138, p. 250): (1170, p. 49). **Type:** Unknown
Scutovertex pseudomaculatus angularis Hull, 1914 (1138, p. 2SO, 281): (1170, p. 49). **Type:** Unknown
Distribution: *Canada*: Man. - Hammer 350 (42) [!].
Nearctic: Hammer 348 (43); 349 (36).
Palearctic: Michael 561 (302); 564 (30); Hammen 338 (63); Gtandjean 295 (136); Sellnick 709 (90).
Description: *Adult*: Michael 561 (302) fig.; 564 (30); Hammer 350 (42) [!] fig.; Grandjean 299 (225) chaet.; Schubart 1170 (49) fig. , chaet.
Nymph: Michael 561 (302) fig.
Tritonymph: Schubart 1170 (49) fig.
Larva: Schubart 1170 (49) fig. app.
Prelarva: Schubart 1170 (49) fig.
Taxonomy: Schulte 686 (339).
Key: Michael 564 (30); Sellnick 709 (90).
Add. References: Hammen 338 (63); 344 (11).
Ecology: Michael 561 (302); 564 (30); Hammen 338 (63); Hammer 350 (42) [!]; Grandjean 295 (136); Sellnick 709 (90); Schulte et al. 687 (359); Wallwork 950 (269); Schulte 1011 (61).

Ameronothrus marinus (Banks, 1896)

Type: MCZ
Comb./Syn.: *Nothrus (?) marinus* Banks, 1896 (48, p. 77)

Ameronothrus marinus (Banks, 1896) (256, p. 165)
Hygroribates marinus (Banks, 1896) (437, p. 331)
Scutovertex marinus (Banks, 1896) (52, p. 72)
Scutovertex spoofi Oudemans, 190O (625, p. 112): (1170, p. 48). **Type:** MH
Ameronothrus spoofi (Oudemans, 190O) (215, p. 293)
Hygroribates spoofi (Oudemans, 190O) (437, p. 335)
Ameronothrus bilineatus spoofi Hull, 1916 (410, p. 385): (1170, p. 48). **Type:** Unknown
Scutovertex bilineatus sensu Oudemans, 190I (1156, p. 79): (1170, p. 48)
Ameronothrus fucicolum sensu Buitendijk, 1945 (117, p. 380): (1170, p. 48)
Ameronothrus infusionum sensu Buitendijk, 1945 (117, p. 380): (338, p. 64)
Distribution: *USA*: Banks 63 (98). Conn. - Jacot 437 (331); Grandjean 256 (165). N.Y. - Banks 48 (77); Banks 55 (194); Ewing 169 (385); Jacot 437 (331); Grandjean 256 (165).
Nearctic: Gilyarov 207 (234).
Palearctic: Jacot 437 (331); Hammen 338 (64); Gilyarov 207 (234).
Description: *Adult*: Banks 48 (77); Banks 63 (98); Jacot 437 (331) fig.; Grandjean 25 (165) fig.; 265 (207) chaet.; 283 (147); 299 (225) chaet.; 308 (542) chaet.; 314 (368) fig.; Gilyarov 207 (234) fig.
Taxonomy: Schulte 686 (339).
Add. References: Hammen 344 (11, 21). Schubart 1170 (48).
Morphology: Grandjean 314 (368).
Ecology: Banks 48 (77); Banks 52 (72); 55 (194); Ewing 169 (385); Banks 63 (98); Jacot 437 (331); Schulte et al. 687 (359).

***Ameronothrus nigrofemoratus* (L. Koch, 1879)**

Type: Unknown
Comb./Syn.: *Nothrus nigro-femoratus* L. Koch, 1879 (487, p. 112)
Ameronothrus nigrofemoratus (L. Koch, 1879) (754, p. 4S)
Damaeus nigro-femoratus (L. Koch, 1879) (564, p. 57)
Scutovertex nigrofemoratus (L. Koch, 1879) (561, p. 567)
Ameronothrus lineatus nigrofemorata (L. Koch, 1879) (348, p. 43)
Ameronothrus lineatus brevipes Willmann, 1937 (95I, p. I53): (1170, p. 5l). **Type:** WHPC
Ameronothrus lineatus sensu Hammer, 1937; non Thorell, 1871 (349, p. 18)
Distribution: *USA*: Alaska - Banks 65 (238); Hammer 354 (16); Bohnsack 114 (35); 115 (74); Hammer and Wallwork 374 (18).
Canada: Hammer 354 (16); B.C. - Hammer and Wallwork 374 (18); Man. - Hammer 350 (42); Hammer and Wallwork 374 (18); N.W.T. - Banks 64 (13); Hammer and Wallwork 374 (18).
Nearctic: Hammer 347 (11) [mi.]; 348 (43); 349 (18); 354 (16); Strenzke 754 (45); Hammer and Wallwork 374 (18).
Palearctic: Michael 564 (57); Willmann 951 (153); Hammer 349 (18); 354 (16); Strenzke 754 (45); Sellnick 709 (90); Polderman 660 (360); Hammer and Wallwork 374 (18); Danks 971 (403).

Description: *Adult*: Koch 487 (112) fig.; Michael 564 (29, 57); Hammer 350 (42) fig.; Schubart 1170 (51) fig. .
Key: Michael 564 (57); Sellnick 709 (90).
Add. References: Hammer 349 (18); Bohnsack ll5 (74); Schubart 1170 (51).
Ecology: Hammer 347 (11) [mi.]; 348 (43); 349 (18); 350 (42); 354 (16); Strenzke 754 (45); Sellnick 709 (90); Bohnsack 114 (35); Polderman 660 (360); Hammer and Wallwork 374 (18); Schulte 1011 (61); Danks 971 (403).
Remarks: Hammer (347, p. 11) is sub *Ameronothrus lineatus*.

Ameronothrus schubarti Weigmann and Schulte, 1975

Type: Unknown
Comb./Syn.: *Ameronothrus schubarti* Weigmann and Schulte, 1975 (816, p. 133)
Distribution: *USA*: Calif. - Weigmann and Schulte 816 (133); Schulte 686 (339).
Description: *Adult*: Weigmann and Schulte 816 (133).
Ecology: Weigmann and Schulte 816 (133); Schulte 686 (339); Schulte et al. 687 (362).

Ameronothrus sp.

Distribution: *USA*. Calif. - Schubart 1170 (49).
Canada: N.W.T. - Hammer 350 (42).
Description: *Adult*: Hammer 350 (42) fig.; Schubart 1170 (49) fig. .
Prelarva: Schubart 1170 (49).

CYMBAEREMAEOIDEA Sellnick, 1928

CYMBAEREMAEIDAE SELLNICK, 1928

Cymbaeremaeus Berlese, 1896

Cymbaeremaeus Berlese, 1896
Type-species: *Eremaeus cymba* Nicolet, 1855 (77, Vol. 78 1)).

Cymbaeremaeus sp.

Distribution: *USA*: N.M. - Wallwork et al. 1229 (169).
Remarks: This record is doubtful (J.A. Wallwork, pers. comm., July 1986); specimens are currently unavailable for verification.

***Scapheremaeus* Berlese, l910**

Scapheremaeus Berlese, l910
Type-species: *Cymbaeremaeus (Scapheremaeus) patella* Berlese, l910 (87, p. 226).

***Scapheremaeus hieroglyphicus* (Hall, 1911)** new comb.

Type: Unknown
Comb./Syn.: *Hermannia hieroglyphica* Hall, 1911 (333, p. 646)
Distribution: *USA*: Calif. - Hall 333 (646).
Description: *Adult*: Hall 333 (646) fig.
Ecology: Hall 333 (646).

***Scapheremaeus marginalis* (Banks, 1896)**

Syntypes: MCZ
Comb./Syn.: *Eremaeus marginalis* Banks, 1896 (48, p. 76)
Cepheus marginalis (Banks, 1896) (63, p. 99)
Cymbaeremaeus marginalis (Banks, 1896) (52, p. 72)
Scapheremaeus marginalis (Banks, 1896) (469, p. 59) Add.
Comb./Syn. Ref.: Ewing 169 (387); Woolley 868 (31).
Distribution: *USA*: Banks 63 (99); N.Y. - Banks 48 (76); Ewing 169 (387).
Description: *Adult*: Banks 48 (76); 52 (72) fig.; 63 (99) fig.; Baker and Wharton 36 (406) fig.
Ecology: Banks 48 (76); 52 (72); Ewing 169 (387); Banks 63 (99).
Remarks: Michael (564, p. 67) considered this a possible synonym of *Cymbaeremaeus fimbriatus* (Michael, 1890), but this is unlikely.

***Scapheremaeus marmoratus* (Berlese, l910)** new status

Type: SEA
Comb./Syn.: *Cymbaeremaeus (Scapheremaeus) marmoratus* Berlese, 1910 (87, p. 227)
Distribution: *USA*: Fla. - Berlese 87 (227).
Description: *Adult*: Berlese 87 (227) fig.
Ecology: Berlese 87 (227).

***Scapheremaeus palustris* (Sellnick, 1924)** new status

Type: Destroyed
Comb./Syn.: *Cymbaeremaeus (Scapheremaeus) palustris* Sellnick, 1924 (698, p. 68)
Scapheremaeus palustris (Sellnick, 1924) (829, p. 118)
Add. Comb./Syn. Ref.: Hammen 338 (40).
Distribution: *USA*: Mich. - Wallwork 788 (172); Oreg. - Krantz 490 (pl. 160 fig 1)

Canada: Que. - Matthewman and Pielou 552 (833).
Palearctic: Willmann 829 (118); Hammen 338 (40); Kunst S03 (35); Niedbala S93 (299); Gilyarov 207 (237); Niedbala 604 (62).
Description: *Adult*: Sellnick 698 (68) fig.; Willmann 829 (118) fig.; Niedbala S93 (299); Gilyarov 207 (237) fig.; Krantz 490 (pl. 160 fig 1)
Key: Willmann 829 (118); Gilyarov 207 (237).
Add. References: Hammen 338 (40).
Ecology: Willmann 829 (118); Hammen 338 (40); Wallwork 788 (172); Kunst SO3 (35); Niedbala 604 (62).

***Scapheremaeus parvula* (Banks, 1909)** new comb.

Type: MCZ (see remarks)
Comb./Syn.: *Cymbaeremaeus parvula* Banks, 1909 (60, p. 141)
Distribution: *Canada*: Ont. - Banks 60 (141).
Description: *Adult*: Banks 60 (141) fig.
Ecology: Banks 60 (141).
Remarks: The type of this species and of *Eupelops terminalis* (Banks, l909) are on the same slide.

***Scapheremaeus petrophagus* (Banks, 1906)**

Syntypes: MCZ
Comb./Syn.: *Scutovertex petrophagus* Banks, 1906 (55, p. 194)
Scapherermaeus petrophagus (Banks, 1906) (436, p. 462)
Distribution: *USA*: Calif. - Krantz 490 (461); N.Y. - Banks 55 (194); Ewing 169 (385); Banks 63 (99); Jacot 436 (462).
Description: *Adult*: Banks 55 (194) fig.; 63 (99) fig.; Jacot 436 (462) fig.
Ecology: Banks 55 (194); Ewing 169 (385); Banks 63 (99); Jacot 436 (462); Krantz 490 (461).

***Scapheremaeus pulchellus* (Berlese, 1910)** new status

Type: SEA
Comb./Syn.: *Cymbaeremaeus (Scapheremaeus) pulchellus* Berlese, 1910 (87, p. 227)
Distribution: *USA*: Fla. - Berlese 87 (227).
Description: *Adult*: Berlese 87 (227) fig.

***Scapheremaeus* sp.**

Distribution: *USA*: N.Y. - Reeves 673 (27); Va. - Sengbusch 719 (130).
Canada: N.S. - Rasmy and MacPhee 670 (174).

***Scapheremaeus* sp. cf. *obliteratus* Hanuner, 1961**

Distribution: *USA*: N.M. - Wallwork et al. 1229 (169).

MICREREMIDAE GRANDJEAN, 1954

***Micreremus* Berlese, 1908**

Micreremus Berlese, 1908
Type-species: *Eremaeus brevipes* Michael, 1888 (84,p. 11).

***Micreremus* sp.**

Distribution: *USA*: Mass. - Norton (RAN unpub.).

LICNEREMAEIOIDEA Grandjean, 1931 **[=PASSAL0ZETOIDEA Balogh, 1961]**

LICNEREMAEIDAE GRANDJEAN, 1931

***Licneremaeus* Paoli, l908**

Licneremaeus Paoli, l908
Type-species: *Notaspis licnophorus* Michael, 1882 (648, p. 83).

***Licneremaeus* sp**.

Distribution: *USA*. Fla. - Norton (RAN unpub.); Ga. - Norton (RAN unpub.); La. Norton (RAN unpub.); N.H. - Norton (RAN unpub.); N.C. - Norton (RAN unpub.).

PASSAL0ZETIDAE GRANDJEAN, 1954

***Passalozetes* Grandjean, 1932**

Passalozetes Grandjean, 1932
Type-species: *Passalozetes africanus* Grandjean, 1932 (215, p. 294).

***Passalozetes californicus* Wallwork, 1972**

Type: USNM
Comb./Syn.: *Passalozetes californicus* Wallwork, 1972 (803, p. 99)
Distribution: *USA*: Calif. - Wallwork 803 (99); 80l (297); N.M. - Wallwork et al. 1229 (169).

Description: *Adult*: Wallwork 803 (99) fig.
Biology: Wallwork et al. 1229 (169).
Ecology: Wallwork 803 (99); 80l (297); Wallwork et al. 1229 (169).

Passolozetes californicus orientalis **Wallwork, Weems and Kamill, 1984**

Type: IA
Comb./Syn.: *Passalozetes californicus orientalis* Wallwork, Weems and Kamill, 1984 (1195, p. 198)
Distribution: *USA*: N.M. - Wallwork et al. 1195 (198).
Description: *Adult*: Wallwork et al. 1195 (198) fig.; photo.
Ecology: Wallwork et al. 1195 (198).

Passatozetes linearus **Higgins and Woolley, 1962**

Type: USNM; Paratypes: FMNH
Comb./Syn.: *Passalozetes linearus* Higgins and Woolley, 1962 (396, p. 93)
Distribution: *USA*: Utah - Higgins and Woolley 396 (93).
Description: Adult: Higgins and Woolley 396 (93) fig.
Key: Higgins and Woolley 396 (93).
Ecology: Higgins and Woolley 396 (93).

Passalozetes moniles **Higgins and Woolley, 1975**

Type: FMNH; Paratypes: FMNH
Comb./Syn.: *Passalozetes moniles* Higgins and Woolley, 1975 (407, p. 106)
Distribution: *USA*: Colo. - Higgins and Woolley 407 (106).
Description: Adult: Higgins and Woolley 407 (106) fig.
Ecology: Higgins and Woolley 407 (106).

Passalozetes neomexicanus **Wallwork, Weems and Kamill, 1984**

Type: IA
Comb./Syn.: *Passalozetes neomexicanus* Wallwork, Weems and Kamill, 1984 (1195, p. 195)
Distribution: *USA*: N.M. - Wallwork et al. 1195 (195); Wallwork et al. 1229 (169).
Description: *Adult*: Wallwork et al. 1195 (195) fig.; photo.
Biology: Wallwork et al. 1229 (169).
Ecology: Wallwork et al. 1195 (195); Wallwork et al. 1229 (169).

Passalozetes neomexicanus granulatus **Wallwork, Weems and Kamill, 1984**

Type: IA
Comb./Syn.: *Passalozetes neomexicanus granulatus* Wallwork, Weems and Kamill, 1984 (1195, p. 198)

Distribution: *USA*: N.M. - Wallwork et al. ll95 (198); Wallwork et al. 1229 (169).
Description: *Adult*: Wallwork et al. 1195 (198) fig.; photo.
Ecology: Wallwork et al. ll95 (198); Wallwork et al. 1229 (169).

SCUTOVERTICIDAE GRANDJEAN, 1954

***Exochocepheus* Woolley and Higgins, 1968**

Exochocepheus Woolley and Higgins, 1968
Type-species: *Exochocepheus eremitus* Woolley and Higgins, 1968 (894, p. 144).
Remarks: This genus was originally included in the Tectocepheidae, but it is not closely related to that family. It possesses the peculiar leg structure of Scutoverticidae, including modified setae and presence of saccules and brachytracheae, and fits Grandjean's (277, p. 438) description of the family well, except for the absence of notogastral pores and the lenticulus, absences that have since been cited in other members of the family (207, p. 248).

***Exochocepheus eremitus* Woolley and Higgins, 1968**

Type: USNM; Paratypes: FMNH
Comb./Syn.: *Exochocepheus eremitus* Woolley and Higgins, 1968 (894, p. 144)
Distribution: *USA*: Utah - Woolley and Higgins 894 (144).
Description: *Adult*: Woolley and Higgins 894 (144) fig.; Balogh 42 (pl. 28 fig. 3-4) [!].
Ecology: Woolley and Higgins 894 (144).

***Provertex* Mihelčič, l9S9**

Provertex Mihelčič, 1959
Type-species: *Provertex kuehnelti* Mihelčič, 1959 (1214, p. 366).

***Provertex* sp.**

Distribution: *USA*: Calif. - Norton (RAN unpub.).

***Scutovertex* Michael, 1879**

Scutovertex Michael, 1879
Type-species: *Scutovertex sculptus* Michael, 1879 (559, p. 241).

***Scutovertex* sp.**

Distribution: *USA*: Va. - Sengbusch 719 (131).

Scutovertex n. sp.

Distribution: *USA*: N.M. - Wallwork et al. 1229 (169).

ORIPODOlDEA Jacot, 1925 **[=ORIBATU10lDEA Thor, 1929]**

Remarks: The Oripodidae Jacot, 1925 is the oldest family currently recognized in this group, hence the superfamily name Oripodoidea. We are using the name in the same sense as Grandjean's "Excentrosclerosae" to include the Mochlozetidae (1205, p. 452) and the Parakalummidae (1225, p. 215). The former family has been included in the Ceratozetoidea; the latter in the Galumnoidea (42, p. 173, 175). The recent revision of the Oribatuloidea by Balogh and Balogh (1191) was received too late to consider its use in this catalogue. There are many changes suggested by these authors, which if adopted, would affect the familial arrangement of North American genera.

ORIPODlDAE JACOT, 1925

Benoibates Balogh, 1958

Benoibates Balogh, 1958
Type-species: *Benoibates flagelliger* Balogh, 1958 (38, p. 25).

Benoibates juglans (Jacot, 1938)

Type: Unknown
Comb./Syn.: *Exoribatula juglans* Jacot, 1938 (461, p. 5l)
Benoibates juglans (Jacot, 1938) (28, p. 145)
Distribution: *USA*: Fla. - Jacot 461 (51).
Description: *Adult*: Jacot 461 (51) fig.
Taxonomy: Aoki and Ohkubo 29 (145).
Ecology: Jacot 461 (51).
Remarks: Aoki and Ohkubo (29, p. 145) first suspected that *Exoribatula juglans* Jacot, 1938 was not congeneric with the type-species of *Exoribatula, E. biundata* Jacot, 1936, and that it was misplaced in the Oribatulidae. He also noted the possibility of including *E. juglans* in *Benoibates*. Although no type specimens are known, one of us (RAN) has examined specimens of this distinctive species from Florida, and confirmed Aoki's suspicion. We credit him with the present recombination, even though it was not explicitly made.

Gymnobates Banks, l902

Gymnobates Banks, l902
Type-species: *Gymnobates glaber* Banks, l902 (50, p. 175).

Gymnobates glaber Banks, 1902

Type: MCZ
Comb./Syn.: *Gymnobates glaber* Banks, 1902 (50, p. 176)
Distribution: *USA*: D.C. - Banks 50 (176); Ewing 169 (379); Woolley 870 (15).
Description: *Adult*: Banks 50 (176) fig.; 52 (70) fig.; 63 (98) fig.; Woolley 870 (15) fig.
Taxonomy: Aoki and Ohkubo 29 (140).
Ecology: Banks 50 (176); Ewing 169 (379).
Remarks: The type specimen has 10 pairs of notogastral setae, not nine as Woolley (870, p. l5) stated.

Gymnobatoides Woolley, 1966

Gymnobatoides Woolley, 1966
Type-species: *Gymnobates longus* Ewing, l909 (870, p. 23).

Gymnobatoides longus (Ewing, 1909)

Syntypes: USNM
Comb./Syn.: *Gymnobates longus* Ewing, 1909 (171, p. 410)
Gymnobatoides longus (Ewing, 1909) (870, p. 23)
Add. Comb./Syn. Ref.: Woolley 870 (23); Aoki and Ohkubo 29 (144).
Distribution: *USA*: Ill. - Ewing 171 (410).
Description: *Adult*: Ewing 171 (410) fig.
Taxonomy: Aoki and Ohkubo 29 (144).

Oripoda Banks, l904

Oripoda Banks, l904
Type-species: *Oripoda elongata* Banks and Pergande, l904 (52, p. 70) (see remarks under this species)

Oripoda elongata Banks and Pergande, 1904

Type: Unknown
Comb./Syn.: *Oripoda elongata* Banks and Pergande, 1904 (52, p. 70)
Distribution: *USA*: Iowa - Ewing 174 (211); Woolley 864 (279); 870 (6); Md. - Krull 1211 (522); Woolley 864 (279); 870 (6); Mich. - Ewing 174 (211); Woolley 870 (6); Miss. - Woolley 870 (6); N.M.

- Woolley 870 (6); N.Y. - Woolley 870 (6). Reeves 673 (28); Tex. - Woolley 870 (6). Va. - Woolley 864 (279); 870 (6).
Description: *Adult*: Banks and Pergande 52 (70) fig.; Ewing 174 (211) fig.; Banks 63 (98) fig.; Baker and Wharton 36 (419) fig.; Woolley 864 (279) fig.; 870 (6) fig.; Balogh 42 (pl.45 fig. 3-4).
Taxonomy: Grandjean 285 (185).
Key: Aoki and Ohkubo 29 (138).
Ecology: Ewing 174 (211); Krull 1211 (522); Woolley 870 (6); Reeves 673 (28).
Remarks: In a book by Banks l904 (52, p. 70) Pergande supplied the figure of this species. There was some early confusion as to the authorship of the name; subsequently both Banks and Pergande were regarded as authors.

***Oripoda moderata* Berlese, 1916**

Type: SEA
Comb./Syn.: *Oripoda moderata* Berlese, 1916 (92, p. 310)

Distribution: *USA*: Mo. - Berlese 92 (310).
Description: *Adult*: Berlese 92 (310).
Ecology: Berlese 92 (310).

***Oripoda* sp.**

Distribution: *USA*: Minn. - Wagner et al. 786 (14).

SCHEL0RIBATIDAE GRANDJEAN, 1933

***Dometorina* Grandjean, 1951**

Dometorina Grandjean, 1951
Type-species: *Oribatula plantivaga* Berlese, 1895 (1057, p. 225).

***Dometorina plantivaga* (Berlese, 1895)**

Type: SEA
Comb./Syn.: *Oribatula plantivaga* Berlese, 1895 (77, Vol. 77 (5))
Dometorina plantivaga (Berlese, 1895) (1057, p. 224)
Eporibatula plantivaga (Berlese, 1895) (829, p. 154)
Notaspis plantivaga (Berlese, 1895) (564, p. 45)

Oppia tibialis sensu Berlese, 1892 (77 Vol. 64 (1)); non *Oribatula tibialis* sensu Berlese, 1895 (338, p. 89); nec *Notaspis tibialis* Nicolet, 1855 (564, p. 45)
Add Comb./Syn. Ref.: Moritz 571 (156); Gilyarov 207 (256).
Distribution: *USA*: Hammer 365 (75) [Q.I.].
Canada: N.S. - Rasmy and MacPhee 670 (174).
Mexico: Hammer 365 (75).
Palearctic: Michael 564 (45); Berlese 92 (322); Willmann 829 (154); Grandjean 1057 (224); Hammen 338 (89); Markel 543 (479); Sellnick 709 (70); Travé 775 (226); Moritz 571 (156); Travé 777 (233); Hammer 365 (75); Rajski 669 (228); Gilyarov 207 (256); Luxton 532 (189); Lebrun 514 (422); Niedbala 604 (62).
Neotropical: Hammer 365 (75).
Description: *Adult*: Berlese 77 (Vol. 77 (5)); Michael 564 (45); Berlese 92 (322); Willmann 829 (154) fig.; Grandjean 1057 (224) chaet., fig.; Balogh 42 (pl.43 fig.l4, pl. 67 fig. 8); Gilyarov 207 (256) fig.
Tritonymph: Grandjean 1057 (224) fig.
Larva: Grandjean 1057 (224) fig.
Key: Michael 564 (45); Willmann 829 (154); Sellnick 709 (70).
Add. References: Michael 564 (45); Hammen 338 89);344 (16); Grandjean 275 (117).
Ecology: Michael 564 (45); Berlese 92 (322); Willmann 829 (154); Grandjean 1057 (224); Hammen 338 (89); Markel 543 (479); Sellnick 709 (70); Travé 775 (226); Moritz 571 (156); Travé 777 (233); Hammer 365 (75); Rajski 669 (228); Rasmy and MacPhee 670(174); Luxton 532 (189); Lebrun 514 (422); Wallwork 950 (342); Niedbala 604 (62); Iturrondobeitia and Subias 982 (90).

***Hemileius* Berlese, 1916**

Hemileius Berlese, 1916
Type-species: *Protoribates (Scheloribates) initialis* Berlese, l908 (92, p.322).

***Hemileius comatus* (Berlese, 1920)** new status

Type: SEA
Comb./Syn.: *Oribatula (Hemileius) comata* Berlese, 1920 (93, p. 150)
Distribution: *USA*: Mo. - Berlese 93 (150).
Description: *Adult*: Berlese 93 (150).
Ecology: Berlese 93 (150).

***Hemileius haydeni* (Higgins and Woolley, 1975)** new comb.

Type: FMNH
Comb./Syn.: *Multoribates haydeni* Higgins and Woolley, 1975 (407, p. 104)
Distribution: *USA*: Colo. - Higgins and Woolley 407 (104).

Description: *Adult*: Higgins and Woolley 407 (104) fig.
Ecology: Higgins and Woolley 407 (104).
Remarks: The holotype and many topotypic specimens have been examined and it is clear that this mite has only 10 pairs of notogastral setae, not 11 as indicated in the original description. The original Figure 3 shows a seta, laterad of notogastral lyrifissure *im*, which is not present in any of these specimens.

Hemileius nicki **Denmark and Woodring, 1965**

Type: USNM
Comb./Syn.: *Hemileius nicki* Denmark and Woodring, 1965 (150, p. 12)
Distribution: *USA*: Fla. - Denmark and Woodring l50 (12).
Description: *Adult*: Denmark and Woodring l50 (12) fig.
Tritonymph: Denmark and Woodring l50 (12) fig.
Larva: Denmark and Woodring 150 (12) fig.
Ecology: Denmark and Woodring 150 (12).

(?) ***Hemileius quadripilis*** **(Fitch, 1856)** new comb.

Type: USNM
Comb./Syn.: *Oribata quadripilis* Fitch, 1856 (184, p. 442)
Notaspis pallida Ewing, 1909 (170, p. 127) new syn. **Syntypes**: USNM
Oribatula pallida (Ewing, 1909) (350, p. 43)
Add. Comb./Syn. Ref.: Woolley 866 (3); Coetzer 135 (57).
Distribution: *USA*: Banks 57 (615); Osborn and Underwood 935 (9); Ill. - Ewing 170 (127); Va. - Sengbusch 719 (131) [!].
Canada: N.W.T. - Hammer 350 (43); Behan 73 (393); Y.T. - Behan 73 (393).
Palearctic: Behan 73 (393); Danks 971 (403).
Ethiopian: Coetzer 135 (57).
Description: *Adult*: Fitch 184 (442); Ewing 170 (127) fig.; Hammer 350 (43) fig.; Woolley 866 (3) fig.
Key: Ewing 170 (127).
Ecology: Ewing 170 (127); Hammer 350 (43); Sengbusch 719 (131) [!]; Behan 73 (393); Danks 971 (403).
Remarks: Hammer's recombination (350, p. 43) of *Notaspis pallida* Ewing, l909 to *Oribatula pallida* and Woolley's redescription (866, p. 3) of this species also under *Oribatula pallida* created secondary homonymy with *Oribatula pallida* Banks, l906, but neither author mentioned this problem. Like Coetzer (135, p. 57), we conclude that the generic placement of Ewing's *N. pallida* is problematical, however, we regard it as a junior subjective synonym of (?) *Hemileius quadripilis* (Fitch, 1856).

Hemileius **sp**.

Distribution: *Canada*: Que. - Matthewman and Pielou 552 (833).

Hemileius sp. cf. *initialis* (Berlese, 1908)

Distribution: *USA*: N.M. - Wallwork et al. 1229 (169).

Liebstadia Oudemans, 1906

Liebstadia Oudemans, 1906
Type-species: *Notaspis similis* Michael, 1888 (633, p. 10l).

Liebstadia humerata Sellnick, 1928

Type: Destroyed
Comb./Syn.: *Liebstadia humerata* Sellnick, 1928 (700, p. 16)
Distribution: *USA*: Travé 775 (226); Tenn. - Crossley and Bohnsack 142 (631) [!]; Va. - Sengbusch 719 (132).
Canada: N.B. - Pielou and Verma 658 (1191).
Palearctic: Willmann 829 (154); Karppinen 478 195); Travé 775 (226); Rajski 668 (22); Travé 777 (233); Lebrun 507 (103); Rajski 669 (234); Rubcova 681 (386); Gilyarov 207 (265); Luxton 532 (189); Lions 523 (172); Niedbala 604 (62); Christensen 969 (24).
Description: *Adult*: Sellnick 70O (16); Willmann 829 (154) fig.
Key: Willmann 829 (154); Gilyarov 207 (265).
Add. References: Willmann 829 (154).
Ecology: Willmann 829 (154); Sengbusch 719 (132); Karppinen 478 195); Crossley and Bohnsack 142 (631) [!]; Travé 775 (226); Rajski 668 (22); Travé 777 (233); Lebrun 507 (103); Pielou and Verma 658 (1191); Rajski 669 (234); Rubcova 681 (386); Luxton 532 (189); Lions 523 (172); Niedbala 604 (62); Christensen 969 (24).

Liebstadia similis Michael, (1888)

Syntypes: BM(NH)
Comb./Syn.: *Notaspis similis* Michael, 1888 (561, p. 363)
Eremaeus similis (Michael, 1888) (626, p. 152)
Liebstadia similis (Michael, 1888) (829, p. 153)
Oribatula similis (Michael, 1888) (633, p. 101)
Protoribates silésius Sellnick, 1925 (699, p. 163): (70O, p. 16). **Type:** Destroyed
Oribates pallidula sensu Oudemans, 1896, (622 p. 57): (338, p. 88); non C.L. Koch, 1841
Add. Comb./Syn. Ref.: Willmann 829 (153).
Distribution: *USA*: Hammer 365 (74) [Q.I.]; Alaska - Hammer 354 (17); 362 (22); Behan 73 (393); MacLean et al. 534 (562).

Canada: Hammer 365 (74); MacLean et al. 534 (562); Alta. - Hammer 350 (43); N.W.T. - Hammer 350 (43); Behan 73 (393); Y.T. - Behan 73 (393).
Nearctic: Willmann 835 (231); Hammer 348 (23); 349 (19); 352 (411); Strenzke 754 (48); Schweizer 691 (308); Haarlov 328 (10); Hammer 362 (22); Rajski 669 (236); MacLean et al. 534 (562).
Palearctic: Michael 561 (363); 564 (45); Willmann 829 (153); Tuxen 779 (333); Willmann 835 (231); Hammer 348 23);349 (19); Weis-Fogh 817 (204); Hammen 338 88); MacFadyen 533 (109); Strenzke 754 (48); Schweizer 691 (308); Haarlov 326 (39); Schweizer 692 (tab. 10 no. 410); Kunst 503 (38); Haarlov 327 (134); Rajski 668 22); Dalenius 144 (108); 145 (5); Davis 148 67); Moritz 571 (156); Byzova 125 (185); Block l10 (246); Lebrun 507 (103); Block 113 (31); Hammer 362 (22); Luxton 529 (57); 530 (270); Wood 843 (116); Hammer 365 (74); Zlotin and Krivoluckij 906 (256); Rajski 669 (236); Grisina 323 (83); Kurcheva 504 (95); Polderman 660 (360); Gilyarov 207 (265); Luxton 532 (189); Niedbala 604 (62); MacLean et al. 534 (562); Danks 971 (403).
Australian: Spain and Luxton 947 (204).
Description: *Adult*: Michael 561 (363) fig.; Willmann 829 (153) fig.; Hammer 350 (43) fig.; Schweizer 691 (308) fig.; Haarlov 326 (39) fig.; 328 (10) photo.; Weigmann 814 (429) fig.
Nymph: Tuxen 779 (333) fig.
Key: Michael 564 (45); Willmann 829 (153); Gilyarov 207 (265).
Add. References: Willmann 829 (153); Hammen 338 (88); Haarlov 326 (39).
Miscellaneous: Lasebikan et al. 984 (52) extract.
Food: Behan and Hill 75 (500).
Ecology: Michael 561 (363); 564 (45); Willmann 829 (153); Tuxen 779 (333); Hammer 348 (23); 349 (19); Weis-Fogh 817 (204); Hammen 338 (88); Hammer 350 (43); 352 (411); MacFadyen 533 (109); Hammer 354 (17); Strenzke 754 (48); Schweizer 691 (308); Haarlov 326 (39); Schweizer 692 (tab. 10 no. 410); Kunst SO3 (38); Haarlov 327 (134); Rajski 668 (22); Dalenius 144 (108); 145 (5); Davis 148 (67); Moritz 571 (156); Byzova 125 (185); Block l10 (246); Lebrun 507 (103); Block 113 (31); Haarlov 328 (10); Hammer 362 (22); Luxton 529 (57); 530 (270); Wood 843 (116); Hammer 365 (74); Zlotin and Krivoluckij 906 (256); Spain and Luxton 947 (204); Grishina 323 (83); Kurcheva 504 (95); Polderman 660 (360); Luxton 532 (189); Wallwork 950(346); Zyromska-Rudzka 1033 (106); Niedbala 604 (62); Behan 73 (393); Krantz 490 (573); MacLean et al. 534 (562); Zyromska-Rudzka 1034 (108); Danks 971 (403).

***Liebstadia* sp**.

Distribution: *USA*: Md. - Krull 1211 (522); Mich. - Wallwork 788 172); Va. - Sengbusch 719 (132).

***Liebstadia* sp. nr. *humerata* Sellnick, 1928**

Distribution: *Canada*: N.B. - Pielou and Verma 658 (1191).

***Metaleius* Travé, 1960**

Metaleius Travé, 1960
Type-species: *Metaleius strenzkei* Travé, 1960 (775, p. 229).

***Metaleius* sp**.

Distribution: *USA*: N.C. - Norton (RAN unpub.).

***Paraleius* Travé, 1960**

Paraleius Travé, 1960
Type-species: *Oribella leontonycha* Berlese, 1910 (775, p. 226).

***Paraleius* sp**.

Distribution: *USA*: La. - Norton (RAN unpub.).

***Scheloribates* Berlese, 1908**

Scheloribates Berlese 1908
Type-species: *Zetes latipes* C.L. Koch, 1844 (84, p. 2).
Storkania Jacot, 1929
Type-species: *Oribata simplex* Storkan, 1925 (424, p. 429: 42, p. 180).
Paraschelobates Jacot, 1934
Type-species: *Scheloribates (Paraschelobates) mumfordi* Jacot, 1934 (1068, p. 225: 42, p.179).
Protoschelobates Jacot, 1934
Type-species: *Murcia insularis* Oudemans, 1917 (433, p. 40: 42, p. 180). *Styloribates* Jacot, 1934
Type-species: *Styloribates pectinatus* Jacot, 1934 (433, p. 61: 42, 180).
Propeschelobates Jacot, 1936
Type-species: *Oribatula [!] albida* Ewing 1908 (447, p. 547: 42, p. 180).

***Scheloribates albidus* (Ewing, l908)** new comb.

Syntype: USNM
Comb./Syn.: *Oribata albida* Ewing, 1908 (166, p. 106)
Propeschelobates albida (Ewing, 1908)(447, p. 547)
Distribution: *USA*: Ill. - Ewing 166 (106).
Description: *Adult*: Ewing 166 (106) fig.; Jacot 447 (547).
Ecology: Ewing 166 (106).

***Scheloribates badius* (Ewing, 1908)**

Syntypes: MCZ, USNM
Comb./Syn.: *Oribata badia* Ewing, 1908 (166, p. 105)
Scheloribates badia (Ewing, 1908) (866, p. 8)
Distribution: *USA*: Ill. - Ewing 166 (105); Woolley 866 (8). **Description:** *Adult*: Ewing 166 (105) fig.; Woolley 866 (8) fig. **Ecology:** Ewing 166 (105); Woolley 866 (8).

***Scheloribates callipus* (Berlese, 1908)** new status

Type: SEA
Comb./Syn.: *Protoribates (Scheloribates) callipus* Berlese, 1908 (84, p. 2)
Distribution: *Nearctic*: Berlese 84 (2).
Description: *Adult*: Berlese 84 (2).
Remarks: Berlese's record is most likely from District of Columbia, Florida or Missouri (see 426, p. 239; 452, p. 238).

***Scheloribates clavilanceolatus* (Ewing, 1907)** new comb.

Syntypes: USNM
Comb./Syn.: *Oribata clavilanceolata* Ewing, 1907 (164, p. 112)
Ceratozetes clavilanceolata (Ewing, 1907) (180, p. 84)
Distribution: *USA*: Ill. - Ewing 164 (112); 169 (381); Oreg. - Ewing 180 (84).
Description: *Adult*: Ewing 164 (112) fig.
Ecology: Ewing 169 (381); 180 (84).

***Scheloribates crinitus* (Berlese, 1910)** new status

Type: SEA
Comb./Syn.: *Protoribates (Scheloribates) crinitus* Berlese, 1910 (85, p. 265)
Distribution: *USA*: Fla. - Berlese 85 (265).
Description: *Adult*: Berlese 85 (265).

***Scheloribates hystrix* (Berlese, 1916)** new status

Type: SEA
Comb./Syn.: *Protoribates (Scheloribates) hystrix* Berlese, 1916 (92, p. 314)
Distribution: *USA*: Mo. - Berlese 92 (314).
Description: *Adult*: Berlese 92 (314).
Ecology: Berlese 92 (314).

***Scheloribates laevigatus* (C.L. Koch, 1835)**

Type: Unknown

Comb./Syn.: *Zetes laevigatus* C.L. Koch, 1835 (485, Vol. 3 (8))
Scheloribates laevigatus (C.L. Koch, 1835) (829, p. 160)
Oribata lucasi Nicolet, 1855 (592, p. 432): (338, p. 87). **Type:** Not designated
Notaspis lucasi (Nicolet, 1855) (626 p. 152)
Murcia lucasi (Nicolet, 1855) (635, p. 282)
Oribates fuscomaculata sensu Oudemans, 1896 (622 p. 57); non C.L. Koch, 1841 (338, p. 87)
Distribution: *USA*: Hammer 365 (75) [Q.I.]; Ill. - Ewing 173 (98); Ky. - Wallwork and Rodriguez 806 (703); Ibarra et al. 412 (155); Mich. - Wallwork 788 (172); 789 (262); N.Y. - Sengbusch 717 (159); S.Dak. - Kates and Runkel 481 (23).
Canada: N.W.T. - Oliver 619 (179) [!].
Palearctic: Michael 561 (262) [!]; 563 (41 7) [!]; 564 (22); André 5 (507); Willmann 829 (160); Hammer 349 (36); Weis-Fogh 817 (205); Willmann 836 (193); Hammen 338 (87); MacFadyen 533 (109); Schweizer 691 (311); Haarlov 326 (46); Schweizer 692 (tab. 10 no. 415); Sellnick 707 (51); Tarman 762 (80-91); Kunst 503 (38); Haarlov 327 (156); Moskacheva 578 (369); Travé 775 (226); Davis and Murphy 149 (5); Rajski 668 (24); Tarras-Wahlberg 765 (31); Aoki 10 (179); Eitminavichyute l56 (146); Zgardan 904 (143-152); Davis 148 (67); Moritz 571 (157); Pletzen 6S9 (692); Travé 777 (232); Byzova 124 (293); 125 (185); Aoki 12 (11); Lebrun 507 (103); Moritz 572 (71); Vanek 784 (255); Krivoluckij 495 (185); Wood 843 (116); Hammer 365 (75); Rajski 669 (242); Bernini 98 (394); Rubcova 681 (386); Polderman 660 (360); Gilyarov 207 (267); Luxton 532 (189); Lions 523 (ln); Nakamura 582 (250); Hammer 373 (49).
Description: *Adult*: Koch 485 (Vol. 3 (8)); Michael 561 (262) [!] fig.; 564 (22); Ewing 173 (98) fig.; Willmann 829 (160) fig.; Grandjean 247 (52) chaet.; 251 (13) chaet.; Kates and Runkel 481 (23) fig., photo.; Hammen 338 (87) fig.; Schweizer 691 (311) fig.; Haarlov 326 (46) fig.; Grandjean 296 (354) chaet., fig.; Woodring 844 (394) fig.; Woodring and Cook 849 (105) fig.; Pletzen 659 (692); Weigmann 814 (426) fig. , ,; Bernini 100 (67) photo.. Gilyarov 207 (267) fig.
Nymph: Michael 561 (262) [!] fig.
Tritonymph: Woodring and Cook 849 (105) fig.; Grandjean 317 (438) fig.
Deutonymph: Woodring and Cook 849 (105) fig.
Protonymph: Woodring and Cook 849 (105) fig.
Larva: Woodring and Cook 849 (105) fig.
Key: Michael 564 (22); Willmann 829 (160); Gilyarov 207 (267).
Add. References: Willmann 829 (160); Sengbusch 717 (159); Hammen 338 (87); 344 (33).
Morphology: Woodring 844 (394); Grandjean 317 (438).
Biology: Woodring and Cook 849 (105); Lebrun 511 (202); Luxton 988 (339).
Food: Wallwork 789 (262); Woodring and Cook 849 (105); Luxton 531 (463).
Miscellaneous: Bernini 10O (67) anat.; Sengbusch 10I3 (84) cult.
Ecology: André 5 (507); Willmann 829 (160); Kates and Runkel 481 (23). Weis-Fogh 817 (205); Sengbusch 717 (159); Hammen 338 (87); MacFadyen 533 (109); Schweizer 691 (311); Haarlov 326 (46); Schweizer 692 (tab. 10 no. 415); Wallwork 788 (172); Sellnick 707 (51); Tarman 762 (64); Kunst

503 (38); Haarlov 327 (156); Moskacheva 578 (369); Travé 775 (226); Davis and Murphy 149 (5); Rajski 668 (24); Tarras-Wahlberg 765 (31); Wallwork and Rodriguez 806 (703); Aoki 10 (179); Eitminavichyute 156 (146); Woodring and Cook 849 (105); Zgardan 904 (143-152); Davis 148 (67); Moritz 571 (157); Oliver 619 (179) [!]; Pletzen 659 (692); Travé 777 (232); Byzova 124 (293); 125 (185); Aoki 12 (11); Ibarra et al. 412 (155); Lebrun 507 (103); Moritz 572 (71); Vanek 784 (255); Krivoluckij 495 (185); Wood 843 (116); Hammer 365 (75); Bernini 96 (425); Rajski 669 (242); Bernini 98 (394); Rubcova 681 (386); Polderman 660 (360); Luxton 532 (189); Lions 523 (172); Nakamura 582 (250); Wallwork 950 (352); Zyromska-Rudzka 1033 (160); Hammer 373 (49); Mochnacka-Lawacz and Zyromska-Rudzka 995 (492); Zyromska-Rudzka 1034 (108).

Scheloribates laminatus (Ewing, 1909)

Type: USNM
Comb./Syn.: *Oribata laminata* Ewing, 1909 (866, p. 9)
Scheloribates laminata (Ewing, 1909) (866, p. 9)
Distribution: *USA*: Ill. - Ewing 171 (411). Woolley 866 (9).
Description: *Adult*: Ewing 171 (411) fig.; Woolley 866 (9) fig.
Key: Ewing 171 (411).
Ecology: Ewing 171 (411); Woolley 866 (9).

Scheloribates lanceoliger (Berlese, 1908)

Type: SEA
Comb./Syn.: *Protoribates (Scheloribates) lanceoliger* Berlese, 1908 (84, p. 2)
Scheloribates lanceoliger (Berlese, 1908) (450, p. 370)
Galumna sylvicola Banks, 1909 (60, p. 138): (457, p. 655). **Type:** Unknown
Oribata helvina Ewing, 1909 (170, p. 122): (457, p. 655). **Type:** Not designated ("Autotype" in USNM)
Distribution: *USA*: Ill. - Ewing 170 (122); Jacot 457 (655); Minn. - Freeman 20O (113); Mo. - Berlese 84 (2); Jacot 457 (655). N.C. - Jacot 450 (370).
Canada: Ont. - Banks 60 (138); Jacot 457 (655).
Description: *Adult*: Berlese 84 (2); Banks 60 (138) fig.; Ewing 170 (122) fig.
Key: Ewing 170 (122).
Food: Woodring 845 (102).
Ecology: Banks 60 (138); Ewing 170 (122); Freeman 20O (113).

Scheloribates latipes (C.L. Koch, 1844)

Type: Unknown
Comb./Syn.: *Zetes latipes* C.L. Koch, 1844 (485, Vol. 38 14))
Oribates latipes (C.L. Koch, 1844) (829, p. 157)

Scheloribates latipes (C.L. Koch, 1844) (829, p. 157)
Add. Comb./Syn. Ref.: Willmann 829 (159); Sengbusch 717 (158); Hammen 338 (86).
Distribution: *USA*: Hammer 365 (75) [Q.I.]; N.Y. - Sengbusch 717 (158); Va. - Sengbusch 719 (132). *Palearctic*: Willmann 829 (159); Hammen 338 86); MacFadyen 533 (109); Schweizer 691 (309);692 (tab. 10 no. 411); Kunst 503 (38); Rajski 668 24); Aoki 10 (179) Eitminavichyute 156 (146); Davis 148 (67); Moritz 571 (157); Byzova 124 (293) 125 (I85); Aoki 12 (11); Lebrun 507 (103); Moritz 572 (71); Aoki 17 (139); Hammer 365S(75); Aoki 18 441); Rajski 669 (233); Hammer 370(416); Aoki 22 (64); Grishina 323 (83); Rubcova 681 (386); Gilyarov 207 (268); Luxton 532 (189); Aoki 25 (146); Lions 523 (172); Nakamura 582 (250); Hammer 373 (49).
Description: *Adult*: Koch 485 (Vol. 38 14)); Willmann 829 (159) fig.; Sengbusch 71 (158) fig.; Schweizer 691 (309) fig.; Weigmann 814 (426) fig. ; Aoki 22 (64) fig.; Gilyarov 207 (268) fig.
Key: Willmann 829 (159); Gilyarov 207 (268).
Add. References: Willmann 829 (159); Sengbusch 717 (158); Hammen 338 (86).
Ecology: Willmann 829 (159); Sengbusch 717 (158); Hammen 338 86); Macfadyen 533 (109). Schweizer 691 (309); 692 (tab. 10 no. 411); Sengbusch 719 (132); Kunst 503 (38); Rajski 668 (24); Aoki 10 (179); Eitminavichyute 156 (146); Davis 148 (67); Moritz 571 (157); Byzova 124 (293);125 (185); Aoki 12 (11); Lebrun 507 (103); Moritz 572 (71); Aoki 17 (139); Hammer 365 (75); Aoki 18 441); Rajski 669 (233); Hammer 370 (416); Aoki 22 (64); Grisina 323 (83); Rubcova 681 (386); Luxton 532 (189); Aoki 25 (146); Lions 523 (172); Nakamura 582 (250); Wallwork 950 (352); Hammer 373 (49).

***Scheloribates milleri* Jacot, 1936**

Type: MCZ, USNM (Cotypes)
Comb./Syn.: *Scheloribates milleri* Jacot, 1936 (447, p. 548)
Distribution: *USA*: N.C. - Pearse 649 (148); Ohio - Jacot 447 (548).
Description: *Adult*: Jacot 447 (548) fig.
Ecology: Jacot 447 (548); Pearse 649 (148).

***Scheloribates moestus* (Banks, 1895)** new comb.

Syntypes: MCZ
Comb./Syn.: *Oribata moesta* Banks, 1895 (45, p. 6)
Galumna moesta (Banks, 1895) (56, p. 492)
Distribution: *USA*: Banks 57 (611); N.Y. - Banks 45 (6); Michael 564 (25); Ewing 169 (381); N.C. - Pearse 649 (148).
Description: *Adult*: Banks 45 (6); Michael 564 (25).
Taxonomy: Banks 56 (492).
Key: Banks 45 (6); Michael 564 (25).
Ecology: Banks 45 (6); Ewing 169 (381); Pearse 649 (148).

Scheloribates muiricius Jacot, 1937

Type: USNM (Cotypes)
Comb./Syn.: *Scheloribates muiricius* Jacot, 1937 (455, p. 367
Distribution: *USA*: N.C. - Jacot 455 (367).
Description: Adult: Jacot 455 (367).
Ecology: Jacot 455 (367).

Scheloribates nudus Woodring, 196

Syntypes: USNM
Comb./Syn.: *Scheloribates nudus* Woodring, 1965 (846, p. 574)
Distribution: *USA*: La. - Woodring 846 (574).
Description: *Adult*: Woodring 846 (574) fig.
Tritonymph: Woodring 846 (574) fig.
Larva: Woodring 846 (574) fig.
Biology: Woodring 846 (574); Lebrun 511 (202); Butcher et al. 123 (258).
Food: Woodring 846 (574); Luxton 531 (463).

Scheloribates pallidulus (C.L. Koch, 1841)

Type: Unknown
Comb./Syn.: *Zetes pallidulus* C.L. Koch, 1841 (485, Vol. 31 (9))
Oribata pallidula (C.L. Koch, 1841) (564, p. 16)
Scheloribates pallidulus (C.L. Koch, 1841) (829, p. 159)
Add. Comb./Syn. Ref.: Bernini 101 (463).
Distribution: *USA*: Alaska - Hammer 354 (18); Marshall 548 (81); Ky. - Ibarra et al. 412 (155); Mich. - Wallwork 788 (172); 789 (262); 790 (561); Marshall 548 (81); N.Y. - Marshall 548 (81); Reeves 673 (27); Va. - Sengbusch 719 (132); Marshall 548 (81).
Canada: Alta. - Hammer 350 (44); Marshall 548 (81); Man. - Hammer 350 (44); Marshall 548 (81); Nfld. - Hammer 350 (44); Behan 73 (393); N.W.T. - Hammer 350 (44); Marshall 548 (81); Behan 73 (393); Que. - Marshall 548 (81); Smith 743 (tab. 20); Y.T.- Behan 73 (393).
Nearctic: Hammer 348 (43); Forsslund 193 (353); Hammer 349 (20); Schweizer 691 (310).
Palearctic: Michael 564 (16); Willmann 829 (159); Forsslund 193 (353); Hammer 349 (20); Weis-Fogh 817 (205); Willmann 836 (193); Evans 160 (40); Schweizer 691 (310); 692 (tab. 10 no. 413); Markel 543 (479); Rajski 668 (24); Tarras-Wahlberg 765 (31); Davis 148 (67); Byzova 124 (293); 125 (185); Aoki 12 (11); Moritz 572 (71); Marshall 548 (81); Zlotin and Krivoluckij 906 (256); Bernini 98 (394); Hammer 370 (423); Gilyarov 207 (267); Danks 971 (403).
Description: *Adult*: Koch 485 (Vol.31 (9)); Michael 564 (16); Willmann 829 (159)fig.; Hammer 350 (44) fig.; Schweizer 691 (310) fig.; Gilyarov 207 (267) fig.

Key: Michael 564 (16); Willmann 829 (159); Gilyarov 207 (267).
Food: Wallwork 789 (262); Woolley 863 (251); Hartenstein 376 (203); Luxton 531 (463).
Ecology: Michael 564 (16); Willmann 829 (159); Hammer 348 (43); Forsslund 193 (353); Hammer 349 (20); Weis-Fogh 817 (205); Willmann 836 (193); Evans 160 (40); Hammer 350 (44); 354 (18); Schweizer 691 (310); 692 (tab. 10 no. 413); Sengbusch 719 (132); Wallwork 788 (172); Markel 543 (479); Wallwork 790 (561); Rajski 668 (24); Tarras-Wahlberg 765 (31); Davis 148 (67); Byzova 124 (293); 125 (185); Aoki 12 (11); Ibarra et al. 412 (155); Moritz 572 (71); Marshall 548 (81); Reeves 673 (27); Zlotin and Krivoluckij 906 (256); Bernini 96 (425); Rajski 669 (240); Bernini 98 (394); Hammer 370 (423); Bernini 101 (463); Wallwork 950 (154); Hammer 373 (49); Behan 73 (393); Smith 743 (tab. 20); Danks 971 (403).

Scheloribates parabilis Woodring, 1965

Syntypes: USNM
Comb./Syn.: *Scheloribates parabilis* Woodring, 1965 (846, p.572)
Distribution: *USA*: La. - Woodring 846 (572); 1111 (423).
Description: *Adult*: Woodring 846 (572) fig.
Tritonymph: Woodring 846 (572) fig.
Larva: Woodring 846 (572) fig.
Morphology: Woodring 848 (426); 1111 (423).
Biology: Woodring 846 (572); Lebrun 511 (202); Butcher et al. 123 (258); Luxton 988 (339).
Food: Woodring 846 (572); Luxton 531 (463); Krantz 490 (463). **Miscellaneous:** Woodring 847 (382) phys.
Ecology: Woodring 846 (564).

Scheloribates rotundatus Hammer, 1955

Type: USNM (Paratype)
Comb./Syn.: *Scheloribates rotundatus* Hammer, l955 (354, p.18)
Distribution: *USA*: Alaska - Hammer 354 (18); 362 (22); Behan 73 (393).
Description: *Adult*: Hammer 354 (18) fig.
Ecology: Hammer 354 (18); 362 (22); Behan 73 (393).

Scheloribates seghetti (Runkel and Kates, 1947) new comb.

Paratypes: USNM
Comb./Syn.: *Protoschelobates seghetti* Runkel and Kates, 1947 (682,p.64)
Distribution: *USA*: Md. - Kates and Runkel 481 (24); Va. - Sengbusch 719 (132).
Description: *Adult*: Runkel and Kates 682 (64); Kates and Runkel 481 (24) fig., photo.; Baker and Wharton 36 (421) fig.
Ecology: Kates and Runkel 481 (24); Sengbusch 719 (132).

Scheloribates sp.

Distribution: *USA*: Calif. - Ashley and Bohnsack 959 (618); Calif. - Hoy 1135 (75); Walter and Norton 1179 (tab. 1); Md. - Krull 1211 (522); Mich. - Pherson and Beattie 1004 (329); Pherson 1003 (611); Minn. - Wagner et al. 786 (14); N.Y. - Norton and MacNamara 615 (91); Tenn. - Crossley and Bohnsack 142 (631).
Canada: Alta. - Powell et al. 663 (ll); Powell and Skaley 662 (20); Mitchell 566 (306); 568 (516); B.C. - Marshall 550 (132); Man. - Pielou and Verma 658 (1191); N.B. - Pielou and Verma 658 1191); N.S. - Rasmy and MacPhee 670 (174); Ont. - Pielou and Verma 658 1191); Marshall 549 (442); Que. - Pielou and Matthewman 657 (1312); Pielou and Verma 658 (1191); Behan 72 (43); Behan et al. 76 (263); Sask. - Powell et al. 663 (ll); Y.T. - Powell et al. 663 (ll).

Scheloribates sp. nr. *laevigatus* (C.L. Koch, 1835)

Distribution: *Canada*: Que. - Pielou and Verma 658 (1191).

Scheloribates sp. cf. *pallidulus* (C.L. Koch, 1841)

Distribution: *USA*: N.M. - Wallwork et al. 1229 (169).

Scheloribates sp. nr. *pallidulus* (C.L. Koch, 1841)

Distribution: *Canada*: Man. - Oswald and Minty 620 (82); 621 (75); Ont. - Freitag and Ryder 20l (40); Que. - Matthewman and Pielou 552 (802).

ORIBATULIDAE THOR, 1929

Genus nr. *Areozetes* Hammer, 1961

Distribution: *USA*: N.M. - Wallwork et al. 1229 (169).
Remarks: Balogh and Balogh (1191, p. 272) noted that *Areozetes* Hammer, 1961 (357, p. 106) somewhat resembles Ceratozetoidea and placed it in the monobasic family Areozetidae in the Oribatuloidea.

Eporibatula Sellnick, 1928

Eporibatula Sellnick, 1928
Type-species: *Eremaeus rauschensis* Sellnick, 1908 (700, p. 17).

Eporibatula modesta (Banks, 1904) new comb.

Type: MCZ

Comb./Syn.: *Liacarus modestus* Banks, 1904 (53, p. 367)
Eremaeus modestus Banks, 1910 (61, p. 9) new syn. **Syntypes**: MCZ
Paraliodes incurvata Hall, 1911 (333, p. 646) new syn. **Type:** Unknown
Distribution: *USA*: Calif. - Banks 53 (367); Ewing 169 (383); Banks 61 (9); Hall 333 (646); Quayle 1009 (504).
Description: *Adult*: Banks 53 (367) fig.; 61 (9) fig.; Hall 333 (646) fig.; Quayle 1009
Taxonomy: Woolley 868 (30).
Key: Quayle 1009 (504)
Ecology: Banks 61 (9); Hall 333 (646); Quayle 1009 (504).

Eporibatula sp.

Distribution: *USA*: Mich. - Wallwork 788 (172); Tenn. - Crossley and Bohnsack 142 (631).
Canada: Que. - Pielou and Matthewman 657 (1312).

Exoribatula Jacot, 1936

Exoribatula Jacot, 1936
Type-species: *Exoribatula biundatus* Jacot, 1936 (447, p. 547).
Remarks: Balogh 1972 (42, p. 166) listed *Exoribatula* Jacot, 1936 among the Oripodidae. A redescription is needed, but its affinities are with the Oribatulidae.

Nesoribatula Aoki, 1964 n. syn.
Type-species: *Nesoribatula pacifica* Aoki, 1964 (see remarks).
Remarks: Aoki, J. 1964. Some oribatid mites (Acarina) from Laysan Island. *Pac. Insects* 6: 649-664. One of us (RAN) has studied Jacot's specimens of the type-species of *Exoribatula* (*E. biundata* Jacot, 1936); they fit the description of *Nesoribatula* Aoki, 1964 perfectly, and are almost indistinguishable from its type-species. We consider the genera synonyms, wlth *Exoribatula* being senior.

Exoribatula biundata Jacot, 1936

Type: USNM (Cotypes)
Comb./Syn.: *Exoribatula biundatus* Jacot, 1936 (447, p. 547)
Exoribatula biundata Jacot, 1936 (28, p. 145)
Distribution: *USA*: N.C . - Jacot 447 (547) .

Description: Adult: Jacot 447 (547).

Taxonomy: Aoki 28 (145).

Ecology: Jacot 447 (547).

Gerloubia Coetzer, 1968

Gerloubia Coetzer, 1968

Type-species: *Eporibatula bicuspidata* Hammer, 1958 (135, p. 22).

Gerloubia sp. nr. *bicuspidata* (Hammer, 1958)

Distribution: *USA*: Calif. - Hoy 1136 (167).

Jornadia Wallwork and Weems, 1984

Jornadia Wallwork and Weems, 1984

Type-species: *Jornadia larreae* Wallwork and Weems, 1984 (1194, p. 78).

Jornadia larreae Wallwork and Weems, 1984

Type: IA

Comb./Syn.: *Jornadia larreae* Wallwork and Weems, 1984 (1194, p. 78)

Distribution: *USA*: N.M. - Wallwork and Weems 1194 (78); Wallwork et al. 1229 (169).

Description: *Adult*: Wallwork and Weems 1194 (78) a, fig. .

Deutonymph: Wallwork and Weems 1194 (78) fig.

Protonymph: Wallwork and Weems 1194 (78).

Biology: Wallwork et al. 1229 (169).

Ecology: Wallwork and Weems 1194 (78); Wallwork et al. 1229 (169).

Lucoppia Berlese, l908

Lucoppia Berlese, l908

Type-species: *Notaspis burrowsii* Michael, 1890 (*Zetes lucorum* sensu Berlese 1892) (77, Vol. 64); non C.L. Koch, 1841 (see remarks)

Remarks: We are following the interpretation of *Lucoppia* Berlese, l908 and *Phauloppia* Berlese, 1908 suggested by Grandjean 1948 (914, p. 28) and 1950 (270, p. 344), which has been supported by most recent workers. In proposing *Lucoppia*, Berlese (84, p. 8) misidentified the type-species, *Zetes lucorum* C.L. Koch, 1841. *Lucoppia lucorum* sensu Berlese, 1892 is *Notaspis burrowsii* Michael, 1890 (563, p. 418). The latter is therefore the type-species of *Lucoppia* and is the species referred to as *Lucoppia lucorum* in early monographs such as Willmann (829, p. 135) and Sellnick (70O, p. 37), and apparently by previous American workers, most of whom followed Berlese, Willmann and Sellnick. Grandjean (270, p. 345) considered the type-species of *Phauloppia*, *Oppia conformis* Berlese, 1895, to be a junior

synonym of *Zetes lucorum* C.L. Koch, 1841. He also considered Michael's (561, p. 371) use of the latter name (sub *Notaspis lucorum*) as correct. Because of the question of misidentification of Koch's *Zetes lucorum* by Berlese when he proposed *Lucoppia*, the case must be submitted to the ICZN for recommendation.

Balogh (42, p. 178, 179) treated *Calvoppia* Jacot, 1934 (433, p. 28), *Cardioribates* Jacot, 1934 (433, p. 37) and *Imparatoppia* Jacot, 1934 (433, p. 30) as junior synonyms of *Lucoppia* Berlese, 1908. This is certainly not true of *Cardioribates*. Generic concepts in the *Lucoppia/Phauloppia* group (which includes *Calvoppia* and *Imparatoppia*) need re-evaluation.

***Lucoppia apletosa* (Higgins and Woolley, 1975)** new comb.

Type: FMNH; Paratypes: FMNH
Comb./Syn.: *Zygoribatula apletosa* Higgins and Woolley, 1975 (407, p. 103)
Distribution: *USA*: Colo. - Higgins and Woolley 407 (103).
56 (494); Ewing 169 (382); Weiss 819 (109); N.Y. - Marshall 548 (81); Ohio Jacot 457 (654); Va. - Sengbusch 719 (131).
Canada: Que. - Marshall 548 (81).
Description: Adult: Banks 56 (494) fig.; Ewing 169 (365) fig.; Kates and Runkel 481 (24) fig., photo.; Baker and Wharton 36 (421) fig.; Woolley 866 (2) fig.
Key: Ewing 169 (365).
Ecology: Weiss 819 (109); Kru11 1211 (52); Kates and Runkel 481 (24); Sengbusch 719 (131); Marshall 548 (81).
Remarks: See comments under *Zygoribatula bulanovae* Kulijew, 1961. *Oribatula pallida* Banks, l906 is a member of the *O. tibialis* complex and may be conspecific with the latter. Apparently no type of *Liacarus minutus* Ewing, l909 exists. It seems likely that Woolley (866,p. 2) used an autoype specimen in the USNM labeled "*Oribatula minuta*", which actually represents *Notaspis minuta* Ewing, l909. See also remarks under the latter species.

***Oribatula tibialis* (Nicolet, 1855)**

Type: Not designated
Comb./Syn.: *Notaspis tibialis* Nicolet, 1855 (592, p. 449)
Oribatula tibialis (Nicolet, 1855) (829, p. 155)
Zygoribatula exilis sensu Buitendijk, 1945 (117, p. 383); non Nicolet, 1855 (338, p. 80)
Zygoribatula venustus sensu Buitendijk, 1945 (117, p. 383); non Berlese, 1908 (338, p. 80)
Add. Comb./Syn. Ref.: Michael 564 (45); Sub1as 755 (222).
Distribution: *USA*: Hammer 365 (74) [Q.I.]; Alaska - Hammer 354 (17); 362 (22); Behan 73 (393); MacLean et al. 534 (562); Mich. - Wallwork 788 (172); N.Y. Reeves 673 (27); Norton and MacNamara 615 (91); Va. - Sengbusch 719 (131).

Canada: Hammer 362 (22); MacLean et al. 534 (562); N.W.T. - Hammer 350 (43); Behan 73 (393); Que. - Behan 73 (393); Y.T. - Behan 73 (393).
Nearctic: Willmann 835 (231); Hammer 352 (412); Strenzke 754 (49); Schweizer 691 (303); Travé 774 (93); Lions 520 (444); Hammer 362 (22); Rajski 669 (236); MacLean et al. 534 (562).
Palearctic: Michael 561 (362); 564 (45); André 5 (507); Willmann 829 (155); Tuxen 779 (333); Willmann 835 (231); Hammer 349 (36); Hammen 338 (80); MacFadyen 533 (109); Strenzke 754 (49); Schweizer 691 (303); Travé 774 (93); Schweizer 692 (tab. 10 no. 402); Markel 543 (479); Kunst 503 (38); Sellnick 709 (72); Rajski 668 (23); Tarras-Wahlberg 765 (30); Dalenius 144 (108); Davis 148 (70); Markel 544 (326); Moritz 571 (156); Travé 777 (233); Berthet 107 (27); Byzova 124 (293); 125 (185); Berthet and Gerard 109 (215); Block 110 (246); Lebrun 506 (27); 507 (103); Moritz 572 (71); Vanek 784 (255); Krivoluckij 495 (185); Lions 5l9 (507); 520 (444); Hammer 362 (22); Wood 843 (116); Seyd 730 (38); Hammer 365 (74); Bernini 96 (425); Rajski 669 (236); Bernini 98 (394); Hammer 370 (416); Molodova and Golosova 570 (427); Grishina 323 (83); Kurcheva 504 (95); Rubcova 681 (386); Luxton 532 (189); Solhoy 744 (19); Niedbala 604 (62); Subias 755 (222); Behan 73 (393); MacLean et al. 534 (562); Danks 971 (403).
Description: *Adult*: Nicolet 592 (449) fig.; Michael 561 (362) fig.; 564 (45); Willmann 829 (155) fig.; Hammer 350 (43) fig.; Schweizer 691 (303) fig.; Grandjean 296 (353) chaet., fig. app.; Gilyarov 207 (256) fig.
Nymph: Tuxen 779 (333) fig.
Protonymph: Grandjean 296 (353) fig. app.
Larva: Grandjean 296 (353) fig.
Key: Michael 564 (45); Willmann 829 (155); Sellnick 709 (72); Gilyarov 207 (256).
Add. References: Willmann 829 (155); Hammen 338 (80); Luxton 531 (463); Hammen 344 (28); Subias 7SS (222).
Biology: Grandjean 243 (464).
Description: Adult: Higgins and Woolley 407 (103) fig.
Ecology: Higgins and Woolley 407 (103).

***Lucoppia burrowsii* (Michael, 1890)**

Syntypes: BM(NH)
Comb./Syn.: *Notaspis burrowsii* Michael, 1890 (563, p. 418)
Lucoppia burrowsii (Michael, 1890) (419, p. 29)
Oppia lucorum sensu Berlese, 1892 (77, Vol. 64 (2)): (829, p. 135); non C.L. Koch 1841
Add. Comb./Syn. Ref.: Berlese 77 (Vol. 64 (2)); Willmann 829 (135) [mi.]; Grandjean 270 (346); Subias 755 (214).
Distribution: *USA*: Ill. - Ewing 173 (104) [mi.]; Va. - Sengbusch 1012 (22) [mi.].
Canada: Man. - Michael 563 (418); 564 (46); Ewing 169 (384). N.B. - Pielou and Verma 658 (1191) [mi.]; Ont. - Pielou and Verma 658 (1191) [mi.]; Que. - Matthewman and Pielou 552 (802) [mi.].

Palearctic: Michael 563 (418); 564 (46); Willmann 829 (135) [mi.], Grandjean 914 (29); Bernini 96 (425); 98 (394); Subias 755 (214).
Description: Adult: Michael 563 (418) fig.; Berlese 77 (Vol. 64 (2)) fig., Michael 564 (46); Kunst 923 (573) fig.; Hughes 409 (227) fig. [mi.].
Key: Michael 564 (46).
Add. References: Willmann 829 (135) [mi.].
Ecology: Willmann 829 (135) [mi.]; Grandjean 914 (29); Bernini 96 (425); 98 (394); Hughes 409 (227) [mi.]; Subias 755 (214).
Remarks: Ewing (173, p. 104) is sub *Notaspis lucorum*; Willmann (829, p. 135), Pielou and Verma (658, p. 1191) and Matthewman and Pielou (552, p. 802) are sub *Lucoppia lucorum*; and Hughes (409, p. 227) and Sengbusch (1012, p. 22) are sub *Phauloppia lucorum*. We list Ewing (173, p. 104) here, conforming to general usage at the time, but with uncertainty.

Lucoppia sp.

Distribution: *Canada*: Man. - Oswald and Minty 621 (75); Que. - Behan 72 (42); Behan et al. 76 (263).

Oribatula Berlese, 1895

Oribatula Berlese, 1895
Type-species: *Notaspis tibialis* Nicolet, 1855 (77, Vol. 77 (5)).

Oribatula florens Berlese, 1908

Type: SEA
Comb./Syn.: *Oribatula florens* Berlese, 1908 (84, p. 8)
Distribution: *USA*: Fla. - Berlese 84 (8).
Description: Adult: Berlese 84 (8); 87 (pl. 21 fig. 88).

Oribatula pallida Banks, 1906

Type: MCZ
Comb./Syn.: *Oribatula pallida* Banks, 1906 (56, p. 494)
Oribata pallida (Banks, 1906) (169, p. 382)
Oribatula tibialis pallida (Banks, 1906) (457, p. 654)
Liacarus minutus Ewing, 1909 (169, p. 365): (457, p. 654). **Type:** Unknown (see remarks)
Oribata minutus (Ewing, 1909) (457 p. 654)
Oribatula minuta (Ewing, 1909) (48i, p. 24)
Distribution: *USA*: Ill. - Ewing 169 (365); Woolley 866 (2); Marshall 548 (81), Md. - Krull 1211 (522); Kates and Runkel 481 (24); Marshall 548 (81); N.J. - Banks 56 (494); Ewing 169 (382); Weiss 819 (109); N.Y. - Marshall 548 (81); Ohio - Jacot 457 (654); Va. - Sengbusch 719 (131).

Canada: Que. - Marshall 548 (81).
Description: Adult: Banks 56 (494) fig.; Ewing 169 (365) fig.; Kates and Runkel 481 (24) fig., photo.; Baker and Wharton 36 (421) fig.; Woolley 866 (2) fig.
Key: Ewing 169 (365).
Ecology: Weiss 819 (109); Krull 1211 (522); Kates and Runkel 481 (24); Sengbusch 719 (131); Marshall 548 (81).
Remarks: See comments under *Zygoribatula bulanovae* Kulijew, 1961. *Oribatula pallida* Banks, 1906 is a member of the *O. tibialis* complex and may be conspecific with the latter. Apparently no type of *Liacarus minutus* Ewing, 1909 exists. It seems likely that Woolley (866, p. 2) used an autotype specimen in the USNM labeled "*Oribatula minuta*", which actually represents *Notaspis minuta* Ewing, 1909. See also remarks under the latter species.

Oribatula tibialis (Nicolet, 1855)

Type: Not designated
Comb./Syn.: *Notaspis tibialis* Nicolet, 1855 (592, p. 449)
Oribatula tibialis (Nicolet, 1855) (829, p. 155)
Zygoribatula exilis sensu Buitendijk, 1945 (117, p. 383); non Nicolet, 1855 (338, p. 80)
Zygoribatula venustus sensu Buitendijk, 1945 (117, p. 383); non Berlese, 1908 (338, p. 80)
Add. Comb./Syn. Ref.: Michael 564 (45); Subias 755 (222).
Distribution: *USA*: Hammer 365 (74) [Q.I.]; Alaska - Hammer 354 (17); 362 (22); Behan 73 (393); MacLean et al. 534 (562); Mich. - Wallwork 788 (172); N.Y. Reeves 673 (27); Norton and MacNamara 615 (91); Va. - Sengbusch 719 (131).
Canada: Hammer 362 (22); MacLean et al. 534 (562); N.W.T. - Hammer 350 (43); Behan 73 (393); Que. - Behan 73 (393); Y.T. - Behan 73 (393).
Nearctic: Willmann 835 (231); Hammer 352 (412); Strenzke 754 (49); Schweizer 691 (303); Travé 774 (93); Lions 520 (444); Hammer 362 (22); Rajski 669 (236); MacLean et al. 534 (562).
Palearctic: Michael 561 (362); 564 (45); André 5 (507); Willmann 829 (I55); Tuxen 779 (333); Willmann 835 (231); Hammer 349 (36); Hammen 338 (80); MacFadyen 533 (109), Strenzke 754 (49); Schweizer 691 (303); Travé 774 (93); Schweizer 692 (tab. 10 no. 402); Markel 543 (479); Kunst 503 (38); Sellnick 709 (72); Rajski 668 (23); Tarras-Wahlberg 765 (30); Dalenius 144 (108); Davis 148 (70); Markel 544 (326); Moritz 571 (156); Travé 777 (233); Berthet 107 (27); Byzova 124 (293); 125 (185), Berthet and Gerard 109 (215); Block 110 (246); Lebrun 506 (27); 507 (103); Moritz 572 (71); Vanek 784 (255); Krivoluckij 495 (185); Lions 519 (507); 520 (444); Hammer 362 (22); Wood 843 (116); Seyd 730 (38); Hammer 365 (74); Bernini 96 (425), Rajski 669 (236); Bernini 98 (394); Hammer 370 (416); Molodova and Golosova 570 (427); Grishina 323 (83); Kurcheva 504 (95); Rubcova 681 (386); Luxton 532 (189); Solhoy 744 (19); Niedbala 604 (62); Subias 755 (222); Behan 73 (393); MacLean et al. 534 (562); Danks 971 (403).

Description: *Adult*: Nicolet 592 (449) fig.; Michael 561 (362) fig.; 64 (45); Willmann 829 (I55) fig.; Hammer 350 (43) fig.; Schweizer 691 (303) fig.; Grandjean 296 (353) chaet., fig. app.; Gilyarov 207 (256) fig.
Nymph: Tuxen 779 (333) fig.
Protonymph: Grandjean 296 (353) fig. app.
Larva: Grandjean 296 (353) fig.
Key: Michael 564 (45), Willmann 829 (I55); Sellnick 709 (72); Gilyarov 207 (256).
Add. References: Willmann 829 (I55); Hammen 338 (80); Luxton 531 (463); Hammen 344 (28); Subias 755 (222).
Biology: Grandjean 243 (464).
Food: Luxton 531 (463).
Miscellaneous: Grandjean 316 (328) anat.; Lasebikan et al. 984 (54) extract.
Ecology: Michael 561 (362); 564 (45); André 5 (507); Willmann 829 (155); Tuxen 779 (333); Willmann 835 (231); Hammen 338 (80); Hammer 350 (43); 352 (412); MacFadyen 533 (109); Hammer 354 (17); Strenzke 754 (49); Schweizer 691 (303); Travé 774 (93); Schweizer 692 (tab.o. 402); Sengbusch 719 (131); Wallwork 788 (172); Markel 543 (479); Kunst 503 (38); Sellnick 709 (72); Rajski 668 (23); Tarras-Wahlberg 765 (30); Dalenius 144 (108); Davis 148 (70); Markel 544 (326); Moritz 571 (156); Travé 777 (233); Berthet 107 (27); Byzova 124 (293); 125 (185); Berthet and Gerard 109 (215); Block 110 (246); Lebrun 506 (27); 507 (103); Moritz 572 (71); Vanek 784 (255); Krivoluckij 495 (185); Lions 519 (507); 520 (444); Hammer 362 (22); Wood 843 (116); Seyd 730 (38); Hammer 365 (74); Reeves 673 (27); Bernini 96 (425); Rajski 669 (236); Bernini 98 (394); Hammer 370 (416); Molodova and Golosova 570 (427); Grisina 323 (83); Kurcheva 504 (95); Rubcova 681 (386); Gilyarov 207 (256); Luxton 532 (189); Solhoy 744 (19); Wallwork 950 (349); Niedbala 604 (62); Subias 755 (222); Behan 73 (393); MacLean et al. 534 (562); Danks 971 (403); Luxton 987 (311).

Oribatula variabilis Berlese, 1908

Type: SEA
Comb./Syn.: *Oribatula variabilis* Berlese, 1908 (84, p. 8)
Distribution: *Nearctic*: Berlese 84 (8).
Description: *Adult*: Berlese 84 (8); 87 (229) fig.
Remarks: Berlese's record is most likely from District of Columbia, Florida or Missouri (see 426, p. 239; 452, p. 238).

Oribatula vera (Bulanova-Zachvatkina, 1967)

Type: Unknown
Comb./Syn.: *Zygoribatula vera* Bulanova-Zachvatlcina, 1967 (120, p. 196)
Oribatula vera (Bulanova-Zachvatkina, 1967) (207, p. 256)
Distribution: *USA*: Alaska - Behan 73 (393).
Palearctic: Grisina 323 (82); Danks 971 (403).

Description: Adult: Bulanova-Zachvatkina 120 (196); Gilyarov 207 (256) fig.
Ecology: Grisina 323 (82); Behan 73 (393); Danks 971 (403).

***Oribatula* sp.**

Distribution: *USA*: Mich. - Wallwork 788 (172); Tenn. - Crossley and Bohnsack 142 (631).
Canada: Ont. - Freitag and Ryder 201 (40).

Oribatula suramericana ? **Hammer, 1958**

Distribution: *USA*: Ky. - Wallwork and Rodriguez 806 (702).

Paraphauloppia Hammer, 1967

Paraphauloppia Hammer, 1967
Type-species: *Paraphauloppia novazealandica* Hammer, 1967 (363, p. 45).

***Paraphauloppia cordylinosa* Higgins and Woolley, 1975**

Type: FMNH; Paratype: FMNH
Comb./Syn.: *Paraphauloppia cordylinosa* Higgins and Woolley, 1975 (407, p. 105)
Distribution: *USA*: Colo. - Higgins and Woolley 407 (105).
Description: Adult: Higgins and Woolley 407 (105) fig.
Ecology: Higgins and Woolley 407 (105).
Remarks: The generic placement of this species is problematic; the notogaster is not anteriorly fused with the prodorsum, as in the type-species of *Paraphauloppia*.

***Phauloppia* Berlese, 1908**

Phauloppia Berlese, 1908
Type-species: *Zetes lucorum* C.L. Koch, 1841 (=*Oppia conformis* Berlese, 1895) (84, p. 8; 270, p. 345) (see remarks under *Lucoppia* Berlese, 1908 and below).
Trichoribatula Balogh, 1961
Type-species: *Notaspis pilosus* C.L. Koch, 1841 sensu Michael, 1888 (39, p. 40: 42, p.180)
Oribata sensu Willmann (829, p. 135)
Remarks: Hammen (338, p. 61) listed other subjective synonyms of *Zetes lucorum* C.L. Koch, 1841.

Phauloppia banksi nomen novum (see remarks)

Type: MCZ; Paratypes: USNM [under *Scutovertex pilosus*]
Comb./Syn.: *Scutovertex pilosus* Banks, 1895 (45, p. 11)
Eremaeus pilosus (Banks, 1895) (52, p. 68)

Leucoppia [!] pilosa (Banks, 1895) (649, p. 148)
Notaspis pilosa (Banks, 1895) (169, p. 384)
Oribatella pilosus (Banks, 1895) (63, p. 97)
Distribution: *USA*: N.J. - Banks 45 (11); Ewing 169 (384); Weiss 819 (109); N.Y. - Banks 45 (11); Ewing 169 (384); N.C. - Pearse 649 (148) [!].
Description: Adult: Banks 45 (11); 52 (68) fig.; 63 (97) fig.
Key: Banks 45 (Il).
Ecology: Banks 45 (11); 52 (68); Ewing 169 (384); Banks 63 (97); Weiss 819 (109); Pearse 649 (148) [!] .
Remarks: *Phauloppia banksi* nomen novum is a recombination and replacement name for *Scutovertex pilosa* Banks 1895, which would be a junior secondary homonym of *Phauloppia pilosa* (C.L. Koch, 1841) sensu (Michael, 1888).

***Phauloppia boletorum* (Ewing, 1913)** new comb.

Type: Unknown
Comb./Syn.: *Lucoppia boletorum* Ewing, 1913 (176, p. 120)
Distribution: *USA*: Minn. - Ewing 176 (120); Woolley 855 (152).
Description: Adult: Ewing 176 (120) fig.; Woolley 855 (152) fig.
Ecology: Ewing 176 (120).

***Phauloppia curviseta* (Ewing, 1910)** : new comb.

Type: Unknown
Comb./Syn.: *Notaspis curviseta* Ewing, 1910 (173, p. 105)
Lucoppia curviseta (Ewing, 1910) (855, p. 147)
Zygoribatula curviseta (Ewing, 1910) (200, p. 113)
Add. Comb./Syn. Ref.: Woolley 855 (149).
Distribution: *USA*: Ill. - Ewing 173 (105); Woolley 855 (149); Minn. - Freeman 200 (113).
Description: Adult: Ewing 173 (105) fig.; Woolley 855 (149) fig.
Taxonomy: Coetzer 135 (28).
Ecology: Freeman 200 (113).
Remarks: Coetzer (135, p. 28) suggested that this species belongs in *Oribatula*, but he did not specifically make the recombination.

***Phauloppia pilosa* (C.L. Koch, 1841)** sensu Michael, 1888

Type: Unknown
Comb./Syn.: *Zetes pilosus* C.L. Koch, 1841 (485, Vol. 31 (I2))
Notaspis pilosa (C.L. Koch, 1841) (561, p. 370)
Phauloppia pilosa (C. L. Koch, 1841) (776, p. 342)
Tricheremaeus pilosus (C.L. Koch, 1841) (829, p. 136)

Add. Comb./Syn. Ref.: Grandjean 217 (60); Subias 755 (228).
Distribution: *USA*: Va. - Sengbusch 719 (131).
Palearctic: Michael 561 (370); Willmann 829 (136); Cooreman 139 169); Gilyarov 207 (160); Niedbala 604 (61); Subias 755 (228).
Description: Adult: Koch 485 (Vol. 31 (12)); Michael 561 (370) fig.; Grandjean 217 (60) chaet.; Gilyarov 207 (160) fig.
Taxonomy: Travé 776 (342); Bernini 908 (266).
Key: Willmann 829 (136); Gilyarov 207 (160).
Add. References: Subias 755 (228).
Ecology: Willmann 829 (136); Cooreman 139 (169); Sengbusch 719 (131); Niedbala 604 (61); Subias 755 (228).
Remarks: We consider the *USA* record doubtful.

***Phauloppia* sp.**

Distribution: *USA*: N.Y. - Reeves 673 (27).
Canada: Man. - Pielou and Verma 658 (1191); N.B. - Pielou and Verma 658 (1191); Ont. - Pielou and Verma 658 (1191); Que. - Pielou and Matthewman 657 (1312); Pielou and Verma 658 (1191); Matthewman and Pielou 552 (802).

***Spinoppia* Higgins and Woolley, 1966**

Spinoppia Higgins and Woolley, 1966
Type-species: *Spinoppia magniserrata* Higgins and Woolley, 1966 (400, p.67).

***Spinoppia magniserrata* Higgins and Woolley, 1966**

Type: USNM; Paratypes: FMNH
Comb./Syn.: *Spinoppia magniserrata* Higgins and Woolley, 1966 (400, p. 67)
Distribution: *USA*: Fla. - Higgins and Woolley 400 (67).
Description: Adult: Higgins and Woolley 400 (67) fig.
Remarks: The "area spinosae" referred to by Higgins and Woolley (400, p. 67) are simply porose areas in a well sclerotized cuticle. The genus is in the *Phauloppia/Lucoppia* group.

***Zygoribatula* Berlese, 1916**

Zygoribatula Berlese, 1916
Type-species: *Oribatula connexa* Berlese, 1904 (92, p. 317).

Neoribatula Ewing, 1917

Type-species: *Notaspis brevisetosa* Ewing, 1909 (179, p. 128: 42, p. 179).

Zygoribatula brevisetosa (Ewing, 1909)

Type: USNM
Comb./Syn.: *Notaspis brevisetosa* Ewing, 1909 (170, p. 126)
Neoribatula brevisetosa (Ewing, 1909) (179, p. IZ8)
Oribatula (Zygoribatula) brevisetosa (Ewing,1909) (424, p. 425) *Zygoribatula brevisetosa* (Ewing, 1909) (866, p. 10)
Distribution: *USA*: Ill. - Ewing 170 (126); Woolley 866 (10).
Description: Adult: Ewing 170 (126) fig.; 179 (128) fig.; Woolley 866 (10) fig.
Taxonomy: Jacot 424 (425).
Key: Ewing 170 (126).
Ecology: Ewing 170 (126); Woolley 866 (10).

Zygoribatula bulanovae Kulijew, 1961

Type: Unknown
Comb./Syn.: *Zygoribatula bulanovae* Kulijew, 1961 (922, p. 55)
Zygoribatula pallida sensu Hammer, 1952 (350, p. 44) (see remarks)
Oribatula pallida sensu Gilyarov, 1975 (207, p. 256)
Distribution: *USA*: Alaska - Behan 73 (393).
Canada: MacLean et al. 534 (562); Man. - Hammer 350 (44); N.W.T. - Hammer 350 (44); Behan 73 (393); Que. - Behan 73 (393); Y.T. - Behan 73 (393).
Palearctic: Grisina 323 (83); Gilyarov 207 (256); MacLean et al. 534 (562).
Description: Adult: Hammer 350 (44) fig.; Kulijew 922 (55); Gilyarov 207 (256) fig.
Key: Gilyarov 207 (256).
Food: Behan and Hill 75 (500).
Ecology: Hammer 350 (44); Grisina 323 (83); Behan 73 (393); MacLean et al. 534 (562); Danks 971 (403).
Remarks: *Oribatula pallida* Banks, 1906 has been confused in the literature since Hammer's (350, p. 44) misidentification of the species as a *Zygoribatula*. Banks' species is a true Oribatula, closely related to *O. tibialis* (Nicolet, 1855), and is treated elsewhere in this catalogue. Oribatula pallida of recent authors has been synonymized with Zygoribatula bulanovae Kulijew, 1961 (207, p. 256), therefore the latter name is available for Hammer's species. *Notaspis [=Oribatula] pallida* Ewing, 1909 is yet another species, tentatively considered a member of *Hemileius* in this catalogue.

Zygoribatula capitata (Banks, 1910)

Type: MCZ
Comb./Syn.: *Liacarus capitatus* Banks, 1910 (61 p. 9)
Zygoribatula capitata (Banks, 1910) (882, p. 193)

Distribution: *USA*: Kans. - Banks 63 (94); Okla. - Banks 61 (9); 63 (94).
Description: Adult: Banks 61 (9) fig.
Ecology: Banks 63 (94).

Zygoribatula clavata (Ewing, 1917)

Type: USNM
Comb./Syn.: *Oribatula clavata* Ewing, 1917 (178, p. 162)
Zygoribatula [!] clavata (Ewing, 1917) (1211, p. 522)
Distribution: *USA*: Ill. - Ewing 178 (162); Woolley 866 (14); Md. - Krull 1211 (522) [!]; N.Y. - Sengbusch 717 (158).
Description: Adult: Ewing 178 (162) fig.; Woolley 866 (14) fig.
Ecology: Ewing 178 (162); Krull 1211 (522) [!]; Sengbusch 717 (158); Woolley 866 (14) .

Zygoribatula concolor (Banks, 1895)

Syntypes: MCZ
Comb./Syn.: *Scutovertex concolor* Banks, 1895 (45, p. Il)
Liacarus concolor (Banks, 1895) (51, p. 146)
Zygoribatula concolor (Banks, 1895) (457, p. 654)
Distribution: *USA*: Fla. - Banks 51 (146); N.Y. - Banks 45 (11).
Description: Adult: Banks 45 (11); 51 (146).
Taxonomy: Jacot 457 (654).
Key: Banks 45 (Il).
Ecology: Banks 45 (Il).

Zygoribatula exilis (Nicolet, 1855)

Type: Not designated
Comb./Syn.: *Notaspis exilis* Nicolet, 1855 (592, p. 448)
Oppia exilis (Nicolet, 1855) (77, Vol. 77 (6))
Oribatula exilis (Nicolet, 1855) (7, p. 158)
Zygoribatula exilis (Nicolet, 1855) (835, p. 231)
Add. Comb./Syn. Ref.: Michael 564 (45); Willmann 829 (155); Hammen 338 (81).
Distribution: *USA*: Hammer 365 (74) [Q.I.]; Alaska - Hammer 354 (18); Va. - Sengbusch 719 (132).
Canada: Man. - Pielou and Verma 658 (1191); N.B. - Pielou and Verma 658 (1191); Ont. - Pielou and Verma 658 (1191); Que. - Pielou and Matthewman 657 (1312); Pielou and Verma 658 (1191); Matthewman and Pielou 552 (803).
Nearctic: Willmann 835 (231); Forsslund 193 (353); Schweizer 691 (305); Travé 774 (93); Rajski 669 (236).
Palearctic: Michael 561 (359); 564 (45); André 7 (158); Willmann 829 (155); 835 (231); Forsslund 193 (353); Hammen 338 (81); Schweizer 691 (305); Travé 774 (93); Haarlov 326 (53); Schweizer 692

(tab. 10 no. 405); Markel 543 (479); Sellnick 707 (51); Kunst 503 (38); Haarlov 327 (140); Rajski 668 (25); Aoki 10 (179); Dalenius 144 (108); Grandjean 303 (435); Dalenius 145 (5); Travé 777 (233); Block 110 (246); Lebrun 507 (103); Vanek 784 (255); Seyd 729 (141); Wood 843 (116) [!]; Fager 181 (140); Seyd 730 (38); Hammer 365 (74); Zlotin and Krivoluckij 906 (255); Bernini 96 (425); Rajski 669 (236); Bernini 98 (394); Hammer 370 (423); Rubcova 681 (386); Gilyarov 207 (258); Luxton 532 (189); Lebrun 514 (422); Niedbała 604 (62).

Description: Adult: Nicolet 592 (448) fig.; Michael 561 (359) fig.; 564 (45); Willmann 829 (155) fig.; Schweizer 691 (305) fig.; Gilyarov 207 (258) fig.

Nymph: Michael 561 (359) fig.

Prelarva: Grandjean 303 (435).

Key: Michael 564 (45); Willmann 829 (155); Gilyarov 207 (258).

Add. References: Michael 561 (359); 564 (45); Willmann 829 (155); Hammen 338 (81).

Ecology: Michael 561 (359); 564 (45); André 7 (158); Willmann 829 (155); Forsslund 193 (353); Hammen 338 (81); Hammer 354 (18); Schweizer 691 (305); Travé 774 (93); Haarlov 326 (53); Schweizer 692 (tab. 10 no. 405); Sengbusch 719 (132); Markel 543 (479); Sellnick 707 (51); Kunst 503 (38); Haarlov 327 (140); Rajski 668 (25); Aoki 10 (179); Dalenius 144 (108); 145 (5); Travé 777 (233); Block 110 (246); Lebrun 507 (103); Vanek 784 (255); Pielou and Matthewman 657 (1312); Seyd 729 (141); Wood 843 (116) [!]; Fager 181 (140); Pielou and Verma 658 (1191); Seyd 730 (38); Hammer 365 (74); Zlotin and Krivoluckij 906 (255); Bernini 96 (425); Rajski 669 (236); Bernini 98 (394); Matthewman and Pielou 552 (803); Hammer 370 (423); Rubcova 681 (386); Luxton 532 (189); Lebrun 514 (422); Niedbala 604 (62).

Zygoribatula floridana Fritz, 1982

Type: FSCA; Paratypes: BM(NH)

Comb./Syn.: *Zygoribatula floridana* Fritz, 1982 (1052, p. 483)

Distribution: *USA*: Fla. - Fritz 1052 (483).

Description: *Adult:* Fritz 1052 (483) fig.

Ecology: Fritz 1052 (483).

Zygoribatula fusca (Ewing, 1913)

Syntypes: USNM

Comb./Syn.: *Notaspis pyristigma [!] fusca* Ewing, 1913 (176, p. 120) (see remarks)

Zygoribatula fusca (Ewing, 1913) (866, p. 12)

Distribution: *USA*: Wis. - Ewing 176 (120); Woolley 866 (12).

Description: *Adult:* Ewing 176 (120); Woolley 866 (12) fig.

Ecology: Ewing 176 (120); Woolley 866 (12).

Remarks: The correct species name in the original combination is *pyrostigmata* (see Ewing, 1909; 169, p. 367).

Zygoribatula heteroporosa Wallwork, 1972

Type: USNM
Comb./Syn.: *Zygoribatula heteroporosa* Wallwork, 1972 (803, p. 101)
Distribution: *USA*: Calif. - Wallwork 803 (101).
Description: *Adult:* Wallwork 803 (101) fig.
Ecology: Wallwork 803 (101).

Zygoribatula pyrostigmata (Ewing, 1909)

Type: Not designated ("Autotype" in USNM)
Comb./Syn.: *Notaspis pyrostigmata* Ewing, 1909 (169, p. 367)
Zygoribatula pyrostigmata (Ewing, 1909) (866, p. Il)
Distribution: *USA*: Ill. - Ewing 169 (367); Woolley 866 (11).
Canada: Que. - Matthewman and Pielou 552 (803).
Description: *Adult:* Ewing 169 (367) fig.; Woolley 866 (11) fig.g
Key: Ewing 169 (367).
Ecology: Woolley 866 (11); Matthewman and Pielou 552 (803).

Zygoribatula rostrata Jacot, 1938

Type: MCZ, USNM (Cotypes)
Comb./Syn.: *Zygoribatula rostrata* Jacot, 1938 (457, p. 654)
Distribution: *USA*: Ky. - Wallwork and Rodriguez 806 (702); Ibarra et al. 412 (155); Ohio - Jacot 457 (654).
Description: *Adult:* Jacot 457 (654) fig.
Ecology: Jacot 457 (654), Wallwork and Rodriguez 806 (702); Ibarra et al. 412 (155).
Remarks: Green (1207, p. 62) has suggested that this is a junior synonym of *Zygoribatula fusca* (Ewing, 1913).

Zygorbatula transitans (Berlese, 1916) new status

Type: SEA
Comb./Syn.: *Oribatula (Zygoribatula) transitans* Berlese, 1916 (92, p. 321)
Distribution: *USA*: Fla. - Berlese 92 (321); Mo. - Berlese 92 (321).
Description: *Adult:* Berlese 92 (321).
Ecology: Berlese 92 (321)

Zygoribatula sp.

Distribution: *USA*: Md. - Krull 1211 (522) [!]; Tenn. - Crossley and Bohnsack 142 (631).

Canada: Alta. - Powell and Skaley 662 (20); N.B.- Pielou and Verma 658 (1191); N.S.- Rasmy and MacPhee 670 (174); Ont. - Pielou and Verma 658 1191); Freitag and Ryder 201 (40); Que. - Pielou and Verma 658 1191); Forest et al. 1051 (38).

***Zygoribatula sp. cf. heteroporosa* Wallwork, 1972**

Distribution: *USA*: N.M. - Wallwork et al. 1229 (169).

***Zygoribatula sp. nr. propinquus* (Oudemans, 1902)**

Distribution: *Canada*: Man. - Pielou and Verma 658 (1191); N.B. - Pielou and Verma 658 (1191); Ont. - Pielou and Verma 658 (1191); Que. - Pielou and Matthewman 657 (1312); Pielou and Verma 658 (1191).

HAP10ZETIDAE GRANDJEAN, 1936

***Haplozetes* Willmann, 1935**

Haplozetes Willmann, 1935
Type-species: *Peloribates vindobonensis* Willmann, 1935 (1184, p. 340).

***Haplozetes* sp.**

Distribution: *USA*: Mich. - Wallwork 788 (173).

***Peloribates* Berlese, 1908**

Peloribates Berlese, 1908
Type-species: *Oribates peloptoides* Berlese, 1888 (84, p. 3).

Euryparazetes Radford, 1948 (=*Parazetes* Willmann, 1930, preoccupied name)
Type-species: *Parazetes grandis* Willmann, 1930 (1108, p. 240; 1092, p. 203: 42, p. 179).

Capillozetes Balogh, 1943
Type-species: *Capillozetes hungaricus* Balogh, 1943 (37, p. 78: 42, p. 178).

***Peloribates alaskensis* Hammer, 1955**

Type: USNM
Comb./Syn.: *Peloribates alaskensis* Hammer, 1955 (354, p. 18)
Distribution: *USA*: Alaska - Hammer 354 (18).
Description: *Adult:* Hammer 354 (18) fig.
Ecology: Hammer 354 (18).

***Peloribates americanus* Jacot, 1939**

Type: MCZ, USNM (Cotypes)

Comb./Syn.: *Peloribates europaeus americanus* Jacot, 1939 (462, p. 325)

Peloribates americanus Jacot, 1939 (548, p. 81)

Distribution: *USA*: N.H. - Jacot 462 (325); Marshall 548 (81); N.Y. - Reeves 673 (27).

Canada: Que. - Marshall 548 (81).

Description: *Adult:* Jacot 462 (325).

Ecology: Jacot 462 (325); Marshall 548 (81); Reeves 673 (27).

***Peloribates banksi* (Ewing, 1909)**

Syntype: USNM

Comb./Syn.: *Oribata banksi* Ewing, 1909 (169, p. 364)

Peloribates banksi (Ewing, 1909) (861,p. 336)

Distribution: *USA*: Ill. - Ewing 169 (364); Woolley 861 (336).

Description: *Adult:* Ewing 169 (364) fig.; Woolley 861 (336) fig.

Taxonomy: Johnston 469 (62)

Key: Ewing 169 (364).

Ecology: Ewing 169 (364); Woolley 861 (336).

***Peloribates canadensis* Hammer, 1952**

Type: CNC

Comb./Syn.: *Peloribates canadensis* Hammer, 1952 (350, p. 45)

Distribution: *USA*: Alaska - Hammer 354 (18); Behan 73 (394).

Canada: Man. - Hammer 350 (45); Nfld. - Behan 73 (394); N.W.T. - Hammer 350 (45); Behan 73 (394); Que. - Behan 73 (394).

Description: *Adult:* Hammer 350 (45) fig.

Ecology: Hammer 350 (45); 354 (18); Behan 73 (394); Danks 971 (403).

***Peloribates clavatus* (Ewing, 1909)**

Syntype: USNM

Comb./Syn.: *Oribata clavata* Ewing, 1909 (171, p. 413)

Peloribates clavata (Ewing, 1909) (861, p. 336)

Distribution: *USA*: Ill. - Ewing 171 (413); Woolley 861 (336).

Description: *Adult:* Ewing 171 (413) fig.; Woolley 861 (336) fig.

Key: Ewing 171 (413).

Ecology: Ewing 171 (413); Woolley 861 (336).

***Peloribates curtipilus* Jacot, 1937**

Type: MCZ, USNM (Cotypes)
Comb./Syn.: *Peloribates curtipilus* Jacot, 1937 (455, p. 368)
Distribution: *USA*: Md. - Kates and Runkel 481 (24); N.C. - Jacot 455 (368).
Description: *Adult:* Jacot 455 (368); Kates and Runkel 481 (24) fig., photo.; Baker and Wharton 36 (428) fig.
Ecology: Jacot 455 (368); Kates and Runkel 481 (24).

***Peloribates floridensis* Nevin, 1975**

Type: Unknown
Comb./Syn.: *Peloribates floridensis* Nevin, 1975 (585, p. 55)
Distribution: *USA*: Fla. - Nevin 585 (55).
Description: *Adult:* Nevin 585 (55) fig.

***Peloribates hirsutus* (Banks, 1895)**

Syntypes: MCZ, USNM
Comb./Syn.: *Oribata hirsuta* Banks, 1895 (45, p. 7)
Galumna hirsuta (Banks, 1895) (52, p. 72)
Peloribates hirsuta (Banks, 1895) (350, p. 45)

Distribution: *USA*: N.Y. - Banks 45 (7); Michael 564 (25); Ewing 169 (381).
Description: *Adult:* Banks 45 (7) Michael 564 (25).
Taxonomy: Hammer 350 (45).
Key: Banks 45 (7); Michael 564 (25).
Ecology: Banks 45 (7); Michael 564 (25); Banks 52 (72); Ewing 169 (381); Banks 63 (96).

***Peloribates histricinus* Berlese, 1910**

Syntypes: SEA
Comb./Syn.: *Peloribates histricinus* Berlese, 1910 (85, p. 265)
Distribution: *USA*: Fla. - Berlese 85 (265).
Description: *Adult:* Berlese 85 (265).

***Peloribates iowaensis* Ewing, 1917**

Type: USNM
Comb./Syn.: *Peloribates iowaensis* Ewing, 1917 (178, p. 160)
Xylobates iowaensis (Ewing, 1917) (861, p. 338)
Distribution: *USA*: Iowa - Ewing 178 (160); Woolley 861 (338). **Description:** *Adult:* Ewing 178 (160) fig.; Woolley 861 (338) fig. **Ecology:** Ewing 178 (160); Woolley 861 (338).

***Peloribates juniperi* (Ewing, 1913)** new comb.

Syntypes: USNM

Comb./Syn.: *Oribata juniperi* Ewing, 1913 (176, p. 118)
Rostrozetes juniperi (Ewing, 1913) (861, p. 337)
Distribution: *USA*: Wis. - Ewing 176 (118); Woolley 861 (337).
Description: *Adult:* Ewing 176 (118) fig.; Woolley 861 (337) fig.
Key: Ewing 176 (118).
Ecology: Ewing 176 (118); Woolley 861 (337); Beck 71 (59).

***Peloribates pilosus* Hammer, 1952**

Type: CNC
Comb./Syn.: *Peloribates pilosus* Hammer, 1952 (350, p. 44)
Distribution: *USA*: Alaska - Behan 73 (394); Va. - Sengbusch 719 (133).
Canada: Man. - Hammer 350 (44); N.W.T. - Behan 73 (394).
Nearctic: Hammer 352 (412); Rajski 669 (238); Gilyarov 207 (270).
Palearctic: Niedbala 593 (300); Zlotin and Krivoluckij 906 (256); Rajski 669 (238); Grisina 323 (82); Gilyarov 207 (270); Subias 755 (247); Danks 971 (403).
Description: *Adult:* Hammer 350 (44) fig.; Niedbala 593 (300); Gilyarov 207 (270) fig.
Key: Gilyarov 207 (270).
Add. References: Subias 755 (247).
Food: Sinha and Wallace 737 (1172).
Ecology: Hammer 350 (44); 352 (412); Sengbusch 719 (133); Zlotin and Krivoluckij 906 (256); Rajski 669 (238); Niedbala 597 (218); Grisina 323 (82); Subias 755 (247); Behan 73 (394); Danks 971 (403).

***Peloribates serratoseta* (Ewing, 1907)**

Type: Not designated ("Autotype" in USNM)
Comb./Syn.: *Oribata serratoseta* Ewing, 1907 (164, p. 114)
Peloribates serratoseta (Ewing, 1907) (861, p. 334)
Distribution: *USA*: Ill. - Ewing 164 (114); Woolley 861 (334); Iowa - Woolley 861 (334).
Description: *Adult:* Ewing 164 (114) fig.; Woolley 861 (334) fig. **Ecology:** Ewing 164 (114); Woolley 861 (334).

***Peloribates tillandsius* Nevin, 1975**

Type: Unknown
Comb./Syn.: *Peloribates tillandsius* Nevin, 1975 (585, p. 53)

Distribution: *USA*: Fla. - Nevin 585 (53) fig.
Description: *Adult:* Nevin 585 (53).
Remarks: The spelling error *tellandsius* (585, p. 53 is a lapsus.)

***Peloribates* sp.**

Distribution: *USA*: Alaska - Behan 73 (394); Mich. - Wallwork 788 (173); 789 (262); 790 (561), 792 (623), N.M. - Wallwork et al. 1229 (169).
Canada: Man. - Pielou and Verrna 658 (1191); Oswald and Minty 620 (81); 621 (75); Ont. - Pielou and Verma 658 (1191); Freitag and Ryder 201 (40); Que. - Matthewman and Pielou 552 (802).
Food: Wallwork 789 (262).

***Peloribates sp. cf. europaeus americanus* Jacot, 1939**

Distribution: *USA*: N.M. - Wallwork et al. 1229 (169).

***Protoribates* Berlese, 1908**

Protoribates Berlese, 1908
Type-species: *Oribates dentatus* Berlese, 1883 (84, p. 1).

***Protoribates* sp.**

Distribution: *USA*: Hammer 365 (74) [Q.I.]; N.Y. - Reeves 673 (27).
Canada: Hammer 365 (74); Que. - Behan 72 (42); Behan et al. 76 (263).

***Protoribates sp. nr. langenula* (Berlese, 1904)**

Distribution: *Canada*: N.B. - Pielou and Verma 658 (1191).

***Rostrozetes* Sellnick, 1925**

Rostrozetes Sellnick, 1925
Type-species: *Rostrozetes foveolatus* Sellnick, 1925 (1094, p. 85).

Carabozetes Mihelčič, 1957
Type-species: *Carabozetes poensis* Mihelčič, 1957 (1083, p. 64: 42, p. 178).

***Rostrozetes foveolatus* Sellnick, 1925**

Type: Destroyed
Comb./Syn.: *Rostrozetes foveolatus* Sellnick, 1925 (1094, p. 85)
Rostrozetes flavus Woodring, 1965 (846, p. 570) new syn. **Syntypes:** USNM
Distribution: *USA*: La. - Woodring 846 (570).
Palearctic: Aoki 18 (441); Fujikawa 203 (257)
Australian: Hammer 363 (42), 369 (52); 371 (48).
Neotropical: Balogh and Mahunka 44 (53).
Description: *Adult:* Sellnick 1094 (8s); Beck 71 (8) fig.; Woodring 846 (570) fig.; Hammer 363 (42) fig.; Balogh 42 (pl. 51 fig. 3); Hammer 369 (52) fig.

Tritonymph: Woodring 846 (570) fig.
Larva: Woodring 846 (5s70) fig. app.
Biology: Woodring 846 (570); Lebrun 511 (202); Butcher et al. 123 (258); Luxton 988 (338).
Food: Woodring 846 (570); Luxton 531 (463); Krantz 490 (463).
Ecology: Hammer 363 (42); Aoki 18 (441); Hammer 369 (52); 371 (48); Fujikawa 203 (257).

***Rostrozetes foveolatus appalachicolus* Jacot, 1938**

Type: MCZ, USNM (Cotypes)
Comb./Syn.: *Rostrozetes foveolatus appalachicola* Jacot, 1938 (456, p. 13)
Rostrozetes appalachicola Jacot, 1938 (846, p. 571)
Distribution: *USA*: N.C. - Jacot 456 (13).
Description: *Adult:* Jacot 456 (13).
Ecology: Jacot 456 (13).

***Rostrozetes* sp.**

Distribution: *USA*: Tenn. - Crossley and Bohnsack 142 (631).

***Trachyoribates* Berlese, 1908**

Trachyoribates Berlese, 1908
Type-species: *Oribates ampulla* Berlese, 1904 (84, p. 3).

***Trachyoribates ovulum* Berlese, 1908**

Syntype: SEA
Comb./Syn.: *Trachyoribates ovulum* Berlese, 1908 (84, p. 3)
Distribution: *Nearctic*: Berlese 84 (3).
Description: *Adult:* Berlese 84 (3).
Taxonomy: Beck 71 (59).
Remarks: The affinities of this species and its type locality are uncertain (71, p. 59). Berlese's record is most likely from District of Columbia, Florida or Missouri (see 426, p. 239; 452, p. 238).

***Xylobates* Jacot, 1929**

Xylobates Jacot, 1929
Type-species: *Oribates lophothrichus* Berlese, 1904 (424, p. 429).

Alloribates Banks, 1947 new syn.
Type-species: *Alloribates singularis* Banks, 1947 (66, p. 113).

Xylobates angustior Jacot, 1937

Type: USNM (Cotypes)
Comb./Syn.: *Xylobates capucinus angustior* Jacot, 1937 (452, p. 244)
Xylobates angustior Jacot, 1937 (469, p. 63)111
Distribution: *USA*: N.C. - Jacot 452 (244).
Description: *Adult:* Jacot 452 (244).
Ecology: Jacot 452 (244).

Xylobates capucinus (Berlese, 1908)

Type: SEA
Comb./Syn.: *Protoribates capucinus* Berlese, 1908 (84, p. 2)
Xylobates capucinus (Berlese, 1908) (452, p. 243)
Oribata oblonga Ewing, 1909 (168, p. 73): (see remarks).
Hemileius oblongus (Ewing, 1909) (866, p. 4)
Xylobates oblongus (Ewing, 1909) (469, p. 63)
Add. Comb./Syn. Ref.: Marshall 548 (81); Hammer 368 (38); 369 (44).
Distribution: *USA*: Mo. - Berlese 84 (2); Ewing 168 (73); Jacot 452 (243); Woolley 866 (4); Marshall 548 (81); Va. - Sengbusch 719 (133); Marshall 548 (81).
Canada: Que. - Marshall 548 (81).
Palearctic: Berlese 84 (2); Willmann 829 (160); Jacot 452 (243); Hammen 338 (89); Kunst 503 (38); Sellnick 709 (68); Rajski 668 (24); Lebrun 507 (103); Krivoluckij 495 (185); Grisina 323 (82); Kurcheva 504 (95); Gilyarov 207 (272); Hammer 372 (189); Luxton 532 (189).
Australian: Hammer 363 (50); 368 (383; Spain and Luxton 947 (204); Hammer 369 (44); 371 (48).
Ethiopian: Coetzer 135 (23).
Neotropical: Hammer 357 (108).
Description: *Adult:* Berlese 84 (2); Ewing 168 (73) fig.; Willmann 829 (160) fig.; Jacot 452 (243); Hammen 338 (89); Hammer 357 (108) fig.; Woolley 866 (4) fig.; Balogh 42 (pl. 49fig. 11); Gilyarov 207 (272) fig.
Key: Willmann 829 (160); Sellnick 709 (68); Gilyarov 207 (272).
Ecology: Ewing 168 (73); Willmann 829 (160); Harnmen 338 (89); Sengbusch 719 (133) Kunst 503 (38); Sellnick 709 (68); Hammer 357 (108); Rajski 668 (24); Lebrun 507 (103); Hammer 360 (275); Krivoluckij 495 (185); Hammer 363 (50); Marshall 548 (81); Bernini 96 (425); Rajski 669 (242); Hammer 368 (38); Spain and Luxton 947 (204); Hammer 369 (44); Grisina 323 (82); Hammer 371 (48); Kurcheva 504 (95); Hammer 372 (189); Luxton 532 (189); Hammer 373 (48).
Remarks: Jacot (455, p. 368) considered *Xylobates capucinus* (Berlese, 1908) and *Xylobates oblonga* (Ewing, 1909) as different species. We consider the two conspecific, as did Berlese (84, p. 2). (See remarks under *Xylobates capucinus robustior* Jacot, 1937).

Xylobates capucinus robustior Jacot, 1937

Type: USNM (Cotypes)
Comb./Syn.: *Xylobates capucinus robustior* Jacot, 1937 (452, p. 244)
Xylobates oblonga robustior (Jacot, 1937) (455, p. 368) (see remarks).
Distribution: *USA*: N.C. - Jacot 452 (244); 455 (368).
Description: *Adult:* Jacot 452 (244) fig.; 455 (368).
Ecology: Jacot 452 (244); 455 (368).
Remarks: Jacot formally proposed this subspecies twice in the same year (452, p. 244; 455, p. 368). In the first paper, *oblonga* is synonymized with *capucinus* [we follow this above for *Xylobates capucinus* (Berlese, 1908)] . In the second paper, Jacot recog-
nized the two taxa as distinct with *oblonga* representing the American species.

***Xylobates imperfectus* (Banks, 1906)**

Type: MCZ
Comb./Syn.: *Galumna imperfecta* Banks, 1906 (56, p. 492)
Oribata imperfecta (Banks, 1906) (169, p. 381)
Xylobates imperfecta (Banks, 1906) (461, p. 53)
Distribution: *USA*: Fla. - Jacot 461 (53); Ind. - Banks 56 (492); 58 (747); Ewing 169 (381); Jacot 461 (53).
Description: *Adult:* Banks 56 (492) fig.; Jacot 461 (53).
Ecology: Jacot 461 (53).

***Xylobates longisetae* Jacot, 1937**

Type: FMNH (Cotypes, "Paratypes")
Comb./Syn.: *Xylobates longisetae* Jacot, 1937 (452, p. 244)
Distribution: *USA*: Ind. - Jacot 452 (244); Ky. - Jacot 452 (244).
Description: *Adult:* Jacot 452 (244) fig.

***Xylobates longus* (Ewing, 1909)** new comb.

Type: USNM
Comb./Syn.: *Oribata longa* Ewing, 1909 (169, p. 362)
Distribution: *USA*: Ill. - Ewing 169 (362).
Description: *Adult:* Ewing 169 (362) fig.
Ecology: Ewing 169 (362).

***Xylobates lophotrichus* (Berlese, 1904)**

Type: SEA
Comb./Syn.: *Oribates lophothrichus* Berlese, 1904 (81, p. 27)
Protoribates lophotrichus (Berlese, 1904) (700, p. 15)
Protoribates lophotrichus (Berlese, 1904) (829, P. 160) (see remarks)

Xylobates lophotrichus (Berlese, 1904) (719, p. 133)
Distribution: *USA*: N.Y. - Hartenstein 380 (587); Marshall 548 (82); Reeves 673 (28); Norton and MacNamara 615 (91); Tenn. - Crossley and Bohnsack 142 (631); Marshall 548 (82); Va. - Sengbusch 719 (133); Marshall 548 (82).
Canada: Ont. - Marshall 549 (422); Que. - Marshall 548 (82).
Palearctic: Berlese 81 (27); Willmann 829 (1603; Aoki 10 (179); Eitminavichyute 156 (146); Travé 777 (232); Aoki 12 (12); Karppinen 479 (38); Niedbala 593 (301); Marshall 548 (82); Gilyarov 207 (272).
Description: *Adult:* Berlese 81 (27) fig.; Willmann 829 (160) fig.; Hartenstein 380 (587) fig.; Niedbala 593 (301); Gilyarov 207 (272) fig.
Tritonymph: Hartenstein 380 (587).
Deutonymph: Hartenstein 380 (587).
Protonymph: Hartenstein 380 (587).
Larva: Hartenstein 380 (587) fig.
Key: Willmann 829 (160); Gilyarov 207 (272).
Biology: Hartenstein 380 (587); Lebrun 511 (202); Butcher et al. 123 (258); Luxton 988 (339).
Food: Hartenstein 376 (203); 380 (587); Luxton 531 (463).
Ecology: Berlese 81 (27); Willmann 829 (160); Sengbusch 719 (133); Crossley and Bohnsack 142 (631) [!]; Aoki 10 (179); Eitminavichyute 156 (146); Travé 777 (232); Aoki 12 (12); Karppinen 479 (38); Marshall 548 (82); Reeves 673 (28); Bernini 96 (425).
Remarks: The original spelling "*lophothrichus*", also used by Sellnick (700, p. 15), was apparently first emended by Willmann (829, p. 160). This emendation has been followed by most subsequent authors. Although the nominative singular for hair in Greek is thrix, the genitive and nominative plural are trikhos and trikhes (D.K. McE. Kevan, pers. comm.) hence the emendation.

***Xylobates prionotus* Woolley, 1968**

Type: USNM; Paratypes: FMNH
Comb./Syn.: *Xylobates prionota* Woolley, 1968 (875, p. 262)
Distribution: *USA*: Mich. - Woolley 875 (262).
Description: *Adult:* Woolley 875 (262) fig.

***Xylobates singularis* (Banks, 1947)** new comb.

Type: MCZ
Comb./Syn.: *Alloribates singularis* Banks 1947 (649, p.147)
Distribution: *USA*: N.C. - Pearse 649 (147); Banks 66 (113).
Description: *Adult:* Banks 66 (113) fig.
Ecology: Pearse 649 (147); Banks 66 (113).
Remarks: Pearse 1946 (649, p. 147) used *Alloribates singularis* as a nomen nudum before Banks (66, p. 113) proposed this name.

Xylobates sp.

Distribution: *USA*: Minn. - Wagner et al. 786 (14).
Canada: Ont. - Freitag and Ryder 201 (40).

MOCHL0ZETIDAE GRANDJEAN, 1960

Remarks: Norton (1001, P.450) suggested that this family, which Balogh (42, P.173) included in the Ceratozetoidea, should be in the Oripodoidea [=Oribatuloidea].

Dynatozetes Grandjean, 1960

Dynatozetes Grandjean, 1960
Type-species: *Dynatozetes amplus* Grandjean, 1960 (1061, p. 102).

Dynatozetes magnus (Banks, 1895)

Syntypes: MCZ, USNM
Comb./Syn.: *Oribata magna* Banks, 1895 (45, p. 6)
Dynatozetes magnus (Banks, 1895) (1088, p. 397)
Galumna magna (Banks, 1895) (57, p. 611)
Distribution: *USA*: Banks 57 (611); N .Y . - Banks 45 (6); Michael 564 (25); Ewing 169 (381); Ohio - Norton 1088 (397).
Canada: Ont. - Norton 1088 (397).
Description: *Adult:* Banks 45 (6); Michael 564 (25); Norton 1088 (397) fig.
Key: Banks 45 (6); Michael 564 (25).

Mochlobates Norton, 1984

Mochlobates Norton, 1984
Type-species: *Oribata affinis* Banks, 1895 (1088, p. 405).

Mochlobates affinis (Banks, 1895)

Syntypes: MCZ, USNM
Comb./Syn.: *Oribata affinis* Banks, 1895 (45, p. 6)
Galumna affinis (Banks, 1895) (52, p. 72)
Mochlobates affinis (Banks, 1895) (1088, p. 405)
Peloribates affinis (Banks, 1895) (649, p. 148)
Distribution: *USA*: D.C. - Banks 45 (6); Michael 564 (24); Ewing 169 (380); Norton 1088 (405); N.C. - Pearse 649 (148); Norton 1083 (405).

Description: *Adult:* Banks 45 (6); Michael 564 (24); Norton 1088 (405) fig.
Key: Banks 45 (6); Michael 564 (24).
Ecology: Banks 45 (6); 52 (72); Ewing 169 (380); Banks 63 (96); Pearse 649 (148).

Mochloribatula Mahunka, 1978

Mochloribatula Mahunka, 1978
Type-species: *Mochloribatula multiporosa* Mahunka, 1978 (1079, p. 560).

Mochloribatula depilis (Ewing, 1909)

Type: Lost
Comb./Syn.: *Notaspis depilis* Ewing, 1909 (170, p. 126)
Mochloribatula depilis (Ewing, 1909) (1001, p. 460)
Zygoribatula depilis (Ewing, 1909) (866, p. 11)
Distribution: *USA*: Ill. - Ewing 170 (126); Woolley 866 (11).
Description: *Adult:* Ewing 170 (126) fig.; Woolley 856 1182); 866 (11) fig.
Key: Ewing 170 (126).
Ecology: Ewing 170 (126); Woolley 866 (Il).

Mochloribatula floridana (Banks, 1904)

Type: MCZ
Comb./Syn.: *Eremaeus floridanus* Banks, 1904 (51, p. 145)
Mochloribatula floridana (Banks, 1904) (1001, p. 458)
Notaspis floridana (Banks, 1904) Ewing (169, p. 384)
Distribution: *USA*: Fla. - Banks 51 (145); Ewing 169 (384).
Description: *Adult:* Banks 51 (145) fig; Norton 1001 (458) photo.

Mochloribatula metzi Norton, 1983

Type: FMNH; Paratypes: RNC
Comb./Syn.: *Mochloribatula metzi* Norton, 1983 (1001, p. 456)
Distribution: *USA*: N.C. - Norton 1001 (456).
Description: Norton 1001 (456) fig.
Ecology: Norton 1001 (456).

Mochloribatula texana (Ewing, 1909)

Syntypes: USNM
Comb./Syn.: *Notaspis texana* Ewing, 1909 (170, p. 126)
Mochloribatula texana (Ewing, 1909) (1001, p. 458)

Distribution: *USA*: Tex. - Ewing 170 (126).
Description: *Adult:* Ewing 170 (126) fig.; Woolley 856 (182) fig.; Norton 1001 (458) fig. , photo. .
Tritonymph: Norton 1001 (460) fig
Deutonymph: Norton 1001 (460).
Protonymph: Norton 1001 (460).
Key: Ewing 170 (126).
Ecology: Ewing 170 (126).

***Mochlozetes* Grandjean, 1930**

Mochlozetes Grandjean, 1930
Type-species: *Mochlozetes penetrabilis* Grandjean, 1930 (1055, p. 276).

***Mochlozetes maximus* (Ewing, 1908)**

Type: Not designated ("Autotype" in USNM)
Comb./Syn.: *Oribata maxima* Ewing, 1908 (166, p. 107)
Mochlozetes maximus (Ewing, 1908) (1088, p. 404)
Distribution: *USA*: Ill. - Ewing 166 (107); Iowa - Norton 1088 (404).
Description: *Adult:* Ewing 166 (107) fig.; 176 (100) fig.; Norton 1088 (404) fig.
Ecology: Ewing 166 (107).

***Podoribates* Berlese, 1908**

Podoribates Berlese, 1908
Type-species: *Oribates longipes* Berlese, 1887 (84, p. 3).

Sphaerobates Sellnick, 1928
Type-species: *Sphaerozetes (?) gratus* Sellnick, 1921 (700, p. 11: 919, p. 395).

***Podoribates artilamellatus* (Ewing, 1909)**

Syntypes: USNM
Comb./Syn.: *Oribata artilamellata* Ewing, 1909 (169, p. 360)
Podoribates artilamellata (Ewing, 1909) (1088, p. 402)
Distribution: *USA*: Ill. - Ewing 169 (360); Norton 1088 (402).
Description: *Adult:* Ewing 169 (360) fig.; Norton 1088 (402) fig.
Key: Ewing 169 (360).

***Podoribates longipes* (Berlese, 1887)**

Syntypes: USNM

Comb./Syn.: *Oribates longipes* Berlese, 1887 (77, Vol. 35 (5))
Podoribates longipes (Berlese, 1887) (919, p. 395)
Sphaerozetes (?) gratus Sellnick, 1921 (696, p. 72): (919, p. 395). Type: Destroyed
Sphaerobates gratus (Sellnick, 1921) (700, p. Il)
Distribution: *Canada*: N.W.T. - Hammer 350 (47). *Palearctic*: Kunst 503 (38); Grandjean 305 (284); Grisina 323 (82).
Description: *Adult:* Berlese 7.7 (Vol. 35 (5)) fig.; Sellnick 696 (72); Hammer 350 (47) fig.; Grandjean 305 (284) chaet.; 307 (179) chaet.
Tritonymph: Grandjean 305 (284) fig.
Deutonymph: Grandjean 305 (284) fig.
Larva: Grandjean 305 (284) fig.
Ecology: Berlese 77 (Vol. 35 (5)); Hammer 350 (47); Kunst 503 (38); Grandjean 305 (284); Grisina 323 (82).

***Podoribates minusculus* (Banks, 1906)**

Type: MCZ
Comb./Syn.: *Galumna minuscula* Banks, 1906 (56, p. 492)
Oribata minuscula (Banks, 1906) (169, p. 359)
Podoribates minusculus (Banks, 1906) (1088, p. 402)
Distribution: *USA*: Ill. - Ewing 169 (359); Md. - Banks 56 (492); Ewing 169 (359); Norton 1088 (402).
Description: *Adult:* Banks 56 (492) fig.; Ewing 169 (359); Norton 1088 (402) fig.
Key: Ewing 169 (359).
Ecology: Ewing 169 (359).

***Podoribates pratensis* (Banks, 1895)**

Syntypes: MCZ, USNM
Comb./Syn.: *Oribata pratensis* Banks, 1895 (45, p. 6)
Galumna pratensis (Banks, 1895) (52, p. 70)
Podoribates pratensis (Banks, 1895) (1088, p. 399)
Distribution: *USA*: N.Y. - Banks 45 (6); Michael 564 (26); Ewing 169 (382); Miller 927 (142); Norton 1088 (399); Ohio - Miller 927 (142).
Description: *Adult:* Banks 45 (6); Michael 564 (26); Miller 927 (142); Norton 1088 (399) fig.
Taxonomy: Banks 57 (612).
Key: Banks 45 (6); Michael 564 (26).
Ecology: Banks 45 (6); 52 (70); Ewing 169 (382); Banks 63 (96).

***Podoribates turgida* (Banks, 1906)**

Syntypes: MCZ

Comb./Syn.: *Galumna turgida* Banks, 1906 (56, p. 493)
Oribata turgida (Banks, 1906) (169, p. 358)
Podoribates turgida (Banks, 1906) (1088, p. 402)
Distribution: *USA*: Calif. - Banks 56 (493); Ill. - Ewing 169 (358).
Description: *Adult:* Banks 56 (493) fig.; Ewing 169 (358); Norton 1088 (402).
Key: Ewing 169 (358).
Ecology: Ewing 169 (358).

***Podoribates* sp.**

Distribution: *USA*: Md. - Krull 1211 (522).
Remarks: This record is sub *Sphaerobates*.

PARAKALUMNIDAE GRANDJEAN, 1936

Remarks: See under Oripodoidea.

***Neoribates* Berlese, 1914**

Neoribates Berlese, 1914
Type-species: *Oribates roubali* Berlese, 1910 (89, p. 127).

Neoribates aurantiacus (Oudemans, 1914)

Type: RNH
Comb./Syn.: *Galumna aurantiacus* Oudemans, 1914 (636, p. 36)
Neorioates aurantiacus (Oudemans, (914) (700, p. 9)
Distribution: *USA*: Alaska - Hammer 354 (25); Behan 73 (397); Danks 971 (406); N.Y. - Reeves 673 (27).
Canada: Aoki 15 (272); Man. - Pielou and Verma 658 (ll91); N.B. - Pielou and Verma 658 (1191); Nfld. - Behan 73 (397); N.W.T. - Hammer 350 (61); Behan 73 (397); Ont. - Pielou and Verrna 658 (1191); Que. - Pielou 656 (1237); Pielou and Verma 658 (1191); Matthewman and Pielou 552 (802).
Palearctic: Willmann 829 (178), Schweizer 691 (356); 692 (tab. 12 no. 492); Kunst 503 (39); Dalenius 144 (108); Aoki 15 (272); 18 (438); Rajski 669 (237); Hammer 370 (423); 373 (58); Danks 971 (406).
Description: *Adult:* Oudemans 636 (36); Sellnick 700 (9) fig.; Willmann 829 (178) fig.; Hammer 350 (61) fig.; Schweizer 691 (356) fig.; Kunst 503 (39) fig.; Aoki 15 (272) chaet., fig.; Balogh 42 (pl. 59 fig. 14).
Key: Sellnick 700 (9); Willmann 829 (178).

Ecology: Willmann 829 (178); Hammer 350 (61); 354 (25); Schweizer 691 (356); 692 (tab. 12 no. 492); Kunst 503 (39); Dalenius 144 (108); Aoki 15 (272); Pielou 656 (1237); Pielou and Verma 658 (1191); Reeves 673 (27); Aoki 18 (438); Rajski 669
(237); Matthewman and Pielou 552 (802); Hammer 370 (423); 373 (58); Behan 73 (397)

Neoribates quadrisetosus (Ewing, 1917)

Syntype: USNM
Comb./Syn.: *Oribata quadrisetosus* Ewing, 1917 (178, p. 161)
Neoribates quadrisetosus (Ewing, 1917) (419, p. 16)
Oribata robusta sensu Ewing, 1909 [in pan] (169, p. 335): (419, p. 15); non Banks, 1895 (454, p. 649)
Distribution: *USA*: D.C. - Ewing 169 (355) [in part] [mi.]; Ill. - Ewing 169 (355) [in part] [mi.]; 178 (161) ; Jacot 419 (16); 432 (695); Minn. - Freeman 200 (113); N.J. - Ewing 169 (355) [in part] [mi.]; N.Y. - Jacot 419 (16); 432 (695) - Ohio - Ewing 178 (161); Jacot 419 (16); 432 (695).
Description: *Adult:* Ewing 169 (355) [in part1 [mi.] fig.; 178 (161) fig.; Jacot 419 (16) fig.; 432 (695).
Key: Ewing 169 (355) [in part] [mi.]; Jacot 432 (695).
Ecology: Ewing 178 (161); Jacot 419 (16); 432 (695); 454 (649); Freeman 200 (113).
Remarks: Ewing (169, p. 355) is sub *Oribata robusta* [in part].

Neoribates sp.

Distribution: *USA*: Md. - Krull 1211 (522).
Canada: Ont. - Freitag and Ryder 201 (41); Que. - Pielou 656 (1237); Pielou and Matthewman 657 (1312); Marshall 548 (80); Pielou and Verma 658 (1191); Matthewman and Pielou 552 (802).

Neoribates sp. nr. aurantiacus (Oudemans, 1914)

Distribution: *Canada*: Man. - Pielou and Verma 658 (1191); N .B. - Pielou and Verma 658 (1191); Ont. - Pielou and Verma 658 (1191); Que. - Pielou 656 (1237); Pielou and Verma 658 (1191); Matthewman and Pielou 552 (802).

Parakalumma Jacot, 1929

Parakalumma Jacot, 1929
Type-species: *Neoribates lydia* Jacot, 1923 (419, p. 6).

Parakalumma robusta (Banks, 1895)

Syntypes: MCZ
Comb./Syn.: *Oribata robusta* Banks, 1895 (45, p. 7)
Galumna robusta (Banks, 1895) (819, p. 109)
Oribates (Neoribates) robustus (Banks, 1895) (89, p. 128)

Parakalumma robusta (Banks, 1895) (419, p. 8)
Parakalumma robustum Berlese, 1908 (84 p. 6) (432, p. 693)
Type: SEA
Distribution: USA: Conn. – Jacot 419 (8); 432 (693); 443 (3); D.C. – Banks 45 (7); Ewing 169 (355) [in part]; 173 (57); Jacot 419 (8); Fla. - Jacot 433 (3); Ill. - Ewing 169 (355) [in part]; 173 (57); Jacot 419 (8); 432 (693); Mo. – Berlese 84 (6); Jacot 433 (3); N.J. - Banks 45 (7); Ewing 169 (355) [in part]; Wiess 819 (109); Jacot 419 (8); 443 (3); N.Y. – Banks 45 (7); Jacot 419 (8); 432 (8); 443 (3); Ohio – Miller 927 (142); Tenn. – Crossley and Bohnsack 142 (632); Va. - Jacot 419 (8).
Description: Adult: Banks 45 (7); Berlese 84 (6); Ewing 169 (355) [in part] fig.; Berlese 89 (128) fig.; Miller 927 (142) fig.; Jacot 419 (8) fig; 431 (374) fig.; 432 (693) fig. 443 (3);
Key: Ewing 169 (355) [in part]; Berlese 89 (128); Jacot 432 (693).
Ecology: Banks 45 (7) Weiss 819 (109); Miller 927 (142); Jacot 419 (8); 432 (693); 443 (3); 454 (649); Crossley and Bohnsack 142 (632)

***Parakalumma robusta floridana* Jacot, 1935**

Type: FSCA
Comb./Syn.: *Parakalumma robustum floridanum* Jacot, 1935 (443, p. 4)
Distribution: *USA*: Fla. - Jacot 443 (4).
Description: *Adult:* Jacot 443 (4) fig.
Ecology: Jacot 443 (4).

***Parakalumma* sp.**

Distribution: *USA*: Tenn. - Crossley and Bohnsack 142 (632).

***Protokalumma* Jacot, 1929**

Protokalumma Jacot, 1929
Type-species: *Oribata depressa* Banks, 1895 (419, p. 5).

***Protokalumma corticis* (Ewing, 1913)**

Type: USNM
Comb./Syn.: *Oribata corticis* Ewing, 1913 (176, p. 117)
Parakalumma ? corticis (Ewing, 1913) (419, 26)
Protokalumma corticis (Ewing, 1913) (432, p. 690)
Distribution: *USA*: Mich. - Ewing 176 (117); Jacot 432 (690); 454 (649).
Description: *Adult:* Ewing 176 (117) fig.; Jacot 432 (690) fig.
Key: Ewing 176 (117); Jacot 432 (690).
Ecology: Ewing 176 (117); Jacot 432 (690); 454 (642).

***Protokalumma depressa* (Banks, 1895)**

Type: MCZ

Comb./Syn.: *Oribata depressa* Banks, 1895 (45, p. 6)

Galumna depressa (Banks, 1895) (57 p. 611)

Protokalumma depressum (Banks, 1895) (419, p. 5)

Distribution: *USA*: Conn. - Jacot 432 (681); Ill. - Ewing 173 (97); Jacot 432 (681); Iowa - Jacot 432 (681); Maine - Jacot 432 (681); N.J. - Jacot 432 (681); N.Y. - Banks 45 (6); Michael 564 (24); Jacot 432 (681); Sengbusch 717 (155); Marshall 548 (80); Ohio - Jacot 432 (681); Va. - Jacot 432 (681); Wis. - Jacot 432 (681).

Canada: N.B. - Weiss 819 (109); Que. - Marshall 548 (80).

Description: *Adult:* Banks 45 (6); Michael 564 (24); Ewing 173 (97) fig.; Jacot 432 (681) fig.

Key: Banks 45 (6); Michael 564 (24); Jacot 432 (681).

Ecology: Weiss 819 (109); Jacot 432 (681); 454 (642); Sengbusch 717 (155); Marshall 548 (80).

***Protokalumma fissurata* (Berlese, 1914)**

Type: SEA

Comb./Syn.: *Oribates (Neoribates) fissuratus* Berlese, 1914 (89, p. 128)

Protokalumma fissuratum (Berlese, 1914) (432, p. 690)

Distribution: *USA*: Mo. - Berlese 89 (128); Jacot 432 (690). **Description:** *Adult:* Berlese 89 (128) fig.; Jacot 432 (690). 457 (649).

***Protokalumma pterota* (Banks, 1910)**

Type: MCZ

Comb./Syn.: *Galumna pterota* Banks, 1910 (61, p. 8)

Protokalumma pterotum (Banks, 1910) (432, p. 688)

Distribution: *USA*: Ill. - Jacot 432 (688); N.C. - Pearse 649 (148); Va. - Banks 61 (8); Jacot 432 (688).

Description: *Adult:* Banks 61 (8) fig.; Jacot 432 (688) fig.

Key: Jacot 432 (688).

Ecology: Banks 61 (8); Jacot 432 (688); 454 (642); Pearse 649 (148).

***Protokalumma salicis* (Ewing, 1913)**

Type: USNM

Comb./Syn.: *Oribata salicis* Ewing, 1913 (176, p. 117)

Protokalumma salicis (Ewing, 1913) (432, p. 691)

Distribution: *USA*: Mich. - Ewing 176 (117); Jacot 432 (691); 454 (649).

Description: *Adult:* Ewing 176 (117) fig.; Jacot 432 (691) fig.

Key: Ewing 176 (117); Jacot 432 (691).

Ecology: Ewing 176 (117); Jacot 432 (691).

Protokalumma sp.

Distribution: *Canada*: Que. - Pielou 656 (1237); Pielou and Verna 658 (1191).

CERATOZETOIDEA Jacot, 1925

CHAMOBATIDAE GRANDJEAN, 1954

Chamobates Hull, 1916

Chamobates Hull, 1916
Type-species: *Oribata cuspidata* Michael, 1884 (1065, p. 385).

Chamobates cuspidatus (Michael, 1884)

Syntypes: BM(NH)
Comb./Syn.: *Oribata cuspidata* Michael, 1884 (561, p. 260).
Chamobates cuspidata (Michael, 1884) (829, p. 163)
Murcia cuspidatus (Michael, 1884) (829, p. 163)
Euzetes cuspidatus (Michael, 1884) (829, p. 163)
Add. Comb./Syn. Ref.: Hammen 338 (91); Marshall 548 (80); Shaldybina 1096 (661); Subias 755 (263).
Distribution: *USA*: Hammer 365 (72) [Q.I.]; Va. - Sengbusch 719 (132); Marshall 548 (80).
Canada: Que. - Marshall 548 (80).
Nearctic: Hammer 348 (43); 349 (21); Rajski 669 (238); Hammer 373 (50).
Palearctic: Michael 561 (260); 563 (417); 564 (21); Willmann 829 (163); Hammer 348 (43); 349 (21); Hammen 338 (91); Kunst 503 (38); Sellnick 709 (66); Rajski 668 (21); Moritz 571 (155); Berthet 107 (67); Byzova 124 (293); Lebrun 505 (375), 506 (52); 507 (103); Krivoluckij 495 (185); Marshall 548 (80); Hammer 365 (72)- Rajski 669 (238); Bernini 98 (394); Hammer 370 (416); Luxton 531 (441); Kurcheva 504 (95); Rubcova 681 (386); Gilyarov 207 (316); Luxton 532 (182), Solhoy 744 (19); Hammer 373 (50); Subias 755 (263).
Description: *Adult:* Michael 561 (260) fig.; 564 (21); Willmann 829 (163) fig.- Gilyarov 207 (316) fig.
Nymph: Michael 561 (260) fig.
Key: Michael 564 (21); Willmann 829 (163); Sellnick 709 (66); Gilyarov 207 (316).
Biology: Luxton 988 (313).
Food: Luxton 531 (441).
Ecology: Michael 561 (260); 564 (21); Willmann 829 (163); Hammer 348 (43); 349 (21); Hammen 338 (91); Sengbusch 719 (132); Kunst 503 (38); Sellnick 709 (66); Rajski 668 (21); Moritz 571 (155); Berthet 107 (67); Byzova 124 (293); Lebrun 505 (375); 506 (52); 507 (103); Krivoluckij 495 (185); Marshall 548 (80); Hammer 365 (72); Rajski 669 (238); Bernini 98 (394); Hammer 370 (416); Luxton

531 (441); Kurcheva 504 (95); Rubcova 681 (386); Luxton 532 (182); Solhoy 744 (19); Wallwork 950 (340); Hammer 373 (50) Subias 755 (263); Luxton 987 (311); 989 (336);990 (392).

Chamobates pusillus (Berlese, 1895)

Type: SEA
Comb./Syn.: *Oribates pusillus* Berlese, 1895 (77, Vol. 77 (3))
Chamobates pusillus (Berlese, 1895) (829, p. 163)
Add. Comb./Syn. Ref.: Subias 755 (265).
Distribution: *USA*: Hammer 365 (72) [Q.I.]; Alaska - Block 112 (162).
Palearctic: Willmann 829 (163); Schweizer 691 (315); 692 (tab. 10 no. 425); Sellnick 709 (66); Rajski 668 (21); Lebrun 507 (103); Moritz 572 (70); Hammer 365 (72); Rajski 669 (232); Gilyarov 207 (316); Luxton 532 (182); Subias 755 (265).
Description: *Adul*t: Berlese 77 (Vol. 77 (3)); Willmann 829 (163) fig.; Schweizer 691 (315) fig.; Gilyarov 207 (316) fig.
Taxonomy: Hammen 338 (92).
Key: Willmann 829 (163); Sellnick 709 (66); Gilyarov 207 (316).
Ecology: Willmann 829 (163); Schweizer 691 (315); 692 (tab. 10 no. 425); Sellnick 709 (66); Rajski 668 (21); Lebrun 507 (103); Moritz 572 (70); Block 112 (162); Hammer 365 (72); Rajski 669 (232); Luxton 532 (182); Subias 755 (265); Nannelli 997 (349).

Chamobates schuetzi (Oudemans, 1902)

Type: RNH
Comb./Syn.: *Notaspis schutzi* Oudemans, 1902 (627, p. 10)
Chamobates schutzi (Oudemans, 1902) (160, p. 40)
Scheloribates schutzi (Oudemans, 1902) (117, p. 384)
Add. Comb./Syn. Ref.: Hammen 338 (92); Shaldybina 1096 (661).
Distribution: *USA*: Hammer 365 (72) [Q.I.]; Alaska - Hammer 354 (19); Va. -Sengbusch 719 (132).
Palearctic: Evans 160 (40); Hammen 338 (92); Sellnick 709 (66); Rajski 668 (21); Block 110 (245); 113 (31); Seyd 729 (141); 730 (38); Hammer 365 (72); Rajski 669 (226); Gilyarov 207 (316); Luxton 532 (183); Usher 781 (356); 782 (366).
Description: *Adul*t: Oudemans 627 (10); Hammen 338 (92) fig.; Gilyarov 207 (316) fig.
Nymph: Hammen 338 (92) fig.
Taxonomy: Hammen 338 (92).
Key: Sellnick 709 (66); Gilyarov 207 (316).
Add. References: Hammen 338 (92); Luxton 531 (463).
Biology: Luxton 988 (330).
Food: Luxton 531 (463).

Ecology: Evans 160 (40); Hammen 338 (92); Hammer 354 (19); Sengbusch 719 (132); Sellnick 709 (66); Rajski 668 (21); Block 110 (245); 113 (31); Seyd 729 (141); 730 (38); Hammer 365 (72); Rajski 669 (226); Luxton 532 (183); Usher 781 (356); 782 (366); Wallwork 950 (340).
Remarks: The species referred to as *Chamobates schutzi* by Willmann (829, p. 162, fig. 249a) and Sellnick (70I, p. 343, fig. 2) is not *C. schuetzi* (Oudemans, 1902) and, has been named *C. incisus* by van der Hammen (338, p. 91). Thus, the identity of the species mentioned by authors, especially before l952, is uncertain.

Chamobates sp.

Distribution: *USA*: Mich. - Wallwork 788 (172); N.Y. - Norton and MacNamara 615 (91); Tenn. - Crossley and Bohnack 142 (631).

Chamobates sp. nr. *pusillus* (Berlese, 1895)

Distribution: *Canada*: Que. - Matthewman and Pielou 552 (833).

EUZETIDAE GRANDJEAN, l954

Euzetes Berlese, l908

Euzetes Berlese, l908
Type-species: *Oribates globulus* Nicolet, 1855 (84, p. 3).

Euzetes egenus Berlese, l910

Type: SEA
Comb./Syn.: *Euzetes egenus* Berlese, 1910 (85, p. 264)
Distribution: *USA* Fla. - Berlese 85 (264).
Description: *Adult* Berlese 85 (264).
Add. References: Willmann 829 (163); Hammen 338 (91).
Ecology: Berlese 85 (264).

Euzetes sp.

Distribution: *Canada*: Que. - Behan 72 (42); Behan et al. 76 (263).

ZETOMIMIDAE SHALDYBINA, 1966

Heterozetes Willmann, 1917

Heterozetes Willmann, 1917

Type-species: *Ceratozetes (Heterozetes) palustris* Willmann, 1917 (821, p. 10).

***Heterozetes aquaticus* (Banks, 1895)** new comb.

Syntypes: MCZ, USNM
Comb./Syn.: *Oribatella aquatica* Banks, 1895 (45, p. 9)
Oribata aquatica (Banks, 1895) (564, p. 18)
Distribution: *USA* N.Y. - Banks 45 (9); Michael 564 (18); Ewing 169 (379).
Description: *Adult:* Banks 45 (9); Michael 564 (18).
Key: Banks 45 (9); Michael 564 (18).
Ecology: Banks 45 (9); Michael 564 (18); Banks 52 (71); Ewing 169 (379); Banks 63 (96).

***Heterozetes cayugensis* Habeeb, 1974**

Type: Unknown
Comb./Syn.: *Heterozetes cayugensis* Habeeb, 1974 (330, p. 4) **Distribution:** *USA* N.Y. - Habeeb 330 (4). **Description:** *Adult*: Habeeb 330 (4) fig.
Ecology: Habeeb 330 (4).

***Heterozetes minnesotensis* (Ewing, 1913)** new comb.

Type: USNM
Comb./Syn.: *Oribata minnesotensis* Ewing, 1913 (176, p. 118)
Ceratozetes minnesotensis (Ewing, 1913) (860, p. 262)
Distribution: *USA*: Minn. - Ewing 176 (118); Woolley 860 (262).
Description: *Adult:* Ewing 176 (118) fig.; Woolley 860 (262) fig.
Key: Ewing 176 (118).
Ecology: Ewing 176 (118); Woolley 860 (262).

***Heterozetes patcharlorum* Habeeb, 1974**

Type: Unknown
Comb./Syn.: *Heterozetes patcharlorum* Habeeb, 1974 (330, p. 4)
Distribution: *USA*: N.Y. - Habeeb 330 (4).
Description: *Adult:* Habeeb 330 (4) fig.
Ecology: Habeeb 330 (4).

***Zetomimus* Hull, 1916**

Zetomimus Hull, 1916
Type-species: *Oribata furcata* Warburton and Pearse, l905 (410, p. 395).

***Zetomimus francisi* (Habeeb, 1974)** new comb.

Type: Unknown
Comb./Syn.: *Ceratozetes francisi* Habeeb, 1974 (330, p. 6)
Distribution: *USA*: N.Y. - Habeeb 330 (6).
Description: *Adult:* Habeeb 330 (6) fig.
Ecology: Habeeb 330 (6).

***Zetomimus setosus* (Banks, 1895)** new comb.

Syntypes: MCZ
Comb./Syn.: *Oribatella setosa* Banks, 1895 (47, p. 129)
Distribution: *USA*: N.Y. - Banks 47 (129); Michael S64 (26); Ewing 169 (380).
Description: *Adul*t: Banks 47 (129); Michael 564 (26).
Ecology: Banks 47 (129); Michael 564 (26); Ewing 169 (380).

***Zetomimus* sp.**

Distribution: *USA*: N.Y. - Norton and MacNamara 615 (91).

CERATOZETIDAE JACOT, 1925

***Ceratozetes* Berlese, l908**

Ceratozetes Berlese, l908
Type-species: *Oribata gracilis* Michael, 1884 (84, p. 4).

***Ceratozetes angustus* (Banks, 1947)** new comb.

Type: MCZ
Comb./Syn.: *Minunthozetes angusta* Banks, 1947 (66, p. 114)
Ceratozetes subaquila longispina minor Jacot, 1936 (447, p. 550) new syn. **Type:** USNM (Cotypes)
Ceratozetes gracilis longispina minor Jacot, 1936 (452, p. 246)
Distribution: *USA*: N.C. - Jacot 447 (550); Pearse 649 (148); Banks 66 (114).
Description: *Adult:* Jacot 447 (550); Banks 66 (114) fig.
Ecology: Jacot 447 (550); Pearse 649 (148).
Remarks: Although Jacot's 1936 name (447, p. 50O) is older, it is unavailable, being a quadrinomen. Pearse 1946 (649, p. 148) used *Minunthozetes angusta* as a nomen nudum before Banks (66, p. 114) proposed the name.

***Ceratozetes borealis* Behan-Pelletier, 1984**

Type: CNC; Paratypes: CNC, RNC, USNM
Comb./Syn.: *Ceratozetes borealis* Behan-Pelletier, 1984 (1120, p. 1477)

Distribution: *USA*: Alaska- Behan-Pelletier 1120 (1477).
Canada: Y.T. - Behan-Pelletier 1120 (1477).
Description: *Adult:* Behan-Pelletier 1120 (1477) fig. , chaet. *Tritonymph*: Behan-Pelletier 1120 (1477) fig., chaet.
Deutonymph: Behan-Pelletier 1120 (1477) chaet.
Protonymph: Behan-Pelletier 1120 (1477) chaet.
Larva: Behan-Pelletier 1120 (1477) fig., chaet.
Key: Behan-Pelletier 1120 (1477).
Ecology: Behan-Pelletier 1120 (1477).

Ceratozetes cuspidatus Jacot, 1939

Type: USNM (Cotype)
Comb./Syn.: *Ceratozetes gracilis cuspidatus* Jacot, 1939 (462, p. 325)
Ceratozetes cuspidatus Jacot, 1939 (1120, p. 1499)
Distribution: *USA*: N.H. - Jacot 462 (325).
Canada: B.C. - Behan-Pelletier 1120 (1499); Man. - Behan-Pelletier 1120 (1499); N.B. - Behan-Pelletier 1120 (1499); Nfld. - Behan-Pelletier 1120 (1499); N.S. Behan-Pelletier 1120 (1499); Ont. - Behan-Pelletier 1120 (1499); P.E.I. - BehanPelletier 1120 (1499); Que. - Behan-Pelletier 1120 (1499); Sask. - Behan-Pelletier 1120 (1499).
Description: *Adult:* Jacot 462 (325) fig.; Behan-Pelletier 1120 (1499) fig. .
Key: Behan-Pelletier 1120 (1499).
Ecology: Jacot 462 (325); Behan-Pelletier 1120 (1499).
Remarks: This species was recorded by Marshall (548, p. 80) as *Ceratozetes* n. sp. (1120, p. l505).

Ceratozetes enodis (Ewing, 1909)

Type: USNM
Comb./Syn.: *Oribata enodis* Ewing, 1909 (170, p. 122)
Ceratozetes enodis (Ewing, 1909) (860, p. 259)
Humerobates enodis (Ewing, 1909) (412, p. 155)
Trachyoribates enodis (Ewing, 1909) (178, p. 160)
Distribution: *USA*: Ill. - Woolley 860 (259); Ky.- Ibarra et al. 412 (155).
Description: *Adult:* Ewing 170 (122) fig. app.; Woolley 860 (259) fig.
Taxonomy: Ewing 178 (160).
Key: Ewing 170 (122).
Ecology: Ewing 170 (122); Woolley 860 (259); Ibarra et al. 412 (155).

Ceratozetes figuratus (Ewing, 1909)

Type: USNM
Comb./Syn.: *Oribata figurata* Ewing, 1909 (171, p. 412)
Ceratozetes figurata (Ewing, 1909) (860, p. 260)
Distribution: *USA*: Ill. - Ewing 171 (412); Woolley 860 (260).
Description: *Adult*: Ewing 171 (412) fig.; Woolley 860 (260) fig.
Key: Ewing 171 (412).
Ecology: Ewing 171 (412); Woolley 860 (260).

Ceratozetes gracilis (Michael, 1884)

Syntypes: BM(NH)
Comb./Syn.: *Oribata gracilis* Michael, 1884 (561, p. 255)
Ceratozetes gracilis (Michael, 1884) (7, p. 157)
Murcia gracilis (Michael, 1884) (635, p. 282)
Notaspis gracilis (Michael, 1884) (626, p. 153)
Oribates gracilis (Michael, 1884) (77, Vol. 74 (6))
Add. Comb./Syn. Re£: Willmann 829 (164); Hammen 338 (94).
Distribution: *USA*: Hammer 365 (72) [Q.I.]; Alaska - Hammer 354 (19); Behan 73 (394); Behan-Pelletier 1120 (I456); 120O (I327); N.Y. - Hartenstein 376 (203); 379 (583); Mitchell 567 (66); Va. - Sengbusch 719 (132).
Canada: Mitchell 567 (66); Alta. - Mitchell and Parkinson 569 (309); Mitchell 566 (306); 568 516); 928 89); Behan-Pelletier 1120 (I456); Man. - Behan-Pelletier 1120 (1456); N.B. - Behan-Pelletier 1120 (1456); Nfld. - Behan-Pelletier 1120 (1456); ont. - Marshall S49 (422); Behan-Pelletier 1120 (1456); Que. - Behan-Pelletier 1120 (1456); Sask. - Behan-Pelletier 1120 (1456); Y.T.- Behan-Pelletier 120O (1327).
Nearctic: Schweizer 691 (311); Travé 775 (225); Danks 971 (404).
Palearctic: Michael 561 (255); 564 (14); André 7 (157); Willmann 829 (164); Tuxen 779 (333); Hammer 349 (36); Weis-Fogh 817 (204); Hammen 338 (94); MacFadyen 533 (109); Schweizer 691 (311); Haarlov 326 (35); Schweizer 692 (tab. 10 no. 416); Tarman 762 (84); Kunst 503 (38); Haarlov 327 (139); Sellnick 709 (65); Travé 775 (225); Aoki 9 (75); Rajski 668 21); Hartenstein 379 (583); Moritz 571 (155); Travé 777 (232); Menke 554 (621); Block 110 (246); Lebrun 507 (103); Moritz 572 (69); Krivoluckij 495 (I85); Wood 843 (116); Hammer 365 (72); Bernini 98 394); Hammer 370(423); Luxton 531 (441); Molodova and Golosova 570 (426); Kurcheva 504 (95); Rubcova 681 (386); Gilyarov 207 (30O); Luxton 532 (182); Lions 523 (172); Niedbala 604 (62); Danks 971 (404).
Australian: Hammer 363 (21); Spain and Luxton 947 (198). *Neotropical*: Hammer 358 (64).
Description: *Adult*: Michael 561 (255) fig.; 564 (14); Grandjean 212 (407) fig.; Willmann 829 (164) fig.; Hammen 338 94) fig.; Schweizer 691 (311) fig.; Haarlov 326 (35); Grandjean 302 (40O) fig.;

Hammer 358 64) fig.; Hartenstein 379 (583) fig.; Menke 554 (621); Hammer 363 (21) fig.; Gilyarov 207 (30O) fig.; Behan-Pelletier 1120 (1456) fig. , chaet.
Nymph: Michael 561 (255) fig.; Menke 554 (621).
Tritonymph: Haarlov 326 (35) fig.; Behan-Pelletier 1120 (1456); fig., chaet.
Deutonymph: Behan-Pelletier 1120 (1456) chaet.
Protonymph: Hartenstein 379 (583) fig.; Behan-Pelletier 1120 (1456) chaet.
Larva: Hartenstein 379 (583) fig.; Menke 554 (621); Behan-Pelletier 1120 (1456) fig., chaet.
Key: Michael 564 (14); Willmann 829 (164); Sellnick 709 (65); Gilyarov 207 (30O); Behan-Pelletier 1120 (1456).
Add. References: Willmann 829 (164); Hammen 338 (4); Hartenstein 379 (583); Sengbusch and Sengbusch 723 (211); Hammen 344 (14); Behan-Pelletier 1120 (1456).
Biology: Hartenstein 379 (583); Menke 554 (621); Lebrun 511 (202); Sengbusch and Sengbusch 723 (211); Butcher et al . 123 (258); Mitchell 567 (66);566 (306); Luxton 988 (337).
Food: Hartenstein 376 (203);379 (583); Luxton 531 (441); Mitchell and Parkinson 569 (309); Luxton 986 (104).
Miscellaneous: Grandjean 212 (407) anat.; 302 (400) anat.; Lasebikan et al. 984 (52) extract.
Ecology: Michael 561 (255); 564 (14); Willmann 829 (164); Tuxen 779 (333); WeisFogh 817 (204); Hammen 338 (94); MacFadyen 533 (109); Hammer 354 (19); Schweizer 691 (311); Haarlov 326 (35); Schweizer 692 (tab. 10 no. 416); Sengbusch 719 (132); Tarman 762 (84); Kunst 503 (38); Haarlov 327 (139); Sellnick 709 (65); Travé 775 (225); Rajski 668 (21); Hammer 358 (64); Hartenstein 379 (583); Moritz 571 (155); Travé 777 (232); Menke 554 (621); Block l10 (246); Lebrun 507 (103); Moritz 572 (69); Krivoluckij 495 (185); Hammer 363 (21); Wood 843 (116); Hammer 365 (72); Bernini 96 (425); Rajski 669 (240); Bernini 98 (394); Spain and Luxton 947 (198); Hammer 370 (423); Luxton 531 (441); Molodova and Golosova 570 (426); Kurcheva 504 (95); Rubcova 681 (386); Luxton 532 (182); Lions 523 (172); Wallwork 950(223); Hammer 373 (51); Mitchell 566 (306); Niedbala 604 (62); Behan 73 (394); Krantz 490 (462); Mitchell 568 (516); 928 (89); Luxton 987 (311); 989 (366); 990 (389).
Remarks: Behan (73, p. 394) [in part] is sub *Ceratozetes* sp nr. *piritus* [!] (Behan-Pelletier, pers. comm.)

***Ceratozetes kananaskis* Mitchell, 1976**

Type: CNC; Paratypes: MCZ, USNM
Comb./Syn.: *Ceratozetes kananaskis* Mitchell, 1976 (565, p. 577)
Distribution: *Canada*: Mitchell 567 (66); Alta. - Mitchell 565 (577); Mitchell and Parkinson 569 (309); Mitchell 566 (306); 568 (516); 928 (89); Behan-Pelletier 1120 (1471).
Description: *Adult*: Mitchell 565 (577) fig.; Behan-Pelletier 1120 (1471) fig. , chaet.
Tritonymph: Mitchell 565 (577) fig.; Behan-Pelletier 1120 (1471) fig., chaet.
Larva: Mitchell 565 (577) fig.; Behan-Pelletier 1120 (1471) fig., chaet.
Key: Behan-Pelletier 1120 (1471).
Biology: Mitchell 566 (306); 567 (66); Luxton 988 (315).

Food: Mitchell and Parkinson 569 (309).
Ecology: Mitchell 565 (577); 566 (306); 568 (516); 928 (89); Behan-Pelletier 1120 (1471).

***Ceratozetes longispinus* Jacot, 1936** new status

Type: MCZ, USNM (Cotypes)
Comb./Syn.: *Ceratozetes subaquila longispina* Jacot, 1936 (447, p. 550)
Ceratozetes gracilis longispina Jacot, 1936 (452, p. 246)
Distribution: *USA*: N.C. - Jacot 447 (550); Va. - Jacot 447 (550).
Description: *Adult*: Jacot 447 (550) fig.
Ecology: Jacot 447 (550).

***Ceratozetes mediocris* Berlese, l908**

Type: Lost
Comb./Syn.: *Ceratozetes mediocris* Berlese, 1908 (84, p. 4)
Distribution: *USA*: Lions 520 (442); Va. - Sengbusch 719 (132).
Canada: Alta. - Behan-Pelletier 1120 (1464); Man. - Behan-Pelletier 1120 (1464); N.B. - Behan-Pelletier 1120 (1464); Ont. - Behan-Pelletier 1120 (1464); Que. - Behan-Pelletier 1120 (1464); Sask. - Behan-Pelletier 1120 (1464).
Palearctic: Berlese 84 (4); Willmann 829 (164); Hammen 338 (95); MacFadyen S33 (109); Kunst 503 (38); Sellnick 709 (65); Rajski 668 (21); Davis 148 (67); Lebrun 507 (103); Lions 519 (506); 520 (442); Menke 555 (371); Rajski 669 (235); Bernini 98 (394); Aoki 21 (250); 23 (236); Gilyarov 207 (297); Luxton 532 (182); Lions 523 (172); Paik 938 (235).
Australian: Hammer 363 (21); Spain and Luxton 947 (198). **Description:** *Adult*: Berlese 84 (4); Willmann 829 (164) fig. app.; Caroli and Maffia 129 (2) fig.; Hammen 338 (95) fig.; Menke 555 (371); Hammer 363 (21) fig.; Aoki 18 (437) fig.; Gilyarov 207 (297) fig.; Behan-Pelletier 1120 (1464) fig. , chaet.
Nymph: Menke 555 (371).
Tritonymph: Behan-Pelletier 1120 (1464) fig., chaet.
Deutonymph: Behan-Pelletier 1120 (1464) chaet.
Protonymph: Behan-Pelletier 1120 (1464) chaet.
Larva: Menke 555 (371); Behan-Pelletier 1120 (1464) fig., chaet. **Key:** Willmann 829 (164); Sellnick 709 (65); Gilyarov 207 (297); Behan-Pelletier 1120 (1464).
Add. References: Hammen 338 (95); Behan-Pelletier 1120 (1464). **Biology:** Menke 555 (371).
Ecology: Willmann 829 (164); Hammen 338 95); MacFadyen 533 (109); Sengbusch 719 (132); Kunst 503 (38); Sellnick 709 (65); Rajski 668 (21); Davis 148 (67); Lebrun 507 (103); Lions 519 (506); 520 (442~; Menke 555 (371); Hammer 363 (21); Aoki 18 (437); Bernini 96 (425); Rajski 669 (235); Bernini 98 (394); Spain and Luxton 947 (198); Aoki 21 (250); Luxton 532 (182); Lions 523 (172); Wallwork 950 (330); Paik 938 (235).

Ceratozetes oresbios Behan-Pelletier, 1984

Type: CNC; Paratypes: CNC, USNM
Comb./Syn.: *Ceratozetes oresbios* Behan-Pelletier, 1984 (1120, p. 1476)
Distribution: *Canada*: Alta. - Behan-Pelletier 1120 (1476). **Description:** *Adult*: Behan-Pelletier 1120 (1476) fig. .
Key: Behan-Pelletier 1120 (1476).
Ecology: Behan-Pelletier 1120 (1476).

Ceratozetes pacificus Behan-Pelletier, 1984

Type: CNC; Paratypes: CNC, RNC, USNM
Comb./Syn.: *Ceratozetes pacificus* Behan-Pelletier, 1984 (1120, p. 1509)
Distribution: *Canada*: B.C. - Behan-Pelletier 1120 (I509). **Description:** *Adult*: Behan-Pelletier 1120 (1509) fig. . *Tritonymph*: Behan-Pelletier 1120 (1509) fig.
Deutonymph: Behan-Pelletier 1120 (1509) chaet.
Protonymph: Behan-Pelletier 1120 (1509) chaet.
Key: Behan-Pelletier 1120 (1509).
Ecology: Behan-Pelletier 1120 (1509).

Ceratozetes parvulus Sellnick, 1922

Type: Destroyed
Comb./Syn.: *Ceratozetes parvulus* Sellnick, l922 (ll72, p.97).
Distribution: *USA*: Alaska - Behan-Pelletier 1200 (1328).
Canada: Nfld. - Behan-Pelletier 1200 (1328); Y.T. - Behan-Pelletier 1200 (1328).
Palearctic: Sellnick 1172 (97); 70O (13); Willmann 829 (164); Strenzke 752 (35); Tarras-Wahlberg 765 (29); Karppinen and Krivolutsky 1071 (14); Behan-Pelletier 1200 (1328).
Description: *Adult*: Sellnick 1172 (97) fig.; Gilyarov 207 (295) fig.; Behan-Pelletier 1200 (1328) fig. , chaet.
Key: Sellnick 70O (13); Willmann 829 (164); Gilyarov 207 (295).
Ecology: Sellnick 1172 (97); 70O (13); Willmann 829 (l64); Strenzke 752 (35); Tarras Wahlberg 765 (29); Karppinen and Krivolutsky IO71 (l4); Behan-Pelletier 120O (l328).

Ceratozetes peritus Grandjean, l951

Type: Not designated
Comb./Syn.: *Ceratozetes peritus* Grandjean, 195I (272, p. 263)
Distribution: *Canada*: Nfld. - Behan-Pelletier 1120 (l488). *Palearctic*: Grandjean 272 (263); Menke 1145 (l4l); Gilyarov 207 (30O) [!]; Karppinen and Krivolutsky 1071 (l4) [!]; Behan-Pelletier 1120 (l488).

Description: *Adult*: Menke 1145 (l4l) fig.; Grandjean 316 (225) fig.; Gilyarov 207 (30O) [!] fig.; Behan-Pelletier 1120 (l488) fig. .
Tritonymph: Grandjean 272 (263) fig.; Behan-Pelletier 1120 (l488).
Deutonymph: Grandjean 272 (263).
Protonymph: Grandjean 272 (263).
Larva: Grandjean 272 (263); Behan-Pelletier 1120 (l488) fig.
Key: Gilyarov 207 (30O) [!]; Behan-Pelletier 1120 (l488).
Add. References: Hammen 344 (l4); Behan-Pelletier 1120 (l488).
Ecology: Grandjean 272 (263); Rafalski 666 (365); Behan-Pelletier 1120 (l488).

Ceratozetes spitsbergensis Thor, 1934

Type: Destroyed
Comb./Syn.: *Ceratozetes spitsbergensis* Thor, 1934 (1176, p. 120).
Distribution: *USA*: Alaska - Behan-Pelletier 120O (l332). *Palearctic*: Thor 1176 (120); Karppinen and Krivolutsky 1071 (14); Behan-Pelletier 120O (l332).
Description: *Adult*: Thor 1176 (120); Behan-Pelletier 120O (l332) o. fig., chaet.
Ecology: Behan-Pelletier 120O (l332).
Remarks: The placement of this species in *Ceratozetes* is questionable until immatures are discovered (120O, p. 1336).

Ceratozetes subaquila (Ewing, 1909)

Type: Not designated ("Autotype" in USNM)
Comb./Syn.: *Oribata subaquila* Ewing, 1909 (171, p. 412)
Ceratozetes subaquila (Ewing, 1909) (447, p. 549)
Ceratozetes gracilis subaquila (Ewing, 1909) (452, p. 245)
Distribution: *USA*: Ill. - Ewing 171 (412); Jacot 447 (549); Woolley 860 (262); N.Y. - Reeves 673 (27).
Description: *Adult*: Ewing 171 (412) fig. app.; Jacot 447 (549); 452 (245); Woolley 860 (262) fig.
Key: Ewing 171 (4l2).
Ecology: Ewing 171 (4l2); Jacot 447 (549); Woolley 860 (262); Reeves 673 (27).

Ceratozetes thienemanni Willmann, 1943

Type: WHPC
Comb./Syn.: *Ceratozetes thienemanni* Willmann, 1943 (885, p. 232)
Ceratozetella thienemanni (Willmann, 1943)(207, p. 300)
Distribution: *USA*: Alaska - Hammer 354 (19); Behan 73 (394); MacLean et al. 534 (562); Behan-Pelletier 1120 (l494).

Canada: Hammer 355 (85); MacLean et al. 534 (562); Alta. - Behan-Pelletier 1120 (1494); Man. - Hammer 350 (46); N.B. - Behan-Pelletier 1120 (1494); Nfld. - Behan-Pelletier 1120 (1494); N.W.T. - Behan 73 (394); Ont. - Marshall 549 (422); Behan-Pelletier 1120 (1494); Que. - Behan 72 (42); Behan et al. 76 (263); Behan-Pelletier 1120 (1494); Y.T. - Behan 73 (394).
Nearctic: Hammer 348 (45); Forsslund 193 (354); Hammer 349 (21); 352 (412); Strenzke 754 (49); Hammer 355 (85); MacLean et al. 534 (562).
Palearctic: Willmann 835 (232); Hammer 348 45); Forsslund 193 (354); Hammer 349 (21); Strenzke 754 (49); Hammer 355 (85); Sellnick 709 (65); Dalenius 144 (108); 145 (5; Menke 55 (415); Rubcova 681 (386); MacLean et al. 54 (562); Danks 971 (404).
Neotropical: Hammer 355 (85).
Description: *Adult*: Willmann 835 (232) fig.; Hammer 350(46) fig.; 355 (85) fig.; Menke 556 (415); Gilyarov 207 (30O) fig.; Behan-Pelletier 1120 (1494) fig. .
Nymph: Menke 556 (415).
Tritonymph: Behan-Pelletier 1120 (1494) fig.
Deutonymph: Behan-Pelletier 1120 (1494) chaet.
Larva: Menke 556 (415).
Taxonomy: Behan-Pelletier 1120 (1494).
Key: Rajski 667 (438); Sellnick 709 (65); Gilyarov 207 (30O); Behan-Pelletier 1120 (1494).
Ecology: Willmann 835 (232); Hammer 348 (45); Forsslund 193 (354); Hammer 349 (21); 350 (46); 352 (412); 354 (19); Strenzke 754 (49); Hammer 355 (85); Sellnick 709 (65); Dalenius 144 (IO8); 145 (5); Menke 556 (415); Behan 72 (42); Rubcova 681 (386); Gilyarov 207 (30O); Wallwork 950 (327); Behan 73 (394); Behan et al. 76 (263); MacLean et al. 534 (562); Danks 971 (404).
Remarks: Behan-Pelletier (1120, p. 145l) provided the justification for returning this species to *Ceratozetes* Berlese, l908 from *Ceratozetella* Shaldybina, 1966.

***Ceratozetes virginicus* (Banks, 1906)**

Syntypes: MCZ
Comb./Syn.: *Galumna virginica* Banks, 1906 (56, p. 493)
Ceratozetes virginicus (Banks, 1906) (1120, p. 1505)
Oribata virginica (Banks, 1906) (169, p. 362)
Ceratozetes jeweli Rockett and Woodring, 1966 (679, p. 516): (1120, p. 1505). **Type:** USNM
Distribution: *USA*: Ill. - Ewing 169 (362); La. - Rockett and Woodring 679 (516); Va. - Banks 56 (493).
Canada: Ont. - Behan-Pelletier 1120 (1505).
Description: *Adult*: Banks 56 (493) fig.; Ewing 169 (362) fig.; Rockett and Woodring 679 (516) fig.; Behan-Pelletier 1120 (I505) fig. .
Tritonymph: Rockett and Woodring 679 (516) fig.; Behan-Pelletier 1120 (1505) fig.
Deutonymph: Behan-Pelletier 1120 (1505) chaet.
Protonymph: Behan-Pelletier 1120 (1505) chaet.

Larva: Rockett and Woodring 679 (516) fig.
Key: Behan-Pelletier 1120 (1505).
Biology: Rockett and Woodring 679 (516); Lebrun 511 (202); Butcher et al. 123 (258); Luxton 988 (337).
Food: Luxton 531 (463).
Ecology: Behan-Pelletier 1120 (1505).

***Ceratozetes watertonensis* Behan-Pelletier, 1984**

Type: CNC; Paratypes: CNC
Comb./Syn.: *Ceratozetes watertonensis* Behan-Pelletier, 1984 (1120, p. 1485)
Distribution: *Canada*: Alta. - Behan-Pelletier 1120 (1485).
Description: Behan-Pelletier 1120 (1485) fig. .
Key: Behan-Pelletier 1120 (1485).
Ecology: Behan-Pelletier 1120 (1485).

***Ceratozetes zeteki* (Ewing, 1917)** new comb.

Syntypes: USNM
Comb./Syn.: *Trachyoribates zeteki* Ewing, 1917 (178, p. 159)
Distribution: *USA*: Ill. - Ewing 178 (159). Woolley 860 (258).
Description: *Adult*: Ewing 178 (159) fig.; Woolley 860 (258) fig.
Ecology: Ewing 178 (159); Woolley 860 (258).

***Ceratozetes* sp.**

Distribution: *USA*: Alaska - Behan 73 (394); Danks 971 (404); Calif. - Walter and Norton 1179 (tab. 1); Md. - Krull 1211 (522); Mich. - Wallwork 788 (1 n); Minn. - Freeman 20O (112); Wagner et al. 786 (14); N.Y. - Norton and MacNamara 615 (91); Tenn. - Crossley and Bohnsack 142 (631).
Canada: Man. - oswald and Minty 620 (81); Ont. - Marshall 549 (422).

***Ceratozetes* sp. nr. *parvulus* Sellnick, 1922**

Distribution: *Canada*: Nfld. - Behan 73 (394); Que. - Behan 73 (394).

***Ceratozetoides* Shaldybina, 1966**

Ceratozetoides Shaldybina, 1966
Type-species: *Ceratozetes cisalpinus* Berlese, l908 (1016, p. 226).

***Ceratozetoides cisalpinus* (Berlese, 1908)**

Type: Unknown

Comb./Syn.: *Ceratozetes cisalpinus* Berlese,1908 84,p.4)
Ceratozetoides cisalpinus (Berlese,1908)(1016,p.226)
Distribution: *USA*: Minn. - Woodring and Cook 849 (101); 850 (164); Woodring 1111 (423).
Palearctic: Berlese 84 (4); Willmann 829 (164); Schweizer 691 (312); 692 (tab. IO no. 417); Sellnick 709 (65); Travé 777 (232); Grishina 323 (82); Gilyarov 207 (301); Niedbala 604 (62).
Description: *Adult*: Berlese 84 (4); Willmann 829 (164) fig.; Schweizer 691 (312) fig.; Woodring 844 (394) fig.; Woodring and Cook 849 (101) fig.; 850 (164) fig., photo.; Woodring 848 (426) ; Gilyarov 207 (301) fig.
Tritonymph: Woodring and Cook 849 (101) fig.; 850 (164) photo. *Deutonymph*: Woodring and Cook 849 (101) fig. app.
Protonymph: Woodring and Cook 849 (101) fig. app.
Larva: Woodring and Cook 849 (101) fig. app.
Key: Willmann 829 (164); Rajski 667 (438); Sellnick 709 (65); Gilyarov 207 (301).
Morphology: Woodring and Cook 850 (164); Grandjean 307 (188); 316 (321); Woodring 1111 (423).
Biology: Woodring and Cook 849 (101); 850 (164); Shaldybina 734 (17); Lebrun 511 (202); Luxton 988 (337).
Food: Woodring 845 (103).
Miscellaneous: Woodring 844 (394) anat.; 848 (426) anat.; Sengbusch 1013 (83) cult.
Ecology: Willmann 829 (164); Schweizer 691 (312); 692 (tab. 10 no. 417); Sellnick 709 (65); Woodring and Cook 849 (101); Travé 777 (232); Grishina 323 (82); Niedbala 604 (62).

Cyrtozetes Behan-Pelletier, 1985

Cyrtozetes Behan-Pelletier, 1985
Type-species: *Ceratozetes shiranensis* Aoki, 1976 (120O, p. 1336).

Cyrtozetes denaliensis Behan-Pelletier, 1985

Type: CNC; Paratypes: CNC, RNC, USNM
Comb./Syn.: *Cyrtozetes denaliensis* Behan-Pelletier, 1985 (120O, p. 1337)
Distribution: *USA*: Alaska - Behan-Pelletier 1200 (1337).
Canada: Y.T. - Behan-Pelletier 120O (1337).
Palearctic: Behan-Pelletier 120O (1337).
Description: *Adult*: Behan-Pelletier 120O (1337) fig., chaet.
Ecology: Behan-Pelletier 120O (1337).

Dentizetes Hammer, 1952

Dentizetes Hammer, 1952
Type-species: *Dentizetes rudentiger* Hammer, 1952 (351, p. 380).

Dentizetes rudentiger Hammer, 1952

Type: CNC
Comb./Syn.: *Dentizetes rudentiger* Hammer, 1952 (351, p. 380)
Distribution: *Canada*: Alta. - Hammer 351 (380); Powell 661 (915); Powell et al. 663 (11); Powell and Skaley 662 (20).
Description: *Adult*: Hammer 351 (380) fig.; Balogh 42 (pl. 57 fig. 13).
Ecology: Hammer 351 (380); Powell 661 (915); Powell et al. 663 (11); Powell and Skaley 662 (20).

Diapterobates Grandjean, 1936

Diapterobates Grandjean, 1936
Type-species: *Notaspis humeralis* Hermann, 1804 (=*Sphaerozetes (Trichoribates) numerosus* Sellnick, 1924) (232, p. 80; 709, p. 62).
Remarks: There has been confusion in the literature about the identity of *Notaspis humeralis* Hermann, 1804. Balogh 1972 (42, p. 172), following Sellnick (70O, p. 11), accepted *N. humeralis* Hermann, 1804 as the type-species of *Humerobates* Sellnick, 1928. However, Grandjean 1936 (232, p. 77) regarded Hermann's species as a *Diapterobates* and *humeralis* auct. as a different species which he renamed *Humerobates rostrolamellatus*. Grandjean's opinion has been followed by most subsequent authors. See also remarks under *Humerobates* Sellnick, 1928.

Diapterobates humeralis (Hermann, 1804)

Type: Not designated
Comb./Syn.: *Notaspis humeralis* Hermann, 1804 (389, p. 92)
Diapterobates humeralis (Hermann, 1804) (232, p. 77)
Humerobates humeralis (Hermann, 1804) (670, p. 174)
Sphaerozetes (Trichoribates) numerosus Sellnick, 1924 1698, p. 67): (338, p. 101). **Type:** Destroyed
Diapterobates numerosus (Sellnick, 1924) (354, p. 20)
Murcia numerosa (Sellnick, 1924) (70O, p. 11)
Trichoribates numerosus (Sellnick, 1924) (75, p. 50O)
Add. Comb./Syn. Ref.: Willmann 829 (169); Sellnick 709 (62); Moritz 572 (70).
Distribution: *USA*: Hammer 365 (73) [Q.I.]; Alaska - Hammer 354 (20); Behan 73 (395); Danks 971 (405).
Canada: Schweizer 691 (325); Hammer 365 (73); Nfld. - Behan 73 (395); N.W.T. - Hammer 350 (50). Behan 73 (395).
Palearctic: Willmann 829 (169); 835 (234); Forsslund 192 (226); 193 (354); Hammen 338 (IO1); Schweizer 691 (325); 692 (tab. IO no. 443); Kunst 503 (38); Sellnick 709 (62). Tarras-Wahlberg 765 (29); Dalenius 144 (IO8); 145 (5); Byzova 125 (186); Lebrun 507 (IO3); Moritz 572 (70); Hammer 365

(73); Bernini 98 (394); Molodova and Golosova 570 (427); Grisina 323 (83); Gilyarov 207 (288); Niedbala 604 (62); Danks 971 (405); Aoki 1041 (197).
Description: *Adult*: Hermann 389 (92) fig.; Grandjean 213 (140) fig.; Willmann 829 (169) fig.; Grandjean 232 (77) fig.; Hammer 350 (50) fig.; Schweizer 691 (325) fig.; Tarras-Wahlberg 764 (91); Shaldybina 732 (59); Gilyarov 207 (288) fig.; Aoki 1041 (197) fig.
Tritonyrmph: Tarras-Wahlberg 764 (91); Shaldybina 732 (59).
Deutonymph: Shaldybina 732 (59).
Protonymph: Shaldybina 732 (59).
Larva: Shaldybina 732 (59).
Taxonomy: Grandjean 232 (77); Tarras-Wahlberg 764 (91).
Key: Willmann 829 (169); Schweizer 691 (325); Sellnick 709 (62); Shaldybina 732 (59); Gilyarov 207 (288); Aoki 1041 (197).
Add. References: Willmann 829 (169); Hammen 338 101); Moritz 572 (70); Hammen 344 (16).
Biology: Tarras-Wahlberg 764 (91); Shaldybina 732 (59).
Miscellaneous: Tarras-Wahlberg 764 (91) anat.
Food: Behan and Hill 75 (50O).
Ecology: Willmann 829 (169); 835 (234); Forsslund 192 (226); 193 (354); Hammen 338 (IO1); Hammer 350 (50); 354 (20); Schweizer 691 (325); 692 (tab. IO no. 443); Kunst 503 (38); Tarras-Wahlberg 765 (29); Dalenius 144 (108); 145 (5); Byzova 125 (186); Lebrun 507 (IO3), Moritz 572 (70); Hammer 365 (73); Bernini 98 (394); Molodova and Golosova 570 (427); Grishina 323 (83); Wallwork 950 (329); Niedbala 604 (62); Behan 73 (395); Krantz 490 (462); Danks 971 (405).

***Diapterobates notatus* (Thorell, 1871)**

Syntypes: SMNH
Comb./Syn.: *Oribata notata* Thorell, 1871 (767, p. 695)
Diapterobates notatus (Thorell, 1871) (354, p. 20)
Notaspis notatus (Thorell, 1871) (502, p. 347)
Trichoribates notatus (Thorell, 1871) (350, p. 50)
Notaspis trimaculatus notatus (Thorell, 1871) (768, p. 59): (502, p. 347)
Add. Comb./Syn. Ref.: Shaldybina 732 (74).
Distribution: *USA*: Alaska - Hammer 354 (20); 362 (23); Bohnsack 114 (35); ll5 (74); Behan 73 (395); MacLean et al. 534 (562); Behan-Pelletier 120O (1317).
Canada: Hammer 3S3 (18); MacLean et al. 534 (562); Man. - Hammer 350 (50); N.S. - Behan-Pelletier 120O (1317); N.W.T. - Hammer 350 (50); Behan 73 (395); Behan-Pelletier 120O (1317); Y.T. - Behan-Pelletier 120O (1317).
Nearctic: Hammer 352 (411); 353 (18); 354 (20); Strenzke 754 (50); Haarlov 328 (9); Hammer 362 (23); Gilyarov 207 (288); MacLean et al. 534 (562); Behan-Pelletier 120O (1317).

Palearctic: Thorell 767 (695); Kulczynski 502 (347); Hammer 353 (18); 354 (20); Block 112 (161); Hammer 362 (23); Zlotin and Krivoluckij 906 (257); Gilyarov 207 (288); Behan 73 (395); MacLean et al. 534 (562); Danks 971 (404); Karppinen and Krivolutsky 1071 (14); Behan-Pelletier 120O (1317).
Description: *Adult*: Kulczynski 502 (347) fig.; Hammer 350 (50) fig.; Strenzke 754 (50); Shaldybina 732 (74); Haarlov 328 9) photo.; Gilyarov 207 (288) fig.; Behan-Pelletier 120O (1317) fig., chaet.
Nymph: Hammer 353 (18) fig.; Shaldybina 732 (74).
Tritonymph: Behan-Pelletier 120O (l3l7) fig., chaet.
Deutonymph: Behan-Pelletier 120O (l3l7) chaet.
Protonymph: Behan-Pelletier 120O (l3l7) chaet.
Larva: Seniczak 1221 (224) fig.
Taxonomy: Kulczynski 502 (347).
Key: Shaldybina 732 (74); Gilyarov 207 (288).
Add. References: Kulczynski 502 (347); Haarlov 328 (9); Bohnsack 115 (74).
Food: Behan and Hill 75 (50O).
Ecology: Kulczynski 502 (347); Hammer 350 (50); 352 (411); 353 (18); 354 (20); Strenzke 754 (50); Haarlov 328 (9); Hammer 362 (23); Bohnsack 114 (35); Zlotin and Krivoluckij 906 (257); Niedbala 596 (737); Bohnsack 115 (74); Behan 73 (395); MacLean et al. 534 (562); Danks 971 (404); Behan-Pelletier 120O (1317).

***Diapterobates rotundocuspidatus* Shaldybina, 1970**

Type: Unknown
Comb./Syn.: *Diapterobates rotundocuspidatus* Shaldybina,1970 (736,p.44-50)
Distribution: *USA*: Alaska - Behan 73 (395) [!].
Palearctic: Gilyarov 207 (286).
Description: *Adult*: Shaldybina 736 (44-50); Gilyarov 207 (286) fig.
Key: Gilyarov 207 (286).
Ecology: Behan 73 (395) [!].

***Diapterobates unimaculatus* (Banks, 1906)** new comb.

Syntypes: MCZ
Comb./Syn.: *Galumna unimaculata* Banks,1906 (56,p.490)
Oribata unimaculata (Banks,1906) (164,p.357)
Distribution: *USA*: Ill. - Ewing 169 (357); N.H. - Banks 56 (490); 59 (l5).
Description: *Adult*: Banks 56 (490) fig.; Ewing 169 (357).
Key: Ewing 169 (357).
Ecology: Ewing 169 (357).

***Diapterobates variabilis* Hammer, 1955**

Syntypes: USNM
Comb./Syn.: *Diapterobates variabilis* Hammer,1955 (354,p.20)
Distribution: *USA*: Alaska - Hammer 354 (20); Behan 73 (394); Behan-Pelletier 1200 (1323).
Canada: Nfld. - Behan-Pelletier 1200 (l323); N.W.T. - Behan 73 (394); Behan-Pelletier 120O (l323); Que. - Behan 73 (394); Behan-Pelletier 120O (l323); Y.T. - Behan 73 (394); Behan-Pelletier 120O (1323).
Palearctic: Grishina 323 (82); Gilyarov 207 (288); Danks 971 (404); Behan-Pelletier 120O (l323).
Description: *Adult*: Hammer 354 (20) fig.; Shaldybina 732 (76); Balogh 42 (pl. 47 fig. 7); Gilyarov 207 (288) fig.; Behan-Pelletier 120O (1323) fig., chaet.
Key: Shaldybina 732 (76); Gilyarov 207 (288).
Food: Behan and Hill 75 (508).
Ecology: Hammer 354 (20); Grisina 323 (82); Behan 73 (394); Danks 971 (404); Behan-Pelletier 120O (1323).

Diapterobates sp.

Distribution: *USA*: Alaska - Behan 73 (395).
Canada: N.B. - Pielou and Verma 658 (1191); N.W.T. - Behan 73 (395); Danks 971 (404); Ont.- Freitag and Ryder 201 (40); Que. - Matthewman and Pielou 552 (833).

Diapterobates sp. nr. *sitnikovae* Shaldybina, 1970

Distribution: *USA*: Alaska - Behan 73 (395).

Fuscozetes Sellnick, 1928

Fuscozetes Sellnick, 1928
Type-species: *Oribates fuscipes* C.L. Koch, 1844 (70O, p. 11)

Fuscozetes angustus (Banks, 1910) new comb.

Syntypes: MCZ
Comb./Syn.: *Oribatella angustus* (Banks, 1910) (61, p. 9)
Distribution: *USA*: Tex. - Banks 61 (9); 63 (96).
Description: *Adult*: Banks 61 (9) fig.
Ecology: Banks 61 (9); 63 (96).

Fuscozetes bidentatus (Banks, 1895)

Syntypes: MCZ
Comb./Syn.: *Oribatella bidentata* Banks, 1895 (45, p. 8)
Fuscozetes bidentatus (Banks, 1895) (444, p.311)

Distribution: *USA*: Conn. - Jacot 444 (311); Ill. - Jacot 444 (311); Maine - Jacot 444 (311); Minn. - Wagner et al. 786 (14); N.H. - Banks 59 (16); N.Y. - Banks 45 (8); Jacot 444 (311); Marshall 548 (80); Norton and MacNamara 615 (91); Tenn. - Jacot 444 (311).
Canada: Man. - Oswald and Minty 620 (81); 621 (75); Que. - Marshall 548 (80).
Description: *Adult*: Banks 45 (8); Jacot 444 (311) fig.
Key: Banks 45 (8); Jacot 461 (53).
Ecology: Banks 45 (8); Jacot 444 (311); Marshall 548 (80); Oswald and Minty 620 (81); 621 (75); Wagner et al. 786 (14).

***Fuscozetes floridae* Jacot, 1935** new status

Type: Unknown
Comb./Syn.: *Fuscozetes bidentatus floridae* Jacot, 1935 (444, p.315)
Fuscozetes setosus floridae Jacot, 1935 (461, p.54)
Distribution: *USA*: Fla. - Jacot 444 (315); 461 (54).
Description: *Adult*: Jacot 444 (315).
Key: Jacot 461 (54).
Ecology: Jacot 444 (315); 461 (54).

***Fuscozetes fuscipes* (C.L. Koch, 1844)**

Type: Unknown
Comb./Syn.: *Oribates fuscipes* C.L. Koch, 1844 (485, Vol.38 9))
Fuscozetes fuscipes (C.L. Koch 1844) (70O, p.12)
Sphaerozetes (Trichoribates) fuscipes (C.L. Koch, 1844) (829, p.168)
Galumna slossonae Banks, 1906 (56, p. 490) new syn. **Syntypes**: MCZ
Oribata slossonae (Banks, 1906) (169, p.382)
Add. Comb./Syn. Ref.: Michael 561 (241); Ewing 169 (360); Hammen 338 98).
Distribution: *USA*: Hammer 365 (72) [Q.I.]; Alaska - Hammer 362 (23); Conn. - Jacot 444 (315); Ill. - Ewing I69 (360); Maine - Jacot 444 (315); Mich. - Wallwork 788 (172); 789 (262); 790 (561); 792 (624); N.H. - Banks 56 (490); 59 (15); Ewing 169 (382); N.Y. - Jacot 444 (315); Reeves 672 (284); Va. - Sengbusch 719 (133).
Canada: Man. - Oswald and Minty 620 (81); Ont. - Jacot 444 (315).
Palearctic: Michael 561 (241); 564 (13); Willmann 829 (168); Jacot 444 (315); Tuxen 779 (333); Hammer 349 (36); Hammen 338 (98); Schweizer 691 (339); 692 (tab. Il no.467); Rajski 668 22); Byzova 124 (293); 125 (185); Madge 536 (567); 537 (721); 538 (122); 539 (398); Hammer 365 (72); Zlotin and Krivoluckij 906 (257); Rajski 669 (233); Grisina 323 (82); Polderman 660 (360); Gilyarov 207 (282).

Description: *Adult*: Koch 485 (Vol. 38 (9)) fig.; Michael 561 (241) fig.; 564 (13); Banks 56 (490) fig.; Ewing 169 (360); Willmann 829 (168) fig.; Jacot 444 (315) fig.; Grandjean 247 (52) chaet.; 248 (236) chaet.; 251 (21) chaet.; Schweizer 691 (339) fig.; Gilyarov 207 (282) fig.
Nymph: Michael 561 (241) fig.
Key: Michael 564 (13); Ewing 169 (360); Willmann 829 (168); Gilyarov 207 (282).
Add. References: Willmann 829 (168); Hammen 338 (98); Madge 535 (201).
Food: Wallwork 789 (262); Luxton 531 (463).
Ecology: Michael 561 (241);564 (13); Ewing 169 (360); Willmann 829 (168); Jacot 444 (315); Tuxen 779 (333); Hammen 338 (98); Schweizer 691 (339);692 (tab.11 no. 467); Sengbusch 719 (133); Wallwork 788 172); 790 (561); 792 (624); Rajski 668 (22); Byzova 124 (293); 125 (185); Madge 536 (567); 537 (721); 538 (122); 539 (398); Hammer 362 (23); Reeves 672 (284); Hammer 365 (72); Zlotin and Krivoluckij 906 (257); Oswald and Minty 620 (81); Rajski 669 (233); Grishina 323 (82); Polderman 660 (360); Wallwork 950 (344); Krantz 490 (463).

Fuscozetes sellnicki Hammer, 1952

Syntypes: CNC
Comb./Syn.: *Fuscozetes sellnicki* Hammer,1952 (350, p.48)
Melanozetes sellnicki (Hammer,1952) (207, p.280)
Distribution: *USA*: Hammer 365 (72) [Q.I.]; Alaska - Bohnsack 114 (35); 115 (74); Douce and Crossley 152 (37) [!]; Behan 73 (394); MacLean et al. 534 (562); Va. - Sengbusch 719 (133).
Canada: Hammer 365 (72); MacLean et al. 534 (562); Man. - Hammer 350 (48); Nfld. - Behan-Pelletier 120O (1347); N.W.T. - Hammer 350 (48); Behan 73 (394); Que. - Behan 73 (394); Y.T. - Behan 73 (394); Behan-Pelletier 120O (1347).
Palearctic: Gilyarov 207 (280); Behan 73 (394); MacLean et al. 534 (562). Danks 971 (404); Karppinen and Krivolutsky 1071 (14); Behan-Pelletier 120O (1347).
Description: *Adult*: Hammer 350 (48) fig.; Balogh 42 (53, fig.10); Gilyarov 207 (280) fig.; Behan-Pelletier 120O (1347) fig., chaet.
Tritonymph: Behan-Pelletier 120O (1347) fig., chaet.
Deutonymph: Behan-Pelletier 120O (1347) chaet.
Protonymph: Behan-Pelletier 120O (1347) chaet.
Larva: Behan-Pelletier 120O (1347) chaet.
Key: Gilyarov 207 (280).
Ecology: Sengbusch 719 (133); Bohnsack 114 (35); Hammer 365 (72); Bohnsack 115 (74); Douce and Crossley 152 (37) [!]; Behan 73 (394); MacLean et al. 534 (562); Danks 971 (404); Behan-Pelletier 120O (1348).

Fuscozetes setosus (C.L. Koch, 1839)

Type: Unknown

Comb./Syn.: *Oribates setosus* C.L.Koch, 1839 (485, Vol. 30(19))
Fuscozetes setosus (C.L.Koch, 1839) (829, p.168)
Distribution: *USA*: Hammer 365 (72) [Q.I.]; Va. - Sengbusch 719 (133).
Canada: Que. - Behan 72 (42); Behan et al. 76 (263).
Palearctic: Willmann 829 (168); Schweizer 691 (340); 692 (tab. 11 no.468); Kunst 503 (38); Rajski 668 22); Markel 544 (326); Byzova 125 (185); Markel 545 (170); Vanek 784 (255); Hammer 365 (72); Rajski 669 (233); Grisina 323 (82); Gilyarov 207 (282); Bukva et al. 118 (245); Niedbala 604 (62).
Description: *Adult*: Koch 485 (Vol. 30 (19)) fig.; Willmann 829 (168) fig.; Grandjean 217 (31) chaet.; 229 (510) fig.;265 (214) chaet.; Schweizer 691 (340) fig.; Gilyarov 207 (282) fig. *Tritonymph*: Grandjean 229 (510) chaet.
Deutonymph: Grandjean 229 (510) chaet.
Protonymph: Grandjean 229 (510) chaet.
Larva: Grandjean 229 (510) chaet.
Key: Willmann 829 (168); Jacot 461 (54); Gilyarov 207 (282).
Add. References: Willmann 829 (168); Hammen 344 (18).
Miscellaneous: Purrini et al . 1008 (332) [!] parasit.
Ecology: Willmann 829 (168); Grandjean 217 (31); Schweizer 691 (340); 692 (tab. 11 no. 468); Sengbusch 719 (133); Kunst 503 (38); Rajski 668 (22); Markel 544 (326); Byzova 125 (185); Markel 545 (170); Vanek 784 (255); Hammer 365 (72); Rajski 669 (233); Behan 72 (42); Grisina 323 (82); Bukva et al. 118 (245); Niedbala 604 (62); Behan et al. 76 (263).

***Fuscozetes* sp.**

Distribution: *USA*: Md. - Krull 1211 (522).

***Hypozetes* Balogh, l959**

Hypozetes Balogh, l959
Type-species: *Hypozetes imitator* Balogh, l959 (1198, p. 16).

***Hypozetes* sp.**

Distribution: *USA*: Oreg. - Voegtlin (1226, p. 24).

***Iugoribates* Sellnick, 1944**

Iugoribates Sellnick, 1944
Type-species: *lugoribates gracilis* Sellnick, 1944 (705, p. 43).

***Iugoribates gracilis* Sellnick, 1944**

Type: Destroyed
Comb./Syn.: *Iugoribates gracilis* Sellnick,1944 (705, p.43)
Distribution: *USA*: Alaska - Behan 73 (395); Behan-Pelletier 120O (1309).
Canada: N.W.T. - Danks and Byers 147 (85); Behan 73 (395); Behan-Pelletier 120O (1309); Y.T. - Behan-Pelletier 120O (1309). *Nearctic*: Sellnick 705 (43); Hammer 349 (21); Behan-Pelletier 120O (1309).
Description: *Adult*: Sellnick 705 (43) fig.; Balogh 42 (pl. 47 fig. 8-9); Behan-Pelletier 120O (1309) fig., chaet. *Tritonymph*: Behan-Pelletier 120O (1309) fig., chaet.
Deutonymph: Behan-Pelletier 120O (1309) chaet.
Protonymph: Behan-Pelletier 120O (1309) chaet.
Larva: Behan-Pelletier 120O (1309) chaet.
Food: Behan and Hill 75 (50O).
Ecology: Sellnick 705 (43); Hammer 349 (21); Danks and Byers 147 (85); Behan 73 (395); 961 (723); Behan-Pelletier 120O (1309).

lugoribates sp.

Distribution: *USA*: Alaska - Behan 73 (395); Danks 971 (405). *Canada*: N.W.T. - McAlpine 553 (79); Danks 971 (405).

Melanozetes Hull, 1916

Melanozetes Hull, 1916
Type-species: *Oribates mollicomus* C.L. Koch, 1839 (410, p. 392).

Alphypochthonius Schweizer, l956
Type-species: *Alphypochthonius alpinus* Schweizer, l956 (691, p. 234: 42, p. 178).

Melanozetes longisetosus Hammer, 1952

Type: CNC
Comb./Syn.: *Melanozetes longisetosus* Hammer, 1952 (350, p. 48)
Melanozetes sp. nr. *interruptus* sensu Behan, 1978 (73, p. 394): (1200, p. 1354)
Distribution: *USA*: Alaska - Behan 73 (394); Behan-Pelletier 120O (1354).
Canada: N.S. - Behan-Pelletier 120O (1354). N.W.T. - Hammer 350 (48); Behan 73 (394); Behan-Pelletier 120O (1354); Que. - Behan 73 (394); Y.T. - Behan 73 (394); Behan-Pelletier 120O (1354).
Palearctic: Behan-Pelletier 120O (1354).
Description: *Adult*: Hammer 3SO (48) fig.; Behan-Pelletier 120O (1354) fig., chaet.
Deutonymph: Behan-Pelletier 120O (1354) fig.

Food: Behan and Hill 75 (500).
Ecology: Hammer 350 (48); Behan 73 (394); Danks 971 (405).

Melanozetes meridianus Sellnick, 1928

Type: Destroyed
Comb./Syn.: *Melanozetes meridianus* Sellnick, 1928 (700, p. 12)
Melanozetes meridionalis [!] Sellnick, 1929 (701, p. 348): (17, p. 139) (see remarks)
Distribution: *USA*: Hammer 365 (72) [Q.I.]; Alaska - Hammer 354 (20); 362 (22); Bohnsack 114 (35); ll5 (74); Behan 73 (394); MacLean et al. 534 (562); N.Y. Sengbusch 717 (155).
Canada: Hammer 354 (20); Aoki 21 (250); Man. - Hammer 350 (47); N.W.T. Hammer 350 (47); Behan 73 (394); Que. - Behan 73 (394); Y.T. - Behan 73 (394).
Nearctic: Hammer 352 (412); 354 (20); Strenzke 754 (52); Schweizer 691 (319); Haarlov 328 11); Hammer 362 (22); Aoki 17 (139); Hammer 365 (72); MacLean et al. 534 (562).
Palearctic: Willmann 829 (167); Tuxen 779 (333); Hammer 349 (36); 354 (20); Strenzke 754 (52); Schweizer 691 (319); 692 (tab. IO no. 432); Sellnick 709 (62); Hammer 362 (22); Aoki 17 (139); Hammer 365 (72); 370 (423); Aoki 21 (250); Gilyarov 207 (280); Fujikawa 203 (257); Niedbala 604 (62); Behan 73 (394); MacLean et al. 534 (562); Danks 971 (405).
Description: *Adult*: Sellnick 70O (12); Willmann 829 (167) fig.; Hammer 350 (47) fig.; Schweizer 691 (319) fig.; Haarlov 328 (11) photo.; Aoki 17 (139) fig.; Gilyarov 207 (280) fig.
Nymph: Tuxen 779 (333) fig.
Key: Willmann 829 (167); Sellnick 709 (62); Gilyarov 207 (280).
Add. References: Willmann 829 (167); Haarlov 328 (11); Aoki 17 (139); Bohnsack 115 (74).
Food: Behan and Hill 75 (500).
Ecology: Willmann 829 (167); Tuxen 779 (333); Sengbusch 717 (155); Hammer 350 (47); 352 (412); 354 (20); Strenzke 754 (52); Schweizer 691 (319); 692 (tab. 10 no. 432); Sellnick 709 (62); Haarlov 328 11); Hammer 362 (22); Bohnsack 114 (35); Hammer 365 (72); 370 (423); Aoki 21 (250); Fujikawa 203 (257); Niedbala 604 (62); Behan 73 (394); MacLean et al. S34 (562); Danks 971 (405).
Remarks: The spelling of the species name as *meridionalis* (70l, p. 348) is a lapsus.

Melanozetes mollicomus (C.L. Koch, 1839)

Type: Unknown
Comb./Syn.: *Oribates mollicomus* C.L. Koch, 1839 (485, Vol. 30 (20))
Murcia mollicomus (C.L. Koch, 1839) (829, p. 167)
Notaspis mollicoma (C.L. Koch, 1839) (769, p. 20)
Sphaerozetes mollicomus (C.L. Koch, 1839) (829, p. 167)
Add. Comb./Syn. Ref.: Hammen 338 (97).
Distribution: *USA*: Alaska - Behan 73 (394); Danks 971 (405). *Nearctic*: Willmann 835 (234).

Palearctic: Michael 561 (227); 564 (15); Willmann 829 (167); 835 (234); Forsslund 192 (190). 193 (354); Hammen 338 (97); Schweizer 691 (318); 692 (tab. IO no. 431). Sellnick 709 (62); Dalenius 144 (IO8); 145 (5); Block l10 (246); Lebrun 507 (IO3); Vanek 784 (255); Wood 843 (116); Bernini 96 (425); Rubcova 681 (386); Gilyarov 207 (280); Luxton 532 (182); Solhoy 744 (19); Danks 971 (405).
Description: *Adult*: Koch 485 (Vol. 30(20)); Michael 561 (227) fig.; 564 (15); Ewing 169 (341) fig.. Willmann 829 (167) fig.; Grandjean 244 (49) app.; 247 (52) chaet.; 251 (21) chaet.; Hammen 338 (97) fig.; Schweizer 691 (318) fig.; Shaldybina 735 (1659) chaet., fig.; Gilyarov 207 (280) fig.
Nymph: Michael 561 (227) fig.
Key: Michael 564 (15); Willmann 829 (167); Sellnick 709 (62); Gilyarov 207 (280).
Add. References: Willmann 829 (167); Hammen 338 (97); 344 (24).
Biology: Shaldybina 735 (1659); Butcher et al. 123 (258).
Ecology: Michael 561 (227); 564 (15); Willmann 829 (167); 835 (234); Forsslund 192 (190); 193 (354); Hammen 338 (97); Schweizer 691 (318); 692 (tab. 10 no. 431); Sellnick 709 (62); Dalenius 144 (108); 145 (5); Block 110 (246); Lebrun 507 (103); Vanek 784 (255); Wood 843 (116); Bernini 96 (425); Rubcova 681 (386); Luxton 532 (182); Solhoy 744 (19); Wallwork 950 (347); Behan 73 (394); Iturrondobeitia and Subias 982 (90).

***Neogymnobates* Ewing, 1917**

Neogymnobates Ewing, 1917
Type-species: *Oribata multipilosa* Ewing, 1907 (179, p. 126).

Boreozetes Hammer, 1955 new syn.
Type-species: *Boreozetes luteus* Hammer, 1955 (354, p. 21).

***Neogymnobates luteus* (Hammer, 1955)** new comb.

Type: USNM; Paratypes: BM(NH)

Comb./Syn.: *Boreozetes luteus* Hammer,1955 (354,p.21)

Distribution: *USA*: Alaska - Hammer 354 (21); Aoki 23 (237); Behan 73 (394).

Canada: Que. - Behan 73 (394).

Description: *Adult*: Hammer 354 (21) fig.

Ecology: Hammer 354 (21); Behan 73 (394); Danks 971 (404).

***Neogymnobates multipilosus* (Ewing. 1907)**

Syntypes: USNM

Comb./Syn.: *Oribata multipilosa* Ewing, 1907 (164, p. 113)

Jugatala multipilosa (Ewing, 1907) (424, p. 424)

Neogymnobates multipilosa (Ewing, 1907) (179, p. 127)

Distribution: *USA*: Ill. - Ewing 164 (113); 169 (382); 179 (127).

Description: *Adult*: Ewing 164 (113) fig.; 179 (127) fig.

Ecology: Ewing 164 (113); 169 (382).

***Oromurcia* Thor, 1930**

Oromurcia Thor, 1930

Type-species: *Oromurcia bicuspidata* Thor, 1930 (766, p. 79).

***Oromurcia lucens* (L. Koch, 1879)**

Type: Unknown

Comb./Syn.: *Oribata lucens* L. Koch, 1879 (487, p. II5)

Galumna lucens (L. Koch, 1879) (64, p. 13)

Notapis lucens (L. Koch, 1879) (502, p. 349)

Oromurcia lucens (L. Koch, 1879) (348, p. 49)

Distribution: *USA*: Alaska - Banks 65 (237).

Canada: N.W.T. - Banks 64 (13).

Nearctic: Hammer 348 (49); 349 (24).

Palearctic: Koch 487 (115); Michael 564 (15); Kulczynski 502 (349) [?]; Hammer 348 (49);349 (24); Gilyarov 207 (293) [?]; Karppinen and Krivolutsky 1071 (14).

Description: *Adult*: Koch 487 (115) fig.; Michael 564 (15); Kulczynski 502 (349) [?]; Trägårdh 770 (5) fig. [?]; Gilyarov 207 (293) [?] fig.

Key: Michael 564 (15); Gilyarov 207 (293) [?].

Add. References: Hammer 349 (24).

Ecology: Banks 64 (13); 65 (237); Hammer 348 (49); 349 (24).

Remarks: 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 specimens of *O. lucens* are referrable to *Svalbardia paludicola* Thor, 1930 (120O, p. 1308).

***Oromurcia* sp.**

Distribution: *Canada*: Que. - Behan 72 (42); Behan et al. 76 (263).

Sphaerozetes Berlese, 1885

Sphaerozetes Berlese, 1885
Type-species: *Oribates orbicularis* C.L. Koch, 1835 (1045, p. 198).
Sphaerozetella Jacot, 1929
Type-species: *Oribates orbicularis* C.L. Koch, 1835 (424, p. 420: 42, p. 180).

Sphaerozetes arcticus Hammer, 1952

Type: CNC
Comb./Syn.: *Sphaerozetes arcticus* Hammer, 1952 (350, p. 46)
Distribution: *USA*: Alaska - Hammer 354 (19); Behan 73 (394); MacLean et al. 534 (562); Danks 971 (405); Va. - Sengbusch 719 (132); Behan-Pelletier 120O (1343).
Canada: MacLean et al. 534 (562); N.S. - Behan-Pelletier 120O (1343); N.W.T. Hammer 350 (46); Behan 73 (394); Behan-Pelletier 120O (1343); Y.T. - Behan 73 (394); Behan-Pelletier 120O (1343).
Palearctic: Gilyarov 207 (284); Behan 73 (394); MacLean et al. 534 (562); Danks 971 (405); Behan-Pelletier 120O (1343).
Description: *Adult*: Hammer 350 (46) fig.; Balogh 42 (pl. 54 fig. 15); Gilyarov 207 (284) fig.; Behan-Pelletier 1200 (1343) . fig., chaet.
Key: Gilyarov 207 (284).
Ecology: Hammer 350 (46); 354 (l9); Sengbusch 719 (132); Behan 73 (394); MacLean et al. 534 (562); Danks 971 (405); Behan-Pelletier 1200 (1343).

Sphaerozetes castaneus Hammer, 1955

Type: USNM
Comb./Syn.: *Sphaerozetes castaneus* Hammer, l955 (354, p. 19)

Distribution: *USA*: Alaska - Hammer 354 (19).
Description: *Adult*: Hammer 354 (19) fig.
Ecology: Hammer 354 (19).

Sphaerozetes flabelliger Berlese, 1908

Type: SEA
Comb./Syn.: *Sphaerozetes flabelliger* Berlese, 1908 (84, p. 4)
Distribution: *Nearctic*: Berlese 84 (4).
Description: *Adult*: Berlese 84 (4).
Remarks: Berlese's record is most likely from District of Columbia, Florida or Missouri (see 426, p. 239; 452, p. 238).

Sphaerozetes sp.

Distribution: *USA*: Hammer 365 (72) [Q.I.]; Mich. - Wallwork 788 (172).

Canada: Hammer 365 (72).

Svalbardia Thor, 1930

Svalbardia Thor, 1930

Type-species: *Svalbardia paludicola* Thor, 1930 (766, p. 76).

Svalbardia paludicola Thor, 1930

Type: Destroyed

Comb./Syn.: *Svalbardia paludicola* Thor, 1930 (766, p. 77)

Trichoribates lucens sensu Hammer, l952 (350, p. 49); non L. Koch, 1879

Distribution: *USA*: Alaska - Banks 65 (237) [?]; Hammer 354 (20) [mi.]; Hurd 411 (4) [mi.]; Watson et al. 1180 (575) [mi.]; Hammer 362 (23) [mi.]; Bohnsack ll4 (35) [mi.]; 115 (74) [mi.]; Douce and Crossley l52 (37) [mi.]; Behan 73 (395) [mi.]; MacLean et al. 534 (562) [mi.]; Danks 971 (405) [mi.]; Behan-Pelletier 1200 (1302).

Canada: Hammer 354 (20) [mi.]; MacLean et al. 534 (562) [mi.]; Man. - Hammer 350 (49) [mi.]; N.W.T. - Banks 64 (13) [mi.]; Hammer 350 (49) [mi.]; Behan 73 (395) [mi.]; Behan-Pelletier 120O (1302); Y.T. - Behan 73 (395) [mi.]; Behan-Pelletier 120O (1302).

Palearctic: Thor 766 (77); Karppinen and Krivolutsly 1071 (14); Behan-Pelletier 120O (1302).

Description: *Adult*: Thor 766 (77) fig.; Hammer 350 (49) fig. [mi.]; Behan-Pelletier 120O (1302) o. Q fig., chaet.

Tritonymph: Behan-Pelletier 120O (1302) fig., chaet.

Deutonymph: Behan-Pelletier 120O (1302) chaet.

Protonymph: Behan-Pelletier 120O (1302) chaet.

Larva: Behan-Pelletier 120O (1302) chaet.

Ecology: Banks 64 (13) [?]; 65 (237) [?]; Hammer 350 (49) [mi.]; 354 (20) [mi.]; Hurd 411 (4) [mi.]; Watson et al. 1180 (575) [mi.]; Hammer 362 (23) [mi.]; Bohnsack 114 (35) [mi]; ll5 (74) [mi.]; Douce and Crossley l52 (37) [mi.]; Behan 73 (395) [mi.]; MacLean et al. 534 (562) [mi.]; Danks 971 (405) [mi.]; Behan-Pelletier 120O (1302).

Remarks: All misidentifications are sub *Trichoribates lucens* sensu Hammer, l952. Bank's (64, p. 13; 65, p. 237) records are questionable because of the possible confusion of *Svalbardia paludicola* Thor, 1930 and *Oribata lucens* L. Koch, 1879 (see 120O, p. 1309).

Trichoribates Berlese, l910

Trichoribates Berlese, l910

Type-species: *Murcia trimaculata* C.L. Koch, 1835 (86, p. 385; 1092, p. 20O).

Remarks: *Trichoribates* was first used as a subgenus of *Sphaerozetes* Berlese, 1885 (86, p. 385) without a type designation. Both Jacot, 1929 (424, p. 422) and Willmann, 1931 (829, p. 168) subsequently designated *Oribates setosus* sensu Berlese, 1887 [non C.L. Koch, 1839] as type-species. Willmann considered Berlese's species conspecific with *Murcia trimaculata* C.L. Koch, 1835; Jacot did not and named Berlese's species *Sphaerozetes (Trichoribates) berlesei*. Since the matter involves the misidentification of a type-species, it must be submitted to the ICZN.

Trichoribates boletorum (Ewing, 1913)

Syntypes: USNM

Comb./Syn.: *Oribata boletorum* Ewing, 1913 (176, p. 119)

Trichoribates boletorum (Ewing, 1913) (860, p. 264)

Distribution: *USA*: Minn. - Ewing 176 (119); Woolley 860 (264).

Description: *Adult*: Ewing 176 (119) fig.; Woolley 860 (264) fig.

Key: Ewing 176 (119).

Ecology: Ewing 176 (119); Woolley 860 (264).

Trichoribates copperminensis Hammer, 1952

Syntypes: CNC

Comb./Syn.: *Trichoribates copperminensis* Hammer, 1952 (350, p. 50)

Distribution: *USA*: Alaska - Behan 73 (395); Danks 971 (405); Behan-Pelletier 120O (1289); Va. - Sengbusch 719 (132).

Canada: N.W.T. - Hammer 350 (50); Behan 73 (395); Behan-Pelletier 120O (1289); Y.T. - Behan 73 (395); Behan-Pelletier 120O (1289).

Palearctic: Zlotin and Krivoluckij 906 (256); Behan-Pelletier 120O (1289).

Description: *Adult*: Hammer 350 (50) fig.; Behan-Pelletier 120O (1289) fig., chaet.

Ecology: Hammer 3SO (50); Sengbusch 719 (132); Zlotin and Krivoluckij 906 (256); Behan 73 (395); Danks 971 (405); Behan-Pelletier 120O (1289).

Remarks: The Virginia record is considered doubtful (120O, p. 1294).

***Trichoribates formosus* (Banks, 1909)** new comb.

Type: MCZ
Comb./Syn.: *Oribatella formosa* Banks, l909 (60, p. 138)
Distribution: *USA*: N.J. - Weiss 819 (109).
Canada: Ont. - Banks 60 (138).
Description: *Adult*: Banks 60 (138) fig.
Ecology: Banks 60 (138); Weiss 819 (109).

***Trichoribates latincisus* (Ewing, 1909)**

Type: USNM
Comb./Syn.: *Oribata latincisa* Ewing, 1909 (170, p. 121)
Trichoribates latincisa (Ewing, 1909) (860, p. 263)
Distribution: *USA*: Ill. - Ewing 170 (121); Woolley 860 (263).
Description: *Adult*: Ewing 170 (121) fig.; Woolley 860 (263) fig.
Key: Ewing 170 (121).
Ecology: Ewing 170 (121); Woolley 860 (263).

***Trichoribates latincisus giganteus* (Hall, 1911)** new comb.

Type: Unknown
Comb./Syn.: *Oribata latincisa gigantea* Hall, 1911 (332, p. 508)
Distribution: *USA*: Conn. - Hall 332 (508).
Description: *Adult*: Hall 332 (508) fig.
Ecology: Hall 332 (508).

***Trichoribates novus* (Sellnick, 1928)**

Type: Destroyed
Comb./Syn.: *Murcia nova* Sellnick, 1928 (70O, p. Il)
Trichoribates novus (Sellnick, 1928) (829, p. 170)
Oribata setosa sensu Michael, 1884 (561, p. 243); non C.L. Koch, 1840 (338, p. I00)
Trichoribates numerosa sensu Buitendijk, 1945 (117, p. 386): (338, p. 111); non Sellnick, 1924
Distribution: *USA*: Va. - Sengbusch 719 (132).
Palearctic: Michael 561 (243) [mi.]; Willmann 829 (170); Tuxen 779 (333); Hammer 349 (37). Evans 160 (40); Hammen 338 (100); Schweizer 691 (326); 692 (tab. 11 no. 447); Kunst 503 (38); Rajski 668 (25); Bernini 96 (425); Rajski 669 (234); Calugar 126 (410); Gilyarov 207 (292); Luxton 532 (182).
Description: *Adult*: Michael 561 (243) [mi.] fig.; Sellnick 70O (11); Willmann 829 (170) fig.; Schweizer 691 (326) fig.; Gilyarov 207 (292) fig.

Nymph: Michael 561 (243) [mi.] fig.
Key: Willmann 829 (170); Schweizer 691 (326); Gilyarov 207 (292).
Food: Grandjean 253 (341) [mi.]; Behan and Hill 75 (50O).
Ecology: Michael 561 (243) [mi.]; Willmann 829 (170); Tuxen 779 (333); Evans 160 (40); Hammen 338 (I00); Schweizer 691 (326); 692 (tab. 11 no. 447); Sengbusch 719 (132); Kunst 503 (38); Rajski 668 (25); Bernini 96 (425); Rajski 669 (234); Calugar 126 (410); Luxton S32 (182); Wallwork 950 (330); Mochnacka-Lawacz and Zyromska-Rudzka 1034 (IO8); Zyromska-Rudzka 1034 (IO8) [!].
Remarks: Michael (561, p. 243) and Grandjean (253, p. 341) are sub *Oribata setosa*.

***Trichoribates obesus* (Banks, 1895)**

Syntypes: MCZ
Comb./Syn.: *Oribatella obesa* Banks, 1895 (45, p. 9)
Trichoribates obesus (Banks, 1895) (lI58, p. 91)
Jugatala lamellata Ewing, 1918 (180, p. 84) new syn. **Type:** USNM; Paratypes: OSU
Trichoribates lamellata (Ewing, 1918) (860, p. 265)
Distribution: *USA*: Alaska - Hammer 354 (22); N.Y. - Banks 45 (9); Oreg. - Ewing 180 (84); Woolley 860 (265); Wash. - Banks 45 (9); Ewing 169 (380).
Palearctic: Karppinen 479 (40).
Description: *Adult*: Banks 45 (9); Ewing 180 (84) fig.; Hammer 354 (22) fig.; Woolley 860 (265) fig.
Key: Banks 45 (9).
Ecology: Ewing 180 (84); Hammer 354 (22); Woolley 860 (265); Karppinen 479 (40).

***Trichoribates perfectus* (Banks, 1896)** new comb.

Syntypes: MCZ
Comb./Syn.: *Oribatella perfecta* Banks, 1896 (48, p. 75)
Distribution: *USA*: N.Y. - Banks 48 (75); Ewing 169 (380); Va. - Banks 48 (75); Ewing 169 (380).
Description: *Adult*: Banks 48 (75).
Ecology: Banks 48 (75); Ewing 169 (380).

***Trichoribates persimilis* (Banks, l906)** new comb.

Type: MCZ
Comb./Syn.: *Galumna persimilis* Banks, 1906 (56, p. 491)
Oribata persimilis (Banks, 1906) (169, p. 382)
Distribution: *USA*: N.H. - Banks 56 (491); 59 (16); Ewing 169 (382); Banks 63 (92).
Description: *Adult*: Banks 56 (491) fig.; 63 (92) fig.

***Trichoribates polaris* Hammer, 1953**

Type: MHPC

Comb./Syn.: *Trichoribates polaris* Hammer, 1953 (980, p. II)
Distribution: *USA*: Alaska - Hammer 354 (20); Bohnsack 114 (35); 115 (74); Behan 73 (395); Danks 971 (405); Behan-Pelletier 120O (1294). *Canada*: Hammer 354 (20); N.W.T. - Oliver 619 (179); Danks and Byers 147 (85); Behan 73 (395); Behan-Pelletier 120O (1294).
Nearctic: Hammer 980 (ll).
Palearctic: Behan-Pelletier 120O (1294).
Description: *Adult*: Hammer 980 (l1) fig.; Behan-Pelletier 120O (1294) fig., chaet.
Tritonymph: Behan-Pelletier 120O (1294) chaet., fig.
Deutonymph: Behan-Pelletier 120O (1294) chaet.
Protonymph: Behan-Pelletier 120O (1294) chaet.
Larva: Behan-Pelletier 120O (1294) chaet.
Add. References: Bohnsack 115 (74).
Ecology: Hammer 980 (ll); 354 (20); oliver 619 (179); Bohnsack 114 (35); Danks and Byers 147 (85); Behan 73 (395); Danks 971 (405); Behan-Pelletier 120O (1294).

***Trichoribates principalis* (Berlese, 1914)**

Type: SEA
Comb./Syn.: *Sphaerozetes (Trichoribates) principalis* Berlese, 1914 (89, p.129)
Diapterobates principalis (Berlese, 1914) sensu Powell, 1971 (661, p. 915)
Trichoribates principalis (Berlese, 1914) (691, p. 327)
Distribution: *Canada*: Alta. - Powell 661 (915); Powell et al . 663 (11); Powell and Skaley 662 (20).
Palearctic: Berlese 89 (129); Schweizer 691 (327).
Description: *Adult*: Berlese 89 (129) fig.; Schweizer 691 (327) fig.
Ecology: Berlese 89 (129); Schweizer 691 (327); Powell 661 (915); Powell et al. 663 (11); Powell and Skaley 662 (20).

***Trichoribates spatulasetosus* Reeves, 1967**

Type: USNM
Comb./Syn.: *Trichoribates spatulasetosus* Reeves, 1967 (672, p. 285)
Distribution: *USA*: N.Y. - Reeves 672 (285).
Description: *Adult*: Reeves 672 (285) fig.; Grandjean 318 (857) chaet.
Ecology: Reeves 672 (285).

***Trichoribates spinogenualus* (Ewing, 1909)** new comb.

Type: Not designated (see remarks)
Comb./Syn.: *Oribata spinogenuala* Ewing, 1909 (169, p. 357)
Distribution: *USA*: Ill. - Ewing 169 (357).
Description: *Adult*. Ewing 169 (357) fig.

Key: Ewing 169 (357).
Remarks: "Autotypes" in the USNM are labelled "*Sphaerozetes spinogenuala*".

Trichoribates striatus Hammer, 1952

Type: CNC
Comb./Syn.: *Trichoribates striatus* Hammer, 1952 (350, p. 5l)
Distribution: *Canada*: Man. - Hammer 350 (51).
Description: *Adult*: Hammer 350 (51) fig.; Balogh 42 (pl. 54 fig. 14).
Ecology: Hammer 350 (51).

Trichoribates trimaculatus (C.L. Koch, 1835)

Type: Unknown
Comb./Syn.: *Murcia trimaculata* C.L. Koch, 1835 (485, Vol. 3 (21))
Notaspis trimaculata (C.L. Koch, 1835) (626, p. 152)
Trichoribates trimaculatus (C.L. Koch, 1835) (829, p. 169)
Oribates setosus sensu Berlese, 1887 (77, Vol. 43 (4)); non C.L. Koch, 1841 (338, p. 99)
Sphaerozetes (Trichoribates) berlesei Jacot, 1929 (424, p. 422): (232, p.79). **Type:** Not designated (see remarks)
Add. Comb./Syn. Ref.: Sellnick 709 (60); Subias 755 (252).
Distribution: *USA*: Hammer 36S (73) [Q.I.].
Canada: Hammer 365 (73).
Nearctic: Haarlov 324 (37); Hammer 348 (48); 349 (22).
Palearctic: Willmann 829 (169); Haarlov 324 (37); Tuxen 779 (333); Hammer 348 (48); 349 (22); Willmann 836 (194); Hammen 338 99); Schweizer 691 (324); 692 (tab. 10 no. 441); Sellnick 707 (52); Kunst 503 (38); Sellnick 709 (60); Travé 775 (225); Rajski 668 (25); Vanek 783 (297); Davis 148 (67); Moritz 571 (158); Travé 777 (232); Luxton 528 (524); 530 (276); Wood 843 (116); Hammer 365 (73); Zlotin and Krivoluckij 906 (256) [!]; Bernini 96 (425); Rajski 669 (230); Bernini 98 (394); Rubcova 681 (386); Gilyarov 207 (293); Niedbala 604 (62); Subias 755 (252).
Description: *Adult*: Koch 485 (Vol. 3 (21)); Willmann 829 (169) fig.; Hammen 338 (99) fig.; Schweizer 691 (324) fig.; Vanek 783 (297) fig.; Gilyarov 207 (293) fig.
Taxonomy: Jacot 424 (422); Hammer 348 (48).
Key: Willmann 829 (169); Schweizer 691 (324); Sellnick 709 (60); Gilyarov 207 (293).
Add. References: Willmann 829 (169); Hammer 349 (22); Hammen 338 (99); Subias 755 (252); Forest et al. 105l (38).
Ecology: Willmann 829 (169); Haarlov 324 (37); Tuxen 779 (333); Hammer 348 (48); 349 (22); Willmann 836 (194); Hammen 338 99); Schweizer 691 (324); 692 (tab. IO no. 441); Sellnick 707 (52); Kunst 503 (38); Sellnick 709 (60); Travé 775 (225); Rajski 668 (25); Davis 148 (67); Moritz 571 (158); Travé 777 (232); Luxton 528 (524); 530 (276); Wood 843 (116); Hammer 365 (73); Zlotin and

Krivoluckij 906 (256) [!]; Bernini 96 (425); 98 (394); Rubcova 681 (386); Wallwork 950 (354); Niedbala 604 (62); Subias 755 (252); Krantz 490 (462); Nannelli 997 (349).
Remarks: *Sphaerozetes (Trichoribates) berlesei* Jacot, 1929 was a new name for *Oribates setosus* sensu Berlese, 1887; see remarks under the genus *Trichoribates* Berlese, l910.

***Trichoribates* sp.**

Distribution: *USA*: Alaska - Danks 971 (405); Mich. - Wallwork 788 (172); N.Y. - Norton and MacNamara 615 (91).
Canada: Alta. - Powell and Skaley 662 (20); N.S. - Rasmy and MacPhee 670 (174); ont. - Freitag and Ryder 20l (40).

***Trichoribates* sp. nr. *lamellata* (Ewing, 1918)**

Distribution: *Canada*: Alta. - Powell 661 (915); Powell etal. 663 (11); Powell and Skaley 662 (20); Sask. - Powell et al. 663 (11); Y.T. - Powell et al. 663 (11).

***Trichoribates* sp. cf. *trimaculatus* (C.L. Koch, 1835)**

Distribution: *Canada*: Que. - Forest et al. 1051 (38).

HUMEROBATIDAE GRANDJEAN, 1970

Remarks: Grandjean (318, p. 868) justified the creation of this family. *Humerobates*, its type genus, has generally been placed in the Ceratozetidae (36, p. 424; 42, p. 172; 207, p. 290).

***Humerobates* Sellnick, 1928**

Humerobates Sellnick, 1928
Type-species: *Humerobates rostrolamellatus* Grandjean, 1936 (709, p. 62).
Banksinus Jacot, 1938
Type-species: *Oribata arborea* Banks, 1895 (456, p. 14).
Remarks: The type-species designation for *Humerobates* involved a misidentification by Sellnick 1928. The matter was submitted to the ICZN, who established *Humerobates rostrolamellatus* Grandjean, 1936 as type-species [1154 and ICZN 1987 (opinion 1420; Bull. Zool. Nomencl. 44: 49)] . See also comments under the type-species of *Diapterobates* Grandjean, 1936.

***Humerobates arborea* (Banks, 1895)**

Syntypes: MCZ, USNM
Comb./Syn.: *Oribata arborea* Banks, 1895 (45, p. 7)
Banksinus arborea (Banks, 1895) (456, p. 14)

Galumna arborea (Banks, 1895) (52, p. 72)
Humerobates arborea (Banks, 1895) (469, p. 61)
Humerobates humeralis arborea (Banks, 1895) (428, p. 379)
Add. Comb./Syn. Ref.: Jacot 919 (397).
Distribution: *USA*: Calif. - Jacot 428 (379); Conn. - Jacot 428 (379); Garman 205 (25); Ga. - Jacot 428 (379); Ill. - Ewing 169 (361); Maine - Jacot 428 (379); Mass. Jacot 428 (379); N.Y. - Banks 45 (7); Ewing 169 (361); Jacot 428 (379).
Ethiopian: Jacot 919 (397).
Description: *Adult*: Banks 45 (7); Ewing 169 (361); Jacot 428 (379) fig.; Gannan 205 (25) fig. app.
Taxonomy: Jacot 456 (14); Johnston 469 (61).
Key: Ewing 169 (361).
Ecology: Banks 45 (7); 52 (72); Ewing 169 (361); Banks 63 (96); Jacot 428 (379); Gannan 205 (25).

***Humerobates fungorum* (Linnaeus, 1758)**

Type: Unknown
Comb./Syn.: *Acarus fungorum* Linnaeus, 1758 (518, p. 618)
Humerobates fungorum (Linnaeus, 1758) (365, 73)
Distribution: *Canada*: Hammer 365 (73).
Palearctic: Hammer 365 (73).
Australian: Hammer 365 (73) [Q.I.]; 371 (33).
Description: *Adult*: Linnaeus 518 (618); Hammer 371 (33) fig.
Ecology: Linnaeus 518 (618); Hammer 365 (73); 371 (33); Krantz 490 (462).
Remarks: The identity of Linnaeus' *Acarus fungorum* is uncertain (338, p. 97). It is likely that the recent listings under *Humerobates fungorum* actually refer to *Humerobates rostrolamellatus* Grandjean, 1936.

***Humerobates rostrolamellatus* Grandjean, 1936**

Type: Not designated
Comb./Syn.: *Humerobates rostrolamellatus* Grandjean, 1936 (232, p. 77)
Banksinus arboreus rostrolamellatus Jacot, 1940 (919, p. 396)
Oribates humeralis sensu Berlese, 1883 (77, Vol. 3 (4)); non Hermann, 1804 (338, p. 97)
Notaspis humeralis sensu Oudemans, 1902 (628, p. 1); non Hermann, 1804 (338, p. 97)
Humerobates humeralis sensu Sellnick, 1928 (70O, p. 11); non Hermann, 1804 (338, p. 97)
Oribata lapidaria sensu Michael, 1884 (561, p. 230); non Lucas, 1849 (338, p. 97)
Oribates facula sensu Oudemans, 1896 (622, p. 56): (338, p. 97)
Humerobates fungorum sensu Willmann, 1931 (820, p. 167); non Linnaeus, 1758 (338, p. 97)
Distribution: *USA*: Jacot 919 (396).
Canada: N.S. - Rasmy and MacPhee 670 (174).

Palearctic: Michael 561 (230) [mi.]; Willmann 820 (167) [mi.]; Hammen 338 (97); Madge 536 (567); 537 (721); 538 (122); 539 (398); Lions 519 (507); 520 (443); Luxton 528 (524); Madge 540 (158); Jalil 466 (526); Bernini 96 (425); Murphy and Balla 580 (97); Gilyarov 207 (291); Luxton 532 (182); Lebrun 514 (422); Lebrun et al. 516 (193); Mitchell 567 (66).
Description: *Adult*: Michael 561 (230) [mi.] fig.; Willmann 820 (167) [mi.] fig.; Grandjean 232 (77) fig.; Gilyarov 207 (291) fig.
Nymph: Michael 561 (230) [mi.] fig.
Tritonymph: Grandjean 317 (439) fig.; 318 (865) fig.
Larva: Grandjean 318 (865) chaet.
Key: Gilyarov 207 (291).
Add. References: Hammen 338 (97); 344 (21); Madge 535 (201).
Morphology: Grandjean 317 (439).
Biology: Jalil 466 (526); Mitchell 567 (66); Luxton 988 (315).
Miscellaneous: Helle et al. 387 (450) anat.; Sengbusch 1013 (83) cult.
Ecology: Michael 561 (230) [mi.]; Willmann 820 (167) [mi.]; Hammen 338 (97); Madge 536 (567); 537 (721); 538 (122); 539 (398); Lions 5l9 (507); 520 (443); Luxton 528 (524); Madge 540 (158); Jalil 466 (526); Bernini 96 (425); Rasmy and MacPhee 670 (174); Murphy and Balla 580 (97); Luxton 532 (182); Lebrun 514 (422); Wallwork 950 (345); Lebrun et al. 516 (193); Krantz 490 (462); André et al. 1035 (IO7).
Remarks: Michael (561, p. 230) is sub *Oribata lapidaria*; Willmann (820, p. 167) is sub *Humerobates fungorum*. See also comments under the genus *Diapterobates* Grandjean, 1936.

MYCOBATIDAE GRANDJEAN, 1954

***Jugatala* Ewing, 1913**

Jugatala Ewing, 1913
Type-species: *Jugatala tuberosa* Ewing, 1913 (177, p. 130).

***Jugatala tuberosa* Ewing, 1913**

Syntypes: USNM, OSU
Comb./Syn.: *Jugatala tuberosa* Ewing, 1913 (177, p. 131)
Distribution: *USA*: Oreg. - Ewing 177 (131); Woolley 860 (266). *Nearctic*: Woolley 864 (282); Sellnick 710 (27).
Description: *Adult*: Ewing 177 (131) fig.; Baker and Wharton 36 (423) fig.; Woolley 860 (266) fig.; Balogh 42 (pl. 53 fig. 12).
Ecology: Ewing 177 (131); Woolley 860 (266); 864 (282).

Minunthozetes Hull, 1916

Minunthozetes Hull, 1916
Type-species: *Zetes semirufus* C.L. Koch, 1841 (= *Oribata fusigera* Michael, 1884) (410, p. 394; 1092, p. 199).
Remarks: Hull (410, p. 394) gave the type-species as *Oribata fusigera* Michael, 1884, but this species is considered a synonym of *Zetes semirufus* C.L. Koch, 1841 (1092, p. 199).
Jurabates Jacot, 1929
Type-species: *Oribata pseudofuciger* Schweizer, 1922 (424, p. 428: 42, p. 179).

Minunthozetes sp.

Distribution: *USA*: Calif. - Walter and Norton 1179 (tab)
Canada: N.S. - Behan-Pelletier (VBP unpub.).

Mycobates Hull, 1916

Mycobates Hull, 1916
Type-species: *Oribata parmeliae* Michael, 1884 (410, p. 395).

Mycobates conitus Hammer, 1952

Type: CNC
Comb./Syn.: *Mycobates conitus* Hammer, 1952 (350, p. 56)
Calyptozetes conitus (Hammer, 1952) (971, p. 404)
Distribution: *USA*: Alaska - Behan 73 (395).
Canada: Nfld. - Behan 73 (395); N.W.T. - Hammer 350 (56); Behan 73 (395); Que. - Behan 73 (395); Y.T. - Behan 73 (395).
Description: *Adult*: Hammer 350 (56) fig.
Key: Hammer 350 (56).
Ecology: Hammer 350 (56); Behan 73 (395); Danks 971 (404).

Mycobates consimilis Hammer, 1952

Type: CNC
Comb./Syn.: *Mycobates consimilis* Hammer, 1952 (350, p. 57)
Calyptozetes consimilis (Hammer, 1952) (971, p. 404)
Distribution: *USA*: Alaska - Hammer 354 (24); Bohnsack 114 (35); ll5 (74); Behan 73 (396).
Canada: Hammer 354 (24); N.W.T. - Hammer 350 (57); Behan 73 (396); Y.T. - Behan 73 (396).
Nearctic: Haarlov 328 (12).
Palearctic: Karppinen and Krivolutsky 1071 (15).
Description: *Adult*: Hammer 350 (57) fig.; Haarlov 328 (12) photo.

Key: Hammer 350 (57).
Ecology: Hammer 350 (57); 354 (24); Haarlov 328 (12); Bohnsack 114 (35); 115 (74); Behan 73 (396); Danks 971 (404).

Mycobates incurvatus Hammer, 1952

Type: CNC
Comb./Syn.: *Mycobates incurvatus* Hammer 1952 (350, p. 58)
Calytozetes incurvatus (Hammer, 1952) (971, p. 404)
Distribution: *USA*: Alaska - Hammer 354 (23); Behan 73 (395).
Canada: Hammer 354 (23); Nfld. - Hammer 350 (58); N.W.T. - Hammer 350 (58); Behan 73 (395); Y.T. - Behan 73 (395).
Description: *Adult*: Hammer 350 (58) fig.; 354 (23) fig.
Key: Hammer 350 (58).
Ecology: Hammer 350 (58); 354 (23); Behan 73 (395); Danks 971 (404).

Mycobates parmeliae (Michael, 1884)

Syntypes: BM(NH)
Comb./Syn.: *Oribata parmeliae* Michael, 1884 (561, p. 265)
Mycobates parmeliae (Michael, 1884) (829, p. 171)
Notaspis parmeliae (Michael, 1884) (626, p. 154)
Add. Comb./Syn. Ref.: Hammen 338 (101); Subias 755 (256).
Distribution: *Canada*: Man. - Hammer 350 (56); N.W.T. - Hammer 350 (56); Behan 73 (396); Que. - Behan 72 (42); Behan et al. 76 (263); Y.T. - Behan 73 (396).
Palearctic: Michael 561 (265); 564 (23); Willmann 829 (171); Hammen (338) (101); Schweizer 691 (317); 692 (tab. 10 no. 428); Karppinen 478 (196); Kunst 503 (38), Sellnick 709 (64); Travé 775 (225); 777 (232); Bernini 96 (425); Lions 522 (364); Gilyarov 207 (304); Lions 523 (172); Subias 755 (256).
Description: *Adult*: Michael 561 (265) fig.; 564 (23); Willmann 829 (171) fig.; Hammer 350 (56) fig.; Schweizer 691 (317) fig.; Grandjean 308 (532) chaet.; Gilyarov 207 (304) fig.
Prelarva: Lions 522 (364).
Key: Michael 564 (23); Willmann 829 (l7l); Hammer 350 (56); Sellnick 709 (64); Gilyarov 207 (304).
Add. References: Willmann 829 (l7l); Hammen 338 (IOI); Subias 755 (256).
Ecology: Michael 561 (265); S64 (23); Willmann 829 (l7l); Hammen 338 (101); Hammer 350 (56); Schweizer 691 (317); 692 (tab. IO no. 428); Karppinen 478 (196); Kunst 503 (38); Sellnick 709 (64); Travé 775 (225); 777 (232); Bernini 96 (425); Behan 72 (42); Lions 522 (364); 523 (l72); Wallwork 950 (348); Subias 755 (256); Behan 73 (396); Behan et al. 76 (263); Danks 971 (405).

Mycobates punctatus Hammer, 1955

Type: USNM

Comb./Syn.: *Mycobates punctatus* Hammer, 1955 (354, p. 24)
Calyptozetes punctatus (Hammer, 1955) (971 p. 404)
Distribution: *USA*: Alaska - Hammer 354 (24); Behan 73 (396); MacLean et al. 534 (562).
Canada: MacLean et al. 534 (562); N.W.T. - Behan 73 (396); Que. - Behan 73 (396).
Palearctic: Grisina 323 (82); Behan 73 (396); MacLean et al. 534 (562); Danks 971 (404).
Description: *Adult*: Hammer 354 (24) fig.
Ecology: Hammer 354 (24); Grisina 323 (82); Behan 73 (396); MacLean et al. 534 (562); Danks 971 (404).

Mycobates sarekensis (Tragardh, 1910)

Type: Unknown
Comb./Syn.: *Oribata sarekensis* Tragardh, l910 (771, p. 504)
Calyptozetes sarekensis (Tragardh 1910) (779, p. 333)
Mycobates sarekensis (Tragardh, 1910) (350, p. 57)
Distribution: *Canada*: N.W.T. - Hammer 350 (59); Behan 73 (395); Y.T.- Behan 73 (395).
Nearctic: Hammer 347 (1l); 348 (49); 349 (25); 352 (412); Gilyarov 207 (304); Danks 971 (404).
Palearctic: Tuxen 779 (333); Hammer 348 49); 349 (25); Gilyarov 207 (304); Seyd 1014 (l); Danks 971 (404).
Description: *Adult*: Trägardh 771 (504); Hammer 350 (59) fig.; Gilyarov 207 (304) fig.
Taxonomy: Johnston 469 (62).
Key: Hammer 350 (59); Gilyarov 207 (304).
Ecology: Tuxen 779 (333); Hammer348 49); 349 (25); 350(59); 352 (412); Wallwork 950(164); Behan 73 (395); Seyd 1014 (1); Wallwork 1028 519); Danks 971 (404).

Mycobates tridactylus Willmann, 1929

Type: WHPC
Comb./Syn.: *Mycobates tridactylus* Willmann, 1929 (827, p. 43)
Calyptozetes tridactylis [!] (Willmann, 1929) (971, p. 404)
Distribution: *USA*: Va. - Sengbusch 719 (132).
Canada: Schweizer 691 (3l8); N.W.T. - Hammer 350 (56); Behan 73 (396) [!].
Palearctic: Willmann 829 (l72); Schweizer 691 (318);692 (tab. 10 no. 430); Sellnick 709 (64); Gilyarov 207 (304); Danks 971 (404) [!].
Description: *Adult*: Willmann 827 (43) fig.; 829 (l72) fig.; Hammer 350 (56) fig.; Schweizer 691 (3l8) fig.; Gilyarov 207 (304) fig.
Key: Willmann 829 (l72); Hammer 350 (56); Sellnick 709 (64); Gilyarov 207 (304).
Ecology: Willmann 829 (l72); Hammer 350 (56); Schweizer 691 (318); 692 (tab. 10 no. 430); Sengbusch 719 (132); Sellnick 709 (64); Behan 73 (396) [!]; Danks 971 (4W) [!].

Mycobates sp.

Distribution: *USA*: Alaska - Behan 73 (396); Danks 971 (4 W).

Mycobates sp. aff. *conitus* Hammer, 1952

Distribution: *USA*: Alaska - Bohnsack 114 (35); ll5 (74).

Pelopsis Hall, 1911

Pelopsis Hall, 1911
Type-species: *Pelops bifurcata* Ewing, l909 (=*Pelopsis nudiuscula* Hall, 1911) (332, p. 508; 931, p. 697).

Parapelops Jacot, 1938
Type-species: *Pelops bifurcatus* Ewing, l909 (461, p. 55: 931, p. 697).

Ewingozetes Hammer, l952
Type-species: *Pelops bifurcatus* Ewing, l909 (350, p. 54: 931, p. 697).

Pelopsis bifurcata (Ewing I909)

Syntypes: USNM
Comb./Syn.: *Pelops bifurcatus* Ewing, 1909 (170, p. 118)
Ewingozetes bifurcatus (Ewing, l909) (350, p. 54)
Parapelops bifurcatus (Ewing, l909) (461, p. 55)
Pelopsis bifurcata (Ewing, l909) (931, p. 696)
Galumna panita Banks, l910 (61, p. 7) new syn. **Type:** MCZ
Pelopsis nudiuscula Hall, 1911 (332, p. 508): (931, p. 696). **Type:** Unknown
Distribution: *USA*: Conn. - Hall 332 (508); Norton 931 (696); Fla. - Jacot 461 (55); Norton 931 (696); Ill. - Ewing 170 (118); Jacot 461 (55); Hammer 350 (54); Woolley 860 (275); Norton 931 (696); Miss. - Norton 931 (696); N.Y. - Habeeb 330 (6); Norton and MacNamara 615 (91); Norton 931 (696); N.C. - Jacot 450 (370); 461 (55); Norton 931 (696); Tenn. - Crossley and Bohnsack 142 (631); Norton 931 (696); Tex. - Norton 931 (696); Va. - Banks 61 (7).
Canada: N.W.T. - Hammer 350 (54); Norton 931 (696).
Description: *Adult*: Ewing 170 (118) fig.; Banks 61 (7) fig.; Hall 332 (508) fig.; Hammer 350 (54) fig.; Woolley 860 (275) fig.; Balogh 42 (pl. 56 fig. 3); Habeeb 330 (6) fig.
Taxonomy: Hammer 357 (122).
Key: Ewing 170 (118).
Ecology: Ewing 170 (118); Hall 332 (508); Jacot 461 (55); Hammer 350 (54); Woolley 860 (275); Crossley and Bohnsack 142 (631); Habeeb 330 (6); Norton 931 (696).

Punctoribates **Berlese, l908**

Punctoribates Berlese, l908
Type-species: *Oribates punctum* C.L. Koch, 1839 (84, p. 6).

Punctoribates annipes **(Banks, 1906)** new comb.

Syntype: MCZ
Comb./Syn.: *Galumna annipes* Banks, 1906 (56, p. 492)
Oribata annipes (Banks, 1906) (169, p. 380)
Distribution: *USA*: N.J. - Banks 56 (492); Ewing 169 (380); Weiss 819 (109); Va. - Banks S6 (492); Ewing 169 (380).
Description: *Adult*: Banks 56 (492) fig.
Ecology: Weiss 819 (IO9).

Punctoribates hexagonus **Berlese, 1908**

Type: SEA
Comb./Syn.: *Punctoribates hexagonus* Berlese, 1908 (84, p. 6)
Distribution: *USA*: Alaska - Behan 73 (396).
Palearctic: Berlese 84 (6); Willmann 829 (172); Haarlov 326 (45); Rajski 668 (24); Karppinen 479 (39); Rajski 669 (232); Bernini 97 (394); Rubcova 681 (386); Gilyarov 207 (309).
Description: *Adult*: Berlese 84 (6); Willmann 829 (172) fig.; Haarlov 326 (45); Gilyarov 207 (309) fig.
Tritonymph: Haarlov 326 (45) fig.
Key: Sellnick 70O (15); Willmann 829 (172); Gilyarov 207 (309).
Ecology: Willmann 829 (172); Haarlov 326 (45); Rajski 668 (24); Karppinen 479 (39); Rajski 669 (232); Bernini 97 (394); Rubcova 681 (386); Wallwork 950 (193); Behan 73 (396).

Punctoribates palustris **(Banks, 1895)** new comb.

Type: Not designated ("Autotype" in MCZ)
Comb./Syn.: *Oribata palustris* Banks, 1895 (47, p. 128)
Galumna palustris (Banks, 1895) (57, p. 612)
Distribution: *USA*: Banks 57 (612); N.Y. - Banks 47 (l28); Michael 564 (25); Ewing 169 (382).
Description: *Adult*: Banks 47 (128); Michael 564 (25).
Key: Michael 564 (25).
Ecology: Banks 47 (128); Michael 564 (25); Ewing 169 (382).

Punctoribates punctum **(C.L. Koch, 1839)**

Type: Unknown
Comb./Syn.: *Oribates punctum* C.L. Koch, 1839 (485, Vol. 30 (22))

Punctoribates punctum (C.L. Koch, 1839) (829, p. 173)
Distribution: *USA*: Hammer 365 (72) [Q.I.]; Rajski 669 (233); Va. - Sengbusch 719 (l32).
Palearctic: Michael 564 (16); Willmann 829 (l73); Weis-Fogh 817 (205); Willmann 836 (194); Hammen 338 (IOI); Schweizer 691 (320); Haarlov 326 (46); Schweizer 692 (tab. 10 no. 436); Haarlov 327 (134); Moskacheva 578 367); Davis and Murphy 149 (5); Rajski 668 24); Davis 148 67); Moritz 571 (157); Byzova 124 (293); 125 (l85); Lebrun 507 (IO3); Moritz 572 (7l); Lebrun 508 (l86); Hammer 365 (72); 367 (99); Rajski 669 (233); Bernini 98 394); Grisina 323 (82); Rubcova 681 (386); Gilyarov 207 (310); Luxton 532 (186); Lions 523 (172); Hammer 373 (54); Krantz 490 (462).
Oriental: Hammer 365 (72).
Australian: Hammer 363 (30); Spain and Luxton 947 (20I).
Description: *Adult*: Koch 485 (Vol. 30(22)); Michael 564 (16); Willmann 829 (I73) fig.; Schweizer 691 (320) fig.; Hammer 363 (30) fig.; Gilyarov 207 (310) fig.
Key: Michael 564 (l6); Willmann 829 (173); Gilyarov 207 (310).
Add. References: Michael 564 (l6); Willmann 829 (l73); Hammen 338 (IOI).
Miscellaneous: Lasebikan et al. 984 (52) extract.
Ecology: Michael 564 (16); Willmann 829 (l73); Weis-Fogh 817 (205); Willmann 836 (l94); Hammen 338 (IOI); Schweizer 691 (320); Haarlov 326 (46); Schweizer 692 (tab. 10 no. 436); Sengbusch 719 (132); Haarlov 327 (l34); Moskacheva 578 367); Davis and Murphy 149 (5); Rajski 668 24); Davis 148 (67); Moritz 571 (157); Byzova 124 (293);125 (185); Lebrun 507 (103); Moritz 572 (71); Hammer 363 (30); Lebrun 508 (186); Hammer 365 (72); Bernini 96 (425); Hammer 367 (99); Rajski 669 (233); Bernini 98 394); Spain and Luxton 947 (20l); Grishina 323 (82); Rubcova 681 (386); Luxton 532 (l86); Lions 523 (l72); Zyromska-Rudzka 1033 (160); Hammer 373 (54); Krantz 490 (462); Zyromska-Rudzka 1034 (IO8).

***Punctoribates quadrivertex* (Halbert, 1920)**

Type: Unknown
Comb./Syn.: *Oribata quadrivertex* Halbert, 1920 (979, p. 131)
Punctoribates quadrivertex (Halbert, 1920) (350, p. 60)
Distribution: *USA*: Alaska - Behan 73 (396); Danks 971 (406).
Canada: Man. - Hammer 350 (60); N.W.T. - Behan 73 (396); Y.T. - Behan 73 (396).
Palearctic: Luxton 526 (175); 527 (169); 528 522); 529 (57); 530 (263); Polderman 660 (360); Gilyarov 207 (309).
Description: *Adult*: Halbert 979 (l3l); Hammer 350 (60) fig.; Woodring 848 (426) , fig., photo.. Gilyarov 207 (309) fig.
Key: Gilyarov 207 (309).
Add. References: Luxton 531 (462).
Food: Luxton 527 (169); 531 (462).
Miscellaneous: Woodring 848 (426) anat.

Ecology: Hammer 350 (60); Luxton 526 (175); 528 (522); 529 (57); 530 (263); Polderman 660 (360); Wallwork 950 (351); Behan 73 (396); Krantz 490 (462); Danks 971 (406).

Punctoribates subinconspicuus Berlese, l908

Type: SEA
Comb./Syn.: *Punctoribates subinconspicuus* Berlese, 1908
(84, p. 6)
Distribution: *Nearctic*: Berlese 84 (6).
Description: *Adult*: Berlese 84 (6).
Remarks: Berlese's record is most likely from District of Columbia, Florida or Missouri (see 426, p. 239; 452, p. 238).

Punctoribates sp.

Distribution: *USA*: N.Y. - Norton and MacNamara 615 (91).

Zachvatkinibates Shaldybina, 1973

Zachvatkinibates Shaldybina, 1973
Type-species: *Zachvatkinibates nemoralis* Shaldybina, 1973 (945, p. 695).

Zachvatkinibates sp.

Distribution: Calif. - Hoy 1135 (75); Walter and Norton 1179 (tab 1.)

PHENOPEL0POIDEA Petrunkevitch, 1955 [=Pelopoidea Ewing, 1917]

PHENOPEL0PIDAE PETRUNKEVITCH, l955

Remarks: Norton and Behan-Pelletier have justified the use of this family name instead of Pelopidae Ewing, 1917 [see Norton, R.A. and V.M. Behan-Pelletier. 1986. Systematic relationships of Propelops, with a modification of farnily-group taxa in Phenopelopoidea (Acari: Oribatida). Can. J. Zool. 64: 2370-2383].

Eupelops Ewing, 1917

Eupelops Ewing, 1917
Type-species: *Pelops uraceus* C.L. Koch, 1839 (179, p. 126).

Pelops C.L. Koch, 1835

Type-species: See remarks.

Phenopelops Petrunkevitch, l955 (=Pelops C.L. Koch, 1835, preoccupied name)
Type-species: *Notaspis hirsutus* C. L. Koch, 1844 (1091, p. 99 [!]: 42, p. 179).

Remarks: The type-species of *Pelops* was first designated by C.L. Koch in 1842 (486, p. 102) as *Pelops hirsutus* C.L. Koch (a name not published until 1844) (485, Vol.38 15)). This was recognized by Willmann (829, p. 185) and Jacot (424, p.418); however, Willmann listed the type-species as *Notaspis hirsutus* C.L. Koch, which was followed by Radford (1092, p.204) and Petrunkevitch (1091, p. 99) when the latter author substituted *Phenopelops* for the preoccupied *Pelops*. Sellnick (70O, p. 5) listed the type of *Pelops* as *Notaspis acromios* Hermann, 1804 and followed (709, p.46) by also listing *acromios* as type for the replacement name *Phenopelops*. The reason for this is unclear; it may have been because of suspected subjective synonymy of *hirsutus* and *acromios* or it may relate to the phrase "espèce type" which appears after *acromios* in Nicolet's 1855 work (592, p.425). Nicolet's use of this phrase may have been misinterpreted, however, since it appears after several species of the genus *Oribata*. The ICZN has ruled (1140, p. 161; 1139 p. 372) that Koch's subsequent designations of type-species are valid only if his selection is among those species included in the fascicle where the generic name first appears. This is not the case here; only *Pelops occultus* and *P. tardus*- were proposed in that early fascicle (No. 2) where *Pelops* first appears, and only these are available for type-selection. Rather than arbitrarily selecting one of these, should *Pelops* (now *Phenopelops*) ever be considered distinct from the currently accepted *Eupelops*, we suggest that the ICZN be petitioned to use its plenary powers to establish *P. hirsutus* as the type-species, in conformance with Koch's wishes and to preserve stability.

***Eupelops brevipilus* (Jacot, 1937)** new comb.

Type: MCZ, USNM (Cotype)
Comb./Syn.: *Pelops brevipilus* Jacot, 1937 (455, p. 369)
Distribution: *USA*: N.C. - Jacot 455 (369).
Description: *Adult*: Jacot 455 (369).
Ecology: Jacot 455 (369).

***Eupelops hirtus* (Berlese, 1916)**

Type: SEA
Comb./Syn.: *Pelops hirtus* Berlese, 1916 (90 p. 5l)
Eupelops hirtus (Berlese 1916) (572, p. 70)
Phenopelops hirtus (Berlese, 1916) (503, p. 39)
Distribution: *Canada*: Que. - Behan 72 (41); Behan et al. 76 (263).

Palearctic: Berlese 90 (51); Willrnann 829 (188); Grandjean 232 (83); Kunst 503 (39); Rajski 668 (24); Moritz 571 (157); 572 (70); Hammer 373 (55).
Description: *Adult*: Berlese 90 (5l); Willmann 829 (188) fig.; Grandjean 232 (83) chaet.
Key: Willmann 829 (188).
Add. References: Willmann 829 (188); Moritz 571 (157); 572 (70); Hammen 344 (29).
Miscellaneous: Purrini 1007 (305) parasit.
Ecology: Berlese 90(5I); Willmann 829 (188); Kunst 503 (39); Rajski 668 (24); Moritz 571 (157); 572 (70); Behan 72 (41); Hammer 373 (55); Behan et al. 76 (263).

***Eupelops latipilosus* (Ewing, 1909)**

Syntype: USNM
Comb./Syn.: *Pelops latipilosus* Ewing, 1909 (171, p. 409)
Eupelops latipilosus (Ewing, 1909) (179, p. 126)
Distribution: *USA*: Gilyarov 207 (321); Ill. - Ewing 171 (409); 179 (126); Woolley 860 (270).
Palearctic: Gilyarov 207 (321).
Description: *Adult*: Ewing 171 (409) fig.; Woolley 860 (270) fig.
Key: Ewing 171 (409); Gilyarov 207 (321).
Ecology: Ewing 171 (409); Woolley 860 (270).

***Eupelops plicatus* (C.L. Koch, 1835)**

Type: Unknown
Comb./Syn.: *Cclaeno plicatus* C.L. Koch, 1835 (485, Vol. 3 (18))
Eupelops plicatus (C.L. Koch, 1835) (572, p. 70)
Pelops plicatus (C.L. Koch, 1835) (338, p. 120)
Phenopelops plicatus (C.L. Koch, 1835) (709, p. 49)
Pelops auritus C.L. Koch, 1839 (485, Vol. 30(2)): (338, p. 120). **Type:** Unknown
Phenopelops auritus (C.L. Koch, 1839) (503, p. 39)
Pelops laevigatus Nicolet, 1855 (592, p. 426): (338, p. 120). **Type:** Not designated
Pelops fusiger Mihelčič, 1957 (1149, p. 55): (755, p. 272). **Type:** Unknown
Pelops acromius diversipilus Mihelčič, 1957 (1149, p. 57): (755, p. 272). **Type:** Unknown
Pelops fuligineus sensu Oudemans, 1896 (662, p. 56); non C.L. Koch, 1839 (338, p. 120)
Add. Comb./Syn. Ref.: Michael 561 (213); Willmann 829 (187); Schweizer 691 (348); Moritz 571 (157); 572 (70); Subias 755 (272).
Distribution: *USA*: Alaska - Hammer 354 (25); Danks 971 (406); Va. - Sengbusch 719 (133).
Palearctic: Michael 561 (213); 564 (7); Willmann 829 (187); Hammen 338 (120); MacFadyen 533 (109); Cooreman 139 (170); Schweizer 691 (348); 692 (tab. 11 no. 482); Kunst 503 (39); Sellnick 709 (49); Moritz 571 (157); Travé 777 (232); Block l10 (246); Moritz 572 (70); Wood 843 (116); Bernini

98 (394); Hammer 370 (423); Polderman 660 (360); Gilyarov 207 (323); Subias 755 (272); Danks 971 (406).
Description: *Adult*: Koch 485 (Vol. 3 (18)); Michael 561 (213) fig.; 564 (7); Willmann 829 (187) fig.; Hammen 338 (120); Schweizer 691 (348) fig.
Nymph: Michael 561 (213) fig.; Hammen 338 (120) fig.
Egg: Michael 561 (213) fig.
Key: Michael 564 (7); Willmann 829 (187); Sellnick 709 (49); Gilyarov 207 (323).
Add. References: Michael 561 (213); Willmann 829 (187); Hammen 338 (120); Subias 755 (272).
Biology: Luxton 988 (330).
Food: Luxton 986 (104).
Ecology: Michael 561 (213); 564 (7); Willmann 829 (187); Hammen 338 (120); MacFadyen 533 (109); Cooreman 139 (170); Hammer 354 (25); Schweizer 691 (348); 692 (tab. 11 no. 482); Sengbusch 719 (133); Kunst 503 (39); Sellnick 709 (49); Moritz 571 (157); Travé 777 (232); Block l10 (246); Moritz 572 (70); Wood 843 (116); Bernini 98 (394); Hammer 370 (423); Polderman 660 (360); Subias 755 (272).

***Eupelops septentrionalis* (Trägårdh, 1910)**

Type: SMNH
Comb./Syn.: *Pelops septentrionalis* Trägårdh, 1910 (771, p. 489)
Allopelops septentrionalis (Trägårdh, 1910) (350, p. 6S) (see remarks)
Eupelops septentrionalis (Trägårdh, 1910) (73, p. 396)
Distribution: *USA*: Alaska - Behan 73 (396); MacLean et al. 534 (562); Danks 971 (406).
Canada: MacLean et al. 534 (562); Man. - Hammer 350 (65); Nfld. - Behan 73 (396); N.W.T. - Hammer 350 (65); Behan 73 (396); Que. - Behan 73 (396).
Nearctic: Hammer 349 (37); MacLean et al. 534 (562).
Palearctic: Hammer 349 (37); Dalenius 144 (108); 145 (5); Behan 73 (396); MacLean et al. 534 (562); Danks 971 (406).
Description: *Adult*: Trägardh 771 (489) fig.; Hammer 350 (65) fig. *Larva*: Hammer 350 (65) fig.
Ecology: Hammer 350 (65); Dalenius 144 (108); 145 (5); Behan 73 (396); MacLean et al. 534 (562); Danks 971 (406).
Remarks: The generic name *Allopelops* appears to be a nomen nudum (see 350, p. 65).

***Eupelops silvestris* (Jacot, 1937)** new comb.

Type: MCZ, USNM (Cotypes)
Comb./Syn.: *Pelops silvestris* Jacot, 1937 (453, p. 164)
Distribution: *USA*: N.C. - Jacot 453 (164).
Description: *Adult*: Jacot 453 (164); Baker and Wharton 36 (429) [!] fig.
Ecology: Jacot 453 (164).

***Eupelops simplex* (Berlese, 1916)** new comb.

Type: SEA
Comb./Syn.: *Pelops simplex* Berlese, 1916 (90, p. 5l)
Distribution: *Palearctic*: Berlese 90 (51).
Description: *Adult*: Berlese 90 (51).
Remarks: Only the subspecies *Eupelops simplex franconia* (Jacot, 1939) is known from North America.

***Eupelops simplex franconia* (Jacot, 1939)** new comb.

Type: MCZ, USNM (Cotypes)
Comb./Syn.: *Pelops simplex franconia* Jacot, 1939 (462, p. 325) **Distribution:** *USA*: N.H. - Jacot 462 (325).
Description: *Adult*: Jacot 462 (325).
Ecology: Jacot 462 (325).

***Eupelops terminalis* (Banks, 1909)** new comb.

Type: MCZ (see remarks)
Comb./Syn.: *Pelops terminalis* Banks, 1909 (60, p. 138)
Distribution: *USA*: N.C. - Pearse 649 (147) [!] .
Canada: Ont. - Banks 60 (138).
Description: *Adult*: Banks 60 (138) fig.
Ecology: Banks 60 (138); Pearse 649 (147) [!].
Remarks: The types of *Eupelops terminalis* and *Scapheremaeus parvula* are on the same slide.

***Eupelops tibialis* (Banks, 1910)** new comb.

Type: MCZ
Comb./Syn.: *Pelops tibialis* Banks, 1910 (61, p. 7)
Distribution: *USA*: Va. - Banks 61 (7).
Description: *Adult*: Banks 61 (7) fig.

***Eupelops* sp.**

Distribution: *USA*: Calif. - Walter and Norton 1179 (tab. 1); Ky. - Wallwork and Rodriguez 806 (703); Cockfield and Poner 1124 (1264); Krull 1211 (522); Tenn. - Crossley and Bohnsack 142 (632).
Canada: Man. - Oswald and Minty 620 (82); 621 (75); Que. - Behan 72 (41); Behan et al. 76 (263).
Remarks: Krull (1211, p. 522) and Crossley and Bohnsack (142, p. 632) are sub *Pelops* sp. and Wallwork and Rodriguez (806, p. 703) are sub *Phenopelops* sp.

***Peloptulus* Berlese, l908**

Peloptulus Berlese, l908
Type-species: *Pelops phaenotus* C.L. Koch, 1844 (84, p. 7).

***Peloptulus americanus* (Ewing, 1907)**

Type: USNM
Comb./Syn.: *Pelops americanus* Ewing, 1907 (164, p. 111)
Peloptulus americanus (Ewing, 1907) (450, p. 370)
Distribution: *USA*: Ill. - Ewing 164 (111); 169 (379); Woolley 860 (271); N.C. - Jacot 450 (370); Va. - Sengbusch 719 (133). **Description:** *Adult*: Ewing 164 (111) fig.; Woolley 860 (271) fig. **Ecology:** Ewing 164 (111); 169 (379); Sengbusch 719 (133); Woolley 860 (271).

***Peloptulus laticuspidatus* (Ewing, 1909)**

Syntype: USNM
Comb./Syn.: *Pelops laticuspidatus* Ewing, 1909 (170, p. 117)
Eupelops laticuspidatus (Ewing, 1909) (179, p. 126)
Peloptulus laticuspidatus (Ewing, 1909) (860, p. 274)
Distribution: *USA*: Ill. - Ewing 170 (117); 179 (126); Woolley 860 (274).
Description: *Adult*: Ewing 170 (117) fig.; Woolley 860 (274) fig. **Key:** Ewing 170 (117).
Ecology: Ewing 170 (117); Woolley 860 (274).

***Peloptulus tanytrichosus* Higgins and Woolley, 1972**

Type: FMNH; Paratype: FMNH
Comb./Syn.: *Peloptulus tanytrichosus* Higgins and Woolley, 1972 (406, p. 208)
Distribution: *USA*: Colo. - Higgins and Woolley 406 (208). **Description:** *Adult*: Higgins and Woolley 406 (208) fig.
Ecology: Higgins and Woolley 406 (208).

***Peloptulus* sp.**

Distribution: *Canada*: Ont. - Freitag and Ryder 20l (41).

***Propelops* Jacot, 1937**

Propelops Jacot, 1937
Type-species: *Propelops pinicus* Jacot, 1937 (455, p. 368).

Hammeria Sellnick, 1944

Type-species: *Hammeria groenlandica* Sellnick, 1944 (705, p. 46: 42, p. 179).

Remarks: *Propelops* (or its synonym *Hammeria*) commonly has been placed in Ceratozetidae (719, p. 132; 40, p. 39; 41, p. 62; 42, p. 172; 207, p. 290), but sometimes in the Pelopidae (36, p. 430; 1092, p. 204). Norton and Behan-Pelletier (Can. J. Zool. 64: 2370-2383, 1986) have demonstrated its close relationships with the Phenopelopidae, and have included it there in a separate subfamily.

***Propelops alaskensis* (Hammer, 1955)**

Type: USNM
Comb./Syn.: *Hammeria alaskensis* Hammer, 1955 (354, p. 22)
Propelops alaskensis (Hammer, 1955) (73, p. 395)
Distribution: *USA*: Alaska - Hammer 354 (22); Behan 73 (395). **Description:** *Adult*: Hammer 354 (22) fig.
Ecology: Hammer 354 (22); Behan 73 (395).

***Propelops canadensis* (Hammer, 1952)**

Type: CNC
Comb./Syn.: *Hammeria canadensis* Hammer, 1952 (350, p. 53)
Propelops canadensis (Hammer, 1952) (73, p. 395)
Distribution: *USA*: Alaska - Behan 73 (395); Danks 971 (405); Calif. - Walter and Norton 1179 (tab. l); Va. - Sengbusch 719 (132).
Canada: Alta. - Hammer 350 (53); N.W.T. - Hammer 350 (53); Behan 73 (395); Y.T. - Behan 73 (395). *Palearctic*: Gilyarov 207 (290); Danks 971 (405).
Description: *Adult:* Hammer 350 (53) fig.; Gilyarov 207 (290) fig.
Key: Gilyarov 207 (290).
Ecology: Hammer 350 (53); Sengbusch 719 (132); Behan 73 (395); Danks 971 (405).

***Propelops groenlandicus* (Sellnick, 1944)**

Type: Destroyed
Comb./Syn.: *Hammeria groenlandica* Sellnick, 1944 (705, p. 46)
Propelops groenlandicus (Sellnick, 1944) (73, p. 395)
Distribution: *USA*: Alaska - Behan 73 (395); Danks 971 (405). *Canada*: Man. - Hammer 350 (52); N.W.T. - Hammer 350 (52); Behan 73 (395).
Nearctic: Sellnick 705 (46); Hammer 349 (36); 3S2 (412). *Palearctic*: Gilyarov 207 (290); Danks 971 (405).
Description: *Adult:* Sellnick 705 (46) fig.; Hammer 350 (52) fig.; Balogh 42 (pl. 55 fig. 3); Gilyarov 207 (290) fig.
Key: Gilyarov 207 (290).

Ecology: Sellnick 705 (46); Hammer 350 (52); 352 (412); Behan 73 (395); Danks 971 (405).

***Propelops minnesotensis* (Ewing, 1913)** new comb.

Type: USNM
Comb./Syn.: *Pelops minnesotensis* Ewing, 1913 (176, p. 116)
Eupelops minnesotensis (Ewing, 1913) (179, p. 126)
Punctoribates minnesotensis (Ewing, 1913) (90, p. 67)
Distribution: *USA*: Minn. - Ewing 176 (ll6); Woolley 860 (277); N.Y. -,Ewing 176 (116); Woolley 860 (277).
Nearctic: Ewing 179 (126).
Description: *Adult:* Ewing 176 (116) fig.; Woolley 860 (277) fig.
Ecology: Ewing 176 (116); Woolley 860 (277).

***Propelops monticolus* (Ewing, 1918)**

Type: USNM
Comb./Syn.: *Eupelops monticolus* Ewing, 1918 (180, p. 82)
Hammeria monticolus (Ewing, 1918) (860, p. 268)
Propelops monticolus (Ewing, 1918) (469, p. 61)
Eupelops monticolus subborealis Ewing, 1918 (180, p. 82): (860, p. 269). Type: USNM
Distribution: *USA*: Oreg. - Ewing 180 (82); Woolley 860 (268).
Description: *Adult:* Ewing 180 (82) fig.; Woolley 860 (268) fig.
Ecology: Ewing 180 (82); Woolley 860 (268).

***Propelops pinicus* Jacot, 1937**

Type: MCZ, USN (Cotypes)
Comb./Syn.: *Propelops pinicus* Jacot, 1937 (455, p. 368)
Distribution: *USA*: Fla. - Jacot 461 (55); N.C. - Jacot 455 (368); 461 (55); Va. - Sengbusch 719 (133).
Canada: B.C. - Marshall 550 (132).
Description: *Adult:* Jacot 455 (368).
Ecology: Jacot 455 (368); 461 (55); Sengbusch 719 (133); Marshall 550 (132).

***Propelops* sp.**

Distribution: *USA*: Minn. - Wagner et al. 786 (14); Va. - Sengbusch 719 (132).
Canada: Que. - Behan 72 (42); Behan et al. 76 (263).
Remarks: Sengbusch (719, p. 132), Behan (72, p. 42) and Behan et al. (76, p. 263) are sub *Hammeria*.

***Propelops sp. nr. pinicus* Jacot, 1937**

Distribution: *Canada*: Man. - Oswald and Minty 621 (75).

UNDUL0RIBATIDAE KUNST, 1971

Remarks: Unduloribatidae, a monotypic family, often has been placed in the Oribatelloidea (42, p. 174; 1005, p. 272; 207, p. 326), but Norton and Behan-Pelletier, 1986 (Can. J. Zool. 64: 2370-2383) have demonstrated its close relationships with the Phenopelopidae and included both families in the Phenopelopoidea. Kunst, 1971 (923, p. 572) proposed the family name just before Piffl 1972 (1005, p. 272).

***Unduloribates* Balogh, 1943**

Unduloribates Balogh, 1943
Type-species: *Tectoribates undulatus* Berlese, l915 (1190, p. 39).

***Unduloribates* sp.**

Distribution: *USA*: N.Y. - Norton (RAN unpub.).
Canada: N.S. - Behan-Pelletier (VBP unpub.).

ORIBATEL10IDEA Jacot, 1925

ORIBATELLIDAE JACOT, 1925

***Adoribatella* Woolley, 1967**

Adoribatella Woolley, 1967
Type-species: *Adoribatella punctata* Woolley, 1967 (873, p. 34).
Remarks: This genus is probably misplaced in the Oribatellidae, but more reasonable placement awaits the description of the immatures.

***Adoribatella punctata* Woolley, 1967**

Type: USNM; Paratypes: FMNH
Comb./Syn.: *Adoribatella punctata* Woolley, 1967 (873, p. 34)
Distribution: *USA*: Gilyarov 207 (335); Colo. - Woolley 873 (34).
Description: *Adult:* Woolley 873 (34) fig. app.; Balogh 42 (pl. 58 fig. 4-5); Gilyarov 207 (335) fg.
Ecology: Woolley 873 (34).

***Ferolocella* Grabowski, 1971**

Ferolocella Grabowski, 1971
Type-species: *Oribatella carolina* Banks, 1947 (210, p. 44).

***Ferolocella carolina* (Banks, 1947)**

Type: Unknown (see remarks)
Comb./Syn.: *Oribatella carolina* Banks, 1947 (66, p. 112)
Ferolocella carolina (Banks, 1947) (210, p. 44)
Distribution: *USA*: N.C. - Banks 66 (112); Grabowski 210 (44); W. Va. - Grabowski 210 (44).
Description: *Adult*: Banks 66 (112) fig.; Grabowski 210 (44) fig.; Balogh 42 (pl. 71 fig. 10) .
Ecology: Grabowski 210 (44).
Remarks: According to Banks (66, p. 112) the repository of this species was the MCZ, but it is not there. Grabowski's revision (210, p. 44) is based on a specimen identified by Banks, but its location is currently unknown to us.

***Lamellobates* Hammer, l958**

Lamellobates Hammer, 1958
Type-species: *Lamellobates palustris* Hammer, 1958 (355, p. 100). **Remarks:** This genus is misplaced in the Oribatellidae. Its closest relatives are probably among the Ceratozetoidea, but immatures are as yet unknown.

***Lamellobates* sp.**

Distribution: *USA*: Fla. - Norton (RAN unpub.); N.Y. - Norton (RAN unpub.).
Remarks: Pérez-Inigo and Baggio (1217, p. 196) recently produced a key to the genus.

***Ophidiotrichus* Grandjean, 1953**

Ophidiotrichus Grandjean, 1953
Type-species: *Oribates connexus* Berlese, 1904 (276, p. 472).

***Ophidiotrichus exastus* Higgins, 1965**

Type: FMNH
Comb./Syn.: *Ophidiotrichus exastus* Higgins, 1965 (392, p. 57)
Distribution: *USA*: N.C. - Higgins 392 (57).
Description: *Adult*: Higgins 392 (57) fig.

Oribatella Banks, 1895

Oribatella Banks, 1895
Type-species: *Oribatella quadridentata* Banks, 1895 (45, p. 8).

Oribatella anomola Grabowski, 1970

Type: Unknown
Comb./Syn.: *Oribatella anomola* Grabowski, 1970 (209, p. 5)
Distribution: *USA*: S. Dak. - Grabowski 209 (5).
Description: *Adult*: Grabowski 209 (5) chaet., fig.
Ecology: Grabowski 209 (5).

Oribatella arctica Thor, 1930

Type: Destroyed
Comb./Syn.: *Oribatella arctica* Thor, 1930 (766, p. 97)
Distribution: *USA*: Alaska - Hammer 354 (25); Behan 73 (396); MacLean et al. 534 (562); Danks 971 (406).
Canada: MacLean et al. S34 (562); Man. - Hammer 350 (63); N.W.T. - Hammer 350 (63); Behan 73 (396); Y.T. - Behan 73 (396).
Palearctic: Hammer 349 (37); Behan 73 (396); MacLean et al. 534 (562); Danks 971 (406).
Description: *Adult*: Thor 766 (97); Hammer 350 (63) fig.
Key: Gilyarov 207 (333).
Food: Behan and Hill 75 (50O).
Ecology: Hammer 350(63);354 (25); Behan 73 (396); MacLean et al. 534 (562); Danks 971 (406).

Oribatella brevicornuta Jacot, 1934

Type: MCZ (Cotypes)
Comb./Syn.: Oribatella brevicornuta Jacot, 1934 (438, p. 707)
Distribution: *USA*: Conn. - Jacot 438 (707); N.Y. - Jacot 438 (707); Norton and MacNarnara 615 (91); N.C. - Pearse 649 (148).
Palearctic: Aoki 18 (435).
Description: *Adult*: Jacot 438 (707) fig.; Grabowski 208 (21) fig.; Aoki 18 (435) fig.
Ecology: Jacot 438 (707); Pearse 649 (148); Aoki 18 (435).

Oribatella calcarata (C.L. Koch, 1835)

Neotype: FBPC (see 963, p. 484)
Comb./Syn.: *Oribates calcaratus* C.L. Koch, 1835 (485, Vol. 2 (13))
Oribata calcarata (C.L. Koch, 1835) (564, p. 24)

Oribatella decumana Berlese, 1910 (86, p. 384): (963, p. 476). **Type:** SEA
Add. Comb./Syn. Ref.: Bernini 963 (476).
Distribution: *USA*: Hammer 365 (72) [Q.I.].
Canada: Hammer 365 (72).
Palearctic: Michael 564 (24); Forsslund 192 (190); 193 (355); Hammer 349 (37); Schweizer 691 (330); Haarlov 326 (43); Schweizer 692 (tab. 11 no. 452); Markel 543 (479); Rajski 668 (23); Dalenius 144 (108); Vanek 783 (296); Moritz 571 (156); Byzova 124 (293); Lebrun 507 (103); Moritz 572 (71); Luxton 530 (276); Hammer 365 (72); Rajski 669 (23); Bernini 98 394); Hammer 370 (416); Rubcova 681 (386); Gilyarov 207 (333); Luxton 532 (189); Niedbala 604 (63).
Description: *Adult*: Koch 485 (Vol. 2 (13)) fig.; Michael 564 (24); Berlese 86 (384); Jacot 438 (707) fig.; Grandjean 276 (475) chaet.; Schweizer 691 (330) fig.; Gilyarov 207 (333) fig.; Bernini 963 (476) chaet.
Tritonymph: Grandjean 276 (475) fig.; 299 (229) chaet.
Deutonymph: Grandjean 276 (475) fig.
Protonymph: Grandjean 276 (475) fig.
Key: Michael 564 (24); Gilyarov 207 (333).
Add. References: Hammen 344 (27); Bernini 963 (476).
Ecology: Michael 564 (24); Forsslund 192 (190);193 (355); Schweizer 691 (330); Haarlov 326 (43); Schweizer 692 (tab. 11 no. 452); Märkel 543 (479); Rajski 668 (23); Dalenius 144 (108); Vanek 783 (296); Moritz 571 (156); Byzova 124 (293); Lebrun 507 (103); Moritz 572 (71); Luxton 530 (276); Hammer 365 (72); Bernini 96 (424); Rajski 669 (234); Bernini 98 394); Hammer 370 (416); Rubcova 681 (386); Luxton 532 (189); Niedbala 604 (63); Luxton 987 (311).

***Oribatella dentaticuspis* Ewing, 1910**

Syntype: USNM
Comb./Syn.: *Oribatella dentaticuspis* Ewing, l910 (173, p. 99)
Distribution: *USA*: Ill. - Ewing 173 (99); Woolley 859 (136).
Description: *Adult*: Ewing 173 (99) fig.; Woolley 859 (136) fig.; Grabowski 208 (23) fig.
Ecology: Woolley 859 (136).

***Oribatella extensa* Jacot, 1934**

Type: FSCA; MCZ (Cotypes)
Comb./Syn.: *Oribatella brevicornuta extensa* Jacot, 1934 (438, p. 710)
Oribatella extensa Jacot, 1934 (469, p. 61)
Distribution: *USA*: Fla. - Jacot 438 (710); 461 (54); Ill. - Jacot 438 (710); 461 (54); Ind. - Jacot 438 (710); Iowa - Jacot 438 (710); 461 (54); Ohio - Jacot 438 (710); 461 (54); Va. - Jacot 438 (710).
Description: *Adult*: Jacot 438 (710) fig.
Ecology: Jacot 438 (710); 461 (54).

Oribatella gigantea Berlese, 1916

Type: SEA
Comb./Syn.: *Oribatella gigantea* Berlese, 1916 (92, p. 306)
Distribution: *USA*: Mo. - Berlese 92 (306).
Description: *Adult*: Berlese 92 (306).
Ecology: Berlese 92 (306).

Oribatella mediocris Berlese, 1916

Type: SEA
Comb./Syn.: *Oribatella mediocris* Berlese, 1916 (92, p. 307)
Distribution: *USA*: Mo. - Berlese 92 (307).
Description: *Adult*: Berlese 92 (307).
Ecology: Berlese 92 (307).

Oribatella minuta Banks, 1896

Type: MCZ
Comb./Syn.: *Oribatella minuta* Banks, 1896 (48, p. 76)
Oribata minuta (Banks, 1896) (564, p. 25)
Distribution: *USA*: Ill. - Ewing 173 (IOI); N.Y. - Banks 48 (76); Michael 564 (25); Ewing 169 (380); Oreg. - Ewing 180 (84); Va. - Sengbusch 719 (132).
Description: *Adult:* Banks 48 (76); Michael 564 (25); Ewing 173 (101) fig.; Grabowski 208 (29) fig.
Key: Michael S64 (25).
Ecology: Banks 48 (76); Michael S64 (25); Ewing 169 (380); 180 (84); Sengbusch 719 (132).

Oribatella plummeri Jacot, 1934

Type: MCZ (Cotypes)
Comb./Syn.: *Oribatella brevicornuta plummeri* Jacot, 1934 (438, p. 709)
Oribatella plummeri Jacot, 1934 (469, p. 61)
Distribution: *USA*: Md. - Jacot 438 (709).
Description: *Adult*: Jacot 438 (709) fig.
Ecology: Jacot 438 (709).

Oribatella pusilla Berlese, 1916

Type: SEA
Comb./Syn.: *Oribatella pusilla* Berlese, 1916 (92, p. 308)
Distribution: *USA*: Mo. - Berlese 92 (308).
Description: *Adult*: Berlese 92 (308).

Ecology: Berlese 92 (308).

Oribatella quadricornuta (Michael, 1880)

Syntypes: BM(NH)
Comb./Syn.: *Oribata quadricornuta* Michael, 1880 (560, p. 181)
Notaspis quadricornuta (Michael, 1880) (628, p. 1)
Oribatella quadricornuta (Michael, 1880) (212, p. 407)
Oribates flammula sensu Oudemans, 1896 (622, p. 56): (338, p. 104); non C.L. Koch, 1839
Oribatella calcarata sensu Willmann, 1931 (829, p. 180); non C.L. Koch, 1835 (338, p. 104)
Distribution: *USA*: Alaska - Behan 73 (396); Danks 971 (406); Va. - Sengbusch 719 (132).
Canada: N.W.T. - Behan 73 (396); Que. - Pielou and Matthewman 657 (1311); Pielou and Verma 658 (1191); Matthewman and Pielou 5S2 (802); Y.T. - Behan 73 (396).
Palearctic: Michael 560 (181); 561 (247); 563 (417); 564 (19); Willmann 829 (180) [mi.]; Hammen 338 (104); Kunst SO3 (38); Davis 148 (67); Moritz S71 (156); Berthet 107 (68); Lebrun 505 (375); Berthet and Gerard 109 (217); Lebrun 506 (27); 507 (IO3); 508 (186); Wood 843 (116); Bernini 105 (445); Gilyarov 207 (332); Luxton 532 (189); Danks 971 (406).
Description: *Adult*: Michael 560 (181) fig.; 561 (247) fig.; 564 (19); Grandjean 212 (407) fig.; Willmann 829 (180) [mi.] fig.; Hammen 338 (104) fig.; Bernini 105 (445) chaet., fig.; Gilyarov 207 (332) fig.; Bernini 963 (463) fig.
Nymph: Michael 560 (181) fig.; 561 (247) fig.
Key: Michael 564 (19); Willmann 829 (180) [mi.]; Gilyarov 207 (332); Bernini 964 (524).
Add. References: Hammen 338 (104); Bernini 103 (145); 105 (445).
Miscellaneous: Grandjean 212 (407) anat.
Ecology: Michael 560 (181); 561 (247); 564 (19); Willmann 829 (180) [mi.]; Hammen 338 (IO4); Sengbusch 719 (132); Kunst 503 (38); Davis 148 (67); Moritz 571 (156); Berthet 107 (68); Lebrun 505 (375); Berthet and Gerard 109 (217); Lebrun 506 (27); 507 (103); Pielou and Matthewman 657 (1311); Lebrun 508 (186); Wood 843 (116); Pielou and Verma 658 (1191); Matthewman and Pielou 552 (802); Bernini 105 (445); Luxton 532 (189); Wallwork 950 (349); Behan 73 (396); Bernini 964 (524); 965 (563); Danks 971 (406).
Remarks: Willmann (829, p. 180) is sub *Oribatella calcarata*

Oribatella quadridentata Banks, 1895

Type: MCZ
Comb./Syn.: *Oribatella quadridentata* Banks, 1895 (45, p. 8)
Oribata quadridentata (Banks, 1895) (564, p. 19)
Oribatella magniseta Ewing, 1909 (170, p. 123) new syn. **Type:** Not designated ("Autotype" in USNM)

Distribution: *USA*: Ill. - Ewing 169 (352); 170 (123); Woolley 859 (138); N.Y. - Banks 45 (8); Michael 564 (19); Ewing 169 (352); N.C. - Pearse 649 (148).
Description: *Adult*: Banks 45 (8); Michael 564 (l9); Ewing 169 (352); 170 (123) fig.; Woolley 859 (138) fig.; Grabowski 208 (27) fig.
Key: Banks 45 (8); Michael 564 (19); Ewing 169 (352); 170 (123).
Ecology: Ewing 169 (352); 170 (123); Pearse 649 (148); Woolley 8S9 (138).

***Oribatella reticulata* Berlese, 1916**

Type: SEA
Comb./Syn.: *Oribatella reticulata* Berlese, 1916 (92, p. 308)
Distribution: *USA*: Mo. - Berlese 92 (308).
Palearctic: Willmann 829 (180); Rajski 668 (23); 669 (238); Gilyarov 207 (330); Luxton 532 (189).
Description: *Adult:* Berlese 92 (308); Willmann 829 (180) fig.; Grandjean 229 (507) chaet.; Gilyarov 207 (330) fig.
Key: Sellnick 70O (10); Willmann 829 (180); Gilyarov 207 (330).
Ecology: Berlese 92 (308); Willmann 829 (180); Rajski 668 (23); 669 (238); Luxton 532 (189); Zyromska-Rudzka 1033 (160); 1034 (108).

***Oribatella reticuloides* Hammer, 1955**

Type: USNM
Comb./Syn.: *Oribatella reticuloides* Hammer, 1955 (354, p. 25)
Distribution: *USA*: Alaska - Hammer 354 (25); Marshall 548 (80); Behan 73 (396); MacLean et al. 534 (562); Danks 971 (406).
Canada: Que. - Marshall 548 (80).
Palearctic: Behan 73 (396); MacLean et al. 534 (562); Danks 971 (406).
Description: *Adult*: Hammer 354 (25) fig.
Ecology: Hammer 354 (25); Marshall 548 (80); Behan 73 (396); MacLean et al. 534 (562).

***Oribatella sexdentata* Berlese, 1916**

Type: SEA
Comb./Syn.: *Oribatella sexdentata* Berlese, 1916 (92, p. 307)
Distribution: *USA*: Travé 775 (224); Va. - Sengbusch 719 (132); Bernini 963 (495).
Palearctic: Berlese 92 (307); Willmann 829 (181); Travé 775 (224); 777 (232); Gilyarov 207 (335); Bernini 963 (495).
Description: *Adult*: Berlese 92 (307); Gilyarov 207 (335) fig.; Bernini 963 (495) fig.
Key: Sellnick 70O (10); Willmann 829 (181); Gilyarov 207 (335); Pérez-Inigo and Baggio 1217 (196).
Ecology: Berlese 92 (307); Willmann 829 (181); Sengbusch 719 (132); Travé 775 (224); 777 (232).

Oribatella tessellata Berlese, 1908

Type: SEA
Comb./Syn.: *Oribatella tessellata* Berlese, 1908 (84, p. 5)
Distribution: *USA*: Mo. - Berlese 84 (5).
Description: *Adult*: Berlese 84 (5).

Oribatella sp.

Distribution: *USA*: Calif. - Walter and Norton 1179 (tab. 1); Md. - Krull 1211 (522); Mich. - Wallwork 788 (173); N.Y. - Reeves 673 (27); Norton and MacNamara 615 (91).
Canada: Alta. - Powell and Skaley 662 (20); N.S. - Rasmy and MacPhee 670 (174); Ont. - Marshall 549 (422); Que. - Pielou and Verma 6S8 1191); Matthewman and Pielou 552 (802).

Oribatella sp. ? *arctica* Thor, 1930

Distribution: *USA*: Alaska - Hammer 354 (25).

Oribatella sp. nr. *berlesei* Michael, 1898

Distribution: *Canada*: Que. - Pielou and Matthewman 657 (1311); Matthewman and Pielou 5S2 (802).

Oribatella sp. aff. *calcarata* (C.L. Koch, 1835)

Distribution: *Canada*: Que. - Behan et al. 76 (263).

Oribatella sp. nr. *calcarata* (C.L. Koch, 1835)

Distribution: *Canada*: Que. - Behan 72 (42).

Oribatella sp. nr. *reticulata* (Berlese, 1916)

Distribution: *Canada*: Que. - Pielou and Matthewman 657 (1311); Matthewman and Pielou 552 (802).

GENAVENSIIDAE MAHUNKA, 1983

Arcozetes Hammer, l958

Arcozetes Hammer, l958
Type-species: *Arcozetes bicuspidatus* Hammer, l958 (355, p. 101).

Arcozetes sp.

Distribution: *USA*: Metz and Farrier (see remarks).

Remarks: Metz, L.J. and M.H. Farrier. 1969. Acarina associated with decomposing forest litter in the North Carolina Piedmont. Proc. 2nd int. Congr. Acar.: 43-52; p. 51). This record may relate to *Cultrobates quadricuspidatus* (Ewing, l909), a specimen of which was found in Metz' collection by RAN.

Cultrobates Willmann, 1930

Cultrobates Willmann, 1930

Type-species: *Cultrobates heterodactylus* Willmann, 1930 (l108, p. 242; 1144, p. 723).

Cultrobates quadricuspidatus (Ewing, 1909) new comb.

Syntype: USNM

Comb./Syn.: *Oribata quadricuspidata* Ewing, 1909 (170, p. 119)

Distribution: *USA*: Ill. - Ewing 170 (119).

Description: *Adult*: Ewing 170 (119) fig.

Key: Ewing 170 (119).

Ecology: Ewing 170 (119).

ACHIPTERIOlDEA Thor, 1929 new status

Remarks: The two families included in this group have usually been placed in the Oribatelloidea (42, p. 174; 207, p. 326), but they have no close relationship with the Oribatellidae.

TEGORIBATIDAE GRANDJEAN, 1954

Lepidozetes Berlese, l910

Lepidozetes Berlese, l910

Type-species: *Lepidozetes singularis* Berlese, l910 (86, p. 386).

Lepidozetes latipilosus Hammer, 1952

Type: CNC

Comb./Syn.: *Lepidozetes latipilosus* Hammer, l952 (350, p. 61)

Distribution: *USA*: Alaska - Behan 73 (396).

Canada: N.W.T. - Hammer 3SO (61); Behan 73 (396).

Palearctic: Gilyarov 207 (338).

Description: *Adult*: Hammer 350 (61) fig.; Gilyarov 207 (338) fig.; Rjabinin 677 (1174).

Key: Gilyarov 207 (338).

Ecology: Hammer 350 (61); Behan 73 (396); Danks 971 (406).

***Lepidozetes singularis* Berlese, 1910**

Type: SEA

Comb./Syn.: *Lepidozetes singularis* Berlese, l910 (86, p. 386)

Oribata conjuctus Schweizer, 1922 (690, p. S7): (70O, p. 15). **Type:** Unknown

Distribution: *USA*: Alaska - Hammer 354 (25); Travé 774 (93); Behan 73 (396); MacLean et al. 534 (562); Danks 971 (406).

Canada: Travé 774 (93); MacLean et al. 534 (562); N.B. - Pielou and Verma 658 (ll91); N.W.T. - Hammer 350 (61); Behan 73 (396); Y.T. - Behan 73 (396).

Palearctic: Berlese 86 (386); Willmann 829 (180); Grandjean 243 (464); Travé 774 (93); 777 (232); Grisina 323 (82); Kurcheva 504 (95); Gilyarov 207 (338); Lions 523 (172); Behan 73 (396); MacLean et al. 534 (562); Danks 971 (406).

Description: *Adult*: Berlese 86 (386); Willmann 829 (180) fig.; Baker and Wharton 36 (429) fig.; Hammer 350 (61) fig.; Gilyarov 207 (338) fig.; Rjabinin 677 (1174).

Key: Willmann 829 (180); Gilyarov 207 (338).

Biology: Grandjean 243 (464).

Ecology: Willmann 829 (180); Hammer 350 (61);354 (25); Travé 774 (93);777 (232); Pielou and Verma 6S8 1191); Grisina 323 (82); Kurcheva SO4 (95); Lions S23 (172); Wallwork 950(266); Behan 73 (396); MacLean et al. 534 (562); Danks 971 (406).

***Lepidozetes trifolius* (Fujikawa, 1972)**

Type: NSM

Comb./Syn.: *Tegoribates trifolius* Fujikawa, 1972 (1053, p. 163)

Lepidozetes trifolius (Fujikawa, 1972) (1179, tab. 1)

Distribution: *USA*: Calif. - Walter and Norton 1179 (tab. 1). *Palearctic*: Fujikawa 1053 (163).

Description: *Adult*: Fujikawa 1053 (163) fig.

Ecology: Fujikawa 1053 (163).

***Lepidozetes* sp.**

Distribution: *USA*: Calif. - Walter and Norton 1179 (tab. 1).

Lepidozetes sp. nr. *latipilosus* Hammer, 1952

Distribution: *USA*: Alaska - Behan 73 (396).

Scutozetes Hammer, 1952

Scutozetes Hammer, l952

Type-species: *Scutozetes lanceolatus* Hammer, l952 (350, p. 62).

Scutozetes lanceolatus Hammer, 1952

Type: CNC

Comb./Syn.: *Scutozetes lanceolatus* Hammer, 1952 (350, p. 62)

Distribution: *USA*: Alaska - Behan 73 (396); Danks 917 (406). *Canada*: Nfld. - Behan 73 (396); N.W.T. - Hammer 350 (62); Behan 73 (396); Que. - Behan 73 (396); Y.T. - Behan 73 (396). *Palearctic*: Grishina 323 (82); Gilyarov 207 (338); Hammer 373 (57); Danks 917 (406).
Description: *Adult*: Hammer 350 (62) fig.; Balogh 42 (pl. 59 fig. 9); Gilyarov 207 (338) fig.
Ecology: Hammer 350 (62); Grisina 323 (82); Hammer 373 (57); Behan 73 (396); Danks 917 (406).

Tegoribates Ewing, 1917

Tegoribates Ewing, 1917
Type-species: *Tegoribates subniger* Ewing, 1917 (178, p. l58).

Lepidoribates Sellnick, 1920
Type-species: *Zetes latirostris* C. L. Koch, 1844 (695, p. 42: 42, p. 179).

Remarks: Sellnick listed the type as "*Lepidoribates latirostris* (C.L. Koch)".

Tegoribates americanus Hammer, 1958

Type: Unknown
Comb./Syn.: *Tegoribates americanus* Hammer, 1958 (355, p. 96)
Tegoribates latirostris sensu Hammer, 1952; non C.L. Koch, 1844 (355, p. 97)
Distribution: *USA*: Alaska - Hammer 354 (25) [mi.]; Behan 73 (396) [mi.]; Danks 971 (406) [mi.] .
Canada: Man. - Hammer 350 (61) [mi.]; 3SS (96); N.W.T. - Hammer 3SO (61) [mi.]; 355 (96); Behan 73 (396) [mi.]; Y.T. - Behan 73 (396) [mi.].
Neotropical: Hammer 355 (96).

Description: *Adult*: Hammer 350 (61) [mi.] fig.; 355 (96) fig.
Ecology: Hammer 350 (61) [mi.]; 354 (25) [mi.]; 355 (96); Rajski 669 (237) [mi.]; Behan 73 (396) [mi.]; Danks 971 (406) [mi.] .
Remarks: All misidentifications are sub *Tegoribates latirostris*.

Tegoribates bryophilus Woolley, 1965

Type: USNM; Paratypes: FMNH
Comb./Syn.: *Tegoribates bryophilus* Woolley, 1965 (869, p. 410)
Distribution: *USA*: Colo. - Woolley 869 (410).
Description: *Adult*: Woolley 869 (410) fig.

Tegoribates subniger Ewing, 1917

Type: USNM
Comb./Syn.: *Tegoribates subniger* Ewing, 1917 (178, p. 159)
Lepidozetes subniger (Ewing, 1917) (917, p. 278)
Distribution: *USA*: Ind. - Ewing 178 (159); 179 (127).
Description: *Adult*: Ewing 178 (159) fig.; 179 (127) fig.; Woolley 860 (276) fig.
Taxonomy: Jacot 424 (424); Woolley 860 (276); Johnston 469 (60).
Morphology: Jacot 917 (278).
Ecology: Ewing 178 (159).

ACHIPTERIIDAE THOR, 1929

Achipteria Berlese, 1885

Achipteria Berlese, 1885
Type-species: *Acarus coleoptratus* Linnaeus, 1758 (see remarks) **Remarks:** *Oribates nicoletii* Berlese, 1883 was designated type-species by both Oudemans and Berlese (see 388, p. 105; 424, p. 419). The use of *Acarus coleoptratus* results from its subjective synonymy with *Oribata nicoletii* (338, p. 106). Why some authors recognize *Oribata nitens* Nicolet, 1855 as type-species (42, p. 175; 207, p. 334) is unknown to us.

Achipteria armata (Banks, 1895)

Syntypes: MCZ, USNM
Comb./Syn.: *Oribatella armata* Banks, 1895 (45, p. 9)
Achipteria armatum (Banks, 1895) (456, p. 14)
Oribatella ovalis sensu Ewing, 1909 (169, p. 353); non C.L. Koch, 1835 (564, p. 19)
Distribution: *USA*: Ill. - Ewing 169 (353) [mi.]; Minn. - Freeman 20O (112); N.Y. - Banks 45 (9).

Description: *Adult*: Banks 45 (9); 52 (66) fig.; Ewing 169 (353) [mi.]; Banks 63 (94) fig.
Key: Ewing 169 (353) [mi.].
Ecology: Ewing 169 (353) [mi.]; Freeman 20O (112).
Remarks: Ewing (169, p. 353)is sub *Oribatella ovalis*.

***Achipteria armata spinosa* Jacot, 1938**

Type: USNM (Cotypes)
Comb./Syn.: *Achipteria armatum spinosum* Jacot, 1938 (456, p. 14)
Distribution: *USA*: N.C. - Jacot 456 (14).
Description: *Adult*: Jacot 456 (14).

Achipteria bentonensis nomen novum

Type: USNM [under *Achipteria oregonensis borealis*]
Comb./Syn.: *Achipteria oregonensis borealis* Ewing, 1918 (180, p. 84)
Achipteria borealis Ewing, 1918 (856, p. 176); non Banks, 1899
Distribution: *USA*: Oreg. - Ewing 180 (84); Woolley 856 (179). **Description:** *Adult*: Ewing 180 (84) fig.; Woolley 856 (179) fig. **Ecology:** Ewing 180 (84); Woolley 856 (179).
Remarks: *Achipteria bentonensis* nomen novum is a replacement name for *Achiptena borealis* Ewing, 1918, which is a junior secondary homonym of *Achipteria borealis* (Banks, 1899) new comb. (49, p. 349).

***Achipteria catskillensis* Nevin, 1977**

Paratypes: USNM

Comb./Syn.: *Achipteria catskillensis* Nevin, 1977 (588, p. 249)

Distribution: *USA*: N.Y. - Nevin 588 (248).

Description: *Adult*: Nevin 588 (248) fig.

***Achipteria clarencei* Nevin, 1977**

Paratypes: USNM

Comb./Syn.: *Achipteria clarencei* Nevin, 1977 (588, p. 250)

Distribution: *USA*: N.Y. - Nevin 588 (250).

Description: *Adult*: Nevin 588 (250) fig.

***Achipteria coleoptrata* (Linnaeus, 1758)**

Type: Unknown

Comb./Syn.: *Acarus coleoptratus* Linnaeus, 1758 (518, p. 616)

Achipteria coleoptrata (Linnaeus, 1758) (350, p. 64)

Notaspis coleoptratus (Linnaeus, 1758) (829, p. 183)

Oribata ovalis Nicolet, 1855 (592, p. 438): (338, p. 112). **Type:** Not designated

Oribates nicoletii Berlese, 1883 (77, Vol. 3 (3)): (338, p. 112). **Type:** See remarks

Oribata intermedia Michael, 1898 (564, p. 21): (338, p. 112). **Type:** See remarks

Add. Comb./Syn. Ref.: Michael 564 (19, 21); André 6 (85); Subias 755 (282).

Distribution: *USA*: Hammer 365 (71) [Q.I.]; Mich. - Wallwork 789 (262); 790 (561); 792 (624).

Canada: Man. - Hammer 350 (64).

Nearctic: Hammer 348 (49); 349 (37); Schweizer 691 (336); Travé 774 (91); Lions 520 (442); Rajski 669 (236); Hammer 373 (58).

Palearctic: Linnaeus 518 (616); Michael 560 (180); 564 (19, 21); Willmann 829 (183); Tuxen 779 (333); Hammer 348 (49); 349 (37); Hammen 338 (112); MacFadyen 533 (109); Schweizer 691 (336); Travé 774 (91); Haarlov 326 (33); Schweizer 692 (tab. 11 no. 462); Kunst 503 (38); Haarlov 327 (139); Sellnick 709 (54); Rajski 668 (20); Moritz S71 (154); Travé 777 (232); Byzova 125 (185); Block l10 (246); Lebrun 507 (IO3); Moritz 572 (69); Lions 5l9 (507); 520 (442); Lebrun 508 (185); Wood 843 (116); Hammer 365 (71); Rajski 669 (236); Bernini 98 (394); Hammer 370 (417); Luxton 531 (441); Kurcheva 504 (95); Rubcova 681 (387); Gilyarov 207 (344); Luxton 532 (180); Lions 523 (172); Hammer 373 (58); Niedbala 604 (63); Subias 755 (282).

Description: *Adult*: Linnaeus 518 (616); Michael 564 (19, 21); André 6 (85) fig.; Sellnick 702 (699) fig.; Willmann 829 (183) fig.; Hammer 350 (64) fig.; Schweizer 691 (336) fig.; Wallwork 789 (262) fig.; Gilyarov 207 (344) fig.; Seniczak 728 (740) fig. *Nymph*: Hammen 338 (112) fig.

Tritonymph: Seniczak 728 (740) fig.

Key: Michael 564 (19, 21); Willmann 829 (183); Schweizer 691 (336); Sellnick 709 (54); Gilyarov 207 (344).

Add. References: Michael 564 (19); Willmann 829 (183); Hammen 338 (112); Haarlov 326 (33); Subias 755 (282).

Biology: Luxton 988 (337).

Food: Wallwork 789 (262); Luxton 531 (441); Stefankiak and Seniczak 746 (185); Krantz 490 (462); Luxton 986 (104); Nannelli 996 (307).

Miscellaneous: Lasebikan et al. 984 (52) extract.

Ecology: Michael 560 (180); Willmann 829 (183); Tuxen 779 (333); Hammer 350 (64); Hammen 338 (112); MacFadyen 533 (109); Schweizer 691 (336); Travé 774 (91); Haarlov 326 (33); Schweizer 692

(tab. 11 no. 462); Kunst 503 (38); Wallwork 790 (561). Haarlov 327 (139); Sellnick 709 (54); Wallwork 792 (624); Rajski 668 (20); Moritz 571 (154); Travé 777 (232); Byzova 125 (185); Block l10 (246); Lebrun 507 (103); Moritz 572 (69); Lions 5l9 (507); 520 (442); Lebrun 508 (185); Wood 843 (116); Hammer 365 (71); Bernini 96 (424); Rajski 669 (236); Bernini 98 (394); Hammer 370 (417); Luxton 51 (441); Kurcheva 54 (95); Rubcova 681 (387); Fonseca 187 (328); Luxton 52 (180); Lions 523 (17); Wallwork 95 (169); Hammer 373 (58); Niedbala 604 (63); Subias 755 (282); Nannelli 997 (350); Luxton 987 (311); 989 (366); 990 (388).

Remarks: Michael's *Oribata intermedia* (564, p. 21) and Berlese's *Oribates nicoletii* (77, Vol. 3 (3)) are replacement names for *Oribata ovalis* Nicolet, 1855.

***Achipteria coleoptrata ewingi* Berlese, l910** new comb.

Type: SEA

Comb./Syn.: *Achipteria nicoleti ewingi* Berlese, 1910 (85, p. 263)

Distribution: *USA*: Fla. - Berlese 85 (263).

Description: *Adult*: Berlese 85 (263).

Remarks: The recombination here resulted from the synonymy of *Oribates nicoleti* Berlese, 1883 with *Achipteria coleoptrata* (Linnaeus).

***Achipteria curta* Aoki, 1970**

Type: NSM

Comb./Syn.: *Achipteria curta* Aoki, 1970 (19, p. 597)

Distribution: *USA*: Alaska - Behan 73 (396); Danks 971 (406). *Palearctic*: Aoki 19 (597); 22 (64); Gilyarov 207 (344); Danks 971 (406).

Description: *Adult*: Aoki 19 (597) chaet., fig.; 22 (64) fig.; Gilyarov 207 (344) fig.

Key: Gilyarov 207 (344).

Ecology: Aoki 19 (597); 22 (64); Behan 73 (396).

***Achipteria nitens* (Nicolet, 1855)**

Type: Not designated

Comb./Syn.: *Oribata nitens* Nicolet, 1855 (592, p. 433)

Achipteria nitens (Nicolet, 1855) (212, p. 407)

Notaspis nitens (Nicolet, 1855) (829, p. 183)

Parachipteria nitens (Nicolet, 1855) (668, p. 24)

Notaspis mixtus Sellnick, 1943 (704, p. 23): (338, p. 111). **Type:** Destroyed

Distribution: *USA*: Va. - Sengbusch 719 (133).

Palearctic: Willmann 829 (183); Sellnick 704 (23); Hammen 338 111); Schweizer 691 (337);692 (tab. 11 no. 464); Kunst 503 (38); Sellnick 709 (54); Rajski 668 24); Travé 777 (232); Lebrun 507 (103); Bernini 98 394); Gilyarov 207 (344); Luxton 532 (180). **Description:** *Adult*: Nicolet 592 (433) fig.; Grandjean 212 (407) fig.; Willmann 829 (183) fig.; Grandjean 232 (90) chaet.; Sellnick 704 (23); Schweizer 691 (337) fig.; Grandjean 302 (398) fig.; 316 (327) fig.; Gilyarov 207 (344) fig.

Tritonymph: Seniczak 728 (740) fig.

Taxonomy: Seniczak 728 (740).

Key: Willmann 829 (183); Schweizer 691 (337); Sellnick 709 (54); Gilyarov 207 (344).

Add. References: Willmann 829 (183); Hammen 338 (111); 344 (10). **Morphology:** Grandjean 212 (407); 302 (398); 316 (327).

Ecology: Willmann 829 (183); Hammen 338 111); Schweizer 691 (337); 692 (tab. 11 no. 464); Sengbusch 719 (133); Kunst 503 (38); Sellnick 709 (54); Rajski 668 24); Travé 777 (232); Lebrun 507 (103); Bernini 96 (424); 98 394); Luxton 532 (180); 987 (311). **Remarks:** We consider the *USA* record doubtful.

Achipteria oregonensis Ewing, 1918

Syntypes: USNM

Comb./Syn.: *Achipteria oregonensis* Ewing, 1918 (180, p. 83)

Distribution: *USA*: Oreg. - Ewing 180 (83).

Description: *Adult*: Ewing 180 (83) fig.; Woolley 856 (178) fig. **Ecology:** Ewing 180 (83); Woolley 856 (178).

Achipteria sp.

Distribution: *USA*: Hammer 365 (71) [Q.I.]; Alaska - Hammer 354 (25); Calif. - Walter and Norton 1179 (tab; 1); Mich. - Wallwork 788 (273); N.Y. - Norton and MacNamara 615 (91).
Canada: Hammer 365 (71); Danks 971 (406); Ont. - Marshall 549 (422); Que. Marshall 548 (80).

Achipteria sp. nr. *nitens* (Nicolet, 1855)

Distribution: *Canada*: Man. - Oswald and Minty 620 (80); 621 (74).

Genus *Anachipteria* Grandjean, 1932

Anachipteria Grandjean, 1932

Type-species: *Anachipteria deficiens* Grandjean, 1932 (215, p. 30l).

Anachipteria achipteroides (Ewing, 1913)

Type: USNM
Comb./Syn.: *Oribatella achipteroides* Ewing, 1913 (176, p. 1l9)
Anachipteria achipteroides (Ewing, 1913) (859, p. 140)
Distribution: *USA*: Minn. - Ewing 176 (119); Woolley 859 (140); N.Y. - Reeves 672 (284); Norton and MacNamara 615 (91).
Description: *Adult*: Ewing 176 (119) fig.; Woolley 859 (140) fig.
Ecology: Ewing 176 (119); Woolley 859 (140); Reeves 672 (284).

Anachipteria achipteroides australoides Jacot, 1938

Type: USNM (Cotypes)
Comb./Syn.: *Anachipteria achipteroides australoides* Jacot, 1938 (456, p. 13)
Distribution: *USA*: N.C. - Jacot 456 (13).
Description: *Adult*: Jacot 456 (13).
Ecology: Jacot 456 (13).

Anachiptena acuta (Ewing, 1918)

Type: USNM
Comb./Syn.: *Oribatella acuta* Ewing, 1918 (180, p. 84)
Anachipteria acuta (Ewing, 1918) (215, p. 304)
Distribution: *USA*: Oreg. - Ewing 180 (84); Woolley 859 (140).
Description: *Adult*: Ewing 180 (84) fig.; Woolley 859 (140) fig.
Ecology: Ewing 180 (84); Woolley 859 (140).

Anachipteria australis (Ewing, 1917)

Type: USNM
Comb./Syn.: *Oribatella achipteroides australis* Ewing, 1917 (178, p. 160)
Anachipteria australis (Ewing, 1917) (457, p. 656)
Distribution: *USA*: Iowa- Ewing 178 (160); Woolley 859 (142); Tenn. - Crossley and Bohnsack 142 (631).
Description: *Adult*: Ewing 178 (160) fig.; Woolley 859 (142) fig.
Ecology: Ewing 178 (160); Woolley 859 (142); Crossley and Bohnsack 142 (631).

Anachipteria corpuscula (Ewing, l908)

Type: Not designated ("Autotype" in USNM) see remarks

Comb./Syn.: *Oribata corpuscula* Ewing, 1908 (166, p. 106)
Anachipteria corpuscula (Ewing, 1908) (859, P. 139)
Distribution: *USA*: Ill. - Ewing 166 (106); Woolley 859 (139). **Description:** *Adult*: Ewing 166 (106) fig.; Woolley 8S9 (139) fig.
Ecology: Ewing 166 (106); Woolley 8S9 (139).
Remarks: The specimen in the USNM is labelled "*Oribatella corpiscula* (sic)".

Anachiptena howardi (Berlese, 1908)

Type: SEA
Comb./Syn: *Sphaerozetes howardi* Berlese, 1908 (84, P. 4)
Anachipteria howardi (Berlese, 1908) (215, P. 304)
Distribution: *USA*: Mo. - Berlese 84 (4).
Description: *Adult*: Berlese 84 (4).
Add. References: Hammen 345 (34).
Remarks: See remarks under *Anachipteria latitecta* (Berlese, 1908).

Anachiptena latitecta (Berlese, 1908)

Type: SEA
Comb./Syn.: *Sphaerozetes latitectus* Berlese, 1908 (84, P. 5)
Anachipteria latitectus (Berlese, 1908) (215, P. 304)
Tectoribates latitectus (Berlese, 1908) (829, P. 181)
Distribution: *USA*: Berlese 84 (5); Va. - Sengbusch 719 (132). *Canada*: Gilyarov 207 (335); Man. - Hammer 350 (64); N.W.T. - Hammer 350 (64).
Palearctic: Willmann 829 (181); Haarlov 326 (51); Kunst 503 (38); Rajski 669 (238); Gilyarov 207 (335).
Description: *Adult*: Berlese 84 (5); Willmann 829 (181) fig.; Hammer 350 (64) fig.; Gilyarov 207 (335) fig.; Seniczak 728 (740) fig.
Tritonymph: Seniczak 728 (740) fig.
Taxonomy: Seniczak 728 (740); Bernini 102 (552).
Key: Willmann 829 (181); Gilyarov 207 (335).
Ecology: Willmann 829 (181); Hammer 350 (64); Haarlov 326 (51); Sengbusch 719 (132); Kunst SO3 (38); Rajski 669 (238).
Remarks: We assume that Berlese's (84,p.5) record is from the *USA* (see 426,p.239; 452, p. 238). Bernini (pers. comm.) indicated that *Sphaerozetes latitectus*, in Berlese's opinion, is a junior synonym of *Anachipteria howardi* (Berlese, l908).

Anachipteria magnilamellata (Ewing, 1909)

Syntype: USNM

Comb/Syn.: *Oribatella magnilamellata* Ewing, 1909 (171, P. 414)
Anachipteria magnilamellata (Ewing 1909) (859, p. 144)
Distribution: *USA*: Ill. - Ewing 171 (414); Woolley 859 (144). **Description:** *Adult*: Ewing 171 (414) fig.; Woolley 859 (144) fig. **Ecology:** Ewing 171 (414); Woolley 859 (144).

Anachipteria signata (Banks, 1895)

Syntype: MCZ
Comb./Syn.: *Oribatella signata* Banks, 1895 (45, P. 9)
Anachipteria signata (Banks, 1895) (457, P. 655)
Oribata signata (Banks, 1895) (564, P. 26)
Oribatella valida Banks, 1910 (61, p. 8): (457, p. 655). **Type:** Unknown
Anachipteria achipteroides milleri Jacot, 1936 (447, p. 551): (457, p. 655).
Type: MCZ
Distribution: *USA*: N.J. - Weiss 819 (109); N.Y. - Banks 45 (9); Michael 564 (26); Jacot 457 (655); Ohio - Jacot 447 (551); Va. - Banks 61 (8); 63 (93); Jacot 457 (655).
Description: *Adult*: Banks 45 (9); Michael 564 (26); Banks 61 (8) fig.; 63 (93) fig.; Jacot 447 (551) fig.
Key: Michael 564 (26).
Ecology: Weiss 819 (109); Jacot 447 (551).

Anachipteria sp.

Distribution: *USA*: Minn. - Wagner et al. 786 (14).
Canada: Que. - Pielou and Matthewman 657 (1311); Matthewman and Pielou 552 (802).

Dentachipteria Nevin, 1977

Dentachipteria Nevin, 1977
Type-species: *Dentachipteria ringwoodensis* Nevin, 1974 (588, 252).
Remarks: Although Nevin used the name *Dentachipteria* in 1974 (584, p. 180), he fulfilled all criteria for availability only in 1977, when he proposed a type-species for the genus (588, p. 252).

Dentachipteria highlandensis Nevin, 1974

Type: NYSM; Paratype: USNM
Comb./Syn.: *Dentachipteria highlandensis* Nevin, 1974 (584, p. 180)
Distribution: *USA*: N.Y. - Nevin 584 (180).
Description: *Adult*: Nevin 584 (180) fig.
Ecology: Nevin 584 (180).

Dentachipteria ringwoodensis Nevin, 1974

Type: NYSM; Paratype: USNM
Comb./Syn.: *Dentachipteria ringwoodensis* Nevin, 1974 (584, p. 177)
Distribution: *USA*: N.Y. - Nevin 584 (177).
Description: *Adult*: Nevin 584 (177) fig.
Ecology: Nevin 584 (177).

***Parachipteria* van der Hammen, l952**

Parachipteria van der Hammen, l952
Type-species: *Oribata punctata* Nicolet, 1885 (338, p. 107).

***Parachipteria bella* (Sellnick, 1928)**

Type: Destroyed
Comb./Syn.: *Notaspis bellus* Sellnick, 1928 (700, p. 8)
Achipteria bellus (Sellnick, 1928) (247, p. 52)
Parachipteria bella (Sellnick, 1928) (709, p. 54)
Distribution: *USA*: Va. - Sengbusch 719 (133).
Canada: Que. - Behan 72 (42); Behan et al. 76 (263).
Palearctic: Willmann 829 (184); Sellnick 709 (54); Rajski 668 (24); Moritz 571 (156); Byzova 124 (293); Rajski 669 (235); Gilyarov 207 (340).
Description: *Adult*: Sellnick 70O (8); Willmann 829 (184) fig.; Grandjean 247 (52) chaet.; 251 (13) chaet.; Gilyarov 207 (340) fig.
Key: Willmann 829 (184); Sellnick 709 (54); Gilyarov 207 (340). **Add. References:** Hammen 344 (10).
Ecology: Willmann 829 (184); Sengbusch 719 (133); Sellnick 709 (54); Rajski 668 (24); Moritz 571 (156); Byzova 124 (293); Rajski 669 (235); Behan 72 (42); Behan et al. 76 (263).

***Parachipteria heintoogensis* Nevin, 1979**

Type: USNM
Comb./Syn.: *Parachipteria heintoogensis* Nevin, 1979 (929, p. 310)
Distribution: *USA*: N.C. - Nevin 929 (310).
Description: *Adult*: Nevin 929 (310) chaet., fig.
Ecology: Nevin 929 (310).

***Parachipteria nivalis* (Hammer, 1952)**

Type: CNC
Comb./Syn.: *Achipteria nivalis* Hammer, 1952 (3SO, p. 64)
Parachipteria nivalis (Hammer, l952) (207, p. 342)

Distribution: *USA*: Alaska - Behan 73 (396); Danks 971 (406). *Canada*: B.C. - Marshall 550 (132); N.W.T. - Hammer 350 (64); Behan 73 (396); Y.T. - Behan 73 (396).
Palearctic: Gilyarov 207 (342); Danks 971 (406).
Description: *Adult*: Hammer 350 (64) fig.; Gilyarov 207 (342) fig. **Key:** Gilyarov 207 (342).
Food: Behan and Hill 75 (500).
Ecology: Hammer 350 (64); Behan 73 (396); Marshall 550 (132).

***Parachipteria punctata* (Nicolet, 1855)**

Type: Not designated
Comb./Syn.: *Oribata punctata* Nicolet, 1855 (592, p. 434)
Achipteria punctatum (Nicolet, 1855) (192, p. 102)
Notaspis punctatus (Nicolet, 1855) (779, p. 333)
Parachipteria punctata (Nicolet, 1855) (338, p. IO7)
Notaspis italicus sensu Willmann, 1931 (829, p. 183); non Oudemans, 1913 (338, p. 107)
Add. Comb./Syn. Ref.: Sengbusch 717 (159); Sellnick 709 (54).
Distribution: *USA*: Hammer 365 (71) [Q.I.]; N.Y. - Sengbusch 717 (159); Va. - Sengbusch 719 (132). *Nearctic*: Hammer 348 (49); 349 (37); Schweizer 691 (335). *Palearctic*: Michael S61 (253); Willmann 829 (183) [mi.]; Tuxen 779 (333); Forsslund 192 (IO2); Hammer 348 (49); 349 (37); Hammen 338 (IO7); Grandjean 278 (210); Schweizer 691 (335); Travé 774 (91); Schweizer 692 (tab. 11 no. 458); Sellnick 709 (54); Rajski 668 (24); Travé 777 (232); Byzova 124 (293); Block 1 10 (246); Krivoluckij 49S (185); Hammer 36S (71); Rajski 669 (238); Bernini 98 (394); Kurcheva 504 (95); Rubcova 681 (386); Gilyarov 207 (342); Luxton 532 (180); Solhoy 744 (19).
Description: *Adult*: Nicolet 592 (434) fig.; Michael 561 (253) fig.; Willmann 829 (183) [mi.] fig.; Forsslund 192 (IO2) photo.; Hammen 338 (IO7) fig.; Grandjean 278 (210) chaet.; Schweizer 691 (335) fig.; Gilyarov 207 (342) fig.
Nymph: Michael 561 (253) fig.
Protonymph: Grandjean 278 (210) fig. app.
Taxonomy: Hammen 338 (IO7).
Key: Willmann 829 (183) [mi.]; Schweizer 691 (335); Sellnick 709 (54); Gilyarov 207 (342).
Add. References: Sengbusch 717 (IS9); Hammen 338 (IO7); Luxton 531 (462).
Biology: Jacot 918 (263); Luxton 988 (330).
Food: Luxton 531 (462).
Ecology: Michael S61 (253); Tuxen 779 (333); Forsslund 192 (102); Hammer 348 49); Sengbusch 717 (159); Hamrnen 338 (IO7); Schweizer 691 (335); Travé 774 (91); Schweizer 692 (tab. 11 no. 458); Sengbusch 719 (132); Sellnick 709 (54); Rajski 668 24); Travé 777 (232); Byzova 124 (293); Block 1 10(246); Krivoluckij 495 (185); Hammer 365 (71); Bernini 96 (424); Rajski 669 (238); Bernini 98 394); Kurcheva 504 (95); Rubcova 681 (386); Luxton 532 (180); Solhoy 744 (19); Wallwork 950 (350); Thomas 1024 (356).

Remarks: Willmann (829, p. 183) is sub *Notaspis italicus*. We consider the North American records doubtful.

Parachipteria savagei **Nevin, 1976**

Type: USNM; Paratype: IA

Comb./Syn.: *Parachipteria savagei* Nevin, 1976 (587, p. 174)

Distribution: *USA*: N.C. - Nevin 587 (174).

Description: *Adult*: Nevin 587 (174) chaet., fig.

Ecology: Nevin 587 (174).

Parachipteria travei **Nevin, 1977**

Paratypes: USNM

Comb./Syn.: *Parachipteria travéi* Nevin, 1977 (588, p. 246)

Distribution: *USA*: N.Y. - Nevin 588 (246).

Description: *Adult*: Nevin 588 (246) fig.

Parachipteria willmanni **van der Hammen, 1952**

Type: RNH

Comb./Syn.: *Parachipteria willmanni* van der Hammen, 1952 (338, p. IO9)

Achipteria willmanni (van der Hammen, 1952) (691, p. 336)

Notaspis punctatus sensu Willmann, 1931 (829, p. IO9); non Nicolet, 1855 (338, p. IO9)

Distribution: *USA*: Va. - Sengbusch 719 (132).

Nearctic: Schweizer 691 (336).

Palearctic: Willmann 829 (183) [mi.]; Hammen 338 (IO9); Grandjean 278 (210); Schweizer 691 (336);692 (tab. 11 no. 460); Sellnick 709 (54); Rajski 668 24); Moritz 571 (156); Berthet 107 (64); Lebrun 505 (375); 506 (27); 507 (IO3); Moritz 572 (71); Wood 843 (116); Rajski 669 (238); Gilyarov 207 (342); Luxton 532 (180); Seniczak 728 (742).

Description: *Adult*: Willmann 829 (183) [mi.] fig.; Hammen 338 (IO9) fig.; Grandjean 278 (210) chaet.; Schweizer 691 (336) fig.; Gilyarov 207 (342) fig.; Seniczak 728 (742) fig.

Tritonymph: Seniczak 728 (742) fig.

Protonymph: Grandjean 278 (210) fig. app.

Taxonomy: Hammen 338 (IO9); Seniczak 728 (742).

Key: Willmann 829 (183) [mi.]; Schweizer 691 (336); Sellnick 709 (54); Gilyarov 207 (342).

Ecology: Willmann 829 (183) [mi.]; Harnmen 338 (109); Schweizer 691 (336);692 (tab. 11 no. 460); Sengbusch 719 (132); Sellnick 709 (54); Rajski 668 (24); Moritz 571 (156); Berthet 107 (64); Lebrun SOS (375);S06 (27);SO7 (103); Moritz 572 (71); Wood 843 (116); Rajski 669 (238); Luxton 532 (180); Wallwork 950 (350).

Remarks: Willmann (829, p. 183) is sub *Notaspis punctatus*. We consider the *USA* record doubtful.

Pseudachipteria Travé, 1960

Pseudachipteria Travé, 1960

Type-species: *Notaspis magnus* Sellnick, 1928 (775, p. 220).

***Pseudachipteria* sp.**

Distribution: *Canada*: Que. - Behan 72 (42); Behan et al. 76 (263).

***Tectoribates* Berlese, 1910**

Tectoribates Berlese, 1910

Type-species: *Sphaerozetes (Tectoribates) proximus* Berlese, l910 (85, p. 264).

Anoribatella Kunst, 1962

Type-species: *Anachipteria ornata* Schuster, 1958 (1212, p. 90: 102, p. 549).

Remarks: This genus is probably misplaced in the Achipteriidae, as well as in the Oribatellidae (207, p. 330); its closest relatives may in fact be among the Ceratozetoidea, but we make no formal change pending studies of immatures.

***Tectoribates* sp.**

Distribution: *Canada*: Que. - Behan 72 (42); Behan et al. 76 (263).
USA: N.Y. - Dindal 151 (106).

Remarks: These records are sub *Anoribatella*.

GALUMNOIDEA JACOT, 1925

EPACTOZETIDAE Grandjean, 1930

Remarks: Immatures of Epactozetidae are unknown; its relationship with Galumnoidea is presently uncertain, but it is traditionally placed here.

Epactozetes Grandjean, 1930

Epactozetes Grandjean, 1930
Type-species: *Epactozetes imitator* Grandjean, 1930 (1055, p. 262).

Epactozetes sp.

Distribution: *USA*: Fla. - Norton (RAN unpub.).

GALUMNIDAE **JACOT, 1925**

Acrogalumna Grandjean, 1956

Acrogalumna Grandjean, 1956
Type-species: *Oribates longiplumus* Berlese, l904 (290, p. 135).

Acrogalumna longipluma (Berlese, 1904)

Syntypes: SEA
Comb./Syn.: *Oribates elimatus longiplumus* Berlese, 1904 (81, p. 30)
Acrogalumna longipluma (Berlese, 1904) (290, p. 135)
Allogalumna longiplumus (Berlese, 1904) (247, p. 52)
Galumna longiplumus (Berlese, 1904) (829, p. 174)
Oribates longiplumus (Berlese, 1904) (89, p. 122)
Oribata setiformis Hall, 1911 (332, p. 506): (454, p. 649). **Type:** Unknown
Galumna filata Oudemans, 1913, (635, p. 282): (338, p. 117). **Type:** RNH
Oribates elimatus sensu Oudemans, 1896 (622, p. S7): (338, p. 116). non Koch, 1841
Notaspis elimatus sensu Oudemans, 190O (626, p. 152): (338, p. 116;; non Koch, 1841
Add. Comb./Syn. Ref.: Jacot 419 (31); Woodring 845 (103); Subias 755 (286).
Distribution: *USA*: Hammer 369 (73) [Q.I.]; Conn. - Hall 332 (506); Jacot 434 (103); N.Y. - Jacot 434 (IO3).
Palearctic: Berlese 81 (30); 89 (122); Willmann 829 (174); Jacot 434 (103); Hammen 338 (116); Schweizer 691 (354); Travé 774 (92); Schweizer 692 (tab. 11 no. 487). Markel 543 (479); Kunst SO3 (39); Sellnick 709 (57); Rajski 668 (20); Travé 777 (232); Märkel 545 (170); Vanek 784 (255); Hammer 369 (73); Rajski 669 (234); Bernini 98 (394); Hammer 370 (416); Rubcova 681 (386) [!]; Gilyarov 207 (361); Lions 523 (172); Subias 755 (286).
Australian: Spain and Luxton 947 (200).

Description: *Adult*: Berlese 81 (30) fig.; Hall 332 (506) fig.; Berlese 89 (122) fig.; Willmann 829 (174) fig.; Jacot 431 (374) fig.; 434 (103) fig.; Grandjean 230 (30) chaet., fig. app.; 232 (95) chaet.; 247 (52) chaet.; 251 (13) chaet.; Schweizer 691 (354) fig.; Gilyarov 207 (361) fig.
Nymph: Grandjean 290 (149).
Larva: Grandjean 230 (30) fig. app.; 303 (435).
Prelarva: Grandjean 303 (435).
Key: Hall 333 (643); Berlese 89 (122); Willmann 829 (174); Jacot 434 (103); Sellnick 709 (57).
Add. References: Oudemans 643 (62); Willmann 829 (174); Hammen 338 (116); Woodring 845 (103); Hammen 344 (10, 19); Subias 755 (286)
Biology: Jacot 918 (263); Sengbusch 721 (499); Lebrun 511 (202); Luxton 988 (338).
Food: Woodring 845 (103); Luxton 531 (463).
Ecology: Berlese 81 (30); Hall 332 (506); Willmann 829 (174); Jacot 434 (103); Hammen 338 (116); Schweizer 691 (354); Travé 774 (92); Schweizer 692 (tab. 11 no. 487); Markel 543 (479); Kunst 503 (39); Sellnick 709 (57); Rajski 668 (20); Travé 777 (232); Märkel 545 (170); Vanek 784 (255); Hammer 369 (73); Rajski 669 (234); Bernini 98 (394); Spain and Luxton 947 (20O); Hammer 370 (416); Rubcova 681 (386) [!]; Lions 523 (172); Subias 755 (286); Nanelli 997 (350).

***Acrogalumna* [?] *pectinata* (Jacot, 1937)** new comb.

Type: USNM (Cotypes)
Comb./Syn.: *Zetes pectinatus* Jacot, 1937 (453, p. 164)

Distribution: *USA*: N.C. - Jacot 453 (164).
Description: *Adult*: Jacot 453 (164).
Ecology: Jacot 453 (164).

Galumna von Heyden, 1826

Galumna von Heyden, 1826
Type-species: *Notaspis alatus* Hermann, 1804 (1063, p. 612).

***Galumna alata* (Hermann, 1804)**

Type: Not designated
Comb./Syn.: *Notaspis alatus* Hermann, 1804 (389, p. 92)
Galumna alatum (Herrnann, 1804) (419, p. 5). non Schrank, 1803
Oribata alata (Hermann, 1804) (561, 257)
Oribates alatus (Hermann, 1804) (7, p. I58)
Zetes alatus (Hermann, 1804) (564, p. 20)

Add. Comb./Syn. Ref.: Grandjean 232 (94); Hammen 338 (133); Subias 755 (289); Nevin 589 (151).
Distribution: *USA*: Ky. - Michael 564 (20); André 7 (158). *Palearctic*: Michael 561 (257); 563 (417); 564 (20); André 7 (158); Grandjean 232 (94); Hammen 338 (133); Dalenius and Wilson 146 (414); Sellnick 709 (56); Rajski 668 (22); Lebrun 507 (103); Rajski 669 (226); Suzuki 758 (14) [!]; Gilyarov 207 (353); Luxton 532 (185); Subias 755 (289). *Antarctic*: Dalenius and Wilson 146 (414).
Description: *Adult*: Hermann 389 (92) fiB.; Michael 561 (257) fig.; 564 (20); Grandjean 232 (94) chaet., fig.; Gilyarov 207 (353) fig.; Nevin 589 (151).
Nymph: Michael 564 (20).
Key: Michael 564 (20); Sellnick 709 (56); Gilyarov 207 (353). **Add. References:** Michael 564 (20); Jacot 419 (5); Hammen 338 (133); 344 (19); Subias 755 (289).
Ecology: Michael 561 (257); 564 (20); André 7 (158); Grandjean 232 (94); Jacot 454 (642); Hammen 338 (133); Rajski 668 (22); Lebrun 507 (103); Rajski 669 (226); Suzuki 758 (14) [!]; Luxton 532 (185); Subias 755 (289).

Galumna banksi Jacot, 1929

Type: MCZ (Cotypes)
Comb./Syn.: *Galumna banksi* Jacot, 1929 (419, p. 29)
Distribution: *USA*: Conn. - Jacot 429 (21); 434 (96); N.Y. - Jacot 419 (29); 434 (96j; Va. - Jacot 434 (96).
Description: *Adult*: Jacot 419 (29); 429 (21) fig.; 434 (96) fig. **Key:** Jacot 434 (96).
Ecology: Jacot 419 (29); 434 (96); 454 (642).

Galumna bradleyi (Jacot, 1935) new comb.

Type: Unknown
Comb./Syn.: *Zetes bradleyi* Jacot 1935 (443, p. 7)
Distribution: *USA*: Fla. - Jacot 443 (7).
Description: *Adult*: Jacot 443 (7).
Key: Jacot 443 (7).
Ecology: Jacot 443 (7).

Galumna californica (Hall, 1911)

Type: Unknown
Comb./Syn.: *Oribara alata californica* Hall, 1911 (333, p. 643)
Galumna californica (Hall, 1911) (454, p. 649)
Distribution: *USA*: Calif. - Hall 333 (643); Jacot 454 (649). **Description:** *Adult*: Hall 333 (643) fig.
Key: Hall 333 (643).
Ecology: Hall 333 (643).

Galumna cribriger (Berlese, 1916)

Type: SEA
Comb./Syn.: *Oribates cribriger* Berlese, 1916 (92, p. 306)
Galumna cribriger (Berlese, 1916) (454, p. 649)
Distribution: *USA*: Mo. - Berlese 92 (306); Jacot 454 (649).
Description: *Adult*: Berlese 92 (306).
Ecology: Berlese 92 (306).

Galumna elegantula (Jacot, 1935) new comb.

Type: Not designated ("Autotype" in FSCA)
Comb./Syn: *Zetes elegantulus* Jacot, 1935 (443, p. 6)
Distribution: *USA*: Fla. - Jacot 443 (6).
Description: *Adult*: Jacot 443 (6) fig.
Key: Jacot 443 (6).
Ecology: Jacot 443 (6).

Galumna elimata (C.L. Koch, 1841)

Type: Unknown
Comb./Syn.: *Oribates elimatus* [!] C.L. Koch, 1841 (485, Vol. 31 (5))
Zetes elimatus (C.L. Koch, 1841) (419, p. 4)
Distribution: *USA*: Calif. - Jacot 445 (64).
Palearctic: Hammen 338 (114).
Australian: Aoki 16 (774).
Description: *Adult*: Koch 485 (Vol. 31 (5)) [!]; Aoki 16 **(774) fig.**
Add. References: Oudemans 643 (24); Jacot 419 (4); Hammen 338 (114).
Ecology: Hammen 338 (114).
Remarks: The identity of *Oribates elimatus* C.L. Koch, 1841 and the validity of proposed subspecies has been the subject of discussion by various authors: Jacot (419 p. 4; 440, p. 51), Grandjean (1060, p. 139), Hammen (338, p. 133), Aoki (16, p. 774) and Woodring (846, p. 565). We cannot solve the problems they have disclosed, but rather for practical reasons we follow Jacot in treating *Galumna obvia* (Berlese, 1914) as a junior synonym of *Galumna elimata* (C.L. Koch, 1841), which Jacot recombined under the generic name *Zetes*. Most European workers have not recognized this synonymy, and therefore most literature references to this mite are sub *Galumna obvia*, for example, Berlese (89, p. 119), Willmann (829, p. 178; 836, p. 193), Grandjean (232, p. 9S), Kunst (503, p. 39), Rajski (668, p. 22), Bernini (98, p. 394), and Hammer (370, p. 423).
Jacot described two closely related species, *Galumna ithacensis* (Jacot, 1929) and *Galumna louisianae* (Jacot, 1929), which he later regarded as subspecies of *G. elimata* (440, p. 53; 443, p. 8). Both Aoki (16, p. 774) and Woodring (846, p. 565) have questioned their validity even as subspecies, but one of us

(RAN) has studied Jacot's specimens and they seem sufficiently different to warrant species status as originally proposed, pending more complete study. Woodring's proposal (846, p. 564) of *Galumna confusa* as a new name for a combined concept of *ithacensis* and *louisianae* was inappropriate, since both of the latter two names have priority. The type specimen of *confusa* is a member of *G. louisianae*, hence the synonymy listed herein under the latter name.

Jacot (445, p. 64) has recorded *G. elimata* sensu stricto from California and considered it a European introduction; we treat this herein as the only published record of *elimata* from North America that does not refer to *ithacensis*. Since we cannot be certain about the identity of mites called *Galumna elimata* in many European works, the general information referenced above cannot be confidently attributed. We suspect that the following refer to *G. elimata* auct., non sensu Jacot: Willmann (829, p. 177), Moritz (572, p. 70), Rajski (669, p. 240), Polderman (660, p. 360), Wallwork (950, p. 344), Bernini (96, p. 425) and Gilyarov (207, p. 353).

Galumna hudsoni **Hammer, 1952**

Type: CNC
Comb./Syn.: *Galumna hudsoni* Hammer, 1952 (350, p. 60)
Distribution: *Canada*: Man. - Hammer 350 (60).
Description: *Adult:* Hammer 350 (60) fig.
Ecology: Hammer 350 (60).

Galumna humida (Hall, 1911) new comb.

Type: Unknown
Comb./Syn.: *Oribata humida* Hall, 1911 (333, p. 643)
Zetes humida (Hall, l911) (454, 649)
Distribution: *USA*: Calif. - Hall 333 (643); Jacot 445 (65); 454 (649).
Description: *Adult:* Hall 333 (643) fig.
Ecology: Hall 333 (643).

Galumna ithacensis (Jacot, 1929)

Type: MCZ, USNM (Cotypes)
Comb./Syn.: *Zetes ithacensis* Jacot, 1929 (419, p. 28)
Galumna ithacensis Jacot, 1929) (469, p. 62)
Galumna elimatus ithacensis (Jacot, 1929) (718, p. 648)
Zetes elimatus ithacensis (Jacot, 1929) (440, p. 53)
Distribution: *USA*: Conn. - Jacot 440 (53); Ill. - Jacot 440 (53); Ind. - Jacot 440 (53); Md. - Jacot 440 (53); Mich. - Pherson and Beattie 1004 (329); Pherson 1003 (611); N.Y. - Jacot 419 (28); 440 (53); Hartenstein 376 (203) [mi.]; Reeves 673 (27) [mi.]; Ohio - Jacot 440 (53); Va. - Jacot 440 (53).
Description: *Adult*: Jacot 419 (28); 440 (53) fig.; Sengbusch 718 (652).

Tritonymph: Sengbusch 718 (652) fig.
Deutonymph: Sengbusch 718 (652) fig.
Protonymph: Sengbusch 718 (652) fig.
Larva: Sengbusch 718 (652).
Egg: Sengbusch 718 (652) fig.
Key: Jacot 440 (53); 443 (8).
Biology: Sengbusch 718 (652).
Food: Hartenstein 376 (203) [mi.].
Ecology: Jacot 419 (28); 440 (53); 454 (642); Reeves 673 (27) [mi.]; Pherson and Beattie 1004 (329); Pherson 1003 (611).
Remarks: Hartenstein (376,p.203)is sub *Galumna elimatus*; Reeves (673, p.27) is sub *Galumna obvius*. See remarks under *Galumna elimata* (C.L. Koch, 1841).

Galumna jacoti nomen novum

Types: MCZ, USNM (Cotypes) [under *Zetes banksi*]
Comb./Syn.: *Zetes banksi* Jacot, 1929 (419, p. 27)
Distribution: *USA*: Fla. - Jacot 443 (18); N.C. - Jacot 443 (18); Tex. - Jacot 419 (27); 443 (18).
Description: *Adult*: Jacot 419 (27); 443 (18) fig.
Key: Jacot 443 (18).
Ecology: Jacot 443 (18).
Remarks: *Galumna jacoti* nomen novum is a replacement name for the recombination of *Zetes banksi* Jacot, 1929 to *Galumna*; *Galumna banski* is preoccupied (see 419, p. 29).

***Galumna louisianae* (Jacot, 1929)**

Type: MCZ
Comb./Syn.: *Zetes louisianae* Jacot, 1929 (419, p. 28)
Galumna elimatus louisianae (Jacot, 1929) (844, p. 394)
Zetes elimatus louisianae Jacot, 1929 (443, p. 8)
Galumna confusa Woodring, 1965 (846, p. 564) new syn. **Type:** USNM
Distribution: *USA*: Fla. - Jacot 443 (8); La. - Jacot 419 (28); 443 (8); Rockett and Woodring 678 (80) [mi.]; Woodring 846 (564).
Description: *Adult*: Jacot 419 (28); 443 (8) fig.; Woodring 844 (394) [!] fig.; 846 (564) fig.
Tritonymph: Woodring 846 (564) fig.
Morphology: Woodring 844 (394) [!]; 1111 (423).
Biology: Woodring 846 (564); Lebrun 511 (202); Butcher et al. 123 (258); Luxton 988 (338).
Food: Woodring 845 (103) [!]; 845 (103) [mi.].
Ecology: Jacot 419 (28); 443 (8); Rockett and Woodring 678 (80) [mi.]

Remarks: Rockett and Woodring (678, p. 80) and Woodring (845, p. 103) are sub *Galumna elimatus*. See remarks under *Galumna elimata* (C.L. Koch, 1841).

***Galumna macroptera* (Ewing, 1909)** new comb.

Syntype: USNM
Comb./Syn.: *Oribata macroptera* Ewing, 1909 (170, p. 120)
Zetes macroptera (Ewing, l909) (454, p. 649)
Distribution: *USA*: Tex. - Ewing 170 (120); Jacot 445 (64).
Description: *Adult*: Ewing 170 (120) fig.; Jacot 445 (64) fig.
Key: Ewing 170 (120); Jacot 445 (64).
Ecology: Ewing 170 (120); Jacot 445 (64); 454 (649).

***Galumna macroptera matecumbei* (Jacot, 1935)** new comb.

Type: FSCA (Cotypes)
Comb./Syn.: *Zetes macroptera matecumbei* Jacot, 1935 (443, p. 5)
Distribution: *USA*: Fla. - Jacot 443 (5).
Description: *Adult*: Jacot 443 (5) fig.
Key: Jacot 443 (5).
Ecology: Jacot 443 (5).

***Galumna minuta* (Ewing, 1909)**

Syntype: USNM
Comb./Syn.: *Oribata minuta* Ewing, l909 (170, p. 121)
Galumna minuta (Ewing, l909) (649, p. 148)
Zetes minutus (Ewing, l909) (918, p. 263)
Distribution: *USA*: Fla. - Jacot 440 (67); 443 (17, 44); Ill. - Ewing 170 (121); Jacot 440 (67); 443 (17); La. - Rockett and Woodring 678 (82); Ky. - Cockfield and Potter 1124 (1264); Md. - Krull 1211 (522); N.C. - Pearse 649 (148); Tex. - Ehler and Frankie 10SO (345).
Description: *Adult*: Ewing 170 (121) fig. app.; Jacot 443 (17) fig.; 440 (67).
Key: Ewing 170 (121); Jacot 440 (67); 443 (17).
Biology: Jacot 918 (263).
Food: Woodring 845 (102); Luxton 531 (463).
Ecology: Ewing 170 (121); Jacot 440 (67); 443 (17); Krull 1211 (522); Pearse 649 (148); Rockett and Woodring 678 (82); Cockfield and Potter 1124 (1264).

***Galumna nigra* (Ewing, 1909)**

Syntype: USNM
Comb./Syn.: *Oribata nigra* Ewing, 1909 (170, p. 119)

Galumna nigra (Ewing, 1909) (20O, p. 113)
Zetes niger [!] (Ewing, 1909) (440, p. 58)
Distribution: *USA*: Conn. - Jacot 440 (58); Ill. - Ewing 170 (119); Miller 927 (142); Jacot 440 (58); Ind. - Jacot 440 (58); Iowa - Miller 927 (142); Minn. - Freeman 20O (113); N.Y. - Jacot 440 (58); Ohio - Miller 927 (142).
Canada: Ont. - Jacot 440 (58).
Description: *Adult*: Ewing 170 (119) fig.; Miller 927 (142); Jacot 440 (58) fig.
Key: Ewing 170 (119); Jacot 440 (58).
Ecology: Ewing 170 (119); Jacot 440 (58); 454 (642); Freeman 20O (113).

Galumna nodula Nevin, 1974

Type: Unknown
Comb./Syn.: *Galumna nodulum* Nevin, 1974 (583, p. 123)
Distribution: *USA*: Fla. - Nevin 583 (123).
Description: *Adult*: Nevin 583 (123) fig.
Ecology: Nevin 583 (123).

Galumna octopunctata (Ewing. l909)

Syntype: USNM
Comb./Syn.: *Oribata octopunctata* Ewing, 1909 (169, p. 356)
Galumna octopunctata (Ewing, 1909) (819, p. 109)
Galumna lanceatum octopunctatum (Ewing, 1909) (419, p. 32)
Galumna coleoptratum occidentale Jacot, 1929 (419, p. 32): (434, p. 93). **Type:** USNM (Cotypes)
Oribates emarginatus sensu Berlese, 1914 (89, p. 125): (443, p. 94); non Banks, 1895 (434, p. 94)
Distribution: *USA*: Conn. - Jacot 419 (32); 434 (91); Fla. - Jacot 434 (91); 443 (27); Nevin 589 (149); Ill. - Ewing 169 (356); Jacot 434 (91); N.J. - Weiss 819 (109); N.Y. - Jacot 434 (91); Nevin 589 (149); Va. - Jacot 434 (91); Nevin 589 (149).
Palearctic: Jacot 434 (91).
Description: *Adult*: Ewing 169 (356) fig.; Berlese 89 (125) [mi.] fig.; Jacot 419 (32); 431 (374) fig.; 434 (91) fig.; Nevin 589 (149) chaet., fig.
Key: Ewing 169 (356); Jacot 434 (91); 443 (27).
Ecology: Ewing 169 (356); Weiss 819 (109); Jacot 419 (32); 434 (91); 443 (27); 454 (641).
Remarks: Berlese (89, p. 125) is sub *Oribates emarginatus*.

Galumna parva Woodring, 1965

Syntype: USNM
Comb./Syn.: *Galumna parva* Woodring, 1965 (846, p. 568)
Distribution: *USA*: La. - Woodring 846 (568).

Description: *Adult*: Woodring 846 (568) fig.
Tritonymph: Woodring 846 (568) fig.
Biology: Woodring 846 (568); Lebrun 511 (202); Butcher et al. 123 (258); Luxton 988 (338).
Food: Woodring 846 (568); Luxton 531 (463).

***Galumna sequoiae* (Jacot, 1929)** new comb.

Type: Unknown
Comb./Syn.: *Zetes sequoiae* Jacot, 1929 (419, p. 29)
Distribution: *USA*: Calif. - Jacot 4I9 (29); 445 (61).
Description: *Adult*: Jacot 419 (29); 445 (61) fig.
Ecology: Jacot 419 (29); 445 (61).

***Galumna virginiensis* Jacot, 1929**

Types: MCZ, USNM (Cotypes)
Comb./Syn.: *Galumna virginiensis* Jacot, 1929 (419, p. 33)

Distribution: *USA*: D.C. - Jacot 434 (87); Ill. - Jacot 434 (87); Ky. - Wallwork and Rodriguez 806 (703); Ibarra et al. 412 (155); Md. - Kates and Runkel 481 (22); N.J. - Jacot 434 (87); Ohio - Jacot 434 (87); Tenn. - Crossley and Bohnsack 142 (632); Va. - Jacot 419 (33); 434 (87); Sengbusch 719 (133).
Description: *Adult*: Jacot 419 (33); 434 (87) fig.; Kates and Runkel 481 (22) fig., photo.; Baker and Wharton 36 (431) fig.; Baker et al. 35 (164) fig.
Key: Jacot 434 (87).
Ecology: Jacot 434 (87); 454 (642); Kates and Runkel 481 (22); Edney and Kelley 1203 (187); Sengbusch 719 (133); Crossley and Bohnsack 142 (632); Wallwork and Rodriguez 806 (703); Ibarra et al. 412 (155);

***Galumna* sp.**

Distribution: *USA*: Alaska - Behan 73 (397); Danks 971 (406); Calif. - Ashley and Bohnsack 959 (6i6); Walter and Norton 1197 (tab. 1); Ky. - Wallwork and Rodriguez 806 (703); Cockfield and Potter 1124 (1264); Md. - Krull 1211 (522); N.M. Wallwork et al. 1229 (169); Tenn. - Crossley and Bohnsack 142 (632).
Canada: N.W.T. - Behan 73 (397); Ont. - Freitag and Ryder 20l (40); Que. Matthewman and Pielou 552 (833); Behan 72 (42); Behan et al. 76 (263); Y.T. Behan 73 (397).

***Holokalumma* Jacot, 1929**

Holokalumma Jacot, 1929
Type-species: *Holokalumma coloradensis* Jacot, 1929 (419, p. 34).

Remarks: Nevin (589, p. 149) suggested that *Holokalumma* Jacot, 1929 should be synonymized with *Galumna* von Heyden 1826. Since nothing is known about the immatures of *Holokalumma*, we have not accepted this synonymy, pending detailed study of all instars.

***Holokalumma coloradensis* Jacot, 1929**

Type: MCZ
Comb./Syn.: *Holokalumma coloradensis* Jacot, 1929 (419, p. 34)
Galumna coloradensis (Jacot, 1929) (589, p. 147)
Distribution: *USA*: Colo. - Jacot 419 (34); 443 (19); Fla. - Jacot 443 (19); 461 (49); Nevin 589 (147); Nebr. - Nevin 589 (147).
Description: *Adult*: Jacot 419 (34); 443 (19) fig.; Nevin 589 (147) chaet., fig.
Taxonomy: Nevin 589 (147).
Key: Jacot 443 (19).
Ecology: Jacot 443 (19).

***Holokalumma floridae* Jacot, 1929**

Type: MCZ, USNM (Cotypes)
Comb./Syn.: *Holokalumma floridae* Jacot, 1929 (419, p. 34)
Distribution: *USA*: Fla. - Jacot 419 (34); 443 (25).
Description: *Adult*: Jacot 419 (34); 429 (20) [!] fig.; 443 (25) fig.
Key: Jacot 443 (2).
Ecology: Jacot 443 (25).

Holokalumma lyrica **Jacot, 1935**

Type: FSCA (Cotypes)
Comb./Syn.: *Holokalumma lyricum* Jacot, 193s (443, p. 23)
Distribution: *USA*: Fla. - Jacot 443 (23).
Description: *Adult*: Jacot 443 (23) fig.
Key: Jacot 443 (23).
Ecology: Jacot 443 (23).

Holozetes Jacot, 1929

Holozetes Jacot, 1929
Type-species: *Galumna texana* Banks, l906 (419, p. 34).

Holozetes texanus (Banks, l906)

Type: MCZ
Comb./Syn.: *Galumna texana* Banks, 1906 (56, p. 494)
Holozetes texanus (Banks, 1906) (419, p. 34)

Distribution: *USA*: Banks 57 (612); Tex. - Banks S6 (494).
Description: *Adult*: Banks 56 (494) fig.
Ecology: Jacot 454 (649).

Neorizetes **Jacot, 1933**

Neorizetes Jacot, 1933
Type-species: *Oribata rugosala* Ewing, 1909 (432, p. 696). `

Neorizetes rugosala **(Ewing, l909)**

Type: USNM
Comb./Syn.: *Oribata rugosala* Ewing, 1909 (170, p. 120)
Galumna rugosala (Ewing,1909) (1211, p. 522)
Neorizetes rugosala (Ewing, 1909) (432, p. 696)
Distribution: *USA*: Ill. - Ewing 170 (120); Miller 927 (142); Jacot 432 (696); Md. Krull 1211 (522); Ohio - Miller 927 (142).
Description: *Adult*: Ewing 170 (120) fig.; Miller 927 (142); Jacot 432 (696) fig. **Key:** Ewing 170 (120); Jacot 432 (696).
Ecology: Ewing 170 (120); Miller 927 (142); Jacot 432 (696); 454 (649); Krull 1211 (522).

Orthogalumna Balogh, 1961

Orthogalumna Balogh, 1961
Type-species: *Orthogalumna saeva* Balogh, 1961 (1042, p. 30).

Orthogalumna terebrantis **Wallwork, 1965**

Type: USNM (not confirmed) .

Comb./Syn.: ? *Orthogalumna terebrantis* Wallwork, 1965 (798, p. 759)

Distribution: *USA*: Fla. - Del Fosse et al. 1126 (53); Del Fosse 1125 (93); Cromroy 140 (63).

Neotropical: Wallwork 798 (759).

Description: *Adult*: Wallwork 798 (759) chaet., fig. .

Tritonymph: Wallwork 798 (759) fig.

Deutonymph: Wallwork 798 (759) fig.

Food: Del Fosse et al. 1126 (53); Krantz 490 (463).

Miscellaneous: Helle et al. 387 (450) anat.

Ecology: Wallwork 798 (759); Cromroy 140 (63).

Pergalumna Grandjean, 1936

Pergalumna Grandjean, 1936

Type-species: *Oribates nervosus* Berlese, 1914 (232, p. 106).

***Pergalumna altera* (Oudemans, 1915)**

Type: RNH

Comb./Syn.: *Galumna altera* Oudemans, l915 (637, p. 14)

Pergalumna altera (Oudemans, l915) (1060, p. 142)

Galumna dorsalis sensu Willmann, 1931 (829, p. 176); non C.L. Koch, 1841 (207, p. 359)

Distribution: *USA*: N.Y. - Reeves 673 (27).

Palearctic: Willmann 829 (176) [mi.]; Grandjean 1060 (142); Bernini 10l (457); Gilyarov 207 (359); Paik 938 (235).

Description: *Adult*: Oudemans 637 (14); Willmann 829 (176) [mi.] fig.; Gilyarov 207 (359) fig.

Key: Willmann 829 (176) [mi.]; Gilyarov 207 (359).

Add. References: Bernini 10l (457).

Biology: Mitchell S67 (67).

Ecology: Willmann 829 (176) [mi.]; Reeves 673 (27); Paik 938 (235).

Remarks: Willmann (829, p. 176) is sub *Galumna dorsalis*.

***Pergalumna arborea* (Jacot, 1929)** new comb.

Type: MCZ, USNM (Cotypes)

Comb./Syn.: *Zetes arborea* Jacot, 1929 (419, p. 26)

Distribution: *USA*: Conn. - Jacot 419 (26); 440 (57).

Description: *Adult*: Jacot 419 (26); 440 (57) fig.

Key: Jacot 440 (57).

Ecology: Jacot 419 (26); 440 (57); 454 (642).

Remarks: This species and *Pergalumna gramineta* (Jacot 1938) are problematic; they are intermediate between *Galumna* von Heyden, 1826 and *Pergalumna* Grandjean, 1936.

***Pergalumna californiae* (Jacot, 1929)** new comb.

Type: Unknown
Comb./Syn.: *Zetes californiae* Jacot, 1929 (419, p. 27)
Distribution: *USA*: Calif. - Jacot 419 (27); 445 (63).
Description: *Adult*: Jacot 419 (27); 445 (63) fig.

***Pergalumna circula* (Jacot, 1935)** new comb.

Type: FSCA (Cotypes)
Comb./Syn.: *Galumna flagelliferum circulum* Jacot, 1935 (443, p. 29)
Distribution: *USA*: Fla. - Jacot 443 (29).
Description: *Adult*: Jacot 443 (29).
Key: Jacot 443 (29).
Ecology: Jacot 443 (29).

***Pergalumna corrugis* (Jacot, 1929)** new comb.

Type: MCZ, USNM (Cotypes)
Comb./Syn.: *Zetes corrugis* Jacot, 1929 (419, p. 28)
Distribution: *USA*: Mass. - Jacot 419 (28); 440 (69).
Description: *Adult*: Jacot 419 (28); 440 (69) fig.
Key: Jacot 440 (69).

***Pergalumna corrugis milleri* (Jacot, 1935)** new comb.

Type: IA (Cotypes)
Comb./Syn.: *Zetes corrugis milleri* Jacot, 1935 (440, p. 72)
Galumna milleri (Jacot, 1935) (469, p. 62)
Oribata emarginata sensu Ewing, 1909 (169, p. 355); non Banks, 1895 (454, p. 649)
Distribution: *USA*: Ill. - Ewing 169 (355) [mi.]; Jacot 440 (72); Iowa - Jacot 440 (72).
Description: *Adult*: Ewing 169 (355) [mi.]; Jacot 440 (72) fig.
Key: Ewing 169 (355) [mi.]; Jacot 440 (72).
Ecology: Ewing 169 (355) [mi.]; Jacot 440 (72); 454 (649).
Remarks: Ewing (169, p. 355) is sub *Oribata emarginata*.

***Pergalumna curva* (Ewing, 1907)**

Syntype: USNM
Comb./Syn.: *Oribata curva* Ewing, l907 (164, 113)
Galumna curvum (Ewing, 1907) (918, p. 263)
Pergalumna curva (Ewing, 1907) (207, p. 355)
Oribates tantillus Berlese, l908 (84, p. 7): (207, p. 355). **Type:** SEA

Galumna tantillus (Berlese, 1908) (414, p. 177)
Distribution: *USA*: Conn. - Jacot 414 (177); 434 (109); D.C. - Berlese 89 (120); Jacot 414 (177); 434 (IO9); Fla. - Berlese 89 (120); Jacot 414 (177); 434 (109); 443 (28); Ill. - Ewing 164 (113); Jacot 434 (IO9); Ky. - Wallwork and Rodriguez 806 (703); Ibarra et al. 412 (155); Md. - Krull 1211 (522); Kates and Runkel 481 (25); Mo. - Berlese 89 (120); Jacot 414 (177); 434 (IO9); N.Y. - Jacot 414 (177); 434 (109); N.C. - Jacot 450 (370); Ohio - Miller 927 (141); Jacot 434 (109); Va. - Jacot 434 (109).
Palearctic: Jacot 454 (641); Gilyarov 207 (355).
Description: *Adult*: Ewing 164 (113) fig.; Berlese 84 (7); 89 (120) fig.; Jacot 434 (109) fig.; Gilyarov 207 (355) fig.
Key: Berlese 89 (120); Jacot 434 (109); 443 (28); Gilyarov 207 (355).
Ecology: Ewing 164 (113); Miller 927 (141); Jacot 434 (109); 443 (28); 4S4 (641); Krull 1211 (522); Wallwork and Rodriguez 806 (703); Ibarra et al. 412 (155).

***Pergalumna curva ventralis* (Willmann, 1932)** new comb.

Type: WHPC
Comb./Syn.: *Galumna ventralis* Willmann, 1932 (830, p. 284)
Galumna curvum ventralis Willmann, 1932 (434, p. 115)
Distribution: *Nearctic*: Jacot 434 (115).
Palearctic: Jacot 434 (115).
Oriental: Willmann 830 (284).
Description: *Adult*: Willmann 830 (284) fig.; Jacot 434 (115) fig.
Key: Jacot 434 (115).
Ecology: Willmann 830 (284); Jacot 434 (115).
Remarks: Jacot (434, p. 115) gave no specific records of this subspecies from North America, but mentioned its presence.

***Pergalumna dodsoni* Nevin, 1979**

Type: NYSM
Comb./Syn.: *Pergalumna dodsoni* Nevin, 1979 (589, p. 154)
Distribution: *USA*: Nebr. - Nevin 589 (154).
Description: *Adult*: Nevin 589 (154) chaet., fig.
Ecology: Nevin 589 (154).

***Pergalumna emarginata* (Banks, 1895)**

Syntypes: MCZ, USNM
Comb./Syn.: *Oribata emarginata* Banks, 1895 (45, p. 7)
Galumna emarginata (Banks, 1895) (5l, p. 145)
Pergalumna emarginatus (Banks, 1895) (548, p. 81)

Zetes emarginatus (Banks, 1895) (440, p. 72)
Oribates emarginatus europaeus Berlese, 1914 (89, p. 125): (92, p. 306)
Oribates emarginatus columbianus Berlese, 1916 (92, p. 306): (440, p. 82)
Pergalumna omniphagous Rockett and Woodring, 1966 (679, p. 511) new syn. **Type:** USNM
Oribata robusta sensu Michael, 1898 (564, p. 26): (419, p. 15); non Banks, 1895
Add. Comb./Syn. Ref.: Jacot 454 (642); Nevin 589 (152).
Distribution: *USA*: Banks 63 (96); Conn. - Jacot 440 (72); Nevin 589 (152); D.C. Jacot 440 (72); Fla. - Banks 51 (145); Jacot 440 (72); 443 (8); Idaho - Jacot 440 (72); Ill. - Banks 45 (7); Michael 564 (26) [mi.]; Banks 59 (15); Jacot 440 (72); Marshall 548 (81); Ind. - Banks S8 (747); La. - Rockett and Woodring 679 (511); Maine - Jacot 440 (n); 443 (8); Md. - Jacot 440 (72); Krull 1211 (522); Kates and Runkel 481 (24); Mass. - Banks 59 (15); Jacot 440 (72); 89 (125); Jacot 443 (8); 440 (82); Mo. - Berlese 89 (125) (?); Minn. - Freeman 20O (113); N.Y. - Banks 45 (7); 47 (129) [in part]; 59 (15); Jacot 440 (72); Sengbusch 717 (155); Marshall 548 (81); Norton and MacNamara 615 (91); Nevin 589 (152); N.C. - Pearse 649 (147); Ohio - Miller 927 (141); Jacot 440 (72); Tex. - Banks 45 (7); Michael 564 (26) [mi.]; Banks 59 (15); Marshall 548 (81); Va. - Nevin 589 (152).
Canada: Miller 927 (141); Ont. - Jacot 440 (72); 443 (8); Que. - Marshall.
Palearctic: Berlese 89 (125).
Description: *Adult*: Banks 45 (7); Michael 564 (26) [mi.]; Berlese 89 (125) fig.; Banks 62 (61); 63 (96); Berlese 92 (306); Miller 927 (141); Jacot 440 (72) fig.; 454 (642) fig.; Kates and Runkel 481 (24) fig., photo.; Rockett and Woodring 679 (511) fig.; Woodring 848 (426) ; Nevin S89 (152) chaet., fig.
Tritonymph: Rockett and Woodring 679 (511) fig.
Larva: Rockett and Woodring 679 (511) fig.
Key: Banks 45 (7); Michael 564 (26) [mi.]; Oudemans 643 (23); Jacot 440 (72); 443 (8).
Biology: Rockett and Woodring 679 (511); Kirk 483 (4174B); Lebrun 511 (202); 548 (81); Butcher et al. 123 (258); Luxton 988 (338).
Food: Rockett and Woodring 679 (511); Luxton 531 (463); Krantz 490 (463).
Miscellaneous: Woodring 848 (426) anat.; Sengbusch 1013 (84) cult.
Ecology: Banks 45 (7); 47 (129) [in part]; Berlese 89 (125); Banks 63 (96); Miller 927 (141). Jacot 440 (72). 443 (8); 454 (642); Krull 1211 (522); Pearse 649 (147); Kates and Runkel 481 (24); Sengbusch 717 (155); Freeman 20O (112); Marshall 548 (81).
Remarks: Michael (564, p. 26) is sub *Oribata robusta*.

***Pergalumna emarginatus coscobensis* (Jacot, 1935)** new comb.

Type: Unknown
Comb./Syn.: *Zetes emarginatus coscobensis* Jacot, 193S (440, p. 83)
Distribution: *USA*: Conn. - Jacot 440 (83).
Description: *Adult*: Jacot 440 (83).
Key: Jacot 440 (83).
Ecology: Jacot 440 (83).

***Pergalumna emarginata laevis* (Jacot, 1935)** new comb.

Type: FSCA (Cotypes)
Comb./Syn.: *Zetes emarginatus laevis* Jacot, 1935 (443, p. 8)
Distribution: *USA*: Fla. - Jacot 443 (8).
Description: *Adult*: Jacot 443 (8).
Key: Jacot 443 (8).
Ecology: Jacot 443 (8).

***Pergalumna flagellifera* (Jacot, 1929)**

Type: MCZ (Cotype)
Comb./Syn.: *Galumna flagelliferum* Jacot, 1929 (419, p. 31)
Pergalumna flagelliferum (Jacot, 1929) (469, p. 62)
Distribution: *USA*: Fla. - Jacot 434 (106); 443 (28); Ill. - Jacot 434 (106); Md. - Jacot 434 (106). N.Y. - Jacot 434 (106); Ohio - Jacot 434 (106); Tex. - Jacot 419 (31); 434 (106), 443 (28); Va. - Jacot 434 (106).
Description: *Adult*: Jacot 419 (31); 434 (106) fig.
Key: Jacot 434 (106); 443 (28).
Ecology: Jacot 419 (31); 434 (106); 443 (28).

***Pergalumna formicaria* (Berlese, 1914)**

Type: SEA
Comb./Syn.: *Oribates formicarius* Berlese, 1914 (89, p. 121)
Galumna formicarius (Berlese, 1914) (829, p. 175)
Pergalumna formicarius (Berlese, 1914) (709, p. 57)
Oribates alatus sensu Berlese, 1904 (81, pl. I fig. 20): (89, p. 121); non Hermann, 1804
Distribution: *USA*: Mich. - Wallwork 788 (173); 789 (262).
Canada: N.W.T. - Hammer 350 (60); Que. - Behan 72 (42); Behan et al. 76 (263).
Palearctic: Berlese 89 (121); Willmann 829 (175); Schweizer 691 (355); 692 (tab. 12 no. 489); Sellnick 709 (57); Bernini 96 (425); 98 (394); Gilyarov 207 (357).
Description: *Adult*: Berlese 89 (121) fig.; Willmann 829 (175) fig.; Hammer 350 (60) fig.; Schweizer 691 (355) fig.; Gilyarov 207 (357) fig.
Key: Berlese 89 (121); Willmann 829 (175); Sellnick 709 (57); Gilyarov 207 (357).
Add. References: Willmann 829 (175); Luxton 531 (463).
Food: Wallwork 789 (262); Luxton 531 (463); Krantz 490 (463).
Ecology: Willmann 829 (175); Hammer 3SO (60); Schweizer 691 (355); 692 (tab. 12 no. 489); Wallwork 788 (173); Sellnick 709 (57); Bernini 96 (425); 98 (394); Behan 72 (42); Wallwork 950 (344); Behan et al. 76 (263).

***Pergalumna gramineta* (Jacot, 1935)** new comb.

Type: IA (Cotypes)
Comb./Syn.: *Zetes graminetum* Jacot, 1935 (440 p. 65)
Galumna graminetum (Jacot, 1935) (469 p. 62)
Distribution: *USA*: Ill. - Jacot 440 (65); Ohio - Jacot 440 (65).
Description: *Adult*: Jacot 440 (65) fig.
Taxonomy: Johnston 469 (62).
Key: Jacot 440 (65).
Ecology: Jacot 440 (65); 454 (642).
Remarks: See comments under *Pergalumna arborea* (Jacot, 1929).

***Pergalumna minor* (Willmann, 1928)**

Type: WHPC
Comb./Syn.: *Galumna minor* Willmann, 1928 (826 p. 154)
Pergalumna minor (Willmann, 1928) (709 p. 57)
Distribution: *USA*: N.Y. - Reeves 673 (27).
Palearctic: Willmann 829 (178); Sellnick 709 (57); Gilyarov 207 (356).
Description: *Adult*: Willmann 826 (154) fig.; 829 (178) fig.; Gilyarov 207 (356) fig.
Key: Willmann 829 (178); Sellnick 709 (57); Gilyarov 207 (356).
Ecology: Willmann 829 (178); Sellnick 709 (57); Reeves 673 (27).

***Pergalumna nervosa* (Berlese, 1914)**

Type: SEA
Comb./Syn.: *Oribates nervosus* Berlese, 1914 (89 p. 127)
Galumna nervosus (Berlese, 1914) (829 p. 176)
Pergalumna nervosus (Berlese, 1914) (719 p. 133)
Zetes nervosus (Berlese, 1914) (440 p. 83)
Galumna retalata Oudemans, 1915 (637 p. 14): (338 p. 115). **Type:** RNH
Zetes emarginatus garmani Jacot, 1935 [nomen nudum] (440, p. 85). **Type:** Unknown
Add. Comb./Syn. Ref.: Jacot 454 (642); Forsslund 193 (354); Gilyarov 207 (357); Subias 7S5 (293).
Distribution: *USA*: Hammer 365 (73) [Q.I.]; Calif. - Jacot 440 (83); Conn. - Jacot 440 (83); D.C. - Berlese 89 (127); Jacot 440 (83); Va. - Sengbusch 719 (133).
Palearctic: Berlese 89 (127); Willmann 829 (176); Jacot 440 (83); Willmann 835 (235); Forsslund 192 (250); 193 (354); Weis-Fogh 817 (206); Hammen 338 (115); Schweizer 691 (355); 692 (tab. 12 no. 490); Kunst 503 (39); Sellnick 709 (57); Rajski 668 (24); Tarras-Wahlberg 765 (29); Moritz 571 (156); (263); Byzova 125 (185); Moritz 572 (71); Hammer 365 (73); Rajski 669 (240); Hammer 370 (423); Rubcova 681 (387); Gilyarov 207 (357); Subias 755 (293).

Ethiopian: Berlese 89 (127).
Description: *Adult*: Berlese 89 (127) fig.; Willmann 829 (176) fig.; Jacot 440 (83) fig.; Schweizer 691 (355) fig.; Gilyarov 207 (357) fig.
Tritonymph: Sengbusch 718 (658) fig.
Deutonymph: Sengbusch 718 (658) fig.
Protonymph: Sengbusch 718 (658) fig.
Larva: Sengbusch 718 (658) fig.
Egg: Sengbusch 718 (658).
Key: Willmann 829 (176); Jacot 440 (83); Sellnick 709 (57); Gilyarov 207 (357).
Add. References: Willmann 829 (176); Hammen 338 (115); Moritz 571 (156); 572 (71); Hammen 344 (30); Subias 755 (293).
Biology: Sengbusch 718 (658); 721 (499); Lebrun 511 (202); Seniczak 1095 (199); Luxton 988 (338).
Food: Woodring 845 (102); Luxton 531 (463).
Ecology: Willmann 829 (176); Jacot 440 (83); 454 (642); Willmann 835 (2353; Forsslund 192 (250); 193 (354); Weis-Fogh 817 (206); Hammen 338 (115); Schweizer 691 (355); 692 (tab. 12 no. 490); Sengbusch 719 (133); Kunst 503 (39); Sellnick 709 (57); Rajski 668 (24); Tarras-Wahlberg 765 (29); Moritz 571 (156); Byzova 12S (185); Moritz 572 (71); Hammer 365 (73); Rajski 669 (240); Hammer 370 (423); Rubcova 681 (387); Wallwork 950 (329); Subias 755 (293).

***Pergalumna paucisetosa* (Jacot, 1929)** new comb.

Type: Unknown
Comb./Syn.: *Galumna paucisetosum* Jacot, 1929 (419, p. 32)
Distribution: *USA*: Conn. - Jacot 419 (32).
Description: *Adult*: Jacot 419 (32).
Taxonomy: Jacot 434 (117).
Remarks: Although this species was described from Connecticut, Jacot (434, p. 117) stated that it "seems to be a Chinese species under a wrong catalogue number."

***Pergalumna weberi* (Jacot, 1935)** new comb.

Type: FSCA
Comb./Syn.: *Zetes weberi* Jacot, 1935 (443, p. 10)
Distribution: *USA*: Fla. - Jacot 443 (10).
Description: *Adult*: Jacot 443 (10) fig.
Key: Jacot 443 (10).
Ecology: Jacot 443 (10).

***Pergalumna weberi plumalae* (Jacot, 1935)** new comb.

Type: FSCA (Cotypes)

Comb./Syn.: *Zetes weberi plumalae* Jacot, 1935 (443, p. 14)
Distribution: *USA*: Fla. - Jacot 443 (14).
Description: *Adult*: Jacot 443 (14) fig. app.
Key: Jacot 443 (14).
Ecology: Jacot 443 (14).

***Pergalumna* sp.**

Distribution: *Canada*: Man. - Oswald and Minty 620 (81); 621 (75).

***Pilogalumna* Grandjean, 1956**

Pilogalumna Grandjean, 1956
Type-species: *Pilogalumna ornatula* Grandjean l956 (290, p. 135)

***Pilogalumna binadalares* (Jacot, 1929)**

Type: MCZ (Cotypes)
Comb./Syn.: *Galumna areolata binadalares* Jacot, 1929 (419, p. 30) *Galumna alatum binadalares* Jacot, 1929 (434, p. 103)
Galumna binadalare [!] Jacot, 1929 (469, p. 62)
Pilogalumna binadalares (Jacot, 1929) (586, p. 755)
Distribution: *USA*: Va. - Jacot 419 (30); 434 (103).
Description: *Adult*: Jacot 419 (30); 434 (103) fig.
Key: Jacot 434 (103).

***Pilogalumna cozadensis* Nevin, 1976**

Type: NYSM
Comb./Syn.: *Pilogalumna cozadensis* Nevin, 1976 (586, p. 751)
Distribution: *USA*: Nebr. - Nevin 586 (751).
Description: *Adult*: Nevin 586 (751) chaet., fig.
Ecology: Nevin 586 (75l).

***Pilogalumna tenuiclava* (Berlese, 1908)**

Type: SEA
Comb./Syn.: *Oribates tenuiclavus* Berlese, 1908 (84, p. 7)
Allogalumna tenuiclava (Berlese, 1908) (338, p. 116)
Galumna tenuiclavus (Berlese, 1908) (829, p. 177)
Pilogalumna tenuiclava (Berlese, 1908) (290, p. 135)

Galumna areolata Willmann, 1923 (823, p. 471): (338, p. 116). **Type:** WHPC
Galumna radiata Sellnick, 1928 (70O, p. 8): (829, p. 177). **Type:** Destroyed
Galumna alatum (Schrank, 1803) sensu Jacot, 1934 (685, p. 214): (434, p. 102)
Distribution: *USA*: Hammer 365 (73) [Q.I.]; Alaska - Hammer 354 (25); Travé 774 (92); Lions 520(443); Rajski 669 (233); Conn. - Jacot 434 (98); Ill. - Jacot 434 (98); Mass. - Jacot 434 (98); N.Y.- Jacot 434 (98); Ohio - Jacot 434 (98); Va. - Sengbusch 719 (133).
Palearctic: Berlese 84 (7); 89 (120); Willmann 829 (177); Grandjean 217 (31); Hammen 338 (116); Schweizer 691 (356); Travé 774 (92); Schweizer 692 (tab 12 no. 491); Kunst SO3 (39); Sellnick 709 (58); Rajski 668 (20); Tarras-Wahlberg 765 (28); Davis 148 (70); Travé 777 (232); Lebrun 507 (103); Krivoluckij 495 (l85); Lions 519 (507) [!]; 520 (443); Hammer 365 (73); Bernini 96 (425); Rajski 669 (233); Bernini 98 394); Gilyarov 207 (359); Luxton 532 (l85); Lions 523 (172); Hammer 373 (58).
Description: *Adult*: Berlese 84 (7);89 (120) fig.; Willmann 829 (177) fig.; Grandjean 217 (31) chaet.; Schweizer 691 (356) fig.; Gilyarov 207 (359) fig.
Protonymph: Grandjean 217 (3l) fig. app.
Taxonomy: Grandjean 290(135).
Key: Berlese 89 (l20); Willmann 829 (l77); Sellnick 709 (58); Gilyarov 207 (359).
Add. References: Willmann 829 (l77); Jacot 441 (489); Hammen 338 116); 344 (19).
Biology: Seniczak 1095 (l99).
Food: Nannelli 996 (308).
Ecology: Berlese 89 (l20); Willmann 829 (l77); Grandjean 217 (31); Hammen 338 116); Hammer 354 (25); Schweizer 691 (356); Travé 774 (92); Schweizer 692 (tab 12 no. 491); Sengbusch 719 (133); Kunst 503 (39); Sellnick 709 (58); Rajski 668 20); Tarras-Wahlberg 765 (28); Davis 148 (70); Travé 777 (232); Lebrun 507 (103); Krivoluckij 495 (185); Lions 519 (507) [!]; 520 (443); Hammer 365 (73); Bernini 96 (425); Rajski 669 (233); Bernini 98 394); Luxton 532 (185); Lions 523 (172); Wallwork 950 (154, 330); Hammer 373 (58); Nannelli 997 (350).
Remarks: Jacot (434,p.102) implied that *Galumna alata* (Schrank, 1803)(685,p.214) was synonymous with *Galumna tenuiclava* (Berlese, 1908) but modern authors do not seem to have accepted this idea. The identity of Schrank's *G. alata* is unclear (829, p.175-176).

***Pilogalumna tenuiclava halli* (Jacot, 1929)** new comb.

Type: MCZ, USNM (Cotypes)
Comb./Syn.: *Galumna areolata halli* Jacot, 1929 (419, p. 30)
Galumna alatum halli Jacot, 1929 (44S, p. 6S)
Distribution: *USA*: Calif. - Jacot 419 (30); 445 (65).
Description: *Adult*: Jacot 419 (30); 44S (65) fig.
Ecology: Jacot 445 (65).

***Pilogalumna tenuiclava hispida* (Jacot, 1935)** new comb.

Type: FSCA (Cotypes)
Comb./Syn.: *Galumna alatum hispidum* Jacot, 1935 (443, p. 27)
Distribution: *USA*: Fla. - Jacot 443 (27).
Description: *Adult*: Jacot 443 (27) fig.; 454 (646) fig.
Key: Jacot 443 (27).
Ecology: Jacot 443 (27).

***Pilogalumna sp. cf. bloemfonteinensis* Engelbrecht, 1972**

Distribution: *USA*: N.M. - Wallwork et al. 1229 (169).

Trichogalumna Balogh, 1960

Trichogalumna Balogh, 1960
Type-species: *Pilogalumna (?) lunai* Balogh, 1960 (1117, p. 26).

***Trichogalumna* n. sp.**

Distribution: *Canada*: Que. - Smith 743 (tab. 20); Smith et al. 1223 (63).

UNPLACED BRACHYPYLINA

NIPHOCEPHEIDAE TRAVÉ, 1959

Remarks: This family has sometimes been placed in the Carabodoidea (42, p. 156; 207, p. 188) but Travé (1224, p. 497) has shown that it clearly has no relationship to that group; rather it belongs among eupheredermous Brachypylina. Since Travé suggested no superfamilial position, and none is evident at present, we have left it unplaced.

***Niphocepheus* Balogh, 1943**

Niphocepheus Balogh, 1943
Type-species: *Cepheus nivalis* Schweizer, 1922 (1190, p. 34).

Niphocepheus sp.

Distribution: *USA*: Wash. - Norton (RAN unpub.).

PART III. SPECIES INCERTAE SEDIS

NOMINA INQUIRENDAE

Balzania microptera (Canestrini, 1896)

Type: Lost
Comb./Syn.: *Oribata microptera* Canestrini, 1896 (127, p. 90)
Balzania microptera (Canestrini, 1896) (424, p. 429)
Distribution: *USA*: Minn. - Freeman 20O (112).
Neotropical: Michael 564 (15).
Description: *Adult:* Canestrini 127 (90); Michael 564 (15).
Key: Michael 564 (15).
Ecology: Freeman 20O (112).
Remarks: This is the type-species of *Balzania* Jacot, 1929.

Damaeus bulbipedata Packard, 1887

Type: Unknown
Comb./Syn.: *Damaeus bulbipedata* Packard, 1887 (647, p. 42)
Oribata bulbipedata (Packard, 1887) (57, p. 613)
Distribution: *USA*: Ky. - Packard 647 (42); Ewing 169 (386).
Description: *Adult:* Packard 647 (42).
Remarks: Based on the original description, this species does not belong to the genus *Damaeus*, but is probably a member of the Damaeidae (609, p. 332).

Galumna hubbardi Banks, 1915

Type: Unknown
Comb./Syn.: *Galumna hubbardi* Banks, 1915 (63, p. 92).
Description: *Adult*: Banks 63 (92) fig.
Remarks: Banks (63, p. 92) figured this mite, but it was not described. Nevertheless the name is available (see 747, Articles 12 and 16).

Hermannia trinebulosa Riley, 1885

Type: Unknown
Comb./Syn.: *Hermannia (?) trinebulosa* Riley, 1885 (676, p. 216)
Distribution: *USA*: Banks S7 (614); Ewing 169 (386).
Description: *Adult*: Riley 676 (216) (?).
Taxonomy: Michael 564 (84).

Hoploderma capitata Hall, 1911

Type: Unknown
Comb./Syn.: *Hoploderma capitata* Hall, 1911 (332, p. 508)
Distribution: *USA*: Conn. - Hall 332 (508).
Description: *Adult*: Hall 332 (508).
Nymph: Hall 332 (508) fig.
Taxonomy: Jacot 426 (258).
Ecology: Hall 332 (508).
Remarks: This is a nymph of a brachypyline oribatid.

Lohmannia spinosa Hall,1911

Type: Unknown
Comb./Syn.: *Lohmannia spinosa* Hall, 1911 (333, p. 645)
Distribution: *USA*: Calif. - Hall 333 (645).
Description: *Adult*: Hall 333 (645) fig.
Ecology: Hall 333 (645).
Remarks: This is a nymph of a brachypyline oribatid.

Notaspis aequalis Michael, 1890

Syntype: BM(NH)
Comb./Syn.: *Notaspis aequalis* Michael, 1890 (563, p. 419)
Distribution: *USA*: Ill. - Ewing 173 (103).
Palearctic: Michael 563 (419); 564 (46).
Description: *Adult*: Michael 563 (419) fig.; 564 (46); Ewing 173 (103) fig.
Key: Michael 564 (46).

Notaspis minuta Ewing, 1909

Type: Unknown (see remarks)
Comb./Syn.: *Notaspis minuta* Ewing, 1909 (170, p. 128)
Distribution: *USA*: - Ewing 170 (128).
Description: *Adult*: Ewing 170 (128) fig.
Key: Ewing 170 (128).
Ecology: Ewing 170 (128).
Remarks: A single "autotype" specimen, from Ithaca, N.Y., is present in the USNM collection. It is labeled "*Notaspis minuta*" with "*Notaspis*" crossed out and "*Oribatula*" substituted in Ewing's handwriting. The specimen is a true *Oribatula*, in the *tibialis* group, and does not correspond to Ewing's original description of *Notaspis minuta* (including being almost twice as large as the latter). Perhaps

Ewing was comparing this "autotype" with his *Liacarus minutus*, which is an *Oribatula* of the *tibialis* group, according to his original description.

***Notaspis nuda* Hall, 1911**

Type: Unknown
Comb./Syn.: *Notaspis nuda* Hall, 1911 (333, p. 641)
Distribution: *USA*: Calif. - Hall 333 (641).
Description: Hall 333 (641) fig.
Ecology: Hall 333 (641).

***Notaspis pectinata* Hall, 1912**

Type: Unknown
Comb./Syn.: *Notaspis pectinata* Hall, 1912 (334, p. 749)
Distribution: *USA*: Calif. - Hall 334 (749).
Description: *Adult*: Hall 334 (749) fig.
Ecology: Hall 334 (749).
Remarks: This is not Michael's *Notaspis pectinata* (562, p. 392), which is the type-species of *Oribella* Berlese, 1908. It is a member of the Oribatulidae, in the *Lucoppia/Phauloppia* complex of genera.

***Notaspis sculptilis* Warburton and Pearce, 1905**

Syntype: BM(NH)
Comb./Syn.: *Notaspis sculptilis* Warburton and Pearce, 1905 (807, p. 567)
Distribution: *USA*: Ill. - Ewing 173 (106).
Palearctic: Warburton and Pearce 807 (567).
Description: *Adult*: Warburton and Pearce 807 (567) fig.; Ewing 173 (106) fig.
Ecology: Warburton and Pearce 807 (567).

***Nothrus malleolus* Karpelles, 1884**

Type: Unknown

Comb./Syn.: *Nothrus malleolus* Karpelles, 1884 (474, P. 34)

Distribution: *USA*: Pa. - Karpelles 474 (34); Banks 57 (615). **Description:** *Adult*: Karpelles 474 (34).

***Nothrus ovivorus* Packard, 1868**

Type: Unknown

Comb./Syn.: *Nothrus ovivorus* Packard, 1868 (646, P. 664)

Distribution: *USA*: Mass. - Packard 646 (664); Osborn and Underwood 935 (9); Banks 59 (17).

Description: *Adult*: Packard 646 (664) fig.; Riley 941 (175) fig.; 942 (IO2) fig.

Remarks: Banks (45, p. 3) suggested that this species may be conspecific with *Oribates aspidioti* Ashmead, 1879, which is itself a species of uncertain status.

Nothrus pileiformis Karpelles, 1884

Type: Unknown

Comb./Syn.: *Nothrus pileiformis* Karpelles, 1884 (474, P. 33)

Distribution: *USA*: Pa. - Karpelles 474 (33); Michael 564 (74). **Description:** *Adult*: Karpelles 474 (33); Michael 564 (74).

Key: Michael 564 (74).

Oribata illinoisensis Ewing, l909

Type: Unknown

Comb./Syn.: *Oribata illinoisensis* EWing, 1909 (169, p. 363)

Distribution: *USA*: Ewing 169 (363).

Description: *Adult*: Ewing 169 (363) fig.; 176 (101) fig.

Key: Ewing 169 (363).

Remarks: This appears to be a species of *Chamobates*, but needs to be recollected.

Oribata parvilamellata Ewing, 1909

Type: Unknown

Comb./Syn.: *Oribata parvilamellata* Ewing, 1909 (169, p. 355, 382)

Distribution: *USA*: Ill. - Ewing 169 (355).

Key: Ewing 169 (355).

Oribates aspidioti Ashmead, 1879

Type: Unknown

Comb./Syn.: *Oribates aspidioti* Ashmead, 1879 (33, p. 93)

Distribution: *USA*: Fla. - Ashmead 33 (93).

Description: *Adult*: Ashmead 33 (93).

Add. References: Osborn and Underwood 935 (9).

Remarks: See comments under *Nothrus ovivorus* Packard, 1869.

Oribella castanea (Hermann, 1804)

Type: Not designated

Comb./Syn.: *Notaspis castaneus* Hermann. 1804 (389, p. 89)

Banksinoma castanea (Hermann, 1804) (365, p. 70)

Oribella castanea (Hermann, 1804) (349, p. 36)

Distribution: *USA*: Hammer 365 (70) [Q.I.]; Alaska - Hammer 354 (13); Behan 73 (393); Mich. - Wallwork 788 (172).

Canada: Nfld. - Behan 73 (393); N.W.T. - Behan 73 (393); Que. - Behan 72 (41); Behan et al. 76 (263); Y.T. - Behan 73 (393).

Palearctic: Hammer 349 (36); MacFadyen 533 (IO9); Hammer 365 (70); Danks 971 (402).

Description: *Adult:* Hermann 389 (89).

Ecology: MacFadyen 533 (109); Hammer 354 (13); Wallwork 788 (172); Hammer 365 (70); Behan 72 (41); 73 (393); Behan et al. 76 (263); Danks 971 (402).

Remarks: The status of *Notaspis castanea* Hermann, 1804 is uncertain (912, p. 437), but Grandjean (270, p. 346) thought it was likely *Phauloppia lucorum* (C.L. Koch, 1841). Most of the above records may be for *Banksinoma lanceolata* (Michael, 1885).

***Oribella transitorius* (Berlese, l908)**

Syntypes: SEA

Comb./Syn.: *Protoribates transitorius* Berlese, 1908 (84, p. 1)

Oribella transitorius (Berlese, 1908) (92, p. 338)

Distribution: *USA*: Mo. - Berlese 84 (l).

Description: *Adult:* Berlese 84 (l).

Remarks: Fujikawa (912, p. 464) removed this species from the Thyrisomidae [=Banksinomidae]. Its identity is uncertain, but affinities with the Metrioppiidae were suggested.

***Phthiracarus retalticus* Stoll, 1893**

Type: Unknown (see remarks)

Comb./Syn.: *Phthiracarus retalticus* Stoll, 1893 (1018, p. 27)

Distribution: *USA*: Conn. - Hall 334 (750).

Description: *Adult*: Stoll 1018 (27); Hall 334 (750) fig.

Ecology: Hall 334 (750).

Remarks: Stoll (1018, p. 27) commented that he drew and described the tarsus of this species 11 years before in Retalholen, Guatemala, and had no preserved specimens at the time he described the above species in 1893.

NOMINA NUDA

Belba johnstoni Abbatiello, 1967

Remarks: Abbatiello (1, p. 3705-B) mentioned this name in Dissertation Abstracts, but a description was never published.

Diapterobates parvenalis Behan, 1978

Remarks: This refers to an undescribed species of Diapterobates (V. Behan-Pelletier, pers. comm.) from Alaska (73, p. 395).

Liacarus itascensis Freeman, 1952

Remarks: Woolley (876, p. 361) mentioned that a description of this species from Minnesota (20O, p. 113) was forthcoming, but that it may be in a different genus. It was never published.

Parhypochthonius graciliors Sengbusch, 1979

Remarks: This name was listed by Sengbusch (1012, p. 22) from Virginia. "(Jacot) 1938" was given as the author, but Jacot described no such species.

Peloribates hammeri Wallwork et al., 1984

Remarks: Wallwork et al. (1229, p. 169) used this name but a description is not yet published.

UNAVAILABLE NAMES

This section contains infrasubspecific taxa ("hybrids", "mutants" and a quadrinomen) proposed in categories not recognized by the International Code of Zoological Nomenclature (see 747, Articles 1 and 45c).

Ceratozetes subaquila subaquila curtispina Jacot, 1936

Type: Unknown
Comb./Syn.: *Ceratozetes subaquila subaquila curtispina* Jacot, 1936 (447, p. 550)
Ceratozetes graciis subaquila curtispina Jacot, 1937 (452, p. 245)
Distribution: *USA*: Ohio - Jacot 447 (550).
Description: *Adult*: Jacot 447 (550) fig.
Ecology: Jacot 447 (550).

Hoplophorella cucullata floridae x Hoplophorella varians Jacot, 1933

Type: Unknown
Comb./Syn.: *Hoplophorella cucullata floridae x varians* Jacot, 1933 (430, p.25)
Distribution: *USA*: Fla. - Jacot 430 (254).
Description: *Adult*: Jacot 430 (254).

Protokalumma depressum x Protokalumna pterotum Jacot, 1935

Type: Unknown
Comb./Syn.: *Protokalumma depressum x pterotum* Jacot, 1935 (443, p. 3
Distribution: *USA*: Fla. - Jacot 443 (3).
Description: *Adult*: Jacot 443 (3).
Ecology: Jacot 443 (3).

Pseudotritia ardua antetriheterodacylum Jacot, 1933

Type: Unknown
Comb./Syn.: *Pseudotritia ardua antetriheterodactylum* Jacot, 1933 (340, p. 256)
Rhysotritia ardua antetriheterodactylum (Jacot, 1933) (1077, p. 45)
Distribution: *USA*: Fla. - Jacot 430 (256).
Description: *Adult:* Jacot 430 (256).
Remarks: This was proposed as a mutant; *P. ardua* is now in *Rhysotritia* Markel and Meyer, 1959.

Zetes emarginatus bidens Jacot, 1935

Type: Unknown
Comb./Syn.: *Zetes emarginatus bidens* Jacot, 193S (440, p. 82)
Distribution: *USA*: Conn. - Jacot 440 (82).
Description: *Adult:* Jacot 440 (82) fig.
Ecology: Jacot 440 (82).
Remarks: This was proposed as a mutant; *Z. emarginatus* is now in *Pergalumna* Grandjean, 1936.

UNPLACED GENERA AND SPECIES

The following taxa are referrable to any one of many modern genera.

Oribata sp.

Distribution: *Canada*: N.W.T. - Oliver 619 (179).

Notaspis sp.

Distribution: *USA*: Mich. - Wallwork 788 (173).

MISIDENTIFICATIONS

Belba sp.? clavipes, Hermann, 1804

Remarks: *Damaeus (Paradamaeus) clavipes,* Hermann, 1804 is not known from North America. Hammer's (354, p. 10) questionable Alaskan record relates to another Damaeidae species (the specimen is a nymph and is present in the USNM). Behan's (73, p. 390) *Epidamaeus clavipes* is not Hermann's *clavipes* (Behan, pers. comm.).

Metabelba montana sensu Hartenstein, 1962

Comb./Syn.: *Metabelba montana* sensu Hartenstein, 1962 (376. p. 203); non Kulczynski, 1902

Distribution: *USA*: N.Y. - Hartenstein 378 (362).

Description: *Adult*: Hartenstein 378 (362) fig.

Tritonymph: Hartenstein 378 (362) chaet.

Deutonymph: Hartenstein 378 (362) chaet.

Protonymph: Hartenstein 378 (362) chaet.

Larva: Hartenstein 378 (362) chaet.

Egg: Hartenstein 378 (362).

Biology: Hartenstein 378 (362).

Food: Hartenstein 376 (203); 378 (362).

Ecology: Hartenstein 378 (362).

Remarks: Hartenstein's 1962 (376, p. 203) record of *Metabelba montana* (Kulczynski, 1902) is erroneous (933, p. 538); it refers to an undescribed species near *Epidamaeus inaequipes* (Banks, 1947).

Nothrus rugulosus sensu Sengbusch, 1951

Comb./Syn.: *Nothrus rugulosus* sensu Sengbusch, 1951 (717, p. I57); non Banks, 1895

Distribution: *USA*: N.Y. - Sengbusch 717 (157); Va. - Sengbusch 719 (130).

Description: *Adult:* Sengbusch 717 (157) fig.

Ecology: Sengbusch 717 (157); 719 (130).

Remarks: The mite figured by Sengbusch (717, p. 157) as *Nothrus rugulosus* is not Banks' species, which is now synonymized with *Camisia horrida* (Hermann, 1804).

Oribatula minuta sensu Hartenstein, 1962

Comb./Syn.: *Oribatula minuta* sensu Hartenstein, 1962 (376, p. 203); non Ewing, 1909.

Food: Hartenstein 376 (203); Luxton 631 (463).

Remarks: Hartenstein (376, p. 203) might be referring to *Oribatula minuta* (Ewing, l909) and not "(Banks)" as he stated.

PART V: REFERENCES

The bibliography contains a main section and six addenda. The additions continue the numerical sequence and authors are arranged alphabetically in each section.

A year enclosed in square brackets, usually following the volume number of a journal, indicates a date that appeared on the publication but is different from the actual year of issue. The dates for most of Berlese's publications are from the reprintings edited by L. van der Hammen (77, 345). C.L. Koch's works have been problematical because of conflicting dates given by various authors for the same "Hefte". Sherborn (1098, p. 568) noted that Koch's volumes formed part of Panzer's "Fauna Insect. German." by pre-issue, co-issue and immediate reprint. We have used the earliest date of publication either by Koch or Panzer as given by Sherborn (op. cit.), however, we have assumed that 1844 for hefte 33, cited out of chronological sequence in 1841, is a lapsus, since Oudemans (1157, p. 3330) cites it in 1841.

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PART VI. INDEX

All oribatid taxonomic names, including superfamily, family, genus, species, and subspecies, are listed. Diacritical marks and hyphens have been omitted from the index, although they have usually been retained in the text to indicate the original spelling. Orthographic variations in spelling (e.g., *alata* versus *alarum)* are given separately and taxa without specific names (e.g. , *Acaronychus* sp.) are listed under "sp". Page numbers for synonymic and homonymic names are in italics; other entries are in Roman type. Fossil species are preceded by a dagger (†) .

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