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July 2007

HOST AND DISTRIBUTION LISTS OF MITES (ACARI), PARASITIC AND PHORETIC, IN THE HAIR OR ON THE SKIN OF NORTH AMERICAN WILD MAMMALS NORTH OF MEXICO: RECORDS SINCE 1974

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HOST AND DISTRIBUTION LISTS OF MITES (ACARI),
PARASITIC AND PHORETIC, IN THE HAIR OR ON THE SKIN OF
NORTH AMERICAN WILD MAMMALS NORTH OF MEXICO:
RECORDS SINCE 1974

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ABSTRACT.- Information concerning mites found in the hair of wild mammals of North America north of Mexico is summarized for records accumulated since a similar paper was published by Whitaker and Wilson in 1974. Chiggers, ticks and species that burrow into or under the skin are generally excluded although follicle-inhabiting mites are included. Included are lists a) of the mites organized taxonomically, b) hosts from which each species has been reported, and c) states and provinces citing references for each separate record.

INTRODUCTION

Whitaker and Wilson (1974) published information on mites parasitic and phoretic in the hair or on the skin of wild mammals of North America north of Mexico, including lists of mites by host and by state or province. Kennedy and Newman (1986) published information on the parasites of vertebrates of Canada, including lists by parasite and by host. Since that time there have been numerous new records published, and a number of taxonomic changes of both mites and hosts have occurred.

This article summarizes published information on mites found in the hair or on the skin of North American wild mammals, on their hosts and their geographic distribution not included in Whitaker and Wilson (1974). The present list includes papers published after 1972, and also several papers inadvertently omitted from the 1974 paper, as follows: Allred (1970), Cameron (1938), Cross (1965), Dubinina (1964), Eads and Dalquest (1954), Fain (1967a, b), Fain and Johnston (1970), Gurney and Hussey (1967), Horsfall (1967), Hyland and Fain (1968), Johnson (1966), Konno (1957), Lang (1972), Linzey and Linzey (1968), Martin (1972), Rausch and Rausch (1968), Redington and Jachowski (1972), Sorenson (1962), Thies (1967) and Twinn (1935).

Internal parasites such as those found in the internal organs or nasal passages, or those that bury themselves in the skin (Demodicidae, Sarcoptidae, Psoroptidae) are excluded, although glycyphagid and chortoglyphid mites inhabiting follicles are included. Chiggers and ticks are excluded, as are parasites of domestic animals. Nest records of ectoparasitic species and species not regularly associated with mammals, such as free-living forms found occasionally in fur, are generally excluded. Hosts listed only to genus are included only if the mite was not recorded from a species in that genus. Hosts listed only by common name are omitted except when it is clear which species is involved or if it is the only record for a North American species of mite. A number of

new species of mites have been included that have been described since the 1974 article appeared. These may be determined by examining the authors and dates in the initial list.

The mite families are generally those recognized by Wooley (1988), but see also Evans (1992), Krantz (1978) and OConnor (1982). The only mite family included in the 1974 article, but not included here is the Labidophoridae. Species previously placed in the Labidophoridae are now included in the Glycyphagidae (subfamily Labidophorinae). Several families that were not included in the 1974 article are included here. The Ameroseiidae, Macrochelidae and Pygmephoridae contain species phoretic on mammals and are included in this paper. Likewise mites of the family Chortoglyphidae living in follicles were not included in the earlier paper, but are included in this paper. Formerly the family Cloacaridae included three Eurasian forms. Now a parasitic species in this family has been found in Oregon (Fain and Bochkov, 2001), therefore this family has been added to this report. No North American species were known from the families Atopomelidae, Echimyopodidae, and Rhinocoptidae at the time of publication of the previous paper, but species in these families have been recorded or described since. The genera *Olabidocarpus*, *Alabidocarpus* and *Schizocarpus* were included in the Listrophoridae in 1974 but are now referred to the family Chirodiscidae.

Taxonomy of the mammals generally follows Jones et al. (1997) and Wilson and Reeder (2005). Hall (1981) was useful for geographic information on the hosts. Some changes in mammal taxonomy should be noted. Long-eared bats previously in the genus *Plecotus* are now in the genus *Corynorhinus*. The North American pipistrells have been removed from the genus *Pipistrellus* and split into two new genera: western pipistrelle, *Parastrellus hesperus* and eastern pipistrelle *Perimyotis subflavus*. Chipmunks of the genus *Eutamias* are now all included in the genus *Tamias*. *Peromyscus floridanus* is now included in the genus *Podomys*. The species of woodrat in the

northeastern United States is now recognized as *Neotoma magister* rather than *N. floridana*. *Arvicola richardsoni* is now included in the genus *Microtus*. Voles previously in the genus *Lagurus* are now included in the genus *Lemmiscus* and those previously in the genus *Clethrionomys* are now in the genus *Myodes*. Species previously classed as *Perognathus*, *baileyi*, *californicus*, *fallax*, *formosus*, *hispidus*, *intermedius*, *nelsoni*, *penicillatus* and *spinatus* are now in the genus *Chaetodipus*.

Some general works should be mentioned. The book edited by Kim (1985), *Coevolution of parasitic arthropods on mammals*, includes chapters by F. J. Radovsky on mesostigmatid mites, by W. B. Nutting on prostigmatid mites and by A. Fain and K. E. Hyland on astigmatid mites. These are excellent sources of information about relationships of mammalian ectoparasitic mites.

Forrester (1992) has summarized information on parasites of Florida mammals. The American Society of Mammalogists has published three monographs with extensive chapters on parasites, one on *Peromyscus* with the chapter on parasites by Whitaker (1968), one on *Microtus* with the chapter by Timm (1985), and one on heteromyid rodents with the chapter by Whitaker et al. (1993).

Whitaker (1982, 1991) summarized information on ectoparasites of mammals of Indiana. Webb and Loomis (1977) authored a chapter on ectoparasites in a monograph on phyllostomid bats, and Yunker (1973) published an article on mites in a book on parasites of laboratory animals. Whitaker and Morales-Malacara (2005) summarized information on ectoparasites of mammals of Mexico.

THE FAMILIES OF MITES

The families of mites included in this work are indicated below. Changes in their taxonomic treatment are outlined when appropriate and some of the major literature published since the 1974 paper is mentioned. Some families have been added that were not included in 1974.

AMEROSEIIDAE

A number of ameroseiid records had previously been reported from North American mammals as *Kleemannia* sp., but this family was not included in the 1974 paper. Elsen and Whitaker (1985) described and presented a key to the forms on mammals previously identified as *Kleemannia*. They described a new genus, *Sertitympanum*, with three species. The females are phoretic in fur. Mites in this genus are easily recognized in having a triple gear or cog-like configuration on the sternal shield.

Sertitympanum contiguum Elsen & Whitaker 1985- CA, OR, *Dipodomys elephantinus*, *D. ordii*, *D. venustus*.

S. exarmatum Elsen & Whitaker 1985- OR, WY.; *Dipodomys ordii*, *Lemmiscus curtatus*,

Onychomys leucogaster, *Perognathus parvus*, *Thomomys talpoides*.

S. separationis Elsen & Whitaker 1985- IN,OK,WY; *Onychomys leucogaster*, *Peromyscus maniculatus*, *Spermophilus tridecemlineatus*.

ATOPOMELIDAE

This family is widespread in the New and Old World tropics (Fain, 1979b) but no species from the family had been reported from North America as of 1974. Three species of atopomelids in three genera are presently known in North America, *Myocastorobia myocastor* from the coypu and *Didelphilichus serrifer* from the opossum, previously unreported. *Chirodiscoides oryzomys* was reported from *Oryzomys palustris* as a listrophorid in the 1974 paper, but it is now placed in the Atopomelidae in the genus *Oryzomyisia*. There are no new reports of it since the 1974 paper. Atopomelids are listrophorid-like mites with legs I and II only slightly modified for clasping and they lack caruncles.

Didelphilichus serrifer Fain, 1970- FL, GA, IN, TN; *Didelphis virginiana*.

Myocastorobia myocastor Fain, 1970)- LA; *Myocastor coypus*.

CHEYLETIDAE

Some new cheyletid species but no new genera have been reported as mammal associates in this family since the 1974 article. Fain, Smiley and Gerson (1997) presented a new classification for the Cheyletidae including new taxa. Most cheyletids are free-living predators; those listed here are either parasitic or occasionally associated with mammals. Mites of this family generally have one or more dorsal shields and a strong peritreme which frames the gnathosoma. A large terminal claw, usually toothed, is on the palpal tibia, and two claws and an empodium are usually present on all legs.

Cheletonella vespertilionis Womersley, 1941 – IN; *Eptesicus fuscus*.

Cheyletiella parasitivorax (Megnin, 1878)- IN; *Sylvilagus floridanus*.

Cheyletus cacahuamilpensis(nr) Baker, 1949- OK; *Myotis velifer*.

C. eruditus (Schrank, 1781)- IN, NJ, TX; *Bassariscus astutus*, *Didelphis virginiana*, *Peromyscus leucopus*, *Rattus norvegicus*.

C. linsdalei Baker, 1949- OR; *Spermophilus beldingi*.

C. malaccensis Oudemans, 1903- IN; *Neotoma floridana*, *N. magister*.

Eucheyletia bishoppi Baker, 1949- IL, IN, MA, NH, OR; *Microtus pinetorum*, *Neotoma cinerea*, -

Sorex fumeus, *S. pacificus*, *S. trowbridgii*, *Spilogale putorius*, *Tamias striatus*.

E. hardyi Baker, 1949- TX; *Bassariscus astutus*.

CHIRODISCIDAE

This family was not included in the 1974 article. Chirodiscids are tiny tubular listrophorid-like mites with legs I and II highly modified for clasping hairs. Four of the North American chirodiscid genera, *Alabidocarpus*, *Dentocarpus*, *Olabidocarpus* and *Schizocarpus* were included

in the family Listrophoridae in the 1974 article. *Schizocarpus* includes the beaver fur mites and had been thought to comprise only one species, *S. mingaudi*, but Dubinina (1964) found the Eurasian beaver harbored numerous species, many of them confined to particular areas on the host. A number of additional species in this genus have now been described from the beaver in North America (Fain et al., 1984; Fain and Whitaker, 1988). A new species in a fifth North American genus, *Lutrilichus* Fain, has been described from *Mustela erminea* by Fain et al. (1974).

Alabidocarpus calcaratus Lawrence, 1952- CO, MI, NM, OR; *Myotis californicus*, *M. lucifugus*,
M. occuluts, *M. volans*.

A. nr. Eptesicus – NM; *Myotis occultus*

Dentocarpus macrotrichus Dusbabek & Cruz, 1966- FL; *Tadarida brasiliensis*.

Lutrilichus canadensis Fain, Lukoschus, Kok & Clulow, 1974- ON; *Mustela erminea*.

Olabidocarpus whitakeri McDaniel & Coffman, 1970- IL, IN; *Myotis austroriparius*, *M.*
grisescens, *M. septentrionalis*.

Schizocarpus alaskensis Fain & Whitaker 1988- AK, ME; *Castor canadensis*.

S. centralis Fain & Whitaker 1988- AK; *Castor canadensis*.

S. contrarius Fain & Whitaker 1988- AK, IN; *Castor canadensis*.

S. distinctus Fain & Whitaker 1988- AK, ME, MA; *Castor canadensis*.

S. furcatus Fain, Whitaker & Smith, 1984- AK, IN; *Castor canadensis*.

S. indianensis Fain, Whitaker & Smith, 1984- AK, IN, ME, MA; *Castor canadensis*, *Ondatra*
zibethicus.

S. inversus Fain, Whitaker & Smith, 1984- AK, IN, ME, MA; *Castor canadensis*.

S. mingaudi Trouessart, 1896- AK, ID, IN, ME; *Castor canadensis*

S. paramingaudi Fain & Whitaker 1988- AK, IN, ME, MA, OR; *Castor canadensis*.

S. postannulatus Fain & Whitaker 1988- AK, IN, ME, MA; *Castor Canadensis*

S. posticus Fain & Whitaker 1988- AK, IN; *Castor canadensis*.

S. protinus Fain & Whitaker 1988- AK, ME; *Castor canadensis*.

S. reductus Fain & Whitaker 1988- AK, ME; *Castor canadensis*.

S. spinifer Fain, Whitaker & Smith, 1984- AK, IN, ME, MA; *Castor canadensis*.

S. subvirgulatus Fain, Whitaker & Smith, 1984- AK, IN, ME, MA; *Castor canadensis*.

S. tetrapilis Fain, Whitaker & Smith, 1984- AK, IN, ME; *Castor canadensis*.

S. virgulatus Fain, Whitaker & Smith, 1984- IN, MA; *Castor canadensis*.

CHORTOGLYPHIDAE

This family was not included in the 1974 article, but we have included it here because some species it contains are known to be follicle mites. These are tiny mites and may often be seen protruding from the tail follicles of the hosts. There are five species of North American chortoglyphid follicle mites.

Aplodontopus latus Fain, 1967- BC, OR; *Aplodontia rufa*.

A. marmotophilus Krantz, O'Conner, Foreyt and Fain, 2003 – WA, *Marmota flaviventris*.

A. micronyx Fain & Spicka, 1977- IN; *Spermophilus tridecemlineatus*.

A. sciuricola Hyland & Fain, 1968- IN, MA, MS, RI, TN; *Mustela frenata*, *Tamias striatus*.

Chrotoglyphus arcuatus Cudmore, 1986- IN; *Neotoma floridana*, *Zapus hudsonius*

CLOACARIDAE

Previously this family included 3 Eurasian forms and was not included in the 1974 article. Now a parasitic species of this family has been found in Oregon (Fain and Bochkov, 2001), therefore adding this family to this report.

Epimyodex soricis Fain and Bochkov, 2001 – OR; *Sorex trowbridgii*.

DERMANYSSIDAE

There have been no taxonomic changes that affect North American members of this family since the 1974 article. Mites of the genus *Liponyssoides* are mammal parasites, but those of the genus *Dermanysus* are bird parasites that occasionally are found on mammals. Dermanyssids can be recognized from other mesostigmatid mites by the elongate distal segment and very tiny chelate portion of the chelicerae.

Dermanyssus gallinae (DeGeer, 1778)- ID; *Perognathus parvus*.

D. gallinoides Moss, 1966- OR; *Glaucomys sabrinus*.

Liponyssoides sanguineus (Hirst) – SC; *Mus musculus*.

ECHIMYOPIDAE

The genus *Echimyopus* (Fain, 1967) had not been found in North America in 1974 thus was not included in the earlier article. *Echimyopus* when described was placed in the Glycyphagidae but has recently been placed in its own family, the Echimyopidae. Two species have been reported from North America, *E. dasypus* (from a nine-banded armadillo shipped to England from Florida), and *E. nyctomys*, from squirrels of the genus *Sciurus* from Indiana. However, the specimens identified as *E. nyctomys* have now been reidentified as *E. orphanus*.

Echimyopus dasypus Fain, Lukoschus, Louppen & Mendez, 1973- FL; *Dasypus novemcinctus*.

E. orphanus Fain & Phillips, 1977- IN; *Sciurus carolinensis*, *S. niger*.

GLYCYPHAGIDAE

Labidophoridae was listed as a separate family in the 1974 article, but most of the mites in this group are now included in the subfamily Labidophorinae of the family Glycyphagidae. A few adult mites in this family are known from mammals, but most records of glycyphagids on mammals are of hypopi (generally inactive, phoretic deutonymphs). Adults are generally found in the nests

of the hosts. Many of the forms were originally described from hypopi, but comparison of adults of this group with those of other glycyphagids has provided convincing evidence that these mites belong in the Glycyphagidae, and comparison of the adults within the group has helped to place the described hypopi within their proper genera. Several of the species previously listed in the genus *Dermacarus* are now placed in the genus *Glycyphagus*. The species *hylandi* is now placed in the genus *Lepidoglyphus* (Zachvatkin, 1936). The genera *Dipodomyopus* (Fain and Lukoschus, 1978), *Metalabidophorus* (Fain, 1967) and *Microlabidopus* (Fain, 1967) were not cited in the 1974 article. *Dipodomyopus* had not been described, and no species of *Metalabidophorus* or *Microlabidopus* was yet known from North America. Important papers on taxonomy of this family are by Fain and Lukoschus (1974), and Fain (1986). *Marsupialichus brasiliensis* and *M. marsupialis* are recognized as separate species, but we suspect the two are the same. Most of the hypopi of this family lack mouthparts and possess a pair of prominent posterior clasping organs for clasping individual hairs.

Dermacarus jonesi Fain & Whitaker, 1976- BC, CA, WA; *Peromyscus maniculatus*, *Sorex sp.*

D. reticulosus Spicka & Gerrits, 1977- IN, OR; *Spermophilus beldingi*, *S. tridecemlineatus*.

D. spermophilus Fain & Whitaker, 1978- OR; *Neotoma cinerea*, *N. fuscipes*, *Spermophilus lateralis*, *S. townsendii*.

D. tamiasciuri Rupes, Yunker & Wilson, 1971-IN, OR, PA, PQ; *Glaucomyssabrinus*, *Tamiasciurus douglasii*, *T. hudsonicus*.

Dipodomyopus tuttlei Fain & Lukoschus, 1978- AZ; *Dipodomys sp.*

Glycyphagus hypudaei (Koch, 1841)- CO, IL, IN, KY, NWT, NB, NY, NC, NS, OR, PA, SD, SD/WY, TN, TX, WA, WY; *Arborimus albipes*, *A. longicaudus*, *Bassariscus astutus*, *Blarina brevicauda*, *Condylura cristata*, *Cryptotis parva*, *Dicrostonyx torquatus*,

Lemmiscus curtatus, *Microtus chrotorrhinus*, *M. montanus*, *M. ochrogaster*, *M. oregoni*, *M. pennsylvanicus*, *M. pinetorum*, *M. richardsoni*, *M. townsendii*, *Mus musculus*, *Mustela erminea*, *M. frenata*, *Myodes californicus*, *M. gapperi*, *Myotis occultus*, *Napaeozapus insignis*, *Neotoma floridana*, *N. magister*, *Ochrotomys nuttalli*, *Onychomys leucogaster*, *Peromyscus leucopus*, *P. maniculatus*, *Reithrodontomys megalotis*, *Scapanus townsendii*, *Sorex bendirii*, *S. cinereus*, *S. dispar* (nr.), *S. fumeus*, *S. gaspensis*, *S. longirostris*, *S. pacificus*, *S. palustris*, *S. trowbridgii*, *Synaptomys borealis*, *S. cooperi*, *Tamias minimus*, *Tamiasciurus douglasii*, *Thomomys mazama*, *Urocyon cinereoargenteus*, *Zapus princeps*, *Z. trinotatus*.

G. hypudaei septentrionalis Fain, 1969- PQ; *Myodes gapperi*, *Tamiasciurus hudsonicus*.

G. microti Spicka & OConnor 1980- NY; *Microtus pennsylvanicus*, *M. pinetorum*.

G. newyorkensis (Fain, 1969)- AK, AB, BC, CO, IN, MN, MT, NB, NC, ND, NS, OR, PE, PQ, UT, WA, WY; *Blarina brevicauda*, *Napaeozapus insignis*, *Tamiasciurus hudsonicus*, *Zapus hudsonius*, *Z. princeps*, *Z. trinotatus*.

G. zapus Fain, Spicka, Jones & Whitaker, 1985- IN; *Zapus hudsonius*.

Labidophorus nearcticus Fain & Whitaker, 1985- NH, NY, VT; *Parascalops breweri*.

Lepidoglyphus hylandi (Fain, 1969)- CT, IL, IN, MA, MS, NB, NH, NJ, NY, OR, PA, RI, TN, WI; *Lemmiscus curtatus*, *Microtus montanus*, *M. pinetorum*, *Mustela frenata*, *Myodes gapperi*, *Tamias striatus*.

Marsupialichus brasiliensis Fain, 1969- IN, TN; *Didelphis virginiana*, *Mustela vison*, *Ondatra zibethicus*, *Sylvilagus floridanus*.

M. johnstoni Fain, 1969- LA; *Dasyopus novemcinctus*.

M. marsupialis Fain, de Cock & Lukoschus 1972- LA; *Didelphis virginiana*.

Metalabidophorus liomys Lukoschus, Duijghuijsen & Fain, 1977, TX; *Liomys irroratus*.

Microlabidopus americanus Fain, 1967- OR; *Aplodontia rufa*.

Orycteroxenus canadensis Fain, Kok, Lukoschus & Clulow, 1971- IN, NB; *Condylura cristata*,

Microtus chrotorrhinus, *Sorex hoyi*.

O. soricis (Oudemans, 1915)- IL, IN, KY, NB, NC, NY, OR, PA, PE, SC, TN (nr.), *Blarina*

brevicauda, *B. carolinensis*, *Condylura cristata*, *Cryptotis parva*, *Microtus chrotorrhinus*,

M. ochrogaster, *Mustela erminea*, *Sorex bendirii*, *S. cinereus*, *S. dispar*, *S. fumeus*, *S.*

gaspensis, *S. hoyi*, *S. longirostris*, *S. pacificus*, *S. palustris*, *S. trowbridgii*, *S. vagrans*

yaquinae, *Synaptomys borealis*, *Tamiasciurus hudsonicus*, *Zapus hudsonius*.

Scalopacarus obesus Fain & Whitaker, 1973- IN; *Scalopus aquaticus*, *Vulpes vulpes*.

S. scapanus Fain & Whitaker, 1981- WA; *Scapanus townsendii*.

Xenoryctes latiporus Fain & Whitaker, 1973- IN, MA, NB, NH, NY, NC, OR, PA, SC; *Blarina*

brevicauda, *B. carolinensis*, *Microtus chrotorrhinus*, *Mus musculus*, *Mustela frenata*,

Myodes gapperi, *Peromyscus leucopus*, *Scalopus aquaticus*, *Sorex cinereus*, *S. fumeus*, *S.*

longirostris, *Spermophilus tridecemlineatus*, *Spilogale putorius*, *Synaptomys cooperi*,

Tamias striatus, *Zapus hudsonius*.

X. nudus Fain & Whitaker, 1975- IN, NB, NY, NC, OR (nr.), PA; *Blarina brevicauda*, *Condylura -*

cristata, *Neotoma fuscipes* (nr.), *Sorex cinereus*, *S. fumeus*, *S. hoyi*, *S. longirostris*, *S.*

palustris.

Zibethacarus ondatrae (Rupes & Whitaker, 1968)- AK, IN, NS, OH, OR, WV- *Castor canadensis*,

Didelphis virginiana, *Microtus oregoni*, *Mustela frenata*, *M. nivalis*, *M. vison*, *Ondatra*

zibethicus, *Rattus norvegicus*.

LAELAPIDAE

There have been relatively few taxonomic changes in this large family since 1974. Mites that were previously assigned to the genus *Hirstionyssus* (Fonseca) are now referred to *Echinonyssus* (Hirst) (Tenorio and Radovsky, 1979). Herrin (1974) synonymized *E. latiscutatus* with the South American *E. butantanensis*, and Tenorio (1984) presented a list of the world species of *Echinonyssus*. Williams et al. (1978) presented much new information and described new species in the genus *Haemogamasus*. Laelapids have a jug-shaped epigynial plate and an elongate peritreme. Many of the species are parasitic. Many of the large active mites in the fur of North American mammals are laelapids.

Alphalaelaps aplodontiae (Jellison, 1945)- OR; *Aplodontia rufa*, *Sorex trowbridgii*, *S. vagrans*.

Androlaelaps casalis (Berlese, 1887)- AL, AR, FL, ID, IN, GA, MD, MA, NB, NC, OR, SC, TN;

Blarina carolinensis, *Didelphis virginiana*, *Microtus pennsylvanicus*, *Neotoma cinerea*,

Neotoma floridana, *Ochrotomys nuttalli*, *Perognathus parvus*, *Peromyscus leucopus*, *P.*

maniculatus, *Procyon lotor*, *Rattus norvegicus*, *Scapanus orarius*, *S. townsendii*, *Sciurus*

carolinensis, *S. niger*, *Sorex trowbridgii*, *Tadarida brasiliensis*, *Tamias striatus*,

Tamiasciurus hudsonicus.

A. fahrenheitzi (Berlese, 1911)- AL, AR, BC, CA, CO, FL, GA, ID, IL, IN, IA, KY, MD, MA, MI,

MN, MS, MT, NE, NB, NH, NJ, NM, NY, NF, NC, ND, NS, OH, OR, PA, PE, SC, SD,

SD/WY, TN, TX, UT, VT, VA, WA, WV, WI, WY; *Arborimus albipes*, *A. longicaudus*,

Bassariscus astutus, *Blarina brevicauda* *B. carolinensis*, *Chaetodipus hispidus*, *Condylura -*

crystata, *Corynorhinus townsendii*, *Cryptotis parva*, *Cynomys ludovicianus*, *Didelphis -*

virginiana, *Dipodomys elator*, *D. elephantinus*, *D. ordii*, *D. venustus*, *Geomys pinetis*,

Glaucomyss sabrinus, *G. volans*, *Lemmings curtatus*, *Marmota monax*, *Mephitis mephitis*, -

Microtus chrotorrhinus, *M. longicaudus*, *M. montanus*, *M. ochrogaster*, *M. oregoni*, *M.*

pennsylvanicus, *M. pinetorum*, *M. richardsoni*, *M. townsendii*, *Mus musculus*, *Mustela -*
erminea, *M. frenata*, *M. nivalis*, *M. vison*, *Myodes californicus*, *M. gapperi*, *Napaeozapus -*
insignis, *Neofiber alleni*, *Neotoma cinerea*, *N. floridana*, *N. fuscipes*, *N. lepida*, *N. magister*,
N. micropus, *Neurotrichus gibbsii*, *Ochrotomys nuttalli*, *Ondatra zibethicus*, *Onychomys -*
leucogaster, *Oryzomys palustris*, *Parascalops breweri*, *Perognathus fasciatus*, *P. parvus*,
Peromyscus boylii, *P. crinitus*, *P. gossypinus*, *P. leucopus*, *P. maniculatus*, *P. truei*,
Podomys floridanus, *Procyon lotor*, *Rattus norvegicus*, *Reithrodontomys megalotis*, -
Scalopus aquaticus, *Scapanus latimanus*, *S. orarius*, *S. townsendii*, *Sciurus carolinensis*, *S.*
niger, *Sigmodon hispidus*, *Sorex bendirii*, *S. cinereus*, *S. fumeus*, *longirostris*, *S. pacificus*,
S. palustris, *S. trowbridgii*, *S. vagrans*, *S. vagrans yaquinae*, *Spermophilus beecheyi*, *S.*
beldingi, *S. brunneus*, *S. franklinii*, *S. lateralis*, *S. richardsoni*, *S. tereticaudus*, *S.*
townsendii, *S. tridecemlineatus*, *S. washingtoni*, *Spilogale putorius*, *Sylvilagus floridanus*, *S.*
palustris, *Synaptomys borealis*, *S. cooperi*, *Tamias amoenus*, *T. minimus*, *T. striatus*,
Tamiasciurus hudsonicus, *Taxidea taxus*, *Thomomys talpoides*, *Urocyon cinereoargenteus*,
Zapus hudsonius, *Z. princeps*, *Z. trinotatus*.

A. geomys (Strandtmann, 1949)- CA, IL, MO, MT, NM, OR; *Dipodomys ordii*, *Geomys bursarius*
illinoensis, *G. bursarius missouriensis*, *Onychomys leucogaster*, *Thomomys bottae*, *T.*
bulbivorus, *T. mazama*, *T. talpoides*.

A. morlani (Strandtmann, 1949)-IN; *Mus musculus*, *Rattus norvegicus*.

Echinonyssus affinus (Jameson, 1950)- OR; *Peromyscus maniculatus*.

E. arcuatus (Koch, 1839)- IL; *Cryptotis parva*, *Peromyscus leucopus*.

E. bisetosus Allred, 1957- ID; *Neotoma cinerea*.

- E. blarinae* (Herrin, 1970)- CA, GA, IN, MI, NB, NY, NS, OR, PA, SC, WA; *Blarina brevicauda*, *Blarina carolinensis*, *Microtus pennsylvanicus*(?), *Parascalops breweri*, *Scalopus aquaticus*, *Scapanus orarius*, *S. townsendii*, *Sorex fumeus*.
- E. breviseta* (Strandtmann & Morlan, 1953)- TX; *Bassariscus astutus*.
- E. butantanensis* (Fonseca, 1932)- IN, MA; *Mus musculus*, *Rattus norvegicus*, *Tamias striatus*.
- E. cynomys* (Radford, 1941)- OR; *Glaucornys sabrinus* (nr.), *Mustela frenata*.
- E. femoralis* (Allred, 1957)- CA, OR; *Thomomys bottae*, *T. bulbivorus*, *T. talpoides*.
- E. geomydis* (Keegan, 1946)- IL, IN, MO; *Geomys bursarius illinoensis*, *G. bursarius missouriensis*.
- E. hilli* (Jameson, 1950)- ID, NM, OR; *Dipodomys ordii*, *Onychomys leucogaster*, *Perognathus parvus*, *Peromyscus maniculatus*, *Tamias minimus*.
- E. incomptis* (Eads & Hightower, 1952)- CA, ID, OR, TX; *Dipodomys elator*, *D. elephantinus*, *D. ordii*, *D. venustus*; *Perognathus parvus*, *Peromyscus maniculatus*, *Tamias minimus*.
- E. isabellinus* (Oudemans, 1913)- BC, ID, MA, MN, NS, NWT, NB, NY, OR, PE; *Blarina brevicauda*, *Condylura cristata*, *Dicrostonyx torquatus*, *Lemmings curtatus*, *Microtus chrotorrhinus*, *M. montanus*, *M. pennsylvanicus*, *M. richardsoni*, *M. townsendii*, *Myodes californicus*, *M. gapperi*, *Napaeozapus insignis*, *Peromyscus maniculatus*, *Procyon lotor* (nr.), *Synaptomys cooperi*, *Tamias striatus*, *Zapus hudsonius*, *Z. trinotatus*.
- E. liomys* (Herrin & Yunker, 1973)- TX; *Liomys irroratus*.
- E. longichelae* (Allred & Beck, 1966)- ID, IL, IN, MO, NM, OR; *Dipodomys ordii*, *Geomys bursarius illinoensis*, *G. bursarius missouriensis*, *Glaucornys sabrinus*, *Mustela frenata*, *Onychomys leucogaster*, *Peromyscus maniculatus*, *Thomomys mazama*, *T. talpoides*.
- E. longichelae* (var.)- OR; *Thomomys mazama*, *T. talpoides*.

- E. neotomae* (Eads & Hightower, 1951)- ID, OR; *Neotoma cinerea*, *Tamias minimus*.
- E. obsoletus* (Jameson, 1950)- OR; *Microtus townsendii*, *Mustela erminea*, *M. frenata*, *M. vison*,
Myodes californicus, *Neotoma cinerea*, *Peromyscus maniculatus*.
- E. obsoletus* (var.)- OR; *Peromyscus maniculatus*, *Scapanus orarius*, *Sorex bendirii*, *S. pacificus*, *S. trowbridgii*, *S. vagrans*, *S. vagrans yaquinae*.
- E. perognathi* (Herrin, 1970)- TX; *Chaetodipus hispidus*, *Liomys irroratus*.
- E. staffordi* (Strandtmann & Hunt, 1951)- IN, NJ, OR, TX; *Bassariscus astutus*, *Mephitis mephitis*,
Mustela frenata, *Procyon lotor*, *Spilogale putorius*, *Taxidea taxus*.
- E. talpae* (Zemskaya, 1955)- IN, MN, NB, NC, NS, PA, PE; *Blarina brevicauda*, *Condylura cristata*, *Cryptotis parva*, *Sorex cinereus*, *S. fumeus*, *S. gaspensis*, *S. hoyi*, *S. longirostris*, *S. palustris*.
- E. thomomys* (Allred & Beck, 1966)- ID, ND, OR; *Microtus pennsylvanicus*, *Mustela frenata*, -
Onychomys leucogaster, *Peromyscus maniculatus*, *Thomomys mazama*, *T. talpoides*, *T. townsendi*.
- E. triacanthus* (Jameson, 1950)- CA, ID, OR; *Dipodomys elephantinus*, *D. ordii*, *Neotoma cinerea*,
Perognathus parvus, *Peromyscus maniculatus*, *Spermophilus townsendii*, *Tamias minimus*.
- E. utahensis* (Allred & Beck, 1966)- CA, CO, ID, IN, NC, OR, PA, WI; *Dipodomys ordii*,
Lemmiscus curtatus, *Mustela erminea*, *Neotoma cinerea*, *N. floridana*, *N. magister*,
Ochotona princeps, *Onychomys leucogaster*, *Perognathus parvus*, *Peromyscus leucopus*, *P. maniculatus*, *Spermophilus lateralis*, *S. townsendii*, *Tamias minimus*, *Thomomys talpoides*,
Vulpes vulpes.
- Eubrachylaelaps circularis* (Ewing, 1933)- CA, ID, OR; *Dipodomys venustus*, *Peromyscus crinitus*, *P. maniculatus*, *P. truei*.

E. crowei Jameson, 1947- ID; *Dipodomys ordii*, *Onychomys leucogaster*, *Peromyscus maniculatus*.

E. debilis Jameson, 1950- CA, ID, OR; *Dipodomys ordii*, *Microtus montanus*, *M. townsendii*,

Mustela erminea, *Onychomys leucogaster*, *Perognathus parvus*, *Peromyscus crinitus*, *P.*

maniculatus, *Reithrodontomys megalotis*, *Sorex trowbridgii*.

E. hollisteri (Ewing, 1925)- OR; *Peromyscus crinitus*.

Eulaelaps stabularis (Koch, 1836)- GA, IL, IN, MA, MN, NB, NJ, NY, NC, NS, OR, PA, PE, SC,

SD, SD/WY, TN, WV, WI, *Arborimus albipes*, *Blarina brevicauda*, *B. carolinensis*,

Condylura cristata, *Didelphis virginiana*, *Marmota monax*, *Microtus chrotorrhinus*, *M.*

longicaudus, *M. montanus*, *M. ochrogaster*, *M. oregoni*, *M. pennsylvanicus*, *M. pinetorum*,

M. townsendii, *Mus musculus*, *Mustela erminea*, *Myodes californicus*, *M. gapperi*, *Neotoma*

cinerea, *N. floridana*, *N. fuscipes*, *N. magister*, *Ochrotomys nuttalli*, *Peromyscus*

gossypinus, *P. leucopus*, *P. maniculatus*, *Rattus norvegicus*, *Scalopus aquaticus*, *Scapanus*

orarius, *S. townsendii*, *Sigmodon hispidus*, *Sorex cinereus*, *S. trowbridgii*, *S. vagrans*,

Spilogale putorius, *Synaptomys cooperi*, *Tamias striatus*, *Tamiasciurus douglasii*.

Gigantolaelaps mattogrossensis (Fonseca) – TX; *Oryzomys palustris*, *Peromyscus leucopus*,

Sigmodon hispidus.

Haemogamasus ambulans (Thorell, 1872)- AK, BC, ID, IL, IN, ME, MD, MA, MN, NWT, NB,

NY, NC, ON, OR, PA, PE, SD, SD/WY, TN, VT, WY. *Arborimus albipes*, *Blarina*

brevicauda, *Condylura cristata*, *Dicrostonyx torquatus*, *Dipodomys ordii*, *Glaucomys*

sabrinus, *Lemmus trimucronatus*, *Microtus abbreviatus*, *M. chrotorrhinus*, *M. ochrogaster*,

M. oeconomus, *M. pennsylvanicus*, *M. pinetorum*, *Myodes gapperi*, *M. rutilus*, *Myotis*

californicus, *Napaeozapus insignis*, *Neotoma cinerea*, *Onychomys leucogaster*,

Perognathus parvus, *Peromyscus leucopus*, *P. maniculatus*, *Reithrodontomys megalotis*,

- Scalopus aquaticus*, *Scapanus orarius*, *Sorex cinereus*, *S. fumeus*, *S. gaspensis*, *S. hoyi*, *S. palustris*, *S. vagrans yaquinae*, *Synaptomys cooperi*, *Tamias minimus*, *T. striatus*,
Tamiasciurus hudsonicus, *Thomomys talpoides*, *Zapus hudsonius*, *Z. trinotatus*.
- H. ghanii* Williams, 1978- AK; *Microtus miurus*, *M. oeconomus*, *Myodes rutilus*.
- H. harperi* Keegan, 1951- FL, GA, IL, IN, LA, MS, SC, TX; *Blarina brevicauda*, *Microtus - pinetorum*, *Scalopus aquaticus*.
- H. keegani* (Jameson, 1952)- CA, OR; *Scapanus latimanus*, *S. townsendii*.
- H. liponyssoides* Ewing, 1925- CA, FL, GA, IL, IN, MD, MI, MN, NB, NH, NY, NC, NS, OR, PA, SC, WA WV, WI; *Blarina brevicauda*, *B. carolinensis*, *Condylura cristata*, *Cryptotis parva*, *Microtus chrotorrhinus*, *M. ochrogaster*, *M. pennsylvanicus*, *M. pinetorum*, *Mustela frenata*, *Myodes gapperi*, *Parascalops breweri*, *Peromyscus leucopus*, *Scalopus aquaticus*, *Scapanus latimanus*, *S. orarius*, *S. townsendii*, *Sigmodon hispidus*, *Sorex arcticus*, *S. cinereus*, *S. fumeus*, *S. gaspensis*, *S. longirostris*, *S. palustris*, *Synaptomys cooperi*, *Taxidea taxus*, *Zapus hudsonius*.
- H. liponyssoides hesperus* Radovsky 1960- CA; *Microtus californicus*, *Scapanus latimanus*.
- H. liponyssoides liponyssoides* Ewing, 1925- AL, DC, MA, NY, ON, PA, TN, VA; *Blarina brevicauda*, *Microtus pennsylvanicus*, *Parascalops breweri*, *Peromyscus gossypinus*, *P. leucopus*, *Rattus norvegicus*, *Sorex fumeus*.
- H. longitarsus* (Banks, 1910)- DC, DE, FL, GA, ID, IL, IN, MD, NH, NY, ND, ON, PA, VA, WV; *Blarina brevicauda*, *Microtus ochrogaster*, *M. pennsylvanicus*, *M. pinetorum*, *Myodes - gapperi*, *Onychomys leucogaster*, *Peromyscus maniculatus*.
- H. nidi* Michael, 1892- OR; *Didelphis virginiana*

H. occidentalis (Keegan, 1951)- BC, CA, OR, WA; *Arborimus albipes*, *Microtus longicaudus*, *M. montanus*, *M. oregoni*, *M. richardsoni*, *M. townsendii*, *Mustela erminea*, *M. frenata*, *Myodes californicus*, *Neurotrichus gibbsii*, *Peromyscus crinitus*, *P. maniculatus*, *Scapanus orarius*, *S. townsendii*, *Sorex bendirii*, *S. pacificus*, *S. trowbridgii*, *S. vagrans*, *S. vagrans yaquinae*, *Spermophilus beecheyi*, *Zapus trinotatus*.

H. onychomydis (Ewing, 1933)- CO, DC, OR, UT; *Dipodomys ordii*, *Microtus montanus*, *M. pinetorum*, *Onychomys leucogaster*, *Perognathus parvus*, *Peromyscus maniculatus*, *Thomomys mazama*, *T. talpoides*, *T. townsendi*.

H. pontiger (Berlese, 1904)- GA, OR, TN; *Neotoma cinerea*, *Rattus norvegicus*, *Tamias striatus*.

H. reidi (Ewing, 1925)- BC, CA, IL, IN, MD, MN, NV, NB, NJ, NY, OH, OR, PA, UT, VA, WA, WI; *Aplodontia rufa*, *Arborimus longicaudus*, *Didelphis virginiana*, *Dipodomys ordii*, *Geomys bursarius illinoensis*, *Glaucomys sabrinus*, *G. volans*, *Lemmys curtatus*, *Microtus californicus*, *M. longicaudus*, *M. montanus*, *M. richardsoni*, *M. townsendii*, *Mustela erminea*, *M. frenata*, *Myodes californicus*, *M. gapperi*, *Neotoma cinerea*, *N. fuscipes*, *Parascalops breweri*, *Peromyscus boylii*, *P. maniculatus*, *Scapanus orarius*, *S. townsendii*, *Sciurus carolinensis*, *S. niger*, *Sorex bendirii*, *S. palustris*, *S. trowbridgii*, *S. vagrans*, *S. vagrans yaquinae*, *Spilogale putorius*, *Tamiasciurus douglasii*, *T. hudsonicus*, *Taxidea taxus*, *Thomomys mazama*, *T. talpoides*, *Zapus hudsonius*, *Z. princeps*, *Z. trinotatus*

H. thomomysi Williams, 1978- CA, OR, UT; *Myodes gapperi*, *Thomomys mazama*, *T. talpoides*.

Hypoaspis leviculus (Eads, 1951)- ID, IN; *Dipodomys ordii*, *Neotoma floridana*, *N. magister*, *Onychomys leucogaster*, *Peromyscus maniculatus*, *Procyon lotor*, *Tamias minimus*.

H. lubrica Voigts & Oudemans, 1904- ID, IN, OR; *Neotoma cinerea*, *N. floridana*, *N. fuscipes*, *N. magister*, *Perognathus parvus*, *Rattus norvegicus*.

H. miles (Berlese, 1892)- IN, NH, OR; *Microtus townsendii*, *Parascalops breweri*, *Sorex cinereus*,
S. longirostris.

Ischyropoda armatus Keegan, 1951- CA, ID, OR; *Dipodomys ordii*, *D. venustus*, *Lepus californicus*, *Microtus montanus*, *Onychomys leucogaster*, *Perognathus parvus*,
Peromyscus maniculatus, *Sorex merriami*, *Thomomys talpoides*.

I. furmani Keegan, 1956- ID, OR; *Dipodomys ordii*, *Onychomys leucogaster*, *Perognathus parvus*,
Peromyscus maniculatus.

Laelaps alaskensis Grant, 1947- IN, MD, MN, MS, NWT, NB, NH, NY, NC, OR, PA, TN, WI;
Blarina brevicauda, *Dicrostonyx torquatus*, *Microtus chrotorrhinus*, *M. montanus*, *M. ochrogaster*, *M. pennsylvanicus*, *M. pinetorum*, *M. richardsoni*, *Mustela nivalis*, *Myodes gapperi*, *Ochrotomys nuttalli*, *Parascalops breweri*, *Peromyscus leucopus*, *P. maniculatus*,
Sorex dispar, *S. pacificus*, *S. vagrans*, *Spermophilus franklinii*, *Synaptomys borealis*, *S. cooperi*, *Thomomys mazama*.

L. clethrionomydis Lange, 1955- AK; *Microtus abbreviatus*.

L. echidnina Berlese, 1887- LA, MS, NJ, NC; *Didelphis virginiana*, *Rattus norvegicus*, *Rattus norvegicus/R.rattus*, *Sigmodon hispidus*.

L. evansi Tipton, 1960- FL; *Neofiber alleni*.

L. kochi Oudemans, 1936- AK, IL, IN, KY, MB, MD, MA, MN, MT, NB, BY, NC, NS, OR, PA, PE, SD, SD/WY, TN, WY, WV, WI; *Blarina brevicauda*, *Corynorhinus townsendii*,
Microtus abbreviatus, *M. chrotorrhinus*, *M. longicaudus*, *M. montanus*, *M. ochrogaster*, *M. oregoni*, *M. pennsylvanicus*, *M. pennsylvanicus breweri*, *M. pinetorum*, *M. townsendii*,
Mustela vison, *Napaeozapus insignis*, *Neurotrichus gibbsii*, *Peromyscus leucopus*, *P. maniculatus*, *Synaptomys cooperi*, *Tamias striatus*.

L. multispinosa (Banks, 1910)- AK, IN, NF, NS, OH, OR, WV, WI; *Didelphis virginiana*, *Mustela erminea*, *M. frenata*, *M. vison*, *Ondatra zibethicus*, *Procyon lotor*.

L. nuttalli Hirst, 1915- LA, NJ; *Rattus norvegicus*/*R. rattus*, *Sciurus carolinensis*, *S. niger*.

L. stupkai Linzey & Crossley, 1971- NC; *Synaptomys cooperi*.

Myonyssus jamesoni Ewing & Baker, 1947- IN, MN, NB, NY, NC, WV; *Blarina brevicauda*, *Cryptotis parva*, *Sorex fumeus*, *S. palustris*.

Patrinyssus hubbardi (Jameson, 1949)- OR; *Aplodontia rufa*.

LISTROPHORIDAE

Alabidocarpus, *Labidocarpus* and *Schizocarpus* have been moved from the family Listrophoridae to the family Chirodiscidae, and the genera *Lutracarus* Fain and Yunker, 1980 and *Quasilistrophorus* Fain, Whitaker and Lukoschus, 1978, have been described since the 1974 paper. The genera *Olistrophorus* McDaniel and Whitaker, 1972 and *Asiochirus* Fain and Hyland, 1972 were described almost simultaneously and were considered synonyms, with *Asiochirus* having precedence. *Olistrophorus blarinae* McDaniel and Whitaker 1972 became *Asiochirus blarina* Fain and Hyland, 1972 and *O. cryptotae* McDaniel and Whitaker, 1972 became *A. cryptotae*. More recently, however, *Olistrophorus* was resurrected to replace *Asiochirus* for the new world mites on *Blarina* and *Cryptotis* (Fain, 1981) and *Asiochirus* was retained for old world forms. The species originally listed as *Listrophorus bakeri* Radford and *L. grassii* Radford, 1954 have been transferred to the genus *Prolistrophorus*. Fain and Lukoschus (1984) published an article on it with a key to species. Fain (1978a) summarized information on *Lynxacarus*, and Fain, et. al, (1978), and Fain and Whitaker (1987), brought together information on the genus *Geomylichus*. Members of this family are usually small elongate mites sometimes occurring in great numbers in the fur of mammals. The palpa and/or legs I-II are often highly modified for grasping hairs.

- Aplodontochirus borealis* Fain & Hyland, 1972- OR, WA; *Aplodontia rufa*.
- Geomylichus brevispinosus* Fain, Whitaker, Schwan & Lukoschus, 1978- TX; *Chaetodipus - penicillatus*.
- G. californicus* Fain, Whitaker & Thomas, 1988- CA; *Dipodomys californicus*, *D. elephantinus*, *D. heermanni*, *D. venustus*.
- G. deserti* Fain & Whitaker, 1987- NV; *Dipodomys deserti*.
- G. dipodomius* (Radford, 1953)- NM, TX, UT; *Dipodomys elator*, *D. microps*, *D. ordii*, *D. spectabilis*.
- G. floridanus* (Radford, 1949)- CA, FL, GA, IL, IN, MN, MO, SD, TX; *Geomys bursarius*, *G. bursarius illinoensis*, *G. bursarius missouriensis*, *G. personatus*, *G. pinetis*, *Thomomys umbrinus*.
- G. formosus* Fain & Whitaker, 1987- UT; *Chaetodipus formosus*.
- G. inaequalis* Fain, Whitaker, Schwan & Lukoschus, 1978- CA, TX; *Chaetodipus hispidus*, *Perognathus* sp.
- G. intercalatus* Fain, Whitaker, and Thomas, 1991 – TX; *Dipodomys compactus*
- G. microdipodops* Fain & Whitaker, 1987- NV, UT; *Microdipodops megacephala*.
- G. multistriatus* Fain, Whitaker and Thomas, 1988- AZ, CA, NV, TX; *Chaetodipus penicillatus*, *Dipodomys merriami*, *D. nitratoides*, *Microdipodops megacephalus*.
- G. perognathi* Fain & Whitaker, 1980- MT, NV, OR, UT; *Perognathus fasciatus*, *P. longimembris*, *P. parvus*.
- G. postscutatus* Fain, 1976- NB; *Dipodomys* sp.
- G. quasinudus* Fain, Whitaker, and Thomas, 1991 – CA; *Dipodomys ingens*

G. texanus Fain, Whitaker, Schwan & Lukoschus, 1978- AZ, CA, NV, NM, OR, TX; *Chaetodipus penicillatus*, *Dipodomys elephantinus*, *D. merriami*, *D. ordii*, *D. venustus*.

G. thomomys Fain, Whitaker, Schwan & Lukoschus, 1978- AZ, CA; *Thomomys bottae*, *T. umbrinus*.

G. utahensis Fain & Whitaker, 1987- NV, UT; *Dipodomys microps*.

Leporacarus gibbus (Pagenstecher, 1861)- GA, LA; "Rabbit."

L. sylvilagi Fain, Whitaker & Lukoschus, 1981 - OR; *Sylvilagus bachmani*.

Listrophorus americanus Radford, 1944- AK, IN, MD, NY, OH, OR, RI, WV; *Ondatra zibethicus*.

L. caudatus Fain, Whitaker & Smith, 1984- FL; *Neofiber alleni*.

L. dozieri Radford, 1944- AK, OH, IN, MD, NY, OR, RI; *Didelphis virginiana*, *Ondatra zibethicus*.

L. faini Dubinina, 1972- AK, IN, NY, OH, OR, RI; *Ondatra zibethicus*.

L. kingstownensis Fain & Highland, 1973- NY, RI; *Ondatra zibethicus*.

L. laynei Fain, Whitaker & Smith, 1984- FL; *Neofiber alleni*.

L. mexicanus Fain, 1970- IL, IN, KY, MD, NB, NC, NS, OR, PA, PE, PQ, WV, WY; *Antrozous pallidus*, *Lemmys curtatus*, *Microtus chrotorrhinus*, *M. montanus*, *M. ochrogaster*, *M. oregoni*, *M. pennsylvanicus*, *M. richardsoni*, *M. townsendii*, *Mus musculus*, *Mustela nivalis*, *Myodes californicus*, *M. gapperi*, *Napaeozapus insignis*, *Peromyscus leucopus*, *Scapanus townsendii*, *Sorex bendirii*, *Synaptomys cooperi*, *Zapus hudsonius*, *Z. princeps*.

L. mexicanus squamiferus Fain & Hyland, 1972- AK, NWT, MA, NJ, NY, PA, RI, TN, VA;

Microtus chrotorrhinus, *M. pennsylvanicus*, *Myodes gapperi*, *Peromyscus leucopus*, *Sorex dispar*, *Synaptomys cooperi*.

L. neotomae Fain & Hyland, 1973- FL, GA, SC, TX; *Neotoma floridana*, *N. micropus*.

- L. ondatrae* Fain, Kok & Lukoschus, 1970- IN, NY, OR, RI; *Ondatra zibethicus*.
- L. phenacomys* Fain & Hyland, 1972- NWT, MB; *Phenacomys intermedius*.
- L. pitymys* Fain & Hyland, 1972 - NY, RI; *Blarina brevicauda*, *Microtus pennsylvanicus*, *M. pinetorum*.
- L. synaptomys* Fain, Whitaker, McDaniel & Lukoschus, 1974- IN, NB, PA; *Synaptomys borealis*, *S. cooperi*.
- L. validus* Banks, 1910- IN, NY, ON, OR, RI, SC; *Ondatra zibethicus*.
- Lutracarus canadensis* Fain & Yunker, 1980- AK; *Lutra canadensis*.
- Lynxacarus morlani* Radford, 1951- FL, GA; *Felis concolor*, *Lynx rufus*
- L. mustelae* (Megnin, 1885)- AK, IN, NY, ON, OR; *Lutra canadensis*, *Mustela erminea*, *M. frenata*.
- L. nearcticus* Fain & Hyland, 1973 - IN, MN, OR, PA; *Mustela frenata*, *M. vison*, *Tamias striatus*.
- L. visoni* Fain and Bochkov, 2002 – FL; *Mustela vison*.
- Olistrophorus blarina* (Fain & Hyland, 1972)- IN, NC, PA, RI, SC, TX; *Blarina brevicauda*, *B. carolinensis*.
- O. cryptotae* McDaniel & Whitaker, 1972- GA, TX; *Cryptotis parva*.
- Oryzomysia oryzomys* (Radford, 1954)- GA; *Oryzomys palustris*
- Prolistrophorus bakeri* (Radford, 1949)- FL, GA, SC, TX; *Oryzomys palustris*, *Sigmodon hispidus*.
- P. birkenholzi* Fain, Whitaker & Smith, 1984- FL; *Neofiber alleni*.
- P. grassii* (Radford, 1954)- AL, FL, GA, IN, IA, WV; *Oryzomys palustris*, *Synaptomys cooperi*.
- P. sparsilineatus* (Fain, 1970)- AL, GA; *Peromyscus gossypinus*.
- Quasilistrophorus microticolus* Fain, Whitaker & Lukoschus, 1978- CA, IN, OR; *Arborimus albipes*, *P. longicaudus*, *Synaptomys cooperi*.

MACROCHELIDAE

Macrochelids were not included in the 1974 article but many species are phoretic in the fur of mammals. Krantz and Whitaker (1988), summarized information on the macrochelids known from North American mammals. Macrochelids are relatively large mites in which the females have large anal plates usually contiguous with the epigynial plates.

Macrocheles adenostictus Krantz and Whitaker, 1988 – CA, OR; *Neotoma fuscipes*

M. dolichosternus Krantz & Whitaker, 1988- TX; *Geomys bursarius*.

M. insignitus Berlese, 1918- IN; *Peromyscus maniculatus*.

M. mammifer Berlese, 1918- FL, IN; *Neofiber alleni*, *Rattus norvegicus*.

M. maseri Krantz & Whitaker, 1988- OR; *Dipodomys ordii*, *Spermophilus townsendii*, *S. washingtoni*.

M. matrius (Hull, 1925)- MT; *Mustela* sp.

M. merdarius (Berlese, 1889)- IN; *Rattus norvegicus*.

M. mesothonius Krantz & Whitaker, 1988- IA, ID, IN, MT, SD; *Didelphis virginiana*, *Marmota monax*, *Rattus norvegicus*, *Spermophilus elegans*, *S. franklinii*, *S. richardsoni*, *S. tridecemlineatus*, *Zapus hudsonius*.

M. muscaedomesticae (Scopoli, 1772)- IN, NC; *Peromyscus leucopus*, *Sciurus carolinensis*, *Sigmodon hispidus*.

Macrocheles N (Yoder, in MS)- MD, MI, PE; *Tamias striatus*, *Tamiasciurus hudsonicus*, *Zapus hudsonius*.

M. ontariensis Norton, 1973- IN; *Scalopus aquaticus*.

M. penicilliger (Berlese, 1904)- NY; *Sorex fumeus*.

M. polypunctatus Krantz & Whitaker 1988- OR; *Scapanus townsendii*, *Thomomys talpoides*.

M. polystichus Krantz & Whitaker, 1988- OR; *Thomomys talpoides*.

M. praedafimetorum Richards & Richards, 1977- BC, CA, OR; *Aplodontia rufa*, *Arborimus albipes*, *Microtus longicaudus*, *Peromyscus maniculatus*, *Sorex pacificus*, *Zapus trinotatus*.

M. rodriguezii Oliver & Krantz, 1963- IN, TX; *Cryptotis parva*, *Rattus norvegicus*.

M. spickai Krantz & Whitaker, 1988- IL, MN, MO; *Geomys bursarius*.

M. subbadius (Berlese, 1904)- NC; *Peromyscus leucopus*.

MACRONYSSIDAE

There have been no taxonomic changes or new genera or species described from North American mammals since the 1974 article. Of interest, is a new genus and species in this family, *Coprolactistus whitakeri* described by Radovsky and Krantz (1998). It was apparently the first record of a free-living mite to have evolved from a parasitic form (Radovsky et al. 1997).

However, it turns out (Radovsky and Krantz, 2003) that this species had been described earlier as *Mitonyssoides stercoralis* Yunker, Lukoschus and Giesen, 1990. It is currently known only from guano but likely will be found in the fur of a bat eventually. Macronyssids are related to laelapids but usually can be distinguished by a pronounced ridge or spur on the palpal trochanter.

Chiroptonyssus haematophagus Fonseca, 1948- CO, NM, TX; *Eumops perotis*, *Myotis occultus*, *Tadarida femorosacca*.

C. robustipes (Ewing, 1925)- AL, CA, FL, NM, TX, TX/NM; *Eptesicus fuscus*, *Mormoops megalophylla*, *Myotis californicus*, *M. occultus*, *M. velifer*, *Tadarida macrotis*, *Tadarida brasiliensis*.

C. venezolanus (Vitzthum, 1932)- TX; *Nyctinomops femorosaccus*, *Parastrellus hesperus*, *Tadarida femorosacca*, *T. macrotis* (nr.).

Cryptonyssus desultorius Radovsky, 1966- AZ, NM, OR, TX, WA; *Eptesicus fuscus*, *Euderma maculatum*, *Myotis californicus*, *M. lucifugus*, *M. occultus*, *M. velifer*, *M. volans*, *M. yumanensis*, *Parastrellus hesperus*, *P. suflavus*.

C. flexus Radovsky, 1967- MI, MN and/or ND; *Lasionycteris noctivagans*, *Myotis lucifugus*.

Macronyssus crosbyi (Ewing & Stover, 1915)- CO, IL, IN, MI, MN, MN/ND, ND, NM, NS, OH, OK, OR, PE, SD, TX; *Corynorhinus townsendii*, *Eptesicus fuscus*, *Myodes gapperi*, *Myotis austroriparius*, *M. californicus*, *M. evotis*, *M. septentrionalis*, *M. lucifugus*, *M. occultus*, *M. sodalis*, *M. velifer*, *M. volans*, *M. yumanensis*, *Perimyotis subflavus*.

M. cycloaspis – TX; *Corynorhinus townsendii* (nr.).

M. jonesi White, 1966- IL, IN; *Myotis austroriparius*, *M. grisescens*.

M. longisetosus (Furman, 1950)- OR, SD, TX; *Corynorhinus townsendii*.

M. macrodactylus Radovsky & Beck, 1971- IN, OR; *Lasionycteris noctivagans*.

M. unidens Radovsky, 1967- AZ, ID, OK, SD; *Corynorhinus townsendii*, *Lasionycteris noctivagans*, *Leptonycteris sanborni*, *Myotis velifer*, *Perimyotis subflavus*.

Ornithonyssus bacoti (Hirst, 1913) - CA, FL, GA, ID, IL, IN, KY, LA, MD, MS, NJ, NC, ND, OR, SC, SD, SD/WY, TN, TX, WV; *Castor canadensis*, *Didelphis virginiana*, *Dipodomys ordii*, *Microtus ochrogaster*, *M. pennsylvanicus*, *M. pinetorum*, *Mus musculus*, *Neotoma floridana*, *N. magister*, *N. micropus*, *Onychomys leucogaster*, *O. torridus*, *Oryzomys palustris*, *Peromyscus crinitus*, *P. gossypinus*, *P. leucopus*, *P. maniculatus*, *Procyon lotor*, *Rattus norvegicus*, *R. rattus*, *Reithrodontomys megalotis*, *Scalopus aquaticus*, *Sciurus carolinensis*, *Sigmodon hispidus*, *Sorex fumeus*, *S. longirostris*, *Spermophilus beecheyi*, *Sylvilagus floridanus*, *Synaptomys cooperi*, *Urocyon cinereoargenteus*, *Zapus hudsonius*, *Z. princeps*.

O. sylviarum (Canestrini & Fanzago, 1877)- IN, PQ, VA; *Dicrostonyx hudsonius*, *Didelphis virginiana*, *Mus musculus*, *Rattus norvegicus*, *Scalopus aquaticus*.

O. wernecki (Fonseca, 1935)- GA, IN, NJ, TN, WV; *Didelphis virginiana*, *Procyon lotor*.

Steatonyssus antrozoi Radovsky & Furman, 1963- OR, TX; *Antrozous pallidus*, *Myotis yumanensis*.

Steatonyssus ceratognathus (Ewing, 1923)- AL, FL, IN; *Eptesicus fuscus*, *Nycticeius humeralis*, *Tadarida brasiliensis*.

S. emarginatus Radovsky & Furman, 1963- AZ, OR, TX, TX/NM; *Pasrastrellus hesperus*, *P. subflavus*.

S. furmani Tipton & Boese, 1958- IN, NC, OR, TX; *Lasiurus borealis*, *L. cinereus*.

S. occidentalis (Ewing, 1933)- AL, AZ, GA, IN, MI, OR, PA, TX, TX/NM; *Eptesicus fuscus*, *Myotis sodalis*, *M. velifer*, *Perimyotis subflavus*, *Tadarida brasiliensis*, *Tadarida macrotis*.

MYOBIIDAE

Myobiid mites are exclusively parasites of mammals. The first pair of legs I are modified for clasping hairs, the chelicerae are minute and stylelike, and the palpi are simple and minute. The only myobiid genus not included in the 1974 article and added here was *Phyllostomyobia* Fain, 1973, but there have been several comprehensive papers on portions of this family; Fain and Whitaker (1976) on *Acanthopthirius*, Lukoschus, Giesen, Whitaker and Cudmore (1988) and Lukoschus, Jeucken, and Whitaker (1988) on *Protomyobia*, Dusbabek (1973) on *Pteracarus*, and Fain and Lukoschus (1977) on *Radfordia*. In addition, Fain and Lukoschus (1976) summarized information on myobiids of insectivores.

Acanthopthirius caudata Fain & Whitaker, 1976 – IN, ON, TX; *Eptesicus fuscus*, *Myotis lucifugus*, *M. velifer*.

- A. caudata eptesicus* Fain & Whitaker, 1976- IN, OR, TX; *Eptesicus fuscus*.
- A. gracilis* Fain & Whitaker, 1976- IL, IN, OR (nr.); *Myotis septentrionalis*, *M. volans* (nr.).
- A. lasiurus* Fain & Whitaker, 1976- IN; *Lasiurus borealis*, *L. cinereus*.
- A. lucifugus* Fain & Whitaker, 1976- CO, IN, NM; *Myotis lucifugus*, *M. occultus*, *M. sodalis*.
- A. nycticeius* Fain & Whitaker, 1987- IN; *Nycticeius humeralis*.
- A. oregonensis* Fain & Whitaker, 1978- OR; *Parastrellus hesperus*.
- A. steatocaudatus* Uchikawa & Baker 1993- CA; IL; *Lasionycteris noctivagans*.
- Amorphacarus hengererorum* Jameson, 1948- IN, KY, NB, NY, NC, OR, PA, TN; *Blarina - brevicauda*, *Peromyscus maniculatus*, *Sorex cinereus*, *S. dispar*, *S. fumeus*, *S. gaspensis*, *S. hoyi*, *S. longirostris*, *S. pacificus*, *S. palustris*, *S. vagrans*, *S. vagrans yaquinae*.
- A. soricis* Fain & Whitaker, 1978- CA, OR; *Sorex bendirii*
- Archemyobia inexpectatus* Jameson, 1955- IN, NJ, TN, WV; *Didelphis virginiana*.
- Blarinobia cryptotis* McDaniel, 1967 – IN; *Cryptotis parva*.
- B. simplex* (Ewing, 1938)- IL, IN, NB, PA, SC, WV; *Blarina brevicauda*, *B. carolinensis*, *Cryptotis parva*.
- Eadidea brevihamata* (Haller, 1882)- OR; *Neurotrichus gibbsii*.
- E. condylurae* Jameson, 1949- IN, NB; *Condylura cristata*.
- E. neurotrichus* Lukoschus, Klompen & Whitaker, 1980- BC, OR, WA; *Neurotrichus gibbsii*.
- E. scapanus* Fain & Whitaker, 1975- OR; *Scapanus townsendii*.
- Eutalpacarus peltatus* Jameson, 1949- OR; *Neurotrichus gibbsii*.
- Ewingana doreyae* Dusbabek, 1968- TX; *Tadarida macrotis*.
- E. inaequalis* (Ewing, 1936)- FL; *Tadarida brasiliensis*.
- E. longa* (Ewing, 1938)- AL, FL, TX; *Eptesicus fuscus*, *Tadarida brasiliensis*.

- Myobia musculi* Schrank, 1781- IN, SC, SD, WV; *Mus musculus*, *Peromyscus maniculatus*.
- Phyllostomyobia leptonycteris* Fain, 1973- TX; *Leptonycteris nivalis*.
- Protomyobia americana* McDaniel, 1967- IN, NB, NY, PA, TX; *Blarina brevicauda*, *Cryptotis parva*, *Sorex cinereus*, *S. hoyi*.
- P. atophyracis* Lukoschus, Giesen, Whitaker, & Cudmore, 1988- CA, OR; *Sorex bendirii*.
- P. blarinae* Lukoschus, Jeucken & Whitaker, 1988- IN, MB, NB, NY, ON, SC; *Blarina brevicauda*, *B. carolinensis*
- P. brevisetosa* Jameson, 1948- IN, NB, NY, NC, OR, PA; *Microtus pennsylvanicus*, *Myodes californicus*, *Scapanus townsendii*, *Sorex bendirii*, *S. fumeus*, *S. pacificus*, *S. palustris*, *S. trowbridgii*, *S. vagrans*, *S. vagrans yaquinae*.
- P. claparedei* (Poppe, 1896)- IL, IN, NB, NC, WV; *Blarina brevicauda*, *Cryptotis parva*, *Peromyscus maniculatus*, *Sorex cinereus*, *S. palustris*.
- P. indianensis* Fain, Whitaker & French, 1982- IN; *Sorex longirostris*.
- P. oregonensis* Lukoschus, Giesen, Whitaker & Cudmore, 1988- BC, OR, WA; *Sorex vagrans*.
- P. quasionoi* Lukoschus, Giesen, Whitaker & Cudmore, 1988- CA, OR; *Sorex trowbridgii*.
- Pteracarus aculeus* Dusbabek & Lukoschus, 1973- CA, OR; *Eptesicus fuscus*.
- P. chalinolobus* Womersley, 1941(nr.)- CA; *Myotis evotis*.
- P. completus* Dusbabek & Wilson, 1973- IN; *Eptesicus fuscus*.
- P. completus vrazi* Dusbabek & Wilson, 1973- KY; *Lasiurus borealis*, *L. cinereus*.
- P. elegans* Dusbabek & Wilson, 1973- CA, NV; *Corynorhinus rafinesquii*, *C. townsendii*.
- P. minutus* – NM; *Myotis occultus* (nr.).
- P. minutus daubentonii* (nr.) Dusbabek, 1973- OR; *Myotis volans*.
- P. minutus occidentalis* Dusbabek & Wilson, 1973- GA, IN, KY; *Perimyotis subflavus*.

- P. robustus* Dusbabek & Wilson, 1973- CA; *Antrozous pallidus*.
- Radfordia affinis* (Poppe, 1896)- IN, SC; *Mus musculus*, *Peromyscus maniculatus*.
- R. arborimus* Fain & Whitaker, 1975- OR; *Arborimus longicaudus*.
- R. arctica* Fain & Lukoschus, 1977- GR, LB; *Dicrostonyx greenlandicus*.
- R. bachai* Howell & Elzinga, 1962- ID; *Dipodomys ordii*.
- R. ensifera* (Poppe, 1896)- IN, NJ, NC; *Rattus norvegicus*.
- R. ewingi* (Fox 1937)- BC, CO, NB, OR, PE, UT; *Napaeozapus insignis*, *Zapus hudsonius*, *Z. princeps*, *Z. trinotatus*.
- R. hamiltoni* Jameson & Whitaker, 1975- TX; *Baiomys taylori*.
- R. hylandi* Fain & Lukoschus, 1977- IL, IN, LB, MI, NB, NY, ON, OR, PA, PQ, RI, TX; *Microtus chrotorrhinus*, *M. mexicanus*, *M. ochrogaster*, *M. oregoni*, *M. pennsylvanicus*, *M. pinetorum*, *Myodes gapperi*, *Peromyscus leucopus*, *Synaptomys borealis*, *S. cooperi*.
- R. lemnina* (Koch, 1841)- AK, AB, IL, IN, KY, NB, NY, PA, PQ (nr.), WV; *Microtus ochrogaster*, *M. oeconomus*, *M. pennsylvanicus* (nr.), *Myodes gapperi*, *M. rutilus*, *Synaptomys cooperi*.
- R. macdonaldi* Gill & Strandtmann, 1977- NWT; *Dicrostonyx torquatus*.
- R. neotomae* Jameson & Whitaker, 1975- CA, OR; *Neotoma cinerea*, *N. fuscipes*.
- R. palustris* Fain & Lukoschus, 1977- FL, GA, SC; *Oryzomys palustris*.
- R. sigmodontis* Radford, 1951- FL, GA; *Sigmodon hispidus*.
- R. subuliger* Ewing, 1938- IL, IN, KY, NB, NC, OR, PA, WV; *Mus musculus*, *Onychomys leucogaster*, *Peromyscus leucopus*, *P. maniculatus*, *Reithrodontomys megalotis*.
- R. zibethicalis* (Radford, 1936)- AK, IN, OR; *Ondatra zibethicus*.

MYOCOPTIDAE

Myocoptids are tiny mites with legs III and IV highly modified for clasping hairs. One old world genus, *Gliricoptes* Lawrence, 1956, has been found in North America since the 1974 article (Fain and Whitaker, 1974).

Gliricoptes glirinus (Canestrini, 1895) (nr.) – PQ; *Napaeozapus insignis*, *Tamiasciurus hudsonicus*.
G. zapus Fain & Whitaker, 1974- BC, NB, UT, WA; *Napaeozapus insignis*, *Zapus princeps*, *Z. trinotatus*.

M. canadensis Radford, 1955- NWT; *Dicrostonyx torquatus*, *Microtus chrotorrhinus*.

M. japonensis Radford, 1955- IL, IN, NB, NY, NC, OR, PA; *Microtus chrotorrhinus*, *M.*

ochrogaster, *M. pennsylvanicus*, *M. pinetorum*, *M. richardsoni*, *Mustela nivalis*, *Myodes californicus*, *M. gapperi*, *Peromyscus leucopus*, *P. maniculatus*, *Synaptomys cooperi*.

M. musculus (Koch, 1844)- IL, IN, NY, NC, OR, PA, PQ (nr.), SC, SD/WY, TN, WV; *Microtus chrotorrhinus*, *M. ochrogaster*, *M. pennsylvanicus*, *M. pinetorum*, *Mus musculus*,
Ochrotomys nuttalli, *Onychomys leucogaster*, *Peromyscus leucopus*, *P. maniculatus* (nr.).

M. neotomae Fain, Lukoschus, Cudmore & Whitaker, 1984- GA, IN, OR; *Neotoma cinerea*, *N. floridana*, *N. fuscipes*, *N. magister*.

M. ondatrae Lukoschus & Rouwet, 1968- AK, IN, PQ (nr)- AK, IN; *Myodes gapperi* (nr.), *Ondatra zibethicus*.

M. pitymys Fain and Bochkov, 2004 – IL; *Microtus pinetorum*.

M. squamosus Fain, Munting & Lukoschus, 1969- NB; *Microtus chrotorrhinus*, *M. pennsylvanicus*,
Myodes gapperi.

Sciurocoptes tamias Fain & Hyland, 1970- PA; *Tamias striatus*, *Tamiasciurus hudsonicus*.

Trichoecius gettingeri Fain, Lukoschus, Cudmore & Whitaker, 1984- PA; *Peromyscus leucopus*.

T. tenax (Michael, 1889)- IN, NB, PA, WV; *Microtus chrotorrhinus*, *M. ochrogaster*, *M. pennsylvanicus*, *M. pinetorum*, *Myodes gapperi*.

PYGMEPHORIDAE

This family was not included in the 1974 article. At that time little information existed on pygmephorids present in the fur of North American mammals. However, several articles have since appeared detailing information on three species of *Bakerdania*, one species of *Pseudopygmephorus*, and nearly 30 species of *Pygmephorus* on North American mammals, with at least the genus *Pygmephorus* being phoretic. Many new species have been described, and several species have been synonymized (Mahunka 1973, 1974, 1975; Smiley and Whitaker 1979, 1984; Rack, 1975, Dastych and Rack, 1991, 1992; Dastych et al., 1991, 1992). Those in the genus *Pygmephorus* are generally females and have an enlarged first pair of legs for clasping hairs. *Bakerdania* occurs much less frequently than *Pygmephorus* on mammals. It is similar to *Pygmephorus* but the first pair of legs is not hypertrophied. Cross (1965) included the genus *Pygmephorus* in his treatise on the family Pyemotidae. He examined at least five species from small mammals from the eastern United States, but his only specific report was of *Pygmephorus* sp. nr. *spinus* from Indiana, which he figured. *Pygmephorus* is common on many small mammals, but especially on insectivores and small burrowing rodents such as the woodland vole, *Microtus pinetorum*. Pygmephorids are thought to feed on fungi in the soil or nests of mammals. Gurney and Hussey (1967) and Kosir (1975) have reared *Bakerdania* (*Pseudopygmephorus*) *quadratus*. Males of *Pygmephorus* have seldom been found and the male of only one, *P. sylvilagi*, has been described from a mammal (Kaliszewski and Rack, 1985). Numerous recent synonymies in this group are cited in the index.

Bakerdania equisetosa Cross, 1970- IN; *Reithrodontomys megalotis*.

- B. jonesi* Mahunka, 1975- AB, CA, IL, WA; *Microtus pinetorum*, *Neurotrichus gibbsii*, *Sorex palustris*.
- B. plurisetosa* Mahunka, 1975- IL, IN, NY, SC, TN, VT; *Microtus chrotorrhinus*, *M. pinetorum*, *Parascalops breweri*, *Scalopus aquaticus*, *Sorex cinereus*, *S. dispar*, *S. fumeus*.
- Pseudopygmephorus quadratus* (Ewing, 1917)- IL; *Microtus pinetorum*.
- Pygmephorus arcuatus* Dastych & Rack, 1991- AK; *Peromyscus sitkensis*.
- P. brevipes* Savulkina, 1976- OR; *Scapanus orarius*.
- P. californicus* Smiley & Whitaker, 1979- CA, OR; *Sorex trowbridgii*.
- P. designatus* Mahunka, 1973- IL, IN, IA, NY, NC, OR, VA; *Blarina brevicauda*, *B. carolinensis*, *Cryptotis parva*, *Didelphis virginiana*, *Geomys bursarius*, *G. bursarius illinoensis*, *Mephitis mephitis*, *Microtus pinetorum*, *Mustela frenata*, *Myodes californicus*, *Parascalops breweri*, *Peromyscus leucopus*, *Procyon lotor*, *Rattus norvegicus*, *Scalopus aquaticus*, *Scapanus orarius*, *Sorex cinereus*, *S. fumeus*, *S. monticolus*, *S. trowbridgii*, *Spermophilus tridecemlineatus*, *Spilogale putorius*, *Sylvilagus floridanus*.
- P. erlangensis* Krczal, 1959- IN, IA, NB, NY, OR, PA, SC, VT; *Blarina brevicauda*, *B. carolinensis*, *Neurotrichus gibbsii*, *Parascalops breweri*, *Procyon lotor*, *Rattus norvegicus*, *Sorex cinereus*.
- P. faini* Smiley & Whitaker, 1979- IN, MN, VA; *Blarina brevicauda*, *Condylura cristata*, *Sorex fumeus*.
- P. forcipatus* Willman, 1952- OR; *Neurotrichus gibbsii*
- P. hastatus* Mahunka, 1973- IL, IN, MA, NY, VA; *Blarina brevicauda*, *Condylura cristata*, *Microtus pinetorum*, *Parascalops breweri*, *Scalopus aquaticus*, *Sorex fumeus*, *Tamias striatus*.

- P. horridus* Mahunka, 1973- AK, AL, AB, BC, CA, GA, IL, IN, MN, NB, NY, NC, ON, OR, PA, PQ, SC, VA, WA; *Blarina brevicauda*, *B. carolinensis*, *Condylura cristata*, *Microtus chrotorrhinus*, *M. longicaudus*, *M. pinetorum*, *Myodes gapperi*, *M. rutilus*, *Napaeozapus insignis*, *Neurotrichus gibbsii*, *Parascalops breweri*, *Peromyscus gossypinus*, *P. leucopus*, *P. sitkensis*, *Scalopus aquaticus*, *Scapanus orarius*, *Sorex bendirii*, *S. cinereus*, *S. dispar*, *S. fumeus*, *S. gaspensis*, *S. hoyi*, , *S. longirostris*, *S. monticolus*, *S. pacificus*, *S. palustris*, *S. trowbridgii*, *S. vagrans*, *S. vagrans yaquinae*, *Synaptomys borealis*, *S. cooperi*.
- P. idea* Smiley & Whitaker, 1979- IA, MT, OH; *Blarina brevicauda*, *Procyon lotor*.
- P. iglehartae* Smiley & Whitaker, 1984- MA; *Blarina brevicauda*.
- P. islandicus* Sellnick, 1940- NB, NY; *Blarina brevicauda*, *Sorex cinereus*, *S. gaspensis*.
- P. lukoschusi* Smiley & Whitaker, 1984- NB; *Sorex fumeus*.
- P. lutterloughae* Smiley & Whitaker, 1979- IN, NB, NY, OR; *Blarina brevicauda*, *Condylura - cristata*, *Parascalops breweri*, *Scapanus townsendii*, *Sorex fumeus*.
- P. mahunkai* Smiley & Whitaker, 1979- IN, NS, OR, PE; *Myotis lucifugus*, *Napaeozapus insignis*, *Rattus norvegicus*, *Scalopus aquaticus*, *Scapanus orarius*, *S. townsendii*, *Sorex pacificus*, *Zapus hudsonius*.
- P. moreohorridus* Mahunka, 1975- IN, MA, NB, NY, SC; *Blarina brevicauda*, *B. carolinensis*, *Condylura cristata*, *Microtus pennsylvanicus*, *Sorex cinereus*, *S. fumeus*, *S. gaspensis*, *S. hoyi*, *S. palustris*.
- P. plurispinosus* Mahunka, 1975- AK, IL, IA, MO, OR, WA; *Aplodontia rufa*, *Blarina brevicauda*, *Geomys bursarius*, *Myodes rutilus*, *Neurotrichus gibbsii*, *Sorex cinereus*, *S. monticolus*, *S. pacificus*, *S. trowbridgii*, *S. vagrans*.
- P. proctorae* Smiley & Whitaker, 1984- IN, NH, NY; *Parascalops breweri*, *Sorex hoyi*.

- P. rackae* Smiley & Whitaker, 1979- IN, IA, MA, MN, MO, NY, OR; *Blarina brevicauda*, *Geomys bursarius*, *Microtus ochrogaster*, *Parascalops breweri*, *Scalopus aquaticus*, *Scapanus orarius*, *Sorex fumeus*.
- P. russellae* Smiley & Whitaker, 1984- NB; *Blarina brevicauda*.
- P. scalopi* Mahunka, 1973- IL, IN, IA, MO, NC, OR; *Blarina brevicauda*, *Geomys bursarius*, *G. bursarius illinoensis*, *G. bursarius missouriensis*, *Microtus pinetorum*, *Rattus norvegicus*, *Scalopus aquaticus*, *Sorex cinereus*, *S. longirostris*, *S. vagrans*, *Synaptomys cooperi*.
- P. sellnicki* Krczal, 1958- IL, MA; *Cryptotis parva*, *Microtus ochrogaster*, *Peromyscus leucopus*, *Tamias striatus*.
- P. spickai* Mahunka, 1974- IL, IN, SD; *Geomys bursarius*, *G. bursarius illinoensis*, *Mustela nigripes*, *Neotoma floridana*, *N. magister*, *Synaptomys cooperi*.
- P. spinosus* Kramer, 1877- AL, AK, IN, IA, MB, MA, MN, NC, NJ, NY, OR, SC, VA; *Blarina brevicauda*, *B. carolinensis*, *Condylura cristata*, *Cryptotis parva*, *Parascalops breweri*, *Peromyscus leucopus*, *P. maniculatus*, *Procyon lotor*, *Scalopus aquaticus*, *Scapanus orarius*, *Sorex fumeus*, *S. hoyi*, *S. longirostris*, *S. vagrans*.
- P. stammeri* Krczal, 1959- AK, IN, IA, MA, MN, NH, NY, SC, VT; *Blarina brevicauda*, *B. carolinensis*, *Myodes rutilus*, *Parascalops breweri*, *Peromyscus sitkensis*, *Sorex cinereus*, *S. fumeus*, *S. longirostris*, *Tamias striatus*.
- P. trisetosus* Dastych & Rack, 1991- AK; *Sorex vagrans*.
- P. whartoni* Smiley & Whitaker, 1979- IN, NY, OR, SC; *Blarina carolinensis*, *Parascalops breweri*, *Scalopus aquaticus*, *S. trowbridgii*.
- P. whitakeri* Mahunka, 1973- AB, AK, BC, CA, IL, IN, IA, KS, MA, MN, MO, NB, NH, NY, OR, PA, SC, VT, VA; *Blarina brevicauda*, *B. carolinensis*, *Condylura cristata*, *Cryptotis parva*,

Geomys bursarius, *G. bursarius illinoensis*, *G. bursarius missouriensis*, *Microtus ochrogaster*, *M. pinetorum*, *Mus musculus*, *Mustela erminea*, *Neotoma cinerea*, *N. fuscipes*, *Neurotrichus gibbsii*, *Parascalops breweri*, *Peromyscus leucopus*, *Peromyscus maniculatus*, *Procyon lotor*, *Rattus norvegicus*, *Scalopus aquaticus*, *Scapanus orarius*, *Sorex bendirii*, *S. cinereus*, *S. dispar*, *S. fumeus*, *S. gaspensis*, *S. hoyi*, *S. monticolus*, *S. pacificus*, *S. palustris*, *S. trowbridgii*, *S. vagrans*, *Spermophilus tridecemlineatus*.

P. wilsoni Smiley and Whitaker, 1984- MA; *Blarina brevicauda*.

P. n. sp. #1 Cudmore et al., 1987 – OR; *Sorex monticolus*.

P. n. sp. #2 Cudmore et al., 1987 – OR; *Sorex trowbridgii*.

P. n. sp. #3 Cudmore et al., 1987 – OR; *Scapanus orarius*, *Sorex monticolus*, *Mustela erminea*.

RHYNCOPTIDAE

Two species of rhyncoptid mites have been reported from the hair and skin of carnivores. Fain and Johnston (1970) described a new genus, *Ursicoptes*, from a black bear, *Ursus americanus*, from a zoo in Manhattan, Kansas, and a second species was described by Fain and Wilson (1979) from the raccoon, *Procyon lotor*. Rhyncoptids are small elongate mites with only a dorsal podonotal shield, legs I and II are well separated from legs III and IV and bear several well developed processes. These species were originally described in the family Audycoptidae. That family was placed in synonymy with Rhyncoptidae by Klompen (1993).

Ursicoptes americanus Fain & Johnson, 1970- ID, KS (zoo); *Ursus americanus*.

U. procyoni Fain & Wilson, 1979- IA; *Procyon lotor*.

ROSENSTEINIIDAE

Only *Nycteriglyphus* was included in the 1974 article, but the genus *Chiroptoglyphus* has since been described by O'Connor and Reisen (1978), *Nycteriglyphites* was described by Fain et

al. (1982) and *Mydopholeus* sp. was recorded in the United States for the first time by Durden et al. (1992).

Chiroptoglyphus americanus OConnor & Reisen, 1978- OK, PA, TX; *Corynorhinus rafinesquii*,
Myotis lucifugus, *M. velifer*.

Mydopholeus sp. AL; *Eptesicus fuscus*.

Nycteriglyphus fuscus Dood & Rocket, 1985- OH; *Eptesicus fuscus*.

N. texanus OConnor, Whitaker & Easterla, 1977- TX; *Corynorhinus townsendii*, *Leptonycteris nivalis*, *Myotis velifer*, *M. yumanensis*, *Tadarida brasiliensis*.

Nycteriglyphites pennsylvanicus Fain, Lukoschus & Whitaker, 1982- AL; *Eptesicus fuscus*.

SPINTURNICIDAE

Spinturnicids are parasites of bats. They have prominent legs, a stout body and are somewhat spiderlike in appearance. The tritosternum is often reduced, and the peritreme is often ventral posteriorly. No new species have been described nor have any taxonomic changes occurred since the 1974 article.

Periglischrus vargasi Hoffman, 1944- TX; *Leptonycteris nivalis*.

Spinturnix americanus (Banks, 1902)- IL, IN, MN/ND, MI, MN, NM, OH, OK, OR, PE, SD, TX;

Antrozous pallidus, *Eptesicus fuscus*, *Myotis evotis*, *M. grisescens*, *M. lucifugus*, *M.*

occultus, *M. septentrionalis*, *M. thysanodes*, *M. velifer*, *M. volans*, *M. yumanensis*.

S. bakeri Rudnick, 1960- IN, MI, OR, SD, TX; *Eptesicus fuscus*, *Myotis volans*.

S. banksi Rudnick, 1960- IL, MO; *Myotis grisescens*.

S. carloshoffmanni Hoffmann, 1944 – TX; *Myotis velifer*.

S. globosus (Rudnick, 1960)- AB, IL, IN, MO, OH, OK, OR; *Myotis grisescens*, *M. lucifugus*, *M. sodalis* *M. velifer*, *M. volans*.

S. orri Rudnick, 1960- OR, TX; *Antrozous pallidus*.

HOST DISTRIBUTION

The various North American wild mammals from which mites have been reported are listed alphabetically below, with the mite species listed for each. Numbers refer to references.

"Rabbit"

Listrophoridae: *Leporacarus gibbus* 62

Ammospermophilus leucurus

Laelapidae: *Echinonyssus incomptus* 126, *E. tricanthus* 128

Antrozous pallidus

Listrophoridae: *Listrophorus mexicanus* 283

Macronyssidae: *Steatonyssus antrozoii* 27, 202, 254, 283

Myobiidae: *Pteracarus robustus* 40

Spinturnicidae: *Spinturnix americanus* 254, 283; *S. orri* 202, 254, 283

Aplodontia rufa

Chortoglyphidae: *Aplodontopus latus* 272

Glycyphagidae: *Microlabidopus americanus* 272

Laelapidae: *Alphalaelaps aplodontiae* 272; *Haemogamasus reidi* 272; *Patrinyssus hubbardi*

272

Listrophoridae: *Aplodontochirus borealis* 61, 272

Macrochelidae: *Macrocheles praedafimetorum* 147

Pygmephoridae: *Pygmephorus plurispinosa* 22

Arboremus albipes

Glycyphagidae: *Glycyphagus hypudaei* 267

Laelapidae: *Androlaelaps fahrenheitzi* 267, *Eulaelaps stabularis* 267; *Haemogamasus ambulans* 267; *H. occidentalis* 267

Listrophoridae: *Quasilistrophorus microticolus* 92

Macrochelidae: *Macrocheles praedafimitorum* 147

A. longicaudus

Glycyphagidae: *Glycyphagus hylandi* 267

Laelapidae: *Androlaelaps fahrenheitzi* 267; *Haemogamasus reidi* 285

Listrophoridae: *Quasilistrophorus microticolus* 92

Myobiidae: *Radfordia arborimus* 80, 267

Baiomys taylori

Myobiidae: *Radfordia hamiltoni* 127

Bassariscus astutus

Cheyletidae: *Cheyletus eruditus* 18; *Eucheyletia hardyi* 18

Glycyphagidae: *Glycyphagus hypudaei* 18

Laelapidae: *Androlaelaps fahrenheitzi* 18; *Echinonyssus breviseta* 18; *E. staffordi* 18

Blarina brevicauda

Glycyphagidae: *Glycyphagus hypudaei* 197, 208, 265; *G. newyorkensis* 264; *Orycteroxenus soricis* 208, 257, 264, 265; *Xenoryctes latiporus* 257, 264, 265; *X. nudus* 264, 265

Laelapidae: *Androlaelaps fahrenheitzi* 135, 197, 235, 257, 265; *Echinonyssus blarinae* 208, 257, 265; *E. isabellinus* 257, 291 (nr.); *E. talpae* 257, 291; *Eulaelaps stabularis* 135, 235, 257, 265, 291; *Haemogamasus ambulans* 235, 257, 265, 285, 291; *H. liponyssoides* 135, 208, 235, 257, 265, 291; *H. liponyssoides liponyssoides* 285; *H.*

longitarsus 135, 265; *Laelaps alaskensis* 235; *L. kochi* 249; *Myonyssus jamesoni*
135, 197, 235, 249, 264

Listrophoridae: *Listrophorus pitymys* 62; *Olistrophorus blarina* 54, 61, 62, 167, 172, 173,
208, 264, 265

Myobiidae: *Amorphacarus hengererorum* 257; *Blarinobia simplex* 135, 249, 257, 265;

Protomyobia americana 249, 265; *P. blarinae* 158, 251, 257; *P. claparedei* 135, 264

Pygmephoridae: *Pygmephorus designatus* 21, 22, 212, 249; *P. erlangensis* 212, 249, 257,

260, 265; *P. faini* 212; *P. hastatus* 22, 160, 212; *P. horridus* 160, 162, 188, 212,

257, 260, 265; *P. idei* 21; *P. igleharta* 213; *P. islandicus* 257, 260; *P. lutterloughae*

257, 260; *P. moreohorridus* 22, 257, 260; *P. plurispinosus* 21, 22; *P. rackae* 21, 22,

212; *P. russellae* 213; *P. scalopi* 21, 22, 160, 212; *P. spinosus* 14, 21, 22, 162, 188,

212, 249; *P. stammeri* 21, 22, 212, 249; *P. whitakeri* 21, 22, 162, 212, 257, 260,

265; *P. wilsoni* 213

B. carolinensis

Glycyphagidae: *Oryctoxenus soricis* 262; *Xenoryctes latiporus* 262

Laelapidae: *Androlaelaps casalis* 262; *A. fahrenheitzi* 12, 262, 286; *Echinonyssus blarinae*
124, 262; *Eulaelaps stabularis* 262; *Haemogamasus liponyssus* 262, 286

Listrophoridae: *Olistrophorus blarina* 262

Myobiidae: *Blarinobia simplex* 262; *Protomyobia blarinae* 262

Pygmephoridae: *Bakerdania plurisetosa* 262; *P. erlangensis* 262; *P. horridus* 262; *P.*

moreohorridus 262; *P. spinosus* 188, 262; *P. stammeri* 262; *P. whartoni* 262; *P.*

whitakeri 262

Blarina hylophaga

Glycyphagidae: *Glycyphagus hypudaei* 203; *Oryctoxenus soricis* 203

Laelapidae: *Androlaelaps fahrenheitzi* 203; *Echinonyssus blarinae* 203; *Eulaelaps stabularis* 203; *Haemogamasus liponyssoides* 203

Listrophoridae: *Geomylichus texana* 203; *Olistrophorus blarina* 203

Myobiidae: *Blarinobia simplex* 203; *Protomyobia blarinae* 203

Myocoptidae: *Mycoptes musculus* 203

Pygmephoridae: *Pygmephorus whitakeri* 203

Castor canadensis

Chirodiscidae: *Schizocarpus alaskensis* 90, 256; *S. centralis* 90; *S. contrarius* 90, 251; *S. distinctus* 90, 256; *S. furcatus* 90, 96, 251, 276; *S. indianensis* 96, 173, 251, 256, 276; *S. inversus* 90, 96, 251, 256, 276; *S. mingaudi* 96, 101, 249, 256, 276; *S. paramingaudi* 90, 251, 256; *S. postannulatus* 90, 251, 256; *S. posticus* 90, 251, 256; *S. protinus* 90, 256; *S. reductus* 90, 256; *S. spinifer* 90, 96, 251, 256, 276; *S. subvirgulatus* 90, 96, 251, 256, 276; *S. tetrapilis* 90, 96, 251, 256, 276; *S. virgulatus* 96, 251, 256, 276

Glycyphagidae: *Zibethacarus ondatrae* 276

Laelapidae: *Androlaelaps fahrenheitzi* 173

Macronyssidae: *Ornithonyssus bacoti* 172

Chaetodipus formosus

Listrophoridae: *Geomylichus formosus* 88

C. hispidus

Laelapidae: *Androlaelaps fahrenheitzi* 232; *Echinonyssus perognathi* 232

Listrophoridae: *Geomylichus inaequalis* 95, 232

C. penicillatus

Listrophoridae: *Geomylichus brevispinosus* 95; *G. multistriatus* 97; *G. texanus* 95

Condylura cristata

Glycyphagidae: *Glycyphagus hypudaei* 257; *Orycteroxenus canadensis* 172, 257; *O. soricis* 257; *Xenoryctes nudus* 257

Laelapidae: *Androlaelaps fahrenheitzi* 172, 235, 257, 292; *Echinonyssus isabellinus* 257, 291 (nr.); *E. talpae* 172, 235; *Eulaelaps stabularis* 172, 235, 257; *Haemogamasus ambulans* 172, 235, 257; *H. liponyssoides* 172, 257, 291

Myobiidae: *Eadiea condylurae* 172, 257

Pygmephoridae: *Pygmephorus faini* 212; *P. hastatus* 22; *P. horridus* 162, 212, 257, 260; *P. lutterloughae* 257, 260; *P. moreohorridus* 162, 172, 257, 260; *P. spinosus* 160, 162, 212 (nr.); *P. whitakeri* 212

Corynorhinus rafinesquii

Macronyssidae: *Macronyssus crosbyi* 197

Rosensteiniidae: *Chiroptoglyphus americanus* 179

C. townsendii

Laelapidae: *Androlaelaps fahrenheitzi* 1

Macronyssidae: *Macronyssus crosbyi* 198; *M. nr cyclaspis* 202; *M. longisetosus* 238, 254, 283; *M. unidens* 1, 198, 238

Myobiidae: *Pteracarus elegans* 40

Rosensteiniidae: *Nycteriglyphus texanus* 180, 254

Cratogeomys castanpos clarkia

Laelapidae: *Androlaelaps geomys* 284

C. castanpos perplanus

Laelapidae: *Androlaelaps geomys* 284; *Echinonyssus geomydis* 284

Cryptotis parva

Glycyphagidae: *Glycyphagus hypudaei* 6; *Orycteroxenus soricis* 6

Laelapidae: *Androlaelaps fahrenheitzi* 6; *Echinonyssus arcuatus* 6; *E. talpae* 249;

Haemogamasus liponyssoides 249; *Myonyssus jamesoni* 249

Listrophoridae: *Olistrophorus cryptotae* 54, 62, 167

Macrochelidae: *Macrocheles rodriguezi* 147

Myobiidae: *Blarinobia cryptotis* 249; *B. simplex* 6; *Protomyobia americana* 158; *P.*

claparedei 6

Pygmephoridae: *Pygmephorus designatus* 160, 162, 212; *P. sellnicki* 6; *P. spinosus* 160; *P.*

whitakeri 188, 212

Cynomys ludovicianus

Laelapidae: *Androlaelaps fahrenheitzi* 139, 238

Dasypus novemcinctus

Echimyopidae: *Echimyopus dasypus* 5

Glycyphagidae: *Marsupialichus johnstoni* 183

Dicrostonyx greenlandicus

Myobiidae: *Radfordia arctica* 67

D. hudsonicus

Macronyssidae: *Ornithonyssus sylviarum* 10

D. torquatus

Glycyphagidae: *Glycyphagus hypudaei* 107

Laelapidae: *Echinonyssus isabellinus* 107; *Haemogamasus ambulans* 107; *Laelaps alaskensis* 107

Myobiidae: *Radfordia macdonaldi* 107

Myocoptidae: *Myocoptes japonensis canadensis* 107

Didelphis virginiana

Atopomelidae: *Didelphilichus serrifer* 36, 38, 55, 186, 263

Cheyletidae: *Cheyletus eruditus* 114

Glycyphagidae: *Glycyphagus hypudaei* 173, *Marsupialichus brasiliensis* 38, 197, 263; *M. marsupialichus* 183; *Zibethacarus ondatrae* 263

Laelapidae: *Androlaelaps casalis* 263; *A. fahrenholzi* 3, 115, 122, 210, 263; *Eulaelaps stabularis* 114, 122; *Haemogamasus nidi* 122; *H. reidi* 263; *Laelaps echidnina* 114; *L. multispinosa* 263

Listrophoridae: *Listrophorus dozieri* 173, 197, 263

Macrochelidae: *Macrocheles mesochthonius* 148, 251

Macronyssidae: *Ornithonyssus bacoti* 36, 173, 114, 263; *O. sylviarum* 263; *O. wernecki* 38, 114, 135, 173, 186, 197, 263, 286

Myobiidae: *Archemyobia inexpectatus* 38, 114, 135, 263

Pygmephoridae: *Pygmephorus designatus* 21

Dipodomys californicus

Listrophoridae: *Geomylichus californicus* 97

D. compactus

Listrophoridae: *Geomylichus intercalatus* 97, 98

D. deserti

Listrophoridae: *Geomylichus deserti* 88

D. elator

Laelapidae: *Androlaelaps fahrenheitzi* 232; *Echinonyssus incomptis* 232

Listrophoridae: *Geomylichus dipodomius* 97, 232

D. elephantinus

Amerosiidae: *Sertitympanum contiguum* 230

Laelapidae: *Androlaelaps fahrenheitzi* 230; *Echinonyssus incomptis* 230; *E. triacanthus* 230

Listrophoridae: *Geomylichus californicus* 97, 230; *G. texanus* 97, 230

D. heermani

Listrophoridae: *Geomylichus californicus* 97, 98

D. ingens

Listrophoridae: *Geomylichus quasinudus* 98

D. merriami

Listrophoridae: *Geomylichus multistriatus* 97; *G. texanus* 95

D. microps

Listrophoridae: *Geomylichus utahensis* 88

D. nitratoides

Listrophoridae: *Geomylichus multistriatus* 97

D. ordii

Ameroseiidae: *Sertitympanum contiguum* 44; *S. exarmatum* 44

Laelapidae: *Androlaelaps fahrenheitzi* 1, 164; *A. geomys* 185; *Echinonyssus hilli* 164, 185; *E. incomptus* 1, 164; *E. longichelae* 1, 185; *E. triacanthus* 1, 164; *E. utahensis* 1,

164; *Eubrachylaelaps crowei* 1; *E. debilis* 1; *Haemogamasus ambulans* 1; *H. onychomydis* 164; *H. reidi* 164; *Hypoaspis leviculus* 1; *Ischyropoda armatus* 1, 164; *I. furmani* 1, 164

Listrophoridae: *Geomylichus texanus* 95, 164

Macrochelidae: *Macrocheles maseri* 148

Macronyssidae: *Ornithonyssus bacoti* 1

Myobiidae: *Radfordia bachai* 1

D. spectabilis

Listrophoridae: *Geomylichus dipodomius* 88, 95

D. venustus

Amerosiidae: *Sertitympanum contiguum* 230

Laelapidae: *Androlaelaps fahrenheitzi* 230; *Echinonyssus incomptis* 230; *Eubrachylaelaps circularis* 230; *Ischyropoda armatus* 230

Listrophoridae: *Geomylichus californicus* 97, 230; *G. texanus* 97, 230

Dipodomys sp.

Glycyphagidae: *Dipodomyopus tuttlei* 68

Listrophoridae: *Geomylichus postscutatus* 50

Eptesicus fuscus

Cheyletidae: *Cheletonella vespertilionis* 249

Chirodiscidae: *Alabidocarpus eptesicus* 201

Macronyssidae: *Chiroptonyssus robustipes* 33; *Cryptonyssus desultorius* 201, 202, 283;

Macronyssus crosbyi 25, 201, 283; *Steatonyssus ceratognathus* 33, 201; *S. occidentalis* 24, 25, 27, 33, 170, 201, 218, 249, 254, 283, 286

Myobiidae: *Acanthopthirius caudatus eptesicus* 81, 201, 283; *A. caudatus* 254; *Pteracarus aculeus* 40, 201, 283; *P. completus* 172

Rosensteiniidae: *Nycteriglyphus fuscus* 26; *Nycteriglyphitis pennsylvanicus* 33

Spinturnicidae: *Spinturnix americanus* 283; *S. bakeri* 24, 25, 201, 238, 249, 254, 283

Euderma maculatum

Macronyssidae: *Cryptonyssus desultorius* 193

Eumops perotis

Macronyssidae: *Chiroptonyssus haematophagus* 254

Felis concolor

Listrophoridae: *Lynxacarus morlani* 102

Geomys arenarius arenarius

Laelapidae: *Echinonyssus femoralis* 284

G. attwateri

Laelapidae: *Androlaelaps geomys* 284

Listrophoridae: *Geomylichus floridanus* 284

G. breviceps sagittalis

Laelapidae: *Androlaelaps geomys* 284; *Echinonyssus geomydis* 284

Listrophoridae: *Geomylichus floridanus* 284

G. bursarius

Laelapidae: *Echinonyssus geomydis* 249, 284; *E. longichelae* 249

Listrophoridae: *Geomylichus floridanus* 13

Macrochelidae: *Macrocheles dolichosternus* 148; *M.spickai* 148

Pygmephoridae: *Pygmephorus designatus* 161, 212; *P. plurispinosus* 212; *P. rackae* 212; *P. scalopi* 161, 162, 212, 213; *P. spickai* 161, 212; *P. whitakeri* 161, 212

G. bursarius illinoensis

Laelapidae: *Androlaelaps geomys* 222; *Echinonyssus geomydis* 222; *E. longichelae* 222;
Haemogamasus reidi 222

Listrophoridae: *Geomylichus floridanus* 222

Pygmephoridae: *Pygmephorus designatus* 222; *P. scalopi* 222; *P. spickai* 222, *P. whitakeri* 222

G. bursarius missouriensis

Laelapidae: *Androlaelaps geomys* 222; *Echinonyssus geomydis* 222; *E. longichelae* 222

Listrophoridae: *Geomylichus floridanus* 222

Pygmephoridae: *Pygmephorus scalopi* 222; *P. whitakeri* 222

G. knoxjonesi

Laelapidae: *Androlaelaps geomys* 284; *Echinonyssus geomydis* 284

Listrophoridae: *Geomylichus floridanus* 284

G. personatus

Listrophoridae: *Geomylichus floridanus* 13

G. personatus megapotamus

Laelapidae: *Androlaelaps geomys* 284; *Echinonyssus geomydis* 284

G. personatus streckeri

Laelapidae: *Androlaelaps geomys* 284; *Echinonyssus geomydis* 284

G. pinetis

Laelapidae: *Androlaelaps fahrenheitzi* 102

Listrophoridae: *Geomylichus floridanus* 62

G. texensis bakeri

Laelapidae: *Androlaelaps geomys* 284; *Echinonyssus geomydis* 284

Listrophoridae: *Geomylichus floridanus* 284

G. texensis llanensis

Laelapidae: *Androlaelaps geomys* 284

Listrophoridae: *Geomylichus floridanus* 284

G. texensis texensis

Listrophoridae: *Geomylichus floridanus* 284

Glaucomyx sabrinus

Dermanyssidae: *Dermanyssus gallinoides* 266

Glycyphagidae: *Dermacarus tamiasciuri* 266

Laelapidae: *Androlaelaps fahrenheiti* 266; *Echinonyssus cynomys* 266 (nr.); *E. longichelae* 266; *Haemogamasus ambulans* 235; *H. reidi* 266

G. volans

Laelapidae: *Androlaelaps casalis* 187; *A. fahrenheiti* 187, 216; *Haemogamasus ambulans* 187; *H. reidi* 114, 172, 285, 216

Lasionycteris noctivagans

Macronyssidae: *Cryptonyssus flexus* 25; *Macronyssus macrodactylus* 201, 249, 283; *M. unidens* 238

Myobiidae: *Acanthophthirius steatocaudatus* 201, 240

Lasiurus borealis

Macronyssidae: *Steatonyssus ceratognathus* 201; *S. furmani* 201, 218, 249, 264; *S. occidentalis* 218

Myobiidae: *Acanthophthirius lasiurus* 51, 81, 201; *Pteracarus completus vrazi* 40

L. cinereus

Macronyssidae: *Steatonyssus furmani* 202, 254, 283;

Myobiidae: *Acanthophthirius lasiurus* 81; *Pteracarus completus* 249

Lemmiscus curtatus

Ameroseiidae: *Sertitympanum exarmatum* 44

Glycyphagidae: *Glycyphagus hypudaei* 267; *Lepidoglyphus hylandi* 267

Laelapidae: *Androlaelaps fahrenheitsi* 267; *Echinonyssus isabellinus* 267; *H. utahensis* 267;

Haemogamasus reidi 267

Listrophoridae: *Listrophorus mexicanus* 267

Lemmus trimucronatus

Laelapidae: *Haemogamasus ambulans* 285

Leptonycteris nivalis

Myobiidae: *Phyllostomyobia leptonycteris* 49, 53

Rosensteiniidae: *Nycteriglyphus texanus* 160 (on guano), 254

Spinturnicidae: *Periglischrus vargasi* 254

Lepus californicus

Laelapidae: *Ischyropoda armatus* 1

Liomys irroratus

Glycyphagidae: *Metalabidophorus liomys* 157

Laelapidae: *Echinonyssus liomys* 120; *E. perognathi* 120

Lutra canadensis

Listrophoridae: *Lutracarus canadensis* 100; *Lynxacarus mustelae* 100

Lynx rufus

Listrophoridae: *Lynxacarus morlani* 102

Marmota flaviventris

Chortoglyphidae: *Aplodontopus marmotophilus* 147

Marmota monax

Laelapidae: *Androlaelaps fahrenheitzi* 197, 235; *Eulaelaps stabularis* 249

Macrochelidae: *Macrocheles mesochthonius* 148, 251

Mephitis mephitis

Laelapidae: *Androlaelaps fahrenheitzi* 261; *Echinonyssus staffordi* 114, 261

Macronyssidae: *Ornithonyssus wernecki* 37

Pygmephoridae: *Pygmephorus designatus* 22

Microdipodops megacephalus

Listrophoridae: *Geomylichus microdipodops* 88; *Geomylichus multistriatus* 97

Microtus abbreviatus

Laelapidae: *Haemogamasus ambulans* 194; *Laelaps clethrionomydis* 194; *L.*

kochi 194

M. californicus

Laelapidae: *Haemogamasus liponyssoides hesperus* 285; *H. reidi* 285

M. chrotorrhinus

Glycyphagidae: *Glycyphagus hypudaei* 142 (nr.), 197, 257, 259; *Orycteroxenus canadensis*

257; *O. soricis* 197, 257; *Xenoryctes latiporus* 259

Laelapidae: *Androlaelaps fahrenheitzi* 257, 259; *Echinonyssus isabellinus* 257, 259;
Eulaelaps stabularis 257, 259; *Haemogamasus ambulans* 163, 237, 257, 259; *H.*
liponyssoides 257, 259; *Laelaps alaskensis* 142, 163, 234, 235, 257, 259; *L. kochi*
 142, 153, 154, 155, 197, 234, 235, 237, 257, 259

Listrophoridae: *Listrophorus mexicanus* 257, 259; *L. mexicanus squamiferus* 142, 197

Myobiidae: *Radfordia hylandi* 257, 259

Myocoptidae: *Myocoptes canadensis* 142; *M. j. japonensis* 257; *M. japonensis* 259; *M.*
musculus 259; *M. squamosus* 257; *Trichoecius tenax* 257

Pygmephoridae: *Bakerdania plurisetosa* 259; *Pygmephorus horridus* 257, 260

M. longicaudus

Laelapidae: *Androlaelaps fahrenheitzi* 268; *Eulaelaps stabularis* 268; *Haemogamasus*
occidentalis 268; *H. reidi* 268, 285; *Laelaps kochi* 268

Macrochelidae: *Macrocheles praedafimitorum* 148

Pygmephoridae: *Pygmephorus horridus* 21

M. mexicanus

Myobiidae: *Radfordia hylandi* 67

M. miurus

Laelapidae: *Haemogamasus ghanii* 285

M. montanus

Glycyphagidae: *Glycyphagus hypudaei* 268; *Lepidoglyphus hylandi* 268

Laelapidae: *Androlaelaps fahrenheitzi* 1, 268; *Echinonyssus isabellinus* 1, 268;

Eubrachylaelaps debilis 268; *Eulaelaps stabularis* 268; *Haemogamasus*

occidentalis 268; *H. onychomydis* 285; *H. reidi* 268; *Ischyropoda armatus* 1;
Laelaps alaskensis 268; *L. kochi* 268

Listrophoridae: *Listrophorus mexicanus* 268

M. ochrogaster

Glycyphagidae: *Glycyphagus hypudaei* 6, 9, 166, 208, 172, 238; *Orycteroxenus soricis* 172

Laelapidae: *Androlaelaps fahrenheitzi* 2, 3, 6, 9, 168, 208, 172, 238; *Echinonyssus utahensis* 208, 233; *Eulaelaps stabularis* 172; *Haemogamasus ambulans* 238; *H. liponyssoides* 208, 172; *H. longitarsus* 172; *Laelaps alaskensis* 208, 172; *L. kochi* 6, 9, 208, 172, 238

Listrophoridae: *Listrophorus mexicanus* 6, 9, 172; *L. synaptomys* 208

Macronyssidae: *Ornithonyssus bacoti* 9, 172, 238

Myobiidae: *Myobia musculi* 208; *Radfordia hylandi* 208, 172; *R. lemnina* 6, 9

Myocoptidae: *Myocoptes japonensis* 6, 208, 172; *M. musculus* 6, 166, 208, 172, 238;
Trichoecius tenax 172

Pygmephoridae: *Pygmephorus rackae* 172; *P. sellnicki* 6; *P. whitakeri* 188

M. oeconomus

Laelapidae: *Haemogamasus ambulans* 285; *H. ghanii* 285

Myobiidae: *Radfordia lemnina* 67

M. oregoni

Glycyphagidae: *Glycyphagus hypudaei* 268; *Zibethacarus ondatrae* 268

Laelapidae: *Androlaelaps fahrenheitzi* 268; *Eulaelaps stabularis* 268; *Haemogamasus occidentalis* 268; *Laelaps kochi* 268

Listrophoridae: *Listrophorus mexicanus* 268

Myobiidae: *Radfordia hylandi* 268

M. pennsylvanicus (See also *M. p. breweri*)

Glycyphagidae: *Glycyphagus hypudaei* 172, 208, 257, 265; *G. microti* 224

Laelapidae: *Androlaelaps casalis* 31; *A. fahrenheiti* 2, 3, 31, 168, 172, 208, 233, 235, 238, 257, 265; *Echinonyssus blarinae*? 291; *E. isabellinus* 233, 257, 291 (nr.); *E. thomomys* 168; *Eulaelaps stabularis* 235, 265, 291; *Haemogamasus ambulans* 235, 257, 285, 291(?); *H. liponyssoides* 31, 172, 235, 265, 291; *H. liponyssoides liponyssoides* 285; *H. longitarsus* 265, 285; *Hypoaspis leviculus* 208; *Laelaps alaskensis* 2, 3, 31, 172, 235, 257, 265; *L. kochi* 2, 3, 31, 135, 150, 172, 208, 233, 235, 238, 239, 257, 265

Listrophoridae: *Listrophorus mexicanus* 31, 135, 172, 257, 265; *L. mexicanus squamiferus* 62; *L. pitymys* 62

Macronyssidae: *Ornithonyssus bacoti* 31, 172

Myobiidae: *Protomyobia brevisetosa* 257; *Radfordia hylandi* 67, 172, 257, 265; *R. lemnina* 111 (nr.), 135

Myocoptidae: *Myocoptes j. japonensis* 257; *M. japonensis* 172, 208, 265; *M. musculus* 166; *M. squamosus* 257; *Trichoecius tenax* 135, 257, 265

Pygmephoridae: *Pygmephorus moreohorridus* 257, 260

M. pennsylvanicus breweri

Laelapidae: *Laelaps kochi* 289

M. pinetorum

Cheyletidae: *Eucheyletia bishoppi* 181

Glycyphagidae: *Glycyphagus hypudaei* 172, 181; *G. microti* 224; *Lepidoglyphus hylandi*
181

Laelapidae: *Androlaelaps fahrenheiti* 12, 124, 135, 172, 181, 265; *Eulaelaps stabularis*
172, 181, 265; *Haemogamasus ambulans* 181, 285; *H. harperi*; 181; *H.*
liponyssoides 181; *H. longitarsus* 124, 172, 181, 265, 285; *H. onychomydis* 285;
Laelaps alaskensis 12, 172, 265; *L. kochi* 172, 181, 265

Listrophoridae: *Listrophorus pitymys* 61, 62

Macronyssidae: *Ornithonyssus bacoti* 172, 181

Myobiidae: *Radfordia hylandi* 67, 172, 181

Myocoptidae: *Myocoptes japonensis* 172, 181; *M. musculus* 172; *M. pitymys* 60;
Trichoecius tenax 265

Pygmephoridae: *Bakerdania jonesi* 181; *B. plurisetosa* 181; *Pseudopygmephorus*
quadratus 181; *Pygmephorus designatus* 172, 181, 212, 249; *P. hastatus* 172, 181,
212; *P. horridus* 265; *P. scalopi* 172, 181, 212; *P. whitakeri* 162, 172, 181, 212

M. richardsoni

Glycyphagidae: *Glycyphagus hypudaei* 268

Laelapidae: *Androlaelaps fahrenheiti* 268; *Echinonyssus isabellinus* 268; *Haemogamasus*
occidentalis 268; *H. reidi* 268; *Laelaps alaskensis* 268

Listrophoridae: *Listrophorus mexicanus* 268

Myocoptidae: *Myocoptes japonensis* 268

M. townsendii

Glycyphagidae: *Glycyphagus hypudaei* 268

Laelapidae: *Androlaelaps fahrenheiti* 268; *Echinonyssus isabellinus* 268; *E. obsoletus* 268;
Eubrachylaelaps debilis 268; *Eulaelaps stabularis* 268; *Haemogamasus occidentalis*
 268; *H. reidi* 268; *Hypoaspis miles* 268; *Laelaps kochi* 268

Listrophoridae: *Listrophorus mexicanus* 268

Mormoops megalophylla

Macronyssidae: *Chirotonyssus robustipes* 254

Mus musculus

Glycyphagidae: *Glycyphagus hypudaei* 249; *Orycteroxenus canadensis* 197; *Xenoryctes*
latiporus 249

Laelapidae: *Androlaelaps fahrenheiti* 220; *A. morlani* 249; *Echinonyssus butantanensis* 48;
E. utahensis 208; *Eulaelaps stabularis* 249; *Haemogamasus sanguineus* 196

Listrophoridae: *Listrophorus mexicanus* 249

Macronyssidae: *Ornithonyssus bacoti* 173, 196, 249; *O. sylviarum* 171

Myobiidae: *Myobia musculi* 135, 196, 197, 208, 220; *Radfordia affinis* 196, 197, 220; *R.*
hylandi 208; *R. subuliger* 135

Myocoptidae: *Myocoptes musculus* 135, 166, 196, 197, 220

Pygmephoridae: *Pygmephorus whitakeri* 212

Mustela erminea

Chirodiscidae: *Lutrilichus canadensis* 71

Glycyphagidae: *Glycyphagus hypudaei* 269; *Orycteroxenus soricis* 269

Laelapidae: *Androlaelaps fahrenheiti* 129; *Echinonyssus obsoletus* 269; *E. utahensis* 269;
Eubrachylaelaps debilis 269; *Eulaelaps stabularis* 269; *Haemogamasus occidentalis*
 269; *H. reidi* 269; *Laelaps multispinosa* 129

Listrophoridae: *Lynxacarus mustelae* 52

Pygmephoridae: *Pygmephorus whitakeri* 21; *Pygmephorus n. sp.* #3 17

M. frenata

Chortoglyphidae: *Aplodontopus sciuricola* 261

Glycyphagidae: *Glycyphagus hypudaei* 261; *Lepidoglyphus hylandi* 261; *Scalopacarus obesus* 208; *Xenoryctes latiporus* 261; *Zibethacarus ondatrae* 261

Laelapidae: *Androlaelaps fahrenheitzi* 261, 269; *Echinonyssus cynomys* 269; *E. longichelae* 269; *E. obsoletus* 269; *E. thomomys*, 269; *Haemogamasus liponyssoides* 261; *H. occidentalis* 285; *H. reidi* 261; *Hypoaspis leviculus* 208, *Laelaps multispinosa* 261

Listrophoridae: *Lynxacarus mustelae* 62, 261, 269; *L. nearcticus* 62, 208, 261

Pygmephoridae: *Pygmephorus designatus* 249

M. nigripes

Pygmephoridae: *Pygmephorus spickai* 188

M. nivalis

Glycyphagidae: *Zibethacarus ondatrae* 261

Laelapidae: *Androlaelaps fahrenheitzi* 261; *Laelaps alaskensis* 261

Listrophoridae: *Listrophorus mexicanus* 261

Myocoptidae: *Myocoptes japonensis* 261

M. vison

Glycyphagidae: *Marsupialichus brasiliensis* 261; *Zibethacarus ondatrae* 261

Laelapidae: *Androlaelaps fahrenheitzi* 261; *Echinonyssus obsoletus* 269; *E. staffordi* 269;

Laelaps kochi 261; *L. multispinosa* 261

Listrophoridae: *Lynxacarus nearcticus* 48, 261, 269; *Lynxacarus visoni* 59

Myodes californicus

Glycyphagidae: *Glycyphagus hypudaei* 268

Laelapidae: *Androlaelaps fahrenheitzi* 268; *Echinonyssus isabellinus* 268; *E. obsoletus* 268;

Eulaelaps stabularis 268; *Haemogamasus occidentalis* 268; *H. reidi* 268

Listrophoridae: *Listrophorus mexicanus* 268

Myobiidae: *Protomyobia brevisetosa* 268

Myocoptidae: *Myocoptes japonensis* 268

Pygmephoridae: *Pygmephorus designatus* 268

M. gapperi

Glycyphagidae: *Glycyphagus hypudaei* 197, 257, 264, 265, 268; *G. hypudaei*

septentrionalis 111; *Lepidoglyphus hylandi* 265; *Xenoryctes latiporus*

265

Laelapidae: *Androlaelaps fahrenheitzi* 197, 235, 257, 264, 265, 268, 291; *Echinonyssus*

isabellinus 257, 268, 291 (nr.); *Eulaelaps stabularis* 235, 257, 265, 291;

Haemogamasus ambulans 235, 257, 265, 285, 291; *H. liponyssoides* 235, 265, 291;

H. longitarsus 265, 285; *H. reidi* 257, 268; *H. thomomysi* 285; *Laelaps alaskensis*

264

Listrophoridae: *Listrophorus mexicanus* 111, 257, 264, 265; *L. mexicanus squamiferus* 62

Macronyssidae: *Macronyssus crosbyi* 291

Myobiidae: *Radfordia hylandi* 67; *R. lemnina* 67, 111 (nr.), 257, 265

Myocoptidae: *Myocoptes j. japonensis* 197, 257; *M. ondatrae* 111 (nr.); *M. squamosus* 257;

Trichoecius tenax 257

Pygmephoridae: *Pygmephorus horridus* 162, 212, 257, 260

M. rutilus

Laelapidae: *Haemogamasus ambulans* 285; *H. ghanii* 285

Myobiidae: *Radfordia lemnina* 144

Pygmephoridae: *Pygmephorus horridus* 21; *P. plurispinosus* 21; *plurispinosus* 22 (nr.); *P. stammeri* 21

Myotis austroriparius

Chirodiscidae: *Olabidocarpus whitakeri* 249, 281

Macronyssidae: *Macronyssus crosbyi* 204, 281; *M. jonesi* 281

Spinturnicidae: *Spinturnix americanus* 204

M. californicus

Chirodiscidae: *Alabidocarpus calcaratus* 283

Laelapidae: *Haemogamasus ambulans* 283

Macronyssidae: *Chirotonyssus robustipes* 27; *Cryptonyssus desultorius* 283; *Macronyssus crosbyi* 283

M. ciliolabrum

Macronyssidae: *Macronyssus crosbyi* 206

Spinturnicidae: *Spinturnix americanus* 206; *S. carloshoffmani* 206

M. evotis

Macronyssidae: *Macronyssus crosbyi* 206, 283

Myobiidae: *Pteracarus chalinolobus* 8 (nr.), 206

Spinturnicidae: *Spinturnix americanus* 206, 253, 283

M. grisescens

Chirodiscidae: *Olabidocarpus whitakeri* 281

Macronyssidae: *Macronyssus jonesi* 172, 201, 281

Spinturnicidae: *Spinturnix americanus* 281; *S. banksi* 201, 229, 281; *S. globosus* 281

M. lucifugus

Chirodiscidae: *Alabidocarpus calcaratus* 24

Macronyssidae: *Cryptonyssus flexus* 23, 25; *Macronyssus crosbyi* 23, 24, 25, 132, 197, 201, 238, 249, 281, 283; *Steatonyssus occidentalis* 201

Myobiidae: *Acanthophthirius caudatus* 81; *A. lucifugus* 81, 201

Pygmephoridae: *Pygmephorus mahunkai* 132

Rosensteiniidae: *Chiroptoglyphus americanus* 179

Spinturnicidae: *Spinturnix americanus* 23, 24, 25, 132, 197, 201, 235, 253, 283; *S. globosus* 214

M. occultus

Glycophagidae: *Glycyphagus hypudaei* 241

Listrophoridae: *Alabidocarpus calcaratus* 241; *A. eptesicus* 241 (nr.)

Macronyssidae: *Chiroptonyssus haemotophagus* 241; *C. robustipes* 241; *Cryptonyssus desultoria* 241; *Macronyssus crosbyi* 241

Myobidae: *Acanthophthirius lucifugus* 241; *Pteracarus minutus* 241 (nr.)

Spinturnicidae: *Spinturnix americanus* 241

M. septentrionalis

Chirodiscidae: *Olabidocarpus whitakeri* 201, 249

Macronyssidae: *Macronyssus crosbyi* 24, 25, 197, 201, 208, 218, 249, 281; *Steatonyssus ceratognathus* 201

Myobiidae: *Acanthopthirius gracilis* 81, 201, 208, 281

Spinturnicidae: *Spinturnix americanus* 201, 249

M. sodalis

Macronyssidae: *Cryptonyssus desultorius* 201, 207; *Macronyssus crosbyi* 201, 207, 249, 253; *Steatonyssus ceratognathus* 201; *S. occidentalis* 24, 201

Myobiidae: *Acanthopthirius lucifugus* 249

Spinturnicidae: *Spinturnix americanus* 201, 207, 249; *S. globosus* 201, 253

M. thysanodes

Myobiidae: *Pteracarus* sp. C 40

Spinturnicidae: *Spinturnix americanus* 202, 254

M. velifer

Cheyletidae: *Cheyletus cacahuamilpensis* 198

Macronyssidae: *Chiroptonyssus robustipes* 202; *Cryptonyssus desultorius* 202; *Macronyssus crosbyi* 198, 202, 254; *M. unidens* 198; *Steatonyssus occidentalis* 202

Myobiidae: *Acanthopthirius caudatus* 202

Rosensteiniidae: *Chiroptoglyphus americanus* 179; *Nycteriglyphus texanus* 180 (on body of bat), 254

Spinturnicidae: *Spinturnix americanus* 198, 202, 253, 254; *S. carloshoffmanni* 202; *S. globosus* 198

M. volans

Chirodiscidae: *Alabidocarpus calcaratus* 283

Macronyssidae: *Cryptonyssus desultorius* 283; *Macronyssus crosbyi* 283

Myobiidae: *Acanthopthirius gracilis* (nr) 283; *Pteracarus minutus daubentonii* 283 (nr.)

Spinturnicidae: *Spinturnix americanus* 202, 238, 283; *S. bakeri* 283; *S. globosus* 283

M. yumanensis

Macronyssidae: *Cryptonyssus desultorius* 202, 254; *Macronyssus crosbyi* 283; *Steatonyssus antrozoii* 254

Rosensteiniidae: *Nycteriglyphus texanus* 180 (on body of bat), 254

Spinturnicidae: *Spinturnix americanus* 202, 254, 283

Napaeozapus insignis

Glycyphagidae: *Glycyphagus hypudaei* 257, 291; *G. newyorkensis* 131, 257, 264

Laelapidae: *Androlaelaps fahrenheitzi* 131, 235, 257, 264; *Echinonyssus isabellinus* 131;

Haemogamasus ambulans 131, 291; *Laelaps kochi* 131

Listrophoridae: *Listrophorus mexicanus* 131

Myobiidae: *Radfordia ewingi* 131, 257

Myocoptidae: *Gliricoptes glirinus* 111 (nr.; *G. zapus* 257

Pygmephoridae: *Pygmephorus horridus* 257, 260; *P. mahunkai* 131

Neofiber alleni

Laelapidae: *Androlaelaps fahrenheitzi* 215; *Laelaps evansi* 215

Listrophoridae: *Listrophorus caudatus* 74, 215; *L. laynei* 74, 215; *Prolistrophorus birkenholzi* 74, 215

Macrochelidae: *Macrocheles mammifer* 102, 148

Neotoma cinerea

Cheyletidae: *Eucheyletia bishoppi* 15

Glycyphagidae: *Dermacarus spermophilus* 15

Laelapidae: *Androlaelaps casalis* 15; *A. fahrenheiti* 15, 238, 269; *Echinonyssus bisetosus* 1;
E. neotomae 1, 15, 269; *E. obsoletus* 15; *E. triacanthus* 1; *E. utahensis* 15;
Eulaelaps stabularis 269; *Haemogamasus ambulans* 238; *H. pontiger* 269; *H. reidi*
 15, 269; *Hypoaspis lubrica* 15

Myobiidae: *Radfordia neotomae* 15

Myocoptidae: *Myocoptes neotomae* 15

Pygmephoridae: *Pygmephorus whitakeri* 15, 17

N. floridana

Cheyletidae: *Cheyletus malaccensus* 16, 251

Glycyphagidae: *Glycyphagus hypudaei* 16

Laelapidae: *Androlaelaps casalis* 32; *A. fahrenheiti* 16, 32, 172; *Echinonyssus utahensis*
 16; *Eulaelaps stabularis* 32, 172; *Hypoaspis leviculus* 172, 249; *H. lubrica* 16

Listrophoridae: *Listrophorus neotomae* 32, 62

Macronyssidae: *Ornithonyssus bacoti* 16, 32, 172

Myocoptidae: *Myocoptes neotomae* 16, 32, 70

Pygmephoridae: *Pygmephorus spickai* 16, 251

N. fuscipes

Glycyphagidae: *Dermacarus spermophilus* 15; *Xenoryctes nudus* 15 (nr.)

Laelapidae: *Androlaelaps fahrenheiti* 15, 269; *Eulaelaps stabularis* 15; *Haemogamasus*
reidi 15, 269, 285; *Hypoaspis lubrica* 15

Myobiidae: *Radfordia neotomae* 15, 127

Myocoptidae: *Myocoptes neotomae* 15

N. lepida

Laelapidae: *Androlaelaps fahrenheiti* 269

N. micropus

Laelapidae: *Androlaelaps fahrenheiti* 130

Listrophoridae: *Listrophorus neotomae* 48, 62

Macronyssidae: *Ornithonyssus bacoti* 130

Neurotrichus gibbsii

Laelapidae: *Androlaelaps fahrenheiti* 292; *Haemogamasus occidentalis* 271, 285; *Laelaps kochi* 271

Myobiidae: *Eadidea brevihamata* 271; *E. neurotrichus* 159; *Eutalpacarus peltatus* 271

Pygmephoridae: *Bakerdania jonesi* 162; *Pygmephorus erlangensis* 212 ; *P. forcipatus* 17; *P. horridus* 17, 212; *P. plurispinosus* 17; *P. whitakeri* 17

Nycticeius humeralis

Laelapidae: *Androlaelaps fahrenheiti* 201

Macronyssidae: *Macronyssus crosbyi* 201; *Steatonyssus ceratognathus* 102, 201, 204, 218, 249

Myobiidae: *Acanthophthirius nycticeius* 89, 201, 251

Nyctinomops femorosaccus

Macronyssidae: *Chiroptonyssus venezolanus* 202

N. macrotis

Macronyssidae: *Chiroptonyssus venezolanus* 202 (nr.)

Ochotona princeps

Laelapidae: *Echinonyssus utahensis* 269

Ochrotomys nuttalli

Glycyphagidae: *Glycyphagus hypudaei* 174, 200, 264

Laelapidae: *Androlaelaps casalis* 153, 154, 197; *A. fahrenheitzi* 152, 153, 154, 197, 264;

Eulaelaps stabularis 152, 153, 154, 197, 200; *Laelaps alaskensis* 153, 154, 197

Macronyssidae: *Ornithonyssus bacoti* 154, 200

Myocoptidae: *Myocoptes musculus* 152, 153, 154, 197, 200

Pygmephoridae: *Bakerdania equisetosa* 200

Ondatra zibethicus

Chirodiscidae: *Schizocarpus indianensis* 250

Glycyphagidae: *Marsupialichus brasiliensis* 7; *Zibethacarus ondatrae* 7, 135, 210, 250, 269, 291

Laelapidae: *Androlaelaps fahrenheitzi* 7; *Laelaps multispinosa* 2, 3, 7, 135, 210, 250, 269, 291

Listrophoridae: *Listrophorus americanus* 7, 62, 135, 210, 250, 269; *L. dozieri* 7, 62, 210, 250, 269; *L. faini* 7, 62, 210, 250, 269; *L. kingstownensis* 48, 62; *L. ondatrae* 7, 62, 269; *L. validus* 7, 62, 269

Myobiidae: *Radfordia zibethicalis* 7, 197, 250, 269

Myocoptidae: *Myocoptes ondatrae* 7, 250

Onychomys leucogaster

Ameroseiidae: *Sertitympanum exarmatum* 44; *S. separationis* 44

Glycyphagidae: *Glycyphagus hypudaei* 269

Laelapidae: *Androlaelaps fahrenheitzi* 1, 168, 185, 269; *A. geomys* 185; *Echinonyssus hilli* 1, 185; *E. longichelae* 185; *E. thomomys* 1, 168; *E. utahensis* 1; *Eubrachylaelaps*

crowei 1; *E. debilis* 1; *Haemogamasus ambulans* 1; *H. longitarsus* 1, 168; *H. onychomydis* 269; *Hypoaspis leviculus* 1; *Ischyropoda armatus* 1, 269

Macronyssidae: *Ornithonyssus bacoti* 269

Myobiidae: *Radfordia subuliger* 269

Myocoptidae: *Myocoptes musculus* 269

O. torridus

Macronyssidae: *Ornithonyssus bacoti* 225

Opisthosomax lateraux

Listrophoridae: *Lynxacarus nearcticus* 48

Oryzomys palustris

Laelapidae: *Androlaelaps fahrenheitzi* 115, 286; *Gigantolaelaps mattogrossensis* 11

Listrophoridae: *Oryzomyia oryzomys* 55; *Protolistrophorus bakeri* 62; *P. grassii* 69

Macronyssidae: *Ornithonyssus bacoti* 286

Myobiidae: *Radfordia palustris* 66, 67

Parascalops breweri

Glycyphagidae: *Labidophorus nearcticus* 87, 258

Laelapidae: *Androlaelaps fahrenheitzi* 197, 292; *Echinonyssus blarinae* 258; *E. talpae* 197;

Haemogamasus liponyssoides 258; *H. liponyssoides liponyssoides* 285; *H. reidi* 292; *Hypoaspis miles* 258; *Laelaps alaskensis* 258

Pygmephoridae: *Bakerdania plurisetosa* 258; *Pygmephorus designatus* 258; *P. erlangensis* 258; *P. hastatus* 258; *P. horridus* 258; *P. lutterloughae* 258; *P. proctorae* 213, 258; *P. rackae* 258; *P. spinosus* 258; *P. stammeri* 258; *P. whartoni* 258; *P. whitakeri* 160, 212, 258

Parastrellus hesperus

Macronyssidae: *Chirotonyssus venezolanus* 202; *Cryptonyssus desultorius* 117, 202;

Steatonyssus emarginatus 27, 117, 254, 283; *S. occidentalis* 117

Myobiidae: *Acanthophthirius oregonensis* 83, 283

Perimyotis subflavus

Macronyssidae: *Macronyssus crosbyi* 198, 201; *M. unidens* 198; *Steatonyssus*

ceratognathus 201; *S. occidentalis* 201

Myobiidae: *Acanthophthirius caudatus* 201; *Pteracarus minutus occidentalis* 40, 201, 251

Perognathus fasciatus

Laelapidae: *Androlaelaps fahrenheitzi* 150

Listrophoridae: *Geomylichus perognathi* 85

P. flavus

Listrophoridae: *Geomylichus perognathi* 232

P. formosus

Listrophoridae: *Geomylichus formosus* 88

P. longimembris

Listrophoridae: *Geomylichus perognathi* 88

P. parvus

Ameroseiidae: *Sertitympanum exarmatum* 44

Dermanyssidae: *Dermanyssus gallinae* 1

Laelapidae: *Androlaelaps casalis* 1; *A. fahrenheitzi* 1, 164; *Echinonyssus hilli* 1, 164; *E.*

incomptus 1; *E. triacanthus* 1; *E. utahensis* 1; *Eubrachylaelaps debilis* 1;

Haemogamasus ambulans 1; *H. onychomydis* 164; *Hyposaspis lubrica* 1;

Ischyropoda armatus 1, 164; *I. furmani* 1

Listrophoridae: *Geomylichus perognathi* 85, 88, 164

P. penicillatus

Listrophoridae: *Geomylichus multistriatus* 97

Perognathus sp.

Listrophoridae: *Geomylichus inaequalis* 88

Peromyscus boylii

Laelapidae: *Androlaelaps fahrenheitzi* 42; *Haemogamasus reidi* 285

P. crinitus

Laelapidae: *Androlaelaps fahrenheitzi* 277, 286; *E. debilis* 277; *E. hollisteri* 277;

Haemogamasus occidentalis 277

Macronyssidae: *Ornithonyssus bacoti* 277, 286

P. gossypinus

Glycyphagidae: *Glycyphagus hypudaei* 174

Laelapidae: *Androlaelaps fahrenheitzi* 12, 35; *Eulaelaps stabularis* 286; *Haemogamasus*

liponyssoides liponyssoides 285

Listrophoridae: *Prolistrophorus sparsilineatus* 62

Macronyssidae: *Ornithonyssus bacoti* 12, 35

Pygmephoridae: *Pygmephorus horridus* 188, 212

P. leucopus

Cheyletidae: *Cheyletus eruditus* 114

- Glycyphagidae: *Glycyphagus hypudaei* 6, 9, 39, 197, 200, 208, 264, 265; *Xenoryctes latiporus* 264
- Laelapidae: *Androlaelaps casalis* 31, 39; *A. fahrenheitzi* 2, 3, 6, 9, 12, 31, 39, 114, 126, 134, 135, 208, 172, 264, 265; *Echinonyssus arcuatus* 6; *E. utahensis* 2, 3, 126, 208, 172, 265; *Eulaelaps stabularis* 114, 126, 291; *Gigantolaelaps mattogrossensis* 11; *Haemogamasus ambulans* 291; *H. liponyssoides* 126, 135, 291; *H. liponyssoides liponyssoides* 285; *H. longitarsus* 208; *Laelaps alaskensis* 3, 208; *L. kochi* 6, 9, 208
- Listrophoridae: *Listrophorus mexicanus* 9, 265; *L. mexicanus squamiferus* 62; *L. synaptomys* 208
- Macrochelidae: *Macrocheles muscaedomesticae* 148; *M. subbadius* 148
- Macronyssidae: *Ornithonyssus bacoti* 9, 12, 31, 39, 114, 134, 200, 172
- Myobiidae: *Myobia musculi* 208; *Radfordia hylandi* 208, 172; *R. subuliger* 6, 9, 197, 208, 249, 264, 265
- Myocoptidae: *Myocoptes japonensis* 6, 208; *M. musculus* 6, 208, 265; *Trichoecius gettingeri* 70, 265
- Pygmephoridae: *Pygmephorus designatus* 21, 22, 208; *P. horridus* 265; *P. sellnicki* 6; *P. spinosus* 21; *P. whitakeri* 21, 22
- P. maniculatus*
- Ameroseiidae: *Sertitympanum separationis* 44
- Glycyphagidae: *Dermacarus jonesi* 82; *Glycyphagus hypudaei* 166, 197, 208, 238, 257, 264, 269, 277
- Laelapidae: *Androlaelaps casalis* 1, 257, 269, 277; *A. fahrenheitzi* 1, 108, 150, 168, 197, 208, 235, 238, 257, 264, 269, 277; *A. fenilis* 108; *Echinonyssus affinus* 277; *E. hilli*

1; *E. incomptus* 1; *E. isabellinus* 277, 291(nr); *E. longichelae* 1; *E. obsoletus* 269; *E. obsoletus* (var.) 269, 277; *E. thomomys* 1; *E. triacanthus* 1; *E. utahensis* 1, 108, 208, 264, 269, 277; *Eubrachylaelaps circularis* 1, 269; *E. crowei* 1; *E. debilis* 1, 108, 269, 277; *Eulaelaps stabularis* 208, 235, 238, 257, 264, 269, 277; *Haemogamasus ambulans* 1, 235, 277 (nr); *H. longitarsus* 1; *H. occidentalis* 277; *H. onychomydis* 285; *H. reidi* 269, 277; *Hypoaspis leviculus* 1, 208; *Ischyropoda armatus* 1; *I. furmani* 1; *Laelaps alaskensis* 277; *L. kochi* 238, 269, 277

Listrophoridae: *Listrophorus synaptomys* 208

Macrochelidae: *Macrocheles insignitus* 148, 251; *M. praedafimetorum* 148

Macronyssidae: *Ornithonyssus bacoti* 238, 277

Myobiidae: *Amorphacarus hengererorum* 277; *Myobia musculi* 166; *Protomyobia claparedei* 264; *Radfordia affinis* 249; *R. subuliger* 197, 208, 249, 257, 264, 277

Myocoptidae: *Myocoptes japonensis* 208, 264; *M. musculus* 111 (nr.), 166, 197, 208

Pygmephoridae: *Pygmephorus spinosus* 21; *P. whitakeri* 17

P. polionotus

Glycyphagidae: *Glycyphagus hypudaei* 174

P. sitkensis

Pygmephoridae: *Pygmephorus arcuatus* 19, 21; *P. horridus* 21; *P. stammeri* 21

P. truei

Laelapidae: *Androlaelaps fahrenheitzi* 277; *Eubrachylaelaps circularis* 277

Phenacomys intermedius

Listrophoridae: *Listrophorus phenacomys* 62

Podomys floridanus

Laelapidae: *Androlaelaps fahrenheiti* 102

Procyon lotor

Laelapidae: *Androlaelaps casalis* 199, 261; *A. fahrenheiti* 114, 115, 210, 261; *Echinonyssus isabellinus* 291 (nr.); *E. staffordi* 261; *Hypoaspis leviculus* 261; *Laelaps multispinosa* 210

Macronyssidae: *Ornithonyssus bacoti* 114, 186; *O. wernecki* 261

Pygmephoridae: *Pygmephorus designatus* 22; *P. erlangensis* 22; *P. idei* 22; *P. spinsosus* 21, 22; *P. whitakeri* 22

Rhyncoptidae: *Ursicoptes procyoni* 99

Rattus norvegicus (See also *Rattus norvegicus/Rattus rattus*)

Cheyletidae: *Cheyletus eruditus* 247

Glycyphagidae: *Glycyphagus hypudaei* 197; *Zibethacarus ondatrae* 247

Laelapidae: *Androlaelaps casalis* 247; *A. fahrenheiti* 116, 247; *A. morlani* 247; *Echinonyssus butantanensis* 247; *Eulaelaps stabularis* 114; *Haemogamasus liponyssoides liponyssoides* 285; *H. longitarsus* 197; *H. pontiger* 285; *Hypoaspis lubrica* 247; *Laelaps echidnina* 12, 114

Macrochelidae: *Macrocheles mammifer* 148, 247, 251; *M. merdarius* 148, 247, 251; *M. mesochthonius* 148, 251; *M. rodriguezii* 148, 251

Macronyssidae: *Ornithonyssus bacoti* 247; *O. sylviarum* 113, 171, 247

Myobiidae: *Radfordia ensifera* 114, 247, 264

Pygmephoridae: *Pygmephorus designatus* 21, 212, 247; *P. erlangensis* 21; *P. mahunkai* 212; *P. scalopi* 212, 247; *P. whitakeri* 212, 247

Rattus norvegicus/R. rattus

Laelapidae: *Laelaps echidnina* 43; *L. nuttalli* 43

Macronyssidae: *Ornithonyssus bacoti* 43, 197

R. rattus (See also *Rattus norvegicus*/*Rattus rattus*)

Macronyssidae: *Ornithonyssus bacoti* 8, 169

Reithrodontomys megalotis

Glycyphagidae: *Glycyphagus hypudaei* 166, 238

Laelapidae: *Androlaelaps fahrenheitzi* 1, 238, 269; *Eubrachylaelaps debilis* 269;

Haemogamasus ambulans 1

Listrophoridae: *Listrophorus synaptomys* 208

Macronyssidae: *Ornithonyssus bacoti* 238

Myobiidae: *Radfordia subuliger* 249

Myocoptidae: *Myocoptes musculus* 208

Pygmephoridae: *Bakerdania equisetos* 162

Scalopus aquaticus

Glycyphagidae: *Scalopacarus obesus* 275; *Xenoryctes latiporus* 275

Laelapidae: *Androlaelaps fahrenheitzi* 275, 292; *Echinonyssus blarinae* 275, 292; *Eulaelaps*

stabularis 275, 286; *Haemogamasus ambulans* 275; *H. harperi* 102, 275, 285, 286;

H. liponyssoides 275, 292

Macrochelidae: *Macrocheles ontariensis* 148

Macronyssidae: *Ornithonyssus bacoti* 275; *O. sylviarum* 249

Pygmephoridae: *Bakerdania plurisetosa* 162; *Pygmephorus designatus* 22, 212; *P. hastatus*

160, 162, 212; *P. horridus* 160, 212; *P. mahunkai* 212; *P. rackae* 22; *P. scalopi* 22,

160, 162, 212; *P. spinosus* 21, 22; *P. whartoni* 212; *P. whitakeri* 22, 160, 162, 212

Scapanus latimanus

Laelapidae: *Androlaelaps fahrenheitzi* 292; *Haemogamasus keegani* 292; *H. liponyssoides* 292; *H. liponyssoides hesperus* 285

S. orarius

Laelapidae: *Androlaelaps casalis* 271; *A. fahrenheitzi* 271; *Echinonyssus blarinae* 292; *E. obsoletus* (variant) 271; *Eulaelaps stabularis* 271; *Haemogamasus ambulans* 271; *H. liponyssoides* 295; *H. occidentalis* 271, 285; *H. reidi* 271

Pygmephoridae: *Pygmephorus brevipes* 17; *P. designatus* 17; *P. horridus* 17, 271; *P. mahunkai* 17; *P. rackae* 17; *P. spinosus* 17; *P. whitakeri* 17, 212; *P. n. sp. #3* 17

S. townsendii

Glycyphagidae: *Glycyphagus hypudaei* 271; *Scalopacarus scapanus* 86

Laelapidae: *Androlaelaps casalis* 271; *A. fahrenheitzi* 271, 292; *Echinonyssus blarinae* 292; *Eulaelaps stabularis* 271; *Haemogamasus keegani* 285; *H. liponyssoides* 292; *H. occidentalis* 271, 285; *H. reidi* 271

Listrophoridae: *Listrophorus mexicanus* 271

Macrochelidae: *Macrocheles polypunctatus* 148

Myobiidae: *Eadiea scapanus* 80, 271; *Protomyobia brevisetosa* 271

Pygmephoridae: *Pygmephorus lutterloughae* 212; *P. mahunkai* 212

Sciurus carolinensis

Cheyletidae: *Cheyletus eruditus* 34, 197

Echimyopodidae: *Echimyopus orphanus* 249, 278

Laelapidae: *Androlaelaps casalis* 34, 102, 173, 278, 286, 288; *A. fahrenheiti* 34, 114, 278, 286, 288; *Eulaelaps stabularis* 34; *Haemogamasus reidi* 3, 34, 195, 278; *Laelaps nuttalli* 114

Macrochelidae: *Macrocheles muscaedomesticae* 148, 251

Macronyssidae: *Ornithonyssus bacoti* 286

S. niger

Echimyopodidae: *Echimyopus orphanus* 249, 278

Laelapidae: *Androlaelaps casalis* 278; *A. fahrenheiti* 278; *Haemogamasus reidi* 278;
Laelaps nuttalli 114

Sigmodon hispidus

Laelapidae: *Androlaelaps fahrenheiti* 12, 35, 36, 102, 115, 124, 286; *Eulaelaps stabularis* 115; *Gigantolaelaps mattogrossensis* 11; *Haemogamasus liponyssoides* 35; *Laelaps echidnina* 115

Listrophoridae: *Prolistrophorus bakeri* 36, 62, 124, 197

Macrochelidae: *Macrocheles muscaedomesticae* 148

Macronyssidae: *Ornithonyssus bacoti* 35, 36, 286

Myobiidae: *Radfordia sigmodontis* 36, 124

Sorex arcticus

Laelapidae: *Haemogamasus liponyssoides* 235

S. bendirii

Glycyphagidae: *Glycyphagus hypudaei* 279; *Orycteroxenus soricis* 279

Laelapidae: *Androlaelaps fahrenheiti* 197, 279; *Echinonyssus obsoletus* (var.) 279;
Haemogamasus occidentalis 279; *H. reidi* 279

Listrophoridae: *Listrophorus mexicanus* 279

Myobiidae: *Amorphacarus hengererorum* 197; *A. soricis* 83; *Protomyobia atophyracis* 156;

P. brevisetosa 279

Pygmephoridae: *Pygmephorus horridus* 17, 22, 212; *P. whitakeri* 17

S. cinereus

Glycyphagidae: *Glycyphagus hypudaei* 105, 197, 208, 259, 265; *Orycteroxenus soricis*

104, 197, 208, 105, 257, 259, 264, 265; *Xenoryctes latiporus* 105, 259, 265; *X.*

nudus 105, 265

Laelapidae: *Androlaelaps fahrenheitsi* 105, 235, 265; *Echinonyssus talpae* 105, 257,

Eulaelaps stabularis 3, 105, 291; *Haemogamasus ambulans* 105; *H. liponyssoides* 3,

257, 259, 291; *Hypoaspis miles* 105

Myobiidae: *Amorphacarus hengererorum* 104, 105, 257, 259, 264, 265; *Blarinobia*

cryptotis 249; *Protomyobia americana* 105; *P. claparedei* 249, 257, 264

Pygmephoridae: *Bakerdania plurisetosa* 259; *Pygmephorus designatus* 105, 162, 208, 172,

212, 249; *P. erlangensis* 265; *P. horridus* 21, 188, 212, 257, 260; *P. islandicus* 259;

P. moreohorridus 257, 259, 260; *P. plurispinosus* 21; *P. scalopi* 105; *P. stammeri*

22, 105; *P. whitakeri* 21, 22, 105, 257, 259, 260

S. dispar

Glycyphagidae: *Glycyphagus hypudaei* 177 (nr.); *Orycteroxenus soricis* 259; *O. soricis* 177

(nr.)

Laelapidae: *Laelaps alaskensis* 177

Listrophoridae: *Listrophorus mexicanus squamiferus* 177

Myobiidae: *Amorphacarus hengererorum* 177, 259

Pygmephoridae: *Bakerdania plurisetosa* 177, 259; *Pygmephorus horridus* 259; *P. whitakeri* 259

S. fumeus

Cheyletidae: *Eucheyletia bishoppi* 252

Glycyphagidae: *Glycyphagus hypudaei* 252, 257, 259; *Orycteroxenus soricis* 252, 257, 259, 264, 265; *Xenoryctes latiporus* 252; *X. nudus* 79, 251, 252, 257, 259, 264, 265

Laelapidae: *Androlaelaps fahrenheitzi* 252, 257, 259, 264, 265; *Echinonyssus blarinae* 252; *E. talpae* 252, 257, 264, 265; *Haemogamasus ambulans* 257, 259, 264; *H. liponyssoides* 257, 259, 264; *H. liponyssoides liponyssoides* 285; *Myonyssus jamesoni* 259

Macrochelidae: *Macrocheles penicilliger* 148

Macronyssidae: *Ornithonyssus bacoti* 264

Myobiidae: *Amorphacarus hengererorum* 252, 257, 259; *Protomyobia brevisetosa* 251, 252, 257, 259, 264, 265

Pygmephoridae: *Bakerdania plurisetosa* 259; *Pygmephorus designatus* 212, 252; *P. faini* 252; *P. hastatus* 252, 259; *P. horridus* 212, 252, 257, 260; *P. lukoschusi* 213; *P. lutterloughae* 251, 252; *P. moreohorridus* 257, 260; *P. rackae* 252; *P. spinosus* 252; *P. stammeri* 252, 259; *P. whitakeri* 252, 257, 259, 260

S. gaspensis

Glycyphagidae: *Glycyphagus hypudaei* 257; *Orycteroxenus soricis* 257

Laelapidae: *Echinonyssus talpae* 257; *Haemogamasus ambulans* 257; *H. liponyssoides* 257

Myobiidae: *Amorphacarus hengererorum* 257

Pygmephoridae: *Pygmephorus erlangensis* 260; *P. horridus* 257, 260; *P. islandicus* 257,260; *P. moreohorridus* 257, 260; *P. whitakeri* 257, 260

S. hoyi

Glycyphagidae: *Orycteroxenus canadensis* 257; *O. soricis* 252, 257; *Xenoryctes nudus* 251, 252

Laelapidae: *Echinonyssus talpae* 257; *Haemogamasus ambulans* 257

Myobiidae: *Amorphacarus hengererorum* 257; *Protomyobia americana* 257

Pygmephoridae: *Pygmephorus horridus* 257, 260; *P. moreohorridus* 252, 257; *P. proctorae* 251, 252; *P. spinosus* 252; *P. whitakeri* 252

S. longirostris

Glycyphagidae: *Glycyphagus hypudaei* 105; *Orycteroxenus soricis* 105, 172; *Xenoryctes latiporus* 105; *X. nudus* 105, 251

Laelapidae: *Androlaelaps fahrenheitsi* 105; *Echinonyssus talpae* 172; *Haemogamasus liponyssoides* 105; *Hypoaspis miles* 105, 251

Macronyssidae: *Ornithonyssus bacoti* 105

Myobiidae: *Amorphacarus hengererorum* 105; *Protomyobia indianensis* 91, 251, 105

Pygmephoridae: *Pygmephorus horridus* 212; *P. scalopi* 105; *P. spinosus* 22; *P. stammeri* 105

S. merriami

Laelapidae: *Ischyropoda armatus* 1

S. monticolus

Pygmephoridae: *Pygmephorus designatus* 17; *P. horridus* 17; *P. plurispinosus* 17; *P. whitakeri* 17; *P. n. sp. #1* 17; *P. n. sp. #3* 17

S. pacificus

Cheyletidae: *Eucheyletia bishoppi* 279

Glycyphagidae: *Glycyphagus hypudaei* 279; *Orycteroxenus soricis* 279

Laelapidae: *Androlaelaps fahrenheitzi* 279; *Echinonyssus obsoletus* (var.) 279;

Haemogamasus occidentalis 279; *Laelaps alaskensis* 279

Macrochelidae: *Macrocheles praedafimetorum* 148

Myobiidae: *Amorphacarus hengererorum* 279; *Protomyobia brevisetosa* 279

Pygmephoridae: *Pygmephorus horridus* 17; *P. mahunkai* 17; *P. plurispinosus* 17; *P.*

whitakeri 17, 162, 212

S. palustris

Glycyphagidae: *Glycyphagus hypudaei* 257; *Orycteroxenus soricis* 231, 257; *Xenoryctes*

nudus 264

Laelapidae: *Androlaelaps fahrenheitzi* 217; *Echinonyssus talpae* 231, 257; *Haemogamasus*

ambulans 231, 235, 257, 264, 291; *H. liponyssoides* 291; *H. reidi* 285; *Myonyssus*

jamesoni 257

Myobiidae: *Amorphacarus hengererorum* 257; *Protomyobia brevisetosa* 264; *P. claparedei*

257

Pygmephoridae: *Bakerdania jonesi* 162; *Pygmephorus horridus* 162, 212, 257, 260; *P.*

moreohorridus 257, 260; *P. whitakeri* 162

S. trowbridgii

Cheyletidae: *Eucheyletia bishoppi* 279

Cloacaridae: *Epimyodex soricis* 58

Glycyphagidae: *Glycyphagus hypudaei* 279; *Orycteroxenus soricis* 279

Laelapidae: *Alphalaelaps aplodontiae* 279; *Androlaelaps casalis* 279; *A. fahrenheiti* 279;
Echinonyssus obsoletus (var.) 279; *Eubrachylaelaps debilis* 279; *Eulaelaps*
stabularis 279; *Haemogamasus occidentalis* 279; *H. reidi* 279

Myobiidae: *Protomyobia brevisetosa* 279; *P. quasionoi* 156

Pygmephoridae: *Pygmephorus californicus* 17, 212; *P. designatus* 279; *P. horridus* 17,
 212, 279; *P. plurispinosus* 17, 162, 212; *P. whartoni* 17; *P. whitakeri* 17; *P. n. sp.*
 #2 17

S. vagrans

Laelapidae: *Alphalaelaps aplodontiae* 279; *Androlaelaps fahrenheiti* 279; *Echinonyssus*
obsoletus (variant) 279; *Eulaelaps stabularis* 279; *Haemogamasus occidentalis*
 279; *H. reidi* 279; *Laelaps alaskensis* 279

Myobiidae: *Amorphacarus hengererorum* 279; *Protomyobia brevisetosa* 279; *P.*
oregonensis 156

Pygmephoridae: *Pygmephorus horridus* 17, 21; *P. plurispinosus* 21; *P. scalopi* 212; *P.*
spinosus 21; *P. trisetosus* 19, 21; *P. whitakeri* 17, 21, 212

S. vagrans yaquinae

Glycyphagidae: *Orycteroxenus soricis* 279

Laelapidae: *Androlaelaps fahrenheiti* 279; *Echinonyssus obsoletus* (var.) 279;
Haemogamasus ambulans 279; *H. occidentalis* 279; *H. reidi* 279

Myobiidae: *Amorphacarus hengererorum* 279; *Protomyobia brevisetosa* 279

Pygmephoridae: *Pygmephorus horridus* 212, 279

Spermophilus armatus

Laelapidae: *Androlaelaps fahrenheiti* 128; *Echinonyssus carniflex* 128; *E. tricanthus* 128

S. beecheyi

Laelapidae: *Androlaelaps fahrenheiti* 269; *Haemogamasus occidentalis* 269

Macronyssidae: *Ornithonyssus bacoti* 169

S. beldingi

Cheyletidae: *Cheyletus linsdalei* 269

Glycyphagidae: *Dermacarus reticulosus* 269

Laelapidae: *Androlaelaps fahrenheiti* 269

S. brunneus

Laelapidae: *Androlaelaps fahrenheiti* 293

S. elegans

Macrochelidae: *Macrocheles mesochthonius* 148

S. franklinii

Laelapidae: *Androlaelaps fahrenheiti* 149, 172; *Laelaps alaskensis* 172

Macrochelidae: *Macrocheles mesochthonius* 148, 251

S. lateralis

Glycyphagidae: *Dermacarus spermophilus* 84, 269

Laelapidae: *Androlaelaps fahrenheiti* 128, 269; *Echinonyssus utahensis* 41; *Hypoaspis*

leviculus 128

S. richardsonii

Macrochelidae: *Macrocheles mesochthonius* 148

S. tereticaudus

Laelapidae: *Androlaelaps fahrenheiti* 151

S. townsendii

Glycyphagidae: *Dermacarus spermophilus* 269

Laelapidae: *Androlaelaps fahrenheitzi* 1, 128, 269 ; *Echinonyssus triacanthus* 1; *E. utahensis* 1

Macrochelidae: *Macrocheles maseri* 148

S. tridecemlineatus

Ameroseiidae: *Sertitympanum separationis* 44, 251

Chortoglyphidae: *Aplodontopus micronyx* 75, 221

Glycyphagidae: *Dermacarus reticulosus* 223; *Xenoryctes latiporus* 249

Laelapidae: *Androlaelaps fahrenheitzi* 140, 168

Macrochelidae: *Macrocheles mesochthonius* 148, 251

Pygmephoridae: *Pygmephorus designatus* 21; *P. whitakeri* 22

S. variegatus

Laelapidae: *Androlaelaps fahrenheitzi* 128, 205

S. washingtoni

Laelapidae: *Androlaelaps fahrenheitzi* 269

Macrochelidae: *Macrocheles maseri* 148

Spilogale putorius

Cheyletidae: *Eucheyletia bishoppi* 269

Glycyphagidae: *Xenoryctes latiporus* 269

Laelapidae: *Androlaelaps fahrenheitzi* 269; *Echinonyssus staffordi* 269; *Eulaelaps stabularis* 269; *Haemogamasus reidi* 269

Pygmephoridae: *Pygmephorus designatus* 269

Sylvilagus bachmani

Listrophoridae: *Leporacarus sylvilagi* 72, 93

S. floridanus

Cheyletidae: *Cheyletiella parasitivorax* 243

Glycyphagidae: *Marsupialichus brasiliensis* 243

Laelapidae: *Androlaelaps fahrenheitzi* 114, 115, 243

Macronyssidae: *Ornithonyssus bacoti* 243

Pygmephoridae: *Pygmephorus designatus* 160, 212, 243; *P. whitakeri* 136

S. palustris

Laelapidae: *Androlaelaps fahrenheitzi* 286

Synaptomys borealis

Glycyphagidae: *Glycyphagus hypudaei* 257; *Orycteroxenus soricis* 257

Laelapidae: *Androlaelaps fahrenheitzi* 257; *Laelaps alaskensis* 257;

Listrophoridae: *Listrophorus synaptomys* 257

Myobiidae: *Radfordia hylandi* 257

Pygmephoridae: *Pygmephorus horridus* 257

S. cooperi

Glycyphagidae: *Glycyphagus hypudaei* 208, 242, 257, 265; *Xenoryctes latiporus* 208, 242

Laelapidae: *Androlaelaps fahrenheitzi* 153, 208, 242, 257, 265; *Echinonyssus isabellinus*

235, 257; *Eulaelaps stabularis* 208, 257; *Haemogamasus ambulans* 235, 257; *H.*

liponyssoides 242, 257; *Laelaps alaskensis* 208, 235, 242, 257, 265; *L. kochi* 208,

242, 257; *L. stupkai* 153, 154, 155, 197

Listrophoridae: *Listrophorus mexicanus* 257; *L. synaptomys* 94, 208, 242, 257, 265;

Prolistrophorus grassii 69, 251; *Quasilistrophorus microticulus* 92

Macronyssidae: *Ornithonyssus bacoti* 242

Myobiidae: *Radfordia hylandi* 208, 257; *R. lemnina* 242, 251

Myocoptidae: *Myocoptes japonensis* 208, 242, 265

Pygmephoridae: *Pygmephorus horridus* 257, 260; *P. scalopi* 208, 242; *P. spickai* 242, 249

Tadarida brasiliensis

Chirodiscidae: *Dentocarpus macrotrichus* 103

Laelapidae: *Androlaelaps casalis* 33

Macronyssidae: *Chirotonyssus robustipes* 27, 33, 103, 137, 202, 218, 219, 254;

Steatognathus ceratognathus 33, 219; *Steatonyssus occidentalis* 33, 254

Myobiidae: *Ewingana inaequalis* 103; *E. longa* 33, 103, 202

Rosensteiniidae: *Nycteriglyphus texanus* 180 (on body of bat)

T. femorosacca

Macronyssidae: *Chirotonyssus haematophagus* 254; *C. venezolanus* 254

T. macrotis

Macronyssidae: *Chirotonyssus robustipes* 254; *C. venezolanus* 254 (nr.); *Steatonyssus*

occidentalis 254

Myobiidae: *Ewingana doreyae* 254, 255

Tamias amoenus

Laelapidae: *Androlaelaps fahrenheitzi* 269

T. minimus

Glycyphagidae: *Glycyphagus hypudaei* 166, 238

Laelapidae: *Androlaelaps fahrenheiti* 1, 235; *Echinonyssus hilli* 1; *E. incomptus* 1; *E. neotomae* 1; *E. triacanthus* 1; *E. utahensis* 1; *Haemogamasus ambulans* 1; *Hypoaspis leviculus* 1

T. striatus

Cheyletidae: *Eucheyletia bishoppi* 182, 274

Chortoglyphidae: *Aplodontopus sciuricola* 29, 30, 109, 125, 182, 226, 274

Glycyphagidae: *Lepidoglyphus hylandi* 3, 29, 30, 76, 84, 109, 114, 182, 208, 257, 265, 274; *Xenoryctes latiporus* 182, 274

Laelapidae: *Androlaelaps casalis* 29, 30, 173, 182, 274; *A. fahrenheiti* 2, 3, 109, 182, 208, 235, 274; *Echinonyssus butantanensis* 182; *E. isabellinus* 182; *Eulaelaps stabularis* 3, 29, 30, 182; *Haemogamasus ambulans* 29, 274; *H. pontiger* 29, 30; *Laelaps kochi* 235, 265

Listrophoridae: *Lynxacarus nearcticus* 62

Macrochelidae: *Macrocheles* N. 148

Myocoptidae: *Sciurocoptes tamias* 265

Pygmephoridae: *Pygmephorus designatus* 208; *P. hastatus* 162, 274; *P. sellnicki* 182; *P. stammeri* 162, 182, 249, 274

Tamiasciurus douglasii

Glycyphagidae: *Dermacarus tamiasciuri* 184; *Glycyphagus hypudaei* 184

Laelapidae: *Eulaelaps stabularis* 269; *Haemogamasus reidi* 269

T. hudsonicus

Glycyphagidae: *Dermacarus tamiasciuri* 111, 265, 274; *Glycyphagus hypudaei septentrionalis* 111; *G. newyorkensis* 111; *Orycteroxenus soricis* 274

Laelapidae: *Androlaelaps casalis* 274; *A. fahrenheiti* 235, 274; *Haemogamasus ambulans* 235, 274, 285; *H. reidi* 235, 265, 274, 285

Macrochelidae: *Macrocheles* N. 148

Myocoptidae: *Gliricoptes glirinus* 111 (nr.); *Sciurocoptes tamias* 265

Taxidea taxus

Laelapidae: *Androlaelaps fahrenheiti* 261; *Echinonyssus staffordi* 261; *Haemogamasus liponyssoides* 261; *H. reidi* 261

Thomomys bottae

Laelapidae: *Androlaelaps geomys* 209; *Echinonyssus femoralis* 209

Listrophoridae: *Geomylichus thomomys* 95

T. bulbivorus

Laelapidae: *Androlaelaps geomys* 270; *Echinonyssus femoralis* 270

T. mazama

Glycyphagidae: *Glycyphagus hypudaei* 270

Laelapidae: *Androlaelaps geomys* 270; *Echinonyssus longichelae* 270; *E. longichelae* variant 1, 270; *E. thomomys* 270; *Haemogamasus onychomydis* 270; *H. reidi* 270; *H. thomomysi* 270; *Laelaps alaskensis* 270

T. talpoides

Ameroseiidae: *Sertitympanum exarmatum* 44

Laelapidae: *Androlaelaps fahrenheiti* 1, 150; *A. geomys* 150; *Echinonyssus femoralis* 270; *E. longichelae* 1, 270; *E. longichelae* (var. 1) 270; *E. thomomys* 1, 270; *E. utahensis* 270; *Haemogamasus ambulans* 1; *H. onychomydis* 270, 285; *H. reidi* 270; *H. thomomysis* 270; *Ischyropoda armatus* 1

Macrochelidae: *Macrocheles polypunctatus* 148; *M. polystichus* 148

T. townsendi

Laelapidae: *Echinonyssus thomomys* 270; *Haemogamasus onychomydis* 270

T. umbrinus

Listrophoridae: *Geomylichus floridanus* 13; *G. thomomys* 95

Urocyon cinereoargenteus

Glycyphagidae: *Glycyphagus hypudaei* 261

Laelapidae: *Androlaelaps fahrenheitzi* 261

Macronyssidae: *Ornithonyssus bacoti* 261

Ursus americanus

Rhyncoptidae: *Ursicoptes americanus* 64, 295

Vulpes vulpes

Glycyphagidae: *Scalopacarus obesus* 261

Laelapidae: *Echinonyssus utahensis* 261

Zapus hudsonius

Glycyphagidae: *Glycyphagus newyorkensis* 77, 131, 208, 248, 257, 264; *G. zapus* 77, 251;

Orycteroxenus soricis 131; *Xenoryctes latiporus* 257

Laelapidae: *Androlaelaps fahrenheitzi* 131, 133, 235, 248; *Echinonyssus isabellinus* 131;

Haemogamasus ambulans 131, 257; *H. liponyssoides* 235; *H. reidi* 248

Listrophoridae: *Listrophorus mexicanus* 131

Macrochelidae: *Macrocheles* N 148; *M. mesochthonius* 148, 251

Macronyssidae: *Ornithonyssus bacoti* 249

Myobiidae: *Radfordia ewingi* 131, 248

Pygmephoridae: *Pygmephorus mahunkai* 131; *P. spinosus* 208

Z. princeps

Glycyphagidae: *Glycyphagus hypudaei* 248; *G. newyorkensis* 248

Laelapidae: *Androlaelaps fahrenheitzi* 248; *Haemogamasus reidi* 248;

Listrophoridae: *Listrophorus mexicanus* 248

Macronyssidae: *Ornithonyssus bacoti* 248

Myobiidae: *Radfordia ewingi* 248

Myocoptidae: *Gliricoptes zapus* 248

Z. trinotatus

Glycyphagidae: *Glycyphagus hypudaei* 248; *G. newyorkensis* 248, 269

Laelapidae: *Androlaelaps fahrenheitzi* 248, 269; *Echinonyssus isabellinus* 248;

Haemogamasus ambulans 248; *H. occidentalis* 269; *H. reidi* 248, 269

Macrochelidae: *Macrocheles praedafimotorum* 148

Myobiidae: *Radfordia ewingi* 248

Myocoptidae: *Gliricoptes zapus* 78, 248

GEOGRAPHIC DISTRIBUTION OF MITES OF NORTH AMERICAN MAMMALS

The states of the United States and the provinces of Canada are listed alphabetically below, together with the mites of mammals reported from each. Numbers refer to references.

ALABAMA (AL)

Laelapidae: *Androlaelaps casalis* 33; *Haemogamasus liponyssoides liponyssoides* 285

Listrophoridae: *Prolistrophorus grassii* 69; *P. sparsilineatus* 62

Macronyssidae: *Chirotonyssus robustipes* 33; *Steatonyssus ceratognathus* 33; *S. occidentalis* 33

Myobiidae: *Ewinga longa* 33

Pygmephoridae: *Pygmephorus horridus* 212; *P. spinosus* 22

Rosensteiniidae: *Mydopholeus* sp. 33; *Nycteriglyphites pennsylvanicus* 33

ALASKA (AK)

Chirodiscidae: *Schizocarpus alaskensis* 90; *S. centralis* 90; *S. contrarius* 90; *S. distinctus* 90; *S. furcatus* 90; *S. indianensis* 250; *S. inversus* 90; *S. paramingaudi* 90; *S. postannulatus* 90; *S. posticus* 90; *S. protinus* 90; *S. reductus* 90; *S. spinifer* 90; *S. subvirgulatus* 90; *S. tetrapilis* 90

Glycyphagidae: *Glycyphagus newyorkensis* 248; *Zibethacarus ondatrae* 250

Laelapidae: *Androlaelaps fahrenheitzi* 116; *Haemogamasus ambulans* 194, 285; *H. ghanii* 285; *Laelaps clethrionomydis* 194; *L. kochi* 194, 239; *L. multispinosa* 250

Listrophoridae: *Listrophorus americanus* 250; *L. dozieri* 250; *L. faini* 250; *L. mexicanus squamiferus* 62; *Lutracarus canadensis* 100; *Lynxacarus mustelae* 100

Myobiidae: *Radfordia lemnina* 67, 144; *R. zibethicalis* 250

Myocoptidae: *Myocoptes ondatrae* 250

Pygmephoridae: *Pygmephorus arcuatus* 19,21; *P. horridus* 21; *P. plurispinosus* 21, 22(nr.);
P. spinosus 21; *P. stammeri* 21; *P. trisetosus* 19, 21; *P. whitakeri* 21

ALBERTA (AB)

Glycyphagidae: *Glycyphagus newyorkensis* 248

Myobiidae: *Radfordia lemnina* 67

Pygmephoridae: *Bakerdania jonesi* 162; *Pygmephorus horridus* 162; *P. whitakeri* 162

Spinturnicidae: *Spinturnix globosus* 214

ARIZONA (AZ)

Glycyphagidae: *Dipodomys tuttlei* 68

Laelapidae: *Androlaelaps fahrenheitzi* 151;

Listrophoridae: *Geomylichus multistriatus* 97; *G. texanus* 95; *G. thomomys* 95

Macronyssidae: *Cryptonyssus desultorius* 117; *Steatonyssus emarginatus* 117; *S. occidentalis* 117

Spinturnicidae: *Spinturnix americanus* 206; *S. carloshoffmani* 206

ARKANSAS (AR)

Laelapidae: *Androlaelaps casalis* 199

BRITISH COLUMBIA (BC)

Chortoglyphidae: *Aplodontopus latus* 46

Glycyphagidae: *Dermacarus jonesi* 82; *Glycyphagus newyorkensis* 248

Laelapidae: *Androlaelaps fahrenheitzi* 248; *Echinonyssus isabellinus* 248; *Haemogamasus ambulans* 248, 285; *H. occidentalis* 285; *H. reidi* 248

Macrochelidae: *Macrocheles praedafimetorum* 148

Myobiidae: *Eadiea neurotrichus* 159; *Protomyobia oregonensis* 156; *Radfordia ewingi* 248

Myocoptidae: *Gliricoptes zapus* 78, 248

Pygmephoridae: *Pygmephorus horridus* 212; *P. whitakeri* 212

CALIFORNIA (CA)

Ameroseiidae: *Sertitympanum contiguum* 230

Glycyphagidae: *Dermacarus jonesi* 82

Laelapidae: *Androlaelaps fahrenheitzi* 109, 230, 292; *A. fenilis* 108; *A. geomys* 209;

Echinonyssus blarinae 292; *E. femoralis* 209; *E. incomptis* 158; *E. triacanthis* 158;

E. utahensis 108; *Eubrachylaelaps circularis* 230; *E. debilis* 108; *Haemogamasus*

keegani 292; *H. liponyssoides* 292; *H. liponyssoides hesperus* 285; *H. occidentalis*

285; *H. reidi* 285; *H. thomomysi* 285; *Ischyropoda armatus* 230

Listrophoridae: *Geomylichus californicus* 97, 98; 230; *G. floridanus* 13; *G. inaequalis* 88;

G. intercalatus 98; *G. multistriatus* 97; *G. quasinudus* 98; *G. texanus* 97, 230; *G.*

thomomys 95; *Quasilistrophorus microticulus* 92

Macrochelidae: *Macrocheles praedafimetorum* 148

Macronyssidae: *Chiroptonyssus robustipes* 137; *Macronyssus crosbyi* 206; *Ornithonyssus*

bacoti 8, 169, 171

Myobiidae: *Acanthophthirius steatocaudatus* 240; *Amorphacarus soricis* 83; *Protomyobia*

atophyracis 156; *P. quasionoi* 156; *Pteracarus aculeus* 40; *P. chalinolobus* 8 (nr.),

206; *P. elegans* 40; *P. robustus* 40; *Pteracarus* sp. C. 40; *Radfordia neotomae* 127

Pygmephoridae: *Bakerdania jonesi* 162; *Pygmephorus californicus* 212; *P. horridus* 212; *P.*

whitakeri 162, 212

COLORADO (CO)

Glycyphagidae: *Glycyphagus hypudaei* 241; *G. newyorkensis* 248

Laelapidae: *Androlaelaps fahrenheiti* 248; *Echinonyssus utahensis* 41; *Haemogamasus onychomydis* 285

Listrophoridae: *Alabidocarpus calcaratus* 241

Macronyssidae: *Chiroptonyssus haematophagus* 241; *Macronyssus crosbyi* 241

Myobiidae: *Acanthophthirius lucifugus* 241; *Radfordia ewingi* 248

CONNECTICUT (CT)

Glycyphagidae: *Lepidoglyphus hylandi* 182

Macronyssidae: *Ornithonyssus wernecki* 37

DELAWARE (DE)

Laelapidae: *Haemogamasus longitarsus* 285

DISTRICT OF COLUMBIA (DC)

Laelapidae: *Haemogamasus liponyssoides liponyssoides* 285; *H. longitarsus* 285; *H. onychomydis* 285

FLORIDA (FL)

Atopomelidae: *Didelphilichus serrifer* 36

Chirodiscidae: *Dentocarpus macrotrichus* 103

Echimyopodidae: *Echimyopus dasypus* 5

Laelapidae: *Androlaelaps casalis* 102, 288; *A. fahrenheiti* 35, 36, 102, 215, 288;

Haemogamasus harperi 102, 285; *H. liponyssoides* 35; *H. longitarsus* 285; *Laelaps evansi* 215

Listrophoridae: *Geomylichus floridanus* 62; *Listrophorus caudatus* 74, 215; *L. laynei* 74,

215; *L. neotomae* 62; *Lynxacarus morlani* 102; *L. visoni* 59; *Prolistrophorus bakeri* 36, 62; *P. birkenholzi* 74, 215; *P. grassii* 69

Macrochelidae: *Macrocheles mammifer* 102, 148

Macronyssidae: *Chirotonyssus robustipes* 103; *Ornithonyssus bacoti* 35, 36; *Steatonyssus ceratognathus* 102

Myobiidae: *Ewingana inaequalis* 103; *E. longa* 103; *Radfordia palustris* 67; *R. sigmodontis* 36

GEORGIA (GA)

Atopomelidae: *Didelphilichus serrifer* 186

Cheyletidae: *Cheyletus eruditus* 34

Glycyphagidae: *Glycyphagus hypudaei* 173

Laelapidae: *Androlaelaps casalis* 32, 34, 187, 286; *A. fahrenheitzi* 32, 34, 124, 187, 286; *Echinonyssus blarinae* 124; *Eulaelaps stabularis* 32, 34, 286; *Haemogamasus ambulans* 187; *H. harperi* 285, 286; *H. liponyssoides* 286; *H. longitarsus* 124; *H. pontiger* 285; *H. reidii* 34

Listrophoridae: *Geomylichus floridanus* 62; *Leporacarus gibbus* 62; *Olistrophorus cryptotae* 54, 62; *Oryzomyia oryzomys* 46; *Prolistrophorus bakeri* 62, 124; *P. grassii* 69; *P. sparsilineatus* 62

Macronyssidae: *Chirotonyssus robustipes* 219; *Ornithonyssus bacoti* 32, 124, 186, 286; *O. wernecki* 186, 286; *Steatonyssus ceratognathus* 219; *S. occidentalis* 286

Myobiidae: *Pteracarus minutus occidentalis* 40; *Radfordia palustris* 55, 67; *R. sigmodontis* 124

Myocoptidae: *Myocoptes neotomae* 32

Pygmephoridae: *Pygmephorus horridus* 188, 212

GREENLAND (GR)

Myobiidae: *Radfordia arctica* 67

IDAHO (ID)

Chirodiscidae: *Schizocarpus mingaudi* 101

Dermanyssidae: *Dermanyssus gallinae* 1

Laelapidae: *Androlaelaps casalis* 1; *A. fahrenheiti* 1, 168; *Echinonyssus bisetosus* 1; *E. hilli* 1; *E. incomptus* 1; *E. isabellinus* 1; *E. longichelae* 1; *E. neotomae* 1; *E. thomomys* 1; *E. triacanthus* 1; *E. utahensis* 1; *Eubrachylaelaps circularis* 1; *E. crowei* 1; *E. debilis* 1; *Haemogamasus ambulans* 1; *H. longitarsus* 1; *Hypoaspis leviculus* 1; *H. lubrica* 1; *Ischyropoda armatus* 1; *I. furmani* 1

Macrochelidae: *Macrocheles mesochthonius* 148

Macronyssidae: *Macronyssus unidens* 1; *Ornithonyssus bacoti* 1

Myobiidae: *Radfordia bachai* 1

Rhyncoptidae: *Ursicoptes americanus* 295

ILLINOIS (IL)

Cheyletidae: *Eucheyletia bishoppi* 181

Chirodiscidae: *Olabidocarpus whitakeri* 281

Glycyphagidae: *Glycyphagus hypudaei* 6, 181; *Lepidoglyphus hylandi* 181; *Orycteroxenus soricis* 6

Laelapidae: *Androlaelaps fahrenheiti* 6, 181; *A. geomys* 222; *Echinonyssus arcuatus* 6; *E. geomydis* 222; *E. longichelae* 222; *Eulaelaps stabularis* 181; *Haemogamasus ambulans* 181, 285; *H. harperi* 181; *H. liponyssoides* 181; *H. longitarsus* 181; *H. reidi* 222; *Laelaps kochi* 6, 181

Listrophoridae: *Geomylichus floridanus* 222; *Listrophorus mexicanus* 6

Macrochelidae: *Macrocheles spickai* 148

Macronyssidae: *Macronyssus crosbyi* 281; *M. jonesi* 281; *Ornithonyssus bacoti* 181

Myobiidae: *Acanthophthirius gracilis* 281; *A. steatocaudatus* 240; *Blarinobia simplex* 6;
Protomyobia claparedei 6; *Radfordia hylandi* 181; *R. lemnina* 6; *R. subuliger* 6

Myocoptidae: *Myocoptes japonensis* 6, 181; *M. musculus* 6; *M. pitymys* 60

Pygmephoridae: *Bakerdania jonesi* 181; *B. plurisetosa* 181; *Pseudopygmephorus quadratus*
181; *Pygmephorus designatus* 161, 181, 212, 222; *P. hastatus* 181, 212; *P. horridus*
212; *P. plurispinosus* 212; *P. scalopi* 161, 181, 212, 213, 222; *P. sellnicki* 6; *P.*
spickai 161, 212, 222; *P. whitakeri* 162, 181, 212, 222

Spinturnicidae: *Spinturnix americanus* 281; *S. banksi* 281; *S. globosus* 281

INDIANA (IN)

Ameroseiidae: *Sertitypanum separationis* 44, 251

Atopomelidae: *Didelphilichus serrifer* 55, 263

Cheyletidae: *Cheyletiella parasitivorax* 243; *C. vespertilionis* 249; *Cheyletus eruditus* 247;
C. malaccensis 16, 251; *Eucheyletia bishoppi* 252, 274

Chirodiscidae: *Alabidocarpus eptesicus* 201; *Olabidocarpus whitakeri* 201, 249;

Schizocarpus contrarius 90, 251; *S. furcatus* 96, 251, 276; *S. indianensis* 96, 251,
276; *S. inversus* 96, 251, 276; *S. mingaudi* 96, 249, 276; *S. paramingaudi* 90, 251;
S. postannulatus 90, 251; *S. posticus* 90, 251; *S. spinifer* 96, 251, 276; *S.*
subvirgulatus 90, 96, 251, 276; *S. tetrapilis* 90, 96, 251, 276; *S. virgulatus* 96, 251,
276

Chortoglyphidae: *Aplodontopus micronyx* 75, 221; *A. sciuricola* 261, 274

Echimyopodidae: *Echimyopus orphanus* 249, 278

- Glycyphagidae: *Dermacarus reticulosus* 223; *D. tamiasciuri* 274; *Glycyphagus hypudaei* 16, 105, 172, 208, 242, 249, 252, 261; *G. newyorkensis* 77, 208; *G. zapus* 77, 251; *Lepidoglyphus hylandi* 84, 208, 261, 274; *Marsupialichus brasiliensis* 7, 243, 261, 263; *Orycteroxenus canadensis* 172; *O. soricis* 105, 172, 208, 252, 274; *Scalopacarus obesus* 208, 261, 275; *Xenoryctes latiporus* 105, 208, 242, 249, 252, 261, 274, 275; *X. nudus* 105, 251, 253; *Zibethacarus ondatrae* 7, 247, 261, 263, 276
- Laelapidae: *Androlaelaps casalis* 247, 261, 263, 274, 278; *A. fahrenheitzi* 7, 16, 105, 133, 172, 201, 208, 220, 242, 243, 247, 252, 261, 263, 274, 275, 278; *A. morlani* 247, 249; *Echinonyssus blarinae* 208, 252, 275; *E. butantanensis* 247, 249; *E. geomydis* 249; *E. longichelae* 249; *E. staffordi* 261; *E. talpae* 105, 172, 249, 252; *E. utahensis* 16, 172, 208, 261; *Eulaelaps stabularis* 105, 172, 208, 249, 275; *Haemogamasus ambulans* 105, 172, 274, 275; *H. harperi* 275; *H. liponyssoides* 105, 172, 208, 242, 249, 261, 275; *H. longitarsus* 172, 208; *H. reidi* 172, 261, 263, 274, 278; *Hypoaspis leviculus* 172, 208, 249, 261; *H. lubrica* 16, 247; *H. miles* 105, 251; *Laelaps alaskensis* 172, 208, 242, 261; *L. kochi* 172, 208, 242, 249, 261; *L. multispinosa* 7, 261, 263; *Myonyssus jamesoni* 249
- Listrophoridae: *Geomylichus floridanus* 13; *Listrophorus americanus* 7; *L. dozieri* 7, 263; *L. faini* 7; *L. mexicanus* 172, 249, 261; *L. ondatrae* 7; *L. synaptomys* 94, 208, 242; *L. validus* 7; *Lynxacarus mustelae* 261; *L. nearcticus* 208, 261; *Olistrophorus blarina* 167, 172, 208; *Prolistrophorus grassii* 69, 251; *Quasilistrophorus microticolus* 92
- Macrochelidae: *Macrocheles insignitus* 148, 251; *M. mammifer* 148, 247, 251; *M. merdarius* 148, 247, 251; *M. mesochthonius* 148, 251; *M. muscaedomesticae* 148, 251; *M. ontariensis* 148; *M. rodriguezii* 148, 251

Macronyssidae: *Cryptonyssus desultorius* 201, 207; *Macronyssus crosbyi* 201, 207, 208, 249; *M. jonesi* 172, 201; *M. macrodactylus* 201, 249; *Ornithonyssus bacoti* 16, 105, 172, 242, 243, 247, 249, 261, 263, 275; *O. sylviarum* 247, 249, 263; *O. wernecki* 261, 263; *Steatonyssus ceratognathus* 201, 249; *S. furmani* 201, 249; *S. occidentalis* 201, 249

Myobiidae: *Acanthopthirius caudatus* 201; *A. caudatus eptesicus* 81; *A. gracilis* 81, 201, 208; *A. lasiurus* 50, 81, 201; *A. lucifugus* 81, 201, 249; *A. nycticeius* 89, 201, 251; *A. steatocaudatus* 201; *Amorphacarus hengererorum* 105, 252; *Archemyobia inexpectatus* 263; *Blarinobia cryptotis* 249; *B. simplex* 249; *Eadiea condylurae* 172; *Myobia musculi* 208, 220; *Protomyobia americana* 105, 158, 249; *P. blarinae* 158, 251; *P. brevisetosa* 251, 252; *P. claparedei* 249; *P. indianensis* 91, 105, 251; *Pteracarus aculeus* 201; *P. completus* 172, 249; *P. minutus occidentalis* 40, 201, 251; *Radfordia affinis* 220, 249; *R. ensifera* 247; *R. hylandi* 67, 172, 208; *R. lemnina* 242, 251; *R. subuliger* 208, 249; *R. zibethicalis* 7

Myocoptidae: *Myocoptes japonensis* 172, 208, 242, 261; *M. musculus* 172, 208, 220; *M. neotomae* 16, 70; *M. ondatrae* 7; *Trichoecius tenax* 172

Pygmephoridae: *Bakerdania equisetosa* 162; *B. plurisetosa* 162; *Pygmephorus designatus* 105, 160, 162, 172, 208, 212, 243, 247, 249, 252; *P. erlangensis* 212, 249; *P. faini* 212, 252; *P. hastatus* 160, 162, 172, 212, 252, 274; *P. horridus* 160, 212, 252; *P. lutterloughae* 251, 252; *P. mahunkai* 212; *P. moreohorridus* 162, 172, 212, 252; *P. proctorae* 251, 252; *P. rackae* 172, 212, 252; *P. scalopi* 105, 160, 172, 208, 212, 242, 247; *P. spickai* 16, 242, 249, 251; *P. spinosus* 14(nr), 21, 160, 208, 212, 249,

252; *P. stammeri* 22, 105, 162, 212, 249, 274; *P. sylvilagus* 136; *P. whartoni* 212; *P. whitakeri* 105, 136, 160, 162, 172, 212, 247, 252

Spinturnicidae: *Spinturnix americanus* 201, 207, 249; *S. bakeri* 201, 249; *S. banksi* 201; *S. globosus* 201, 249

IOWA (IA)

Laelapidae: *Androlaelaps fahrenheitzi* 140, 149

Listrophoridae: *Prolistrophorus grassii* 69

Pygmephoridae: *Pygmephorus designatus* 21, 22; *P. erlangensis* 21, 22; *P. ideii* 21, 22; *P. plurispinosus* 21, 22; *P. rackae* 21, 22; *P. scalopi* 21, 22; *P. spinosus* 21, 22; *P. stammeri* 21, 22; *P. whitakeri* 21, 22

Rhyncoptidae: *Ursicoptes procyoni* 99

KANSAS (KS)

Glycyphagidae: *Glycyphagus hypudaei* 203; *Orycteroxenus soricis* 203

Laelapidae: *Androlaelaps fahrenheitzi* 203; *Echinonyssus blarinae* 203; *Eulaelaps stabularis* 203; *Haemogamasus liponyssoides* 203

Listrophoridae: *Olistrophorus blarinae* 203; *Geomylichus texana* 203

Macronyssidae: *Chirotonyssus robustipes* 218; *Macronyssus crosbyi* 218; *Steatonyssus ceratognathus* 218; *S. furmani* 218; *S. occidentalis* 218

Myobiidae: *Blarinobia simplex* 203; *Protomyobia blarinae* 203

Myocoptidae: *Myocoptes musculus* 203

Pygmephoridae: *Pygmephorus whitakeri* 188, 203, 212

Rhyncoptidae: *Ursicoptes americanus* 64(zoo)

KENTUCKY (KY)

Glycyphagidae: *Glycyphagus hypudaei* 9; *Orycteroxenus soricis* 104

Laelapidae: *Androlaelaps fahrenheitzi* 9; *Laelaps kochi* 9

Listrophoridae: *Listrophorus mexicanus* 9

Macronyssidae: *Ornithonyssus bacoti* 9

Myobiidae: *Amorphacarus hengererorum* 104; *Pteracarus completus vrazi* 40; *P. minutus occidentalis* 40; *Radfordia lemnina* 9; *R. subuliger* 9

LABRADOR (LB)

Myobiidae: *Radfordia arctica* 67; *Radfordia hylandi* 67

LOUISIANA (LA)

Glycyphagidae: *Marsupialichus johnstoni* 183; *M. marsupialichus* 183

Laelapidae: *Haemogamasus harperi* 285; *Laelaps echidnina* 43; *L. nuttalli* 43

Listrophoridae: *Leporacarus gibbus* 62

Macronyssidae: *Ornithonyssus bacoti* 43

MAINE (ME)

Chirodiscidae: *Schizocarpus alaskensis* 256; *S. distinctus* 256; *S. indianensis* 256; *S. inversus* 256; *S. mingaudi* 256; *S. paramingaudi* 256; *S. postannulatus* 256; *S. protinus* 256; *S. reductus* 90, 256; *S. spinifer* 256; *S. subvirgulatus* 256; *S. tetrapilis* 256

Laelapidae: *Haemogamasus ambulans* 285

MANITOBA (MB)

Laelapidae: *Laelaps kochi* 239

Listrophoridae: *Listrophorus phenacomys* 62

Myobiidae: *Protomyobia blarinae* 158

Pygmephoridae: *Pygmephorus spinosus* 188, 212

MARYLAND (MD)

Laelapidae: *Androlaelaps casalis* 31; *A. fahrenheitzi* 31; *Haemogamasus ambulans* 285; *H. liponyssoides* 31; *H. longitarsus* 285; *H. reidi* 195, 285; *Laelaps alaskensis* 31; *L. kochi* 31

Listrophoridae: *Listrophorus americanus* 31; *Lynxacarus nearcticus* 48

Macrochelidae: *Macrocheles n. sp.* 148

Macronyssidae: *Ornithonyssus bacoti* 31

MASSACHUSETTS (MA)

Cheyletidae: *Eucheyletia bishoppi* 182

Chirodiscidae: *Schizocarpus distinctus* 256; *S. indianensis* 256; *S. inversus* 256; *S. paramingaudi* 90, 256; *S. postannulatus* 256; *S. spinifer* 256; *S. subvirgulatus* 256; *S. virgulatus* 256

Chortoglyphidae: *Aplodontopus sciuricola* 182

Glycyphagidae: *Lepidoglyphus hylandi* 182; *Xenoryctes latiporus* 182

Laelapidae: *Androlaelaps casalis* 182; *A. fahrenheitzi* 182, 292; *Echinonyssus butantanensis* 182; *E. isabellinus* 182; *Eulaelaps stabularis* 182; *Laelaps kochi* 289

Listrophoridae: *Listrophorus mexicanus squamiferus* 62

Pygmephoridae: *Pygmephorus hastatus* 22; *P. igleharta* 213; *P. moreohorridus* 22; *P. rackae* 22; *P. sellnicki* 182; *P. spinosus* 22; *P. stammeri* 22, 182; *P. whitakeri* 22; *P. wilsoni* 213

MICHIGAN (MI)

Chirodiscidae: *Alabidocarpus calcaratus* 24

Laelapidae: *Androlaelaps fahrenheiti* 292; *Echinonyssus blarinae* 292; *Haemogamasus liponyssoides* 292

Macrochelidae: *Macrocheles n. sp.* 148

Macronyssidae: *Cryptonyssus flexus* 25; *Macronyssus crosbyi* 24; *Steatonyssus occidentalis* 24, 25

Myobiidae: *Radfordia hylandi* 67

Spinturnicidae: *Spinturnix americanus* 24, 25; *S. bakeri* 24, 25

MINNESOTA (MN; see also Minnesota and/or North Dakota)

Glycyphagidae: *Glycyphagus newyorkensis* 248

Laelapidae: *Androlaelaps fahrenheiti* 235; *Echinonyssus isabellinus* 235; *E. talpae* 235; *Eulaelaps stabularis* 235; *Haemogamasus ambulans* 235, 237; *H. liponyssoides* 235; *H. reidi* 235; *Laelaps alaskensis* 234, 235; *L. kochi* 234, 235, 237; *Myonyssus jamesoni* 235

Listrophoridae: *Geomylichus floridanus* 13; *Lynxacarus nearcticus* 62

Macrochelidae: *Macrocheles spickai* 148

Macronyssidae: *Macronyssus crosbyi* 24

Pygmephoridae: *Pygmephorus faini* 212; *P. horridus* 162, 212; *P. rackae* 212; *P. spinosus* 160, 162, 212, 212(nr.); *P. stammeri* 212; *P. whitakeri* 162, 212

Spinturnicidae: *Spinturnix americanus* 235

MINNESOTA AND/OR NORTH DAKOTA

Macronyssidae: *Cryptonyssus flexus* 23; *Macronyssus crosbyi* 23

Spinturnicidae: *Spinturnix americanus* 23

MISSISSIPPI (MS)

Chortoglyphidae: *Aplodontopus sciuricola* 109

Glycyphagidae: *Lepidoglyphus hylandi* 109

Laelapidae: *Androlaelaps fahrenheitzi* 12, 109; *Haemogamasus harperi* 285; *Laelaps alaskensis* 12; *L. echidnina* 12

Macronyssidae: *Ornithonyssus bacoti* 12

MISSOURI (MO)

Laelapidae: *Androlaelaps geomys* 222; *Echinonyssus geomydis* 222; *E. longichelae* 222

Listrophoridae: *Geomylichus floridanus* 222

Macrochelidae: *Macrocheles spickai* 148

Pygmephoridae: *Pygmephorus plurispinosus* 212; *P. rackae* 212; *P. scalopi* 161, 212, 213, 222; *P. whitakeri* 161, 222

Spinturnicidae: *Spinturnix banksi* 229; *S. globosus* 229

MONTANA (MT)

Glycyphagidae: *Glycyphagus newyorkensis* 248

Laelapidae: *Androlaelaps fahrenheitzi* 150; *A. geomys* 150; *Laelaps kochi* 150

Listrophoridae: *Geomylichus perognathi* 85

Macrochelidae: *Macrocheles matrius* 148; *M. mesochthonius* 148

Pygmephoridae: *Pygmephorus ideii* 212

NEBRASKA (NE)

Laelapidae: *Androlaelaps fahrenheitzi* 248

Listrophoridae: *Geomylichus postscutatus* 51

NEVADA (NV)

Laelapidae: *Haemogamasus reidi* 248

Listrophoridae: *Geomylichus deserti* 88; *G. microdipodops* 88; *G. multistriatus* 97; *G. perognathi* 88; *G. texanus* 95; *G. utahensis* 88

Myobiidae: *Pteracarus elegans* 40

NEW BRUNSWICK (NB)

Glycyphagidae: *Glycyphagus hypudaei* 257; *G. newyorkensis* 131, 257; *Lepidoglyphus hylandi* 257; *Orycteroxenus canadensis* 257; *O. soricis* 257; *Xenoryctes latiporus* 257; *X. nudus* 257

Laelapidae: *Androlaelaps casalis* 257; *A. fahrenheitsi* 131, 231, 257; *Echinonyssus blarinae* 257; *E. isabellinus* 231, 257; *E. talpae* 257; *E. utahensis* 231; *Eulaelaps stabularis* 257; *Haemogamasus ambulans* 131, 257; *H. liponyssoides* 257; *H. reidi* 257; *Laelaps alaskensis* 257; *L. kochi* 231, 257; *Myonyssus jamesoni* 257

Listrophoridae: *Listrophorus mexicanus* 257; *L. synaptomys* 257

Myobiidae: *Amorphacarus hengererorum* 257; *Blarinobia simplex* 257; *Eadiea condylurae* 257; *Protomyobia americana* 257; *P. blarinae* 158, 257; *P. brevisetosa* 257; *P. claparedei* 257; *Radfordia ewingi* 131, 257; *R. hylandi* 257; *R. lemnina* 257; *R. subuliger* 257

Myocoptidae: *Gliricoptes zapus* 257; *Myocoptes japonensis japonensis* 257; *M. squamosus* 257; *Trichoecius tenax* 257

Pygmephoridae: *Pygmephorus erlangensis* 257, 260; *P. horridus* 257, 260; *P. islandicus* 257, 260; *P. lukoschusi* 213; *P. lutterloughae* 257, 260; *P. moreohorridus* 257, 260; *P. russellae* 213; *P. whitakeri* 257, 260

NEW HAMPSHIRE (NH)

Cheyletidae: *Eucheyletia bishoppi* 182

Glycyphagidae: *Labidophorus nearcticus* 258; *Lepidoglyphus hylandi* 182; *Xenoryctes latiporus* 182

Laelapidae: *Androlaelaps fahrenheitzi* 182; *Haemogamasus liponyssoides* 258; *H. longitarsus* 285; *Hypoaspis miles* 258; *Laelaps alaskensis* 163, 258

Pygmephoridae: *Pygmephorus proctorae* 258; *P. stammeri* 258; *P. whitakeri* 258

NEW JERSEY (NJ)

Cheyletidae: *Cheyletus eruditus* 114

Glycyphagidae: *Lepidoglyphus hylandi* 114

Laelapidae: *Androlaelaps fahrenheitzi* 114; *Echinonyssus staffordi* 114; *Eulaelaps stabularis* 114; *Haemogamasus reidi* 114; *Laelaps echidnina* 114; *L. nuttalli* 114

Listrophoridae: *Listrophorus mexicanus squamiferus* 62

Macronyssidae: *Ornithonyssus bacoti* 114; *O. wernecki* 114

Myobiidae: *Archemyobia inexpectatus* 114; *Radfordia ensifera* 114

Pygmephoridae: *Pygmephorus spinosus* 188, 212

NEW MEXICO (NM; see also New Mexico and/or Texas)

Laelapidae: *Androlaelaps fahrenheitzi* 185, 205; *A. geomys* 185; *Echinonyssus hilli* 185; *E. longichelae* 185

Listrophoridae: *Alabidocarpus calcaratus* 241; *A. eptesicus* 241 (nr.); *Geomylichus dipodomius* 88, 95; *G. texanus* 95

Macronyssidae: *Chiroptonyssus haemotophagus* 241; *C. robustipes* 241; *Cryptonyssus desultoria* 241; *Macronyssus crosbyi* 206, 241

Myobiidae: *Acanthopthirius lucifugus* 241; *Pteracarus minutus* 241 (nr.)

Spinturnicidae: *Spinturnix americanus* 241

NEW MEXICO AND/OR TEXAS

Macronyssidae: *Chirotonyssus robustipes* 27; *Steatonyssus antrozoi* 27; *S. emarginatus* 27;
S. occidentalis 27

NEW YORK (NY)

Glycyphagidae: *Glycyphagus hypudaei* 142, 259; *G. microti* 224, 259; *Labidophorus
nearcticus* 87, 219; *Lepidoglyphus hylandi* 76; *Orycteroxenus soricis* 259;
Xenoryctes latiporus 259; *X. nudus* 259

Laelapidae: *Androlaelaps fahrenheiti* 259; *Echinonyssus blarinae* 258; *E. isabellinus* 259;
Eulaelaps stabularis 259; *Haemogamasus ambulans* 163, 259, 285; *H. liponyssoides*
259; *H. liponyssoides liponyssoides* 285; *H. longitarsus* 285; *H. reidi* 285; *Laelaps
alaskensis* 142, 163, 259; *L. kochi* 142, 259; *Myonyssus jamesoni* 259

Listrophoridae: *Listrophorus mexicanus squamiferus* 62, 142, 259; *L. pitymys* 259;
Lynxacarus mustelae 62

Macrochelidae: *Macrocheles penicilliger* 148

Myobiidae: *Amorphacarus hengererorum* 259; *Protomyobia americana* 158; *P. blarinae*
158; *P. brevisetosa* 259; *Radfordia hylandi* 259; *R. lemnina* 67

Myocoptidae: *Myocoptes japonensis canadensis* 142; *M. japonensis* 259; *M. musculus*
220

Pygmephoridae: *Bakerdania plurisetosa* 258, 259; *Pygmephorus. designatus* 258; *P.
erlangensis* 258; *P. hastatus* 258, 259; *P. horridus* 212, 258, 259; *P. islandicus* 258,
259; *P. litterloughae* 258; *P. moreohorridus* 259; *P. proctorae* 213, 258; *P. rackae*

258; *P. spinosus* 258; *P. stammeri* 258, 259; *P. whartoni* 258; *P. whitakeri* 160, 212, 258, 259

NEWFOUNDLAND (NF)

Laelapidae: *Androlaelaps fahrenheitzi* 129; *Laelaps multispinosa* 129

NORTH CAROLINA (NC)

Glycyphagidae: *Glycyphagus hypudaei* 197, 200, 264; *G. newyorkensis* 264; *Orycteroxenus soricis* 197, 264; *Xenoryctes latiporus* 264; *X. nudus* 79, 264

Laelapidae: *Androlaelaps casalis* 153, 154; *A. fahrenheitzi* 115, 154, 197, 264; *A. glasgowi* 153; *Echinonyssus talpae* 264; *E. utahensis* 264; *Eulaelaps stabularis* 115, 153, 154, 200, 264; *Haemogamasus ambulans* 264; *H. liponyssoides* 264; *Laelaps alaskensis* 153, 154, 264; *L. echidnina* 115; *L. kochi* 153, 154, 155, 197; *L. stupkai* 153, 155, 197; *Myonyssus jamesoni* 264

Listrophoridae: *Listrophorus mexicanus* 264; *Olistrophorus blarina* 264

Macrochelidae: *Macrocheles muscaedomesticae* 148; *M. subbadius* 148

Macronyssidae: *Macronyssus crosbyi* 204; *Ornithonyssus bacoti* 200, 264; *O. wernecki* 197, *Steatonyssus ceratognathus* 204; *S. furmani* 264

Myobiidae: *Amorphacarus hengererorum* 197, 264; *Protomyobia brevisetosa* 264; *P. claparedei* 264; *Radfordia ensifera* 264; *R. subuliger* 197, 264

Myocoptidae: *Myocoptes japonensis* 197, 264; *Myocoptes musculus* 153, 154, 197, 200

Pygmephoridae: *Bakerdania equisetosa* 200; *Pygmephorus designatus* 212; *P. horridus* 212; *P. spinosus* 212

Spinturnicidae: *Spinturnix americanus* 204

NORTH DAKOTA (ND; see also Minnesota and/or North Dakota)

Glycyphagidae: *Glycyphagus newyorkensis* 248

Laelapidae: *Androlaelaps fahrenheitzi* 168; *Echinonyssus thomomys* 168; *Haemogamasus longitarsus* 168

Macronyssidae: *Ornithonyssus bacoti* 248

NORTHWEST TERRITORIES (NWT)

Glycyphagidae: *Glycyphagus hypudaei* 107

Laelapidae: *Echinonyssus isabellinus* 107; *Haemogamasus ambulans* 107; *Laelaps alaskensis* 107

Listrophoridae: *Listrophorus mexicanus squamiferus* 62; *L. phenacomys* 62

Myobiidae: *Radfordia macdonaldi* 107

Myocoptidae: *Myocoptes japonensis canadensis* 107

NOVA SCOTIA (NS)

Glycyphagidae: *Glycyphagus hypudaei* 291; *G. newyorkensis* 131; *Orycteroxenus soricis* 131; *Zibethacarus ondatrae* 291

Laelapidae: *Androlaelaps fahrenheitzi* 131, 291; *Echinonyssus blarinae* 291; *E. isabellinus* 291 (nr.); *E. talpae* 291; *Eulaelaps stabularis* 291; *Haemogamasus ambulans* 291;

H. liponyssoides 291; *Laelaps kochi* 131; *L. multispinosa* 291

Listrophoridae: *Listrophorus mexicanus* 131

Macronyssidae: *Macronyssus crosbyi* 291

Pygmephoridae: *Pygmephorus mahunkai* 131

OHIO (OH)

Glycyphagidae: *Zibethacarus ondatrae* 210

Laelapidae: *Androlaelaps fahrenheitzi* 210; *Haemogamasus reidi* 285, 292; *Laelaps multispinosa* 210

Listrophoridae: *Listrophorus americanus* 210; *L. dozieri* 210; *L. faini* 210

Macronyssidae: *Macronyssus crosbyi* 253

Rosensteiniidae: *Nycteriglyphus fuscus* 26

Spinturnicidae: *Spinturnix globosus* 253

OKLAHOMA (OK)

Ameroseiidae: *Sertitympanum separationis* 44

Cheyletidae: *Cheyletus cacahuamilpensis* 198 (nr.)

Macronyssidae: *Macronyssus crosbyi* 198; *M. unidens* 198

Rosensteiniidae: *Chiroptoglyphus americanus* 179

Spinturnicidae: *Spinturnix americanus* 198; *S. globosus* 198

ONTARIO (ON)

Chirodiscidae: *Lutrulichus canadensis* 71

Laelapidae: *Haemogamasus ambulans* 285; *H. liponyssoides liponyssoides* 285; *H. longitarsus* 285

Listrophoridae: *Listrophorus validus* 62; *Lynxacarus mustelae* 52

Myobiidae: *Acanthopthirius caudatus* 81; *Protomyobia blarinae* 158; *Radfordia hylandi* 67

Pygmephoridae: *Pygmephorus horridus* 188

OREGON (OR)

Ameroseiidae: *Sertitympanum contiguum* 44; *S. exarmatum* 44

Cheyletidae: *Cheyletus linsdalei* 269; *Eucheyletia bishoppi* 15, 269, 279

Chirodiscidae: *Alabidocarpus calcaratus* 283; *Schizocarpus paramingaudi* 90

Chortoglyphidae: *Aplodontopus latus* 272

Dermanyssidae: *Dermanyssus gallinoides* 266

Glycyphagidae: *Dermacarus reticulosus* 269; *D. spermophilus* 15, 84, 269; *D. tamiasciuri* 184, 266; *Glycyphagus hypudaei* 184, 267, 268, 269, 270, 271, 277, 279; *G. newyorkensis* 269; *Lepidoglyphus hylandi* 267, 268; *Microlabidopus americanus* 47, 272; *Orycteroxenus soricis* 269, 279; *Xenoryctes latiporus* 269; *Xenoryctes nudus* (nr.) 15; *Zibethacarus ondatrae* 268, 269

Laelapidae: *Alphalaelaps aplodontiae* 272, 279; *Androlaelaps casalis* 15, 269, 271, 277, 279; *A. fahrenheiti* 15, 122, 164, 248, 266, 267, 268, 269, 271, 277, 279, 292; *A. geomys* 270; *Echinonyssus affinus* 277; *E. blarinae* 292; *E. cynomys* 266(nr.) 269; *E. femoralis* 270; *E. hilli* 164; *E. incomptus* 164; *E. isabellinus* 267, 268, 277; *E. longichelae* 266, 269, 270; *E. longichelae* (var.) 270; *E. neotomae* 15, 269; *E. obsoletus* 15, 268, 269, 277; *E. obsoletus* (var.) 269, 271, 277, 279; *E. staffordi* 269; *E. thomomys* 270, 271; *E. triacanthus* 164; *E. utahensis* 15, 164, 267, 269, 270, 277; *Eubrachylaelaps circularis* 269, 277; *E. debilis* 268, 269, 277, 279; *E. hollisteri* 277; *Eulaelaps stabularis* 15, 122, 267, 268, 269, 271, 277, 279; *Haemogamasus ambulans* 267, 271, 279; *H. ambulans* (nr.) 277, 283; *H. keegani* 285; *H. liponyssoides* 292; *H. nidi* 122; *H. occidentalis* 267, 268, 269, 271, 277, 279, 285; *H. onychomydis* 164, 269, 270, 285; *H. pontiger* 269; *H. reidi* 15, 164, 266, 267, 268, 269, 270, 271, 272, 277, 279, 285; *H. thomomysi* 270; *Hypoaspis lubrica* 15; *H. miles* 268; *Ischyropoda armatus* 164, 269; *I. furmani* 164; *Laelaps alaskensis* 268, 270, 277, 279; *L. kochi* 268, 269, 271, 277, 283; *L. multispinosa* 269; *Patrinyssus hubbardi* 272

- Listrophoridae: *Aplodontochirus borealis* 272; *Geomylichus perognathi* 85, 164; *G. texensis* 164; *Leporacarus sylvilagi* 72, 93; *Listrophorus americanus* 269; *L. dozieri* 269; *L. faini* 269; *L. mexicanus* 267, 268, 271, 279, 283; *L. ondatrae* 269; *L. validus* 269; *Lynxacarus mustelae* 269; *L. nearcticus* 269; *Quasilistrophorus microticolus* 92
- Macrochelidae: *Macrocheles maseri* 148; *M. polypunctatus* 148; *M. polystichus* 148; *M. praedafimetorum* 148
- Macronyssidae: *Cryptonyssus desultorius* 283; *Macronyssus crosbyi* 206, 283; *M. longisetosus* 283; *M. macrodactylus* 283; *Ornithonyssus bacoti* 269, 277; *Steatonyssus antrozoi* 283; *S. emarginatus* 283; *S. furmani* 283; *S. occidentalis* 283
- Myobiidae: *Acanthophthirius caudatus eptesicus* 283; *A. gracilis* (nr.) 283; *A. oregonensis* 83, 283; *Amorphacarus hengerorum* 277, 279; *A. soricis* 83; *Eadiea brevihamata* 271; *E. neurotrichus* 159; *E. scapanus* 80, 271; *Eutalpacarus peltatus* 271; *Protomyobia atophyracis* 156; *P. brevisetosa* 268, 271, 268; *P. oregonensis* 156; *P. quasionoi* 156; *Pteracarus aculeus* 283; *P. minutus daubentoni* (nr.) 283; *Radfordia arborimus* 80, 267; *R. ewingi* 248; *R. hylandi* 268; *R. neotomae* 15; *R. subuliger* 269, 277; *R. zibethicalis* 269
- Myocoptidae: *Myocoptes japonensis* 268; *M. musculus* 269; *M. neotomae* 15
- Pygmephoridae: *Pygmephorus brevipes* 17; *P. californicus* 17; *P. designatus* 17, 268, 269, 279; *P. erlanensis* 212; *P. forcipatus* 17; *P. horridus* 17, 22, 212, 271, 279; *P. lutterloughae* 212; *P. mahunkai* 17, 212; *P. plurispinosus* 17, 22; *P. rackae* 17; *P. scalopi* 212; *P. spinosus* 17; *P. whartoni* 17; *P. whitakeri* 15, 17, 212; *P. n. sp. #1* 17; *P. n. sp. #2* 17; *P. n. sp. #3* 17

Spinturnicidae: *Spinturnix americanus* 206, 253, 283; *S. bakeri* 283; *S. globosus* 283; *S. orri* 283

PENNSYLVANIA (PA)

Glycyphagidae: *Dermacarus tamiasciuri* 265; *Glycyphagus hypudaei* 265; *Lepidoglyphus hylandi* 182, 265; *Orycteroxenus soricis* 265; *Xenoryctes latiporus* 265; *X. nudus* 265

Laelapidae: *Androlaelaps fahrenheitzi* 265; *Echinonyssus blarinae* 265; *E. talpae* 265; *E. utahensis* 265; *Eulaelaps stabularis* 265; *Haemogamasus ambulans* 265, 285; *H. liponyssoides* 265; *H. liponyssoides liponyssoides* 285; *H. longitarsus* 265; *H. reidi* 265; *Laelaps alaskensis* 265; *L. kochi* 265

Listrophoridae: *Listrophorus mexicanus* 265; *L. mexicanus squamiferus* 62; *L. synaptomys* 265; *Lynxacarus nearcticus* 62; *Olistrophorus blarina* 265

Macronyssidae: *Steatonyssus occidentalis* 171

Myobiidae: *Amorphacarus hengererorum* 265; *Blarinobia simplex* 265; *Protomyobia americana* 265; *P. brevisetosa* 265; *Radfordia hylandi* 265; *R. lemnina* 265; *R. subuliger* 265

Myocoptidae: *Myocoptes japonensis* 265; *M. musculus* 265; *Sciurocoptes tamas* 265; *Trichoecius gettingeri* 70, 265; *T. tenax* 265

Pygmephoridae: *Pygmephorus erlangensis* 265; *P. horridus* 188, 212, 265; *P. whitakeri* 265

Rosensteiniidae: *Chiroptoglyphus americanus* 179

PRINCE EDWARD ISLAND (PE)

Glycyphagidae: *Glycyphagus newyorkensis* 131; *Orycteroxenus soricis* 231

Laelapidae: *Androlaelaps fahrenheitzi* 131; *Echinonyssus isabellinus* 131; *E. talpae* 231;
Eulaelaps stabularis 182; *Haemogamasus ambulans* 131, 231; *Laelaps kochi* 131

Listrophoridae: *Listrophorus mexicanus* 131

Macrochelidae: *Macrocheles n. sp.* 148

Macronyssidae: *Macronyssus crosbyi* 132

Myobiidae: *Radfordia ewingi* 131

Pygmephoridae: *Pygmephorus mahunkai* 131, 132

Spinturnicidae: *Spinturnix americanus* 132

QUEBEC (PQ)

Glycyphagidae: *Dermacarus tamiasciuri* 111; *Glycyphagus hypudaei septentrionalis* 111;
G. newyorkensis 111

Listrophoridae: *Listrophorus mexicanus* 111, 131

Macronyssidae: *Ornithonyssus sylviarum* 10

Myobiidae: *Radfordia hylandi* 67; *R. lemnina* 111 (nr.)

Myocoptidae: *Gliricoptes glirinus* 111 (nr.); *Myocoptes musculus* 111 (nr.); *M. ondatrae*
111 (nr.)

RHODE ISLAND (RI)

Chortoglyphidae: *Aplodontopus sciuricola* 125, 226

Listrophoridae: *Listrophorus americanus* 62; *L. dozieri* 62; *L. faini* 62; *L. kingstownensis*
48, 62; *L. mexicanus squamiferus* 62; *L. ondatrae* 62; *L. pitymys* 61, 62; *L. validus*
62; *Olistrophorus blarina* 62

Myobiidae: *Radfordia hylandi* 67

SOUTH CAROLINA (SC)

Chirodiscidae: *Schizocarpus indianensis* 174

Dermanyssidae: *Liponyssoides sanguineus* 196

Glycyphagidae: *Glycyphagus hypudaei* 174; *Orycteroxenus soricis* 32, 262; *Xenoryctes latiporus* 262

Laelapidae: *Androlaelaps casalis* 32, 262; *A. fahrenheitzi* 174, 262; *A. glasgowi* 174; *Echinonyssus blarinae* 262; *Eulaelaps stabularis* 262; *Haemogamasus harperi* 285; *H. liponyssoides* 262

Listrophoridae: *Listrophorus dozieri* 174; *L. neotomae* 32; *L. validus* 62; *Olistrophorus blarina* 174, 262; *Prolistrophorus bakeri* 62; *Radfordia palustris* 66, 67, 68

Macronyssidae: *Ornithonyssus bacoti* 39, 174, 196; *O. wernecki* 174

Myobiidae: *Myobia ariusculi* 196; *Protomyobia blarinae* 262; *Radfordia affinis* 196

Myocoptidae: *Myocoptes musculinus* 196

Pygmephoridae: *Bakerdania plurisetosa* 262; *Pygmephorus erlangensis* 262; *P. horridus* 262; *P. moreohorridus* 262; *P. spinosus* 262; *P. stammeri* 262; *P. whartoni* 262; *P. whitakeri* 262

SOUTH DAKOTA (SD; see also South Dakota and/or Wyoming)

Glycyphagidae: *Glycyphagus hypudaei* 166, 238

Laelapidae: *Androlaelaps fahrenheitzi* 123, 238; *Eulaelaps stabularis* 238; *Haemogamasus ambulans* 238; *Laelaps kochi* 238

Listrophoridae: *Geomylichus floridanus* 13

Macrochelidae: *Macrocheles mesochthonius* 148

Macronyssidae: *Macronyssus crosbyi* 238; *M. longisetosus* 238; *M. unidens* 238; *Ornithonyssus bacoti* 238

Myobiidae: *Myobia musculi* 166

Myocoptidae: *Myocoptes musculus* 166, 238

Pygmephoridae: *Pygmephorus spickai* 188

Spinturnicidae: *Spinturnix americanus* 238; *S. bakeri* 238

SOUTH DAKOTA AND/OR WYOMING

Glycyphagidae: *Glycyphagus hypudaei* 238

Laelapidae: *Androlaelaps fahrenheitzi* 238; *Eulaelaps stabularis* 238; *Haemogamasus ambulans* 238; *Laelaps kochi* 238

Macronyssidae: *Ornithonyssus bacoti* 238

Myocoptidae: *Myocoptes musculus* 238

TENNESSEE (TN)

Atopomelidae: *Didelphilichus serrifer* 38

Cheyletidae: *Cheyletus eruditus* 197

Chortoglyphidae: *Aplodontopus sciuricola* 29, 30

Glycyphagidae: *Glycyphagus hypudaei* 39, 177 (nr.), 197; *Lepidoglyphus hylandi* 29, 30; *Marsupialichus brasiliensis* 38, 197; *Orycteroxenus canadensis* 197; *O. soricis* 177 (nr.), 197

Laelapidae: *Androlaelaps casalis* 29, 30, 39, 153, 154, 197; *A. fahrenheitzi* 39, 154, 197; *A. glasgowi* 152, 153; *Echinonyssus talpae* 96; *Eulaelaps stabularis* 29, 30, 152, 153, 197; *Haemogamasus ambulans* 29; *H. liponyssoides liponyssoides* 285; *H. longitarsus* 197; *H. pontiger* 29, 30; *Laelaps alaskensis* 153, 154, 177, 197; *L. kochi* 153, 154, 197; *L. stupkai* 153; *Myonyssus jamesoni* 197

Listrophoridae: *Listrophorus dozieri* 197; *L. mexicanus squamiferus* 177, 197;

Prolistrophorus bakeri 197

Macronyssidae: *Macronyssus crosbyi* 197; *Ornithonyssus bacoti* 39, 197; *O. wernecki* 38

Myobiidae: *Amorphacarus hengererorum* 177; *Archemyobia inexpectatus* 38; *Myobia*

musculi 197; *Radfordia affinis* 197; *R. subuliger* 197; *R. zibethicalis* 197

Myocoptidae: *Myocoptes musculus* 152, 153, 154, 197

Pygmephoridae: *Bakerdania plurisetosa* 177

Spinturnicidae: *Spinturnix americanus* 197

TEXAS (TX; see also New Mexico and/or Texas)

Cheyletidae: *Cheyletus eruditus* 18; *Eucheyletia hardyi* 18

Glycyphagidae: *Glycyphagus hypudaei* 18; *Metalabidophorus liomys* 156

Laelapidae: *Androlaelaps fahrenheitzi* 18, 42, 130, 232; *A. geomys* 284; *Echinonyssus*

breviseta 18; *E. femoralis* 284; *E. geomys* 284; *E. incomptis* 232; *E. liomys* 120; *E.*

perognathi 120, 196; *E. staffordi* 18; *Gigantolaelaps mattogrossensis* 11;

Haemogamasus harperi 285

Listrophoridae: *Geomylichus brevispinosus* 95; *G. dipodomius* 97, 232; *G. floridanus* 13,

284; *G. inaequalis* 95, 232; *G. intercalates* 98; *G. multistriatus* 97; *G. texanus* 95;

Listrophorus neotomae 48, 62; *Olistrophorus blarinae* 54; *O. cryptotae* 62, 167;

Prolistrophorus bakeri 62

Macrochelidae: *Macrocheles dolichosternus* 148; *M. rodriguezii* 148

Macronyssidae: *Chiroptonyssus haematophagus* 254; *C. robustipes* 202, 254; *C.*

venezolanus 202, 254, 254 (nr.); *Cryptonyssus desultorius* 202, 254; *Macronyssus*

crosbyi 202, 254; *M. cyclaspis* (nr.) 202; *M. longisetosus* 254; *Ornithonyssus bacoti*

130; *Steatonyssus antrozoi* 202, 254; *S. emarginatus* 254; *S. furmani* 202, 254; *S. occidentalis* 202, 254

Myobiidae: *Acanthopthirius caudata* 202, 254; *Ewingana doreyae* 254, 255; *E. longa* 202; *Phyllostomyobia leptonycteris* 49, 53; *Protomyobia americana* 158; *Radfordia hamiltoni* 127; *R. hylandi* 67

Rosensteiniidae: *Chiroptoglyphus americanus* 179; *Nycteriglyphus texanus* (on guano and bodies of bats) 180, 254

Spinturnicidae: *Periglischrus vargasi* 254; *Spinturnix americanus* 202, 253, 254; *S. bakeri* 254; *S. carloshoffmanni* 202; *S. orri* 202, 254

UTAH (UT)

Glycyphagidae: *Glycyphagus newyorkensis* 248

Laelapidae: *Androlaelaps fahrenheitzi* 217; *A. glasgowi* 128; *Echinonyssus carniflex* 128; *E. incomptis* 128; *E. triacanthus* 128; *Haemogamasus onychomydis* 285; *H. reidi* 248; *H. thomomysi* 285; *Hypoaspis leviculus* 128

Listrophoridae: *Geomylichus formosus* 88; *G. microdipodops* 88; *G. perognathi* 88; *G. utahensis* 88

Myobiidae: *Radfordia ewingi* 248

Myocoptidae: *Gliricoptes zapus* 248

VERMONT (VT)

Glycyphagidae: *Labidophorus nearcticus* 258

Laelapidae: *Androlaelaps fahrenheitzi* 292; *Haemogamasus ambulans* 285

Pygmephoridae: *Bakerdania plurisetosa* 258; *Pygmephorus erlangensis* 258; *P. stammeri* 258; *P. whitakeri* 258

VIRGINIA (VA)

Laelapidae: *Androlaelaps fahrenheitzi* 216; *Haemogamasus liponyssoides liponyssoides*

285; *H. longitarsus* 285; *H. reidi* 216

Listrophoridae: *Listrophorus mexicanus squamiferus* 61

Macronyssidae: *Ornithonyssus sylviarum* 113

Pygmephoridae: *Pygmephorus designatus* 212; *P. faini* 212; *P. hastatus* 212; *P. horridus*

212; *P. spinosus* 212; *P. whitakeri* 212

WASHINGTON (WA)

Chortoglyphidae: *Aplodontopus marmotophilus* 147

Glycyphagidae: *Dermacarus jonesi* 82; *Glycyphagus hypudaei* 248; *G. newyorkensis* 248;

Scalopacarus scapanus 86

Laelapidae: *Androlaelaps fahrenheitzi* 248, 292; *Echinonyssus blarinae* 292;

Haemogamasus liponyssoides 292; *H. occidentalis* 285; *H. reidi* 248

Listrophoridae: *Aplodontochirus borealis* 61

Macronyssidae: *Cryptonyssus desultorius* 193

Myobiidae: *Eadidea neurotrichus* 159; *Protomyobia oregonensis* 156

Myocoptidae: *Gliricoptes zapus* 78, 248

Pygmephoridae: *Bakerdania jonesi* 162; *Pygmephorus horridus* 212; *P. plurispinosus* 162,

212

WEST VIRGINIA (WV)

Glycyphagidae: *Zibethacarus ondatrae* 135

Laelapidae: *Androlaelaps fahrenheiti* 134, 135; *Eulaelaps stabularis* 135; *Haemogamasus liponyssoides* 135; *H. longitarsus* 135; *Laelaps kochi* 135; *L. multispinosa* 135; *Myonyssus jamesoni* 135

Listrophoridae: *Listrophorus americanus* 135; *L. mexicanus* 135; *Prolistrophorus grassii* 69

Macronyssidae: *Ornithonyssus bacoti* 134; *O. wernecki* 135

Myobiidae: *Archemyobia inexpectatus* 135; *Blarinobia simplex* 135; *Myobia musculi* 135; *Protomyobia claparedei* 135; *Radfordia lemnina* 135; *R. subuliger* 135

Myocoptidae: *Myocoptes musculinus* 135; *Trichoecius tenax* 135

WISCONSIN (WI)

Glycyphagidae: *Lepidoglyphus hylandi* 3

Laelapidae: *Androlaelaps fahrenheiti* 2, 3, 126; *Echinonyssus utahensis* 2, 3, 126; *Eulaelaps stabularis* 3, 126; *Haemogamasus liponyssoides* 3, 126; *H. reidi* 3; *Laelaps alaskensis* 2, 3; *L. kochi* 2, 3; *L. multispinosa* 2, 3

WYOMING (WY; see also South Dakota and/or Wyoming)

Ameroseiidae: *Sertitympanum exarmatum* 44; *S. separationis* 44

Glycyphagidae: *Glycyphagus hypudaei* 248; *G. newyorkensis* 248

Listrophoridae: *Listrophorus mexicanus* 248

INDEX AND SYNONYMY

*Acanthopthirus**arcuatus* Dastych & Rack, 1991; *Pygmeporus**aculeus* Dusbabek & Lukoschus, 1973; *Pteracarus**affinis* (Jameson, 1950): *Echinonyssus**affinis* (Poppe), 1896; *Radfordia**Alabidocarpus**alaskensis* Ewing, 1925; *Haemogamasus ambulans**alaskensis* Fain & Whitaker, 1988; *Schizocarpus**alaskensis* Grant, 1947; *Laelaps**Alphalaelaps**ambulans* Thorell, 1872; *Haemogamasus**americana* McDaniel, 1967; *Protomyobia**americana*, *Protomyobia* from *Blarina* = *P. blarinae* Lukoschus, et al. 1988*americanus* (Banks, 1902); *Spinturnix**americanus* Fain, 1967; *Microlabidopus**americanus* Fain & Johnson, 1970; *Ursicoptes**americanus* OConnor & Reisen, 1978; *Chiroptoglyphus**americanus* Radford, 1944; *Listrophorus*

Ameroseiidae

*Amorphacarus**Androlaelaps**antrozoi* Radovsky & Furman, 1963; *Steatonyssus*

aplodontiae (Jellison, 1945); *Alphalaelaps*

Aplodontochirus

Aplodontopus

arborimus, Fain & Whitaker, 1975; *Radfordia*

Archemyobia

arctica, Fain & Lukoschus, 1977; *Radfordia*

arcuatus (Koch 1839); *Echinonyssus*

armatus Keegan, 1951; *Ischyropoda*

Asiochirus = *Olistrophorus*

atophyracis Lukoschus, Giesen, Whitaker, & Cudmore, 1988; *Protomyobia*

Atopomelidae

Audycoptidae = Rhyncoptidae

bachai Howell & Elzinga 1962; *Radfordia*

bacoti (Hirst, 1913); *Ornithonyssus*

bakeri, (Radford, 1949); *Prolistrophorus*

bakeri, Rudnick, 1960; *Spinturnix*

Bakerdania

banksi Rudnick, 1960; *Spinturnix*

Bdellonyssus = *Ornithonyssus*

birkenholzi Fain, Whitaker, & Smith, 1984; *Prolistrophorus*

bisetosus Allred, 1957; *Echinonyssus*

bishoppi Baker, 1949; *Eucheyletia*

blarina (Fain & Hyland, 1972); *Olistrophorus*

blarinae (Herrin, 1970); *Echinonyssus*

blarinae Lukoschus, Jeucken & Whitaker, 1988; *Protomyobia*

blarinae McDaniel & Whitaker, 1972; *Olistrophorus blarinae*

Blarinobia

borealis Fain & Hyland, 1972; *Aplodontochirus*;

brasiliensis Fain, 1969; *Marsupialichus*

brevicaudae Smiley & Whitaker 1979; *Pygmephorus* = *Pygmephorus stammeri* Krczal, 1959

brevihamata (Haller, 1882); *Eadiea*

brevipes Savulkina, 1976, *Pygmephorus*

brevisetata (Strandtmann & Morlan), 1953; *Echinonyssus*

brevisetosa Jameson, 1948; *Protomyobia*

brevispinosus Fain, Whitaker, Schwan & Lukoschus, 1978; *Geomylichus*

butantanensis (Fonseca, 1932); *Echinonyssus*

cacahuamilpensis Baker, 1949 (nr.); *Cheyletus*

calcaratus Lawrence, 1952; *Alabidocarpus*

californicus Fain, Whitaker, & Thomas, 1988; *Geomylichus*

californicus Smiley & Whitaker, 1979; *Pygmephorus*

canadensis Fain, Kok, Lukoschus & Clulow, 1971; *Orycteroxenus*

canadensis Fain, Lukoschus, Kok & Clulow, 1974; *Lutrilichus*

canadensis Fain & Yunker, 1980; *Lutracarus*

canadensis Radford, 1955; *Myocoptes*

carloshoffmanni Hoffmann, 1944; *Spinturnix*

casalis (Berlese, 1887); *Androlaelaps*

caudata (Banks, 1910); *Acanthopthirius*

caudata eptesicus Fain & Whitaker, 1976; *Acanthopthirius*

caudatus Fain, Whitaker & Smith 1984; *Listrophorus*

centralis Fain & Whitaker, 1988; *Schizocarpus*

ceratognathus (Ewing, 1923); *Steatonyssus*

chalinolobus (Womersley, 1941) = *Pteracarus elegans* from *Corynorhinus* and *P. aculeus* from

Eptesicus.

chalinolobus Womersley, 1941 (nr.); *Pteracarus*

Cheyletidae

Cheyletiella

Cheyletiellidae = Cheyletidae

Cheyletus

Chirodiscidae

Chiroptoglyphus

Chiroptonyssus

Chortoglyphidae

circularis (Ewing), 1933; *Eubrachylaelaps*

claparedei (Poppe, 1896); *Protomyobia*

clethrionomydis Lange, 1955; *Laelaps*

completus Dusbabek & Wilson, 1973; *Pteracarus*

completus vrazi Dusbabek & Wilson, 1973; *Pteracarus*

condylurae Jameson, 1949; *Eadiea*

contiguum Elsen & Whitaker, 1985; *Sertitympanum*

contrarius Fain & Whitaker, 1988; *Schizocarpus*

Coprolactistus

crosbyi (Ewing & Stover, 1915); *Macronyssus*

crowei Jameson, 1947; *Eubrachylaelaps*

Cryptonyssus

cryptotae (McDaniel & Whitaker, 1972); *Olistrophorus*

cynomys (Radford, 1941), *Echinonyssus*

dasyopus Fain, Lukoschus, Louppen & Mendez, 1973; *Echimyopus*

debilis Jameson, 1950; *Eubrachylaelaps*

Dentocarpus

Dermacarus

Dermanyssidae

Dermanyssus

deserti Fain & Whitaker, 1987; *Geomylichus*

designatus Mahunka, 1973; *Pygmephorus*

desultorius Radovsky, 1966; *Cryptonyssus*

Didelphilichus

dipodomius (Radford, 1953); *Geomylichus*

Dipodomyopus

distinctus, Fain & Whitaker, 1988; *Schizocarpus*

dolichosternus, Krantz & Whitaker, 1988; *Macrocheles*

doreyae Dusbabek, 1968; *Ewingana*

dozieri Radford, 1944; *Listrophorus*

Eadiea

echidnina Berlese, 1887; *Laelaps*

Echimyopidae

Echimyopus

Echinonyssus

elegans Dusbabek & Wilson, 1973; *Pteracarus*

emarginatus Radovsky & Furman, 1963; *Steatonyssus*

ensifera (Poppe, 1896); *Radfordia*

Epimyodex

equisetosa Cross, 1970; *Bakerdania*

equitrichosus Mahunka, 1975 = *Pygmephorus designatus*

erlangensis Krczal, 1959; *Pygmephorus*

eruditus (Schrank, 1781); *Cheyletus*

Eubrachylaelaps

Eucheyletia

Eudusbabeckia n. sp. Whitaker & Easterla 1975 = *Ewingana (Doreyana) doreyae*

Eulaelaps

Eutalpacarus

evansi Tipton, 1960; *Laelaps*

Ewingana

ewingi (Fox, 1937); *Radfordia*

exarmatum Elsen & Whitaker, 1985; *Sertitympanum*

fahrenheitzi (Berlese, 1911); *Androlaelaps*

faini Dubinina, 1972; *Listrophorus*

faini Smiley & Whitaker, 1979; *Pygmephorus*

femuralis (Allred 1957); *Echinonyssus*

flexus Radovsky, 1967; *Cryptonyssus*

floridanus (Radford, 1949); *Geomylichus*

forcipatus Willman, 1952; *Pygmephorus*

formosus Fain & Whitaker, 1987; *Geomylichus*

furcatus Fain, Whitaker, & Smith, 1984; *Schizocarpus*

furmani Keegan, 1956; *Ischyropoda*

furmani Tipton & Boese, 1958; *Steatonyssus*

fuscus Dood & Rocket, 1985; *Nycteriglyphus*

gallinae (De Geer, 1778); *Dermanyssus*

gallinoides Moss, 1966; *Dermanyssus*

geomydis Coffman & McDaniel, 1975; *Geomylichus* = *Geomylichus floridanus*

geomydis (Keegan, 1946); *Echinonyssus*

Geomylichus

Geomylichus sp. Whitaker & Maser, = *Geomylichus perognathi* Fain & Whitaker, 1980

geomys (Strandtmann, 1949); *Androlaelaps*

gettingeri Fain, Lukoschus, Cudmore & Whitaker, 1984; *Trichoecius*;

ghanii Williams, 1978; *Haemogamasus*

gibbus (Pagenstacher, 1861); *Leporacarus*

glasgowi Ewing, 1925 = *Androlaelaps fahrenheitzi*

Gliricoptes

glirinus (nr.) Canestrini, 1895; *Gliricoptes*

globosus (Rudnick, 1960); *Spinturnix*

Glycyphagidae

Glycyphagus

gracilis Fain & Whitaker, 1976; *Acanthophthirius*

grassii (Radford, 1954); *Prolistrophorus*

haematophagus Fonseca, 1948; *Chiroptonyssus*

Haemogamasus

Haemogamasus sp. A Durden 1983 = *Haemogamasus ambulans*

hamiltoni Jameson & Whitaker, 1975; *Radfordia*

hamiltoni Smiley & Whitaker, 1979 = *Pygmephorus spinosus*

hardyi Baker, 1949; *Eucheyletia*

harperi Keegan, 1951; *Haemogamasus*

hastatus Mahunka, 1973; *Pygmephorus*

hengererorum Jameson, 1948; *Amorphacarus*

hilli (Jameson, 1950); *Echinonyssus*

Hirstionyssus = *Echinonyssus*

hollisteri (Ewing, 1925); *Eubrachylaelaps*

horridus Mahunka, 1973; *Pygmephorus*

hubbardi (Jameson, 1949); *Patrinysus*

hylandi (Fain, 1969); *Lepidoglyphus*

hylandi Fain & Lukoschus, 1977, *Radfordia*

*Hypoaspis**hypudaei* (Koch, 1841); *Glycyphagus**hypudaei septentrionalis* Fain, 1969; *Glycyphagus**idea* Smiley & Whitaker, 1979; *Pygmephorus**iglehartae* Smiley & Whitaker, 1984; *Pygmephorus**inaequalis* (Ewing, 1936); *Ewingana**inaequalis* Fain, Whitaker, Schwan & Lukoschus, 1978; *Geomylichus**incomptis* (Eads & Hightower, 1952); *Echinonyssus**indianensis* Fain, Whitaker, & French, 1982; *Protomyobia**indianensis* Fain, Whitaker, & Smith, 1984; *Schizocarpus**inexpectatus* Jameson, 1955; *Archemyobia**insignitus* Berlese, 1918; *Macrocheles**inversus* Fain, Whitaker & Smith, 1984; *Schizocarpus**isabellinus* (Oudemans, 1913); *Echinonyssus**Ischyropoda**islandicus* Sellnick, 1940; *Pygmephorus**japonensis* Radford, 1955; *Myocoptes**japonensis canadensis* Radford, 1955; = *Myocoptes canadensis**japonensis japonensis* Radford, 1955; *Myocoptes**jamesoni* Ewing & Baker, 1947; *Myonyssus**johnstoni* Fain, 1969; *Marsupialichus**johnstoni* Smiley & Whitaker, 1979 = *P. erlangensis**jonesi* Fain & Whitaker, 1976; *Dermacarus*

jonesi Mahunka, 1975; *Bakerdania*

jonesi White, 1966; *Macronyssus*

keegani Jameson, 1952; *Haemogamasus*

kingstownensis Fain & Hyland, 1973; *Listrophorus*

Klemania sp. Whitaker & Maser, 1979 = *Sertitympanum exarmatum*

kochi Oudemans, 1936; *Laelaps*

Labidocarpidae = *Chirodiscidae*

Labidophoridae = *Glycyphagidae*

Labidophorus

Laelapidae

Laelaps

lasiurus Fain & Whitaker, 1976; *Acanthopthirus*

latiporus Fain & Whitaker, 1973; *Xenoryctes*

laticutatus (de Meillon & Lavoipierre, 1944) = *Echinonyssus butantanensis*

latus Fain, 1967; *Aplodontopus*

laynei Fain, Whitaker, & Smith, 1984; *Listrophorus*

lemnina Koch, 1841; *Radfordia*

Lepidoglyphus

Leporacarus

leptonycteris Fain, 1973; *Phyllostomyobia*

leuckarti Pagenstecher, 1861 = *Listrophorus mexicanus*

leviculus (Eads, 1951); *Hypoaspis*

linsdalei Baker, 1949; *Cheyletus*

liomys (Herrin & Yunker, 1973); *Echinonyssus*

liomys Lukoschus, Duijguijssen & Fain, 1977; *Metalabidophorus*

liponyssoides Ewing, 1925; *Haemogamasus*

liponyssoides hesperus Radovsky, 1960; *Haemogamasus*

liponyssoides liponyssoides Ewing, 1925; *Haemogamasus*

listrophorid gen. & sp. Whitaker & Maser, 1979 = *Quasilistrophorus microticolus*

Listrophoridae

Listrophorus

longa (Ewing, 1938); *Ewingana*

longichelae (Allred & Beck, 1966); *Echinonyssus*

longichelae variant #1; *Echinonyssus*

longisetosus (Furman, 1950); *Macronyssus*

longitarsus (Banks 1910); *Haemogamasus*

lubrica Oudemans & Voigts, 1904; *Hypoaspis*

lucifugus Fain & Whitaker, 1976; *Acanthophthirius*

lukoschusi Smiley & Whitaker, 1984; *Pygmephorus*

Lutracarus

Lutrilichus

lutterloughae Smiley & Whitaker, 1979; *Pygmephorus*

Lynxacarus

macdonaldi Gill & Strandtmann, 1977; *Radfordia*

Macrocheles

Macrocheles N (Yoder, in Krantz & Whitaker, 1988, not published)

Macrochelidae

macrodactylus Radovsky & Beck, 1971; *Macronyssus*

Macronyssidae

Macronyssus

macrotrichus Dusbabek & Cruz, 1966; *Dentocarpus*

mahunkai Smiley & Whitaker 1979; *Pygmephorus*

magnisetosus Rack 1975 = *Pygmephorus horridus*

malaccensis Oudemans, 1903; *Cheyletus*

mammifer Berlese, 1918; *Macrocheles*

marmotophilus Krantz, O'Conner, Foreyt, & Fain, 2003; *Aplodontopus*

Marsupialichus

marsupialichus Fain, DeCock & Lukoschus, 1972; *Marsupialichus*

maseri Krantz & Whitaker, 1988; *Macrocheles*

matrius (Hull, 1925); *Macrocheles*

merdarius (Berlese, 1889); *Macrocheles*

mesochthonius Krantz & Whitaker, 1988; *Macrocheles*

Metalabidophorus

mexicanus Fain 1970; *Listrophorus*

mexicanus squamiferus Fain & Hyland, 1972; *Listrophorus*

microdipodops Fain & Whitaker, 1987; *Geomylichus*

Microlabidopus

micronyx Fain & Spicka, 1977; *Aplodontopus*

microti Ewing, 1933 = *Laelaps kochi*

microti Spicka & OConnor, 1980; *Glycyphagus*
microticolus Fain, Whitaker, & Lukoschus, 1978; *Quasilistrophorus*
miles (Berlese 1892); *Hypoaspis*
mingaudi Trouessart, 1896; *Schizocarpus*
minutus daubentoni (nr.) Dusbabek, 1973; *Pteracarus*
minutus occidentalis Dusbabek & Wilson, 1973; *Pteracarus*
moreohorridus Mahunka, 1975; *Pygmephorus*
morlani Radford, 1951; *Lynxacarus*
morlani (Strandtmann, 1949); *Androlaelaps*
multispinosa (Banks, 1910); *Laelaps*
multistriatus Fain, Whitaker & Thomas, 1988; *Geomylichus*
muscaedomesticae (Scopoli, 1772); *Macrocheles*
musculi Schrank, 1781; *Myobia*
musculus (Koch, 1844); *Myocoptes*
mustelae (Megnin, 1885); *Lynxacarus*
mustelae Rack, 1975 = *Pygmephorus spickai*
Mydopholeus sp.
Myobia
Myobiidae
Myocoptes
Myocoptidae
Myonyssus
nearcticus Fain & Hyland 1973; *Lynxacarus*

nearcticus Fain & Whitaker, 1985; *Labidophorus*
neotomae (Eads & Hightower, 1951); *Echinonyssus*
neotomae Fain & Hyland, 1973; *Listrophorus*
neotomae Fain, Lukoschus, Cudmore & Whitaker, 1984; *Mycopetes*
neotomae Jameson & Whitaker, 1975; *Radfordia*
neurotrichus Lukoschus, Klompen & Whitaker, 1980; *Eadiea*
newyorkensis (Fain, 1969); *Glycyphagus*
nidi Michael, 1892; *Haemogamasus*
nidicolus (North American records only); = *Pygmephorus islandicus*
nidiformes Tipton & Saunders, 1971; = *Haemogamasus reidii*
nudus Fain & Whitaker, 1975; *Xenoryctes*
nuttalli Hirst, 1915; *Laelaps*
Nycteriglyphites
Nycteriglyphus
Nycteriglyphus sp. A Reisen, Kennedy & Reisen, 1976 = *Chiroptoglyphus americanus*
Nycteriglyphus sp. Whitaker & Easterla, 1975 = *Nycteriglyphus texanus*
nycticeius Fain & Whitaker, 1987; *Acanthophthirius*
nyctomys Whitaker, Spicka & Schmeltz, 1975 = *Echimyopus orphanus*
obesus Fain & Whitaker, 1973; *Scalopacarus*
obsoletus (Jameson, 1950); *Echinonyssus*
obsoletus (var.); *Echinonyssus*
occidentalis (Ewing, 1933); *Steatonyssus*
occidentalis (Keegan, 1951); *Haemogamasus*

Olabidocarpus

Olistrophorus

ondatrae Fain, Kok & Lukoschus, 1970; *Listrophorus*

ondatrae Lukoschus & Rouet, 1968; *Myocoptes*

ondatrae (Rupes & Whitaker, 1968); *Zibethacarus*

ontariensis Norton, 1973; *Macrocheles*

onychomydis (Ewing, 1933); *Haemogamasus*

oregonensis Fain & Whitaker, 1978; *Acanthophthirius*

oregonensis Lukoschus, Giesen, Whitaker, & Cudmore, 1988; *Protomyobia*

Ornithonyssus

orphanus Fain & Phillips, 1977; *Echimyopus*

orri Rudnick, 1960; *Spinturnix*

Orycteroxenus

oryzomys (Radford, 1954); *Oryzomysia*

Oryzomysia

palustris Fain & Lukoschus, 1977; *Radfordia*

paramingaudi Fain & Whitaker, 1988; *Schizocarpus*

parasitivorax (Megnin, 1878); *Cheyletiella*

Patrinyssus

peltatus Jameson, 1949; *Eutalpacarus*

penicilliger (Berlese, 1904); *Macrocheles*

pennsylvanicus Fain, Lukoschus & Whitaker, 1982; *Nycteriglyphus*

Periglischrus

perognathi Fain & Whitaker, 1980; *Geomylichus*.

perognathi (Herrin, 1970); *Echinonyssus*

phenacomys Fain & Hyland, 1972; *Listrophorus*

Phyllostomyobia

pitymys Fain & Bochkov, 2004; *Myocoptes*

pitymys Fain & Hyland, 1972; *Listrophorus*

plurisetosa Mahunka, 1975; *Bakerdania*

plurispinosus Mahunka, 1975; *Pygmephorus*

polypunctatus Krantz & Whitaker, 1988; *Macrocheles*

polystichus Krantz & Whitaker, 1988; *Macrocheles*

pontiger (Berlese, 1904); *Haemogamasus*

postannulatus Fain & Whitaker, 1988; *Schizocarpus*

posticus Fain & Whitaker, 1988; *Schizocarpus*

postscutatus Fain, 1976; *Geomylichus*

praedafimetorum Richards & Richards, 1977; *Macrocheles*

proctorae Smiley & Whitaker 1984; *Pygmephorus*

procyoni Fain & Wilson, 1979; *Ursicoptes*

Prolistrophorus

protinus Fain & Whitaker, 1988; *Schizocarpus*

Protomyobia

Pseudopygmephorus

Pteracarus

Pteracarus sp. C Dusbabek & Wilson, 1973; *Pteracarus*

Pygmephoridae

Pygmephorus

Pygmephorus sp. Manischewitz, 1966 = *Pygmephorus* Mahunka, 1973

quadratus (Ewing, 1917); *Pseudopygmephorus*

Quasilistrophorus

quasionoi Lukoschus, Giesen, Whitaker & Cudmore, 1988; *Protomyobia*

rackae Smiley & Whitaker, (1979); *Pygmephorus*

*Radfordia**Raillietia*

reductus Fain & Whitaker, 1988; *Schizocarpus*

reidi (Ewing, 1925); *Haemogamasus*

reticulosus Spicka & Gerrits, 1977; *Dermacarus*

Rhyncoptidae

robustipes (Ewing, 1925); *Chiroptonyssus*

robustus Dusbabek & Wilson, 1973; *Pteracarus*

rodriguezii Oliver & Krantz, 1963; *Macrocheles*

russellae Smiley & Whitaker, 1984; *Pygmephorus*

Scalopacarus

scalopi Mahunka, 1973; *Pygmephorus*

scapanus Fain & Whitaker, 1975; *Eadiea*

scapanus Fain & Whitaker, 1981; *Scalopacarus*

Schizocarpus

sciuricola Hyand & Fain, 1968; *Aplodontopus*,

*Sciurocoptes**sellnicki* Krczal, 1958; *Pygmephorus**separationis* Elsen & Whitaker 1985; *Sertitympanum**serrifer* Fain, 1970; *Didelphilichus**Sertitympanum**sigmodontis* Radford, 1951, *Radfordia**simplex* (Ewing, 1938); *Blarinobia**soricis* Fain & Bochkov, 2001; *Epimyodex**soricis* (Oudemans, 1915); *Orycteroxenus**soricis* (nr.) Oudemans, 1915; *Orycteroxenus**soricis* Fain & Whitaker, 1978; *Amorphacarus**sparilineatus* (Fain, 1970); *Prolistrophorus**spermophilus*; Fain & Whitaker 1978; *Dermacarus**spickae* Krantz & Whitaker 1988; *Macrocheles**spickai* Mahunka, 1974; *Pygmephorus**spinifer* Fain, Whitaker & Smith, 1984; *Schizocarpus**spinus* Kramer, 1877; *Pygmephorus**spinus* (nr.) Cross, 1965 = *Pygmephorus designatus*

Spinturnicidae

*Spinturnix**squamosus* Fain, Munting & Lukoschus, 1969; *Myocoptes**stabularis* (Koch, 1836); *Eulaelaps**staffordi* (Strandtmann & Hunt, 1951); *Echinonyssus*

stammeri Krczal, 1959; *Pygmephorus*
steatoaudatus Uchikawa & Baker, 1993; *Acanthopthirus*
Steatonyssus
stupkai Linzey & Crossley, 1971; *Laelaps*
subbadius (Berlese 1904); *Macrocheles*
subuliger Ewing, 1938; *Radfordia*
subvirgulatus Fain, Whitaker & Smith, 1984; *Schizocarpus*
sylviarum (Canestrini & Fanzago), 1877; *Ornithonyssus*
sylvilagi Fain, Whitaker & Lukoschus 1981; *Leporacarus*
sylvilagi Kaliszewski & Rack, 1985 = *Pygmephorus whitakeri*
synaptomys Fain, Whitaker, McDaniel & Lukoschus, 1974; *Listrophorus*
talpae (Zemskaya, 1955); *Echinonyssus*
tamias Fain and Hyland, 1970; *Sciurocoptes*
tamiasciuri (Rupes, Yunker & Wilson, 1971); *Dermacarus*
tamiasi Mahunka 1975; = *Pygmephorus stammeri*
tenax Michael, 1889; *Trichoecius*
tetrapilis Fain, Whitaker & Smith, 1984; *Schizocarpus*
texanus Oconnor, Whitaker & Easterla, 1977; *Nycteriglyphus*
texensis Fain, Whitaker, Schwann & Lukoschus, 1978; *Geomylichus*
thomomys (Allred & Beck, 1966); *Echinonyssus*
thomomys Fain, Whitaker, Schwan & Lukoschus, 1978; *Geomylichus*
thomomysi Willams, 1978; *Haemogamasus*
triacanthus (Jameson, 1950); *Echinonyssus*

*Trichoecius**Trichoecius* sp. Whitaker & Lukoschus = *T. gettingeri**trisetosus* Dastych & Rack, 1991; *Pygmephorus**tuttlei* Fain & Lukoschus, 1978 *Dipodomyopus**unidentis* Radovsky, 1967; *Macronyssus**Ursicoptes**utahensis* (Allred & Beck, 1966); *Echinonyssus**utahensis* Fain & Whitaker, 1987; *Geomylichus**utmarae* Smiley & Whitaker, 1984; = *Pygmephorus scalopi**validus* Banks, 1910; *Listrophorus**vargasi* Hoffman, 1944; *Periglischrus**venezolanus* (Vitzthum, 1932); *Chiroptonyssus**virgulatus* Fain, Whitaker & Smith, 1984; *Schizocarpus**visoni* Fain and Bochkov, 2002; *Lynxacarus**wernecki* (Fonseca, 1935); *Ornithonyssus**whartoni* Smiley & Whitaker, 1979; *Pygmephorus**whitakeri* Mahunka, 1973; *Pygmephorus**whitakeri* McDaniel & Coffman, 1970; *Olabidocarpus**whitakeri* Radovsky and Krantz, 1998; *Coprolactistus* = *Mitonyssoides stercoralis* Yunker,

Lukochus, & Giesen, 1990

wilsoni Smiley & Whitaker, 1984; *Pygmephorus**wrenschae* Smiley & Whitaker, 1979; = *Pygmephorus erlangensis**Xenoryctes*

zapus Fain, Spicka, Jones & Whitaker, 1985; *Glycyphagus*

zapus Fain & Whitaker, 1974; *Gliricoptes*

Zibethacarus

zibethicalis Radford, 1936; *Radfordia*

Acknowledgments.- We are indebted to John W. Anderson and Felicia Lindley for entering data into the computer. G. W. Krantz, B. M. OConnor and F. J. Radovsky kindly made many helpful comments on the entire manuscript.

ADDENDUM

We would appreciate receiving citations for published or future papers not included in this article that contain pertinent information on the ectoparasitic mites of North American mammals. Such information will be added periodically in this space.

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