

MITES, TICKS, FLEAS, AND LICE IN THE NOVA SCOTIA MUSEUM AND ACADIA UNIVERSITY MUSEUM COLLECTIONS

BARRY WRIGHT

*Nova Scotia Museum
Halifax, N.S. B3H 3A6*

A list of 111 species of ectoparasites with host data, based on 1750 samples in the Acadia University Museum and Nova Scotia Museum collections, is presented. The material was determined by the staff of the Biosystematics Research Institute, Ottawa.

Introduction

In recent years, a substantial collection of ectoparasites has accumulated at the Nova Scotia Museum and in the Acadia University Museum. Ectoparasites were collected as a part of routine processing of animals caught during a small-mammal survey conducted by Nova Scotia Museum staff in 1971. The Acadia University collections resulted largely from tick surveys conducted by R. E. Yescott and A. M. Martell, working under the direction of D. Dodds, in the Tobecoic Game Sanctuary in 1965 and by Alan Campbell and David Harris in the Hibernia Wildlife Management Area, Queens County, in 1975. The objective of this paper is to make these records generally available.

Previous records of ectoparasites of birds and mammals in Nova Scotia are almost entirely lacking. Holland's Siphonaptera of Canada (1949), for example, contains but a single record of a flea from this province. To my certain knowledge, there are no previously published Nova Scotian records of lice, mites, or ticks apart from those which are of economic significance. Seventy-three species of mites, 8 of ticks, 21 of fleas, and 9 of lice are recorded in the present paper.

Altogether, 1750 samples have been identified by the staff of the Biosystematics Research Institute in Ottawa, whose assistance is gratefully acknowledged. G. P. Holland identified the fleas, K. W. Wu and E. E. Lindquist the mites, and J. E. H. Martin the ticks and lice. Ticks recorded from Hibernia were determined by Alan Campbell. All of the material determined in Ottawa is mounted on microscope slides which are deposited in the collections of the 2 museums.

References

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Systematic List

Class **Arachnida**
 Subclass **Acarina**
 Order **Parasitiformes**
 Suborder **Mesostigmata**

Ologamasidae*Euryparasitus* sp.

Whale Cove, Digby Co., ex *Blarina brevicauda*

Tobeatic Game Sanctuary, ex *Sorex cinereus*; *Blarina brevicauda*; *Condylura cristata*; *Microtus pennsylvanicus*; *Clethrionomys gapperi*;

Kelly's Mountain, near Englishtown, Victoria Co., ex *Peromyscus maniculatus*;

Napaeozapus insignis

Tomahawk Lake, Halifax Co., ex *Napaeozapus insignis*

Cyrtolaelaps sp.

Whale Cove, Digby Co., ex *Blarina brevicauda*

Tobeatic Game Sanctuary, ex *Sorex cinereus*; *Blarina brevicauda*; *Clethrionomys gapperi*; *Peromyscus leucopus*

Parholaspidae*Neparholaspis* sp.

Tobeatic Game Sanctuary, ex *Peromyscus maniculatus*

Parasitidae*Gamasodes* sp.

Tobeatic Game Sanctuary, ex *Peromyscus leucopus*

Parasitus sp.

Whale Cove, Digby Co., ex *Peromyscus leucopus*

Tobeatic Game Sanctuary, ex *Blarina brevicauda*; *Clethrionomys gapperi*,
Peromyscus leucopus

Pergamasus sp.

Whale Cove, Digby Co., ex *Blarina brevicauda*

Tobeatic Game Sanctuary, ex *Blarina brevicauda*; *Microtus pennsylvanicus*;
Peromyscus maniculatus; *Peromyscus leucopus*

Sherbrooke, Guysborough Co., ex *Zapus hudsonius*

Poecilochirus sp.

Tobeatic Game Sanctuary, ex *Sorex cinereus*; *Synaptomys cooperi*; *Clethrionomys gapperi*; *Microtus pennsylvanicus*; *Peromyscus leucopus*

Bridgewater, Lunenburg Co., in pitfall trap

Waverley, Halifax Co., in pitfall trap

Boulderwood, Halifax Co., ex carrion beetle (*Nicrophorus* sp.)

Dartmouth, Halifax Co., ex carrion beetle (*Nicrophorus* sp.)

Genus undet. (Parasitidae)

Tobeatic Game Sanctuary, ex *Microtus pennsylvanicus*; *Peromyscus leucopus*

Ascidae*Cheiroseius* sp.

Tobeatic Game Sanctuary, ex *Peromyscus leucopus*

Neojordensia sp.Tobeatic Game Sanctuary, ex *Sorex palustris*; *Microtus pennsylvanicus**Lasioseius confusus* EvansTobeatic Game Sanctuary, ex *Microtus pennsylvanicus**Proctolaelaps hypudaei* (Ouds.)Tobeatic Game Sanctuary, ex *Sorex palustris*; *Blarina brevicauda*; *Synaptomys cooperi*; *Microtus pennsylvanicus*, *Clethrionomys gapperi*; *Peromyscus leucopus***Macrochelidae***Macrocheles* sp.Tobeatic Game Sanctuary, ex *Microtus pennsylvanicus*; *Clethrionomys gapperi***Uropodidae**

Genus undet. (Uropodidae)

Tobeatic Game Sanctuary, ex *Clethrionomys gapperi***Dermanyssidae***Dermanyssus hirundinis* (Hermann)

Halifax, Halifax Co., ex swallow nest

Ornithonyssus sylviarum (C. & F.)Halifax, Halifax Co., ex *Icteria virens*Sable Island, ex dead *Passerculus sandwichensis princeps***Macronyssidae***Macronyssus crosbyi* (Ewing and Stover)Tobeatic Game Sanctuary, ex *Myotis* sp.; *Clethrionomys gapperi***Spinturnicidae***Spinturnix* sp.Tobeatic Game Sanctuary, ex *Myotis* sp.**Laelapidae***Androlaelaps glasgowi* (Ewing)Oxford, Cumberland Co., ex *Clethrionomys gapperi**Androlaelaps* sp. (1)Tobeatic Game Sanctuary, ex *Blarina brevicauda*; *Zapus hudsonius*Tomahawk Lake, Halifax Co., ex *Napaeozapus insignis*Oxford, Cumberland Co., ex *Peromyscus maniculatus*Sherbrooke, Guysborough Co., ex *Zapus hudsonius*Kelly's Mountain, near Englishtown, Victoria Co., ex *Napaeozapus insignis**Androlaelaps* sp. (2)Salt Springs, Pictou Co., ex *Marmota monax**Androlaelaps* sp. (3)Tobeatic Game Sanctuary, ex *Blarina brevicauda*; *Microtus pennsylvanicus*;*Clethrionomys gapperi*; *Peromyscus maniculatus*; *Peromyscus leucopus*South Brookfield, Queens Co., ex *Clethrionomys gapperi*Oxford, Cumberland Co., ex *Microtus pennsylvanicus*Sherbrooke, Guysborough Co., ex *Peromyscus leucopus*; *Zapus hudsonius*

Hypoaspis sp. (1)Tobeatic Game Sanctuary, ex *Peromyscus leucopus**Hypoaspis* sp. (2)Tobeatic Game Sanctuary, ex *Peromyscus leucopus**Laelaspis* sp.Tobeatic Game Sanctuary, ex *Zapus hudsonius**Ololaelaps* sp.Tobeatic Game Sanctuary, ex *Microtus pennsylvanicus*; *Zapus hudsonius*
Sherbrooke, Guysborough Co., ex *Zapus hudsonius**Hyperlaelaps* sp.Tobeatic Game Sanctuary, ex *Microtus pennsylvanicus*; *Clethrionomys gapperi*;
Zapus hudsonius
Tomahawk Lake, Halifax Co., ex *Microtus pennsylvanicus*
Oxford, Cumberland Co., ex *Microtus pennsylvanicus*; *Zapus hudsonius*
Sherbrooke, Guysborough Co., ex *Microtus pennsylvanicus**Laelaps* sp.Tobeatic Game Sanctuary, ex *Microtus pennsylvanicus*; *Clethrionomys gapperi*
Petpeswick, Halifax Co., ex *Microtus pennsylvanicus**Ondatra laelaps multispinosa* (Banks)Tobeatic Game Sanctuary, ex *Ondatra zibethicus***Haemogamasidae***Eulaelaps stabularis* (Koch)Whale Cove, Digby Co., ex *Blarina brevicauda*
Tobeatic Game Sanctuary, ex *Sorex cinereus*; *Blarina brevicauda*; *Microtus pennsylvanicus*; *Clethrionomys gapperi*; *Peromyscus leucopus*
Simpson Lake, Colchester Co., ex *Clethrionomys gapperi*
Kelly's Mountain, near Englishtown, Victoria Co., ex *Blarina brevicauda***Hirstionyssidae***Hirstionyssus* sp. nr *isabellinus* (Ouds.)Tobeatic Game Sanctuary, ex *Blarina brevicauda*; *Condylura cristata*; *Microtus pennsylvanicus*; *Clethrionomys gapperi*; *Peromyscus maniculatus*; *Procyon lotor*
Simpson Lake, Colchester Co., ex *Clethrionomys gapperi**Hirstionyssus talpae* ZenskayaTobeatic Game Sanctuary, ex *Blarina brevicauda**Hirstionyssus* sp. (?*blarinae* Herrin)Tobeatic Game Sanctuary, ex *Microtus pennsylvanicus***Haemogamasidae***Haemogamasus* sp. (1)Wolfville, Kings Co., ex *Glaucomyx sabrinus**Haemogamasus* sp. (2) (?*ambulans* Thorell)Tobeatic Game Sanctuary, ex *Sorex palustris*; *Blarina brevicauda*; *Microtus pennsylvanicus*; *Clethrionomys gapperi*; *Peromyscus leucopus*
Lower Sackville, Halifax Co., ex *Peromyscus leucopus*
Simpson Lake, Colchester Co., ex *Clethrionomys gapperi*; *Napaeozapus insignis*
Sherbrooke, Guysborough Co., ex *Microtus pennsylvanicus*

Kelly's Mountain, near Englishtown, Victoria Co., ex *Blarina brevicauda*;
Napaeozapus insignis

Haemogamasus sp. (3) (?*liponyssoides* Ewing)

Tobeatic Game Sanctuary, ex *Sorex cinereus*; *Sorex palustris*; *Blarina brevicauda*;
Condylura cristata; *Microtus pennsylvanicus*, *Clethrionomys gapperi*; *Peromyscus leucopus*

Haemogamasus alaskensis Ewing

Oxford, Cumberland Co., ex *Clethrionomys gapperi*

Order Parasitiformes

Suborder Ixodides

Ixodidae

Dermacentor variabilis (Say)

Tobeatic Game Sanctuary, adults ex *Procyon lotor*; *Erethizon dorsatum*. Juveniles
ex *Microtus pennsylvanicus*; *Synaptomys cooperi*; *Clethrionomys gapperi*;
Peromyscus leucopus; *Peromyscus maniculatus*; *Zapus hudsonius*; *Ondatra*
zibethicus; *Procyon lotor*; *Erethizon dorsatum*
Jordan Falls, Shelburne Co., from vegetation
Shelburne, Shelburne Co., from clothing
Liverpool, Queens Co., in parcel packing
Lake Kejimikujik, Queens Co., from clothing and vegetation
Boarback Lake, Digby Co., from clothing
Hibernia Wildlife Management Area, adults ex *Procyon lotor*; *Erethizon dorsatum*;
Ursus americanus; *Tamias striatus*. Juveniles ex *Clethrionomys gapperi*; *Microtus*
pennsylvanicus; *Peromyscus leucopus*; *Zapus hudsonius*; *Tamias striatus*;
Napaeozapus insignis; *Lepus americanus*

Dermacentor albipictus (Packard)

Annapolis Co., ex *Odocoileus virginianus*
Blue Mountain, Pictou Co., ex *Alces alces*

Haemaphysalis leporis-palustris (Packard)

Tobeatic Game Sanctuary, ex *Microtus pennsylvanicus*; *Tamiasciurus hudsonicus*;
Lepus americanus; *Canachites canadensis*; *Bonasa umbellus*; *Turdus migratorius*;
Hyllocichla ustulata
Halifax, Halifax Co., ex *Lepus americanus*
Brookfield, Colchester Co., ex *Lepus americanus*
Top of Kelly's Mountain, near Englishtown, Victoria Co., ex *Junco hyemalis*
Hibernia Wildlife Management Area, juveniles ex *Lepus americanus*

Rhipicephalus sanguineus (Latreille)

Armdale, Halifax Co., ex *Canis familiaris*
Windsor, Hants Co., ex *Canis familiaris*

Ixodes angustus Neumann

Tobeatic Game Sanctuary, ex *Blarina brevicauda*; *Microtus pennsylvanicus*;
Clethrionomys gapperi
Digby, Digby Co., ex *Blarina brevicauda*
South Brookfield, Queens Co., ex *Napaeozapus insignis*
Sherbrooke, Guysborough Co., ex *Sorex fumeus*; *Clethrionomys gapperi*;
Peromyscus leucopus
Oxford, Cumberland Co., ex *Microtus pennsylvanicus*
Hibernia Wildlife Management Area, ex *Microtus pennsylvanicus*; *Clethrionomys*
gapperi

Ixodes marxi* Banks**Wolfville, Kings Co., ex *Glaucomys sabrinus*Hibernia Wildlife Management Area, ex *Tamiasciurus hudsonicus*Ixodes cookei* Packard**Tobeatic Game Sanctuary, ex *Erethizon dorsatum*; *Procyon lotor*Wolfville; Kings Co., ex *Mustela erminea****Ixodes muris* Bishopp & Smith**Tobeatic Game Sanctuary, ex *Sorex cinereus*Whale Cove, Digby Co., ex *Sorex cinereus*Kempt, Queens Co., ex *Zapus hudsonius*Sherbrooke, Guysborough Co., ex *Napaeozapus insignis*Hibernia Wildlife Management Area, ex *Tamias striatus*; *Tamiasciurus hudsonicus*;*Synaptomys cooperi*; *Microtus pennsylvanicus***Order Acariformes****Suborder Cryptostigmata (= Oribatei)****Euphthiracaridae*****Euphthiracarus* sp.**Tobeatic Game Sanctuary, ex *Peromyscus leucopus*; *Clethrionomys gapperi****Rhysotritia* sp.**Tobeatic Game Sanctuary, ex *Sorex palustris***Nothridae*****Nothrus* sp.**Tobeatic Game Sanctuary, ex *Peromyscus leucopus***Camisiidae*****Platynothrus* sp.**Tobeatic Game Sanctuary, ex *Blarina brevicauda*; *Peromyscus maniculatus*; *Zapus hudsonius*; *Ondatra zibethicus***Trhypochthoniidae*****Trhypochthonius* sp.**Tobeatic Game Sanctuary, ex *Microtus pennsylvanicus***Damaeidae*****Epidamaeus* sp.**Tobeatic Game Sanctuary, ex *Microtus pennsylvanicus***Ameronothridae*****Hygroribates* sp.**

Avonport Beach, Kings Co., on beach

Liacaridae***Adoristes* sp.**Simpson Lake, Colchester Co., ex *Clethrionomys gapperi*

Metrioppiidae*Ceratoppia* sp.

Kearney Run, Halifax Co., on bark

Oribatulidae*Scheloribates* sp. (1)Tobeatic Game Sanctuary, ex *Microtus pennsylvanicus**Scheloribates* sp. (2)Sherbrooke, Guysborough Co., ex *Peromyscus maniculatus**Oribatula* sp.Tobeatic Game Sanctuary, ex *Peromyscus maniculatus*; *Peromyscus leucopus***Ceratozetidae***Fuscozetes* sp.Tobeatic Game Sanctuary, ex *Clethrionomys gapperi***Mycobatidae***Punctoribates* sp.Tobeatic Game Sanctuary, ex *Clethrionomys gapperi***Tegoribatidae***Lepidozetes* sp.Sherbrooke, Guysborough Co., ex *Peromyscus maniculatus***Order Acariformes**
Suborder Astigmata**Acaridae***Sancassania* (= *Caloglyphus*) sp.

Halifax, Halifax Co., in white-worm culture

Tyrophagus sp.

Truro, Colchester Co., in warehouse

Glycyhagidae*Glycyphagus* sp.

Truro, Colchester Co., in warehouse

Labidophoridae*Dermacarus hypudaei* (Koch)Rockingham, Halifax Co., ex *Napaeozapus insignis**Dermacarus ondatrae* R & WTobeatic Game Sanctuary, ex *Ondatra zibethicus***Order Acariformes**
Suborder Prostigmata**Myobiidae***Myobia* sp.Tobeatic Game Sanctuary, ex *Sorex cinereus*

Bdellidae*Cyta* sp.Tobeatic Game Sanctuary, ex *Blarina brevicauda*
Bridgewater, Lunenburg Co., in pitfall trap**Homocaligidae***Homocaligus* sp.Tobeatic Game Sanctuary, ex *Clethrionomys gapperi***Anystidae***Anystis* sp.Tobeatic Game Sanctuary, ex *Lepus americanus*; *Peromyscus maniculatus***Erythraeidae***Erythraeus* sp.Bridgewater, Lunenburg Co., in pitfall trap
Waverley, Halifax Co., in pitfall trap
Sable Island, under washtub*Leptus* sp.

Kearney Run, Halifax Co., on birch bark

Trombiculidae*Neotrombicula microti* sp. groupTobeatic Game Sanctuary, ex *Tamiasciurus hudsonicus*; *Ondatra zibethicus*;
Microtus pennsylvanicus; *Clethrionomys gapperi*; *Peromyscus leucopus*
Prospect, Halifax Co., ex *Zapus hudsonius*
South Brookfield, Queens Co., ex *Blarina brevicauda*
Sherbrooke, Guysborough Co., ex *Napaeozapus insignis*; *Clethrionomys gapperi**Neotrombicula basignata* sp. groupTobeatic Game Sanctuary, ex *Microtus pennsylvanicus*; *Lepus americanus**Trombicula* sp.Tobeatic Game Sanctuary, ex *Clethrionomys gapperi*; *Peromyscus leucopus**Euschoengastia* sp.Tobeatic Game Sanctuary, ex *Clethrionomys gapperi*; *Microtus pennsylvanicus*
South Brookfield, Queens Co., ex *Clethrionomys gapperi*
Oxford, Cumberland Co., ex *Clethrionomys gapperi***Trombidiidae***Allothrombium* sp.Tobeatic Game Sanctuary, ex *Microtus pennsylvanicus**Microtrombidium* sp.

Farmington, Cumberland Co., in leaf litter

Rhinothrombium sp.

Bridgewater, Lunenburg Co., in pitfall trap

Eylaidae*Eylais* sp.

Tomahawk Lake, Halifax Co., in shallow water near shore

Hydrachnidae*Hydrachna* sp.

Jollimore Pond, Halifax Co., ex water scorpion (*Ranatra* sp.)

Class **Insecta**
Order **Siphonaptera**

Pulicidae*Ctenocephalides felis* (Bouché) Cat Flea

Halifax, Halifax Co., ex *Canis familiaris*; *Felis catus*; households; lawns

Pulex irritans (Linnaeus) Human Flea

Canso, Guysborough Co., ex *Homo sapiens*

Hystrihopsyllidae*Stenoponia americana* (Baker)

Simpson Lake, Colchester Co., ex *Napaeozapus insignis*

Epitedia wenmanni (Rothschild)

Tobeatic Game Sanctuary, ex *Condylura cristata*

Halifax, Halifax Co., ex *Peromyscus leucopus*

Sherbrooke, Guysborough Co., ex *Microtus pennsylvanicus*

Ctenophthalmus pseudagyrtis Baker

Tobeatic Game Sanctuary, ex *Blarina brevicauda*; *Condylura cristata*;

Clethrionomys gapperi; *Microtus pennsylvanicus*; *Peromyscus leucopus*

Bridgewater, Lunenburg Co., ex *Blarina brevicauda*

Lower Sackville, Halifax Co., ex *Peromyscus leucopus*

Sherbrooke, Guysborough Co., ex *Tamias striatus*; *Microtus pennsylvanicus*

Tomahawk Lake, Halifax Co., ex *Clethrionomys gapperi*; *Napaeozapus insignis*

Simpson Lake, Colchester Co., ex *Clethrionomys gapperi*

Whale Cove, Digby Co., ex *Blarina brevicauda*; *Clethrionomys gapperi*

Doratopsylla blarinae C. Fox

Whale Cove, Digby Co., ex *Blarina brevicauda*

South Brookfield, Queens Co., ex *Blarina brevicauda*

Kelly's Mountain, near Englishtown, Victoria Co., ex *Blarina brevicauda*

Corrodopsylla curvata curvata (Rothschild)

Tobeatic Game Sanctuary, ex *Sorex palustris*; *Sorex cinereus*; *Sorex fumeus*;

Blarina brevicauda

Whale Cove, Digby Co., ex *Sorex cinereus*; *Blarina brevicauda*; *Zapus hudsonius*

Tomahawk Lake, Halifax Co., ex *Sorex fumeus*

Sherbrooke, Guysborough Co., ex *Sorex fumeus*

Ceratophyllidae*Oropsylla arctomys* (Baker)

Salt Springs, Pictou Co., ex *Marmota monax*

Sherbrooke, Sherbrooke Co., Quebec, ex *Marmota monax*

Opisodasys pseudarctomys (Baker)

Wolfville, Kings Co., ex *Glaucomys sabrinus*

Orchopeas caedens durus (Jordan)

Tobeatic Game Sanctuary, ex *Tamiasciurus hudsonicus*; *Glaucomys sabrinus*;

Peromyscus maniculatus

Stillwater, Guysborough Co., ex *Tamiasciurus hudsonicus*

***Orchopeas leucopus* (Baker)**

Tobeatic Game Sanctuary, ex *Clethrionomys gapperi*; *Peromyscus leucopus*;
Peromyscus maniculatus
 Lower Sackville, Halifax Co., ex *Peromyscus leucopus*
 Simpson Lake, Colchester Co., ex *Clethrionomys gapperi*
 Oxford, Cumberland Co., ex *Peromyscus maniculatus*
 Baddeck, Victoria Co., ex *Peromyscus maniculatus*

***Ceratophyllus diffinis* Jordan**

Sable Island, from nests of *Passerculus sandwichensis princeps*

***Ceratophyllus gallinae* (Schrank)**

Sable Island, from swallow nest in collapsed building

***Ceratophyllus styx riparius* Jordan and Rothschild**

Lower Wedgeport, Yarmouth Co., from swallow nesting box

***Megabothris asio asio* (Baker)**

Tobeatic Game Sanctuary, ex *Condylura cristata*; *Zapus hudsonius*; *Microtus pennsylvanicus*; *Synaptomys cooperi*
 Bridgewater, Lunenburg Co., ex *Blarina brevicauda*; *Microtus pennsylvanicus*
 Tomahawk Lake, Halifax Co., ex *Microtus pennsylvanicus*
 Kelly's Mountain, near Englishtown, Victoria Co., ex *Napaeozapus insignis*
 Baddeck Bridge, Victoria Co., ex *Microtus pennsylvanicus*

Ceratophyllidae***Megabothris quirini* (Rothschild)**

Tobeatic Game Sanctuary, ex *Blarina brevicauda*; *Clethrionomys gapperi*;
Microtus pennsylvanicus; *Peromyscus maniculatus*; *Peromyscus leucopus*
 Whale Cove, Digby Co., ex *Clethrionomys gapperi*; *Peromyscus leucopus*; *Zapus hudsonius*
 Bridgewater, Lunenburg Co., ex *Clethrionomys gapperi*
 Lower Sackville, Halifax Co., ex *Zapus hudsonius*
 Tomahawk Lake, Halifax Co., ex *Clethrionomys gapperi*; *Napaeozapus insignis*
 Oxford, Cumberland Co., ex *Zapus hudsonius*
 Simpson Lake, Colchester Co., ex *Clethrionomys gapperi*; *Napaeozapus insignis*
 Sherbrooke, Guysborough Co., ex *Clethrionomys gapperi*; *Napaeozapus insignis*

***Monopsyllus vison* (Baker)**

Tobeatic Game Sanctuary, ex *Tamiasciurus hudsonicus*; *Peromyscus maniculatus*;
Peromyscus leucopus; *Clethrionomys gapperi*; *Procyon lotor*

***Nosopsyllus fasciatus* (Bosc)**

Halifax, Halifax Co., ex *Rattus norvegicus*

Leptopsyllidae***Peromyscopsylla catatina* (Jordan)**

Tobeatic Game Sanctuary, ex *Clethrionomys gapperi*
 Whale Cove, Digby Co., ex *Clethrionomys gapperi*
 Simpson Lake, Colchester Co., ex *Clethrionomys gapperi*
 Sherbrooke, Guysborough Co., ex *Clethrionomys gapperi*

Leptopsyllidae***Peromyscopsylla hesperomys hesperomys* (Baker)**

Tobeatic Game Sanctuary, ex *Peromyscus maniculatus*; *Peromyscus leucopus*
 Whale Cove, Digby Co., ex *Peromyscus leucopus*

Ischnopsyllidae

- Myodopsylla insignis* (Rothschild)
Tobeatic Game Sanctuary, ex *Myotis* sp.

Order Mallophaga**Phlopteridae**

- Saemundssonina lari* (Fabricius)
Sable Island, ex *Larus argentatus*
- Halipeurus* sp.
Sable Island, ex *Puffinus gravis*
- Trabeculus hexakon* (Waterston)
Sable Island, ex *Puffinus gravis*
- Quadriceps* sp. prob. *klatti* Timmermann
Bedford, Halifax Co., ex *Plautus alle*
Sable Island, ex *Larus argentatus*

Menoponidae

- Procellariphaga paulula* (Kellogg & Chapman)
Sable Island, ex *Puffinus gravis*

Trichodectidae

- Eutrichophilus setosus* (Giebel)
Timberlea, Halifax Co., ex *Erethizon dorsatum*

Order Anoplura**Hoplopleuridae**

- Hoplopleura hesperomydis* (Osborn)
Kelly's Mountain, near Englishtown, Victoria Co., ex *Peromyscus maniculatus*

Pediculidae

- Pthirus pubis* (Linnaeus)
Spryfield, Halifax Co., ex *Homo sapiens*
Lunenburg, Lunenburg Co., ex *Homo sapiens*

Haematopinidae

- Haematopinus suis* (Linnaeus)
MacDonald College, Ste Anne de Belleveau, Quebec, ex *Sus scrofa*

Appendix

Number of species recorded on each host

Host	Mites	Ticks	Fleas	Lice
MAMMALS				
<i>Sorex cinereus</i>	6	1	1	
<i>Sorex fumeus</i>		1	1	
<i>Sorex palustris</i>	5		1	
<i>Blarina brevicauda</i>	15	1	6	
<i>Condylura cristata</i>	3		3	
<i>Myotis</i> sp.	2		1	
<i>Lepus americanus</i>	2	2		
<i>Tamiasciurus hudsonicus</i>	1	3	2	
<i>Marmota monax</i>	1		1	
<i>Tamias striatus</i>		1	1	
<i>Glaucomys sabrinus</i>	1	1	2	
<i>Peromyscus maniculatus</i>	10	1	5	1
<i>Peromyscus leucopus</i>	20	2	7	
<i>Synaptomys cooperi</i>	2	2	1	
<i>Clethrionomys gapperi</i>	26	2	6	
<i>Microtus pennsylvanicus</i>	24	4	5	
<i>Ondatra zibethicus</i>	4	1		
<i>Rattus norvegicus</i>			1	
<i>Zapus hudsonius</i>	9	2	3	
<i>Napaeozapus insignis</i>	5	3	4	
<i>Erethizon dorsatum</i>		2		1
<i>Canis familiaris</i>		1	1	
<i>Ursus americanus</i>		1		
<i>Procyon lotor</i>	1	2	1	
<i>Mustela erminea</i>		1		
<i>Felis catus</i>			1	
<i>Sus scrofa</i>				1
<i>Odocoileus virginianus</i>		1		
<i>Alces alces</i>		1		
<i>Homo sapiens</i>		1	1	1
BIRDS				
<i>Puffinus gravis</i>				3
<i>Canachites canadensis</i>		1		
<i>Bonasa umbellus</i>		1		
<i>Larus argentatus</i>				2
<i>Plautus alle</i>				1
<i>Hirundinidae</i>	1		2	
<i>Turdus migratorius</i>		1		
<i>Hylocichla ustulata</i>		1		
<i>Icteria virens</i>	1			
<i>Passerculus sandwichensis princeps</i>	1		1	
<i>Junco hyemalis</i>		1		