

# The Hippoboscoidea of British Columbia

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The dipteran superfamily Hippoboscoidea is composed of three specialized ectoparasitic families, all of which are found in British Columbia. The Hippoboscidae, known as louse flies, are parasites on birds (subfamily Ornithomyinae) and mammals (subfamily Lipopteninae). The Nycteribiidae and Streblidae, known as bat flies, are parasites exclusively on bats. All are obligate parasites and feed on the blood of their hosts.

This checklist of species and their associated hosts is compiled from Maa (1969a, 1969b) and Gracioli *et al* (2007) with additional records from specimens in the Spencer Entomological Collection at the Beaty Biodiversity Museum. Specific hosts mentioned are limited to species found in British Columbia and are primarily from specimen collection records.

Ten species of Hippoboscidae, two species of Nycteribiidae, and one species of Streblidae have been found in British Columbia.

## Family HIPPOBOSCIDAE

### Subfamily Ornithomyinae

#### *Icosta ardeae botaurinorum* (Swenk, 1916)

Hosts: Ardeidae [*Botaurus lentiginosus* (American Bittern)]

#### *Icosta nigra* (Perty, 1833)

Hosts: Accipitridae [*Buteo jamaicensis* (Red-tailed Hawk)], Falconidae [*Falco sparverius* (American Kestrel)], Pandionidae [*Pandion haliaetus* (Osprey)]. A total of 19 genera in 5 families of host birds have been recorded throughout its range.

#### *Olfersia fumipennis* (Sahlberg, 1886)

Hosts: Pandionidae [*Pandion haliaetus* (Osprey)]

#### *Ornithoctona erythrocephala* (Leach, 1817)

Hosts: No BC host records. A total of 76 genera in 25 families of host birds have been recorded throughout its range.

#### *Ornithoica vicina* (Walker, 1849)

Hosts: Corvidae [*Cyanocitta stelleri* (Steller's Jay)], Emberizidae [*Junco oreganus* (Dark-eyed Junco), *Melospiza melodia morphna* (Rusty Song Sparrow)], Regulidae [*Regulus satrapa* (Golden-crowned Kinglet)], Strigidae [*Aegolius acadicus* (Saw-whet Owl), *Otus asia* (Screech Owl), *Strix occidentalis* (Spotted Owl), *Strix varia* (Barred Owl)], Turdididae [*Ixoreus naevius* (Varied Thrush)]. A total of 86 genera in 25 families of host birds have been recorded throughout its range.

#### *Ornithomya anchineuria* Speiser, 1905

Hosts: Accipitridae [*Accipiter cooperii* (Cooper's Hawk)], Cardinalidae [*Pheucticus melanocephalus* (Blackheaded Grosbeak), *Piranga ludoviciana* (Western Tanager)], Emberizidae [*Pipilo maculatus* (Spotted Towhee), *Melospiza lincolni*

(Lincoln's Sparrow), *Zonotrichia albicollis* (White-throated Sparrow), *Zonotrichia leucophrys* (White-crowned Sparrow)], Falconidae [*Falco peregrinus* (Peregrine Falcon), *Falco sparverius* (American Kestrel)], Fringillidae [*Haemorhous mexicanus* (House Finch), *Loxia curvirostra* (Red Crossbill)], Icteridae [*Molothrus ater* (Brown-headed Cowbird)], Passeridae [*Passer domesticus* (House Sparrow)], Phasianidae [*Dendragapus fuliginosus* (Sooty Grouse), *Falcapennis canadensis franklinii* (Franklin's Grouse), *Lagopus lagopus* (Willow Ptarmigan)], Sturnidae [*Acridotheres cristatellus* (Crested Myna)], Turdidae [*Turdus migratorius* (Robin)]. A total of 68 genera in 22 families of host birds have been recorded throughout its range.

***Ornithomya bequaerti* Maa, 1969**

Hosts: Accipitridae [*Accipiter striatus* (Sharp-shinned Hawk)], Cardinalidae [*Pheucticus melanocephalus* (Blackheaded Grosbeak)], Falconidae [*Falco sparverius* (American Kestrel)], Phasianidae [*Bonasa umbellus* (Ruffed Grouse), *Dendragapus fuliginosus* (Sooty Grouse), *Falcapennis canadensis franklinii* (Franklin's Grouse)], Picidae [*Picoides pubescens* (Downy Woodpecker)], Turdidae [*Turdus migratorius* (Robin)]. This species was once together with *O. anchineuria* and the diversity of hosts is unknown.

**Subfamily Lipopteninae**

***Lipoptena depressa* (Say, 1823)**

Hosts: Cervidae [*Odocoileus hemonius columbianus* (Coastal Black-tailed Deer), *Odocoileus hemonius hemonius* (Rocky Mountain Mule Deer), *Odocoileus virginianus ochrourus* (Northwest White-tailed Deer)]

***Melophagus ovinus* (Linnaeus, 1758)**

Hosts: Bovidae [*Ovis aries* (Domestic Sheep)]

***Neolipoptena ferrisi* (Bequaert, 1935)**

Hosts: Cervidae [*Odocoileus hemonius columbianus* (Coastal Black-tailed Deer), *Odocoileus hemonius hemonius* (Rocky Mountain Mule Deer), (*Odocoileus hemonius* x *Odocoileus virginianus* (Mule Deer x White-tailed Deer Hybrid)]

**Family NYCTERIBIIDAE**

***Basilina antrozoi* (Townsend, 1893)**

Hosts: Vespertilionidae [*Antrozous pallidus* (Pallid Bat)]

***Basilina forcipata* Ferris, 1924**

Hosts: Vespertilionidae [*Lasioryctes noctivagus* (Silver-haired Bat), *Myotis californicus* (Californian Myotis), *Myotis evotis* (Western Long-eared Myotis), *Myotis lucifugus* (Little Brown Myotis), *Myotis thysanodes* (Fringed Myotis), *Myotis volans* (Long-legged Myotis), *Myotis yumanensis* (Yuma Myotis)]. Also recorded from several other bat species throughout its range.

**Family STREBLIDAE**

***Trichobius corynorhini* Cockerell, 1910**

Hosts: Vespertilionidae [*Corynorhinus townsendii* (Townsend's Big-eared Bat)]

Due to the potential appearance in the province by the migration of a host, four additional species, not currently found in BC, are mentioned.

## Family HIPPOBOSCIDAE

### Subfamily Ornithomyinae

[*Microlynchia pusilla* (Speiser, 1902)]

Not recorded from BC. Has been found throughout South and Central America and in the US as far north as Idaho.

Potential BC hosts include members of Accipitridae, Cardinalidae, Columbidae, Caprimulgidae, Emberezidae, Icteridae, and Phasianidae.

[*Pseudolynchia canariensis* (Macquart, 1840)]

Not recorded from BC but found nearly worldwide in warmer areas wherever domestic pigeons are kept.

Potential BC Hosts: domestic pigeons

## Family NYCTERIBIIDAE

[*Basilis corynorhini* (Ferris, 1916)]

Not recorded from BC but has been found in several areas in the Western United States (AZ, CA, ID, NV, NM, OK, TX, UT).

Potential BC Hosts: Vespertilionidae [*Corynorhinus townsendii* (Townsend's Big-eared Bat)]

[*Basilis jellisoni* Theodor & Peterson, 1964]

Not recorded from BC and is currently only known from western Montana.

Potential BC Hosts: Vespertilionidae [*Myotis yumanensis* (Yuma Myotis)]

## References

- Maa, T.C. 1969a. Revision of *Icosta* (= *Lynchia* Auctt.) with erection of a related genus *Phthona* (Diptera: Hippoboscidae). *Pacific Insects Monograph* 20:25-203.
- Maa, T.C. 1969b. A revised checklist and concise host index of Hippoboscidae (Diptera). *Pacific Insects Monograph* 20:261-299.
- Gracioli, G., A.G. Autino and G.L. Claps. 2007. Catalogue of American Nycteribiidae (Diptera, Hippoboscoidea). *Revista Brasileira de Entomologia* 51:142-159.