

## Ants of British Columbia (Hymenoptera: Formicidae)

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British Columbia is Canada's westernmost province comprising about ten percent of the land mass of Canada at approximately 950,000 square kilometres. As British Columbia includes two major mountain ranges that each dominate the western coastal and eastern interior borders, there are a series of moisture regimes one encounters travelling east-west. This in combination with the fact that British Columbia spans 11 degrees of latitude (49-60° N) creates a great number of distinct ecosystems.

Despite the great diversity of habitats and the abundance of ants in many areas, surveys of the ant fauna in British Columbia have been quite rare. To our knowledge, none have been done within the province above 54 N° latitude. Fortunately, what sparse literature does exist with respect to ant species, geography, and ecology was summarized by Naumann *et al.* 1999<sup>1</sup>.

Species diversity is expectedly higher in the south. Heron (2001)<sup>2</sup> working in the dry-warm southern grasslands of the Okanagan found 31 species of 13 genera using pitfall trapping. Higgins and Lindgren (unpub)<sup>5</sup> working in the cold-moist spruce forests of the west-central interior identified a total of 16 species of 7 genera using pitfall trapping, ground surveys and mini-Winkler soil sampling. Ants in this latter habitat are largely found in post-logging sites where the canopy has been opened. Non-logged sites rarely yielded ants although the occasional colony of *Myrmica alaskensis* or *Camponotus herculeanus* might be found where small scale natural disturbances have opened small gaps in the forest canopy.

One notable ecological characteristic of the ants of British Columbia, especially those of the interior, is a dependence upon woody material as a nesting resource. Of the ants collected in the cold-moist spruce forests of the west-central interior only one species, *Myrmica fracticornis* was never associated with woody debris (Higgins and Lindgren 2004)<sup>3</sup>

### Species list

Taxonomy follows Bolton *et al.* (2005)<sup>6</sup> except where noted

#### Species list for ants confirmed as occurring in province (82 species)

Family Formicidae

Subfamily Formicinae

*Brachymyrmex depilis* Emery <sup>1</sup>

*Camponotus (Camponotus) herculeanus* (Linnaeus) <sup>1,3,4</sup>

*Camponotus (Camponotus) laevigatus* (Smith, F.) <sup>1</sup>

*Camponotus (Camponotus) modoc* Wheeler, W.M. <sup>1,4</sup>

*Camponotus (Camponotus) novaeboracensis* (Fitch) <sup>1</sup>

*Camponotus (Myrmentoma) near hyatti* Emery <sup>1</sup>  
*Camponotus (Myrmentoma) nearcticus* Emery <sup>1,2</sup>  
*Camponotus (Tanaemyrmex) semitestaceus* Snelling <sup>10</sup>  
*Camponotus (Tanaemyrmex) vicinus* Mayr <sup>1,2</sup>

*Formica*

Note: Bolton (2005) does not recognize *Formica* species groups.

However, they are in common usage.

*Formica fusca* group

*Formica accreta* Francoeur <sup>1,3</sup>  
*Formica aerata* Francoeur <sup>1</sup>  
*Formica argentea* W.M. Wheeler <sup>1,2,4</sup>  
*Formica fusca* Linnaeus <sup>1,4</sup>  
*Formica hewitti* Wheeler, W.M. <sup>1,4</sup>  
*Formica montana* Wheeler, W.M. <sup>1</sup>  
*Formica neoclara* Emery <sup>1,2</sup>  
*Formica neorufibarbis* Emery <sup>1,3,4</sup>  
*Formica pacifica* Francoeur <sup>1</sup>  
*Formica podzolica* Francoeur <sup>1</sup>  
*Formica subpolita* Mayr <sup>1,2</sup>  
*Formica transmontanis* Francoeur <sup>1</sup>  
*Formica xerophila* Smith, M.R. <sup>1</sup>

*Formica neogagates* group

*Formica lasioides* Emery <sup>1,2,4</sup>  
*Formica manni* Wheeler, W.M. <sup>1</sup>  
*Formica neogagates* Emery <sup>1,2</sup>  
*Formica vinculans* Wheeler, W.M. <sup>2,9</sup>

*Formica rufa* + *microgyna* groups

*Formica adamsi whymperi* Wheeler, W.M. <sup>1</sup>  
*Formica dakotensis* Emery <sup>5</sup>  
*Formica densiventris* Viereck <sup>1</sup>  
*Formica integroides* Wheeler, W.M. <sup>1,2</sup>  
*Formica microgyna* W.M. Wheeler <sup>1,2</sup>  
*Formica near nepticula* W.M. Wheeler <sup>2</sup>  
*Formica obscuripes* Forel <sup>1,2,4</sup>  
*Formica obscuriventris* Mayr <sup>1,3,4</sup>  
*Formica oreas* Wheeler, W.M. <sup>1</sup>  
*Formica planipilis* Creighton <sup>2</sup>  
*Formica propinqua* Creighton <sup>2</sup>  
*Formica ravida* (jr. synonym *haemorrhoidalis*) Creighton <sup>1,2</sup>  
*Formica spatulata* Buren <sup>1</sup>  
*Formica subnitens* Creighton <sup>1</sup>

*Formica sanguinea* group

*Formica aserva* (jr. synonym *subnuda*) Forel <sup>1,3,4</sup>  
*Formica curiosa* Creighton <sup>1,2</sup>  
*Formica obtusopilosa* Emery <sup>1</sup>  
*Formica puberula* Emery <sup>11</sup>

*Lasius (Acanthomyops) coloradensis* Wheeler, W.M. <sup>1</sup>  
*Lasius (Acanthomyops) interjectus* Mayr <sup>1</sup>  
*Lasius (Acanthomyops) latipes* (Walsh) <sup>1</sup>  
*Lasius (Acanthomyops) occidentalis* Wheeler, W.M. <sup>1</sup>  
*Lasius (Cautolasius) fallax* Wilson <sup>1</sup>  
*Lasius (Cautolasius) flavus* (Fabricius) <sup>1</sup>  
*Lasius (Chthonolasius) subumbratus* Viereck <sup>1,4</sup>  
*Lasius (Chthonolasius) vestitus* Wheeler, W.M. <sup>1</sup>  
*Lasius (Lasius) alienus* (Foerster) <sup>1</sup>  
*Lasius (Lasius) crypticus* Wilson <sup>1,2</sup>  
*Lasius (Lasius) neoniger* Emery <sup>1,2</sup>  
*Lasius (Lasius) pallitarsis* (Provancher) <sup>1,4</sup>  
*Myrmecocystus testaceus* Emery <sup>1,2</sup>  
*Polyergus breviceps* Emery <sup>1,2,3</sup>

#### Subfamily Dolichoderinae

*Liometopum luctuosum* W.M. Wheeler <sup>2</sup>  
*Tapinoma sessile* (Say) <sup>1,2,4</sup>

#### Subfamily Myrmicinae

*Aphaenogaster occidentalis* (Emery) <sup>1</sup> Note: recorded as  
*A. subterranea* by Heron (2001)  
*Formicoxenus quebecensis* Francoeur <sup>1</sup>  
*Leptothorax muscorum* (jr. synonym *L. canadensis*) (Nylander) <sup>1,3,4</sup>  
*Manica hunteri* (Wheeler, W.M.) <sup>1</sup>  
*Manica invidia* Bolton <sup>1,4</sup>  
*Monomorium pharaonis* (Linnaeus) <sup>1</sup>  
*Myrmica alaskensis* Wheeler, W.M. <sup>3,4</sup>  
*Myrmica brevispinosa* Wheeler, W.M. <sup>1,4</sup>  
*Myrmica crassirugis* Francoeur <sup>2,5,7</sup>  
*Myrmica fracticornis* Forel <sup>3,4</sup>  
*Myrmica incompleta* Provancher <sup>1,3,4</sup>  
*Myrmica latifrons* Stärcke <sup>1</sup>  
*Myrmica lobifrons* Pergande <sup>1</sup>  
*Myrmica nearctica* Weber <sup>2</sup>  
*Pheidole californica* Mayr <sup>1,2</sup>  
*Pogonomyrmex salinas* Olsen <sup>1</sup> (jr. synonym *P. owyheeii*)  
*Solenopsis molesta* Say <sup>1,2</sup>  
*Stenamma snellingi* Bolton <sup>1</sup> (jr. synonym *occidentale*)  
*Stenamma diecki* Emery <sup>1</sup>  
*Temnothorax rugatulus* (Emery) <sup>1</sup>  
*Temnothorax nevadensis* (Wheeler, W.M.) <sup>1,2</sup>  
*Temnothorax nitens* (Emery) <sup>2</sup>

#### Subfamily Amblyoponinae

*Amblyopone oregonensis* (Wheeler, W.M.) <sup>1</sup>

**Species list for ants suspected as present in the province but not confirmed (14 species)**

Family Formicidae

Subfamily Formicinae

*Formica exsecta* group

*Formica ulkei* Emery <sup>1</sup>

*Formica fusca* group

*Formica gagatoides* Ruzky <sup>8</sup>

*Formica neogagates* group

*Formica bradleyi* Wheeler, W.M. <sup>1</sup>

*Formica sanguinea* group

*Formica subintegra* Wheeler, W.M. <sup>1</sup>

*Lasius (Chthonolasius) umbratus* (Nylander) <sup>1</sup>

*Lasius (Lasius) nigra* (Linnaeus) <sup>1</sup> (original comb. *L. niger*)

Subfamily Myrmicinae

*Formicoxenus diversipilosus* (Smith, M.R.) <sup>1</sup>

*Formicoxenus provancheri* (Emery) <sup>1</sup>

*Leptothorax acervorum* (Fabricius) <sup>1</sup>

*Leptothorax faberi* Buschinger <sup>1</sup>

*Leptothorax retractus* Francoeur <sup>1</sup>

*Monomorium minimum* (Buckley) <sup>1</sup>

*Tetramorium caespitum* (Linnaeus) <sup>1</sup>

**Species list for ants reported in province that may have arisen from misidentification (2 species)**

Subfamily Formicinae

*Lasius (Acanthomyops) claviger* (Roger) <sup>1</sup>

Subfamily Dolichoderinae

*Liometopum apiculatum* Mayr <sup>1</sup>

**Ant species reported in province that might represent isolated transport of a single individual (1 species)**

Subfamily Formicinae

*Formica rufa* + *microgyna* groups

*Formica laeviceps* Creighton <sup>1</sup>

## References

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