The bees of British Columbia (Hymenoptera: Apoidea, Apiformes)

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ABSTRACT

British Columbia is the most biologically diverse province in Canada, and its wide range of landscapes – particularly the dry valley bottoms and basins of the Columbia, Kootenay, Okanagan, Kettle, and Similkameen River systems – make it ideal for many groups of Hymenoptera, including bees. With the exceptions of some generic- or family-level treatments, no comprehensive account of the bees of British Columbia has been published, although recent studies have indicated that more than half of Canada's bee species may be found in the province, with many of these found nowhere else in the country.

Here, we summarize the province's bee fauna by providing a comprehensive annotated checklist of species. For each species, we indicate the ecozone(s) in which they are presentently known to occur, and we provide summary statistics and analyses to compare ecozones. We also summarize the growth in knowledge of the province's bee species over time, and all species accounts for the province are accompanied by a list of supporting literature or data. Although we feel this list is comprehensive, it is likely that we have overlooked some published accounts, and additional undocumented species will show up.

In total, we record 483 bee species from British Columbia, 37 of which are considered new to the province. Among these, 20 species (or subspecies) are recorded as new to Canada, including: *Andrena* (*Euandrena*) *misella* Timberlake, *Panurginus cressoniellus* Cockerell [Andrenidae], *Lasioglossum* (*Dialictus*) *obnubilum* (Sandhouse), *L.* (*Evylaeus*) *argemonis* (Cockerell), *L.* (*Hemihalictus*) *glabriventre* (Crawford), *L.* (*Hemihalictus*) *kincaidii* (Cockerell) [Halictidae], *Osmia* (*Melanosmia*) *laeta* Sandhouse, *O.* (*Melanosmia*) *malina* Cockerell, *O.* (*Melanosmia*) *pulsatillae* Cockerell, *O.* (*Melanosmia*) *raritatis* Michener, *Anthidium* (*Anthidium*) *formosum* Cresson, *Dianthidium* (*Dianthidium*) *plenum plenum* Timberlake, *D.* (*Dianthidium*) *singulare* (Cresson), *Stelis* (*Stelis*) *ashmeadiellae* Timberlake, *S.* (*Stelis*) *calliphorina* (Cockerell), *Dioxys pomonae pomonae* Cockerell, *Megachile pugnata pomonae* Cockerell [Megachilidae], *Nomada crotchii* Cresson, *Melissodes* (*Eumelissodes*) *saponellus* Cockerell, and *Habropoda miserabilis* (Cresson) [Apidae].

Key words: Andrenidae, Apidae, Colletidae, Halictidae, Megachilidae, Melittidae, diversity

INTRODUCTION

British Columbia is a vast landscape with variable topography, geology, and climate that enable the largest total biodiversity of any province or territory in the country (Cannings and Cannings 2015; Canadian Endangered Species Conservation Council 2016). Approximately 80,000 species are estimated to live in Canada (Canadian Endangered Species Conservation Council 2016), with more than 50,000 species occurring in British Columbia alone (Cannings and Cannings 2015). However, precise knowledge comes only from fully documenting the species that have been recorded via faunal checklists. In addition to providing data for increasing faunistic knowledge, species checklists provide important baselines for assigning a species' conservation status

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and enabling the prioritization of habitat protection, management, conservation and land use decisions. For many invertebrate groups, species checklists do not exist or are incomplete, although the completion of *Wild Species 2015* (Canadian Endangered Species Conservation Council 2016) has enabled a better understanding of the provincial and territorial diversity across the country for many taxa, including in British Columbia.

In the last decade pollinators, particularly bees, have come to the forefront of conservation importance due to their integral link to pollination, food supply and overall ecosystem health. A key component to assessing the conservation status of bee communities begins with understanding the species present, their respective range extents, and potential habitat associations according to the ecosystem mapping throughout the species' range. The range extents for many bee species recorded from British Columbia are unclear, and more inventories are needed to better define their limits (Heron and Sheffield 2015). The inventory for bee species in British Columbia is incomplete, and most past efforts to compile species lists have focused on documenting a narrow range of taxa (e.g., Buckell 1949, 1950, 1951; Cannings 2011 - *Bombus*), or have not been comprehensive (e.g., Viereck *et al*. 1904a–d, 1905a, b, 1906). More recently, studies providing species information have been ecological in nature and have focussed within a limited geography (e.g., Elwell *et al*. 2016). However, bee diversity estimates for British Columbia have been treated in a more general sense: the province is known to have the highest bee diversity in Canada, with estimates ranging from 369 (Sheffield *et al.* 2014) to possibly more than 600 species (Sheffield *et al*. 2017), the latter estimate being based on DNA barcoding results.

Numerous factors likely contribute to this high biodiversity. For example, bees are closely associated with plant diversity and habitat type. Approximately 2,500 native vascular plants have been recorded from British Columbia (Douglas *et al.* 2002; British Columbia Conservation Data Centre 2018), some of which are part of rare ecosystems and plant communities unique to Canada (Straley *et al.* 1985). The southern part of the province is also the northernmost extension of numerous unique southern ecosystems, allowing numerous bee species to range into these same areas. Many of these bee species are solitary and depend on specific soil and climate variables that define or seemingly restrict their range (Sheffield *et al*. 2014); the Western Interior Basin for example, though by far the smallest ecozone in Canada, contains a significant number of the country's bee species, some of which occur nowhere else in Canada (Sheffield *et al*. 2014). Though no comprehensive checklist of British Columbia bee species has been previously completed (although see Sheffield and Heron 2017), some components of the province's bee fauna were covered, as indicated above. In addition, Tepedino and Griswold (1995) provided a list of species for the Columbia Basin, which included some specimens from British Columbia.

Our objective here is to provide the first published, comprehensive list of the bees of British Columbia, correcting, updating, and validating occurrence data in lists previously provided to the Canadian Endangered Species Conservation Council (2016) and E-Fauna (Sheffield and Heron 2017). Species occurences in the province are fully documented with references to literature, and links to datasets are provided. This project also contributes to the overall knowledge of apoid wasps in the province; the Spheciformes treated recently by Ratzlaff (2015) and Ratzlaff *et al*. (2016) and all studies building on the provincial summary of Apoidea provided by Cannings and Scudder (2001).

MATERIALS AND METHODS

Most of the data presented here were compiled from published literature, ranging from published taxonomic treatments, species lists, ecological studies, and unpublished graduate theses. In addition, data were also mined from websites and non-peer-reviewed or unpublished studies (i.e., grey literature) and verified with specimen or photographic evidence. Our list builds on previous faunistic work that has focused on northwestern

North American, including British Columbia (Viereck *et al*. 1904a–d, 1905a, b; 1906), and later works specific to the province (Buckell 1949, 1950, 1951), much of which was compiled for the *Wild Species 2015* national assessment (Canadian Endangered Species Conservation Council 2016). In cases where records for "BC" were recorded in the literature (e.g., Hurd 1979) without accompanying data, the "species x British Columbia" were entered as search terms in Biodiversity Heritage Library (https://www.biodiversitylibrary.org/); however, in a few instances, no supporting literature/data could be found. References and notes supporting the presence of each species in the province are given next to each taxon in Supplemental Material.

Data were also compiled from many past and more recent collection efforts in the province, including studies being conducted by the British Columbia Ministry of Environment and Climate Change Strategy (JMH), Royal Saskatchewan Museum (CSS), and past studies conducted out of York University (Toronto, ON). Much of this recent material was used in the Barcodes of Life campaign for the bees of Canada (Sheffield *et al*. 2017). In addition, many specimens were examined from the Royal British Columbia Museum (Victoria, BC), the Spencer Entomology Museum, University of British Columbia (Vancouver, BC), the Royal Saskatchewan Museum (Regina, SK), York University (Toronto, ON), and the Canadian National Collection of Insects, Arachnids, and Nematodes (Ottawa, ON). The complete species list has been added to Canadensys (http://www.canadensys.net/) at https://doi.org/10.5886/NKZFXC, and has been registered with GBIF [assigned the following GBIF UUID: 7b944cc6-1ffa-49de-aab8-2a5ab543422b]. Occurrence data from species recorded as new to the province and/or country have also been added to Canadensys [https://doi.org/10.5886/INGA8Z] and is also registered with GBIF [GBIF UUID: f9c49aed-ba4b-454e-b88a-cbe1fff5b2b6]. An updated version of the list will also be maintained at the Bees of Canada website: http://www.beesofcanada.com/home.

Although some of the literature sources examined (e.g., Mitchell 1960, 1962; Hurd 1979; Cannings 2011) list a species as only occurring in the province, we specifically tried to mine data that would provide geographic information to allow us to assign each species to the Canadian ecozones represented in the province (see Ecological Stratification Working Group 1995; Environment and Climate Change Canada 2016). Canada's terrestrial land base is classified into 15 ecozones that are part of a broad ecological framework for North America (Ecological Stratification Working Group 1995; Wilken *et al*. 1996; Commission for Environmental Cooperation 1997) that classify a geographic area of the country with similar physiography, hydrology, climate, wildlife potential and vegetation. The attributes of each ecozone promote classification based on unique assemblages of plant and animal communites based on climate zones and soils. The ecozones in which each bee species occurs provides additional ecological information that may provide conservation value. The six Canadian ecozones represented in British Columbia are the Pacific Maritime [PacM], Western Interior Basin [WIB], Montane Cordillera [MonC], Boreal Plains [BorPl], Boreal Cordillera [BorC], and Taiga Plains [TaiPl]. Information on each ecozone in British Columbia is summarized from the references above.

The Pacific Maritime [PacM] ecozone has an area of 195,000 km^2, and occurs along the west coast (including coastal islands) from the United States (Washington) border in the south, northwards to the Alaska Panhandle. This ecozone is the wettest in the Canada, with extensive areas of temperate old-growth coniferous forests (i.e., western redcedar (*Thuja plicata* Donn ex D. Don), yellow-cedar (*Cupressus nootkatensis* D. Don), western hemlock (*Tsuga heterophyla* (Raf.) Sarg.), mountain hemlock (*Tsuga mertensiana* (Bong.) Carr.), Douglas-fir (*Pseudotsuga menziesii* (Mirb.) Franco), Pacific silver fir (*Abies amabilis* Douglas ex J. Forbes), and Sitka spruce (*Picea sitchensis* (Bong.) Carr.), with high mountains with alpine tundra and glacial, and lowland estuary and valley-bottom floodplain habitats (Fig. 1). It contains numerous rare and endangered ecosystems, including Garry Oak (*Quercus garryana* Douglas ex Hook.) and associated

ecosystems, sparsely vegetated coastal sand ecosystems, bog and wetland habitats, and the lowland riparian forests of the Fraser Valley.

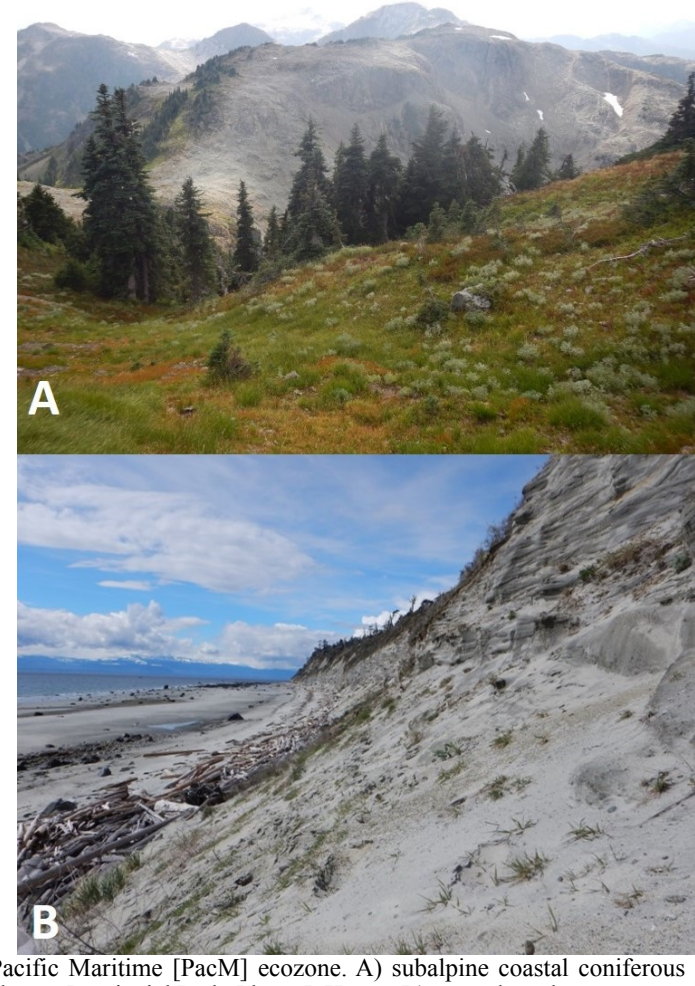

Figure 1. Pacific Maritime [PacM] ecozone. A) subalpine coastal coniferous forests, Greig Ridge, Strathcona Provincial Park. Photo J. Heron; B) coastal sand ecosystem on south side of Savary Island. Photo J. Heron.

The Western Interior Basin [WIB, also called the Semi-Arid Plateau] is the smallest ecozone in Canada (previously classification considered this ecozone part of the Montane Cordillera), and all 56,466 km^2 are restricted to the south–central part of the province. The boundary of this ecozone is comparable to the Southern Interior Ecoprovince of the province's Ecoregion Classification System. The ecozone (Fig. 2) represents the northernmost extension of the Great Basin Sagebrush Desert Biome that stretches from British Columbia through the Midwestern United States to Mexico. Approximately 2% of the land area of this ecozone is classified as native grasslands and 73% as forests. There are a number of species at risk that are confined to the WIB and, more specifically, to the low-elevation plant communities of this ecozone. The cumulative effects from multiple threats, such as natural habitat conversion, fragmentation, recreational use and invasive species, have led to these species being at risk. In particular, the antelope-brush

(*Purschia tridentata* (Pursh) DC.) plant communities in the south Okanagan Valley have significantly declined in quality and spatial area since the 1800s (Schluter *et al*. 1995; Lea 2001, 2008; Iverson and Haney 2012; Iverson 2012). More specifically, the antelope-brush/needle-and-thread Grass plant community has declined from 9,863 ha in 1800 to 3,217 ha in 2009, a loss of 67.4% of the original extent of this ecosystem (Iverson 2012). More broadly across the WIB, approximately 16% of grasslands (1188km^2) have been converted to urban and agricultural development since 1850 (Wikeem and Wikeem 2004; Grasslands Conservation Council of British Columbia 2004; B.C. Ministry of Environment 2007). Habitat loss continues with high development pressure on undesignated provincial Crown land and natural areas into housing, commercial and agricultural use. Livestock overgrazing is also a threat within provincial Crown lands – both grassland and forested areas.

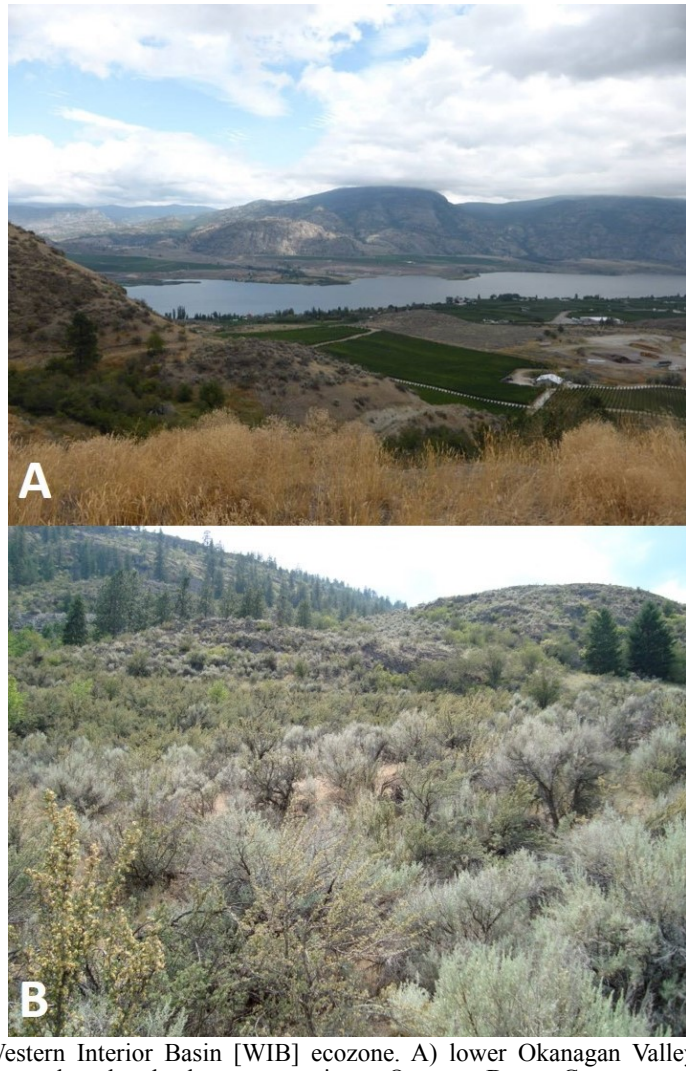

Figure 2. Western Interior Basin [WIB] ecozone. A) lower Okanagan Valley. Photo C.S. Sheffield; B) antelope-brush plant community at Osoyoos Desert Centre, west of Osoyoos. Photo J. Heron.

The British Columbia portion of the Montane Cordillera [MonC] ecozone – about 90% of the total for Canada (Scudder and Smith 2011) – comprises 389,000 km^2. It covers the eastern portion of the province and spans the Rocky Mountains into western Alberta. The ecozone ranges from the United States border to the Skeena Mountains in north–central British Columbia, and includes a broad range of ecosystems, from dense conifer forests to alpine tundra, grasslands, and rugged mountains (Fig. 3): it is likely the most complex ecozone in the province (Scudder and Smith 2011). Approximately 70% of the area is forested, 27% is non-forested, and 3% is water (Scudder and Smith 2011). The climate is characterized by wet winters and dry summers, with mild climate overall throughout the year. The Kootenay region of the province includes the western slopes of the Rocky Mountains, small portions of arid sagebrush and grasslands, fir and cedar forests, large rivers, and numerous valleys that extend southwards into the United States and bring a number of species to their northernmost limits.

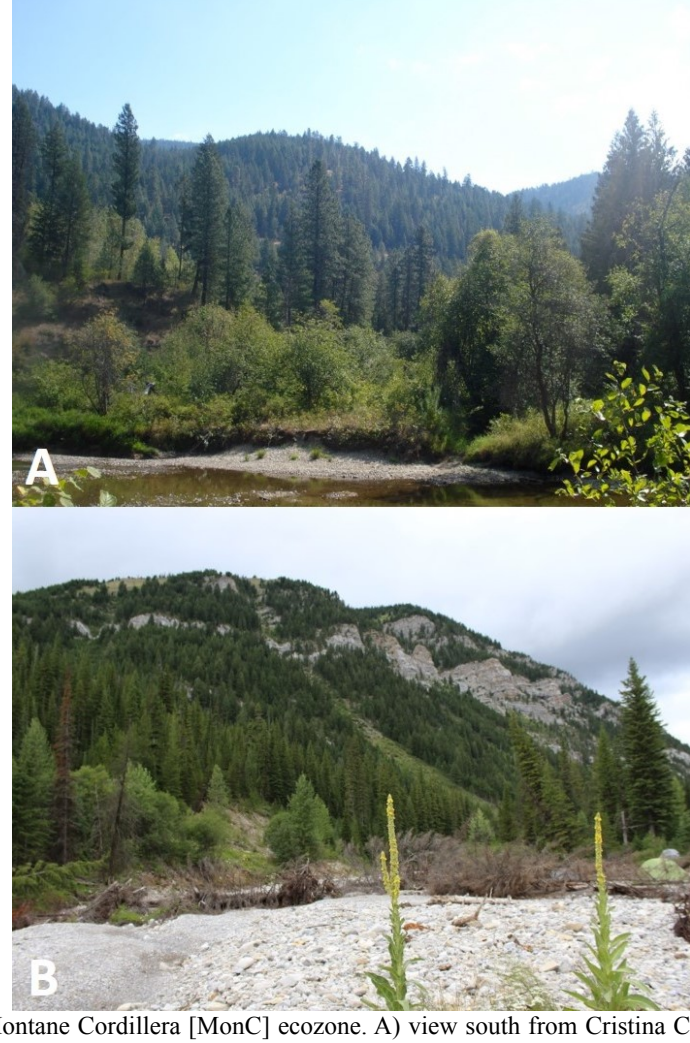

Figure 3. Montane Cordillera [MonC] ecozone. A) view south from Cristina Creek. Photo J. Heron; B) Flathead Valley, east of Fernie. Photo J. Heron.

Approximately 5% of the Boreal Plains [BorPl] ecozone occurs in the province (37,940 km^2) and exists across a small portion of north-eastern British Columbia (Fig. 4). More than half of this ecozone (60%) comprises forests and, in British Columbia, the ecozone's other habitats are shrublands and wetlands, as well as native grasslands that have been converted to agricultural areas. Forests grow slowly in the Boreal Plains due to low-nutrient and poorly drained soils and discontinuous permafrost (ESTR Secretariat 2014).

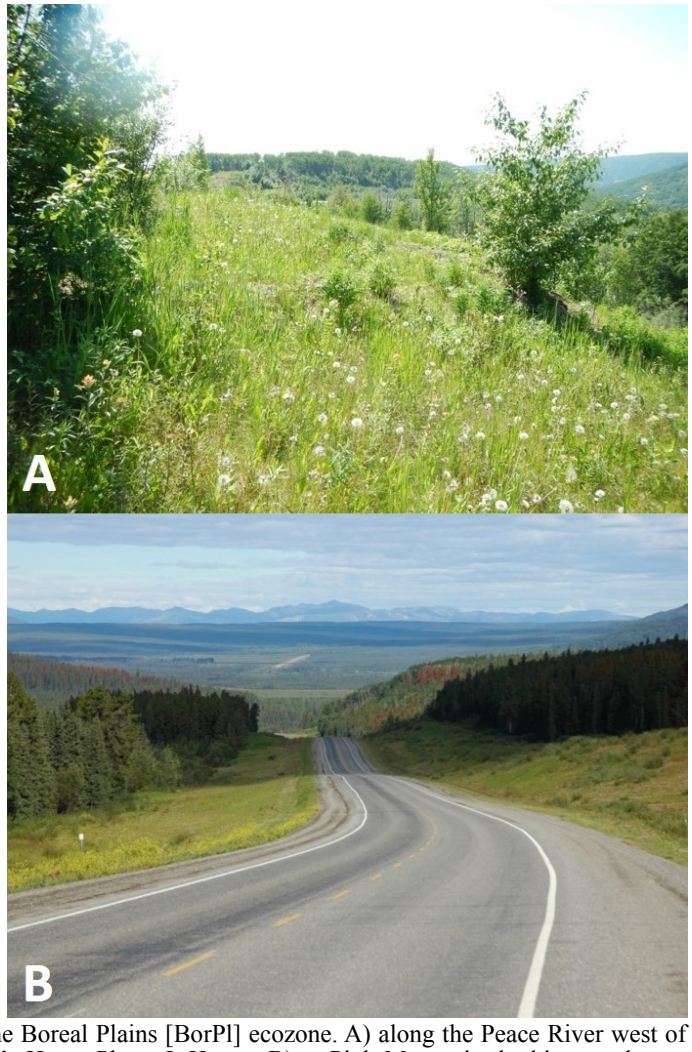

Figure 4. The Boreal Plains [BorPl] ecozone. A) along the Peace River west of Fort St. John enar Hudson's Hope. Photo J. Heron; B) at Pink Mountain, looking northwest at the Rocky Mountains. Photo S. Cannings.

The portion of the Boreal Cordillera [BorC] in British Columbia spans a large portion of the northern half of the province, and stretches into the Yukon. The BorC ecozone (Fig. 5) covers 189,000 km^2 and is dominated by forests of black spruce [*Picea mariana* (Mill.) Britton, Sterns & Poggenburg] and white spruce [*P. glauca* (Moench) Voss], lodgepole pine (*Pinus contorta* Douglas), trembling aspen (*Populus tremuloides* Michx.), balsam poplar (*P. balsamifera* L.) and white birch (*Betula papyrifera* Marshall), with higher-elevation areas of subalpine-fir [*Abies lasiocarpa* (Hooker) Nuttall].

Less than 10% of the Taiga Plains [TaiPl] ecozone occurs in British Columbia – approximately 70,000 km^2. Much of this ecozone (Fig. 6) is boreal spruce forest (68%), wetland, and peatland habitats, with extensive shrub cover (20%). The ecozone also contains some elements of subarctic habitats (ESTR Secretariat 2013).

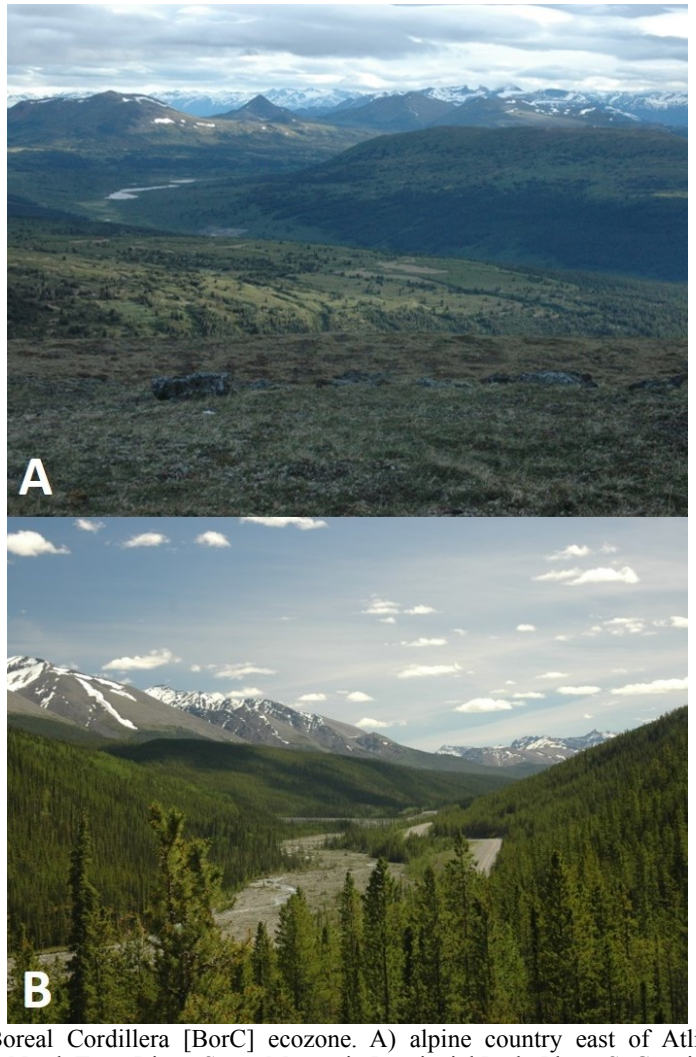

Figure 5. Boreal Cordillera [BorC] ecozone. A) alpine country east of Atlin. Photo S. Cannings; B) North Tetsa River, Stone Mountain Provincial Park. Photo S. Cannings.

The bee fauna of the ecozones in British Columbia were compared both by tallying the species known to occur in each and based on the number of species per 1000 km^2; this latter calculation was done to highlight the diversity of bee species based on the size of each ecozone specifically to draw attention to bee biodiversity hot spots and areas of high conservation value. In addition, a presence/absence matrix of bee species by ecozone was created, and a single link cluster analysis of incidence-based similarity (i.e., Jaccard's index) was performed using Biodiversity Pro (McAleece *et al*. 1997) to explore faunistic similarity of the ecozones occurring in the province.

Figure 6. Taiga Plains [TaiPl] ecozone. A) at Fort Nelson, looking west to the Rocky Mountains. Photo S. Cannings; B) Grayling River Hot Spring. Photo C.S. Sheffield.

RESULTS AND DISCUSSION

The first published record of a bee in British Columbia was that of Smith (1861), who described the cuckoo bumble bee, *Apathus* (=*Bombus*) *insularis* (Smith), from the province. Knowledge of the bee fauna of British Columbia has increased dramatically over the last ca. 160 years, with several major published contributions adding greatly to the list of species recorded for the province throughout this period (Fig. 7). The most significant years of contributions (i.e., additions of 20 or more species per year resulting from a single published study or series of related published studies) occurred in the early 1900s (Viereck *et al*. 1904a-d, 1905a, b, 1906; see "A" on Fig. 7), 1924 (Criddle *et al*. 1924; "B" on Figure 7), and 1925 (Sandhouse 1925a, b; "C" on Fig. 7). Yearly increases did not exceed 20 species again until 2010 (Gibbs 2010; "D" on Fig. 7). More recently, Elwell *et al*. (2016) added another 20 species to the provincial list ("E" on Fig. 7). In the present study, we add an additional 37 species ("F" on Fig. 7), 20 of which are new for Canada, for a cumulative provincial count of 483 bee species (Fig. 7). The Megachilidae is the family most well represented, with more than 150 species found in the province,

followed by Andrenidae (largely the genus *Andrena* Fabricius) and Apidae, both with more than 100 species, and Halictidae (Fig. 8).

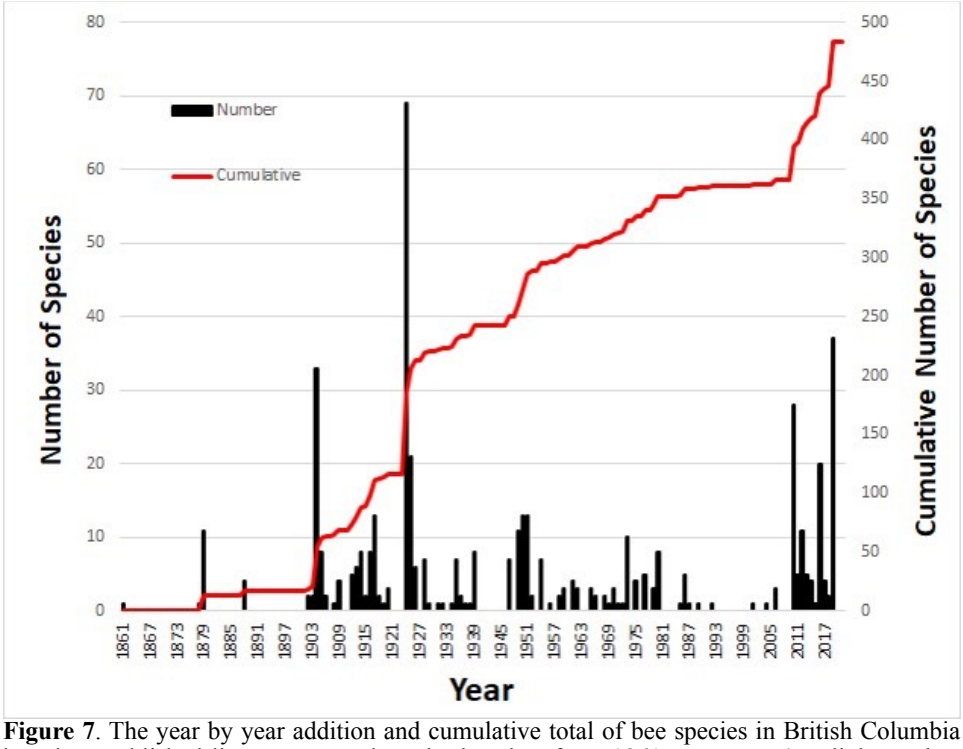

Figure 7. The year by year addition and cumulative total of bee species in British Columbia based on published literature records and other data from 1861 to present (see links to data sets above). Black bars show the number of new species records for each year (i.e., based on the earliest recorded occurrence in the province, see Supplemental Material) (left axis); red line shows the cumulative number of species (right axis) based on these additions. Letters adjacent to bars represent published studies where 20 or more species were added as the result of one publication or group of related publications. A=Viereck et al. 1904a-d (32 species) + Vachal 1904 (6 species); B=Criddle et al. 1924 (56 species) + Sandhouse 1924 (4 species) + Viereck 1924 (11 species); C=Sandhouse 1925a-b (20 species); D=Gibbs 2010 (27 species) + Rightmyer 2010 (1 species); E=Elwell et al. 2016 (20 species); F=present study (37 species).

The rapid growth in species numbers observed in the past 10 years has largely been facilitated through surveys (Heron and Sheffield 2015; Elwell *et al*. 2016), taxonomic revisions (Gibbs 2010; Sheffield *et al*. 2011), and DNA barcoding (Sheffield *et al*. 2017), with a large proportion of species occurring in British Columbia having sequences in the Barcodes of Life Data system (BOLD) with specimens contributed by the Royal Saskatchewan Museum, York University, Simon Fraser University, and the Royal British Columbia Museum, and collecting efforts of the authors and associated researchers at these institutions. These efforts have verified many previous records of others (see Supplemental Material) and have added new records to the province (Gibbs 2010; Heron and Sheffield 2015; Elwell *et al*. 2016). The DNA barcoding efforts have also highlighted the fact that there is still much taxonomic work to do with the British Columbia bee fauna, especially with the cleptoparasitic genera *Sphecodes* (Halictidae) and *Nomada* (Apidae) (Sheffield *et al*. 2017). A recent estimate (Sheffield *et al*. 2017) suggests there could be upwards of 600 species in the province – almost three-quarters of the total for

Canada – with the vast majority of these found in the WIB ecozone (Fig. 9). This is supported by previous estimates of bee diversity in the Columbia Basin in the adjacent USA, which suggests almost 650 species (Mayer *et al*. 2000; Niwa *et al*. 2001), with estimates as high as 1,000 species (Tepedino and Griswold 1995).

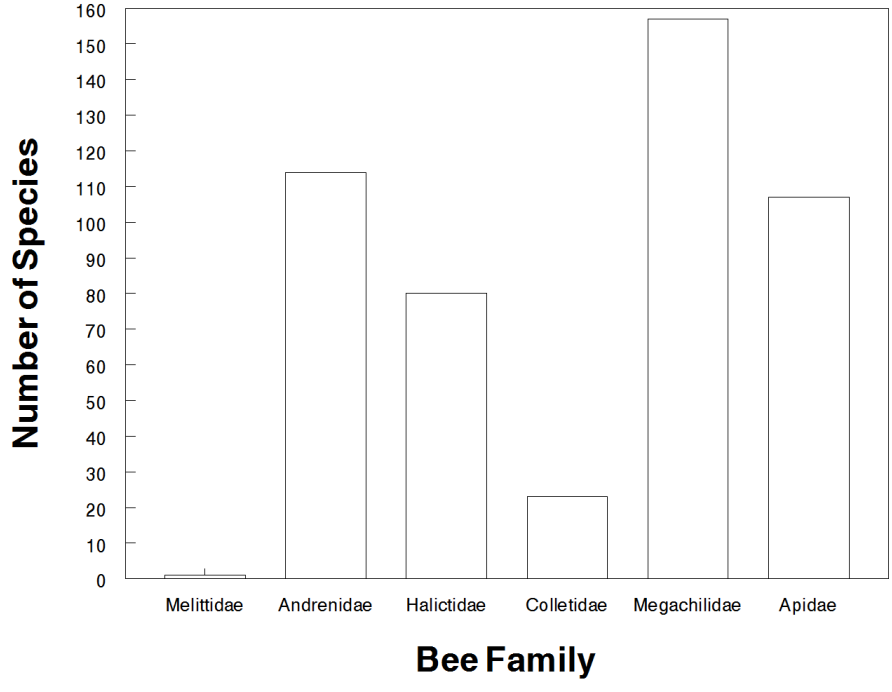

Figure 8. The number of species currently recorded for each bee family in British Columbia.

Although not as diverse as some other North American bee hot spots (Carril *et al*. 2018), the WIB ecozone is the most diverse for bees, with 411 confirmed species (Fig. 9) – almost half of those known from Canada – with 176 of these not occurring in the province's other ecozones (and most of these species are not found anywhere else in Canada). The PacM and MonC ecozones are also diverse with respect to bees, with 207 and 204 confirmed species in each, respectively (Fig. 9). The PacM ecozone has 26 bee species not yet reported elsewhere in the province, with an additional 18 seemingly restricted to the MonC ecozone within the province. These southern ecozones (i.e., PacM, WIB, MonC) have higher levels of similarity to each other than to more northerly ecozones (i.e., TaiPl, BorC, BorPl; Fig. 10), although the bee fauna of the WIB shared less than 37% of its species with the MonC and PacM. This low level of similarity is due to the large number of species endemic to the WIB within Canada, supporting the suggestion that this small area has very high conservation value (South Okanagan Similkameen Conservation Program 2012), especially for bees in Canada (Fig. 9). The British Columbian segments of the three other ecozones are much less speciose, with no bee species seemingly restricted to any one specific ecozone; all three ecozones share more than 50% of their species (Fig. 10). The BorPl ecozone has 88 recorded bee species, the BorC has 73 bee species, and the TaiPl contains 70 bee species. The northern *Bombus occidentalis mckayi* Ashmead, with a national conservation status by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) of Special

Concern in Canada (COSEWIC 2014; Sheffield *et al*. 2016), is seemingly restricted to the BorC ecozone within the province.

For the overall checklist structure below, we follow Sann *et al*. (2018) for family placement and, for convenience, we follow Michener (2007) for within-family classification, except for the genus *Lasioglossum* Curtis, which follows Gibbs *et al*. (2013). New records for the province are indicated with an "*", new records for Canada are indicated with an "†". These specimens are usually supported by material in the Barcodes of Life Data (BOLD) System (and see Sheffield *et al*. 2017), although notes are also provided in the supplementary links provided above. Species notes and other annotations are provided for some species to clarify their status in the province.

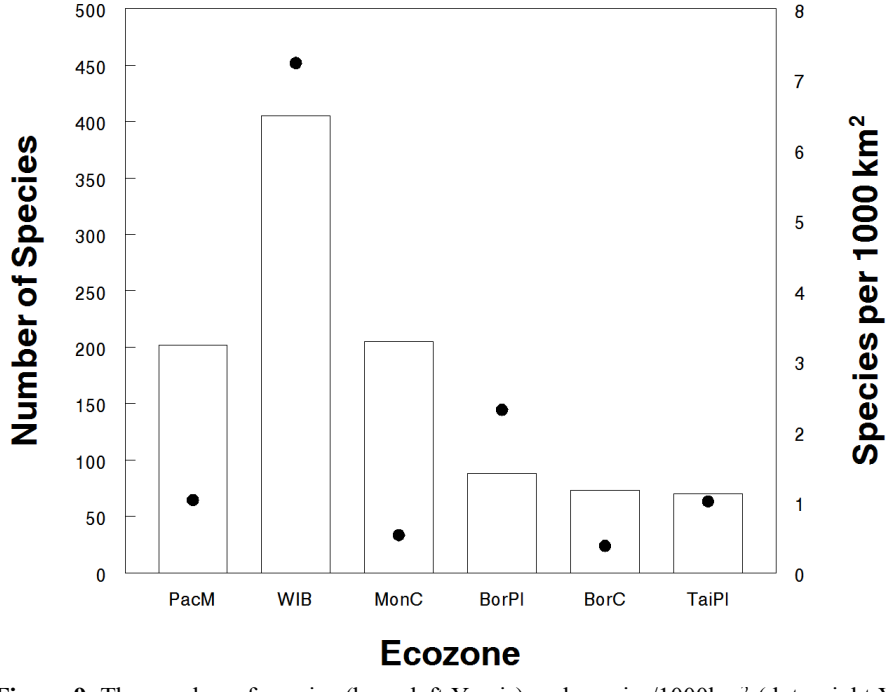

Figure 9. The number of species (bars, left Y-axis) and species/1000km^2 (dots, right Y-axis) for each ecozone in British Columbia. PacM=Pacific Maritime; WIB=Western Interior Basin; MonC=Montane Cordillera; BorPl=Boreal Plains; BorC=Boreal Cordillera; TaiPl=Taiga Plains.

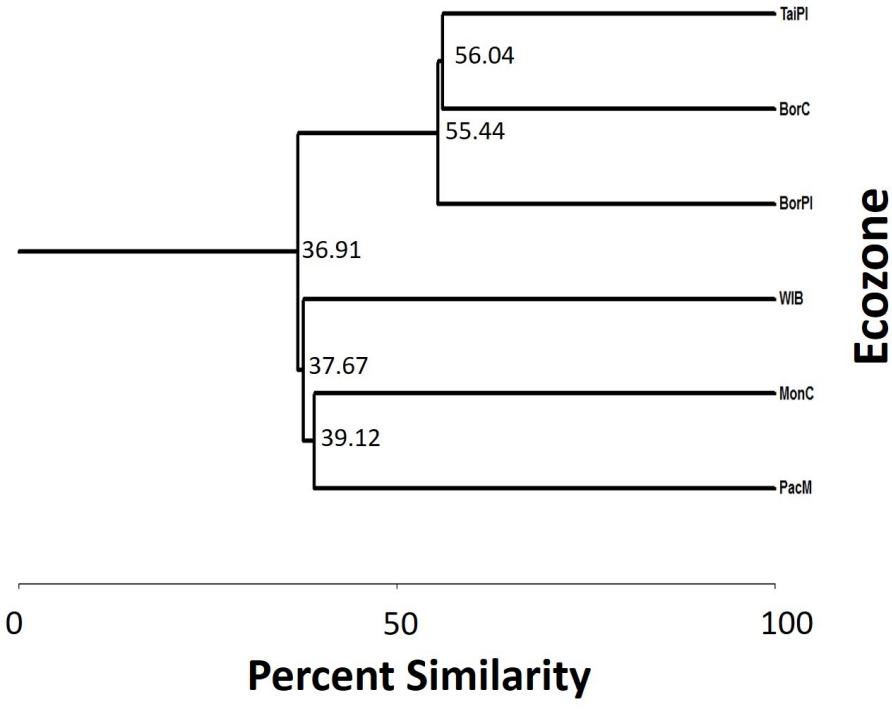

Figure 10. Incidence-based similarity (i.e., Jaccard's) of the bee fauna of each ecozone in British Columbia. The X-axis and numbers on the graph indicate percent similarity of each ecozone or group of ecozones, the right Y-axis indicates the ecozone: PacM=Pacific Maritime; WIB=Western Interior Basin; MonC=Montane Cordillera; BorPl=Boreal Plains; BorC=Boreal Cordillera; TaiPl=Taiga Plains.

ANNOTATED CHECKLIST OF THE BEES OF BRITISH COLUMBIA

	PacM	WIB	MonC	BorPl	BorC	TaiPl
FAMILY MELITTIDAE						
Subfamily Melittinae						
Genus *Macropis* Panzer, 1809						
Subgenus *Macropis* Panzer, 1809						
Macropis nuda (Provancher, 1882)	PacM	–	MonC	–	–	–

Species notes: Although Kline (2017) reported the family Melittidae (the genus *Macropis*) from British Columbia, presumably for the first time, specimens of *M. nuda* from Agassiz in the Canadian National Collection (Ottawa) were collected in 1914 (see Sheffield and Heron 2018). *Macropis nuda,* the likely species photographed by L.R. Best (see Kline 2017) based on the shiny terga (see Michez and Patiny 2005), is considered transcontinental (Snelling and Stage 1995) and is known to occur across most of southern Canada (Michez and Patiny 2005) and into Montana (Michener 1938a) in the United States. Michener (1938a) was the first to record the genus in western North America (presumably he did not examine material in the Canadian National Collection) – *M. nuda* (as *M. morsei* Robertson) from Colorado, and *M. steironematis* Robertson from Washington (Morgan's Ferry), Yakima River is the type locality for *Macropis steironematis*

opaca Michener, although Michener's subspecies is considered rare (Snelling and Stage 1995). It is possible that *M. steironematis* is also in the province.

FAMILY ANDRENIDAE
Subfamily Andreninae
***Andrena* Fabricius, 1775**
Subgenus *Andrena* Fabricius, 1775

Andrena aculeata LaBerge, 1980	–	WIB	MonC	–	–	–
Andrena buckelli Viereck, 1924	PacM	WIB	MonC	–	–	–
Andrena ceanothifloris cretata LaBerge, 1980	–	–	MonC	–	–	–
Andrena clarkella (Kirby, 1802)	–	–	MonC	BorPl	BorC	TaiPl
Andrena edwardsi Viereck, 1916	–	WIB	–	–	–	–
Andrena frigida Smith, 1853	PacM	WIB	MonC	BorPl	BorC	TaiPl
Andrena hemileuca Viereck, 1904	PacM	WIB	–	–	–	–
Andrena laminibucca Viereck & Cockerell, 1914	–	WIB	MonC	–	–	–
Andrena macoupinensis Robertson, 1900	–	WIB	–	–	–	–
Andrena milwaukeensis Graenicher, 1903	PacM	WIB	–	–	BorC	–
Andrena perarmata Cockerell, 1898	PacM	WIB	–	–	BorC	–
Andrena rufosignata Cockerell, 1902	PacM	WIB	MonC	BorPl	BorC	TaiPl
Andrena saccata Viereck, 1904	PacM	–	–	–	–	–
Andrena schuhi LaBerge, 1980	PacM	WIB	MonC	–	BorC	–
Andrena thaspii Graenicher, 1903	PacM	WIB	MonC	BorPl	BorC	TaiPl
Andrena topazana Cockerell, 1906	–	WIB	MonC	–	BorC	–
Andrena vicinoides Viereck, 1904	PacM	WIB	MonC	–	BorC	–
Andrena washingtoni Cockerell, 1901	PacM	WIB	MonC	–	BorC	–

Subgenus *Cnemidandrena* Hedicke, 1933

Andrena colletina Cockerell, 1906	–	WIB	–	–	–	–
Andrena columbiana Viereck, 1917	PacM	WIB	MonC	BorPl	BorC	TaiPl
**Andrena costillensis* Viereck & Cockerell, 1914	–	WIB	–	–	–	–
Andrena nubecula Smith, 1853	–	WIB	MonC	–	–	–
Andrena runcinatae Cockerell, 1906	–	–	MonC	–	–	–
Andrena scutellinitens Viereck, 1917	–	WIB	MonC	–	–	–
Andrena surda Cockerell, 1910	–	WIB	MonC	–	–	–

Species notes: Although Buckell (1949) reported *A. colletina* Cockerell from Chilcotin, Donovan (1977) indicated that the collection date (16 April 1921) was too early for this species; members of the subgenus *Cnemidandrena* are typically summer-flying species. However, Criddle (1924) examined specimens collected in September from Penticton and Cranbrook, so we include it in the list only from the WIB.

Subgenus *Dactylandrena* Viereck, 1924

Andrena berberidis Cockerell, 1905	–	WIB	–	–	–	–
Andrena porterae Cockerell, 1900	–	WIB	–	–	–	–

Subgenus *Dasyandrena* LaBerge, 1977

Andrena cristata Viereck, 1917	–	WIB	–	–	–	–

Subgenus *Diandrena* Cockerell, 1903

Andrena cuneilabris Viereck, 1926	–	WIB	–	–	–	–
Andrena evoluta Linsley & MacSwain, 1961	–	WIB	–	–	–	–
Andrena nothocalaidis Cockerell, 1905	–	WIB	–	–	–	–

Subgenus *Euandrena* Hedicke, 1933						
Andrena astragali Viereck & Cockerell, 1914	–	WIB	–	–	–	–
Andrena auricoma Smith, 1879	PacM	–	–	–	–	–
Andrena caerulea Smith, 1879	PacM	–	–	–	–	–
Andrena chlorura Cockerell, 1916	PacM	–	–	–	–	–
**Andrena geranii* Robertson, 1891	–	WIB	–	–	–	–
Andrena lawrencei Viereck & Cockerell, 1914	–	WIB	–	–	–	–
†*Andrena misella* Timberlake, 1951	–	WIB	–	–	–	–
Andrena nigrihirta (Ashmead, 1890)	PacM	WIB	MonC	BorPl	BorC	TaiPl
Andrena nigrocaerulea Cockerell, 1897	PacM	WIB	–	–	–	–
Andrena segregans Cockerell, 1900	–	–	MonC	–	–	–

Species notes: Although Linsley (1951b) reported *A. chlorura* Cockerell from the province, no specific details were provided. Ecozone information is provided from confirmed material at the Spencer Entomology Museum, University of British Columbia

Subgenus *Geissandrena* LaBerge & Ribble, 1972						
Andrena trevoris Cockerell, 1897	PacM	WIB	MonC	–	–	–
Subgenus *Holandrena* Pérez, 1890						
Andrena cressonii infasciata Lanham, 1949	PacM	WIB	–	–	–	–
Subgenus *Larandrena* LaBerge, 1964						
Andrena miserabilis Cresson, 1872	PacM	WIB	–	–	–	–
Subgenus *Leucandrena* Hedicke, 1933						
Andrena barbilabris (Kirby, 1802)	PacM	WIB	MonC	BorPl	BorC	TaiPl
Subgenus *Melandrena* Pérez, 1890						
Andrena carlini Cockerell, 1901	–	WIB	–	–	–	–
Andrena cerasifolii Cockerell, 1896	–	–	MonC	–	–	–
Andrena commoda Smith, 1879	–	WIB	–	–	–	–
Andrena lupinorum Cockerell, 1906	–	WIB	–	–	–	–
Andrena nivalis Smith, 1853	PacM	WIB	MonC	BorPl	BorC	TaiPl
Andrena pertristis Cockerell, 1905	–	WIB	MonC	–	–	–
Andrena regularis Malloch, 1917	–	WIB	MonC	BorPl	–	–
Andrena sola Viereck, 1917	–	WIB	–	–	–	–
Andrena transnigra Viereck, 1904	PacM	WIB	MonC	–	BorC	–
Andrena vicina Smith, 1853	PacM	WIB	MonC	–	–	–
Subgenus *Micrandrena* Ashmead, 1899						
Andrena candidiformis Viereck & Cockerell, 1914	–	WIB	–	–	–	–
Andrena chlorogaster Viereck, 1904	–	WIB	–	–	–	–
Andrena illinoiensis Robertson, 1891	–	WIB	–	–	–	–
Andrena melanochroa Cockerell, 1898	PacM	WIB	MonC	–	–	–
Andrena microchlora Cockerell, 1922	–	WIB	–	–	–	–
Andrena piperi Viereck, 1904	–	WIB	–	–	–	–
Andrena salictaria Robertson, 1905	–	WIB	MonC	BorPl	–	–
Subgenus *Parandrena* Robertson, 1897						
Andrena andrenoides (Cresson, 1878)	–	WIB	–	–	–	–
Andrena concinnula Cockerell, 1898	–	WIB	–	–	–	–

Andrena gibberis Viereck, 1924	–	WIB	–	–	–	–
Andrena nevadensis Cresson, 1879	–	WIB	–	–	–	–
Subgenus *Plastandrena* Hedicke, 1933						
Andrena crataegi Robertson, 1893	PacM	WIB	–	–	–	–
Andrena prunorum prunorum Cockerell, 1896	PacM	WIB	MonC	BorP	–	–
Subgenus *Scaphandrena* Lanham, 1949						
Andrena chapmanae Viereck, 1904	–	WIB	–	–	–	–
Andrena merriami Cockerell, 1901	–	WIB	–	–	–	–
Andrena montrosensis Viereck & Cockerell, 1914	–	WIB	MonC	–	–	–
Andrena scurra Viereck, 1904	PacM	WIB	MonC	–	–	–
Andrena sladeni Viereck, 1924	–	WIB	MonC	–	–	–
Andrena walleyi Cockerell, 1932	–	WIB	–	–	–	–

Species notes: Ribble (1974) considered *A. montrosensis* (recorded in the province by Buckell 1949) synonymous with a hybrid of *A. scurra* x *arabis* x *capricornis*, although Lanham (1984, 1987, 1993) later considered it a valid species, which is followed here.

Subgenus *Simandrena* Pérez, 1890						
Andrena angustitarsata Viereck, 1904	PacM	WIB	MonC	–	–	–
Andrena pallidifovea Viereck, 1904	–	WIB	–	–	–	–
Andrena subtrita Cockerell, 1910	–	WIB	–	–	–	–
Andrena wheeleri Graenicher, 1904	–	–	MonC	BorPl	–	–
Subgenus *Thysandrena* Lanham, 1949						
Andrena candida Smith, 1879	PacM	WIB	MonC	–	–	–
Andrena knuthiana Cockerell, 1901	–	WIB	MonC	–	–	–
Andrena medionitens Cockerell, 1902	PacM	WIB	MonC	–	–	–
Andrena trizonata (Ashmead, 1890)	–	WIB	–	–	–	–
Andrena vierecki Cockerell, 1904	PacM	–	–	–	–	–
Andrena w-scripta Viereck, 1904	PacM	WIB	MonC	BorPl	BorC	TaiPl
Subgenus *Trachandrena* Robertson, 1902						
Andrena amphibola (Viereck, 1904)	PacM	WIB	–	–	–	–
Andrena cleodora (Viereck, 1904)	PacM	WIB	MonC	–	BorC	–
Andrena cupreotincta Cockerell, 1901	PacM	WIB	MonC	BorPl	–	–
Andrena cyanophila Cockerell, 1906	PacM	WIB	MonC	–	–	–
Andrena forbesii Robertson, 1891	PacM	WIB	MonC	BorPl	–	–
Andrena fuscicauda (Viereck, 1904)	–	WIB	–	–	–	–
Andrena hippotes Robertson, 1895	PacM	WIB	–	BorPl	–	TaiPl
Andrena mariae Robertson, 1891	PacM	WIB	MonC	BorPl	–	TaiPl
Andrena miranda Smith, 1879	PacM	WIB	MonC	BorPl	BorC	TaiPl
Andrena quintiliformis Viereck, 1917	–	WIB	–	–	–	–
Andrena salicifloris Cockerell, 1897	PacM	WIB	MonC	BorPl	–	–
Andrena sigmundi Cockerell, 1902	PacM	WIB	MonC	BorPl	–	TaiPl
Andrena striatifrons Cockerell, 1897	PacM	WIB	MonC	–	–	–
Subgenus *Tylandrena* LaBerge, 1964						
Andrena erythrogaster (Ashmead, 1890)	PacM	–	–	–	–	–
Andrena perplexa Smith, 1853	PacM	–	MonC	–	–	–
Andrena subaustralis Cockerell, 1898	PacM	WIB	–	–	–	–
Andrena subtilis Smith, 1879	PacM	WIB	–	–	–	–
Unplaced Species						
Andrena angustifovea Viereck, 1904	–	–	–	–	–	–

Andrena excellens Viereck, 1924	PacM	–	–	–	–	–
Andrena fulvicrista Viereck, 1924	PacM	WIB	–	–	–	–
Andrena lillooetensis Viereck, 1924	PacM	–	–	–	–	–
Andrena revelstokensis Viereck, 1924	–	–	MonC	–	–	–
Andrena singularis Viereck, 1924	PacM	–	MonC	–	–	–

Species notes: Though Viereck *et al.* (1904c) included *A. augustifovea* in their key to male *Andrena* in a treatment of bees of the Pacific North West, no specific information was provided in that work on the type material(s), including the number of specimens in the type series or the type locality. Cresson (1928) reviewed non-Cresson type material at the ANSP, including a specimen of *A. augustifovea* [ANSP no. 10,286] from Moscow, Idaho. Linsley (1951) and subsequent catalogues (i.e., Hurd 1979) have subsequently included British Columbia in the range of this species, suggesting other type material exists, even though we can find no further mention of this species in the literature. Although Linsley (1951) and Hurd (1979) did not assign this species to a subgenus, Ascher and Pickering (2018) place it within subgenus *Simandrena* Pérez and indicate three specimens (from Oregon, Idaho, and British Columbia); however, LaBerge (1989) did not include *A. angustifovea* as a valid species or as a synonymy in his revision of the subgenus. As such, we place it here until further work is done.

Subgenera not confirmed in British Columbia: Two male specimens identified by W. LaBerge as *Andrena* (*Anchandrena*) *angustella* Cockerell are in the Spencer Entomology Collection at the University of British Columbia – one from Vaseux Lake; the other from the north end of Galiano Island. Although LaBerge (1986) proposed and revised this subgenus, with this as the type species, both of the British Columbia specimens have an entirely black clypeus. A yellow clypeus (or yellow in part) is diagnostic for the subgenus (LaBerge 1986). As such, we consider these specimens misidentified. No specimens of *Anchandrena* have yet been reported from Canada (LaBerge 1986).

Criddle *et al.* (1924) reported *Andrena* (*Taeniandrena*) *wilkella* (Kirby) from British Columbia (Saanich), but this is well outside the known range of this introduced species establishment in North America. However, this could also represent another introduction event for this species in another major port area.

Subfamily Panurginae						
Tribe Protandrini						
Genus *Pseudopanurgus* Cockerell, 1897						
Pseudopanurgus didirupa (Cockerell, 1908)	–	WIB	–	–	–	–
Tribe Panurgini						
Genus *Panurginus* Nylander, 1848						
**Panurginus atriceps* (Cresson, 1878)	–	WIB	MonC	–	BorC	–
†*Panurginus cressoniellus* Cockerell, 1898	–	WIB	–	–	–	–
**Panurginus ineptus* Cockerell, 1922	PacM	WIB	–	–	BorC	–
Tribe Perditini						
Genus *Perdita* Smith, 1853						
Subgenus *Perdita* Smith, 1853						
Perdita fallax Cockerell, 1896	–	WIB	–	–	–	–
Subgenus *Pygoperdita* Timberlake, 1956						
Perdita nevadensis Cockerell, 1896	PacM	WIB	–	–	–	–
Tribe Calliopsini						
Genus *Calliopsis* Smith, 1853						
Subgenus *Nomadopsis* Ashmead, 1898						
Calliopsis scitula Cresson, 1878	–	WIB	–	–	–	–

FAMILY HALICTIDAE

Subfamily Rophitinae						
Genus *Dufourea* Lepeletier, 1841						
**Dufourea dilatipes* Bohart, 1948	–	WIB	MonC	–	–	–
Dufourea holocyanea (Cockerell, 1925)	–	WIB	MonC	–	–	–
Dufourea marginata (Cresson, 1878)	–	WIB	–	–	–	–
Dufourea maura (Cresson, 1878)	–	WIB	MonC	–	–	–
Dufourea trochantera Bohart, 1948	–	WIB	–	–	–	–

Other records: *Dufourea oryx* (Viereck) was recorded in British Columbia (Salmon Arm, Naramata) by Criddle *et al*. (1924), but it is likely that these are misidentified specimens of *D. holocyana*.

Subfamily Nomiinae						
Genus *Nomia* Latreille, 1804						
Subgenus *Acunomia* Cockerell, 1930						
Nomia melanderi Cockerell, 1906	–	WIB	–	–	–	–

Species notes: This species was introduced to British Columbia (Ashcroft, Kamloops) from the western United States for alfalfa pollination (Bohart 1970; Hurd 1979), but there is no evidence that it became established in these areas. However, Stephen (1959) suggests that this species likely occurs naturally in southern parts of the interior valleys of the province.

Subfamily Halictinae						
Tribe Halictini						
Genus *Agapostemon* Guérin-Méneville, 1844						
Subgenus *Agapostemon* Guérin-Méneville, 1844						
Agapostemon femoratus Crawford, 1901	–	WIB	–	–	–	–
Agapostemon obliquus (Provancher, 1888)	PacM	–	–	–	–	–
Agapostemon texanus Cresson, 1872	PacM	WIB	MonC	–	–	–
Agapostemon virescens (Fabricius, 1775)	–	WIB	–	–	–	–
Genus *Halictus* Latreille, 1804						
Subgenus *Nealictus* Pesenko, 1984						
Halictus farinosus Smith, 1853	–	WIB	–	–	–	–
Subgenus *Odontalictus* Robertson, 1918						
Halictus ligatus Say, 1837	–	WIB	–	–	–	–
Subgenus *Protohalictus* Pesenko, 1984						
Halictus rubicundus (Christ, 1791)	PacM	WIB	–	–	–	TaiPl
Subgenus *Seladonia* Robertson, 1918						
Halictus confusus arapahonum Cockerell, 1906	–	WIB	–	–	–	–
Halictus confusus confusus Smith, 1853	PacM	WIB	MonC	BorPl	–	–
Halictus tripartitus Cockerell, 1895	–	WIB	–	–	–	–
Halictus virgatellus Cockerell, 1901	–	WIB	–	–	–	TaiPl
Genus *Lasioglossum* Curtis, 1833						
Subgenus *Dialictus* Robertson, 1902						
Lasioglossum abundipunctum Gibbs, 2010	–	WIB	–	–	–	–
Lasioglossum albipenne (Robertson, 1890)	PacM	WIB	MonC	–	–	–

Lasioglossum albohirtum (Crawford, 1907)	PacM	WIB	MonC	–	–	–
Lasioglossum brunneiventre (Crawford, 1907)	PacM	WIB	–	–	–	–
Lasioglossum cressonii (Robertson, 1890)	PacM	WIB	MonC	BorPl	–	–
Lasioglossum dashwoodi Gibbs, 2010	–	WIB	–	–	–	–
Lasioglossum hyalinum (Crawford, 1907)	PacM	WIB	–	–	–	–
Lasioglossum imbrex Gibbs, 2010	–	WIB	–	–	–	–
Lasioglossum incompletum (Crawford, 1907)	PacM	WIB	MonC	–	–	–
Lasioglossum knereri Gibbs, 2010	PacM	WIB	MonC	–	–	–
Lasioglossum laevissimum (Smith, 1853)	PacM	WIB	MonC	BorPl	–	TaiPl
Lasioglossum lilliputense Gibbs, 2010	–	–	MonC	–	–	–
Lasioglossum macroprosopum Gibbs, 2010	–	WIB	–	–	–	–
Lasioglossum marinense (Michener, 1936)	PacM	WIB	–	–	–	–
Lasioglossum nevadense (Crawford, 1907)	PacM	WIB	–	–	–	–
Lasioglossum nigroviride (Graenicher, 1910)	–	WIB	MonC	BorPl	–	–
Lasioglossum novascotiae (Mitchell, 1960)	PacM	WIB	MonC	BorPl	BorC	TaiPl
†*Lasioglossum obnubilum* (Sandhouse, 1924)	–	–	MonC	–	–	–
Lasioglossum pacatum (Sandhouse, 1924)	PacM	WIB	–	–	–	–
Lasioglossum planatum (Lovell, 1905)	PacM	WIB	MonC	BorPl	–	TaiPl
Lasioglossum prasinogaster Gibbs, 2010	–	WIB	MonC	–	–	–
Lasioglossum pruinosum (Robertson, 1892)	PacM	WIB	MonC	–	–	–
Lasioglossum punctatoventre (Crawford, 1907)	–	WIB	–	–	–	–
Lasioglossum reasbeckae Gibbs, 2010	PacM	WIB	–	–	–	–
Lasioglossum ruidosense (Cockerell, 1897)	PacM	WIB	MonC	BorPl	BorC	TaiPl
Lasioglossum sagax (Sandhouse, 1924)	–	WIB	MonC	BorPl	–	–
Lasioglossum sandhousiellum Gibbs, 2010	PacM	WIB	–	–	–	–
Lasioglossum sedi (Sandhouse, 1924)	–	WIB	–	–	–	–
Lasioglossum subversans (Mitchell, 1960)	PacM	WIB	MonC	BorPl	–	–
Lasioglossum tenax (Sandhouse, 1924)	–	WIB	MonC	BorPl	BorC	TaiPl
Lasioglossum testaceum (Robertson, 1897)	–	WIB	–	–	–	–
Lasioglossum tuolumnense Gibbs, 2009	–	WIB	–	–	–	–
Lasioglossum yukonae Gibbs, 2010	PacM	–	–	–	BorC	–

Other records: *Lasioglossum atriventre* (Crawford) was declared *nomen dubium* by Gibbs (2010); the type locality is within British Columbia (Goldstream).

Subgenus *Evylaeus* Robertson, 1902						
†*Lasioglossum argemonis* (Cockerell, 1897)	PacM	WIB	–	–	–	–
Subgenus *Hemihalictus* Cockerell, 1897						
Lasioglossum diatretum (Vachal, 1904)	PacM	WIB	–	–	–	–
†*Lasioglossum glabriventre* (Crawford, 1907)	–	WIB	–	–	–	–
Lasioglossum inconditum (Cockerell, 1916)	PacM	WIB	MonC	BorPl	BorC	TaiPl
†*Lasioglossum kincaidii* (Cockerell, 1898)	–	WIB	–	–	–	–
Lasioglossum macoupinense (Robertson, 1895)	PacM	WIB	–	–	–	–
Lasioglossum ovaliceps (Cockerell, 1898)	PacM	WIB	–	–	–	–
Lasioglossum pectoraloides (Cockerell, 1895)	–	WIB	–	–	–	–
Subgenus *Lasioglossum* Curtis, 1833						
Lasioglossum anhypops McGinley, 1986	PacM	WIB	MonC	–	–	–
Lasioglossum athabascense (Sandhouse, 1933)	–	WIB	MonC	BorPl	–	TaiPl
Lasioglossum colatum (Vachal, 1904)	–	WIB	MonC	BorPl	–	–
Lasioglossum egregium (Vachal, 1904)	PacM	WIB	MonC	–	–	–
Lasioglossum mellipes (Crawford, 1907)	PacM	WIB	–	–	–	–
Lasioglossum olympiae (Cockerell, 1898)	PacM	–	–	–	–	–
Lasioglossum pacificum (Cockerell, 1898)	PacM	–	–	–	–	–
Lasioglossum sisymbrii (Cockerell, 1895)	PacM	WIB	MonC	–	–	–
Lasioglossum titusi (Crawford, 1902)	–	WIB	–	–	–	–
Lasioglossum trizonatum (Cresson, 1874)	–	WIB	MonC	–	–	–
Subgenus *Leuchalictus* Warncke, 1975						
Lasioglossum zonulum (Smith, 1848)	PacM	–	–	BorPl	–	–
Subgenus *Sphecodogastra* Ashmead, 1899						
Lasioglossum arctoum (Vachal, 1904)	–	–	MonC	–	–	–
Lasioglossum boreale Svensson, Ebmer & Sakagami, 1977	PacM	WIB	–	–	BorC	TaiPl
Lasioglossum comagenense (Knerer & Atwood, 1964)	–	–	MonC	–	BorC	–
Lasioglossum cooleyi (Crawford, 1906)	–	WIB	–	–	–	–
Lasioglossum cordleyi (Crawford, 1906)	PacM	–	–	–	–	–
Lasioglossum nigrum (Viereck, 1903)	PacM	–	–	–	–	–
Lasioglossum quebecense (Crawford, 1907)	PacM	–	MonC	–	–	–
Genus *Sphecodes* Latreille, 1804						

†*Sphecodes arvensiformis* Cockerell, 1904	PacM	WIB	–	–	–	–
**Sphecodes clematidis* Robertson, 1897	PacM	WIB	–	–	–	–
**Sphecodes pecosensis pecosensis* Cockerell, 1904	PacM	WIB	–	–	–	–
**Sphecodes prosphorus* Lovell & Cockerell, 1907	–	WIB	–	–	–	–
**Sphecodes solonis* Graenicher, 1911	–	WIB	–	–	–	TaiPl
FAMILY COLLETIDAE						
Subfamily Colletinae						
Tribe Colletini						
***Colletes* Latreille, 1802**						
Colletes compactus hesperius Swenk, 1906	–	WIB	–	–	–	–
Colletes consors pascoensis Cockerell, 1898	–	WIB	–	–	–	–
Colletes fulgidus fulgidus Swenk, 1904	PacM	WIB	MonC	–	–	–
Colletes gypsicolens Cockerell, 1897	–	WIB	–	–	–	–
Colletes hyalinus oregonensis Timberlake, 1951	–	WIB	–	–	–	–
Colletes impunctatus lacustris Swenk, 1906	–	WIB	–	BorPl	BorC	TaiPl
Colletes kincaidii Cockerell, 1898	PacM	WIB	MonC	–	–	–
Colletes mandibularis Smith, 1853	–	WIB	–	–	–	–
Colletes phaceliae Cockerell, 1906	–	WIB	–	–	BorC	–
Colletes simulans nevadensis Swenk, 1908	–	WIB	–	–	–	–
Colletes slevini Cockerell, 1925	–	WIB	–	–	–	–

Other records: As indicated by Stephen (1954), the record of *Colletes angelicus* Cockerell from British Columbia (Penticton, Walhachin) by Criddle *et al*. (1924) is likely based on a misidentification, so is not included here.
The same is likely also true for *C. gilensis* Cockerell, recorded by Gibson (1914) (Similkameen, Okanagan), because the species distribution also seems restricted to the southern United States.

Subfamily Hylaeinae						
***Hylaeus* Fabricius, 1793**						
Subgenus *Cephalylaeus* Michener, 1942						
Hylaeus basalis (Smith, 1853)	PacM	WIB	MonC	BorPl	–	TaiPl
Subgenus *Hylaeus* Fabricius, 1793						
Hylaeus annulatus (Linnaeus, 1758)	PacM	WIB	MonC	BorPl	BorC	TaiPl
Hylaeus leptocephalus (Morawitz, 1871)	–	WIB	–	–	–	–
Hylaeus mesillae (Cockerell, 1896)	–	WIB	–	–	–	–
Hylaeus rudbeckiae (Cockerell & Casad, 1895)	–	WIB	–	–	–	–
Hylaeus verticalis (Cresson, 1869)	–	WIB	–	BorPl	–	–

Species notes: Elwell (2012) recorded *H. rudbeckia* from the Western Interior Basin, but this was not indicated in the follow-up publication (Elwell *et al*. 2016). This species was also recorded on Discover Life (Ascher and Pickering 2018) from material in the AMNH [Cache Creek].

Subgenus *Paraprosopis* Popov, 1939						
Hylaeus coloradensis (Cockerell, 1896)	–	WIB	–	–	–	–

Hylaeus nevadensis (Cockerell, 1896)	–	WIB	–	–	–	–
Hylaeus wootoni (Cockerell, 1896)	–	WIB	–	–	–	–

Other records: Criddle *et al*. (1924) reported *H. cookii* (Metz) from British Columbia (Kaslo), but this was likely a misidentification; Snelling (1970) indicates that, until 1970, the species was known only from the type specimen (from New Mexico), and suggests that Metz's original description was not helpful for recognizing this species. Therefore, we do not include this species here.

Subgenus *Prosopis* Fabricius, 1804						
Hylaeus affinis (Smith, 1853)	–	WIB	MonC	–	–	–
Hylaeus episcopalis (Cockerell, 1896)	–	WIB	–	–	–	–
Hylaeus modestus citrinifrons (Cockerell, 1896)	PacM	WIB	MonC	–	–	–

Species notes: Gibson and Criddle (1920) recorded *H. modestus* Say from British Columbia (Kaslo), but here we assume it was the subspecies *H. modestus citrinifrons*.

FAMILY MEGACHILIDAE						
Subfamily Megachilinae						
Tribe Osmiini						
Genus *Ashmeadiella* Cockerell, 1897						
Subgenus *Ashmeadiella* Cockerell, 1897						
Ashmeadiella bucconis denticulata (Cresson, 1878)	–	WIB	–	–	–	–
Ashmeadiella cactorum cactorum (Cockerell, 1897)	–	WIB	–	–	–	–
Ashmeadiella californica californica (Ashmead, 1897)	–	WIB	–	–	–	–
Ashmeadiella cubiceps (Cresson, 1879)	–	WIB	–	–	–	–

Other records: Hurd and Michener (1955) showed a range map indicating that *Ashmeadiella* (*Argochila*) *foxiella* Michener was likely in British Columbia (Western Interior Basin), but no locality data were provided. Therefore, it is not included in the list above.

Genus *Atoposmia* Cockerell, 1935						
Subgenus *Atoposmia* Cockerell, 1935						
Atoposmia abjecta (Cresson, 1878)	–	–	MonC	–	–	–

Species notes: Hurd and Michener (1955) showed a range map indicating that *Atoposmia oregona* (Michener) was likely in southern British Columbia, but no locality data were provided. Therefore, it is not included in the list above.

Subgenus *Hexosmia* Michener, 1943						
Atoposmia copelandica copelandica (Cockerell, 1908)	–	WIB	–	–	–	–
Genus *Chelostoma* Latreille, 1809						
Subgenus *Foveosmia* Warncke, 1991						
Chelostoma minutum Crawford, 1916	–	WIB	–	–	–	–
Chelostoma phaceliae Michener, 1938	–	WIB	–	–	–	–
Genus *Heriades* Spinola, 1808						
Subgenus *Neotrypetes* Robertson, 1918						
Heriades carinata Cresson, 1864	–	WIB	–	–	–	–
Heriades cressoni Michener, 1938	–	WIB	–	–	–	–
Heriades variolosa variolosa (Cresson, 1872)	–	WIB	–	–	–	–

Genus *Hoplitis* Klug, 1807						
Subgenus *Alcidamea* Cresson, 1864						
Hoplitis albifrons albifrons (Kirby, 1837)	–	–	MonC	BorPl	BorC	TaiPl
Hoplitis albifrons argentifrons (Cresson, 1864)	PacM	WIB	MonC	–	–	–
Hoplitis fulgida fulgida (Cresson, 1864)	PacM	WIB	MonC	BorPl	–	–
Hoplitis grinnelli septentrionalis Michener, 1947	–	WIB	MonC	–	–	–
Hoplitis hypocrita (Cockerell, 1906)	PacM	WIB	MonC	–	–	–
Hoplitis louisae (Cockerell, 1934)	PacM	WIB	MonC	–	–	–
Hoplitis producta subgracilis Michener, 1947	PacM	WIB	MonC	–	–	–
Hoplitis sambuci Titus, 1904	PacM	WIB	MonC	–	–	–
Hoplitis spoliata (Provancher, 1888)	–	WIB	MonC	BorPl	–	TaiPl

Species notes: Michener (1947b) and Hurd and Michener (1955) indicate that *H. albifrons albifrons* occurrs across Canada, including in northern British Columbia, being replaced by *H. albifrons argentifrons* in the southern part of the province. Michener (1947a) indicates that separation of the subspecies (based on hair colour) in some areas would likely be difficult, but DNA barcoding suggests there is much variation within this species in the province (i.e., three clusters with no apparent geographic pattern) all sharing a single Barcode Index Number. Incidentally, there are three subspecies in North America (Michener 1947a, b; Hurd and Michener 1955; Rowe 2017).

Subgenus *Formicapis* Sladen, 1916						
Hoplitis robusta robusta (Nylander, 1848)	PacM	WIB	MonC	BorPl	BorC	TaiPl

Species notes: Michener (1938c) recorded this species from MonC (Field); Hurd (1979) recorded this Holarctic species from British Columbia, but no specific localities were provided. However, it is likely found in all ecozones in the province.

Genus *Osmia* Panzer, 1806						
Subgenus *Cephalosmia* Sladen, 1916						
Osmia californica Cresson, 1864	–	WIB	–	–	–	–
Osmia marginipennis Cresson, 1878	–	WIB	–	–	–	–
Osmia montana montana Cresson, 1864	–	WIB	MonC	–	–	–
Osmia subaustralis Cockerell, 1900	–	–	MonC	BorPl	–	–
Subgenus *Helicosmia* Thomson, 1872						
Osmia caerulescens caerulescens (Linnaeus, 1758)	PacM	WIB	MonC	–	–	–
Osmia coloradensis Cresson, 1878	–	WIB	MonC	–	–	–
Osmia texana Cresson, 1872	PacM	WIB	–	–	–	–
Subgenus *Melanosmia* Schmiedeknecht, 1885						
Osmia albolateralis Cockerell, 1906	PacM	WIB	MonC	–	–	–
**Osmia aquilonaria* Rightmyer, Griswold & Arduser, 2010	–	–	MonC	–	–	–
**Osmia atriventris* Cresson, 1864	–	–	MonC	–	–	–
Osmia atrocyanea Cockerell, 1897	–	WIB	–	–	–	–
Osmia austromaritima Michener, 1936	–	WIB	–	–	–	–

Osmia bella Cresson, 1878	PacM	WIB	MonC	–	–	–
Osmia brevis brevis Cresson, 1864	PacM	WIB	–	–	–	–
Osmia bruneri Cockerell, 1897	–	WIB	MonC	–	–	–
Osmia bucephala Cresson, 1864	PacM	WIB	MonC	BorPl	BorC	TaiPl
Osmia calla Cockerell, 1897	–	WIB	–	–	–	–
Osmia cobaltina Cresson, 1878	–	WIB	–	–	–	–
Osmia cyanella Cockerell, 1897	–	WIB	–	–	–	–
Osmia cyaneonitens Cockerell, 1906	–	WIB	–	–	–	–
Osmia densa densa Cresson, 1864	PacM	WIB	MonC	–	–	–
Osmia dolerosa Sandhouse, 1939	PacM	WIB	–	–	–	–
Osmia ednae Cockerell, 1907	–	WIB	–	–	–	–
Osmia enixa Sandhouse, 1924	–	WIB	–	–	–	–
Osmia exigua Cresson, 1878	–	WIB	–	–	–	–
Osmia giliarum Cockerell, 1906	–	WIB	MonC	–	–	–
Osmia inermis (Zetterstedt, 1838)	–	–	MonC	BorPl	BorC	TailPl
Osmia integra Cresson, 1878	–	WIB	MonC	–	–	TaiPl
Osmia inurbana Cresson, 1878	PacM	WIB	–	–	–	–
Osmia juxta juxta Cresson, 1864	–	WIB	MonC	–	–	–
Osmia juxta subpurpurea Cockerell, 1897	–	WIB	–	–	–	–
Osmia kincaidii Cockerell, 1897	PacM	WIB	MonC	–	–	–
†*Osmia laeta* Sandhouse, 1924	–	WIB	MonC	–	–	–
Osmia lignaria propinqua Cresson, 1864	PacM	WIB	MonC	–	–	–
Osmia longula Cresson, 1864	–	WIB	MonC	–	BorC	–
†*Osmia malina* Cockerell, 1909	–	WIB	–	–	–	–
Osmia melanopleura Cockerell, 1916	–	WIB	–	–	–	–
Osmia mertensiae Cockerell, 1907	PacM	WIB	–	–	–	–
Osmia nanula Cockerell, 1897	PacM	WIB	–	–	–	–
Osmia nemoris Sandhouse, 1924	–	WIB	–	–	–	–
Osmia nifoata Cockerell, 1909	–	WIB	–	–	–	–
Osmia nigrifrons Cresson, 1878	–	WIB	MonC	–	–	–
Osmia nigriventris (Zetterstedt, 1838)	PacM	WIB	MonC	BorPl	BorC	–
Osmia obliqua White, 1952	–	WIB	–	–	–	–
Osmia odontogaster Cockerell, 1897	–	WIB	MonC	–	–	–
**Osmia paradisica* Sandhouse, 1924	–	WIB	–	–	–	–
Osmia pentstemonis Cockerell, 1906	–	WIB	–	–	–	–
Osmia pikei Cockerell, 1907	–	WIB	–	–	–	–
Osmia proxima Cresson, 1864	PacM	WIB	MonC	BorPl	BorC	TaiPl
†*Osmia pulsatillae* Cockerell, 1907	–	WIB	MonC	–	–	–
Osmia pusilla Cresson, 1864 PacM	–	WIB	–	–	–	–
†*Osmia raritatis* Michener, 1957	–	WIB	–	–	–	–
Osmia regulina Cockerell, 1911	–	WIB	–	–	–	–
Osmia sedula Sandhouse, 1924	–	WIB	–	–	–	–
Osmia simillima Smith, 1853	–	WIB	MonC	BorPl	–	–
Osmia tersula Cockerell, 1912	–	–	MonC	BorPl	–	–
Osmia trevoris Cockerell, 1897	–	WIB	–	–	–	–
Osmia tristella tristella Cockerell, 1897	PacM	WIB	–	BorPl	–	–
Osmia unca Michener, 1937	–	WIB	–	–	–	–

Species notes: *Osmia mertensiae* Cockerell and *Osmia inurbana* Cresson (as *O. eutrichosa* Cockerell) were recorded from British Columbia by Sandhouse (1925b) so are listed here, but Hurd (1979) considers the species questionable from British Columbia.

Tribe Anthidiini
Genus *Anthidiellum* Cockerell, 1904
Subgenus *Loyolanthidium* Urban, 2001

Anthidiellum robertsoni	–	WIB	–	–	–	–

(Cockerell, 1904)

Species notes: Based on distinct differences in the cytochrome c oxidase I (COI) gene that resulted in two distinct Barcode Index Numbers (BINs) (see Sheffield *et al*. 2017), we agree with Urban (2001) and consider this a separate species from the eastern *A. notatum* (Latreille).

Genus *Anthidium* Fabricius, 1804
Subgenus *Anthidium* Fabricius, 1804

Anthidium atrifrons Cresson, 1868	–	WIB	–	–	–	–
Anthidium clypeodentatum Swenk, 1914	–	WIB	MonC	–	–	TaiPl
Anthidium emarginatum (Say, 1824)	–	WIB	MonC	–	–	–
†*Anthidium formosum* Cresson, 1878	–	WIB	–	–	–	–
Anthidium manicatum (Linnaeus, 1758)	PacM	–	MonC	–	–	–
Anthidium mormonum Cresson, 1878	–	WIB	MonC	–	–	–
Anthidium palliventre Cresson, 1878	–	–	MonC	–	–	–
Anthidium psoraleae Robertson, 1902	–	WIB	–	–	–	–
Anthidium tenuiflorae Cockerell, 1907	–	WIB	–	–	–	TaiPl
Anthidium utahense Swenk, 1914	–	WIB	MonC	–	–	–

Species notes: Although Michener (1951) and Hurd (1979) recorded *A. porterae* Cockerell from "BC" (no specific locality), we have found reference to this species in Canada only from Alberta (Calgary) by Cockerell (1912). Gonzalez and Griswold (2013) and Griswold *et al*. (2014) did not record this species from Canada in their revision and compilation of occurrence records for the genus in the Western Hemisphere, respectively.

Genus *Dianthidium* Cockerell, 1900
Subgenus *Dianthidium* Cockerell, 1900

Dianthidium curvatum sayi Cockerell, 1907	–	WIB	–	–	–	–
†*Dianthidium plenum plenum* Timberlake, 1943	–	WIB	–	–	–	–
Dianthidium pudicum pudicum (Cresson, 1879)	–	WIB	–	–	–	–
†*Dianthidium singulare* (Cresson, 1879)	–	WIB	–	–	–	–
Dianthidium subparvum Swenk, 1914	PacM	WIB	–	–	–	–
Dianthidium ulkei ulkei (Cresson, 1878)	–	WIB	–	–	–	–

Genus *Stelis* Panzer, 1806
Subgenus *Stelis* Panzer, 1806

†*Stelis ashmeadiellae* Timberlake, 1941	PacM	–	–	–	–	–
†*Stelis calliphorina* (Cockerell, 1911)	–	WIB	–	–	–	–
Stelis callura Cockerell, 1925	–	WIB	–	–	–	–
Stelis carnifex Cockerell, 1911	–	WIB	–	–	–	–
**Stelis coarctatus* Crawford, 1916	–	WIB	–	–	–	–
Stelis elegans Cresson, 1864	–	WIB	–	–	–	–
Stelis lateralis Cresson, 1864	PacM	–	–	–	–	–
Stelis maculata (Provancher, 1888)	PacM	–	–	–	–	–
Stelis montana Cresson, 1864	–	WIB	–	–	–	–
Stelis monticola Cresson, 1878	–	WIB	–	–	–	–
Stelis occidentalis Parker & Griswold, 2013	–	WIB	–	–	–	–
Stelis ricardonis (Cockerell, 1912)	PacM	WIB	–	–	–	–
Stelis rubi Cockerell, 1898	–	WIB	MonC	–	–	–

Tribe Dioxyini						
Genus *Dioxys* Lepeletier & Serville, 1825						
†*Dioxys pomonae pomonae* Cockerell, 1910	–	WIB	–	–	–	–

Species notes: This is the first record of this species from Canada; however, Sheffield *et al*. (2017) recorded this genus (this species, based on this single barcoded specimen) from British Columbia, Canada.

Tribe Megachilini						
Genus *Coelioxys* Latreille, 1809						
Subgenus *Boreocoelioxys* Mitchell, 1973						
Coelioxys banksi Crawford, 1914	PacM	WIB	MonC	–	–	–
Coelioxys funeraria Smith, 1854	PacM	WIB	–	BorPl	BorC	TailPl
Coelioxys moesta Cresson, 1864	PacM	WIB	MonC	BorPl	BorC	TaiPl
Coelioxys novomexicana Cockerell, 1909	–	WIB	–	–	–	–
Coelioxys octodentata Say, 1824	–	WIB	MonC	–	–	–
Coelioxys porterae Cockerell, 1900	PacM	WIB	MonC	BorPl	–	–
Coelioxys rufitarsis Smith, 1854	PacM	WIB	MonC	–	–	TaiPl
Coelioxys sayi Robertson, 1897	–	WIB	–	–	–	–
Subgenus *Coelioxys* Latreille, 1809						
Coelioxys hirsutissima Cockerell, 1912	–	WIB	–	–	–	–
Coelioxys sodalis Cresson, 1878	PacM	WIB	MonC	–	BorC	TaiPl
Subgenus *Cyrtocoelioxys* Mitchell, 1973						
Coelioxys deani Cockerell, 1909	–	WIB	–	–	–	–
Subgenus *Synocoelioxys* Mitchell, 1973						
Coelioxys alternata Say, 1837	PacM	WIB	MonC	–	–	–
Coelioxys apacheorum Cockerell, 1900	PacM	WIB	–	–	–	–
Coelioxys erysimi Cockerell, 1912	–	WIB	MonC	–	–	–
Subgenus *Xerocoelioxys* Mitchell, 1973						
Coelioxys edita Cresson, 1872	–	WIB	–	–	–	–
Coelioxys grindeliae Cockerell, 1900	PacM	WIB	–	–	–	–
Genus *Megachile* Latreille, 1802						
Subgenus *Argyropile* Mitchell, 1934						
Megachile parallela Smith, 1853	PacM	WIB	MonC	–	–	–
Subgenus *Chelostomoides* Robertson, 1901						
Megachile angelarum Cockerell, 1902	PacM	WIB	–	–	–	–

Species notes: Although *Megachile* (*Chelostomoides*) *subexilis* Cockerell was recorded from British Columbia (Kaslo, Penticton) by Gibson (1917), it is likely that this is based on misidentified specimens. Gibson (1917) reported this species in both Ontario and British Columbia, but he likely confused it with *M. campanulae* (Robertson) and *M. angelicus* found in each of those provinces, respectively (see Sheffield *et al*. 2011). Interestingly, Criddle *et al*. (1924) also record it from Alberta, Saskatchewan, Manitoba, and Fort Norman (Northwest Territories), supporting that these records were misidentified.

Subgenus *Eutricharaea* Thomson, 1872						
Megachile apicalis Spinola, 1808	PacM	WIB	–	–	–	–

Megachile rotundata (Fabricius, 1793)	PacM	WIB	–	–	–	–
Subgenus *Litomegachile* Mitchell, 1934						
Megachile brevis Say, 1837	–	WIB	–	–	–	–
Megachile cleomis Cockerell, 1900	–	WIB	–	–	–	–
Megachile coquilletti Cockerell, 1915	–	WIB	–	–	–	–
Megachle gentilis Cresson, 1872	PacM	WIB	–	–	–	–
Megacile lippiae Cockerell, 1900	–	WIB	–	–	–	–
Megachle mendica Cresson, 1878	–	WIB	–	–	–	–
Megachile onobrychidis Cockerell, 1908	–	WIB	–	–	–	–
Megachile snowi Mitchell, 1927	–	WIB	–	–	–	–
Megachile texana Cresson, 1878	PacM	WIB	–	–	–	–
Subgenus *Megachile* Latreille, 1802						
Megachile centuncularis (Linnaeus, 1758)	PacM	WIB	MonC	–	–	–
Megachile inermis Provancher, 1888	–	WIB	MonC	BorPl	–	–
Megachile lapponica Thomson, 1872	PacM	–	MonC	BorPl	BorC	TaiPl
Megachile montivaga Cresson, 1878	PacM	WIB	MonC	–	–	–
Megachile relativa Cresson, 1878	PacM	WIB	MonC	BorPl	BorC	TaiPl
Subgenus *Megachiloides* Mitchell, 1924						
Megachile subnigra Cresson, 1879	–	WIB	–	–	–	–
Megachile umatillensis (Mitchell, 1927)	–	WIB	–	–	–	–
Megachine wheeleri Mitchell, 1927	–	WIB	–	–	–	–
Subgenus *Sayapis* Titus, 1906						
Megachile fidelis Cresson, 1878	PacM	WIB	–	–	–	–
Megachile mellitarsis Cresson, 1878	–	WIB	–	–	–	–
†*Megachile pugnata pomonae* Cockerell, 1916	–	WIB	–	–	–	–
Megachile pugnata pugnata Say, 1837	PacM	WIB	MonC	BorPl	–	TaiPl
Subgenus *Xanthosarus* Robertson, 1903						
Megachile circumcincta (Kirby, 1802)	–	WIB	MonC	BorPl	BorC	TaiPl
Megachile frigida Smith, 1853	PacM	WIB	MonC	BorPl	BorC	TaiPl
Megachile gemula Cresson, 1878	PacM	WIB	MonC	BorPl	–	TaiPl
Megachile melanophaea Smith, 1853	PacM	WIB	MonC	BorPl	BorC	TaiPl
Megachile perihirta Cockerell, 1898	PacM	WIB	MonC	BorPl	BorC	TaiPl

Subgenera not confirmed in British Columbia: Criddle *et al*. (1924) recorded *Megachile* (*Pseudocentron*) *pruina* Smith from western Canada (including Summerland, British Columbia), but this subgenus has not been recorded in Canada (Sheffield *et al*. 2011). It is suspected these records are misidentified specimens of *M. parallela* Smith.

FAMILY APIDAE
Subfamily Xylocopinae
Tribe Ceratinini
Genus *Ceratina* Latreille, 1802
Subgenus *Zadontomerus* Ashmead, 1899

Ceratina acantha Provancher, 1895	PacM	WIB	MonC	–	–	–
Ceratina nanula Cockerell, 1897	PacM	WIB	MonC	–	–	–
Ceratina pacifica Smith, 1907	PacM	WIB	–	–	–	–

Subfamily Nomadinae
Tribe Nomadini

Genus *Nomada* Scopoli, 1770						
Nomada aldrichi Cockerell, 1910	–	WIB	–	–	–	–
Nomada articulata Smith, 1854	–	–	MonC	–	–	–
Nomada bella Cresson, 1863	PacM	WIB	MonC	–	–	–
Nomada citrina Cresson, 1878	PacM	–	–	–	–	–
Nomada civilis Cresson, 1878	–	WIB	–	–	–	–
Nomada corvallisensis Cockerell, 1903	–	WIB	–	–	–	–
†*Nomada crotchii* Cresson, 1878	PacM	WIB	–	–	–	–
Nomada edwardsii Cresson, 1878	PacM	WIB	–	–	–	–
Nomada grayi Cockerell, 1903	PacM	–	–	–	–	–
Nomada pascoensis Cockerell, 1903	–	WIB	–	–	–	–
Nomada perbella (Viereck, 1905)	PacM	–	–	–	–	–
Nomada rhodomelas Cockerell, 1903	PacM	–	–	–	–	–
Nomada sayi Robertson, 1893	–	WIB	–	–	–	–
Nomada scita Cresson, 1878	–	WIB	–	–	–	–
Nomada superba Cresson, 1863	PacM	–	MonC	–	–	–
**Nomada texana* Cresson, 1872	–	WIB	–	–	–	–
Nomada ultima Cockerell, 1903	PacM	–	–	–	–	–
Nomada valida Smith, 1854	–	WIB	–	–	–	–
Nomada vernonensis Cockerell, 1916	–	WIB	–	–	–	–

Species notes: *Nomada proxima* Cresson was recorded from British Columbia (Vernon) by Viereck (1926), but that species is known only from type material from Maine. We presume Viereck's record to be misidentified.

Mitchell (1962) and Hurd (1979) recorded *Nomada valida* Smith from British Columbia, but provided no specific localities. However, *N. nigrocincta* Smith, recorded from Penticton by Criddle *et al*. (1924), is considered an unpublished synonymy of *N. valida* (opinion of Snelling, as cited by Ascher and Pickering 2018).

Tribe Epeolini						
Genus *Epeolus* Latreille, 1802						
Epeolus americanus (Cresson, 1878)	–	WIB	MonC	–	–	–
Epeolus compactus Cresson, 1878	–	WIB	MonC	–	–	–
Epeolus minimus (Robertson, 1902)	PacM	WIB	MonC	–	BorC	–
Epeolus olympiellus Cockerell, 1904	PacM	WIB	–	–	–	–
Genus *Triepeolus* Robertson, 1901						
Triepeolus occidentalis (Cresson, 1878)	–	WIB	–	–	–	–
Triepeolus paenepectoralis Viereck, 1905	PacM	–	–	–	–	–
Triepeolus subalpinus Cockerell, 1910	–	WIB	–	–	–	–
Triepeolus texanus (Cresson, 1878)	–	WIB	–	–	–	–
Tribe Biastini						
Genus *Neopasites* Ashmead, 1898						
Neopasites aff. *fulviventris* (Cresson, 1878)	–	WIB	–	–	–	–
Tribe Emphorini						
Genus *Diadasia* Patton, 1879						
**Diadasia australis* (Cresson, 1878)	–	WIB	MonC	–	–	–
Diadasia diminuta (Cresson, 1878)	–	WIB	MonC	–	–	–
Tribe Eucerini						
Genus *Eucera* Scopoli, 1770						
Subgenus *Synhalonia* Patton, 1879						
Eucera acerba (Cresson, 1879)	–	WIB	–	–	–	–

Eucera actuosa (Cresson, 1878)	PacM	WIB	–	–	–	–
Eucera cordleyi (Viereck, 1905)	–	WIB	–	–	–	–
Eucera douglasiana (Cockerell, 1906)	–	WIB	–	–	–	–
Eucera edwardsii (Cresson, 1878)	–	WIB	–	–	–	–
Eucera frater lata (Provancher, 1888)	PacM	–	–	–	–	–
Eucera fulvitarsis fulvitarsis (Cresson, 1878)	–	WIB	–	–	–	–
Eucera hirsutissima (Cockerell, 1916)	PacM	–	–	–	–	–
Eucera hurdi (Timberlake, 1969)	–	–	–	–	–	–
Eucera virgata (Cockerell, 1905)	–	WIB	–	–	–	–

Species notes: *Eucera hirsutissima* (Cockerell) was recorded from "British Columbia" by Cockerell (1916b), Gibson (1918), and Hurd (1979) though no specific localities were provided. He (Cockerell 1916b) indicated that a second label, "Toba" was on the type specimen at the British Museum, suggesting Toba Inlet on Powell River. Thus, we include the PacM in the list above. Similarly, *E. hurdi* was recorded from the province by Hurd (1979), but no other literature records are known. Thus, we do not specify ecozone information for this species.

Genus *Melissodes* Latreille, 1825						
Subgenus *Eumelissodes* LaBerge, 1956						
Melissodes agilis Cresson, 1878	–	–	MonC	–	–	–
Melissodes bimatris LaBerge, 1961	–	WIB	–	–	–	–
Melissodes lutulentus LaBerge, 1961	–	WIB	–	–	–	–
Melissodes menuachus Cresson, 1868	–	WIB	–	–	–	–
Melissodes microstictus Cockerell, 1905	PacM	WIB	–	–	–	–
Melissodes pallidisignatus Cockerell, 1905	–	WIB	–	–	–	–
†*Melissodes saponellus* Cockerell, 1908	–	WIB	–	–	–	–
Melissodes semilupinus Cockerell, 1905	–	WIB	–	–	–	–

Species notes: Although Michener (1951e) recorded *Melissodes illatus* Lovell and Cockerell from the province, no additional information was provded. However, LaBerge (1961) did not record it from British Columbia in his revision, so it is not included here.

Subgenus *Heliomelissodes* LaBerge, 1956						
Melissodes rivalis Cresson, 1872	–	WIB	–	–	–	–
Subgenus *Melissodes* Latreille, 1825						
Melissodes communis alopex Cockerell, 1928	–	WIB	–	–	–	–
Tribe Anthophorini						
Genus *Anthophora* Latreille, 1803						
Subgenus *Clisodon* Patton, 1879						
Anthophora terminalis Cresson, 1869	PacM	WIB	MonC	BorPl	BorC	TaiPl
Subgenus *Lophanthophora* Brooks, 1988						
Anthophora pacifica Cresson, 1878	–	WIB	–	–	–	–
Anthophora porterae Cockerell, 1900	PacM	WIB	–	–	–	–
Anthophora ursina Cresson, 1869	–	WIB	MonC	–	–	–
Subgenus *Melea* Sandhouse, 1943						
Anthophora bomboides Kirby, 1838	PacM	WIB	MonC	BorPl	BorC	TaiPl
Anthophora occidentalis Cresson, 1869	PacM	WIB	–	–	–	–

Subgenus *Micranthophora* Cockerell, 1906						
Anthophora peritomae Cockerell, 1905	–	WIB	–	–	–	–
Subgenus *Mystacanthophora* Brooks, 1988						
**Anthophora urbana* Cresson, 1878	PacM	WIB	–	–	–	–
Subgenus *Pyganthophora* Brooks, 1988						
Anthophora crotchii Cresson, 1878	–	WIB	–	–	–	–
Anthophora edwardsii Cresson, 1878	–	WIB	MonC	–	–	–
Genus *Habropoda* Smith, 1854						
Habropoda cineraria (Smith, 1879)	PacM	WIB	–	–	–	–
†*Habropoda miserabilis* (Cresson, 1878)	PacM	–	–	–	–	–
Habropoda murihirta (Cockerell, 1905)	–	WIB	–	–	–	–

Species notes: Stainer (1959) and Hurd (1979, likely based on Stainer's publication) recorded *Habropoda murihirta* (Cockerell) from British Columbia, likely Okanagan Mission. We have not been able to locate this material (17 specimens) in the CNC and, although we assume that these were likely specimens of *H. cineraria*, we leave it in the list.

Tribe Melectini						
Genus *Melecta* Latreille, 1802						
Subgenus *Melecta* Latreille, 1802						
Melecta pacifica fulvida Cresson, 1878	PacM	WIB	MonC	–	–	–
Melecta pacifica pacifica Cresson, 1878	PacM	WIB	–	–	–	–
Melecta separata callura (Cockerell, 1926)	–	WIB	–	–	–	–
Melecta thoracica Cresson, 1875	–	WIB	MonC	–	–	–
Genus *Xeromelecta* Linsley, 1939						
Subgenus *Melectomorpha* Linsley, 1939						
Xeromelecta californica (Cresson, 1878)	–	WIB	–	–	–	–
Tribe Bombini						
Genus *Bombus* Latreille, 1802						
Subgenus *Alpinobombus* Skorikov, 1914						
Bombus kirbiellus Curtis, 1835	–	–	MonC	BorPl	BorC	TaiPl
Bombus neoboreus Sladen, 1919	PacM	–	MonC	–	BorC	TaiPl
Bombus polaris Curtis, 1835	–	–	MonC	–	BorC	TalPl

Species notes: Although *B. natvigi* Richards (= North American *B. hyperboreus* Schönherr) was listed from "British Columbia" by Cannings (2011), no records were recorded by Williams *et al*. (2014; as *B. hyperboreus*). Although it is likely that this species does occur at high elevations and/or latitudes in the province, we have not yet found any records supporting this, so we do not include it here.

Subgenus *Bombias* Robertson, 1903						
Bombus nevadensis Cresson, 1874	PacM	WIB	MonC	BorPl	BorC	–
Subgenus *Bombus* Latreille, 1802						
Bombus cryptarum (Fabricius, 1775)	–	WIB	MonC	BorPl	BorC	TaiPl
Bombus occidentalis mckayi Ashmead, 1902	–	–	–	–	BorC	–

Bombus occidentalis occidentalis Greene, 1858	PacM	WIB	MonC	BorPl	BorC	TaiPl	
Bombus terricola Kirby, 1837	–	WIB	MonC	BorPl	BorC	TaiPl	
Subgenus *Cullumanobombus* Vogt, 1911							
Bombus griseocollis (DeGeer, 1773)	–	WIB	–	–	–	–	
Bombus morrisoni Cresson, 1878	PacM	WIB	–	–	–	–	
Bombus rufocinctus Cresson, 1863	PacM	WIB	MonC	BorPl	–	–	
Subgenus *Psithyrus* Lepeletier, 1833							
Bombus bohemicus (Seidl, 1837)	–	WIB	MonC	–	BorC	TaiPl	
Bombus flavidus Eversmann, 1852	PacM	WIB	MonC	BorPl	BorC	TaiPl	
Bombus insularis (Smith, 1861)	PacM	WIB	MonC	BorPl	BorC	TaiPl	
Bombus suckleyi Greene, 1860	PacM	WIB	MonC	BorPl	BorC	TaiPl	
Subgenus *Pyrobombus* Dalla Torre, 1880							
Bombus bifarius Cresson, 1878	PacM	WIB	MonC	BorPl	BorC	TaiPl	
Bombus caliginosus (Frison, 1927)	PacM	–	–	–	–	–	
Bombus centralis Cresson, 1864	PacM	WIB	MonC	BorPl	BorC	–	
Bombus flavifrons Cresson, 1863	PacM	WIB	MonC	BorPl	BorC	TaiPl	
Bombus frigidus Smith, 1854	–	–	MonC	BorPl	BorC	TaiPl	
Bombus huntii Greene, 1860	–	WIB	MonC	BorPl	–	–	
Bombus impatiens Cresson, 1863	PacM	–	–	–	–		–
Bombus jonellus (Kirby, 1802)	–	–	MonC	–	BorC	TaiPl	
Bombus melanopygus Nylander, 1848	PacM	WIB	MonC	BorPl	BorC	TaiPl	
Bombus mixtus Cresson, 1878	PacM	WIB	MonC	BorPl	BorC	TaiPl	
Bombus perplexus Cresson, 1863	PacM	WIB	–	BorPl	BorC	–	
Bombus sitkensis Nylander, 1848	PacM	WIB	MonC	BorPl	BorC	TaiPl	
Bombus sylvicola Kirby, 1837	PacM	WIB	MonC	BorPl	BorC	TaiPl	
Bombus ternarius Say, 1837	–	–	MonC	BorPl	–	–	
Bombus vagans vagans Smith, 1854	–	WIB	–	–	–	–	
Bombus vandykei (Frison, 1927)	–	WIB	MonC	–	–	–	
Bombus vosnesenskii Radoszkowski, 1862	PacM	WIB	MonC	–	–	–	

Species notes: *Bombus impatiens* was first recorded as an established species in British Columbia by Ratti and Colla (2010; but see Ratti 2006), but it has been used as a commercial pollinator in the province for much longer (see Van Westendorp and McCutcheon 2001).
Although *B. sandersoni* Franklin was recorded from British Columbia by Williams *et al*. (2014), it is likely that this specimen is misidentified, and is thus removed from the provincial list until it can be confirmed.

Subgenus *Subterraneobombus* Vogt, 1911						
Bombus appositus Cresson, 1878	PacM	WIB	MonC	–	–	–
Bombus borealis Kirby, 1837	–	–	–	BorPl	–	TaiPl
Subgenus *Thoracobombus* Dalla Torre, 1880						
Bombus fervidus (Fabricius, 1798)	PacM	WIB	MonC	BorPl	BorC	–

Other records: Venables (1914) recorded *Bombus pensylvanicus* (De Geer) from British Columbia, but it is likely that these specimen(s) were of the dark form of *B. nevadensis* or possibly *B. terricola* (see Williams *et al*. 2014). Earlier authors (e.g., Viereck *et al.* 1904a) considered this name synonymous with *B. fervidus*. During research for a recent Committee on the Status of Endangered Wildlife in Canada (COSEWIC) assessment of *B. pensylvanicus* in Canada, all records from west of southern Ontario in Canada were found to be misidentified (C.S.S., unpublished). Stephen (1957) did not record *B. pensylvanicus* (as *B. sonorus* Say) from British Columbia. Similarly, Buckell [1951; and later Hurd (1979) and Cannings (2011)] recorded *Bombus auricomus* Robertson from British Columbia (Centurian, and Departure Bay [Vancouver Island]), but it is

likely that these specimens and possibly other specimens of this species recorded from western Canada are the dark form of *B. nevadensis*.

Tribe Apini
Genus *Apis* Linnaeus, 1758
Subgenus *Apis* Linnaeus, 1758
Apis mellifera Linnaeus, 1758 PacM WIB MonC BorPl BorC –

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