

# Checklist of the Spheciform Wasps (Hymenoptera: Crabronidae & Sphecidae) of British Columbia

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## ABSTRACT

An annotated checklist of wasps in the families Crabronidae and Sphecidae is compiled for British Columbia, resulting in a total of 280 species, 70 of which are new to the province. In addition, 42 of the species reported here are new records for Canada, two species may be potentially new to science, and the European species *Ectemnius cephalotes* (Olivier) is recorded for the first time from western Canada. This study was done primarily through examination of museum holdings and a thorough review of existing literature. All available resources necessary for the identification of British Columbian taxa are cited. Intraprovincial distributions by ecoregions are presented for each species.

**Key Words:** Crabronidae, Sphecidae, Checklist, British Columbia

## INTRODUCTION

The four currently recognized (i.e., Pulawski 2015) hymenopteran families of sphecoid wasps, Heterogynaidae, Ampulicidae, Sphecidae and Crabronidae, have, at different points in the past century, been treated as one family (e.g., Bohart and Menke 1976), as well as several families (Finnamore in Goulet and Huber 1993). Collectively, these families form the group known as the “spheciform”, “sphecoid”, or “apoid” wasps (Apoidea, Spheciformes); the historic Sphecoidea. Three of these families are found in North America, including parts of Canada, and two, Crabronidae and Sphecidae, occur in British Columbia.

The spheciform wasps have, historically, been poorly studied in British Columbia. In 1948, Spencer and Wellington published “A preliminary list of the Sphecinae of British Columbia”, the only provincial list of spheciform wasp species ever assembled. However, other provincial studies of insect fauna have included localized lists of spheciform wasps, but have almost exclusively been limited to the south Okanagan region of the province (Blades and Maier 1992; Scudder 1994). Buck’s 2004 checklist of Ontario spheciform wasps contains presence–absence data for some species in British Columbia, including multiple new records for the province. That said, there have been several notable contributions to the study of these wasps that have relevance to British Columbia. Valid name-bearing type specimens have been designated from British Columbia for ten species, consisting of six holotypes, two sets of syntypes, and two lectotypes. Paratypes for three valid species have also been designated from British Columbia. In addition, three holotypes and one set of syntypes for species that have since been synonymized are designated from British Columbia. The holotype for the species *Gorytes provancheri* (Handlirsch) was originally described in 1888 as *Gorytes laticinctus* by Provancher, which was a junior homonym of the European species *G. laticinctus* (Lepeletier 1832). Handlirsch redescribed the species in 1895, translating Provancher’s original description and naming it after the entomologist, before the type specimen was reported lost by Gahan and Rohwer (1917).

The size of spheciform wasps varies, ranging in British Columbia from 2 mm (*Ammoplanus* & *Parammoplanus*) to 30 mm (*Ammophila* & *Sphex*). Tremendous morphological variation in spheciform wasps exists at all taxonomic levels, and general characteristics are limited. A few useful family-level characteristics are the presence of lobes protruding posteriorly from the pronotum, having a pronotal collar with the posterior edge almost straight, and unbranched

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thoracic hairs. Members of the Family Sphecidae can usually be separated from other spheciforms by the presence of a petiole at the base of the abdomen consisting of only a sternal segment.

This checklist aims to provide a resource for future studies on spheciform wasps in British Columbia. It is hoped a provincial inventory will allow for easier identification of specimens and provide background information for environmental studies.

## MATERIALS AND METHODS

The taxonomic classification followed for this checklist is Pulawski's (2015) Catalog of Sphecidae *sensu lato*.

Specimens examined and identified were from the following collections: Spencer Entomological Museum at the University of British Columbia (SEM), in Vancouver, BC, the Royal British Columbia Museum (RBCM), in Victoria, BC, the University of Northern British Columbia (UNBC), in Prince George, BC, the Canadian National Collection of Insects, Arachnids, and Nematodes (CNC), in Ottawa, ON, and the author's personal collection (CGR). In addition, electronic specimen records of spheciform wasps from British Columbia were received from Andrew Bennett at the CNC and Matthias Buck at the Royal Alberta Museum (PMAE). Krombein (1979) provided provincial records that served as a starting point for assembling the preliminary species list. Identification to the family level was facilitated using the book "Hymenoptera of the World" by Goulet and Huber (1993). Many of the families listed in A.T. Finnamore's "Series Spheciformes" section (1993) are currently subfamilies of Crabronidae, further aiding in identification. Identification to genus level followed Bohart and Menke (1976). Species identifications were done using primary literature whenever possible, including original species descriptions when necessary.

Only species with explicit records from British Columbia were included in this checklist (based on literature records or examination of actual specimens). A species was considered new to the province when no published record of that species from a locality in British Columbia was present in the literature. Species with published ranges such as "Transcontinental in Transition and Upper Austral Zones" (Krombein 1979) were included only when explicit specimen records were seen. Two doubtful species records were excluded from the list and are addressed after the checklist. Standard Canada Post and USPS abbreviations of provinces and territories in Canada and states in the United States are used in describing previously recorded distributions of newly recorded species.

Locality information from physical specimens, data provided by the aforementioned collections for material that was not examined, and literature records were used to assess the geographic distribution of the species within the province. Distributions were classified into ecoprovinces according to the ten terrestrial ecoprovinces represented in British Columbia (Demarchi 2011). The number of species recorded from each ecoprovince was totalled, and species distributions according to ecoprovince were compiled.

## RESULTS AND DISCUSSION

As recognized here, there are nine subfamilies of spheciform wasps in British Columbia, represented by 64 genera and 280 species. The majority of these are Crabronidae, with 241 species in 55 genera and five subfamilies. Sphecidae is represented by four subfamilies, with 39 species in nine genera. There are 70 species (25.0%) newly recorded for British Columbia, 42 of which (15.0%) are also new to Canada. Two species potentially new to science were also identified, one in the genus *Miscophus* and the other in the genus *Nysson*; these will require further examination.

The total number of wasps from both families is summarized by ecoprovince in Figure 1. Lower numbers of species in the northern ecoprovinces, specifically the Southern Boreal Interior, are likely due to cooler climates, unsuitable for many species, and sampling bias towards more populated areas in the south.

The following descriptions are general summaries for each of the subfamilies and include nesting habits and provisioning information.

**The Subfamilies of Crabronidae**

**Astatinae**

Three genera and 16 species of astatine wasps are found in British Columbia. All species of *Astata*, *Diploplectron*, and *Dryudella* are groundnesting and provision their nests with heteropterans (Bohart and Menke 1976). Males of *Astata* and *Dryudella* possess holoptic eyes and are often seen perching on sticks or rocks. They have been observed making rapid flights around the immediate area and returning to the same spot facing the opposite direction (Parker 1962, 1969).

**Bembicinae**

Nineteen genera and 47 species of bembicine wasps are found in British Columbia. All species are groundnesting and most prefer habitats with sand or sandy soil, hence the common name of “sand wasps”. Four genera, *Bembix*, *Microbembex*, *Steniolia* and *Stictiella*, have been recorded nesting in aggregations (Bohart and Horning, Jr. 1971; Bohart and Gillaspay 1985). Aggregations of nesting *Bembix americana* Fabricius are often seen in the summer on hot sandy paths throughout the southern half of British Columbia. Most species provision their nests with Hemiptera (Auchenorrhyncha), with the exception of *Bembix*, *Glenostictia* and *Stenolia* (dipterans), *Stictiella* (lepidopterans), *Microbembex* (dead or dying arthropods), and *Epinysson*, *Hyponysson*, *Nysson*, *Stizoides* and *Zanysson* (cleptoparasites of other spheciform wasps, usually focusing on a single genus) (Bohart and Horning, Jr. 1971; Bohart and Menke 1976; Bohart and Gillaspay 1985).



**Figure 1.** Summarized distributions of wasps in the families Crabronidae and Sphecidae, by ecoregion in British Columbia.  
 C = species in Crabronidae, S = species in Sphecidae

### Crabroninae

The crabronine wasps are the most speciose and diverse subfamily in the province, with 17 genera and 95 species recorded. Most species are groundnesting (members of this subfamily are what are usually referred to as “digger wasps”) but some, e.g., members of the genera *Rhopalum* and *Solierella*, utilize existing cavities, such as holes in wood, stems or abandoned nests of other organisms (Bohart and Menke 1976). When provisioning their nest, each genus tends to have a preferred prey, but the variation between the genera is great. Twelve insect orders, primarily Diptera, Orthoptera and Hemiptera, as well as the arachnid order Araneae, have been recorded from the nests of Crabronine wasps (Williams 1960; Bohart 1976; Bohart and Menke 1976; Pulawski 1988). Members of the genus *Miscophus* are unusual in that they walk on the ground, resembling ants, while searching for prey; this mimicry provides them with protection from predators (Bohart and Menke 1976).

### Pemphredoninae

Eleven genera and 55 species of this often-cryptic subfamily are recorded from British Columbia. Only nests of three genera, *Diodontus*, *Mimesa* and *Pulverro*, have been located exclusively in the ground (Bohart and Menke 1976; Finnamore 1983; Eighme 1989). All other genera have been found to nest primarily in holes in wood or in stems of plants. Thysanoptera and small Hemiptera (Auchenorrhyncha) are used exclusively to provision their nests. Four genera, *Diodontus*, *Passaloecus*, *Pemphredon* and *Stigmus*, prey exclusively on Aphididae (Bohart and Menke 1976; Eighme 1989). Many species in the subfamily are not commonly encountered, because of their small size. The genera *Ammoplanus* and *Parammoplanus* contain the smallest spheciform wasps in the province (~2mm). Their members, as well as those in *Pulverro*, *Spilomena* and *Stigmus*, are seldom over 5 mm in length and therefore rarely seen (Smith 2008).

### Philanthinae

Five genera and 28 species of philanthine wasps are recorded from British Columbia. All species nest in the ground, and nest provisions for each genus are exclusively selected from a specific group of insects. *Aphilanthops* use winged ant queens of the genus *Formica*, *Cerceris* use adult Coleoptera primarily from the families Curculionidae and Buprestidae, *Clypeadon* exclusively use workers of the ant genus *Pogonomyrmex*, *Eucerceris* use adult Curculionidae, and *Philanthus* use a wide variety of bees as well as some wasps (Bohart and Grissell 1975).

### The Subfamilies of Sphecidae

#### Ammophilinae

Two genera and 27 species are recorded from British Columbia. Species in the genus *Ammophila* provision their nest with the larvae of Lepidoptera and Hymenoptera (Symphyta), while species in the genus *Podalonia* primarily use larvae of the moth family Noctuidae. Females of *Podalonia* search on the ground for subterranean larvae, excavating those they find (Bohart and Menke 1976).

#### Chloriontinae

A single species, *Chlorion aerarium* Patton, has been newly recorded from the Okanagan–Similkameen region of British Columbia. This is a large metallic blue–green wasp that nests in the ground. They provision their nests with orthopterans primarily from the family Gryllidae, earning them the common name of “Steel-Blue Cricket Hunter” (Bohart and Menke 1976).

#### Sceliphrinae

Two genera, each with a single species, are recorded from British Columbia. The most common species, *Sceliphron caementarium* (Drury)—often known as a “mud-dauber”—is a medium-sized black and yellow wasp that constructs free nests out of mud. The second species, *Chalybion californicum* (de Saussure), is a similar-sized, metallic-blue wasp that nests in existing cavities, such as holes in wood or abandoned nests of other mud-daubers. Both species provision their nests with Araneae (Bohart and Menke 1976).

## Spheciniae

Four genera and 9 species are recorded from British Columbia. Species in the genera *Palmodes*, *Prionyx*, and *Sphex* are groundnesting, while *Isodontia elegans* (Smith), the only representative of that genus in the province, nests in existing cavities. All species provision their nests with orthopterans, with *Isodontia* and *Sphex* almost exclusively using Gryllidae and Tettigoniidae, *Palmodes* exclusively using Tettigoniidae and Prothalangopsidae, and *Prionyx* exclusively using Acrididae (Bohart and Menke 1976).

## Species Checklist

The following annotated checklist contains all of the species of Crabronidae and Sphecinidae currently recorded from British Columbia. The “BC Reference” column contains any previously published reference to a British Columbian locality for that species. Species newly recorded by the author are noted. Species newly recorded by Matthias Buck, who has kindly allowed the author to present those findings here, are denoted by the symbol “\*”. The symbol “†” denotes non-native species introduced to the province. Intraprovincial distributions according to ecoprovinces are listed for each species. The ecoprovinces included are the Georgia Depression (GD), Southern Interior (SI), Southern Interior Mountains (SIM), Coast and Mountains (CM), Central Interior (CI), Southern Boreal Interior (SBI), Northern Boreal Mountains (NBM), Boreal Plains (BP), and Taiga Plains (TP). No spheciform wasps have been recorded from the Southern Alaska Mountains ecoprovince, and therefore it was not included in the table. Species with distributions shown as “-” were recorded only as present in British Columbia by Krombein (1979) and only have “BC” listed as a location. Species-specific distribution information for newly recorded species is found in the New Records section following the checklist. Any other symbols refer to notes located at the end of the checklist. A version of this checklist is present on the E-Fauna BC website ([www.efauna.bc.ca](http://www.efauna.bc.ca)).

**Table 1**

An annotated checklist of all spheciform wasps recorded from British Columbia with intraprovincial distributions for each species.

Species Name	BC Reference	GD	SI	SIM	CM	CI	SBI	NBM	BP	TP
<b>Crabronidae: Astaninae</b>										
<i>Astata bakeri</i> Parker	Parker (1962); Krombein (1979)	X	X							
<i>Astata bicolor</i> Say	<b>New to BC</b>			X						
<i>Astata leuthstromi</i> Ashmead	Parker (1962)		X	X				X	X	
<i>Astata mexicana</i> Cresson	Parker (1962); Krombein (1979)		X							
<i>Astata nevadica</i> Cresson	Parker (1962); Krombein (1979)		X							
<i>Astata nubecula</i> Cresson	Parker (1962)	X	X	X		X		X		
<i>Astata occidentalis</i> Cresson	Parker (1962); Blades and Maier (1992)		X	X						
<i>Astata unicolor</i> Say	Parker (1962)		X	X						
<i>Diploplectron brunneipes</i> (Cresson)	<b>New to BC</b>								X	
<i>Diploplectron fossor</i> Rohwer	Parker (1972); Krombein (1979)		X			X		X		
<i>Diploplectron peglowi</i> Krombein	Parker (1972); Blades and Maier (1992)		X			X				
<i>Dryudella caerulea</i> (Cresson)	<b>New to BC</b>	X	X	X						
<i>Dryudella immigrans</i> (Williams)	<b>New to Canada</b>		X							
<i>Dryudella montana</i> (Cresson)	<b>New to Canada</b>		X					X	X	
<i>Dryudella picta</i> (Kohl)	<b>New to BC</b>		X	X						
<i>Dryudella rhimpa</i> Parker	Parker (1969)	X	X							
<b>Crabronidae: Bembicinae</b>										
<i>Alysson guignardi</i> Provancher	Buck (2004)			X	X				X	
<i>Alysson radiatus</i> Fox	<b>New to Canada</b>		X							
<i>Alysson triangulifer</i> Provancher	Bradley (1920); Krombein (1979)	X	X	X	X	X	X	X		X
<i>Bembix americana</i> Fabricius	Krombein (1979); Buck (2004)	X	X	X	X	X	X			
<i>Bembix amoena</i> Handlirsch	Krombein (1979)		X	X		X				
<i>Bicyrtes ventralis</i> (Say)	Krombein (1979); Buck (2004)		X	X						

Species Name	BC Reference	GD	SI	SIM	CM	CI	SBI	NBM	BP	TP
<i>Clitemnestra bipunctata</i> (Say)	New to BC	X	X	X						
<i>Didineis nodosa</i> Fox	Scudder (1994)	X	X	X						
<i>Epinysson mellipes</i> (Cresson) <sup>1</sup>	Krombein (1979); Buck (2004)	-	-	-	-	-	-	-	-	-
<i>Epinysson moestus</i> (Cresson)	New to Canada*		X	X						
<i>Epinysson pacificus</i> (Rohwer)	New to Canada*		X							
<i>Glenostictia pulla</i> (Handlirsch)	New to Canada		X							
<i>Gorytes angustus</i> (Provancher)	Krombein (1979)		X	X						
<i>Gorytes atricornis</i> Packard	Krombein (1979); Buck (2004)	X	X	X						
<i>Gorytes canaliculatus</i> Packard	Krombein (1979); Buck (2004)			X		X				
<i>Gorytes flagellatus</i> Bohart	Krombein (1979)		X	X						
<i>Gorytes provancheri</i> Handlirsch	Provancher (1888); Krombein (1979)		X							
<i>Gorytes similimus</i> Smith	Buck (2004)	X	X	X						
<i>Harpactus mendicus</i> (Handlirsch)	Handlirsch (1893); Krombein (1979)		X			X				
<i>Harpactus pictifrons</i> Fox	New to Canada		X					X		
<i>Harpactus rugulosus</i> (Bohart)	New to Canada		X							
<i>Hoplisoides hamatus</i> (Handlirsch)	Buck (2007)		X	X						
<i>Hoplisoides nebulosus spiloapterus</i> (Handlirsch)	Buck (2007)		X	X	X					
<i>Hoplisoides punctifrons</i> (Cameron)	Buck (2007)		X							
<i>Hoplisoides tricolor</i> (Cresson)	Buck (2007)		X							
<i>Hyponysson bicolor</i> Rohwer	New to Canada	X	X							
<i>Lestiphorus piceus</i> (Handlirsch)	Handlirsch (1888); Krombein (1979)	X		X						
<i>Microbembex californica</i> Bohart	Scudder (1994)	X	X							
<i>Microbembex nigrifrons</i> (Provancher)	New to Canada		X							
<i>Nysson chumash</i> Pate	New to Canada*	X		X						
<i>Nysson fidelis</i> Cresson	New to Canada*		X	X						
<i>Nysson gagates</i> Bradley	Bradley (1920); Krombein (1979)		X		X					
<i>Nysson hesperus</i> Bohart	Bohart (1968a); Krombein (1979)	X	X	X						X
<i>Nysson neorusticus</i> Bohart	New to Canada*	X		X						
<i>Nysson plagiatus</i> Cresson	New to BC		X							
<i>Nysson recticornis</i> Bradley	New to Canada*		X							
<i>Nysson tristis</i> Cresson	Krombein (1979)	X	X							
<i>Nysson sp.</i>	New to Canada*			X						
<i>Oryttus laminiferus</i> (Fox)	New to Canada		X							
<i>Oryttus mirandus</i> (Fox)	New to Canada		X							
<i>Steniolia obliqua</i> (Cresson)	Krombein (1979); Bohart and Gillaspay (1985)		X							
<i>Steniolia scolopacea albicantia</i> Parker	Krombein (1979)		X			X				
<i>Steniolia tibialis</i> Handlirsch	New to Canada		X							
<i>Stictiella emarginata</i> (Cresson)	Krombein (1979); Buck (2004)		X	X		X				
<i>Stictiella tuberculata</i> (Fox)	Bohart and Gillaspay (1985); Scudder (1994)		X							
<i>Stizoides renicinctus</i> (Say)	Krombein (1979); Buck (2004)		X	X						
<i>Zanysson texanus fuscipes</i> (Cresson)	New to Canada		X							
<b>Crabronidae: Crabroninae</b>										
<i>Belomicrus columbianus</i> (Kohl)	Kohl (1892); Bohart (1994b)		X	X	X	X				
<i>Crabro advena</i> Smith	Bohart (1976); Leclercq (2008)	X		X	X					
<i>Crabro argusinus</i> Bohart	Krombein (1979); Buck (2004)	X	X							
<i>Crabro conspicuus</i> Cresson	Bohart (1976); Leclercq (2008)	X		X	X					
<i>Crabro flavicrus</i> Bohart	Bohart (1976)		X							
<i>Crabro florissantensis</i> Rohwer	Bohart (1976); Leclercq (2008)		X	X	X					
<i>Crabro hispidus</i> Fox	Bohart (1976); Krombein (1979); Leclercq (2008)		X							
<i>Crabro largior</i> Fox	Bohart (1976); Krombein (1979); Leclercq (2008)		X	X	X					

Species Name	BC Reference	GD	SI	SIM	CM	CI	SBI	NBM	BP	TP
<i>Crabro latipes</i> Smith	Bohart (1976); Krombein (1979); Leclercq (2008)	X	X	X	X			X		X
<i>Crabro monticola</i> (Packard)	Buck (2004)		X							
<i>Crabro nigrostriatus</i> Bohart	Bohart (1976)			X						
<i>Crabro pallidus</i> Fox	Bohart (1976); Leclercq (2008)							X		
<i>Crabro pleuralis</i> Fox	Fox (1895); Bohart (1976); Leclercq (2008)	X	X	X						
<i>Crabro tenuis</i> Fox	<b>New to BC</b>		X							
<i>Crabro vernalis</i> (Packard)	Bohart (1976); Leclercq (2008)							X		X
<i>Crossocerus angelicus</i> (Kincaid)	Krombein (1979); Leclercq (2000)	X		X	X	X				
<i>Crossocerus annulipes</i> (Lepelletier & Brullé)	Krombein (1979); Leclercq (2000)	X	X	X	X					
<i>Crossocerus barbipes</i> (Dahlbom)	Krombein (1979); Leclercq (2000)	X		X	X	X		X		
<i>Crossocerus chromatipus</i> Pate	<b>New to Canada</b>	X								
<i>Crossocerus elongatulus</i> (Vander Linden)	<b>New to BC</b>	X								
<i>Crossocerus harringtonii</i> (Fox)	Krombein (1979); Leclercq (2000)		X							
<i>Crossocerus lentus</i> (Fox)	Krombein (1979); Leclercq (2000)	X			X			X		
<i>Crossocerus leucostoma</i> (Linnaeus)	Bradley (1906); Leclercq (2000)	X	X	X	X	X		X		
<i>Crossocerus maculiclypeus</i> (Fox)	Krombein (1979); Leclercq (2000)	X	X	X	X	X		X		X
<i>Crossocerus maculipennis</i> (Smith)	Krombein (1979); Leclercq (2000)	X	X	X		X				X
<i>Crossocerus nigrinus</i> (Lepelletier & Brullé)	Krombein (1979)	X	X	X	X	X				
<i>Crossocerus pseudochromatipus</i> Leclercq & Miller	Leclercq (2000)		X	X	X					
<i>Crossocerus stricklandii</i> Pate	Krombein (1979); Leclercq (2000)		X		X			X		
<i>Crossocerus tarsatus planipes</i> (Fox)	Krombein (1979); Leclercq (2000)	X		X	X	X		X	X	X
<i>Ectemnius alpheus</i> Pate	<b>New to Canada</b>		X							
<i>Ectemnius arcuatus</i> (Say)	Krombein (1979); Buck (2004)	X	X	X						
<i>Ectemnius atriceps</i> (Cresson)	Bohart and Kimsey (1979); Krombein (1979)	X	X	X						
<i>Ectemnius borealis</i> (Zetterstedt)	Buck (2004)	X	X	X	X	X		X		
<i>Ectemnius cephalotes</i> (Olivier) †	<b>New to BC</b>	X								
<i>Ectemnius continuus</i> (Fabricius)	Krombein (1979); Buck (2004)	X	X	X	X			X	X	
<i>Ectemnius dilectus</i> (Cresson)	Scudder (1994)		X	X		X				
<i>Ectemnius dives</i> (Lepelletier & Brullé)	Krombein (1979); Buck (2004)	X	X	X	X	X		X		
<i>Ectemnius lapidarius</i> (Panzer)	Krombein (1979); Buck (2004)	X	X	X	X	X		X		
<i>Ectemnius maculosus</i> (Gmelin)	<b>New to BC</b>	X	X							
<i>Ectemnius ruficornis</i> (Zetterstedt)	Krombein (1979); Buck (2004)	X	X	X	X	X	X	X	X	X
<i>Ectemnius rufifemur</i> (Packard)	<b>New to BC</b>		X	X						
<i>Ectemnius spiniferus</i> (Fox)	<b>New to BC</b>		X							
<i>Ectemnius trifasciatus</i> (Say)	Krombein (1979); Buck (2004)		X	X	X				X	
<i>Larropsis capax</i> (Fox)	Bohart and Bohart (1966); Krombein (1979)		X	X						
<i>Larropsis corrugata</i> (Bohart & Bohart)	Krombein (1979)		X							
<i>Larropsis distincta</i> (Smith)	Bohart and Bohart (1966); Krombein (1979)	X	X							
<i>Larropsis tenuicornis</i> (Smith)	<b>New to Canada</b>		X	X						
<i>Lestica confluenta</i> (Say)	Leclercq (2006)	X	X	X	X	X				
<i>Lestica producticollis</i> (Packard)	Leclercq (2006)	X	X	X					X	
<i>Lindenius columbianus</i> (Kohl)	Kohl (1892)		X	X						
<i>Liris argentatus</i> (Palisot de Beauvois)	Buck (2004)		X	X						
<i>Miscophus evansi</i> (Krombein)	Scudder (1994)		X							

Species Name	BC Reference	GD	SI	SIM	CM	CI	SBI	NBM	BP	TP
<i>Miscophus</i> sp.	<b>New to Canada</b>		X							
<i>Oxybelus emarginatus</i> Say	Bohart and Schlinger (1957)		X	X		X				
<i>Oxybelus uniglutinis</i> (Linnaeus)	Bohart and Schlinger (1957)	X	X	X	X	X		X		
<i>Oxybelus ventralis</i> Fox	<b>New to Canada</b>		X							
<i>Pisonopsis birkmanni</i> Rohwer	<b>New to Canada</b>		X							
<i>Pisonopsis clypeata</i> Fox	<b>New to Canada</b>		X							
<i>Plenoculus davisii</i> Fox	Williams (1960); Krombein (1979)		X		X					
<i>Plenoculus propinquus</i> Fox	<b>New to Canada</b>				X					
<i>Rhopalum clavipes</i> (Linnaeus)	Blades and Maier (1992)	X	X	X	X	X				
<i>Rhopalum coarctatum</i> (Scopoli)	Leclercq (2002)	X				X				
<i>Rhopalum occidentale</i> (Fox)	Krombein (1979); Buck (2004)				X	X				
<i>Solierella affinis</i> (Rohwer)	<b>New to Canada</b>		X							
<i>Solierella peckhami</i> (Ashmead)	<b>New to BC</b>		X					X		
<i>Solierella plenocoloides similis</i> (Bridwell)	<b>New to Canada</b>	X	X	X	X					
<i>Solierella</i> sp. (inermis-group)	<b>New to Canada*</b>		X							
<i>Tachysphex aequalis</i> Fox	Pulawski (1988); Blades and Maier (1992)		X	X						
<i>Tachysphex aethiops</i> (Cresson)	Krombein (1979); Pulawski (1988)	X	X	X			X			
<i>Tachysphex alpestris</i> Rohwer	Krombein (1979); Pulawski (1988)	X	X	X						
<i>Tachysphex amplus</i> Fox	<b>New to Canada</b>		X							
<i>Tachysphex antennatus</i> Fox	Pulawski (1988); Buck (2004)		X							
<i>Tachysphex apicalis</i> Fox	Pulawski (1988); Scudder (1994)		X							
<i>Tachysphex ashmeadii</i> Fox	Pulawski (1988)		X							
<i>Tachysphex clarconis</i> Viereck	Krombein (1979); Pulawski (1988)	X	X							
<i>Tachysphex hopi</i> Pulawski	<b>New to BC</b>		X							
<i>Tachysphex montanus</i> (Cresson)	Fox, (1894a); Krombein (1979); Pulawski (1988)	X	X				X			
<i>Tachysphex mundus</i> Fox	<b>New to BC</b>		X							
<i>Tachysphex orestes</i> Pulawski	Pulawski (1988)		X							
<i>Tachysphex pauxillus</i> Fox	Krombein (1979); Pulawski (1988)		X	X						
<i>Tachysphex pompiliiformis</i> (Panzer)	Krombein (1979); Pulawski (1988)	X	X	X	X				X	
<i>Tachysphex psammobius</i> (Kohl)	Pulawski (1988)	X	X							
<i>Tachysphex semirufus</i> (Cresson)	Krombein (1979); Pulawski (1988); Buck (2004)		X	X			X			
<i>Tachysphex similis</i> Rohwer	Scudder (1994)		X							
<i>Tachysphex tarsatus</i> (Say)	Pulawski (1988); Blades and Maier (1992)		X	X				X		
<i>Tachysphex verticalis</i> Pulawski	<b>New to Canada</b>				X					
<i>Tachysphex williamsi</i> Bohart	<b>New to BC</b>		X							
<i>Tachytes distinctus</i> Smith	Krombein (1979); Bohart (1994a)		X							
<i>Tachytes nevadensis</i> Bohart	<b>New to Canada</b>		X							
<i>Tachytes pennsylvanicus</i> Banks	Krombein (1979)		X	X		X				
<i>Tachytes sayi</i> Banks	<b>New to BC</b>		X							
<i>Trypoxylon bidentatum</i> Fox	Buck (2004)	X		X						
<i>Trypoxylon frigidum</i> Smith	Sandhouse (1940); Krombein (1979)	X	X	X	X	X				
<i>Trypoxylon sculleni</i> Sandhouse	Sandhouse (1940); Krombein (1979)	X	X	X			X			
<i>Trypoxylon tridentatum</i> Packard	Sandhouse (1940); Krombein (1979)		X	X						
<b>Crabroninae: Pempredoninae</b>										
<i>Ammoplanus varyumi</i> Pate	Smith (2008)				X					
<i>Diodontus adamsi</i> Titus	Buck (2004)	X	X	X				X		



Species Name	BC Reference	GD	SI	SIM	CM	CI	SBI	NBM	BP	TP
<i>Diodontus argentinae</i> Rohwer	Eighme (1989)	X		X						
<i>Diodontus bidentatus</i> Rohwer	<b>New to BC</b>		X	X		X				
<i>Diodontus boharti</i> Eighme	Blades and Maier (1992)		X	X						
<i>Diodontus crassicornus</i> Viereck	<b>New to Canada</b>		X							
<i>Diodontus flavitarsis</i> Fox	<b>New to BC</b>		X	X		X				
<i>Diodontus fraternus</i> Rohwer	<b>New to Canada</b>		X							
<i>Diodontus leguminiferus</i> Cockerell	Scudder (1994)		X						X	
<i>Diodontus minutus</i> (Fabricius)	Eighme (1989); Buck (2004)		X							
<i>Diodontus occidentalis</i> Fox	<b>New to Canada</b>		X							
<i>Diodontus rugosus</i> Fox	Eighme (1989); Scudder (1994)		X							
<i>Diodontus striatus</i> (Mickel)	Eighme (1989); Scudder (1994)		X	X						
<i>Diodontus vallicolae</i> Rohwer	Eighme (1989)		X	X						
<i>Diodontus virginianus</i> Rohwer	<b>New to BC</b>		X							
<i>Mimesa cressonii</i> Packard	Krombein (1979); Finnamore (1982); Buck (2004)		X							
<i>Mimesa dawsoni</i> Mickel	<b>New to BC*</b>		X							
<i>Mimesa edentata</i> (Malloch)	Finnamore (1982)		X							
<i>Mimesa gregaria</i> (Fox)	Finnamore (1982); Buck (2004)	X	X	X	X	X		X		
<i>Mimesa lutaria</i> (Fabricius)	Finnamore (1982); Buck (2004)	X	X	X	X			X		X
<i>Mimesa pauper</i> Packard	Finnamore (1982); Buck (2004)	X	X	X	X	X		X		
<i>Mimesa sabina</i> Gittins	<b>New to Canada</b>		X							
<i>Mimesa senijextee</i> Finnamore	Finnamore (1982)	X	X	X						
<i>Mimesa simplex</i> (Malloch)	Finnamore (1982)	X	X	X		X				
<i>Mimesa uncinata</i> Cresson	Krombein (1979); Finnamore (1982)	X	X		X	X				
<i>Mimumesa atratina</i> (Morawitz)	Buck (2004)				X			X		X
<i>Mimumesa clypeata</i> (Fox)	<b>New to BC</b>	X	X	X		X				X
<i>Mimumesa mixta</i> (Fox)	Krombein (1979)	X	X	X	X					
<i>Mimumesa nigra</i> (Packard)	Krombein (1979); Buck (2004)		X		X					
<i>Parammoplanus apache</i> Pate	Blades and Maier (1992); Scudder (1994)		X	X						
<i>Parammoplanus olamentke</i> Pate	Blades and Maier (1992); Scudder (1994)		X	X						
<i>Passaloecus armeniacae</i> Cockerell	Krombein (1979)	-	-	-	-	-	-	-	-	-
<i>Passaloecus borealis</i> Dahlbom	Vincent (1978)		X	X						
<i>Passaloecus cuspidatus</i> Smith	Vincent (1978)	X	X	X	X	X	X	X	X	
<i>Passaloecus lineatus</i> Vincent	Vincent (1978)		X	X						
<i>Passaloecus melanocrus</i> Rohwer	Vincent (1978)			X						
<i>Passaloecus monilicornis</i> Dahlbom	Vincent (1978); Buck (2004)	X	X	X	X	X		X	X	
<i>Passaloecus patagiatus</i> Vincent	Vincent (1978)		X	X		X				
<i>Passaloecus singularis</i> Dahlbom †	Vincent (1978); Buck (2004)	X								
<i>Pemphredon baltica</i> Merisuo	Dollfuss (1995); Buck (2004)			X				X		
<i>Pemphredon confertim</i> Fox	Dollfuss (1995)		X	X						
<i>Pemphredon grinnelli</i> (Rohwer)	Krombein (1979); Blades and Maier (1992)	X	X	X						
<i>Pemphredon inornata</i> Say	Blades and Maier (1992); Dollfuss (1995)	X	X	X	X	X		X	X	X
<i>Pemphredon lethifer</i> (Shuckard)	Dollfuss (1995)	X	X							
<i>Pemphredon lugubris</i> (Fabricius)	Dollfuss (1995)	X	X	X	X	X		X		X
<i>Pemphredon montana</i> Dahlbom	Krombein (1979)	X	X	X	X	X		X		X
<i>Pemphredon nearctica</i> (Kohl)	Dollfuss (1995)	X	X	X	X	X				
<i>Pemphredon rileyi</i> Fox	Dollfuss (1995)	X								
<i>Psenulus frontalis</i> (Fox)	<b>New to Canada</b>		X	X						
<i>Pulverro columbianus</i> (Kohl)	Kohl (1890a); Krombein (1979)		X	X						
<i>Spilomena alboclypeata</i> Bradley	Bradley (1906); Krombein (1979)			X	X					
<i>Stigmus americanus</i> Packard	Krombein (1979)	X		X		X				
<i>Stigmus fraternus</i> Say	<b>New to BC</b>		X	X				X		
<i>Stigmus fulvipes</i> Fox	Krombein (1979)	X	X							
<i>Stigmus inordinatus</i> Fox	Krombein (1979)	X	X	X						

Species Name	BC Reference	GD	SI	SIM	CM	CI	SBI	NBM	BP	TP
<b>Crabronidae: Philanthinae</b>										
<i>Aphilanthops frigidus</i> (Smith)	Bohart and Grissell (1975)			X	X					
<i>Aphilanthops subfrigidus</i> Dunning	Krombein (1979)	X	X	X		X				
<i>Cerceris aequalis</i> Provancher	Krombein (1979)			X	X		X			
<i>Cerceris californica</i> Cresson	Spencer (1957); Scullen (1965); Krombein (1979)			X						
<i>Cerceris calochorti</i> Rohwer	<b>New to BC</b>			X						
<i>Cerceris cockerelli</i> Viereck <sup>2</sup>	Scullen (1965); Bohart and Grissell (1975)			X	X					
<i>Cerceris convergens</i> Viereck & Cockerell	Scullen (1965); Krombein (1979)			X						
<i>Cerceris crucis</i> Viereck & Cockerell	Krombein (1979); Buck (2004)			X						
<i>Cerceris echo</i> Mickel	Buck (2004)			X						
<i>Cerceris fumipennis</i> Say <sup>3</sup>	Scullen (1965); Buck (2004); Kimoto and Buck (2014)			X						
<i>Cerceris nigrescens</i> Smith	Spencer (1957); Scullen (1965); Krombein (1979)	X	X	X	X	X			X	
<i>Cerceris sexta</i> Say <sup>4</sup>	Scullen (1965)			X						
<i>Cerceris sextoides</i> Banks	Spencer (1957); Krombein (1979)			X	X					
<i>Cerceris tepaneca</i> de Saussure	Scullen (1965)			X	X					
<i>Cerceris vanduzeei</i> Banks	Krombein (1979)			X	X					
<i>Clypeadon laticinctus</i> (Cresson)	Bohart and Grissell (1975)			X						
<i>Eucerceris flavocincta</i> Cresson	Spencer (1957); Krombein (1979)	X	X	X			X			
<i>Eucerceris vittatifrons</i> Cresson	Scudder (1994)			X						
<i>Philanthus bilunatus</i> Cresson	<b>New to BC</b>								X	
<i>Philanthus crabroniformis</i> Smith	Krombein (1979)	X	X	X	X	X				
<i>Philanthus gibbosus</i> (Fabricius)	Bohart and Grissell (1975); Krombein (1979)	X	X	X	X					
<i>Philanthus inversus</i> Patton	Bohart and Grissell (1975)			X	X					
<i>Philanthus multimaculatus</i> Cameron	Krombein (1979)			X	X					
<i>Philanthus pacificus</i> Cresson	Bohart and Grissell (1975)	X	X	X						
<i>Philanthus pulcher</i> Dalla Torre	Bohart and Grissell (1975)			X	X					
<i>Philanthus ventibrabis</i> Fabricius	Bohart and Grissell (1975); Krombein (1979)			X	X					
<i>Philanthus ventralis</i> (Mickel)	Bohart and Grissell (1975)			X			X			
<i>Philanthus zebratus</i> Cresson	Banks (1913); Krombein (1979)			X	X		X			
<b>Sphecidae: Ammophilinae</b>										
<i>Ammophila aberti</i> Haldeman	Spencer and Wellington (1948); Blades and Maier (1992); Scudder (1994)			X						
<i>Ammophila acuta</i> (Fernald)	<b>New to Canada</b>			X	X					
<i>Ammophila azteca</i> Cameron	Krombein (1979)	X	X				X			X
<i>Ammophila cleopatra</i> Menke	Buck (2004)			X						
<i>Ammophila extremitata</i> Cresson	Blades and Maier (1992); Scudder (1994)			X			X			
<i>Ammophila ferruginosa</i> Cresson	<b>New to BC</b>			X						
<i>Ammophila karenae</i> Menke	<b>New to Canada</b>			X						
<i>Ammophila kennedyi</i> (Murray)	Krombein (1979)			X	X	X	X			
<i>Ammophila macra</i> Cresson	Menke (1965)			X	X	X				
<i>Ammophila mcclayi</i> Menke	<b>New to Canada</b>			X						
<i>Ammophila mediata</i> Cresson	Krombein (1979); Buck (2004)	X	X	X	X	X	X	X	X	X
<i>Ammophila placida</i> Smith	Spencer and Wellington (1948)			X			X			
<i>Ammophila polita</i> Cresson	Spencer and Wellington (1948)						X			
<i>Ammophila procera</i> Dahlbom	Spencer and Wellington (1948); Buck (2004)			X	X	X	X			
<i>Ammophila strenua</i> Cresson	Krombein (1979)	X	X							
<i>Podalonia argentifrons</i> (Cresson)	Krombein (1979)	-	-	-	-	-	-	-	-	-
<i>Podalonia atriceps</i> (Smith) <sup>5</sup>	Spencer and Wellington (1948)	X	X	X			X		X	X

Species Name	BC Reference	GD	SI	SIM	CM	CI	SBI	NBM	BP	TP
<i>Podalonia clypeata</i> Murray	<b>New to Canada</b>		X							
<i>Podalonia luctuosa</i> (Smith) <sup>5</sup>	Spencer and Wellington (1948); Buck (2004)	X	X	X		X		X	X	
<i>Podalonia melaena</i> Murray	Spencer and Wellington (1948)		X	X						
<i>Podalonia mexicana</i> (de Saussure)	Spencer and Wellington (1948)		X	X		X				
<i>Podalonia mickeli</i> Murray	Murray (1940); Krombein (1979)		X	X						
<i>Podalonia occidentalis</i> Murray	<b>New to BC</b>		X	X						
<i>Podalonia robusta</i> (Cresson)	Spencer and Wellington (1948); Buck (2004)	X	X	X	X	X		X	X	
<i>Podalonia sericea</i> Murray	Spencer and Wellington (1948); Krombein (1979)		X	X						
<i>Podalonia sonorensis</i> (Cameron)	Scudder (1994)		X							
<i>Podalonia valida</i> (Cresson)	Spencer and Wellington (1948)		X			X				

**Sphecidae: Chloriontinae**

<i>Chlorion aerarium</i> Patton	<b>New to BC</b>		X							
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**Sphecidae: Sceliphrinae**

<i>Chalybion californicum</i> (de Saussure)	Spencer and Wellington (1948); Buck (2004)	X	X	X						
<i>Sceliphron caementarium</i> (Drury)	Spencer and Wellington (1948); Buck (2004)	X	X	X	X	X	X			

**Sphecidae: Sphecinae**

<i>Isodontia elegans</i> (Smith)	Spencer and Wellington (1948)		X							
<i>Palmodes californicus</i> Bohart & Menke	Krombein (1979)				X					
<i>Palmodes carbo</i> Bohart & Menke	Krombein (1979)	X	X	X		X				
<i>Palmodes hesperus</i> Bohart & Menke	Krombein (1979)		X							
<i>Palmodes laeiventris</i> (Cresson)	Spencer and Wellington (1948)		X							
<i>Prionyx atratus</i> (Lepeletier)	Spencer and Wellington, (1948); Bohart and Menke (1963); Buck (2004)		X							
<i>Prionyx canadensis</i> (Provancher)	Kohl (1890b); Spencer and Wellington (1948); Buck (2004)	X	X	X						
<i>Sphex ichneumoneus</i> (Linnaeus)	Buck (2004)		X	X						
<i>Sphex lucae</i> de Saussure	Spencer and Wellington (1948)		X	X						

<sup>1</sup>–*E. mellipes* (Cresson) is listed as recorded from British Columbia in Krombein (1979), but due to the taxonomic uncertainty of species in the genus, it should be considered with reservations (as per M. Buck, personal communication).

<sup>2</sup>–*C. cockerelli* Viereck is listed and described incorrectly as *C. acanthophila* Cockerell in both Scullen (1965) and Bohart and Grissell (1975) (Ferguson 1983).

<sup>3</sup>–*C. fumipennis* was recently rediscovered in Merritt and Lillooet, after not being recorded from the province since 1935 (Kimoto and Buck 2014).

<sup>4</sup>–A specimen of *C. sexta* Say from British Columbia is listed as *C. stigmosalis* Banks in Scullen (1965). The specimen was originally determined as *C. fugatrix* Mickel by Scullen in 1957 (CNC specimen examined by the author), now considered a synonym of *C. sexta* Say (Ferguson 1984). Scullen (1965) incorrectly synonymized *C. fugatrix* Mickel with *C. stigmosalis* Banks, which is itself a synonym of *C. halone* Banks, an eastern Nearctic species that does not occur in British Columbia.

<sup>5</sup>–The species recognition characteristics used by Murray (1940) to separate the two species *P. atriceps* (Smith) and *P. luctuosa* (Smith) are unreliable. Males can only be reliably identified using genitalia, and no diagnostic characteristic is known for the females (M. Buck, personal communication). Therefore, the intraprovincial distributions have been combined and used for both species.

**New Species Records****Crabronidae: Astatinae***Astata bicolor* Say

1 spm, Wycliffe, 25.vii.1928 (A. A. Dennys) [RBCM]

Distribution: Species new to BC. Previously recorded from Canada and the U.S. east of the Rockies (Parker 1962).

*Diploplectron brunniepes* (Cresson)

1♂, Peace R., 4 km E of Halfway R., 26.vii.1986 (S. G. Cannings) [SEM]

Distribution: Species new to BC. Previously recorded from AB, ID, CA, WY, and CO (Strickland 1947; Parker 1972).

*Dryudella caerulea* (Cresson)

1♂, Victoria, 18.viii.1906 [RBCM]; 1♂, Langford, 4.vii.1952, on sand (D. Evans) [CNC]; 1♂, Robson, 30.vii.1968 (H. R. Foxlee) [SEM]; 1♂, Robson, 8.viii.1968 (H. R. Foxlee) [SEM]; 1♂, Robson, 12.viii.1968 (H. R. Foxlee) [SEM]; 1♂, Kikomun Cr., 11.viii.1982 (R. A. Cannings & S. G. Cannings) [SEM]; 1♂, Comox, 16.viii.1987, sand pit (S. G. Cannings) [SEM]; 2 spms, Lytton, 0.5 km S on Hwy. 1, Lytton Cr., 50°13'23"N 121°34'28"W, 3.vii.1988, 1000' (G. E. Hutchings) [RBCM]; 1♀, Hornby Is., Norman Pt., 6.viii.1988 (S. G. Cannings) [SEM]; 1♂, Comox, 8.vii.1989, sand pit (S. G. Cannings) [SEM]; 1 spm, Summerland, Gartrell Point, 29.vi.1990, 49°34'22"N 119°37'06"W, 1140' (R. A. Cannings & H. Nadel) [RBCM]; 1♂ 1♀, Galiano Is., Bodega Ridge, 1.viii.1990, Manzanita/Douglas Fir, Malaise trap (S. G. Cannings) [SEM]; 1♀, Metchosin, Camas Hill, summit, 43°53'27"N 123°35'44"W, 8–15.viii.1999 (L. & C. Rosenblood) [RBCM]; 1♂, Saturna Is., Gulf Islands Nat. Pk., East Pt., 48.7846, -123.0449, 18.vii.2015 (C. G. Ratzlaff) [SEM]; 1♂, Saturna Is., Haggis Farm, Lyall L., 48.7871, -123.1600, 19.vii.2015 (N. Lee) [SEM]

Distribution: Species new to BC. Previously recorded from AB, WA, ID, CA, NV, CO, AZ, TX, and Mexico (Strickland 1947; Parker 1969; Krombein 1979).

*Dryudella immigrans* (Williams)

1♂, Lillooet, 1.viii.1917, sand (A. W. A. Phair) [RBCM]; 1♂, Penticton, West Bench, 5.vi.1983, rangeland/orchard edge, Malaise trap (S. G. Cannings) [SEM]; 1♂, Penticton, West Bench, 14.vi.1987, grassland/orchard edge, Malaise trap (S. G. Cannings) [SEM]

Distribution: Species new to Canada. Previously recorded from WA, ID, OR, CA, NV, UT, WY, AZ, NM, TX, and Mexico (Parker 1969; Krombein 1979).

*Dryudella montana* (Cresson)

1 spm, Aspen Grove, 7.vii.1933 (K. Graham) [CNC]; 1 spm, Keremeos, 16.vii.1923 (C. B. Garrett) [CNC]; 1♀, Chilcotin, 12.vii.1930 (G. J. Spencer) [SEM]; 1♂, Nicola, 31.vii.1938 (G. J. Spencer) [SEM]; 2 spms, Taylor, 3.vii.1948 (Mason & Hughes) [CNC]; 1♂, Nicola, 30.vii.1944 (G. J. Spencer) [SEM]; 2 spms, Telegraph Cr., 3 mi. NE, 1.vii.1960 (R. J. Piffrey) [CNC]; 1 spm, Ashcroft, Hat Creek, Finney Creek, 50°45'37"N 121°35'21"W, 15.vi.1989, sage flats near abandoned airstrip (R. A. Cannings & C. S. Guppy) [RBCM]; 1 spm, Ashcroft, Hat Creek, Finney Creek, 50°45'37"N 121°35'21"W, 13.vii.1989, sage flats near abandoned airstrip, Malaise (R. A. Cannings & C. S. Guppy) [RBCM]

Distribution: Species new to Canada. Previously recorded from WA, ID, OR, CA, UT, WY, and CO (Parker 1969; Krombein 1979).

*Dryudella picta* (Kohl)

1 spm, Kaslo, 30.vii.1906 (J. M. Cockle) [CNC]; 1 spm, Summerland, 9.viii.1916 (Sladen) [CNC]; 1♀, Kamloops, 26.vi.1938 (G. J. Spencer) [SEM]; 1♂, Robson, 21.vii.1957 (H. R. Foxlee) [SEM]; 1♂, Penticton, West Bench, 16.vii.1988, Malaise trap (R. A. Cannings) [RBCM]

Distribution: Species new to BC. Previously recorded from AB (Strickland 1947: as *Astata aspera* Fox), NT, ID, OR, CA, UT, CO, AZ, NC, and Mexico (Parker 1969; Krombein 1979; J. Ascher, Discoverlife).

**Crabronidae: Bembicinae***Alysson radiatus* Fox

1♂, Oliver, 26.v.1945 (D. Blair) [SEM]; 1 spm, Osoyoos, Richter Pass, 24.v.1959 (L. A. Kelton) [CNC]; 1♂, Penticton, West bench, 5.vi.1983, rangeland/orchard edge, Malaise trap (S. G. Cannings) [SEM]

Distribution: Species new to Canada. Previously recorded from WA, CA, NV, and CO (Krombein 1979).

*Clitemnestra bipunctata* (Say)

15 spms, Kaslo, 3.viii.1916 (Sladen) [CNC]; 1 spm, Revelstoke, 28.vi.1952 (G. J. Spencer) [CNC]; 1 spm, Trail, 21.vii.1959 (L. A. Kelton) [CNC]; 1♀, Robson, 12.vii.1961 (H. R. Foxlee) [SEM]; 1♂, Robson, 16.viii.1963 (H. R. Foxlee) [SEM]; 1♂, Robson, 7.ix.1963 (H. R. Foxlee) [SEM]; 1♂ 3♀, Oliver, UBC Geology Camp, 20–23.vii.1989, pine/thicket edge, Malaise trap (S.G. Cannings) [SEM]; 1♀, Oliver, UBC Geology Camp, 24.vii.1989, at light (S. G. Cannings) [SEM]; 1♂, Summerland, Agriculture Canada Research Station, grassland research site, 25.vi.1990 (S. G. Cannings) [SEM]; 1♀, Summerland, Agriculture Canada Research Station, grassland research site, 27.vi.1990 (S. G. Cannings) [SEM]; 1♂, Oliver, UBC Geology Camp, 21.vii.1990, ponderosa pine forest, Malaise trap (S. G. Cannings) [SEM]; 1♂, Oliver, UBC Geology Camp, 22.vii.1990, hawthorn thicket, Malaise trap (S. G. Cannings) [SEM]; 1♀, Vancouver I., Saanich, Mt. Newton, 25.vi–2.vii.1993, FC orchard, Malaise (D. Blades) [RBCM]; 1♀, Oliver, Wolf Creek, Manual Flats, 49°11'47.76" N 119°30'46.89" W, 27.vii.1997, 429m (G. G. E. Scudder) [RBCM]; 1♂, Kinbasket Reservoir, Bush Arm (approx. 60 km NNW of Golden), 474424 5738727, 10.vii.2010, 753m (V. Prigmore & V. Smith) [RBCM]

Distribution: Genus new to BC. Previously recorded from AB, ON, QC (Buck 2004), and the Upper and Lower Austral Zones of the U.S. (Krombein 1979).

*Epinysson moestus* (Cresson)

1♀, Robson, 27.viii.1963 (H. R. Foxlee) [SEM]; 1♀, Osoyoos, Haynes Ecological Reserve, 27.vi.1981 (S. G. Cannings) [SEM]; 1♀, Okanagan, viii, (no collector) [CNC]

Distribution: Species new to Canada. Previously recorded from WA and CA (Krombein 1979).

*Epinysson pacificus* (Rohwer)

1♀, Osoyoos, Haynes Ecological Reserve, 10.vii–14.viii.1986, sand/*Artemisia/Purshia*, pitfall (S. G. Cannings) [SEM]; 1♀, Osoyoos, Haynes Ecological reserve, 14.vi–3.viii.1987, *Purshia/Aristida* steppe, pan trap (S. G. Cannings) [SEM]; 2♂, Osoyoos, Mt. Kobau, 8.vii–13.vii.1991 and 24.viii–28.viii.1991, 560m (D. Blades & C. Maier) [RBCM]; 1♀, Osoyoos, Haynes Ecological Reserve, 9.vii–7.viii.1994, BGxh1, pitfall trap (G. G. E. Scudder) [SEM]; 1♀, Osoyoos, Haynes Ecological Reserve, 13.vii–9.viii.1995, BGxh1, pitfall trap (G.G.E. Scudder) [SEM]; 1♂, Kilpoola L., 8.viii.1997 (G. G. E. Scudder) [SEM]

Distribution: Species new to Canada. Previously recorded from CA (Krombein 1979).

*Glenostictia pulla* (Handlirsch)

1♂ 1♀, Osoyoos, N end of Osoyoos L., 18.vii.1981 (R. A. Cannings) [RBCM]; 1♂, Osoyoos, Road #22, 18.vii.1981 (R. A. Cannings) [RBCM]; 1♂, Osoyoos, Haynes Ecological Reserve, lower sandy road, 20.vi.1989 (D. L. Sanford) [SEM]; 1♂, Osoyoos, Haynes Ecological Reserve, 49°04'49"N 119°30'46"W, 3.vii.1990 (R. A. Cannings & H. Nadel) [RBCM]

Distribution: Genus and species new to Canada. Previously recorded from WA, ID, OR, CA, and NV (Bohart and Gillaspay 1985).

*Harpactus pictifrons* Fox

3♂ 2♀, Penticton, West Bench, 4.iv.1983, rangeland/orchard edge, Malaise trap (R. A. Cannings) [RBCM]; 2♀, Telegraph Cr., 21.vi.1985, S-facing slope, pitfall trap (E. Krebs & J. J. Robinson) [SEM]; 1♂, Penticton, West Bench, 20.v.1987 (R. A. Cannings) [RBCM]; 4♂, Penticton, West Bench, 14.vi.1987, grassland/orchard edge, Malaise trap (S. G. Cannings) [SEM]; 1♂, Penticton, West Bench, 8.vi.1988, grassland/rose thicket edge, Malaise trap (S. G. Cannings) [SEM]; 1♂ 1♀, Penticton, West Bench, 24.vi.1988, grassland/orchard edge, Malaise trap (S. G. Cannings) [SEM]; 1♀, Hat Creek Valley, 4 km E of Finney L., Finney Creek, 15.vi–13.vii.1989, sage flats, Malaise (R. A. Cannings & C. Guppy) [RBCM]

Distribution: Species new to Canada. Previously recorded from WA, ID, CA, UT, WY, CO, and AZ (Bohart 1980; Krombein 1979).

*Harpactus rugulosus* (Bohart)

1♂, Penticton, West Bench, 24.vi.1988, grassland/orchard edge, Malaise trap (S. G. Cannings) [SEM]; 2♀, Osoyoos, H.E.R., 13.vii–17.viii.1988, *Purshia/Aristida* shrub steppe, pitfall trap (S. G. Cannings) [SEM]; 1♀, Osoyoos, H.E.R., 9.vii–7.viii.1994, BGxh1, AN Recovery after 1993 fire, Pitfall trap No. C4 (G. G. E. Scudder) [SEM]

Distribution: Species new to Canada. Previously recorded from WA, ID, OR, CA, NV, and UT (Bohart 1980)

*Hyponysson bicolor* Rohwer

1♀, Kamloops, 23.vii.1939 (G. J. Spencer) [SEM]; 2♀, Vancouver I., Saanich, Mt. Newton FC orchard, 16.vii–23.vii.1993, malaise (D. Blades) [PMAE]; 1♀, MacGillivray Cr. Game Reserve nr. Chilliwack, no date (no collector) [CNC]

Distribution: Genus and species new to Canada. Previously recorded from WA, ID, OR, and CA (Krombein 1979).

*Microbembex nigrifrons* (Provancher)

1 spm, Nicola, 3.viii.1923 (E. R. Buckell) [CNC]; 12 spms, Oliver, 22.viii.1923 (C. B. Garrett) [CNC]; 1♀, Osoyoos, 17.viii.1925 (G. J. Spencer) [SEM]; 1♂, Kamloops, 6.viii.1939 (G. J. Spencer) [SEM]; 1♂, Kamloops, 15.vii.1947 (B. A. Sugden) [RBCM]; 1 spm, Osoyoos, 25.viii.1953 (J. E. H. Martin) [CNC]; 1♂, Ashcroft, Rattlesnake Hills, bluff above Thompson R., 13.vi.1995, sand dunes, 1750' (S. G. Cannings & L. R. Ramsey) [RBCM]; 1♀, Kamloops, Valleyview, 14.vi.1995, silt benches, sage/bunchgrass, 430 m (L. R. Ramsey) [RBCM]; 1♀, 6.4 km S of Gang Ranch Jct., 21.vi.1995, sand bluff, 520m (S. G. Cannings) [RBCM]; 1 spm, Osoyoos, E side of Osoyoos Lake, Inkameep Indian Reservation, 30.vi.1996, along sandy road (S. G. Cannings) [RBCM]; 1 spm, Osoyoos, E side, 22.vii.1997 (R. J. Cannings) [RBCM]

Distribution: Species new to Canada. Previously recorded from the U.S. and Mexico west of the 100th meridian (Krombein 1979).

*Nysson chumash* Pate

1♀, Mission City, 24.vii.1953 (W. R. M. Mason) [CNC]; 1♂, Robson, 20.viii.1963 (H. R. Foxlee) [SEM]; 1♂1♀, Osoyoos, Mt. Kobau, 8.vii–13.vii.1991, 990m (D. Blades & C. Maier) [RBCM]

Distribution: Species new to Canada. Previously recorded from CA (Krombein 1979).

*Nysson fidelis* Cresson

1♀, Nelson, 5.viii.1916 (F. W. L. Sladen) [CNC]; 1♀, Minnie L, 26.vii.1925 (E. R. Buckell) [CNC]; 1♂, Robson, 25.vi.1952 (H. R. Foxlee) [CNC]; 1♀, Gagnon Rd. 6 mi W Terrace, 28.vi.1960 (J. G. Chillcott) [CNC]; 1♂, Robson, 5.vii.1965 (H. R. Foxlee) [SEM]; 1♀, Duffy Lake Rd., 50.385086°N 122.366734°W, 17.vii.2014, nr. lake, 1132m (D. G. Holden) [PMAE]; 1♂, Osoyoos, Mt. Kobau, 4.vi–8.vii.1991, 990m (D. Blades & C. Maier) [RBCM]

Distribution: Species new to Canada. Previously recorded from WA, MT, OR, CO, and WI (Krombein 1979).

*Nysson neorusticus* Bohart

1♀, Nelson, 5.viii.1916 (Sladen) [CNC]; 1 spm, Kaslo, 3.viii.1916 (Sladen) [CNC]; 1♂, Comox, Pt. Holmes, 5.vii.1933 (J. McDunnough) [CNC]; 1♂, MacGillivray Creek Game Reserve nr. Chilliwack, 14.vi.1953 (W. R. M. Mason) [CNC]; 1 spm, MacGillivray Creek Game Reserve nr. Chilliwack, 14.vi.1953 (G. J. Spencer) [CNC]; 41♂ 3♀, MacGillivray Creek Game Reserve nr. Chilliwack, 15.vi.1953 (S. D. Hicks / W. R. M. Mason / G. J. Spencer) [CNC]; 1♂, Ruskin, 26.vi.1926 (W. R. M. Mason) [CNC]; 2♂, Mission City, 4.vii.1953 (W. R. M. Mason) [CNC]; 2♀,

MacGillivray Creek Game Reserve nr. Chilliwack, 23.vii.1953 (W. R. M. Mason) [CNC]; 1♀, Horsethief Creek, 22.vi.1956 (J. Grant collection) [RBCM]

Distribution: Species new to Canada. Previously recorded from WA, OR, CA, NV, UT, and WY (Krombein 1979).

*Nysson plagiatus* Cresson

1♂, Keremeos, 20.vi.1943 (E. R. Buckell) [SEM]

Distribution: Species new to BC. Previously recorded from QC, ON, and in the U.S. east of the Rockies (Krombein 1979; Buck 2004).

*Nysson recticornis* Bradley

1♂, Penticton, West Bench, 5.vi.1983, rangeland/orchard edge, malaise trap (S. G. Cannings) [SEM]; 1♀, Osoyoos, Haynes Ecological Reserve, 14.vi–3.viii.1987, *Purshia/Aristida* steppe, pan trap (S. G. Cannings) [SEM] 20♂1♀, Osoyoos, Mt. Kobau, 8.vii–13.vii.1991, 990m (D. Blades & C. Maier) [RBCM]; 1♀, Osoyoos, Mt. Kobau, 14.vii–23.viii.1991, 560m [RBCM]

Distribution: Species new to Canada. Previously recorded from WA, ID, and CA (Krombein 1979).

*Nysson sp.* Cresson

1♀, Robson, 6.ix.1962 (H. R. Foxlee) [SEM]

Distribution: Species new to Canada and potentially new to science. Further study is required.

*Oryttus laminiferus* (Fox)

1♀, Oliver, UBC Geology Camp, 20.vii.1989, pine/thicket edge, Malaise trap (S. G. Cannings) [SEM]

Distribution: Genus new to BC and species new to Canada. Previously recorded from WA, ID, OR, CA, NV, and UT (Bohart 1968b; Krombein 1979).

*Oryttus mirandus* (Fox)

1♀, Chopaka, 49°00'41.19" N 119°40'25.37" W, 18.vii.1996, 486m (G. G. E. Scudder) [RBCM]

Distribution: Genus new to BC and species new to Canada. Previously recorded from WA, CA, and NV (Bohart 1968b; Krombein 1979).

*Steniolia tibialis* Handlirsch

1♂, Goldstream, 20.vii.1902 (no collector) [CNC]

Distribution: Species new to Canada. Previously recorded from WA, ID, OR, CA, and NV (Krombein 1979; Bohart and Gillaspay 1985).

*Zanysson texanus fuscipes* (Cresson)

2 spms, Penticton, 7.viii.1916 (Sladen) [CNC]; 1 spm, Keremeos, 21.vii.1917 (Sladen) [RBCM]; 13 spms, Vernon, 25.vii.1917 (Sladen) [CNC]; 1 spm, Walhachin, 17.vii.1918 (E. R. Buckell) [RBCM]; 1 spm, Fairview, 7.viii.1919 (E. R. Buckell) [RBCM]; 1♂, Vernon, 15.vii.1920 (N.L. Cutler) [CNC]; 1♂ 1♀, Walhachin, 9.vii.1944 (G. J. Spencer) [SEM]; 1♂, Kamloops, 3.viii.1944 (G. J. Spencer) [SEM]; 1♀, Kamloops, 16.vi.1945 (G. J. Spencer) [SEM]; 1♂, Vernon, 17.vii.1946, in garden soil (H. B. Leech) [SEM]; 1♂, Vernon, 5.viii.1947 (B. A. Sugden) [RBCM]; 1♂, Penticton, West Bench, 11.vii.1988, rose thicket/grassland boundary, Malaise trap (S. G. Cannings) [SEM]; 1♀, Lillooet, 50.684643°N 121.921613°W, 17.vii.2014, sandy site, 229m (D. G. Holden) [PMAE]

Distribution: Genus and species new to Canada. Previously recorded from the U.S. (Krombein 1979).

**Crabronidae: Crabroninae**

*Crabro tenuis* Fox

1♀, Kamloops, 9.vii.1939 (G. J. Spencer) [SEM]

Distribution: Species new to BC. Previously recorded from QC to AB, WA, UT, CO, MI, NJ, GA, OK, and WV (Bohart 1976; Krombein 1979; Buck 2004; Leclercq 2008).

*Crossocerus chromatipus* Pate

1♀, Victoria, Langford, Upper Thetis Lake, west of the north end of the lake, 629 Peacock Place, 10U 4645 53687, 7.viii.1997 (Gordon Green) [RBCM]

Distribution: Species new to Canada. Previously recorded from WA, OR, CA, and NV (Krombein 1979; Leclercq 2000).

*Crossocerus elongatulus* (Vander Linden)

1♂, Vancouver, 8.viii.1960 (G. J. Spencer) [SEM]

Distribution: Species new to BC. Previously recorded from AB, ON, QC, YT, NS, and much of eastern North America west to WA and UT (Krombein 1979; Leclercq 2000).

*Ectemnius alpheus* Pate

1♀, Kamloops, 2.viii.1938 (G. J. Spencer) [SEM]

Distribution: Species new to Canada. Previously recorded from WA, UT, and CA (Krombein 1979; Leclercq 2007).

*Ectemnius cephalotes* (Olivier)

1♀, Vancouver, 18.viii.1988 (G.G.E. Scudder) [SEM]; 1♀, Vancouver, 31.vii.1991 (N. C. Scudder) [SEM]; 1♀, Vancouver, 1.viii.1991 (J. Scudder) [SEM]; 1♂, Vancouver, 49.2281, -123.0870, 16.viii.2010 (C. G. Ratzlaff) [SEM]; 1♀, Vancouver, 49.2281, -123.0870, 22.vi.2013 (C. G. Ratzlaff) [CGR]; 1♀, Vancouver, 49.2281, -123.0870, 11.vii.2013 (C. G. Ratzlaff) [CGR]; 1♀, Richmond, 49.1426, -123.1005, viii.2014, with calliphorid prey (J. E. & N. D. Schellenberg) [SEM]; 1♀, Vancouver, 49.2281, -123.0780, v.2015, in cell in stump with calliphorid remains (C. G. Ratzlaff) [CGR]; 1♀, Vancouver, UBC, Beaty Biodiversity Museum, 49.2632, -123.2502, 7.vii.2015 (C. G. Ratzlaff) [SEM]; 1♀, Vancouver, 49.2281, -123.0780, 10.viii.2015 (C. G. Ratzlaff) [CGR]; 1♀, Vancouver, 49.2281, -123.0780, 16.viii.2015 (C. G. Ratzlaff) [CGR]

Distribution: Introduced species new to BC. Previously recorded from ON, QC, CT, NY, NJ, PA, MD, IL, and Europe (Krombein 1979; Leclercq 2007).

*Ectemnius maculosus* (Gmelin)

1♀, Spilimacheen, 3.vii.1914 (F. W. L. Sladen) [CNC]; 1♀, Keremeos, 21.vii.1917 (Sladen) [CNC]; 2♂ 6♀, Vernon, 24–25.vii.1917 (Sladen) [CNC]; 1♂, Vernon, 23.vii.1920 (N. L. Cutler) [CNC]; 1♂, Salmon Arm, 28.vii.1925 (A. A. Dennys) [CNC]; 1♀, Agassiz, 30.viii.1926 (H. H. Ross) [CNC]

Distribution: Species new to BC. Previously recorded from most of Canada and U.S. east of the 100th meridian including MO, CO, WV, ME, CT, GA, NY, and PA (Krombein 1979; Buck 2004; Leclercq 2007).

*Ectemnius rufifemur* (Packard)

1 spm, Thompson River, 12.viii.1914 (T. Wilson) [CNC]; 1 spm, Keremeos, 31.vii.1917 (Sladen) [CNC]; 1♀, Walhachin, 11.vii.1918 (E. R. Buckell) [SEM]; 1 spm, Nicola, 3.viii.1923 (E. R. Buckell) [CNC]; 2♀, Kamloops, 10.vii.1938 (G. J. Spencer) [SEM]; 1♀, Kamloops, Lac du Bois, 28.viii.1954 (G. J. Spencer) [SEM]; 1♀, Wilmer, 21.viii.1982 (S. G. Cannings) [SEM]

Distribution: Species new to BC. Previously recorded from CO, FL, KA, MI, and in the Transition and Austral Zones east of the Rockies (Krombein 1979; Leclercq 2007).

*Ectemnius spiniferus* (Fox)

1 spm, Okanagan, 4.viii.1915 (no collector) [CNC]; 3 spms, Vernon, 25.vii.1925 (Sladen) [CNC]; 1♂, Vernon, 8.vii.1921 (M. H. Ruhmann) [CNC]; 1 spm, Vernon, 9.vii.1923 (M. H. Ruhmann) [CNC]; 1 spm, Lillooet, 27.v.1925 (E. R. Buckell) [CNC]; 1♀, Lillooet, Seton Lake,



28.vi.1926 (J. McDunnough) [CNC]; 1 spm, Grand Forks, 31.viii.1951 (D. A. Arnott) [CNC]; 1♀, Lillooet R., nr. John Sandy Cr., 9.vi.1981 (R. J. Cannings) [SEM]; 1♂, Penticton, West Bench, 6.vi.1988 (S. G. Cannings) [SEM]

Distribution: Species new to BC. Previously recorded from AB, WA, OR, CA, NV, CO, and AZ (Strickland 1947; Krombein 1979; Leclercq 2007).

*Larropsis tenuicornis* (Smith)

1 spm, Okanagan, 4.viii.1915 (no collector) [CNC]; 2♂ 1♀, Vernon, 25.vii.1917 (Sladen) [CNC]; 1♂ 1♀, S. Ver., 1.viii.1917 (no collector) [CNC]; 1 spm, S. Ver., 12.viii.1917 (no collector) [CNC]; 1♀, Vernon, 14.viii.1923 (D. G. Gillespie) [CNC]; 1♂, Vernon, 24.viii.1923 (D. G. Gillespie) [CNC]

Distribution: Species new to Canada. Previously recorded from WA, ID, OR, CA, and NV (Bohart and Bohart 1966).

*Miscophus* sp.

2♂ 3♀, Osoyoos, Mt. Kobau, 24–28.viii.1991, 370m, SOCAP–OY51 (D. Blades & C. Maier) [RBCM]; 1♀, Osoyoos, Haynes Ecological Reserve, 22.viii–28.ix.2005, BGxh1, AN Recovery after 1993 fire, Pitfall trap (G. G. E. Scudder) [SEM]; 1♀, Osoyoos, Haynes Ecological Reserve, 25.vii–30.viii.2006, BGxh1, AN Recovery after 1993 fire, Pitfall trap (G. G. E. Scudder) [SEM]

Distribution: Species new to Canada and potentially new to science. Further study is required.

*Oxybelus ventralis* Fox

1♂, Vernon, 25.vii.1917 (Sladen) [CNC]; 1♀, Vernon, 22.vii.1920 (R. C. Treherne) [CNC]; 2♂, Vernon, 23.vii.1920 (N. L. Cutler) [CNC]; 1♂, Vernon, 27.vii.1920 (R. C. Treherne) [CNC]

Distribution: Species new to Canada. Previously recorded from WA, OR, CA, NV, WY, AZ, and Mexico (Bohart and Schlinger 1957).

*Pisonopsis birkmanni* Rohwer

1♀, Oliver, UBC Geology Camp, 27.vii.1990, hawthorn thicket edge, malaise trap (S. G. Cannings) [SEM]

Distribution: Genus and species new to Canada. Previously recorded from CA, TX, and Mexico (Krombein 1979).

*Pisonopsis clypeata* Fox

1♂ 3♀, Penticton, West Bench, 4–5.vi.1983, rangeland/orchard edge, malaise trap (S. G. Cannings) [SEM]; 3♂, Penticton, West Bench, 14.vi.1987, rangeland/orchard edge, malaise trap (S. G. Cannings) [SEM]

Distribution: Genus and species new to Canada. Previously recorded from CA, NV, and WY (Krombein 1979).

*Plenoculus propinquus* Fox

1♂, Robson, 8.vi.1945 (H. R. Foxlee) [CNC]

Distribution: Species new to Canada. Previously recorded from WA, ID, OR, CA, NV, UT, CO, AZ, and NM (Williams 1960).

*Solierella affinis* (Rohwer)

1♀, Aspen Grove, 12 km S, 9.vii.1988 (S. G. Cannings) [SEM]

Distribution: Genus new to BC and species new to Canada. Previously recorded from ID, CA, WY, CO, and KS (Krombein 1979).

*Solierella peckhami* (Ashmead)

1♀, Tahitan, 10.viii.1986 (S. G. Cannings) [SEM] 1♀, Ashcroft, Cornwall Hills, 12.vii.1989, 5650 ft. (R. A. Cannings & C. S. Guppy) [RBCM]; 1♀, Nicola River, 1 km E of Petit Creek bridge, 2.vii.1988 (G. E. Hutchings) [RBCM]

Distribution: Genus and species new to BC. Previously recorded from ON and much of eastern North America west to ID and CA, as well as an adventive species in HI and the Marshall Islands (Krombein 1979; Buck 2004).

*Solierella plenoculoides similis* (Bridwell)

1♀, Kaslo, 3.viii.1916 (Sladen) [CNC]; 1♀, Squamish, Diamond Head Trail, 13.viii.1953 (G. J. Spencer) [CNC]; 1♂, Manning Prov. Pk., Eastgate, 22.vi–15.vii.1986 (S. G. Cannings) [SEM]; 1♂, Victoria, Ten-Mile Point, 14.vi.1987 (R. A. Cannings) [RBCM]; 1♂, Oliver, UBC Geological Camp, 29.vi.1996 (S. G. Cannings) [RBCM]; 1♀, Arrow Lakes, 6 km NW of Arrow Park Ferry, Mosquito Creek, 11 U 432330 5552803, 18.vii.2010 (J. Sharkey) [RBCM]

Distribution: Genus and species new to BC. The subspecies *similis* has been previously recorded from OR and CA. The nominate subspecies has been recorded from ON and the eastern U.S. west to CO, TX, and AZ (Krombein 1979; Buck 2004).

*Solierella* sp. (inermis-group)

1♀, Ashcroft, 1.5 km NE, 12.viii.1989, sage flat, 1450' (C. S. Guppy) [RBCM]

Distribution: Species group new to BC and Canada. Species in this group have been previously recorded from ID, CA, CO, AZ, NM, TX, much of the southeastern U.S., and Mexico (Krombein 1979; Bohart 1990).

*Tachysphex amplus* Fox

4♀, Kamloops, 6.vii.1944 (G. J. Spencer) [SEM]; 1♀, Kamloops, 27.vi.1949 (G. J. Spencer) [SEM]

Distribution: Species new to Canada. Previously recorded from WA, ID, MT, OR, CA, NV, UT, WY, CO, AZ, NM, TX, KS, and Mexico (Pulawski 1988).

*Tachysphex hopi* Pulawski

1♂, Oliver, Seacrest Hill, 20.v.1987 (R. A. Cannings) [RBCM]

Distribution: Species new to BC. Previously recorded from AB, WA, ID, MT, OR, CA, NV, UT, WY, CO, and AZ (Pulawski 1988).

*Tachysphex mundus* Fox

1 spm, Osoyoos, Haynes Ecological Reserve, "The Throne" area, 49°05'37"N 119°31'18"W, 27.vii.1988, 1200' (C. S. Guppy) [RBCM]

Distribution: Species new to BC. Previously recorded from AB, SK, MT, CO, AZ, NM, TX, NE, KS, much of the eastern U.S., and Mexico (Pulawski 1988).

*Tachysphex verticalis* Pulawski

1♀, Castlegar, 24.vii.1974 (W. R. M.) [RBCM]

Distribution: Species new to Canada. Previously recorded from ID, CA, NV, UT, AZ, and Mexico (Pulawski 1988).

*Tachysphex williamsi* Bohart

1♂, Penticton, West Bench, 26.v.1987 (R. A. Cannings) [RBCM]

Distribution: Species new to BC. Previously recorded from AB, SK, ID, MT, OR, CA, NV, UT, WY, CO, NM, AZ, ND, NE, and Mexico (Pulawski 1988).

*Tachytes nevadensis* Bohart

1 spm, Walhachin, 12.vii.1918 (E. R. Buckell) [RBCM]; 1♂, Walhachin, 17.vii.1918 (E. R. Buckell) [RBCM]

Distribution: Species new to Canada. Previously recorded from WA, ID, OR, CA, NV, and UT (Krombein 1979; Bohart 1994a).

*Tachytes sayi* Banks

1♀, Penticton, 7.ix.1919 (E. R. Buckell) [SEM]; 1♀, Summerland, 26.vii.1920 (no collector) [SEM]; 2♂, Kamloops, 26.vii.1942 (G. J. Spencer) [SEM]; 2♂, Kamloops, 9.vii.1944 (G. J. Spencer) [SEM]; 2♂ 1♀, Kamloops, 15–16.vii.1945 (G. J. Spencer) [SEM]; 6♀, Kamloops, Lac du Bois, 14.vii.1946 (G. J. Spencer) [SEM]; 2♂, Chase, 14.vii.1946 (G. J. Spencer) [SEM]; 1♀, Stump Lake, 24.viii.1947 (B. A. Sugden) [RBCM]; 1♂ 1♀, Kamloops, 17.vii.1954, in cop. (G. J. Spencer) [SEM]; 3♂, Kamloops, Lac du Bois, 18–24.vii.1954 (G. J. Spencer) [SEM]; 1♀, Penticton, West Bench, 18.vii.1986 (R. A. Cannings) [RBCM]; 2♂, Ashcroft, Rattlesnake Hills, 10 U 6247 56259, 13.vi.1995, sand dunes and bluffs above Thompson R., 533m (S. G. Cannings & L. R. Ramsay) [RBCM]; 2♂, Osoyoos, Osoyoos L., Inkameep Indian Reserve, 30.vi.1996 (R. J. Cannings) [RBCM]; 2♀, Osoyoos, Haynes Ecological Reserve, 9.vii–9.viii.1996, BGxh1, Recovery after 1993 fire, pitfall trap (G. G. E. Scudder) [SEM]; 1♀, Lillooet, Scotchman Rd. at Retasket Dr., 50.67669°N 121.9461°W, 17.vii.2014 (T. Kimoto) [PMAE]

Distribution: Species new to BC. Previously recorded from AB, WA, OR, CA, TX, NE, OK, and KS (Strickland 1947; Krombein 1979; Bohart 1994a).

### **Crabronidae: Pemphredoninae**

#### *Diodontus bidentatus* Rohwer

1♂, Kamloops, 4.vii.1937 (G. J. Spencer) [SEM]; 1♂, Kamloops, 10.viii.1954 (G. J. Spencer) [SEM]; 1♂, Dog Creek, 18.vi.1963 (G. J. Spencer) [SEM]; 1♂, Penticton, West Bench, 23.vi.1983 (S. G. Cannings) [SEM]; 1♀, Kelowna, Knox Mt., nr. Base, 8.vi.1988, silt cliff (S. G. Cannings) [SEM]; 1♂, Kinbasket Reservoir, Canoe Reach (near Valemount), 354086 5848537, 12.vi.2010, 755m (N. Shaw & H. Schindler) [RBCM]; 1♀, Kinbasket Reservoir, Canoe Reach (near Valemount), 361065 5841696, 21.vi.2010, 752m (N. Shaw & H. Schindler) [RBCM]; 1♀, Kinbasket Reservoir, Canoe Reach (near Valemount), 354017 5848664, 12.vi.2010, 756m (N. Shaw & H. Schindler) [RBCM]; 1♀, Kinbasket Reservoir, Bush Arm (approx. 60 km NNW of Golden), 472087 5736588, 10.vii.2010, 755m (N. Shaw & H. Schindler) [RBCM]

Distribution: Species new to BC. Previously recorded from AB, QC, NB, AK, ID, MT, CO, NB, NY, MI, ND, and PA (Krombein 1979; Eighme 1989; Buck 2004)

#### *Diodontus crassicornus* Viereck

1♂, Penticton, West Bench, 8.vi.1988 (S. G. Cannings) [SEM]

Distribution: Species new to Canada. Previously recorded from WA, OR, CA, NV, UT, WY, CO, AZ, NM, AL, IA, MO, and WI (Eighme 1989).

#### *Diodontus flavitarsis* Fox

1♀, Departure Bay, 22.v.1925 (G. J. Spencer) [SEM]; 5♀, Chilcotin, 23.vi.1929 (G. J. Spencer) [SEM]; 3♂, Chilcotin, 16.vi.1930 (G. J. Spencer) [SEM]; 1♂ 1♀, Chilcotin, 23.vi.1930 (G. J. Spencer) [SEM]; 1♀, Nicola, 10.vii.1932 (G. J. Spencer) [SEM]; 1♀, Kamloops, 24.vi.1936 (G. J. Spencer) [SEM]; 1♀, Upper Clearwater, Edgewood, 25.vi.1989, Malaise (S. G. Cannings) [SEM]; 1♀, Kinbasket Reservoir, Canoe Reach (near Valemount), 474550 5738934, 10.vii.2010, 748m (N. Shaw & H. Schindler) [RBCM]

Distribution: Species new to BC. Previously recorded from YT, WA, ID, OR, CA, UT, WY, CO, AZ, NM, TX, DC, IA, MO, and PA (Eighme 1989; Buck 2004).

#### *Diodontus fraternus* Rohwer

1♂, Oliver, UBC Geology Camp, 20.vii.1989, pine/thicket edge, Malaise trap (S. G. Cannings) [SEM]; 1♀, Penticton, West Bench, 14.vi.1987, grassland/orchard edge, Malaise trap (S. G. Cannings) [SEM]

Distribution: Species new to Canada. Previously recorded from ID, CA, NV, UT, CO, AZ, NM, NE, and IA (Eighme 1989).

#### *Diodontus occidentalis* Fox

1♂, Oliver, UBC Geology Camp, 23.vii.1989, pine/thicket edge, Malaise trap (S. G. Cannings) [SEM]

Distribution: Species new to Canada. Previously recorded from AK, ID, CA, NV, UT, WY, CO, AZ, MI, NY, and ND (Eighme 1989).

*Diodontus virginianus* Rohwer

1♂, Penticton, West Bench, 23.viii.1987 (S. G. Cannings) [SEM]

Distribution: Species new to BC. Previously recorded from ON, ID, OR, CA, NY, MD, VA, and DC (Eighme 1989; Buck 2004).

*Mimesa dawsoni* Mickel

3♂, Rattlesnake Hills, 10U 6252 56232, 13.vi.1995, sand dunes and bluffs above Thompson River, 533m (S. G. Cannings) [RBCM]

Distribution: Species new to BC. Previously recorded from AB, MB, ON, MT, UT, KS, OK, ND, SD, NC, NJ, NY, MI, MA, IL, IA, MN, and NB (Finnamore 1983).

*Mimesa sabina* Gittins

1♂, Vernon, 25.vii.1917 (Sladen) [CNC]

Distribution: Species new to Canada. Previously recorded from CA, NV, UT, and CO (Finnamore 1983).

*Mimumesa clypeata* (Fox)

1♀, Invermere, 18.vii.1928 (A. A. Dennys) [RBCM]; 1♂, Chilcotin, 12.vii.1930 (G. J. Spencer) [SEM]; 3♀, Blind Bay, vi.1987 (C. A. Elsey) [PMAE]; 3♀, Blind Bay, 15.vii.1987 (C. A. Elsey) [PMAE]

Distribution: Species new to BC. Previously recorded from AB, YT, NT, SK, NL, AK, ID, WA, CA, NV, UT, and CO (Krombein 1979; Buck 2004).

*Psenulus frontalis* (Fox)

1 spm, Lillooet, Seton Lake, 3.vi.1926 (J. McDunnough) [CNC]; 1 spm, Robson, 28.vi.1950 (H. R. Foxlee) [CNC]; 2 spms, Summerland, Gartrell Point, 49°34'22"N 119°37'06"W, 29.vi.1990, 1140', Malaise (R. A. Cannings and H. Nadel) [RBCM]; 1♂ 6♀, Blind Bay, vii.1987, malaise (C. A. Elsey) [PMAE]

Distribution: Species new to Canada. Previously recorded from WA, CA, UT, CO, AZ, and NM (Krombein 1979).

*Stigmus fraternus* Say

1♀, Cranbrook, 21.vi.1926 (A. A. Dennys) [RBCM]; 1 spm, Robson, 16.viii.1950 (H. R. Foxlee) [CNC]; 2 spm, Alaska Hwy., Mi. 496, Liard Hot Springs, 9–10.vii.1959, 1500' (R. E. Leech/E. E. MacDougall) [CNC]; 1♀, Osoyoos Lake, N end, v–vi.1985, *Betula/Alnus* woodland, pan trap (S. G. Cannings) [SEM]

Distribution: Species new to BC. Previously recorded from ON, QC, MT, and much of the eastern U.S. (Krombein 1973, 1979; Buck 2004).

**Crabronidae: Philanthinae**

*Cerceris calochorti* Rohwer

1♀, Osoyoos L., East side, 16.v.1993, sandy road (S. G. Cannings) [RBCM]

Distribution: Species new to BC. Previously recorded from southern Canada and the U.S. west to the eastern slopes of the Rockies including AB, MT, UT, WY, CO, NM, TX, ND, and SD (Scullen 1965; Krombein 1979).

*Philanthus bilunatus* Cresson

1♂, Quesnel, 15.vii.1948, on mustard (H. R. MacCarthy) [SEM]; 1♀, Soda Creek, 29.vii.1945 (H. R. MacCarthy) [SEM]; 1♀, Quesnel, 11.viii.1948 (G. J. Spencer) [SEM]; 2♂ 1♀, Soda Creek, 9.vii.1950 (G. J. Spencer) [SEM]; 2♀, Cottonwood R., viii.1953 (J. Grant) [RBCM]; 1♂, Kleena Kleene, Kliniklini River, East crossing, 29.vii.1987 (R. A. Cannings and R. J. Hebda) [RBCM]

Distribution: Species new to BC. Previously recorded from NS to AB, PE and the eastern U.S. west to ND, CO, and NM (Bohart and Grissell 1975; Buck 2004).

**Sphecidae: Ammophilinae**

*Ammophila acuta* (Fernald)

1♀, Fairmont Hot Springs, Dutch Cr., 1.vii.1982 (G. G. E. Scudder) [SEM]; 1♂, Penticton, West Bench, 18.vi.1989, orchard/grassland edge, Malaise trap (S.G. Cannings) [SEM]; 1♂, Oliver, UBC Geology Camp, 23.vii.1989, pine/thicket edge, Malaise trap (S. G. Cannings) [SEM]; 2♀, Summerland, Agriculture Canada Research Station, grassland research site, 25.vi.1990 (S. G. Cannings) [SEM]; 1♂, Windermere Valley, 50°21.47' N 115°55.10' W, 26.vii–17.ix.2000, Pitfall trap #5 (R. Sargent) [SEM]

Distribution: Species new to Canada. Previously recorded from the western U.S. (Menke 1965).

*Ammophila ferruginosa* Cresson

1♂, Osoyoos, H.E.R., 29.v.1987 (S. G. Cannings) [SEM]

Distribution: Species new to BC. Previously recorded from AB, MB, ID, CA, NV, UT, WY, CO, AZ, NM, TX, KS, NE, OK, ND, MN, and Mexico (Menke 1965).

*Ammophila karenae* Menke

1♂, Ashcroft, 1 km N, 7.viii.1982 (R. A. Cannings) [RBCM]; 1♀, Osoyoos, H.E.R., 20.vi–10.vii.1986, sand/*Artemisia/Purshia*, pitfall (S. G. Cannings) [SEM]; 1 spm, Lillooet Dist., no date (no collector) [RBCM]

Distribution: Species new to Canada. Previously recorded from ID, CA, NV, AZ, NM, and Mexico (Krombein 1979).

*Ammophila mcclayi* Menke

2♀, Chopaka, 21.v.1986, sage flats (R. A. Cannings) [RBCM]

Distribution: Species new to Canada. Previously recorded from CA, NV, and NM (Menke 1965; Krombein 1979)

*Podalonia clypeata* Murray

1♀, Vaseux L., 4.viii.1984 (S. G. Cannings) [SEM]

Distribution: Species to Canada. Previously recorded from WA, OR, MT, NM, KS, OK, and MN (Murray 1940).

*Podalonia occidentalis* Murray

1♀, Shuswap Narrows, 31.viii.1943 (G. J. Spencer) [SEM]; 1♂, Osoyoos, Haynes Ecological Reserve, 20.vi.1986 (S. G. Cannings) [SEM]; 1♀, Oliver, IR1, 'Water tower', 49°10' N 119°31' W, 1.vi–7.vii.1994, BGxh, *Purshia* assoc., Pitfall trap U2-1 (G. G. E. Scudder) [SEM]

Distribution: Species new to BC. Previously recorded from AB, WA, ID, MT, OR, CA, UT, WY, CO, AZ, and NM (Murray 1940; Krombein 1979).

**Sphecidae: Chloriontinae**

*Chlorion aerarium* Patton

1♀, Oliver, 27.viii.1957 (J. Boone) [SEM]

Distribution: Species new to BC. Previously recorded from ON and the entire U.S. (Krombein 1979; Buck 2004).

**Doubtful Records**

Two species, *Ammophila conditor* Smith and *Cerceris deserta* Say, were recorded from Victoria on Vancouver Island by Taylor in 1884. *Ammophila conditor* Smith has only elsewhere been recorded from Florida; *C. deserta* Say has only been recorded from northeastern North

America east of the Rockies. These specimens are almost certainly misidentified due to the confused taxonomy of these genera, which was not cleared up for another 71 years (Menke (1965) for *Ammophila* and Scullen (1965) for *Cerceris*). Both records were also ignored by the authors of their respective genera revisions.

Spencer and Wellington wrongly recorded the species *Chlorion aztecum* de Saussure, a synonym of *Isodontia azteca* (de Saussure), from Summerland in 1948. *Isodontia azteca* (de Saussure) is a Neotropical species with a range that extends only to southeastern U.S.

Also not included was the species *Podalonia argentipilis* (Provancher). Originally described from Vancouver in 1887, the holotype was recorded as lost by Gahan and Rohwer (1918). Krombein (1958) synonymized *Podalonia morrisoni* Cameron, a species that was known only from southern California, Southern Arizona, and Mexico, with *P. argentipilis* (Provancher), known only from that single specimen. If this synonymy is correct, then Provancher's type specimen was likely mislabelled and originally came from the southwestern United States. If incorrect, then the specimen was from British Columbia, but the identity cannot be verified and has therefore not been included.

### Provincial Distribution

Spheciform wasps are found in all habitats throughout the province, from alpine/subalpine areas to lush valley bottoms. Many genera, however, prefer hot, dry habitats with sand or sandy soil for nesting and are, therefore, limited in their distribution. The Southern Interior Ecoprovince, including the Okanagan–Similkameen region of British Columbia, contains Canada's only true desert and thus the greatest diversity of spheciform wasps. Of the 280 spheciform wasp species found in British Columbia, 77 (27.5% of total species) are limited to the Southern Interior in their distribution; of these, 51 (18.2% of total species) are found nowhere else in Canada. This area represents the northern-most extent of the range for many species, with almost all extending down through Great Basin ecosystem in the United States.

### National Distribution

Six provincial checklists of spheciform wasps have been produced in Canada, with three focusing specifically on the three Canadian families and three serving as parts of a more extensive checklist of provincial Hymenoptera. Table 2 summarizes the number of species for each subfamily record in each checklist. The numbers present are based exclusively on the checklists, adjusted for synonymies, and do not take into account newer records that are almost certainly present for some provinces.

Ontario has the highest number of recorded species at 284; British Columbia has the second-highest number at 280. Both provinces have a large number of species found nowhere else in Canada. The high diversity is likely due to the presence of the northern-most parts of warmer southern ecosystems. In British Columbia, this is the Great Basin ecosystem, which reaches the Southern Interior. In Ontario, the Carolinian life zone just reaches into southwestern part of the province (Buck 2004).

### Introduced Species

Two species of crabronid wasps have been introduced to British Columbia in the past 35 years. *Ectemnius cephalotes* (Olivier) and *Passaloecus singularis* Dahlbom, both native to Europe and Western Asia, have been recorded from the Lower Mainland (Georgia Depression) region of British Columbia. Both were initially recorded in North America on the east coast and have expanded throughout multiple states and provinces. It is still uncertain whether the eastern population of *E. cephalotes* (Olivier) is, in fact, introduced or if it is simply a disjunct population, since Provancher described a synonymous species from Quebec in 1882. In Canada, *E. cephalotes* (Olivier) has previously been recorded only from Ontario and Quebec, whereas *P. singularis* Dahlbom has been recorded from British Columbia, Ontario, and Quebec (Vincent 1978; Buck 2004). Both species nest in wooden cavities, such as beetle borings in dead wood—a characteristic that would allow for human-facilitated travel over large distances (Warburton 1920; Vincent 1978).

**Table 2**

Species totals by subfamily for the six published provincial checklists containing spheciform wasps.

Provincial Checklist	Total # of Species	Ampulicidae			Sphecidae					Crabronidae				Unique Species
		Amp	Dol	Amm	Chl	Scel	Sph	Ast	Bem	Cra	Mel	Pem	Phi	
BC (Ratzlaff 2015)	280	0	0	27	1	2	9	16	47	95	0	55	28	122
AB (Strickland 1947*)	121	0	0	20	0	2	3	3	15	42	1	19	16	22
ON (Buck 2004/2005)	284	1	1	15	1	3	11	7	40	117	2	56	30	93
QC (Finnamore 1982)	155	0	0	11	0	2	4	4	21	66	1	31	15	15
YT (Finnamore 1997*)	68	0	0	4	0	0	0	7	6	29	0	21	1	3
NWT (Steiner 1973*)	34	0	0	5	0	0	0	3	5	14	0	6	1	0

Subfamilies are abbreviated as follows: Amp – Ampulicinae, Dol – Dolichurinae, Amm – Ammophilinae, Chl – Chloriontinae, Scel – Sceliphrinae, Sph – Sphecinae, Ast – Astatinae, Bem – Bembicinae, Cra – Crabroninae, Mel – Mellininae, Pem – Pemphredoninae, Phi – Philanthinae. Unique species refers to the number of species recorded, in Canada, from only that province.

\* checklist of spheciform wasps as part of larger study of provincial Hymenoptera

### Identification Resources

The following table summarizes the primary available resources for the identification of spheciform wasps in British Columbia. Although limited to only the genera found in the province, it can still be useful for surrounding areas since almost all the papers listed include all North American species.

## CONCLUSION

The amazing diversity in morphology, habitats, and biology of spheciform wasps in this environmentally heterogeneous province is fitting. There is likely much more to be discovered. The Southern Boreal Interior Ecoprovince is by far the most understudied area in British Columbia when it comes to spheciform wasps. Even light studies that focused on these wasps would likely expand the distributions of many species, increasing the total numbers for the ecoprovince. Another area in need of study is the northeastern corner of British Columbia, which contains the Boreal and Taiga Plains ecoprovinces. Little sampling has been done, and potential exists for detection of transcontinental boreal species and central North American species due to habitat that is unique in British Columbia but similar to that found in northern parts of the Canadian prairies.

This checklist also highlights the importance of the Southern Interior to biodiversity in British Columbia. Many species found in the region are found nowhere else in the province or country, further emphasizing the need for the protection of the habitats in which these species live. Because many of the specimens examined were collected prior to 1990, sampling is needed to determine the current status of species in the area. As well, little is known about the biology of many of these wasps, and future research of spheciform wasps in British Columbia has much potential.

**Table 3**

Bibliography of available resources for the identification of British Columbian spheciform wasps.

<b>Genus</b>	<b>References for Identification</b>	<b>Genus</b>	<b>References for Identification</b>
<b>Crabronidae: Astatinae</b>		<b>Crabronidae: Pemphredoninae</b>	
<i>Astata</i>	Parker (1962)	<i>Ammoplanus</i>	Smith (2008)
<i>Diploplectron</i>	Parker (1972)	<i>Diodontus</i>	Eighme (1989)
<i>Dryudella</i>	Parker (1969)	<i>Mimesa</i>	Finnamore (1983)
<b>Crabronidae: Bembicinae</b>		<i>Parammoplanus</i>	Smith (2010)
<i>Alysson</i>	Fox (1894b)	<i>Passaloecus</i>	Vincent (1978)
<i>Bembix</i>	Bohart and Horning (1971)	<i>Pemphredon</i>	Dollfuss (1995)
<i>Bicyrtes</i>	Bohart and Horning (1971)	<i>Psenulus</i>	N/A
<i>Clitemnestra</i>	N/A	<i>Pulverro</i>	Smith (1983)
<i>Didineis</i>	Malloch and Rohwer (1930)	<i>Spilomena</i>	Bohart and Smith (1995)
<i>Epinysson</i>	N/A	<i>Stigmus</i>	Krombein (1973)
<i>Glenostictia</i>	Bohart and Gillaspay (1985)	<b>Crabronidae: Philanthinae</b>	
<i>Gorytes</i>	N/A	<i>Aphilanthops</i>	Bohart and Grissell (1975)
<i>Harpactus</i>	Bohart (1980)	<i>Cerceris</i>	Scullen (1965); Bohart and Grissell (1975); Ferguson (1984)
<i>Hoplisoides</i>	Bohart (1997); Buck (2007)	<i>Clypeadon</i>	Bohart and Grissell (1975)
<i>Hyponysson</i>	N/A	<i>Eucerceris</i>	Scullen (1968); Bohart and Grissell (1975)
<i>Lestiphorus</i>	N/A	<i>Philanthus</i>	Bohart and Grissell (1975)
<i>Microbembex</i>	Bohart and Horning (1971)	<b>Sphecidae: Ammophilinae</b>	
<i>Nysson</i>	N/A	<i>Ammophila</i>	Menke (1965)
<i>Oryttus</i>	Bohart (1968b)	<i>Podalonia</i>	Murray (1940)
<i>Steniolia</i>	Bohart and Gillaspay (1985)	<b>Sphecidae: Chloriontinae</b>	
<i>Stictiella</i>	Bohart and Gillaspay (1985)	<i>Chlorion</i>	N/A
<i>Stizoides</i>	Gillaspay (1963)	<b>Sphecidae: Sceliphrinae</b>	
<i>Zanysson</i>	Rohwer (1921)	<i>Chalybion</i>	Hensen (1988)
<b>Crabronidae: Crabroninae</b>		<i>Sceliphron</i>	van der Vecht and van Bruegel (1968)
<i>Belomicrus</i>	Bohart (1994b)	<b>Sphecidae: Sphecinae</b>	
<i>Crabro</i>	Bohart (1976); Leclercq (2008)	<i>Isodontia</i>	Bohart and Menke (1963)
<i>Crossocerus</i>	Leclercq (2000)	<i>Palmodes</i>	Bohart and Menke (1961)
<i>Ectemnius</i>	Bohart and Kimsey (1979); Leclercq (2007)	<i>Prionyx</i>	Parker (1960); Bohart and Menke (1963)
<i>Larropsis</i>	Bohart and Bohart (1962); Bohart and Bohart (1966)	<i>Sphex</i>	Bohart and Menke (1963)
<i>Lestica</i>	Leclercq (2006)		
<i>Lindenius</i>	N/A		
<i>Liris</i>	Krombein and Shanks Gingras (1984)		
<i>Lyroda</i>	N/A		
<i>Miscophus</i>	N/A		
<i>Oxybelus</i>	Bohart and Schlinger (1957)		
<i>Pisonopsis</i>	Williams (1954)		
<i>Plenoculus</i>	Williams (1960)		
<i>Rhopalum</i>	Leclercq (2002)		
<i>Solierella</i>	Williams (1950); Bohart (1990)		
<i>Tachysphex</i>	Pulawski (1988)		
<i>Tachytes</i>	Bohart (1994a)		
<i>Trypoxylon</i>	Sandhouse (1940)		



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