

**THE APHIDS (HOMOPTERA:APHIDIDAE)
OF BRITISH COLUMBIA
8. FURTHER ADDITIONS**

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ABSTRACT

Twenty-four species of aphids and new host records are added to the taxonomic list of the aphids of British Columbia.

INTRODUCTION

Four previous lists of the aphids of British Columbia (Forbes, Frazer and MacCarthy 1973; Forbes, Frazer and Chan 1974; Forbes and Chan 1976, 1978) recorded 302 species. This includes aphids collected from 514 hosts or in traps and comprises 964 aphid-host plant associations.

The present list adds 24 species of aphids (indicated with an asterisk in the list) and 165 aphid-host plant associations to the previous lists. Ninety-seven of the new aphid-host plant associations are plant species not in the previous lists. The additions bring the number of known aphid species in British Columbia to 326. Aphids have now been collected from 611 different host plants and the total number of aphid-host plant associations is 1129.

Aphids are listed alphabetically by species. The names are in conformity with Eastop and Hille Ris Lambers (1976). The location of each collection site can be determined from Table 1 or from tables of localities in previous lists. The reference points are the same as those shown on the map which accompanies the basic list.

***ALNIFOLIAE (Fitch), PTEROCALLIS**

Alnus incana ssp *tenuifolia*: Vancouver (UBC), Jul 22/77.

AQUILEGIAE (Essig), KAKIMIA

Aquilegia chrysantha: Vancouver (UBC), Jul 11/78.

Aquilegia vulgaris: Vancouver, Jun 2/78.

ASCALONICUS Doncaster, MYZUS

Alyssum montanum: Vancouver (UBC), May 30/78.

Anemone halleri: Vancouver (UBC), May 30/78.

Aquilegia vulgaris: Vancouver, Jun 2/78.

Arabis caucasica: Vancouver (UBC), Mar 29/77.

Bletia sp: Vancouver (UBC), Feb 15/77, (In Greenhouse).

Campanula portenschlagiana: Vancouver (UBC), May 30/78.

Dahlia sp: North Vancouver, Jun 14/77.

Dianthus graniticus: Vancouver (UBC), May 30/78.

Dianthus microlepis: Vancouver (UBC), May 30/78.

Euonymus fortunei 'Kewensis': Vancouver (UBC), May 30/78.

TABLE 1. Localities where aphids were collected, with airline distances from reference points.

Locality	Reference Point	Dir.	Distance	
			km	mi
Beaverdell	Kelowna	SE	53	33
Coquitlam	Vancouver	E	27	17
Diamond Head	Vancouver	NE	72	45
Legate Creek	Prince Rupert	NE	129	80
Richter Pass	Creston	W	230	143
Shannon Falls	Vancouver	N	40	25
Springhouse	Williams Lake	S	24	15

LIST OF SPECIES

AEGOPODII (Scopoli), CAVARIELLA

Aegopodium podagraria: Vancouver, Jul 12/77, Jul 28/77.

AGATHONICA Hottes, AMPHOROPHORA

Rubus idaeus ssp *melanolasius*: Vancouver (CDA) Jul 15/76.

Jasione montana: Vancouver (UBC), May 30/78.

Phlox subulata: Vancouver (UBC), May 30/78.

Pleione sp: Vancouver (UBC), Feb 15/77, (In Greenhouse).

***ASCLEPIADIS Fitch APHIS**

Asclepias speciosa: Penticton, Aug 24/78.

AVENAE (Fabricius) SITOBION

- Dactylis glomerata*: Vancouver (UBC), Jun 14/77.
Elymus mollis var *mollis*: Saanich, Jul 24/77.
Poa glauca: Vancouver (UBC) Jul 22/77.
Polypogon monspeliensis: Vancouver (UBC), Jul 22/77.
Vulpia myuros var *hirsuta*: Vancouver (UBC), Jun 14/77.

BERBERIDIS (Kaltenbach), LIOSOMAPHIS

- Mahonia repens*: Vancouver (UBC), Jul 11/78.

***BETAE Doane, PEMPHIGUS**

- Beta vulgaris*: Vancouver, Mar 1/78.

***BROMI Robinson, CRYPTAPHIS**

- Trap: Penticton, May 31/76, June 7/76.

CALLIPTERUS (Hartig), CALLIPTERINELLA

- Betula papyrifera*: Vancouver (UBC), Oct 7/76.

CARAGANAE (Cholodkovsky),**ACYRTHOSIPHON**

- Caragana pygmaea*: Vancouver (UBC), Jun 10/77.

CARDUI (Linnaeus), BRACHYCAUDUS

- Rhododendron* sp: Vancouver, May 23/78.

***CAUDELLI (Wilson), CINARA**

- Picea* sp: Kaslo, Jul 7/03, (Wilson 1919).

CERASI (Fabricius), MYZUS

- Galium aparine*: Vancouver (UBC), Jun 16/78.

CIRCUMFLEXUM (Buckton), AULACORTHUM

- Aquilegia vulgaris*: Vancouver, Jun 2/78.

- Arctostaphylos uva-ursi*: Vancouver (CDA), Nov. 19/79.

- Saintpaulia ionantha*: Vancouver (CDA), Oct 18/78, (In Greenhouse).

CORYLI (Goeze), MYZOCALLIS

- Corylus maxima* 'Purpurea': Vancouver (UBC), Nov 7/77.

CURVIPES (Patch), CINARA

- Abies lasiocarpa*: Beaverdell, Aug 23/78.

DIRHODUM (Walker), METOPOLOPHIUM

- Polypogon monspeliensis*: Vancouver (UBC), Jul 22/77.

DREPANOSIPHONIDES MacGillivray & Bradley,*TOXOPTERELLA**

- Sorbus sitchensis*: Legate Creek, Jul 19/55, (MacGillivray & Bradley 1961).

ERIOPHORI (Walker), CERURAPHIS

- Carex glareosa* ssp *glareosa*: Vancouver (UBC), Jul 22/77.

- Viburnum sargentii* 'Flavum': Vancouver (UBC), Apr 21/77.

EUPHORBIAE (Thomas), MACROSIPHUM

- Aphelandra squarrosa*: Vancouver, Jun 10/79, Oct 20/78.

- Aquilegia vulgaris*: Vancouver, Jun 2/78.

- Catharanthus roseus*: Vancouver (CDA), Jul 20/77.

- Dianthus deltooides*: Vancouver (UBC), May 30/78.

- Dicentra formosa* ssp *oregana*: Vancouver (UBC), Jul 13/78.

- Enkianthus campanulatus*: Vancouver (UBC), May 30/79.

- Eriogonum compositum*: Vancouver (UBC), Jul 13/78.

- Galium aparine*: Vancouver (UBC), Jun 16/78.

- Geum schofieldii*: Vancouver (UBC), Jul 13/78.

- Iris setosa*: Vancouver (UBC), Jul 13/78.

- Lewisia cantelowii*: Vancouver (UBC), Jul 13/78.

- Myrica gale*: Vancouver (UBC), Jul 11/78, Jul 23/78.

- Polemonium carneum*: Vancouver (UBC), May 25/79.

- Polemonium neltum*: Vancouver (UBC), Jul 11/78.

- Potentilla atrosanguinea*: Vancouver (UBC), May 25/79.

- Rhododendron* sp: Vancouver, May 23/78.

- Rosa rugosa* 'Alba' Vancouver (UBC), May 10/77.

- Sedum lanceolatum* var *nesioticum*:

- Vancouver (UBC), Jul 4/78.

- Silene noctiflora* Clearwater, Jun 28/78.

FABAE Scopoli APHIS

- Aquilegia vulgaris*: Vancouver, Jun 2/78.

- Aralia elata*: Vancouver (UBC), Jun 3/76.

- Myrica californica*: Vancouver (UBC), Jul 11/78.

- Silene alba* ssp *alba*: Vancouver (UBC), Jul 11/78.

FAGI (Linnaeus), PHYLLAPHIS

- Fagus sylvatica* 'Borneyensis': Vancouver (UBC), Apr 30/76.

FOENICULI (Passerini), HYADAPHIS

- Aegopodium podagraria*: Vancouver, Jul 12/77.

***FORMICARIA von Heyden, FORDA**

- Trap: Summerland, Jun 14/76.

FRAGAEFOLII (Cockerell), CHAETOSIPHON

- Rosa rugosa* 'Alba': Vancouver (UBC), May 30/78, Oct 31/77.

FRAGARIAE (Walker), SITOBION

- Anthoxanthum odoratum*: Vancouver (UBC), Jun 9/77.

- Carex flava* var *flava*: Vancouver (UBC), Jul 22/77.

- Festuca brachyphylla*: Vancouver (UBC), Jul 22/77.

- Hordeum brachyantherum*: Vancouver (UBC), Jul 22/77.

- Lolium perenne*: Vancouver (UBC), Jun 14/77.

- Phalaris arundinacea*: Vancouver (UBC), Jun 9/77.

- Poa glauca*: Vancouver (UBC), Jul 22/77.

- Poa pratensis*: Vancouver (UBC), Jun 9/77.

***FRAXINIFOLII (Riley), PROCIPHILUS**

- Fraxinus nigra*: Vancouver (UBC), Mar 15/78, Nov 4/77.

- Fraxinus ornus*: Vancouver (UBC), Apr 11/78, Oct 28/77.

GLYCERIAE (Kaltenbach), SIPHA

- Festuca brachyphylla*: Vancouver (UBC), Jul 22/77.
Hordeum brachyantherum: Vancouver (UBC), Jul 22/77.
Poa glauca: Vancouver (UBC), Jul 22/77.
Poa pratensis: Vancouver (UBC), Jun 9/77.

***GOSSYPII Glover, APHIS**

- Begonia cucullata* var *hookeri*: Vancouver, Oct. 3/76.
Impatiens sp.: Vancouver, Oct 12/76.

HELICHRYSI (Kaltenbach), BRACHYCAUDUS

- Chrysanthemum parthenium*: Vancouver (UBC), Feb 2/77, (In Greenhouse).
Potentilla atrosanguinea: Vancouver (UBC), May 25/79.

HIERACICOLA (Hille Ris Lambers),*UROLEUCON**

- Trap: Penticton, Jul 19/76, Jul 26/76.

HUMBOLDTI (Essig), UTAMPHOROPHORA

- Poa glauca*: Vancouver (UBC), Jul 22/77.

JUNIPERI (de Geer), CINARA

- Juniperus chinensis* 'Pfitzeriana': Vancouver (UBC), Jun 2/78.

KIOWANEPUS (Hottes), MACROSIPHUM

- Zigadenus venenosus* var *gramineus*: Springhouse, Jul 7/75.

***LONICERAE (Siebold), RHOPALOMYZUS**

- Trap: Summerland, Sep 21/76.

***MINUTISSIMA (Stroyan), CALLIPTERINELLA**

- Betula papyrifera*: Vancouver (UBC), Oct 31/77, Nov 4/75.

MORRISONI (Swain), ILLINOIA

- Juniperus chinensis* 'Pfitzeriana': Vancouver (UBC), Jun 2/78.

- Juniperus sabina*: Vancouver (UBC), Jun 2/78.

- Juniperus virginiana*: Vancouver (UBC), Jul 13/78.

NASTURTII Kaltenbach, APHIS

- Hedera* sp.: Vancouver, Feb 14/77.

NERVATA (Gillette), WAHLGRENIELLA

- Arbutus unedo*: Vancouver (UBC), Apr 7/78, Jun 8/78.

- Arctostaphylos uva-ursi* 'Point Reyes': Vancouver (UBC), Jul 11/78.

NERVATA ARBUTI (Davidson),*WAHLGRENIELLA**

- Arbutus menziesii*: Vancouver (UBC), May 30/78.

- Paxistima myrsinites*: Vancouver (UBC), June 25/79.

***NIGRAICENTRUS Richards, CHAITOPHORUS**

- Trap: Summerland, Jun 28/76.

***OREGONENSIS (Wilson), MICROSIPHONIELLA**

- Artemisia tridentata*: Richter Pass, May 24/78.

ORNATUS Laing, MYZUS

- Alyssum murale*: Vancouver (UBC), Jul 13/78.

- Aquilegia olympica*: Vancouver (UBC), Jul 13/78.

- Arctostaphylos uva-ursi*: Vancouver CDA), Nov 19/76.

- Barbarea verna*: Vancouver (UBC), Apr 21/78.

- Cistus ladanifer*: Vancouver (UBC), Jul 11/78.

- Collinsia grandiflora*: Vancouver (UBC), Apr 1/77, (In Greenhouse).

- Deutzia scabra* 'Candidissima': Vancouver (UBC), June 19/78.

- Epiphyllum* sp.: Vancouver, May 10/59.

- Galium aparine*: Vancouver (UBC), Jun 16/78.

- Geranium renardii*: Vancouver (UBC), Jul 11/78.

- Geum schofieldii*: Vancouver (UBC), Jul 13/78.

- Iris setosa*: Vancouver (UBC), Jul 13/78.

- Oenothera erythrosepala*: Vancouver (UBC), Jul 22/77.

- Pereskia aculeata*: North Vancouver, May 10/77.

- Rubus parviflorus*: Vancouver, Jun 13/77.

- Salix lanata*: Vancouver (UBC), Jul 11/78.

- Trifolium dubium*: Vancouver (UBC), Jun 2/78.

PADI (Linnaeus), RHOPALOSIPHUM

- Carex concinnoides*: Vancouver (UBC), Jul 22/78.

- Cyperus alternifolius* 'Coquitlam, Apr 26/77.

- Festuca brachyphylla*: Vancouver (UBC), Jul 22/77.

- Poa glauca*: Vancouver (UBC), Jul 22/77.

PARVIFOLII Richards, MACROSIPHUM

- Vaccinium parvifolium*: Vancouver (UBC), May 22/79, May 31/79, Jun 25/79.

PATRICIAE (Robinson), ILLINOIA

- Thujaopsis dolabrata*: Vancouver (UBC), Jun 2/78.

PERSICAE (Sulzer), MYZUS

- Alcea rosea*: Vancouver, Jul 21/76.

- Asclepias speciosa*: Vancouver (CDA), Oct 17/78.

- Asparagus sprengeri*: Vancouver (UBC), Feb 14/77, (In Greenhouse).

- Aubrieta deltoidea*: Vancouver (UBC), Jan 27/77.

- Bletia* sp.: Vancouver (UBC), Feb 15/77, (In Greenhouse).

- Cistus ladanifer*: Vancouver (UBC), Jul 11/78.

- Cistus laurifolius*: Vancouver (UBC), Jul 11/78.

- Collinsia grandiflora*: Vancouver (UBC), Mar 15/77, Apr 1/77, (In Greenhouse).

- Hebe* sp.: Vancouver (UBC), Feb. 14/77, (In Greenhouse).

- Impatiens wallerana*: Vancouver (UBC), Mar 8/77, (In Greenhouse).

- Marsilea vestita*: Vancouver (UBC), Apr 1/77, (In Greenhouse).

- Nemophila menziesii* var *discoidalis*: Vancouver (UBC), Feb 16/77, (In Greenhouse).

- Pleione* sp.: Vancouver (UBC), Feb 15/77, (In Greenhouse).

Polemonium neltitum: Vancouver (UBC), Jul 11/78.
Teucrium canadense ssp *viscidum*: Vancouver (UBC), Feb 16/77, (In Greenhouse).
PISUM (Harris), ACYRTHOSIPHON
Lembotropis nigricans: Vancouver (UBC), Jul 11/78.
Trifolium pratense; Vancouver (CDA), Oct 17/78, (In Greenhouse).
***POLUNINI (Stroyan), BYRSOCRYPTOIDES**
Carex mertensii: Diamond Head, Aug 13/74, (Footitt & Mackauer 1980); Shannon Falls, Jun 26/65, Sep 15/74, (Footitt & Mackauer 1980).
POMI de Geer, APHIS
Sorbus aucuparia 'Edulis': Vancouver (UBC), Aug 3/78.
POPULIFOLII NEGLECTUS Hottes & Frison, CHAITOPHORUS
Populus grandidentata: Vancouver (UBC), Oct 31/77.
PUNCTIPENNIS (Zetterstedt), EUCERAPHIS
Betula papyrifera: Vancouver (UBC), Oct 7/76, Nov 9/78.
***PUSILLUS Hottes & Frison, CHAITOPHORUS**
 Trap: Penticton, Jul 19/76.
***ROSARUM (Kaltenbach), MYZAPHIS**
Potentilla fruticosa: Vancouver (UBC), Jul 13/78.
***SACCULI (Gillette), PACHYPAPPA**
Populus tremuloides: Kaslo, Jun 23/03, (MacDougall 1926).
***SALICINIGER (Knowlton), CHAITOPHORUS**
 Trap: Summerland, Jul 12/76.
***SCAMPELLI (Mason), ERICAPHIS**
Arctostaphylos uva-ursi: Vancouver (UBC), May 20/75.
SIPHUNCULATA Richards, PLACOAPHIS
Rosa nutkana: Vancouver (UBC), May 2/78.
Rosa rugosa 'Alba': Vancouver (UBC), Apr 7/78, May 10/77, May 30/78, Oct 31/77.
SOLANI (Kaltenbach), AULACORTHUM
Alstroemeria aurantiaca: Vancouver (UBC), May 30/78.

Anemone halleri: Vancouver (UBC), May 30/78.
Aquilegia vulgaris: Vancouver, Jun 2/78.
Cerastium tomentosum: Richmond, Jun 3/78.
Dahlia sp: North Vancouver, Jun 14/77.
Dianthus graniticus: Vancouver (UBC), May 30/78.
Fuchsia sp: Vancouver, Aug 23/78.
Lamium amplexicaule: Vancouver (UBC), Mar 18/77.
Lilium mackliniae: Vancouver (UBC), Jun 2/78.
Magnolia sieboldii: Vancouver (UBC), Jun 19/78.
Rubus idaeus: Vancouver (CDA), Sep 20/78, Oct 10/78, (In Greenhouse).
Tolmiea menziesii: Surrey, Feb 16/77.
Ulmus glabra 'Camperdownii': Vancouver (UBC), Jun 9/77.
STAPHYLEAE (Koch), RHOPALOSIPHONINUS
Aralia elata: Vancouver (UBC), Jun 3/76.
Yucca filamentosa: Vancouver (UBC), Sep 9/78.
TANACETARIA (Kaltenbach), MACROSIPHONIELLA
Tanacetum bipinnatum ssp *huronense*: Vancouver (UBC), Jul 22/77.
TESTUDINACEUS (Ferne), PERIPHYLLUS
Acer saccharinum: Vancouver (UBC), May 30/78.
***ULMICOLA (Fitch), COLOPHA**
 Trap: Summerland, Sep 23/75.
VERRUCOSA Gillette, THRIPSAPHIS
Carex glareosa ssp *glareosa*: Vancouver (UBC), Jul 22/77.
***VICTORIA Essig, MINDARUS**
Abies grandis: Victoria, Jun 7/38, (Essig 1939).
***WAKIBAE (Hottes), FIMBRIAPHIS**
Kalmia latifolia 'Alba': Vancouver (UBC), Jun 20/78.
WALSHII (Monell), MYZOCALLIS
Ulmus americana: Vancouver (UBC), Aug 3/78.
 *Aphid species not in the previous lists.

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BOOK REVIEW

THE MOSQUITOES OF CANADA

D. M. Wood, P. T. Dang and R. A. Ellis. 1979. Publication 1686. Research Branch, Agriculture Canada, Ottawa. 390pp., 75 plates and maps, 203 text figs.

This book, the sixth in the praiseworthy series of Insects and Arachnids of Canada, has already received several favourable reviews. Since it introduces a number of innovative and some controversial ideas, no apology is needed for reviewing it again with particular reference to our fauna in British Columbia.

The seven introductory sections are packed with information that any entomologist should find useful. My only serious criticism of the volume begins in the part dealing with anatomy, where five essential diagrams, showing the positions of taxonomically important setae, are crowded into a space of 12 x 17cm. Admittedly, the format of the series is octavo (15 x 23 cm), but most of these diagrams could have covered a full page to advantage. The plates showing parts of the larva, the adult thorax and the male terminalia of each species could also have been larger; I believe such accurate and artistic work deserves a full quarto page in the style of Carpenter & La Casse. Special praise is due to the airbrush expert who transformed the photographs of tarsal claws into works of art. There is no explanation of why *Aedes nigripes* is singled out to have its thoracic setae drawn on P1. 37. This may confuse someone comparing it with *impiger* which, although blessed with a similar crop of these outgrowths, appears naked on P1. 31. I was interested to see several well-known taxonomists turn the book upside-down to study Figs. 10 & 11 where the male terminalia are drawn with the anterior at the top of the page for the first time in over a century. Some of the terminology applied to the sclerites of the thorax is new and is being generally accepted, but I wish the authors had also revised the terms, hypostigmal and subspiracular that refer to different areas of the mesothoracic anepisternum. It has never been clear to me why the Greek area should be immediately, and the Latin some distance, below the spiracle.

For British Columbian users the keys work satisfactorily. The use of "hand lens only" characters for the larvae is admirable and, for the first time, I have found it possible to identify field-collected female aedines with reasonable confidence, although in the lower mainland it is still possible to confuse *punctor*, *aboriginis* and *hexodontus* without a reference collection of reared adults.

An errant numeral in the key to male aedines was pointed out in the Bull. Ent. Soc. Can.: couplet 13 should lead to 14 & 19 not 14 & 18 and couplet 17 should lead to 18 not to *fitchii*. Some other inconsistencies should also be corrected; for example the numbering of the wing veins. They differ in the initial description (p.34) and in the similar aedines, *dorsalis* and *melanimon* which have acquired two extra branches of the Media. References to mesothoracic seta 1-M being branched only in the larvae of *campestris*, *dorsalis* and *schizopinax* are misleading. There are other species in which this seta is branched, but in no other is it as long as head setae 5 & 6-C. In *melanimon*, the description of siphon seta 1-S does not correspond with the figure and in *spencerii* both its description and figure differ from Table 3. Also in Table 3, the lengths of seta 3-M and 4-P appear to be reversed and there are a few other typographical slips where setae S, X, M and P are confused; in context, however, their meaning is usually clear. The correct reference is given for Hearle's description of *A. pacificensis* but the date is misprinted on p.151. There was perhaps some difference of opinion between the authors on the spelling of the name Degeer, which Ellis & Brust (1973) defend. All references in this book are to De Geer, including, wrongly, that to the above paper.

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