

THE APHIDS (HOMOPTERA: APHIDIDAE) OF BRITISH COLUMBIA

4. FURTHER ADDITIONS AND CORRECTIONS¹

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ABSTRACT

Twenty-five species of aphids are added to the taxonomic list of the aphids of British Columbia. New host records, a few corrections, and some name changes are also included.

INTRODUCTION

Two previous lists of the aphids of British Columbia recorded 261 species collected from 294 hosts or in traps (Forbes, Frazer, and MacCarthy 1973; Forbes, Frazer and Chan 1974).

The present list adds 25 species of aphids (indicated with an asterisk in the list) and 213 aphid-host plant associations to the previous lists. One hundred and twenty-nine 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 286. Aphids have now been collected from 423 different host plants.

The present paper includes a few corrections to the previous lists and some name changes in conformity with current usage in aphid taxonomy. The aphids are arranged alphabetically by species. The location of each collection site can be determined from Table 1 or from the tables of localities in the previous papers.

The complete data for all collections have now been computerized, so that up-to-date aphid or host lists are easily available. The computer programming is described in detail elsewhere in this Journal (Raworth, and Frazer 1976).

LIST OF SPECIES

- ABIETINUM (Walker), ELATOBIIUM
Picea sp: Vancouver, May 3/74, May 7/75.
- AEGOPODII (Scopoli), CAVARIELLA
Petroselinum crispum: Vancouver,
Apr. 29/75.
- ALBIPES Richards, THELAXES
Quercus prinus: Vancouver (UBC), Jun 6/75,
Jun 11/75.
- ALNI (DeGeer), PTEROCALLIS
Alnus rubra: Vancouver, Sep 26/75.
- ALNIFOLIAE ALNIFOLIAE (Williams),
PROCIPHILUS Previously listed as
PROCIPHILUS ALNIFOLIAE Williams.
Amelanchier canadensis: Vancouver (UBC),
Jun 11/75.
- ANNULATUS (Hartig), TUBERCULOIDES
Quercus garryana: Vancouver (UBC),
Jun 11/75.
Quercus robur: Vancouver, Sep 26/75; Van-
couver (UBC), Jun 12/74.
Quercus robur var *fastigiata*: Vancouver
(UBC), Jun 18/75.
Quercus sp: Vancouver, Jun 2/73.
- ASCALONICUS Doncaster, MYZUS
Arctostaphylos uva-ursi: Vancouver (UBC),
May 5/75.
Fragaria Sp: Vancouver (UBC), May 15/74.
Lactuca sp: Vancouver, Apr 5/58.
Ranunculus occidentalis: Vancouver,
May 20/75.
Rheum rhaponticum: Vancouver, May 20/75.
Viola sp: North Vancouver, May 25/75.

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

Locality	Reference Point	Dir.	Distance	
			km	mi
Bridestville	Kelowna	S	94	59
Delta	Vancouver	S	24	15
Lac La Hache	Williams Lake	SE	58	36
Laidlaw	Vancouver	E	104	65
Robson	Creston	NW	93	58
Salmon Arm	Kamloops	E	72	45
West Vancouver	Vancouver	W	13	8

- *AUREUS Richards, BETULAPHIS
Betula sp: Terrace, Jul 12/60 (Richards 1961a).
- AVENAE (Fabricius), MACROSIPHUM
Avena sativa: Agassiz, Jul 28/69.
Juncus articulatus: Vancouver (UBC), Aug 7/74.
Juncus bufonius: Vancouver (UBC), Aug 7/74.
Scirpus validus: Vancouver (UBC), Aug 9/74.
Triglochin maritimum: Vancouver (UBC), Aug 9/74.
Zea mays: Agassiz, Jul 28/69.
- BAKERI (Cowen), ROEPKEA
Crataegus douglasii: Vancouver (UBC) Jun 5/75.
Prunus avium: Summerland, Oct 25/74.
Prunus domestica: Summerland, Oct 25/74.
- BERBERIDIS (Kaltenbach), LIOSOMAPHIS
Berberis aquifolium: Vancouver, May 15/73; Vancouver (UBC), Jul 8/74.
Berberis hybridogagnepaini: Vancouver (UBC), Jun 19/75.
- BICOLOR BICOLOR (Oestlund), PTEROCOMMA
Populus nigra var *italica*: Vancouver (UBC), Apr 24/74, Apr 26/74, Apr 30/74, May 9/73.
Populus sp: Vancouver (UBC), May 21/73.
Populus trichocarpa: Vancouver (UBC), May 21/73.
Salix sp: North Vancouver, May 20/73.
- BURSARIUS (Linnaeus), PEMPHIGUS
Populus nigra var *italica*: Vancouver (UBC), Jun 28/73.
- CALIFORNICUM (Clarke), MACROSIPHUM
Salix scouleriana: Vancouver (UBC), Jun 25/74.
Salix sp: Vancouver (UBC), Jun 8/73.
- *CALLUNAE Theobald, APHIS
Calluna vulgaris: Vancouver (UBC), Jul 18/74, Jul 19/74.
- CARAGANAE (Cholodkovsky), ACYRTHOSIPHON
Caragana arborescens: Vancouver (UBC), Aug 14/75.
- CARDUI (Linnaeus), BRACHYCAUDUS
Prunus domestica: Summerland, Oct 25/74.
- CASTANICOLA Baker, MYZOCALLIS
Castanea dentata: Vancouver (UBC), Sep 4/75.
- CERASI (Fabricius), MYZUS
Prunus avium: Summerland, Oct. 25/74.
Prunus cerasus: Vancouver (CDA), Apr 18/75 (In Rearing Room).
Prunus emarginata: Creston, May 30/75, Jun 28/75; Robson, Jun 29/75.
Prunus serrulata var *shirofugen*: Vancouver, May 13/75.
Prunus sp: Creston, Jun 28/75; Summerland, Jun 3/75.
- CERASIFOLIAE (Fitch), RHOPALOSIPHUM
Prunus virginiana: Summerland, May 28/75, Jun 19/75.
Prunus virginiana var *demissa*: Bridesville, Jun 4/75; Robson, Jun 29/75.
- CIRCUMFLEXUS (Buckton), AULACORTHUM
Campanula persicifolia: Vancouver, Aug 19/75.
Oxalis corniculata: Vancouver, Jul 23/75, Aug 19/75.
- CIRSII (Linnaeus), DACTYNOTUS
Cirsium arvense: Ladner, Jul 17/74.
- CLAVICORNIS Richards, AULACORTHUM
Rosa sp: Williams Lake, Jun 15/56.
- CORNI (Fabricius), ANOECIA
Cornus obliqua: Vancouver (UBC), Oct 24/75.
- CORNIELLA Hille Ris Lambers, APHIS
Cornus 'Eddie's White Wonder': Vancouver (UBC), Sep 9/75.
Cornus florida: Vancouver (UBC), Sep 9/75.
Cornus florida var *pluribracteata*: Vancouver (UBC), Sep 9/75.
Cornus kousa: Vancouver (UBC), Sep 9/75.
Cornus mas: Vancouver (UBC), Sep 11/75.
Cornus obliqua: Vancouver (UBC), Sep 11/75.
Cornus racemosa: Vancouver (UBC), Sep 9/75.
- CORYLI (Goeze), MYZOCALLIS
Corylus cornuta: Vancouver (UBC), Aug 27/74, Oct 2/75.
- *COWENI (Cockerell), TAMALIA
Arctostaphylos uva-ursi: Vancouver (UBC), Sep 12/75.
- CRACCIVORA Koch, APHIS
Holodiscus discolor: Brentwood, Jul 5/59.
- CYPERI (Walker), TRICHOCALLIS
Carex sitchensis: Vancouver (UBC), Aug 9/74.
- DIRHODUM (Walker), ACYRTHOSIPHON
Crataegus oxyacantha 'Paul's Scarlet': Vancouver (UBC), Jun 5/75.
- DORSATUM Richards, AULACORTHUM
Gaultheria shallon: Vancouver (UBC), Sep 2/75.
- ELAEAGNI (Del Guercio), CAPITOPHORUS
 Previously listed as ELAEGNI (del Guercio) due to a typographical error.
- *ENIGMAE Hottes & Frison, RHOPALOSIPHUM
Typha latifolia: Vancouver (UBC), Aug 9/74.
- *EPILOBII Kaltenbach, APHIS
Epilobium watsonii: Vancouver, Jun 11/73.
- ERIOPHORI (Walker), CERURAPHIS
Carex sitchensis: Vancouver (UBC), Aug 9/74.
Scirpus microcarpus: Vancouver (UBC), Aug 9/74.
Viburnum opulus: Vancouver, Apr 22/73.

- EUPHORBIAE (Thomas), MACROSIPHUM**
Chaenomeles japonica: Vancouver, Jun 13/75.
Cornus stolonifera: Vancouver (UBC),
 Jul 15/75, Aug 5/75, Aug 27/74.
Dahlia sp: Vancouver, Aug 1/74.
Deutzia gracilis: Vancouver (UBC),
 Jun 19/75.
Deutzia x rosea var *carminea*: Vancouver
 (UBC), Jun 18/75.
Dicentra formosa: Vancouver (UBC),
 Jun 10/74.
Escallonia x edinensis: Vancouver (UBC),
 Sep 4/75.
Forsythia sp: Vancouver (UBC), Jun 27/75.
Fragaria sp: Victoria, May 30/57.
Fuchsia hybrida: Vancouver, Aug 27/75.
Gynura aurantiaca: Richmond, Nov 4/75.
Halesia carolina: Vancouver (UBC),
 Jun 26/75, Jul 22/75.
Hypochaeris radicata: Vancouver (UBC),
 Jun 13/75.
Ilex aquifolium var *aureo-marginata*: Van-
 couver (UBC), Jun 18/75.
Iris kaempferi: Vancouver (UBC), Aug 28/74.
Lapsana communis: Vancouver, Jun 13/75.
Liriodendron tulipifera: Vancouver (UBC),
 Jun 9/75, Aug 14/75.
Montia sibirica: Vancouver (UBC), Jun 13/75.
Philadelphus lewisii: Vancouver (UBC),
 Jul 15/75.
Philadelphus lewisii var *gordonianus*: Van-
 couver, Apr 20/73; Vancouver (UBC),
 Jun 22/59, Aug 8/59.
Philadelphus x virginialis: Vancouver (UBC),
 May 16/75, Jun 17/75, Jun 18/75, Jun 26/75,
 Jun 27/75.
Rosa sp: Vancouver, May 16/73, May 16/74.
Salix sp: Vancouver, Jun 13/73.
Spiraea douglasii: Vancouver (UBC),
 Jun 25/74, Jul 15/75.
Verbena x hybrida: Trout Creek, Sep 3/65.
Vinca minor: Vancouver (UBC), Jun 19/75.
- FABAE Scopoli, APHIS**
Amelanchier canadensis: Vancouver (UBC),
 Jun 11/75.
Callistephus chinensis: Vancouver (CDA),
 Aug 7/75 (In Greenhouse).
Chenopodium album: Vancouver (UBC),
 Aug 11/75.
Cuscuta subinclusa: Vancouver (CDA),
 Aug 7/75 (In Greenhouse).
Deutzia gracilis: Vancouver (UBC), Jun
 19/75.
Euonymus alatus: Vancouver (UBC),
 Sep 4/75.
Euonymus europaea: Vancouver (UBC),
 May 23/75, Sept 9/75, Sep 22/75.
Euonymus latifolius: Vancouver (UBC),
 Sep 9/75.
Fatsia japonica: Vancouver, Jul 13/75.
Ficus carica: Vancouver (UBC), Jun 23/75.
Hedera helix: North Vancouver, May 16/73.
- Liriodendron tulipifera*: Vancouver (UBC),
 Aug 14/75.
Matricaria matricarioides: Vancouver (UBC),
 Jul 21/75.
Philadelphus lewisii var *gordonianus*: Van-
 couver, Apr 20/73.
Philadelphus sp: Vancouver, Jun 29/71.
Philadelphus x virginialis: Vancouver (UBC),
 May 16/75, Jun 18/75.
Sassafras albidum: Vancouver (UBC),
 Sep 9/75.
Viburnum trilobum: Vancouver (UBC),
 Jul 3/75, Sep 3/75.
- FAGI (Linnaeus), PHYLLAPHIS**
Fagus sylvatica var *purpurea*: Vancouver,
 May 14/73.
- FARINOSA Gmelin, APHIS**
Salix sp: West Vancouver, May 25/73.
- FIMBRIATA Richards, FIMBRIAPHIS**
Arctostaphylos uva-ursi: Vancouver (UBC),
 Jun 2/75.
Fragaria sp: Agassiz, May 15/75; Lulu
 Island, May 23/57.
- FRAGAEFOLII (Cockerell),**
CHAETOSIPHON
Fragaria sp: Lulu Island, Jul 17/57; Van-
 couver, Apr 24/59; Vancouver (UBC),
 May 15/74.
Rosa sp: Summerland, Jun 19/75.
- FRAGARIAE (Walker), MACROSIPHUM**
Juncus bufonius: Vancouver (UBC),
 Aug 7/74.
Rubus discolor: Vancouver (UBC), Jun 12/74.
Scirpus validus: Vancouver (UBC),
 Aug 9/74.
- *GALEOPSISIDIS (Kaltenbach)**
CRYPTOMYZUS
Ribes laxiflorum: Vancouver, Aug 3/60.
- *GENTNERI (Mason), FIMBRIAPHIS**
Amelanchier laevis: Vancouver (UBC),
 Jun 5/75.
Crataegus douglasii: Vancouver (UBC),
 Jun 5/75.
Mespilus germanica: Vancouver (UBC),
 Apr 28/75, Jun 11/75.
- *GLYCERIAE (Kaltenbach), SIPHA**
Agrostis alba var *palustris*: Vancouver
 (UBC), Jul 23/74.
- GRAVICORNIS (Patch), PARATHECABIUS**
 Previously listed as **THECABIUS GRAVI-
 CORNIS (Patch)**.
- HEDERAE (Kaltenbach), APHIS**
 Previously listed as **APHIS PSEUDOHED-
 ERAE Theobald**.
Hedera helix: North Vancouver, May 16/73.
- HELICHRYSI (Kaltenbach),**
BRACHYCAUDUS
Chaenomeles japonica: Vancouver, Jun 13/75.
Philadelphus sp: Vancouver, Jun 8/59.
Philadelphus x virginialis: Vancouver (UBC),
 Jun 20/75.

- Prunus domestica*: Robson, May 30/75; Summerland, Oct 25/74.
Prunus sp: Surrey, May 20/73.
Verbena x hybrida: Trout Creek, Sep 3/65.
- HERACLELLA Davis, APHIS
Heracleum lanatum: Vancouver (UBC), Aug 7/75.
- HIPPOPHAES (Walker) CAPITOPHORUS
Polygonum lapathifolium: Vancouver (UBC), Aug 26/74.
Polygonum persicaria: Pemberton, Aug 25/75.
- *HUMBOLDTI (Essig), SITOMYZUS
Physocarpus malvaceus: Vancouver (UBC), May 28/75.
- *HYDRANGEAE (Matsumura), RHOPALOSIPHONINUS
Deutzia gracilis: Vancouver (UBC), Jun 19/75.
- JUGLANDICOLA (Kaltenbach), CHROMAPHIS
Juglans sp: Vancouver, May 29/73.
- *KNOWLTONI Robinson, MYZODIUM
Callitriche stagnalis: Vancouver (UBC), Aug 26/74.
- LACTUCAE (Linnaeus), HYPEROMYZUS
Ribes laxiflorum: Burnaby, Jun 6/75.
- LACTUCAE (Passerini), ACYRTHOSIPHON
Lactuca sp: Penticton, Jul 27/67.
- LAMBERSI MacGillivray, MASONAPHIS
Gaultheria shallon: Vancouver (UBC), Jun 17/75.
Ilex altaclarensis: Vancouver (UBC), Jun 18/75.
Ilex aquifolium: Vancouver (UBC), Jun 18/75.
Ilex aquifolium var *aureo-marginata*: Vancouver (UBC), Jun 18/75.
Rhododendron 'Directeur Moerlands': Vancouver (UBC), Jun 9/75.
Rhododendron 'Glacier': Vancouver (UBC), Sep 3/75.
Rhododendron luteum: Vancouver (UBC), Jun 6/75, Jun 9/75.
Rhododendron 'Princess Elizabeth': Vancouver (UBC), Jun 6/75, Jun 9/75.
Rhododendron sp: Burnaby, Jun 9/75; Vancouver, Jun 6/75; Vancouver (UBC), Jun 16/75, Jun 17/75.
- LANIGERUM (Hausmann), ERIOSOMA
Pyrus fusca: Delta, May 7/73.
- LONGICAUDA Richards, ASPIDAPHIS
Spiraea douglasii: Vancouver (UBC), Jul 15/75.
- LYTHRI (Schrank), MYZUS
Prunus domestica: Vancouver, Jun 2/73.
- MACROSIPHUM (Wilson), ACYRTHOSIPHON
Amelanchier alnifolia: Summerland, May 28/75.
- Amelanchier canadensis*: Vancouver (UBC), Jun 11/75.
Amelanchier laevis: Vancouver (UBC), Jun 5/75.
- *MAGNA Hille Ris Lambers, MASONAPHIS
Composites: Lac La Hache, Jul 6/66 (Hille Ris Lambers 1974).
- *MANITOBENSIS Robinson, MACROSIPHUM
Cornus stolonifera: Vancouver (UBC), Jun 12/74.
- MAXIMA (Mason), MASONAPHIS
Rubus parviflorus: Vancouver (UBC), Apr 3/74, Apr 18/74, Apr 22/74, Jun 18/74, Aug 27/74.
- *MODESTUM (Hottes), MYZODIUM
Pogonatum urnigerum: Vancouver (UBC), Aug 26/74.
Polytrichum commune: Vancouver (UBC), Aug 6/74, Aug 7/74, Aug 14/74.
Polytrichum juniperinum: Vancouver (UBC), Mar 6/75, Jul 3/74, Jul 8/74, Jul 16/74, Jul 23/74, Aug 2/74, Aug 7/74, Aug 9/74.
- MORRISONI (Swain), MASONAPHIS
Chamaecyparis pisifera: Vancouver (UBC), Aug 15/74.
Chamaecyparis pisifera 'Boulevard': Vancouver (UBC), Jul 30/74.
Chamaecyparis pisifera 'Filifera': Vancouver (UBC), Aug 15/74.
Chamaecyparis pisifera 'Plumosa': Vancouver (UBC), Jul 30/74, Aug 15/74, Aug 27/75.
Chamaecyparis pisifera 'Squarrosa': Vancouver (UBC), Jul 30/74.
Cupressocyparis leylandii: Vancouver (UBC), Aug 15/74.
Juniperus chinensis 'Pfitzeriana': Vancouver (UBC), Aug 15/74.
Sequoiadendron giganteum: Vancouver (UBC), Sep 4/75, Sep 11/75.
Thuja plicata: Vancouver (UBC), Aug 29/74.
- NEOMEXICANA (Cockerell), APHIS
Ribes laxiflorum: Agassiz, May 11/59.
Ribes sanguineum: Vancouver (UBC), May 16/75.
- NERVATA (Gillette), WAHLGRENIELLA
Arbutus menziesii: Vancouver (UBC), Apr 7/75, Apr 28/75.
- NYMPHAEAE (Linnaeus), RHOPALOSIPHUM
Alisma plantago-aquatica: Vancouver (UBC), Aug 28/74.
Elodea canadensis: Vancouver, Sep 22/74.
Prunus avium: Summerland, Oct 25/74.
Prunus domestica: Summerland, Oct 25/74.
Prunus persica: Summerland, Oct 25/74.
Prunus sp: Surrey, May 20/73.
Saururus cernuus: Vancouver (UBC), Aug 28/74.

- OCCIDENTALIS (Davidson), CINARA
Abies siberica: Vancouver (UBC), Jul 10/75.
- ORNATUS Laing, MYZUS
Abelia 'Edward Goucher': Vancouver (UBC),
 Jun 24/75, Oct 24/75.
Campanula persicifolia: Vancouver, Jul
 15/75, Aug 19/75.
Deutzia x rosea var *carminea*: Vancouver
 (UBC), Jun 18/75.
Forsythia x intermedia: Vancouver (UBC),
 Jun 18/75.
Gynura aurantiaca: Richmond, Nov 5/75.
Lactuca sp.: Vancouver, Apr 5/58.
Lapsana communis: Vancouver, Jun 13/75.
Mentha spicata: Vancouver, Jul 23/75.
Oxalis corniculata: Vancouver, Jul 23/75.
Philadelphus lewisii var *gordonianus*: Van-
 couver (UBC), May 22/58.
Philadelphus x virginalis: Vancouver (UBC),
 Jun 18/75.
Primula alpicola ssp *luna*: Vancouver (UBC),
 Sep 12/75.
Ranunculus occidentalis: Vancouver,
 May 20/75.
Rheum rhaponticum: Vancouver, May 20/75.
Trifolium pratense: Vancouver, Sep 26/75.
Weigela 'Eva Rathke': Vancouver (UBC),
 Jul 3/75, Sep 3/75.
- OSMARONIAE (Wilson), MACROSIPHUM
Osmaronia cerasiformis: Vancouver (UBC),
 Apr 30/75, Aug 29/74.
- PADI (Linnaeus), RHOPALOSIPHUM
Prunus virginiana: Summerland, May 28/75.
- *PALUSTRIS (Theobald), EUSCHIZAPHIS
Juncus articulatus: Vancouver (UBC),
 Aug 6/74, Aug 7/74.
Juncus tenuis: Vancouver (UBC), Aug 6/74.
- PARVIFLORI Hill, AMPHOROPHORA
Rubus discolor: Vancouver (UBC), Jun
 12/74, Jun 25/74.
- PASTINACAE (Linnaeus), CAVARIELLA
Heracleum lanatum: Vancouver, May 24/73;
 Vancouver (UBC), Aug 7/75.
Salix lasiandra: Vancouver, Sep 26/75.
Salix sp.: Vancouver, Jun 5/73.
- PERSICAE (Sulzer), MYZUS
Callistephus chinensis: Vancouver (CDA),
 Nov 3/75 (In Greenhouse).
Capsicum sp.: Chilliwack, Aug 27/74.
Convolvulus sepium: Vancouver, May 15/75.
Daucus carota: Vancouver (CDA), May
 23/74 (In Greenhouse).
Epilobium watsonii: Vancouver (UBC),
 Aug 18/75.
Philadelphus x virginalis: Vancouver (UBC),
 Jul 22/75.
Pisum sativum: Vancouver (CDA), Nov
 17/75 (In Greenhouse).
Plantago major: Vancouver (UBC),
 Sep 11/74.
- Portulaca oleracea*: Vancouver (UBC),
 Sep 11/74.
Prunus persica: Summerland, Oct 25/74.
Vicia faba: Agassiz, Jul/65.
- *PILICORNIS (Hartig), CINARA
 In flight: Vancouver (UBC), Jun 11/75.
Tsuga heterophylla: Vancouver, Jul 14/75.
- PINEA (Mordvilko), CINARA
Pinus nigra: Vancouver (UBC), Jun 23/75.
Pinus sylvestris: Vancouver (UBC),
 Sep 4/75.
- PINETI (Fabricius), SCHIZOLACHNUS
Pinus sylvestris: Vancouver (UBC), Sep 4/75.
- *PISUM SPARTII (Koch),
 ACYRTHOSIPHON
Cytisus scoparius: Vancouver (UBC),
 Aug 29/74.
- PLANTAGINEA (Passerini), DYSAPHIS
Malus sp.: Vancouver (UBC), Jun 13/75.
- POMI DeGeer, APHIS
Amelanchier canadensis: Vancouver (UBC),
 Jun 11/75.
Cotoneaster bullata: Vancouver (UBC),
 Jun 20/75.
Cotoneaster dammeri: Vancouver (UBC),
 Jun 5/75.
Cotoneaster horizontalis: Vancouver (UBC),
 Jun 5/75.
Cotoneaster salicifolia 'Repens': Vancouver
 (UBC), Jun 5/75.
Crataegus douglasii: Vancouver (UBC),
 Jun 5/75.
Malus ionensis: Vancouver (UBC), Jun 17/75.
Pyracantha crenulata 'Flava': Vancouver
 (UBC), Sep 11/75.
Sorbus aucuparia: Vancouver (UBC),
 Jun 18/75.
- POPULIMONILIS (Riley),
 PARATHECABIUS
 Previously listed as THECABIUS POPULI-
 MONILIS (Riley).
- POPULIVENAE Fitch, PEMPHIGUS
Rumex acetosella: Richmond, Oct 6/75.
- *PRAETERITA Walker, APHIS
Epilobium angustifolium: Lulu Island,
 Jul 14/70.
- *PRUNI Wilson & Davis, ASIPHONAPHIS
Prunus virginiana: Summerland, May 28/75.
- PRUNI (Geoffroy), HYALOPTERUS
Prunus avium: Summerland, Oct 25/74.
Prunus domestica: Summerland, Oct 25/74.
Typha latifolia: Salmon Arm, Aug 18/74;
 Vancouver (UBC), Aug 9/74.
- *PSEUDOMORRISONI MacGillivray,
 MASONAPHIS
Juniperus squamata 'Meyeri': Vancouver
 (UBC), Sep 11/75.

- PSEUDOTAXIFOLIAE** Palmer, CINARA
Moericke yellow pan water trap: Chilliwack, Aug 2/67.
- *PUNCTATA** (Monell), MYZOCALLIS
Quercus macrocarpa: Vancouver (UBC), Jul 10/75.
Quercus prinus: Vancouver (UBC), Jun 11/75.
- PUNCTIPENNIS** Zetterstedt, EUCERAPHIS
Betula papyrifera var *commutata*: Vancouver (UBC), Apr 18/74.
- RHAMNI** Clarke, MACROSIPHUM
Rhamnus purshiana: Vancouver (UBC), Nov 4/75.
- ROSAE** (Linnaeus), MACROSIPHUM
Ilex altaclarensis: Vancouver (UBC), Jun 18/75.
Ilex glabra: Vancouver (UBC), Jun 19/75.
Ilex integra: Burnaby, Jun 9/75.
- RUSSELLAE** Hille Ris Lambers, DACTYNOTUS
Anaphalis margaritacea: Vancouver (UBC), Sep 12/75, Sep 23/75.
- SAMBUCIFOLIAE** Fitch, APHIS
Sambucus racemosa var *arborescens*: Vancouver (UBC), Apr 19/75, Apr 30/75, Aug 27/74.
- SANGUICEPS** Richards, PTEROCOMMA
Salix scouleriana: Vancouver (UBC), Apr 18/74, Apr 30/74, May 10/74.
Salix sp: Vancouver (UBC), Oct 23/48.
- SCABROSUM** Richards, AULACORTHUM
Rubus spectabilis: Vancouver (UBC), Jun 25/74.
- SCLEROSA** Richards, ROEPKEA
Crataegus douglasii: Duncan, Aug 4/65 (Richards 1969).
Lathyrus nevadensis ssp *lancoelatus*: Victoria, Aug 5/65 (Richards 1969).
- SENSORIATA** (Gillette & Bragg), ROEPKEA
Previously listed as SENSORIATA (Gillette & Palmer) due to a typographical error.
- SIPHUNCULATA** Richards, PLACOAPHIS
In flight: Vancouver (UBC), Sep 23/75.
Rosa sp: Creston, Jun/55 (Richards 1961b).
- SOLANI** (Kaltenbach), AULACORTHUM
Aucuba japonica: Vancouver, Jun 4/74.
Clematis 'Nelly Moser': North Vancouver, May 20/74.
Digitalis purpurea: Vancouver, Sep 26/75.
Heracleum lanatum: Vancouver (UBC), Jun 9/75.
Lapsana communis: Vancouver, Jun 13/73.
Philadelphus lewisii var *gordonianus*: Vancouver, Apr 20/73.
Primula juliae 'Wanda': Victoria, May 18/73.
Primula sp: Vancouver (CDA), Mar 9/75 (In Greenhouse).
Tilia americana: Vancouver (UBC), Jun 11/75.
- Tropaeolum majus*: North Vancouver, Jun 18/74.
Tulipa gesneriana: North Vancouver, May 25/75.
- SPIRAEAE** MacGillivray, MASONAPHIS
Previously listed as SPIRAEAE (MacGillivray) due to a typographical error.
Corylus cornuta: Vancouver (UBC), Jun 10/74, Jun 12/74.
Spiraea douglasii: Vancouver (UBC), Jul 15/75.
- *SPIRAECOLA** (Patch), MASONAPHIS
Spiraea thunbergii: Vancouver (UBC), Jun 18/75.
- *SPIROTHECAE** Passerini, PEMPHIGUS
Populus nigra var *italica*: Vancouver (UBC), Apr 24/74, Apr 25/74, Apr 26/74, Apr 30/74, May 24/74, Jun 13/74, Jul 5/74, Aug 13/74, Sep 6/74, Sep 27/74, Oct 15/73, Oct 15/74, Oct 16/74, Nov 1/74, Nov 4/74.
- STANLEYI** Wilson, MACROSIPHUM
Previously listed as STANLEYI (Wilson) due to a typographical error.
Sambucus racemosa var *arborescens*: Vancouver (UBC), Apr 19/75, Apr 30/75, Jun 25/74, Aug 27/74.
- STAPHYLEAE** (Koch), RHOPALOSIPHONINUS
Vinca minor: Vancouver (UBC), Jun 19/75.
- TANACETARIA** (Kaltenbach), MACROSI-PHONIELLA
Tanacetum vulgare: Texas Lake, Jul 24/67.
- TESTUDINACEA** (Fernie), PERIPHYLLUS
Acer ginala: Vancouver (UBC), Jun 5/75.
Acer glabrum var *douglasii*: Vancouver (UBC), Jun 5/75.
- TILIAE** (Linnaeus), EUCALLIPTERUS
Tilia americana: Vancouver (UBC), Apr 29/75, May 16/75, Jun 11/75, Oct 3/75.
Tilia petiolaris: Vancouver (UBC), Jun 5/75, Oct 6/75.
- ULMISACCULI** (Patch), COLOPHA
Agropyron repens: Laidlaw, Apr 17/74.
- *VIBURNICOLA** (Gillette), NEOCERUR-APHIS
Viburnum opulus: Vancouver, Apr 22/73.
- *WAHNAGA** Hottes, MASONAPHIS
In flight: Vancouver (UBC), Sep 23/75.
- WALSHII** (Monell), MYZOCALLIS
Quercus rubra: Vancouver, Aug 30/74; Vancouver (UBC), Aug 29/74.
- XYLOSTEI** (DeGeer), STAGONA
Previously listed as PROCIPHILUS XYLOSTEI (DeGeer).
- *Aphid species not in the previous lists.

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COMPILATION OF TAXONOMIC CATALOGUES BY COMPUTER

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ABSTRACT

The advantages of using a computer are examined for storing, updating, and cross indexing taxonomic collection data in working and published lists.

Records of collections of animals and plants for taxonomic purposes or for compilations of more general lists of fauna and flora are typically and unavoidably voluminous. Difficulty occurs in manually updating, cross indexing and listing data about each collection easily and quickly. However, the data are usually regular, in that information for every collection may be split into several logical and uniform divisions. For example, collection data consistently include taxonomic identification, location of the sample, date, collector, and sometimes a description of the sample and habitat. This regularity suits the data admirably to computer storage and manipulation. The advantage of using a computer is mainly in the speed with which it can extract, arrange and print information. The time saved is appreciable as the data base becomes larger. This paper discusses the use of the computer for maintaining and updating the various lists associated with a collection of aphids from British Columbia.

The aphidologists of our research group have accumulated a data base of more than 1500 collections during the past 20 years. Information is recorded on cards (Fig. 1) at the time a collection is made and these cards are indexed by plant host species. When an aphid is identified these data are also indexed alphabetically by aphid species. About 150

collections are added each year. The task of identifying aphids is made easier by using lists of previously collected aphids and host plants ordered in various ways (1, 2, 3), so that much time has been spent maintaining cross indices by hand.

Computer programming is a time consuming and often costly procedure. Most computing centers, however, maintain a library of those 'canned' programs most often needed by computer users. One such program called 'The UBC Report Generator' (RG), (4) was suited to our needs. The following is a brief description of how RG was used.

RG requires that all collections have the same divisions or fields of data, and that these fields be in a constant order. We ordered our data on three data cards per collection: by aphid genus, species and authority on the first; by host plant family, common name, genus, species and class code on the second; and by location of sample, month number, month, day, year, collector's name and lot number on the third. These fields are separated by commas. Since RG is extremely flexible this is only one of a number of ways in which the data can be organized. The data were then punched on computer cards (Fig. 2) and the card images were stored on magnetic tape for economical computer operations.