Special Report Series

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THE VASCULAR PLANTS OF BRITISH COLUMBIA

Part 1 - Gymnosperms and Dicotyledons (Aceraceae through Cucurbitaceae)

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The Vascular Plants of British Columbia

Part 1 - Gymnosperms
and
Dicotyledons (Aceraceae through Cucurbitaceae)

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With the cooperation of the Royal British Columbia Museum and the Botanical University of British Columbia.

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INTRODUCTION

This manual describes all of the flowering plants and vascular cryptogams, both native and naturalized, occurring within the borders of British Columbia. Keys are included for all genera, species, subspecies and varieties. The study is based on examination of specimens in all major Canadian herbaria and some US herbaria (e.g., UC, CAS, WTU), as well as a complete review of the pertinent literature.

FORMAT

The manual will be published in four parts — Part 1 includes Gymnosperms and Dicotyledons (Aceraceae through Cucurbitaceae); Part 2 will contain Dicotyledons (Diapensiaceae through Portulacaceae); Part 3 will include Dicotyledons (Primulaceae through Zygophyllaceae) and Pteridophytes; and Part 4 will contain the Monocotyledons. Hopefully this will be published, together with the first three parts, as a single volume.

The floristic treatment is in alphabetical order by families, genera and species since most of our users may not be familiar with the more traditional ''Englerian system''. These users (e.g., foresters, wildlife specialists, park managers, amateur naturalists, students, etc.) often require specific information about a species. Thus we have attempted to include the most frequently required information. This includes the following:

Synonyms:

Synonyms are given only when there are references in major floristic treatments to a given species by another name or names.

Common Names:

A common name for each species is included. These are based mainly on names appearing most commonly in the Western North American literature.

Habitat and Moisture Regime:

A brief description of a species habitat preference, including moisture regime, is given. The latter uses a simple (wet - moist - mesic - dry) scale.

Vegetation Zones:

The elevational limits of a species are presented using vegetation zones. The zonal system used here, unlike some of the more localized zonation systems (Krajina 1965; Rowe 1959, 1972; Franklin and Dyrness 1973), has wide application in the northern hemisphere and differs only slightly from that proposed by Danserau (1975) and Meusel *et al.* (1965) and recommended by Löve (1970) in a recent review of the subject. The montane zone includes all continuous forests in British Columbia except for the coastal lowlands and some islands which are included in the lowland zone. The upper forests in southern British Columbia, included by some local ecologists (e.g., Krajina 1965) in the subalpine zone, considered the upper montane zone in this work. The subalpine zone is defined as that area above the montane zone and below the upper limit of conifers as an upright tree form (Douglas 1972). In the southern part of the province, subalpine vegetation consists of a meadow/tree-clump complex (Douglas 1971, 1972), while in the northern part of the province the subalpine zone is dominated by tall shrubs (mainly three- to four-metre *Salix*) and scattered trees (Douglas 1974, Krajina 1975). Above the subalpine zone is the alpine zone where trees occur only in krummholz (or dwarfed) form and the vegetation is extremely short (less than one metre) and commonly referred to as alpine tundra (Krajina 1969, Douglas 1972, Douglas and Bliss 1977). The steppe vegetation zone (Daubenmire 1970) occurs in the interior of the province and includes what is often referred to as sagebrush or grassland vegetation. The former occurs at lower elevations in the Thompson, Okanagan, Kootenay, Columbia, and Flathead River valleys in southern British Columbia while the latter includes parts of the Fraser and Thompson plateaus and upper Peace River drainage.

Abundance:

The abundance of a species is given by a general scale: rare - infrequent - frequent - common. The rare, and some of the infrequent plants, are well documented (at least to the best of our knowledge) in Straley et al. (1985). Most of the common plants are also well known from numerous other sources. In a number of cases, however, limited collecting or research enabled us to make only general assumptions about the abundance of some of the infrequent or frequent species.

Range:

The general distribution of a species, both within and outside the province, is presented. Maps compiled at the Royal British Columbia Museum were extremely helpful. Abbreviations are as follows:

Alberta	AB	Maine	ME
British Columbia	BC	Maryland	MD
Manitoba	MB	Massachusetts	MA
New Brunswick	NB	Michigan	MI
Newfoundland	NF	Minnesota	MN
Northwest Territories	NT	Mississippi	MS
Nova Scotia	NS	Missouri	MO
Ontario	ON	Montana	MT
Prince Edward Island	PE	Nebraska	NE
Quebec	PQ	Nevada	NV
Saskatchewan	SK	New Hampshire	NH
Yukon	YT	New Jersey	NJ
		New Mexico	NM
Alabama	AL	New York	NY
Alaska	AK	North Carolina	NC
Arizona	AZ	North Dakota	ND
Arkansas	AR	Ohio	OH
California	CA	Oklahoma	OK
Colorado	CO	Oregon	OR
Connecticut	CT	Pennsylvania	PA
Delaware	DE	Rhode Island	RI
District of Columbia	DC	South Carolina	SC
Florida	FL	South Dakota	SD
Georgia	GA	Tennessee	TN
Hawaii	HI	Texas	TX
Idaho	ID	Utah	UT
Illinois	IL	Vermont	VT
Indiana	IN	Virginia	VA
Iowa	IA	Washington	WA
Kansas	KS	West Virginia	WV
Kentucky	KY	Wisconsin	WI
Louisiana	LA	Wyoming	WY
		Mexico	MX

Notes:

Specific items of importance or problems, especially those related to taxonomy and nomenclature, are noted. If infraspecific taxa require recognition these are keyed here.

A complete floristic bibliography, arranged by families, is also appended for users wishing to study a species further. A glossary and key to families will appear in Part 4.

The absence of descriptions and illustrations, due to severe budget limitations, should not deter from overall treatment. Descriptions and illustrations of most of British Columbia's plant species are available in number of regional floras (Abrams 1923-1951; Ferris 1960; Hitchcock *et al*. 1955-1969) or in treatments some British Columbian plant families (Brayshaw 1976, 1985; Douglas 1982, 1989, 1990; Szczawinski 1959, 1962; Taylor 1963, 1966, 1970, 1973a, 1974a, 1974b, 1983). Additional descriptions for the remaining plants may be found in Argus (1973), Fernald (1950), Packer (1983), Porsild and Cody (1980), Tutin *et* (1964-1980) or Welsh (1974).

DATA BASE

The present manual is based on a wealth of regional publications dating back over a hundred years. addition, most of the species (especially the rare and infrequent ones) have been examined in various Canadian herbaria. Historically, the floristic documentation of British Columbia's flowering plants and vascular cryptogams began with the enumeration of the extensive collections of J. Macoun (Macoun 1883-1890). This was soon followed by the botanical contributions of his son, J.M. Macoun (1889, 1894-1906). In 1915, the first provincial flora appeared (Henry 1915), treating the southern part of the province. A supplement to this work was later provided by Eastham (1947). The southern part of the province was also included in a treatment Pacific Northwest vascular plants by Hitchcock *et al*. (1955-1969) — later edited and revised by Hitchcock and Cronquist (1973). During this same period several other major works also appeared. Boivin (1966-1967), after numerous visits to Canadian and American herbaria, produced a checklist of Canadian vascular plants. In his Flora of Alaska and Neighboring Territories, Hultén (1968) provided brief descriptions with range maps that, in many cases, included British Columbian species. Meanwhile, in a treatment of Queen Charlotte Islands vascular plants, Calder and Taylor (1968) contributed one of the few floras dealing solely with British Columbia. British Columbia was again included in a regional flora of northwestern North America when Welsh (1974) treated the plants of northern British Columbia. A literature review by Taylor and MacBryde (1977), mainly of North American studies, resulted in a resource inventory of vascular plants. Unfortunately, this extensive review treated several hundred erroneous citations as valid records for the province. Recently modern Canadian flora was produced by Scoggan (1978-1979). Finally, all of the province's rare or infrequent plants were examined and verified in various Canadian herbaria by Straley *et al*. (1985).

In addition to the major works mentioned above, there have been numerous taxonomic, floristic and related research papers dealing with British Columbia's vascular plants. Many of these are cited in the floristic bibliography by Douglas *et al*. (1983) and many are specifically referenced in this manual.

TAXONOMIC CONCEPTS

Our view of species limits is a practical one. Therefore, species had to be readily characterized morphologically in order to produce keys usable by a variety of users. Many of the keys were newly constructed while others were adapted for our British Columbia plants from well-tested manuals.

Wherever possible, geographically separate, or largely separate, infraspecific taxa are treated at the subspecies level, while those with geographically sympatric ranges are treated at the varietal level. Since have not made any nomenclatural changes associated with the production of the manual, this choice between subspecies and variety is not always possible. We have not used more than one infraspecific rank in this work for a single species. Taxa are not recognized at the forma level.

GYMNOSPERMS

1. Seeds solitary, surrounded by a red, fleshy, cup-like aril; plants dioecious; leaves needle-like, flat, spreading horizontally in two ranks, and without resin ducts. . . . . .TAXACEAE

1. Seeds several to numerous in a dry cone or berry-like fruit; plants monoecious or dioecious; leaves needle- or scale-like, when needle-like, with resin ducts visible in cross-section at 10 power magnification.

    2. Leaves scale-like, or awl-shaped but opposite or whorled; ovulate cones small, mostly less than 15 mm, woody or fleshy, the scales (2-12), opposite or in threes . . . . . CUPRESSACEAE

    2. Leaves needle-like, spirally arranged or borne in clusters; cones mostly greater than 15 mm, woody to papery, the scales many and spirally arranged . . . . . PINACEAE

CUPRESSACEAE

1. Fruits berry-like; branchlets four-angled; leaves scale-like or awl-shaped . . . . . *Juniperus*

1. Fruits a dry cone; branchlets flattened; leaves scale-like.

    2. Cones reflexed, longer than broad; leaves blunt and tightly appressed; branchlets flattened . . . . . *Thuja*

    2. Cones erect as broad as long or broader; leaf tips often diverging and therefore prickly to touch; branchlets somewhat flattened . . . . . *Chamaecyparis*

CHAMAECYPARIS

Chamaecyparis nootkatensis* (D. Don in Lamb.) Spach (Cupressus nootkatensis* D. Don in Lamb.)**
Yellow cedar or cypress, or Alaska cedar or cypress
Habitat/Range: Mesic to wet sites in the montane (sometimes lowland) to subalpine zones; common west of the Coast Mountains, rare in SE BC; N to SE AK and S to N CA.

JUNIPERUS

1. Leaves awl-shaped, in whorls of 3, spreading; the berry-like fruits sessile in the leaf axils *J. communis*

1. Leaves mostly scale-like, opposite, appressed to stem; the berry-like fruits terminal on the branchlets.

    2. Low, spreading or creeping shrubs; fruits recurved on short pedicel . . . . . *J. horizontalis*

    2. Small trees or erect shrubs; fruits erect or nodding . . . . . *J. scopulorum*

***Juniperus communis* L.** (*J. sibirica* Burgsd., *J. nana* Willd.)
Common or ground juniper
Habitat/Range: Dry slopes and forests to wet coastal muskeg in the lowland and montane zones; occasionally in the subalpine and alpine zones; common throughout BC; circumpolar, N to AK, E to NF and S to CA, AZ, NM, and GA; Eurasia.

***Juniperus horizontalis* Moench** (*J. prostrata* Pers.)
Creeping juniper
Habitat/Range: Rocky or sandy sites in the montane zone; common in N BC, infrequent southward; SE AK, E to NF and S to CO.
Notes: May hybridize with *J. scopulorum* where their ranges coincide; the hybrid has been called *J.* x *fassettii* Boivin.

***Juniperus scopulorum* Sarg.**

Rocky Mountain juniper

Habitat/Range: Dry, open (often calcareous), rocky sites in the lowland, steppe vegetation and montane zones; infrequent in S BC, rare northward to Telegraph Creek; E to SW AB and S to AZ, NM, CO and W NE.

Notes: See *J. horizontalis* for discussion of hybridization.

THUJA

***Thuja plicata* Donn ex D. Don in Lamb.**

Western redcedar

Habitat/Range: Moist to wet sites in the lowland and montane zones; common along the coast and SC to SE BC, locally frequent in C BC; N to SE AK and S to N CA, N WA, ID and MT.

PINACEAE

1. Leaves borne in clusters of 2 or more.
   2. Needles 2-5 in a cluster, evergreen . . . . . *Pinus*
   2. Needles 7-40 in a cluster, deciduous . . . . . *Larix*
1. Leaves solitary.
   3. Young branches smooth where needles have fallen as scar is only a small crater; cones either erect with deciduous scales, or drooping with persistent scales and a prominent three-lobed bract longer than the scales; needles flat.
      4. Cones erect, shed scale by scale at maturity; winter buds blunt; leaf scars circular; leaves blunt and often notched at tip . . . . . *Abies*
      4. Cones drooping, shed whole; winter buds sharp-pointed; leaf scars oval; leaves dull pointed . . . . . *Pseudotsuga*
   3. Young branches rough where needles have fallen as the leaf base persists as a small peg-like structure; cones not erect, have persistent scales without three-lobed bract; needles four-angled or flattened.
      5. Leaves commonly sharp-pointed, four-angled or sometimes somewhat flattened, pungent; leaders erect . . . . . *Picea*
      5. Leaves blunt, strongly flattened, not pungent; leaders often drooping . . . . . *Tsuga*

ABIES[1]

1. Needles with stomata on both surfaces, blue-green and glaucous; branches not spray-like, leaves tending to turn upwards; relatively small trees with narrow crowns. . . . . *A. lasiocarpa*
1. Needles with lines of white stomata on lower surface only, the upper surface green; branches mostly appearing spray-like, the leaves either all horizontally spreading or some spreading and the others depressed and pointing forward; large trees with wide crowns.
   2. Needles (2) 3-4 (5) cm long, nearly all horizontally spreading, the upper side of the twigs bare except for the twisted leaf bases; cones light green . . . . . *A. grandis*
   2. Needles mostly less than 2.5 cm long, the longer ones spreading horizontally, but others (usually shorter) strongly appressed and pointing forward and more or less completely hiding the twigs; cones deep purple . . . . . *A. amabilis*

[1] Key adapted from Hitchcock *et al.* (1969).

***Abies amabilis* (Dougl. ex Loud.) Forbes**

Amabilis or Pacific silver fir[2]

Habitat/Range: Mesic to moist sites in the lowland to subalpine zones; common in and W of Coast-Cascade Mountains, except Queen Charlotte Islands; N to S AK and S to N CA.

***Abies grandis* (Dougl. ex D. Don in Lamb.) Lindl.** (*A. excelsior* Franco)

Grand fir

Habitat/Range: Mesic to moist sites in the lowland to montane zones; frequent in SW BC, infrequent in SC BC; S to N CA, ID, W MT, SE WA and NE OR.

***Abies lasiocarpa* (Hook.) Nutt.**

Subalpine or alpine fir

Habitat/Range: Mesic to moist sites in the montane to alpine zones; common in BC in and E of Coast-Cascade Mountains, locally frequent on Vancouver Island; N to S AK and YT, E to SW AB and S to OR, N NV, AZ and NM.

LARIX

1. Cones about 1-2 cm long, bracts longer than scales; needles 1-2.5 cm, triangular in cross-section. . . . . *L. laricina*

1. Cones usually over 2.5 cm long, bracts shorter than scales; needles 3-4 cm.

   2. Needles four-angled in cross-section; young twigs strongly tomentose; cones usually over 3.5 cm; trees usually at or near timberline. . . . . *L. lyallii*

   2. Needles flattened or triangular in cross-section; young twigs glabrous to somewhat pubescent; cones rarely as much as 3.5 cm; trees of montane forests . . . . . *L. occidentalis*

***Larix laricina* (Du Roi) K. Koch** (*L. alaskensis* W.F. Wight)

Tamarack

Habitat/Range: Wet sites in the montane zone; frequent in NE BC, rare southward to C BC; N to AK, YT and NT, E to NF, and S to C AB, MN, WI, N NJ and ME.

***Larix lyallii* Parl. in DC.**

Subalpine or alpine larch

Habitat/Range: Mesic, often rocky sites in the subalpine zone; frequent in SC BC; E to SW AB, and S to WA, N ID and W MT.

***Larix occidentalis* Nutt.**

Western larch

Habitat/Range: Moist to dry sites in the montane zone; common in SC and SE BC; E to SW AB, and S to OR, NW MT, and N ID.

PICEA

1. Cones 1.5-3 cm long, egg-shaped to almost spherical, persistent on tree for many years; cone scales purplish to dark brown, mean scale[3] length less than 10.5 mm; young twigs densely pubescent with short rusty hairs . . . . . *P. mariana*

1. Cones generally longer, cylindrical, seldom persisting; cone scales brown when mature, mean scale length greater than 10.5 mm; young twigs glabrous or sparsely hairy.

   2. Needles somewhat flattened in cross-section, stiff and sharp; young twigs glabrous; cones 5-9 cm long; cone scales rounded, finely irregularly-toothed, with mean scale width generally less than 9 mm. . . . . *P. sitchensis*

[2] All Abies are commonly called "balsam"; however, this name does not differentiate the species in B.C. and is used for *Abies balsamea (L.)* Mill. in the rest of Canada.

[3] Mean scale measurements should be taken from the middle of 5-10 mature cones from several trees in a population.

2. Needles 4-angled in cross-section, sharp but not particularly stiff to only prickly; young twigs glabrous to lightly hairy; cones 2.5-6 cm long; cone scales rounded to sharp-pointed, smooth to wavy margined, with mean scale width greater than 9 mm.

    3. Young twigs generally glabrous; leaves mostly less than 1.5 cm long; cones 2.5-3.5 (6) cm long; cone scales closely fitting, stiff, elliptical, rounded to blunt at tip, smooth-margined, and mean scale length about 11-13 mm . . . . . *P. glauca*

    3. Young twigs usually sparsely hairy; leaves often 2-3 cm long; cone scales loosely fitting, flexible, tapered at both ends, finely irregular wavy-margined, and mean scale length about 13-17 mm . . . . . *P. engelmannii*

***Picea glauca* (Moench) Voss** (*P. canadensis* [P. Mill.] B.S.P.)

White spruce

Habitat/Range: Dry to wet sites in the montane zone; common in C and N BC, except on coast; N to AK, YT and NT, E to NF and S to N MT and WY.

Notes: Hybridizes with *P. engelmannii* and *P. sitchensis*. Hybrids with *P. sitchensis* have been called *P.* x *lutzii* Little and occur in the Coast Mountains. Hybrids with *P. engelmannii* occur throughout much of interior B.C.; pure *P. glauca* is found mostly N of 56°N lat. and in the Chilcotin.

***Picea engelmannii* Parry ex. Engelm.** (*P. glauca* ssp. *engelmannii* [Parry ex. Engelm.] T.M.C. Taylor, *P. glauca* var. *engelmannii* [Parry ex. Engelm.] Boivin)

Engelmann spruce

Habitat/Range: Dry to wet sites in the upper montane to subalpine zones; very common in C and S BC, except on coast; E to W AB and S to N CA, AZ and NM.

Notes: Known to hybridize with *P. sitchensis* and *P. glauca*; see notes under *P. glauca*. Pure *P. engelmannii* is found mainly in the Rocky Mountains.

***Picea mariana* (P. Mill.) B.S.P.**

Black spruce

Habitat/Range: Mesic to wet sites in the montane zone; common in C and N BC interior; N to AK, E to NF and S to MN and PA.

Notes: Reports of hybrids with *P. glauca* are probably erroneous; see Parker and McLachlan (1978).

***Picea sitchensis* (Bong.) Carr.**

Sitka spruce

Habitat/Range: Mesic to moist sites in the lowland and montane zones; common in extreme W BC; N to SE AK and S to N CA.

Notes: Hybridizes with *P. glauca* and *P. engelmannii*; see notes under *P. glauca*.

PINUS

1. Needles 2 or 3 in a bundle.

    2. Needles in bundles of 3, 12-20 cm long . . . . . *P. ponderosa*

    2. Needles generally in bundles of 2, 2-6 cm long.

        3. Cones spreading at right angles or reflexed, the scales armed with prickles . . . . . *P. contorta*

        3. Cones directed towards the apex of the shoot, strongly incurved or divergent, the scales unarmed or armed with minute prickles . . . . . *P. banksiana*

1. Needles usually 5 in a bundle.

    4. Cones long-stalked, 15-25 cm long, and 6-9 cm thick at maturity; cone scales thin and flexible . . . . . *P. monticola*

    4. Cones sessile or subsessile, 5-25 cm long; the scales thick, woody, and sometimes remaining closed.

5. Cones 8-25 cm long, opening at maturity; scales light brown, thinned somewhat toward the tip. . . . . *P. flexilis*

5. Cones 5-8 cm long, remaining closed and tardily shedding the seeds at maturity; scales purplish, becoming thickened rather than thinnish toward the tip . . . . . *P. albicaulis*

***Pinus albicaulis* Engelm.**

Whitebark pine

Habitat/Range: Dry to mesic sites in the subalpine to alpine zones; frequent in S BC in and E of Coast-Cascade Mountains, rare northward to C and NE BC; E to SW AB and S to CA, NV and WY.

***Pinus banksiana* Lamb.** (*P. divaricata* [Ait.] Dumort.; see Argus [1971])

Jack pine

Habitat/Range: Dry sites in the montane zone; rare in extreme NE BC; N to NT, E to PQ, PE and NS, and S to MN, MS, IL and NY.

Notes: Hybridizes with *P. contorta* var. *latifolia*; these have been named *P.* x *murraybanksiana* Righter & Stockwell.

***Pinus contorta* Dougl. ex Loud.**

Lodgepole or shore pine

Habitat/Range: Dry to wet sites in the lowland, montane and subalpine zones; common throughout BC; N to S AK, YT, and SW NT, E to W AB, and S to CA, UT, CO and SD.

Notes: See above re: hybridization with *P. banksiana*. Two varieties are generally recognized in BC.[4]

1. Trees usually with rounded crown, rarely over 15 m tall; bark dark brown to grayish-black, 2-2.5 cm thick on older trees; needles deep green; coastal . . . . . var. *contorta* (shore pine)

1. Trees usually columnar when close together, up to 20-35 m tall; bark reddish-brown, very thin, rarely over 1 cm thick; needles yellow-green; inland . . . var. *latifolia* Engelm. (lodgepole pine)

***Pinus flexilis* James**

Limber pine

Habitat/Range: Dry to mesic sites in the subalpine zone; infrequent in extreme SE BC; E to SW AB and S to S CA, AZ, NM, and NE.

***Pinus monticola* Dougl. ex D. Don in Lamb.**

Western white pine

Habitat/Range: Dry to moist sites in the lowland and montane zones; frequent in S BC; E to SW AB and S to CA, NV, ID, and MT.

***Pinus ponderosa* Dougl. ex P.& C. Lawson**

Ponderosa or yellow pine

Habitat/Range: Dry to mesic sites in the steppe vegetation and montane zones; common in SC and SE BC; S to CA, NM, TX, NE, and SD.

PSEUDOTSUGA

***Pseudotsuga menziesii* (Mirb.) Franco** (*P. taxifolia* [Lamb.] Britt.)

Douglas-fir

Habitat/Range: Dry to moist sites in the lowland and montane zones; common in S BC, infrequent northward to C BC; E to SW AB and S to CA and MX.

Notes: Two varieties are recognized in BC.[5]

1. Cones mostly 6-10 cm long, the bracts straight and appressed toward the cone tip; leaves deep (yellowish) green; primarily coastal . . . . . var. *menziesii* (Coast Douglas-fir)

[4] Key adapted from Hitchcock *et al.* (1969).
[5] *Ibid.*

1. Cones mostly 4-7 cm long, the bracts appressed to spreading or reflexed; leaves more bluish-green; primarily interior . . . . . var. *glauca* (Beissn.) Franco (Rocky Mountain Douglas-fir)

TSUGA

1. Needles flattened in cross-section, grooved and greenish on upper surface, with two white (stomatiferous) bands below, tending to form flat spraylike branches; cones ovoid, 1.5-2.5 cm long *T. heterophylla*

1. Needles nearly semi-circular in cross-section (flat on top), bluish-green on both surfaces, not forming flat spray-like branches, but spreading in all directions; cones cylindrical, narrowed at each end, 3-7 cm long . . . . . *T. mertensiana*

***Tsuga heterophylla* (Raf.) Sarg.**

Western hemlock

Habitat/Range: Mesic to moist sites in the lowland and montane zones; common along coast and in SC to SE BC; N to SE AK and S to N CA, N ID and NW MT.

Notes: Hybridizes with *T. mertensiana*; these have been named *T.* x *jeffreyi* (Henry) Henry.

***Tsuga mertensiana* (Bong.) Carr.**

Mountain hemlock

Habitat/Range: Mesic to wet sites in the lowland to subalpine zones; common at high elevations along coast and frequent in SE BC and lower elevations of N coastal BC; N to SE AK and S to C CA, N ID and W MT.

Notes: See above for hybridization with *T. heterophylla*.

TAXACEAE

TAXUS

***Taxus brevifolia* Nutt.**

Western or Pacific yew

Habitat/Range: Mesic to moist forests in the lowland and montane zones; common along the coast and in SE BC; N to SE AK and S to N CA, NE OR, ID, and NW MT.

DICOTYLEDONS

ACERACEAE

ACER

1. Leaves pinnately compound; petals absent . . . . . *A. negundo*

1. Leaves simple, palmately lobed; petals usually present.

   2. Flowers 10-50; inflorescence racemose; or if corymbose then leaf petioles with milky juice when cut; trees up to 30 m tall.

      3. Leaves grey or white below, the petioles without milky juice when cut; inflorescence racemose; fruits glabrous . . . . . *A. pseudoplatanus*

      3. Leaves green below, the petioles with milky juice when cut; flowers racemose or corymbose; fruits glabrous or hairy.

         4. Leaves lobed beyond the middle, the tips acute; inflorescence racemose; fruits hairy . . . . . *A. macrophyllum*

4. Leaves not lobed beyond the middle, the tips bristle-like; inflorescence corymbose; fruits glabrous . . . . . *A. platanoides*

2. Flowers usually less than 10; inflorescence umbellate or corymbose; plants usually shrublike and less than 10 m tall.

5. Leaves 3-5-lobed, glabrous to sparsely glandular-puberulent; sepals green . . . . . *A. glabrum*

5. Leaves 7-9 lobed, pilose beneath and often hairy above; sepals red . . . . . *A. circinatum*

***Acer circinatum* Pursh**

Vine maple

Habitat/Range: Moist to mesic sites in the lowland and montane zones; common in SW BC, rare on S Vancouver Island; N to SE AK and S to N CA.

***Acer glabrum* Torr. var. *douglasii* (Hook.) Dippel** (*A. douglasii* Hook.)

Douglas or Rocky Mountain maple

Habitat/Range: Mesic to dry sites in the lowland and montane zones; common throughout BC, except Queen Charlotte Islands and adjacent coast and NE BC; N to SE AK, E to AB and S to OR and MT.

***Acer macrophyllum* Pursh**

Bigleaf or Oregon maple

Habitat/Range: Moist to mesic sites in the lowland and montane zones; common in SW BC W of Coast-Cascade Mountains; S to CA, disjunct in ID.

***Acer negundo* L.**

Box elder, or Manitoba maple

Habitat/Range: Mesic to dry sites in the lowland to montane zones; rare (? garden escape) in SE and SW BC; SE AB to W ON, disjunct along Great Lakes.

***Acer platanoides* L.**

Norway maple

Habitat/Range: Mesic forest openings in the lowland zone; rare horticultural escape in forests near UBC, and possibly elsewhere; introduced from Europe.

***Acer pseudoplatanus* L.**

Sycamore maple

Habitat/Range: Mesic forest openings in the lowland zone; rare horticultural escape in forests near UBC, and possibly elsewhere; introduced from Europe.

ADOXACEAE

ADOXA

***Adoxa moschatellina* L.**

Moschatel

Habitat/Range: Moist sites in the montane zone; infrequent in N and C BC; N to NT, E to ON and S to NY and CO.

AMARANTHACEAE

AMARANTHUS

1. Flowers in small axillary clusters; leaf blades rarely over 3 cm long.

2. Stems prostrate or decumbent; seeds 1.3-1.7 mm long; tepals 4-5; stamens 3-4 . . . . . *A. blitoides*

2. Stems erect or ascending; seeds 0.6-1.0 mm long; tepals mainly 3; stamens 1-3 . . . . . *A. albus*

1. Flowers in terminal and axillary spikes; leaf blades usually over 3 cm long.

3. Plants scurfy-villous below the inflorescence; leaves usually hairy beneath, at least along the veins; stamens usually 5 . . . . . *A. retroflexus*

3. Plants glabrous to puberulent or sparsely pubescent below the inflorescence; leaves glabrous or nearly so; stamens usually 3 . . . . . *A. powellii*

***Amaranthus albus* L.**
Tumbleweed, or white pigweed
Habitat/Range: Dry disturbed sites and waste places in the montane zone; rare in S BC; throughout N. America, S. America and the Old World.

***Amaranthus blitoides* S. Wats.**
Prostrate pigweed or tumbleweed
Habitat/Range: Dry, often disturbed sites; infrequent in S BC; throughout N. America and W. Indies.
Notes: This species has often been treated as *A. graecizans* L., an Eurasian species.

***Amaranthus powellii* S. Wats.** (*A. retroflexus* L. var. *powellii* [S. Wats.] Boiv.)
Powell's amaranth, or green pigweed
Habitat/Range: Dry disturbed sites and waste places; rare in the Gulf Islands and the Vancouver area, also known from Oliver; throughout N. America, S. America and the Old World.

***Amaranthus retroflexus* L.**
Rough or red pigweed, or pigweed amaranth
Habitat/Range: Dry disturbed sites and waste places; infrequent in S BC, rare northward; throughout N. America and the Old World.

ANACARDIACEAE

RHUS

1. Fruits red, hairy; leaflets 7-29 . . . . . *R. glabra*

1. Fruits white or yellowish, glabrous; leaflets 3.

2. Leaflets acute or acuminate . . . . . *R. radicans*

2. Leaflets rounded, obtuse or sometimes abruptly acute . . . . . *R. diversiloba*

***Rhus diversiloba* T.& G.** (*Toxicodendron diversilobum* [T.& G.] Greene)
Poison-oak
Habitat/Range: Dry to mesic sites in the lowland zone; rare on SE Vancouver Island and the Gulf Islands, also known from Howe Sound; S to MX.

***Rhus glabra* L.**
Smooth sumac
Habitat/Range: Dry to mesic sites in the montane zone; infrequent in SC and SE BC; E to PQ and S to FL, TX and MX.

***Rhus radicans* L.** (*Toxicodendron rydbergii* [Small ex Rydb.] Greene)
Poison-ivy
Habitat/Range: Dry to mesic sites in the montane zone; infrequent in SC and SE BC, rare in SW BC; E to PQ, NB and NS and S to MX.

APIACEAE[6]

1. Leaves simple, entire, toothed or palmately lobed.
    2. Inflorescences densely capitate, without rays, the flowers and fruits sessile; leaves spiny-toothed . . . . . *Eryngium*
    2. Inflorescences umbellate, with rays, the flowers and fruits more or less pedicellate; leaves not spiny-toothed.
        3. Leaves reduced to long, narrow phyllodes, without differentiated blades . . . . . *Lilaeopsis*
        3. Leaves with rounded or narrow blades.
            4. Plants aquatic to semi-aquatic; leaves rounded and palmately lobed . . . . . *Hydrocotyle*
            4. Plants not aquatic or semi-aquatic; leaves narrow and entire . . . . . *Bupleurum*
1. Leaves, or at least most of them, compound or deeply cleft.
    5. Leaves, or at least many of them, with well-defined leaflets, not dissected into small and narrow segments.
        6. Basal leaves simple, toothed . . . . . *Zizia*
        6. Basal leaves, when well developed, compound or deeply cleft.
            7. Leaflets 3, very large, usually more than 1 dm long and wide . . . . . *Heracleum*
            7. Leaflets usually more than 3, usually less than 1 dm long and wide.
                8. Plants perennial from fibrous or fleshy-thickened, fascicled roots.
                    9. Leaves palmately deeply cleft or palmately once compound; fruits armed with hooked prickles . . . . . *Sanicula*
                    9. Leaves pinnately to ternately once to several times compound.
                        10. Base of the stem thickened, hollow, with well-developed transverse partitions; some of the roots usually tuberous-thickened; primary lateral veins of the leaflets tending to be directed toward the sinuses between the teeth *Cicuta*
                        10. Base of the stem without transverse partitions; roots not tuberous thickened; veins not directed to the sinuses.
                            11. Ribs of the fruit inconspicuous; calyx teeth minute or obsolete, fruits rounded.
                                12. Leaves pinnate, plants aquatic or semi-aquatic . . . . . *Berula*
                                12. Leaves biternate, plants not aquatic or semi-aquatic . . . . . *Aegopodium*
                            11. Ribs of the fruit conspicuous; calyx teeth well-developed or minute or obsolete, fruits oblong or elliptic.
                                13. Plants usually reclining or scrambling-ascending; primary lateral veins of the leaflets tending to be directed to the teeth; calyx teeth well-developed . . . . . *Oenanthe*
                                13. Plants erect; veins not directed to the teeth; calyx teeth minute or obsolete . . . . . *Sium*
                8. Plants annual, biennial, or perennial from a taproot or stout caudex (or sometimes with fleshy-fibrous roots from a rhizome-caudex in *Conioselinum*).
                    14. Annual or biennial weeds . . . . . *Pastinaca*
                    14. Perennials, not weedy.

[6] *Ibid*

15. Umbellets capitate, the flowers and fruits sessile . . . . . *Glehnia*

15. Umbellets not capitate, the flowers and fruits pedicellate.

16. Fruits dorsally flattened.

17. Stylopodium obsolete or nearly so . . . . . *Lomatium*

17. Stylopodium well-developed . . . . . *Angelica*

16. Fruits subterete or flattened laterally.

18. Fruits linear or linear-oblong to clavate, not winged, 8-22 mm long *Osmorhiza*

18. Fruits broader, usually winged, 2-6 mm long . . . . . *Ligusticum*

5. Leaves more or less dissected into rather small, narrow ultimate segments, without well-defined leaflets.

19. Stems purple-spotted; robust biennial weeds 0.5-3 m tall . . . . . *Conium*

19. Stems not purple-spotted; habit various.

20. Ultimate leaf-segments all linear-filiform.

21. Fruits strongly flattened dorsally, the lateral ribs winged . . . . . *Anethum*

21. Fruits not strongly flattened, the ribs not winged . . . . . *Foeniculum*

20. Ultimate leaf-segments linear, lanceolate or broader (linear-filiform only in upper leaves of *Carum*).

22. Fruits bristly or prickly.

23. Fruits beaked.

24. Sheaths of the upper leaves villous-ciliate; stems glabrous . . . . . *Anthriscus*

24. Sheaths of the upper leaves entire; stems hispid . . . . . *Torilis*

23. Fruits beakless.

25. Bristles of the fruit not in straight rows . . . . . *Sanicula*

25. Bristles of the fruit in straight rows corresponding to the ribs.

26. Fruits dorsally somewhat compressed, bristles barbed at the tip . . . . . *Daucus*

26. Fruits laterally somewhat compressed, bristles hooked at the tip . . . . . *Caucalis*

22. Fruits not bristly or prickly.

27. Plants annual or biennial introduced weeds, taprooted.

28. Fruits distinctly beaked, 6-15 mm long, tipped by a stout beak 2-7 mm long . . . . . *Scandix*

28. Fruits beakless, 3-4 mm long . . . . . *Carum*

27. Plants perennial natives, with or without a taproot.

29. Plants strictly maritime . . . . . *Conioselinum*

29. Plants not strictly maritime.

30. Plants with a fascicled root . . . . . *Perideridia*

30. Plants definitely taprooted, the taproot sometimes fleshy-thickened, but distinctly elongate; taproot often surmounted by a stout branching caudex.

    31. Fruit bodies subterete or slightly compressed laterally . . . . . *Ligusticum*

    31. Fruit bodies distinctly compressed dorsally . . . . . *Lomatium*

AEGOPODIUM

***Aegopodium podagraria* L.**
Goutweed
Habitat/Range: Roadsides and waste places; rare in SW BC; introduced from Eurasia.

ANETHUM

***Anethum graveolens* L.**
Common dill
Habitat/Range: Roadsides and waste places; rare garden escape on SE Vancouver Island; introduced from Asia.

ANGELICA

1. Fruits slightly flattened, the subequal wings scarcely winged; plants mainly coastal . . . . . *A. lucida*

1. Fruits strongly flattened, the lateral wings broadly winged; plants not essentially coastal.

    2. Flowers yellowish; involucres present, leafy . . . . . *A. dawsonii*

    2. Flowers white, greenish-white or sometimes pinkish; involucres absent or rarely a few bracts present.

        3. Rachis of leaves bent, pinnae deflexed . . . . . *A. genuflexa*

        3. Rachis of leaves straight, pinnae not deflexed . . . . . *A. arguta*

***Angelica arguta* Nutt.**
Sharptooth angelica
Habitat/Range: Wet to moist sites in the lowland, steppe vegetation and montane zones; frequent in extreme S BC; E to AB and S to WY, UT and N CA.

***Angelica dawsonii* S. Wats.**
Dawson's angelica
Habitat/Range: Wet to moist sites in the montane zone; rare in extreme SE BC; E to SW AB and S to ID and MT.

***Angelica genuflexa* Nutt.**
Kneeling angelica
Habitat/Range: Moist sites in the montane zone; common throughout BC except Queen Charlotte Islands and adjacent coast; amphiberingian, N to AK, E to AB and S to N CA; E Asia.

***Angelica lucida* L.**
Seacoast angelica, or sea-watch
Habitat/Range: Moist to mesic beaches and coastal bluffs in the lowland zone; common in and W of the Coast-Cascade Mountains, rare eastward; amphiberingian, N to AK and S to CA; Siberia.

ANTHRISCUS

***Anthriscus caucalis* Bieb.** (*A. scandicina* [Web.] Mansf.)
Bur chervil
Habitat/Range: Moist disturbed sites and waste places; rare on SE Vancouver Island and Gulf Islands; introduced from Eurasia.

BERULA

***Berula erecta* (Huds.) Cov. var. *incisa* (Torr.) Cronq.** (*Sium incisum* Torr.)
Cut-leaved water-parsnip
Habitat/Range: Wet sites in the montane and steppe vegetation zones; infrequent in S BC; E to NY and S to FL and MX.

BUPLEURUM

***Bupleurum americanum* Coult. & Rose** (*B. triradiatum* Adams ssp. *arcticum* [Reg.] Hult.)
American thorough-wax
Habitat/Range: Dry sites in the montane zone; rare in S BC, known only from Kootenay Pass; N to AK, YT and NT, E to AB and S to ID and WY.

CARUM

***Carum carvi* L.**
Caraway
Habitat/Range: Fields and waste places; infrequent throughout BC S of 56°N; introduced from Eurasia.

CAUCALIS

***Caucalis microcarpa* H.& A.**
California hedge-parsley, or false carrot
Habitat/Range: Moist vernal sites and streambanks in the lowland zone; rare on SE Vancouver Island and the Gulf Islands; S to ID and MX.

CICUTA[7]

1. Axils of leaves bulbiferous; leaflets with narrowly linear segments . . . . . *C. bulbifera*

1. Axils of leaves nonbulbiferous; leaflets lanceolate.

    2. Fruits slightly broader than long; midvein on upper leaflet surface scabrous . . . . . *C. virosa*

    2. Fruits from as broad as long to longer than broad; midvein on upper leaflet surface glabrous.

        3. Enclosures of net veins on undersurface of leaflets usually elongate; fruit with a narrow raised border along edge of dark interval . . . . . *C. douglasii*

        3. Enclosures of net veins on undersurface of leaflets usually rounded; fruit without a raised border along edge of dark interval . . . . . *C. maculata*

***Cicuta bulbifera* L.**
Bulbous water-hemlock
Habitat/Range: Wet sites in the montane zone; frequent in BC N of 52°N and E of the Coast-Cascade Mountains; N to AK, YT and NT, E to NF and S to FL, NE and OR.

***Cicuta douglasii* (DC.) Coult. & Rose**
Douglas' water-hemlock
Habitat/Range: Wet sites in the lowland, steppe vegetation and montane zones; common throughout BC except Queen Charlotte Islands; N to AK and S to ID, NV and CA.

[7] Key adapted from Mulligan (1980).

***Cicuta maculata* L. var. *angustifolia* Hook.**

Spotted cowbane

Habitat/Range: Wet sites in the steppe vegetation and montane zones; common in BC E of the Coast-Cascade Mountains; N to AK, YT and NT, E to ON and S to TX and MX.

Notes: A single collection of var. *maculata* is known from SW BC (Mulligan 1980). It is distinguished from var. *angustifolia* by its longer styles, elongate fruit and broader stem leaflets.

***Cicuta virosa* L.** (*C. mackenzieana* Raup)

European water-hemlock

Habitat/Range: Wet sites in the montane zone; rare in NE BC; N to AK, YT and NT and E to PQ.

CONIOSELINUM

***Conioselinum pacificum* (S. Wats.) Coult. & Rose**

Pacific hemlock-parsley

Habitat/Range: Moist to mesic bluffs and sandy beaches in the lowland zone; common along the coast in BC; N to AK and S to CA.

CONIUM

***Conium maculatum* L.**

Poison-hemlock

Habitat/Range: Wet to mesic ditches and disturbed sites; locally common near Victoria, also known from Vancouver and Kamloops; introduced from Europe.

DAUCUS

1. Involucral bracts scarious-margined below, the segments filiform-subulate and elongate; plants relatively coarse perennials up to 12 dm tall . . . . . *D. carota*

1. Involucral bracts not scarious-margined below, the segments linear or lanceolate, scarcely elongate; plants slender annuals up to about 7 dm tall . . . . . *D. pusillus*

***Daucus carota* L.**

Wild carrot, or Queen Anne's lace

Habitat/Range: Roadsides, fields and waste places; common on SE Vancouver Island, the Gulf Islands and adjacent mainland, also known from Vernon; introduced from Eurasia.

***Daucus pusillus* Michx.**

American wild carrot

Habitat/Range: Dry sites in the lowland zone; locally common on SE Vancouver Island, the Gulf Islands and adjacent mainland; S to MO, SC, FL and MX.

ERYNGIUM

***Eryngium planum* L.**

Plains eryngo

Habitat/Range: Waste places; rare garden escape in S BC; introduced from Eurasia.

FOENICULUM

***Foeniculum vulgare* P. Mill.**
Sweet fennel
Habitat/Range: Roadsides, fields and waste places; rare garden escape on SE Vancouver Island and the Gulf Islands; introduced from Europe.

GLEHNIA

***Glehnia littoralis* F. Schmidt ssp. *leiocarpa* (Mathias) Hult.**
American glehnia
Habitat/Range: Moist to mesic coastal dunes and sandy beaches; infrequent on the Queen Charlotte Islands and Vancouver Island; amphiberingian, N to AK and S to N CA, E Asia.

HERACLEUM

1. Plants 1.5-4.5 m tall; fruits obtuse basally . . . . . *H. mantegazzianum*
1. Plants 1-3 m tall; fruits narrowed basally . . . . . *H. lanatum*

***Heracleum lanatum* Michx.** (*H. sphondylium* L. ssp. *lanatum* [Michx.] Löve & Löve, *H. sphondylium* ssp. *montanum* [Gaud.] Schz. & Kell.)
Cow-parsnip
Habitat/Range: Wet to moist sites from the lowland to alpine zones; common throughout BC; amphiberingian, E to NF and S to GA, NM and CA, Siberia.

***Heracleum mantegazzianum* Sommier & Lev.**
Giant cow-parsnip
Habitat/Range: Wet to moist sites; rare garden escape on S Vancouver Island and the Gulf Islands; introduced from Asia.

HYDROCOTYLE

1. Leaves suborbicular to reniform, crenate or shallowly lobed, centrally peltate . . . . . *H. verticillata*
1. Leaves 5-6 lobed nearly or quite to the middle, not peltate . . . . . *H. ranunculoides*

***Hydrocotyle ranunculoides* L.f.**
Floating water pennywort
Habitat/Range: Ponds, marshes and wet sites in the lowland zone; rare on SE Vancouver Island; S to DE, AR and CA, disjunct to tropical America.

***Hydrocotyle verticillata* Thunb.**
Whorled water pennywort
Habitat/Range: Streams, marshes and wet sites in the lowland zone; rare, known only from the lower Fraser Valley; S to MA, MO, OK, FL, TX and MX, disjunct to tropical America.

LIGUSTICUM

1. Leaves twice ternate into broad, crenate to coarsely serrate leaflets . . . . . *L. scoticum*
1. Leaves once ternate into pinnate-pinnatifid leaflets.

2. Rays of terminal umbels 15, or less; plants endemic to the BC coast . . . . . *L. calderi*

2. Rays of terminal umbels usually 15-40; plants of SE BC.

3. Plants 5-12 dm tall; leaflets 1-5 cm long . . . . . *L. canbyi*

3. Plants 10-20 dm tall; leaflets 3-8 cm long . . . . . *L. verticillatum*

***Ligusticum calderi* Mathias & Const.**

Calder's lovage

Habitat/Range: Wet to moist sites from the lowland to alpine zones; locally frequent on the Queen Charlotte Islands, also N Vancouver Island; endemic.

***Ligusticum canbyi* Coult. & Rose**

Canby's lovage

Habitat/Range: Moist sites in the montane zone; locally frequent in SE BC; S to ID, MT and NE OR.

***Ligusticum scoticum* L. ssp. *hultenii* (Fern.) Calder & Taylor** (*L. hultenii* Fern.)

Beach lovage

Habitat/Range: Moist to mesic beaches and coastal bluffs; infrequent on the Queen Charlotte Islands and adjacent mainland; N to AK.

***Ligusticum verticillatum* (Geyer) Coult. & Rose**

Verticillate-umbel lovage

Habitat/Range: Mesic sites in the montane to subalpine zones; rare in the Selkirk Mountains of SE BC; S to N ID and W MT.

LILAEOPSIS

***Lilaeopsis occidentalis* Coult. & Rose**

Western lilaeopsis

Habitat/Range: Wet to moist marshes, lakesides and tidal shores; infrequent along the coast; N to S AK and S to CA.

LOMATIUM[8]

1. Ultimate segments of the leaves relatively large, mostly 1 cm long, or longer.

2. Ultimate segments of the leaves forming more or less definite leaflets, these entire to deeply cleft; usually more than 5 mm wide.

3. Leaflets strongly toothed or cleft; flowers usually white or ochroleucous, sometimes yellow . . . . . *L. martindalei*

3. Leaflets mostly entire or shallowly toothed; flowers yellow.

4. Leaflets mostly 10-60 mm, rarely 4 mm, wide; longest rays of the umbel mostly 6-20 cm long in fruit . . . . . *L. nudicaule*

4. Leaflets mostly 2-8 mm wide; longest rays of the umbel mostly 3-5 mm long in fruit . . . . . *L. brandegei*

2. Ultimate segments of the leaves narrow and scarcely leaflike, usually less than 5 mm wide.

5. Leaves cleft into long, linear segments or leaflets.

6. Involucels generally wanting; leaves glabrous . . . . . *L. ambiguum*

6. Involucels present; leaves usually finely hirtellous-puberulent . . . . . *L. triternatum*

5. Leaves much dissected ('fern-like').

[8] Key adapted from Hitchcock *et al.* (1969).

7. Flowers white, rarely purple; plants 1.5-4 dm tall; wings of the fruit more than 1 mm wide ..... *L. geyeri*

7. Flowers yellow or purple; plants 5-20 dm tall; wings of the fruit 1 mm wide, or less ..... *L. dissectum*

1. Ultimate segments of the leaves relatively small, rarely any of them as much as 1 cm long.

8. Bractlets of the involucel broadly oblanceolate to ovate, sometimes more or less strongly connate.

9. Involucel more or less strongly connate; plants rare in NE BC ..... *L. foeniculaceum*

9. Involucel not connate; plants locally common in SW BC ..... *L. utriculatum*

8. Bractlets of the involucel narrow, mostly linear or lanceolate, distinct or merely connate at the base, or absent.

10. Wings of the fruit more or less corky-thickened, narrow ..... *L. dissectum*

10. Wings of the fruit thin, either narrow or broad.

11. Leaves not much dissected, more nearly with toothed or cleft leaflets, flowers usually white or ochroleucous, sometimes yellow ..... *L. martindalei*

11. Leaves much dissected, the small and narrow ultimate segments not resembling leaflets.

12. Flowers white or somewhat purplish, rarely purple; wings of the fruit broad.

13. Herbage essentially glabrous ..... *L. geyeri*

13. Herbage sparsely to densely puberulent or villous-puberulent ..... *L. macrocarpum*

12. Flowers yellow; wings of the fruit broad or narrow.

14. Ovaries and young fruits granular-scaberulous or short-hairy, elliptic or suborbiculor; wings of the fruit narrow, less than ½ as wide as the body.

15. Herbage granular-scaberulous to subglabrous; plants rare in SE BC ..... *L. sandbergii*

15. Herbage short-hairy; plants rare in NE BC ..... *L. foeniculaceum*

14. Ovaries and fruits glabrous, elliptic or narrowly oblong; wings of the fruit broad or narrow.

16. Fruits elliptic; wings of the fruit ⅓-½ as wide as the body ..... *L. grayi*

16. Fruits narrowly oblong; wings of the fruit less than ⅓ as wide as the body *L. ambiguum*

***Lomatium ambiguum* (Nutt.) Coult. & Rose**

Swale desert-parsley

Habitat/Range: Dry sites in the montane zone; frequent in S BC E of the Coast-Cascade Mountains, rare westward; S to WY, UT and OR.

***Lomatium brandegei* (Coult. & Rose) J.P. Macbr.**

Brandegee's lomatium

Habitat/Range: Mesic to dry sites in the steppe vegetation and montane zones; rare in SC BC; S to WA.

***Lomatium dissectum* (Nutt.) Math. & Const.**

Fern-leaved desert-parsley or lomatium

Habitat/Range: Dry meadows and rocky slopes in the steppe vegetation and montane zones; var. *dissectum* infrequent in S BC, var. *multifidum* frequent in SC and SE BC; E to SK and S to CO, AZ and CA.

Notes: Two varieties occur in BC.

1. Fruits sessile or pedicels short, shorter than sterile flowers . . . . . var. *dissectum*

1. Fruits with well-developed (4-20 mm) pedicels . . . . . var. *multifidum* (Nutt.) Math. & Const.

Lomatium foeniculaceum* (Nutt.) Coult. & Rose var. *foeniculaceum

Fennel-leaved desert-parsley or lomatium

Habitat/Range: Dry sites in the steppe vegetation zone; rare disjunct in NE BC; E to MB and S to TX, AZ and OR.

***Lomatium geyeri* (S. Wats.) Coult. & Rose**

Geyer's desert-parsley or lomatium

Habitat/Range: Dry sites in the steppe vegetation and montane zones; frequent in SC and SE BC; S to ID and WA.

***Lomatium grayi* (Coult. & Rose) Coult. & Rose**

Gray's desert-parsley or lomatium

Habitat/Range: Dry sites in the lowland zone; rare in the Gulf Islands; S to WY, CO, NV and OR.

***Lomatium macrocarpum* (Hook. & Arn.) Coult. & Rose**

Large-fruited desert-parsley or lomatium

Habitat/Range: Dry sites in the lowland, steppe vegetation and montane zones; common in SC BC, rare in SW and SE BC; E to MB and S to SD, CO, UT and CA.

***Lomatium martindalei* (Coult. & Rose) Coult. & Rose**

Martindale's or few-fruited lomatium

Habitat/Range: Dry sites in the montane to alpine zones; infrequent in SW BC; S to OR.

***Lomatium nudicaule* (Pursh) Coult. & Rose**

Barestem desert-parsley or lomatium

Habitat/Range: Dry sites in the lowland and steppe vegetation zones; locally common on SE Vancouver Island and the Gulf Islands, rare eastward in S BC; E to SW AB and S to UT and CA.

***Lomatium sandbergii* (Coult. & Rose) Coult. & Rose**

Sandberg's desert-parsley or lomatium

Habitat/Range: Dry sites in the upper montane to subalpine zones; rare in extreme SE BC; E to SW AB and S to ID and MT.

***Lomatium triternatum* (Pursh) Coult. & Rose**

Nine-leaved desert-parsley or lomatium

Habitat/Range: Dry sites in the lowland, steppe vegetation and montane zones; frequent in SC and SE BC, rare on S Vancouver Island; E to SW AB and S to CO, UT and CA.

Notes: Two subspecies occur in BC.

1. Fruits broadly elliptic, wings nearly or fully as wide as body; ultimate leaf segments linear . . . . . ssp. *platycarpum* (Torr.) Cronq.

1. Fruits usually relatively narrow, wings usually half as wide as body; ultimate leaf segments lanceolate . . . . . ssp. *triternatum*

***Lomatium utriculatum* (Nutt.) Coult. & Rose**

Spring gold, or common or fine-leaved lomatium

Habitat/Range: Mesic to dry sites in the lowland zone; locally common on SE Vancouver Island and the Gulf Islands; S to CA.

OENANTHE

***Oenanthe sarmentosa* Presl**

Pacific water-parsley

Habitat/Range: Wet sites in the lowland and montane zones; common in and W of the Coast-Cascade Mountains; N to AK and S to CA.

OSMORHIZA

1. Fruits glabrous, obtuse at base; flowers yellow; stems clustered . . . . . *O. occidentalis*
1. Fruits bristly, attenuate at base; flowers whitish, sometimes pink or purple; stems usually solitary.
   2. Fruits concavely narrowed to the summit, the terminal portion a beaklike apex.
      3. Fruits usually 12-22 mm long, the beaklike apex as tall as wide . . . . . *O. chilensis*
      3. Fruits usually 8-13 mm long, the beaklike apex wider than tall . . . . . *O. purpurea*
   2. Fruits convexly narrowed to the rounded or obtuse summit, the apex not beaklike . . . . . *O. depauperata*

***Osmorhiza chilensis* H.& A.**
Mountain sweet-cicely
Habitat/Range: Mesic sites in the lowland and montane zones; common throughout BC; N to AK, E to NF and S to SD, CO, AZ and CA, disjunct to S. America.

***Osmorhiza depauperata* Phil.**
Blunt-fruited sweet-cicely
Habitat/Range: Moist to mesic sites in the lowland and montane zones; frequent in BC E of the Coast-Cascade Mountains, rare in SW BC; N to AK and YT, E to NF and S to SD, NM and CA, disjunct to S. America.

***Osmorhiza occidentalis* (Nutt. ex T.& G.) Torr.**
Western sweet-cicely
Habitat/Range: Mesic to dry sites in the montane zone; infrequent in extreme SC and SE BC; E to SW AB and S to CO and CA.

***Osmorhiza purpurea* (Coult. & Rose) Suksd.** (*O. chilensis* var. *purpurea* [Coult. & Rose] Boivin)
Purple sweet-cicely
Habitat/Range: Mesic to moist sites in the lowland and montane zones; common throughout BC; N to AK, S to ID, MT and CA.

PASTINACA

***Pastinaca sativa* L.**
Common parsnip
Habitat/Range: Fields, roadsides and waste places; rare garden escape in SW BC; introduced from Europe.

PERIDERIDIA

***Perideridia gairdneri* (H.& A.) Mathias**
Gairdner's yampah
Habitat/Range: Moist to dry sites in the lowland and montane zones; locally frequent on SE Vancouver Island and the Gulf Islands, rare in SE BC; E to SK and S top SD, CO, NM and CA.

SANICULA

1. Plants with fibrous roots from a short, simple caudex; flowers greenish-white . . . . . *S. marilandica*
1. Plants with taproots; flowers yellow to purple.
   2. Plants prostrate or ascending; involucel conspicuous, usually surpassing the heads . . . . . *S. arctopoides*

2. Plants erect; involucel inconspicuous.

    3. Principal leaves once or twice pinnatifid, with a distinctly toothed rachis; flowers purple . . . . . S. *bipinnatifida*

    3. Principal leaves palmately or pinnipalmately lobed or divided to ternate-pinnate, without a toothed rachis; flowers yellow.

        4. Leaves palmately or pinnipalmately lobed or divided, without a narrow rachis, the primary divisions merely lobed or serrate . . . . . *S. crassicaulis*

        4. Leaves more or less ternate-pinnate, the primary divisions tending to be pinnatifid, the lowest pair of primary divisions separated from the terminal segment or segments by a narrow, entire rachis . . . . . *S. graveolens*

***Sanicula arctopoides* H.& A.**
Snake-root, or bear's-foot sanicle
Habitat/Range: Mesic coastal bluffs; rare on SE Vancouver Island; S to CA.

***Sanicula bipinnatifida* Dougl. ex Hook.**
Purple sanicle
Habitat/Range: Mesic to dry sites in the lowland zone; rare on SE Vancouver Island; S to CA and MX.

Sanicula crassicaulis* Poepp. var. *crassicaulis
Pacific sanicle
Habitat/Range: Moist to dry sites in the lowland zone; frequent on S Vancouver Island, the Gulf Island and adjacent coast, infrequent in the Queen Charlotte Islands; S to CA and MX, disjunct to Chile.

***Sanicula graveolens* Poepp. ex DC.**
Sierra sanicle
Habitat/Range: Mesic to dry sites in the lowland to montane zones; infrequent in BC S of 53°N; S to MT, WY and CA, disjunct to S. America.

***Sanicula marilandica* L.**
Black sanicle or snake-root
Habitat/Range: Wet to moist sites in the steppe vegetation and montane zones; frequent in S BC; E to NF and S to MO, FL, CO and NM.

SCANDIX

***Scandix pecten-veneris* L.**
Venus'-comb, or shepherd's-needle
Habitat/Range: Dry roadsides and waste places; rare on SE Vancouver Island; introduced from Eurasia.

SIUM

***Sium suave* Walt.**
Hemlock water-parsnip
Habitat/Range: Wet sites in the lowland and montane zones; common throughout BC except Queen Charlotte Islands and adjacent coast; N to AK, YT and NT, E to NF and S to FL, VA, KS and CA.

TORILIS

***Torilis japonica* (Houtt.) DC.**

Upright hedge-parsley

Habitat/Range: Mesic disturbed sites or open forests in the lowland and montane zones; rare, known only from the Gulf Islands and Agassiz; introduced from Japan.

ZIZIA

***Zizia aptera* (A. Gray) Fern. var. *occidentalis* Fern.**

Heart-leaved Alexanders

Habitat/Range: Moist to wet sites in the steppe vegetation and montane zones; locally frequent in the Peace River area of NE BC, rare southward along the Rocky Mountains; N to YT, E to PQ and S to AL, GA, MO, CO and NV.

APOCYNACEAE

1. Flowers greenish-white to pink, 2-10 mm long . . . . . *Apocynum*
1. Flowers blue, rarely white, 3-5 cm long . . . . . *Vinca*

APOCYNUM [9]

1. Corollas greenish-white to white, 2-4.5 mm long, usually less than twice as long as the calyces; leaves ascending.
    2. Pods usually greater than 12 cm long; coma of seeds 2-3 cm long; leaves of the main stems petiolate . . . . . *A. cannabinum*
    2. Pods less than 12 cm long; coma of seeds 1-2 cm long; leaves of the main stems sessile or subsessile . . . . . *A. sibiricum*
1. Corollas pinkish, 3.5-10 mm long, usually more than twice as long as the calyces; leaves spreading to pendulous.
    3. Calyces usually at least half as long as the corollas, lobes acute to acuminate . . . . . *A. medium*
    3. Calyces usually less than half as long as the corollas, lobes obtuse . . . . . *A. androsaemifolium*

***Apocynum androsaemifolium* L.**

Spreading dogbane

Habitat/Range: Dry fields and meadows from the lowland to subalpine zones; common throughout BC except the Queen Charlotte Islands and adjacent coast; N to AK, YT and NT, E to NF and S to GA, TX, NM and CA.

Notes: Two varieties occur in BC.

1. Corollas campanulate, 5-10 mm long; pods pendulous . . . . . var. *androsaemifolium*
1. Corollas more tubular, 4-7 mm long; pods usually erect . . . . . var. *pumilum* A. Gray

***Apocynum cannabinum* L. var. *glaberrimum* A. DC.**

Hemp or common dogbane

Habitat/Range: Dry sites in the lowland, steppe vegetation and montane zones; frequent in S BC; N to NT, E to NF and S to FL, TX and CA.

[9] Key adapted from Hitchcock and Cronquist (1973).

***Apocynum medium* Greene**

Western dogbane

Habitat/Range: Mesic to dry sites in the steppe vegetation and montane zones; rare in S BC east of the Coast-Cascades Mountains; E to NF and S to VA, TN, TX and NM.

Notes: Apparently this 'species' is of hybrid origin through *A. androsaemifolium* and *A. cannabinum*.

***Apocynum sibiricum* Jacq. var. *salignum* (Greene) Fern.** (*A. hypericifolium* Ait.)

Clasping-leaved dogbane

Habitat/Range: Moist to mesic sites in the lowland and montane zones; rare, scattered throughout BC S of 55°N; E to MB and S to MN, TX and CA.

VINCA

1. Flowers usually 20-30 mm wide, usually solitary, calyx lobes glabrous; leaves narrowed at the base ..... *V. minor*

1. Flowers usually 30-50 mm wide, up to 4 per stem, calyx lobes ciliate; leaves truncate or subcordate at base ..... *V. major*

***Vinca major* L.**

Large periwinkle

Habitat/Range: Roadsides and waste places; infrequent garden escape on SE Vancouver Island and the Gulf Islands; introduced from Europe.

***Vinca minor* L.**

Common periwinkle

Habitat/Range: Roadsides and waste places; infrequent garden escape on SE Vancouver Island, the Gulf Islands and lower mainland; introduced from Eurasia.

AQUIFOLIACEAE

ILEX

***Ilex aquifolium* L.**

English holly

Habitat/Range: Mesic disturbed sites and lowland forests; locally frequent garden escape on S Vancouver Island, less frequent on the lower mainland; introduced from Europe.

ARALIACEAE

1. Leaves compound ..... *Aralia*

1. Leaves simple.

   2. Stems erect; leaves deciduous and spiny ..... *Oplopanax*

   2. Stems climbing by aerial roots; leaves evergreen and glabrous ..... *Hedera*

ARALIA

***Aralia nudicaulis* L.**

Wild sarsaparilla

Habitat/Range: Moist sites in the montane zone; frequent throughout S BC east of the Coast-Cascade Mountains, infrequent northward; E to NB and NS and S to TN, GA, CO and WA.

HEDERA

***Hedera helix* L.**
English ivy
Habitat/Range: Moist to mesic disturbed sites and lowland forests; infrequent garden escape on SE Vancouver Island, the Gulf Islands and adjacent mainland; introduced from Eurasia.

OPLOPANAX

***Oplopanax horridus* (Smith) Miq.**
Devil's club
Habitat/Range: Wet to moist sites in the lowland and montane zones; common throughout BC; N to SW AK and YT, E to AB and S to MT and OR; disjunct in ON and MI.

ARISTOLOCHIACEAE

ASARUM

***Asarum caudatum* Lindl.**
Wild ginger
Habitat/Range: Moist to mesic sites in the lowland and montane zones; common in S BC S of 55°N, absent in Queen Charlotte Islands and adjacent coast; S to ID, MT and CA.

ASCLEPIADACEAE

ASCLEPIAS

1. Leaves ovate or lanceolate, tapered at the base; pods lacking tubercles . . . . . *A. ovalifolia*

1. Leaves oblong or oval, rounded or cordate at the base; pods with soft tubercles . . . . . *A. speciosa*

***Asclepias ovalifolia* Dcne.**
Oval-leaved milkweed
Habitat/Range: Dry sites in the steppe vegetation and montane zones; rare, known only from the Revelstoke area; E to W ON and S to NE, IA and IL.

***Asclepias speciosa* Torr.**
Showy milkweed
Habitat/Range: Moist to mesic sites in the steppe vegetation and montane zones; common in SC and SE BC; E to MB and S to MO, TX and CA.

ASTERACEAE [10]

1. Flowers all ligulate and perfect; juice milky (Lactuceae [Cichorieae]) . . . . . Group I

1. Flowers not all ligulate, the ligulate (ray) flowers marginal if present, either pistillate or neutral; juice usually watery.

    2. Heads radiate.

        3. Ray flowers white, pink, purple, red or blue, never yellow or orange . . . . . Group II

[10] Keys for Asteraceae have been adapted from either Cronquist (1955) or Douglas (1982, 1989, 1990).

3. Ray flowers yellow or orange (sometimes purplish, dark brown or reddish brown at the base).
    4. Pappus chaffy or of firm awns (or sometimes absent); receptacles chaffy, bristly or naked . . . . . Group III
    4. Pappus partly or wholly of capillary (sometimes plumose) bristles; receptacles naked . . . . . Group IV
2. Heads discoid or disciform (without ray flowers).
    5. Pappus partly or wholly of numerous capillary (sometimes plumose) bristles . . . . . Group V
    5. Pappus of scales, awns or very short chaffy bristles, or a mere crown (or sometimes absent) . . . . . Group VI

Group I (Flowers all ligulate and perfect; juice milky)

1. Achenes without a pappus . . . . . *Lapsana*
1. Achenes with a pappus.
    2. Pappus of simple (sometimes barbellate) capillary bristles.
        3. Cauline leaves well developed, broad, usually well over 1 cm wide.
            4. Leaves simple, entire to shallowly toothed; achenes cylindric . . . . . *Prenanthes*
            4. Leaves, or at least some of them, pinnatifid; achenes more or less strongly flattened.
                5. Achenes beaked (or beakless in *Lactuca biennis*), somewhat enlarged near summit where pappus attached; leaves not auriculate . . . . . *Lactuca*
                5. Achenes beakless, not enlarged near summit; leaves auriculate . . . . . *Sonchus*
        3. Cauline leaves narrow, usually less than 1 cm wide, reduced upwards, sometimes merely scales or plants scapose.
            6. Achenes spinulose or muricate . . . . . *Taraxacum*
            6. Achenes smooth or nearly so.
                7. Rays pink (rarely white); cauline leaves reduced to merely scales . . . . . *Lygodesmia*
                7. Rays bright yellow to orange or red; plants scapose or with at least a few cauline leaves.
                    8. Plants scapose or nearly so; heads solitary.
                        9. Achenes beaked . . . . . *Agoseris*
                        9. Achenes beakless.
                            10. Outer involucral bracts less than one-half the length of the inner ones . . . . . *Microseris* (*borealis*)
                            10. Outer involucral bracts more than one-half the length of the inner ones . . . . . *Agoseris* (*glauca*)
                    8. Plants caulescent, with at least a few cauline leaves; heads few to numerous.
                        11. Perennials from a short rhizome, not taprooted; pappus mostly sordid or brown . . . . . *Hieracium*
                        11. Annuals, biennials or more often perennials from a taproot or several strong roots or rarely with rhizomes; pappus mostly white or nearly so . . . . . *Crepis*

2. Pappus of plumose bristles, bristlelike scales, scales and bristles, or minute scales.

12. Pappus of minute scales; rays blue (rarely white) . . . . . *Cichorium*

12. Pappus well developed; rays pink, yellow, orange or purple (occasionally white).

13. Rays pink (occasionally white); leaves small, mainly cauline and often scalelike . . . . . *Stephanomeria*

13. Rays yellow, orange or purple; leaves well developed.

14. Pappus of scales and bristles or bristlelike scales.

15. Pappus of long, narrow, tapering bristlelike scales; leaves usually crisped or wavy . . . . . *Nothocalais*

15. Pappus of scales and bristles; leaves entire or with linear lobes.

16. Pappus of 5 short scales alternating with as many bristles; achenes 1.5-2 mm long . . . . . *Krigia*

16. Pappus of 5 or 15-20 narrow scales, each bearing a long bristle; achenes 3.5-13 mm long . . . . . *Microseris*

14. Pappus of plumose bristles.

17. Plume branches of the pappus interwebbed; plants not scapose, leaves somewhat grasslike . . . . . *Tragopogon*

17. Plume branches of the pappus not interwebbed; plants scapose.

18. Receptacles chaffy-bracted; achenes with beaks as long or longer than the achenes . . . . . *Hypochaeris*

18. Receptacles naked; achenes beakless or with beaks shorter than the achenes . . . . . *Leontodon*

Group II (Heads radiate, ray flowers white, pink, purple, red or blue)

1. Receptacles chaffy or bristly throughout (or only towards the middle in *Anthemis cotula*); pappus of scales, awns or very short chaffy bristles, or a mere crown (or sometimes absent).

2. Cauline leaves regularly opposite, well developed . . . . . *Galinsoga*

2. Cauline leaves all or nearly all alternate, or the plants subscapose.

3. Marginal disk flowers enlarged into an irregular, falsely subradiate corolla; true ray flowers absent; receptacles densely bristly, the bristles not individually subtending the flowers . . . . . *Centaurea* (*cyanus*)

3. Marginal disk flowers not enlarged conspicuously; ray flowers present; receptacles chaffy, the bracts individually subtending the flowers.

4. Rays large, 1.5-4.5 cm long . . . . . *Ratibida*

4. Rays small, seldom over 1 cm long.

5. Rays few, usually 3-5, short, less than 5 mm long; perennials . . . . . *Achillea*

5. Rays more numerous, usually 10-25, larger, mostly 5-10 mm long; annuals . . . . . *Anthemis*

1. Receptacles naked, or with a row of chaff between the ray and disk flowers; pappus various.
    6. Pappus of the disk flowers composed partly or wholly of capillary bristles.
        7. Basal leaves cordate, sagittate or palmately lobed . . . . . *Petasites*
        7. Basal leaves not cordate, sagittate or palmately lobed.
            8. Rays numerous, filiform, short, scarcely longer than the disk flowers; involucres and styles approaching that of *Erigeron*; annuals . . . . . *Conyza*
            8. Rays few to numerous, well developed, conspicuous, obviously surpassing the disk (except for a few species which are either perennials or have the involucres and styles of *Aster*)
                9. Involucral bracts subequal or more or less imbricate, often green in part but neither definitely leafy nor with chartaceous base and herbaceous green tip; style branches lanceolate or broader, acute to obtuse, 0.5 mm long or less, or absent . . . . . *Erigeron*
                9. Involucral bracts either subequal and the outer leafy or more commonly evidently imbricate, with chartaceous base and evident green tip, sometimes chartaceous throughout; style branches lanceolate or narrower, acute to acuminate, usually more than 0.5 mm long.
                    10. Plants distinctly taprooted; leaves spinulose-tipped and often spinulose-toothed . . . . . *Machaeranthera*
                    10. Plants with fibrous roots or rhizomes; leaves not spinulose . . . . . *Aster*
    6. Pappus of scales, awns, distinctly flattened chaffy bristles or a mere crown (or sometimes absent).
        11. Receptacles evidently conic or hemispheric.
            12. Plants scapose; pappus absent . . . . . *Bellis*
            12. Plants leafy-stemmed; pappus a minute crown or border . . . . . *Matricaria*
        11. Receptacles flat or nearly so.
            13. Pappus a short crown, or absent . . . . . *Leucanthemum*
            13. Pappus of the disk flowers of about 10 or more flattened, bristlelike scales . . . . . *Townsendia*

Group III (Heads radiate; ray flowers yellow or orange; pappus chaffy or of firm awns, or absent)

1. Receptacles chaffy or bristly throughout.
    2. Involucral bracts in two distinct, dissimilar series; achenes strongly flattened at right angles to the radius of the head (or subterete in *Bidens beckii*).
        3. Pappus of 2-6 firm, mostly retrorsely barbed awns . . . . . *Bidens*
        3. Pappus of 2 minute teeth, or absent . . . . . *Coreopsis*
    2. Involucral bracts in one or more similar series; achenes either not much flattened, or if so, then flattened parallel to the radius of the head.
        4. Receptacles merely bristly . . . . . *Gaillardia*
        4. Receptacles chaffy with definite bracts, not bristly.
            5. Plants scapose or subscapose, the cauline leaves, if any, much reduced *Balsamorhiza*
            5. Plants leafy-stemmed.
                6. Cauline leaves alternate.

7. Leaves pinnatifid; receptacles columnar; rays yellow . . . . . *Ratibida*

7. Leaves simple, entire; receptacles hemispheric; rays orange . . . . . *Rudbeckia*

6. Cauline leaves opposite, at least below.

8. Pappus persistent; disk achenes strongly flattened, thin edged; involucral bracts densely ciliate . . . . . *Helianthella*

8. Pappus readily deciduous (at least as to the two principal awn scales); achenes only slightly or moderately flattened; involucral bracts not densely ciliate . . . . . *Helianthus*

1. Receptacles naked, or with a single row of chaff between the ray and disk flowers.

9. Rays well developed and conspicuous, mostly 5-30 mm long; receptacles naked.

10. Pappus of firm, deciduous awns; involucres more or less strongly sticky-resinous . . . . . *Grindelia*

10. Pappus of chaffy or hyaline scales, or a mere crown, or absent; involucres not resinous although sometimes glandular-pubescent.

11. Leaves mostly pinnatifid; ray flowers ascending, minutely notched at the apex; receptacles low conic . . . . . *Eriophyllum*

11. Leaves simple, toothed; ray flowers soon deflexed, prominently 3-lobed; receptacles hemispheric to subglobose . . . . . *Helenium*

9. Rays short and inconspicuous, mostly 1-5 mm long or, if longer (in some *Madia*), then receptacle with a row of bracts between the ray and disk flowers.

12. Leaves bipinnatifid to pinnately dissected . . . . . *Tanacetum*

12. Leaves entire to toothed.

13. Involucres fusiform, ovoid or urn-shaped, enfolding the ray flowers, more or less glandular . . . . . *Madia*

13. Involucres only slightly convex, not enfolding the ray flowers, not glandular.

14. Involucral bracts well imbricated in several series; pappus absent . . . . . *Jaumea*

14. Involucral bracts in a single series; pappus of 3-5 awns and about as many alternating, laciniate, shorter scales . . . . . *Lasthenia*

Group IV (Heads radiate; ray flowers yellow or orange; pappus partly or wholly of numerous [sometimes plumose] bristles)

1. Leaves, except some of the reduced uppermost ones, opposite . . . . . *Arnica*

1. Leaves alternate, or all basal.

2. Receptacles strongly conic; annuals . . . . . *Crocidium*

2. Receptacles flat or nearly so; perennials.

3. Heads large, involucres 2-2.5 cm high; disks 3-5 cm wide; larger leaves densely velvety below; plants taprooted, weeds, up to 2 m tall . . . . . *Inula*

3. Heads smaller, if larger, then characters otherwise than those above.

4. Involucral bracts uniseriate, equal, narrow, commonly with a few much shorter outer ones at the base . . . . . *Senecio*

4. Involucral bracts in 2 or more series, equal or imbricate, narrow to broad.

5. Pappus double, bristles of the outer series inconspicuous, distinctly shorter than the inner.
    6. Heads solitary; leaves linear or mainly basal . . . . . *Erigeron* (*aureus* and *linearis*)
    6. Heads several; leaves oblong to oblong-spatulate, mainly cauline . . . . . *Heterotheca*
5. Pappus single, bristles sometimes unequal but not distinctly divided into an inner and outer series.
    7. Heads solitary or if several then plants taprooted . . . . *Haplopappus* (*carthamoides* and *lyallii*)
    7. Heads usually several to many.
        8. Plants shrubby . . . . . *Haplopappus* (*bloomeri*)
        8. Plants herbaceous.
            9. Lower leaves deeply cordate . . . . . *Doronicum*
            9. Lower leaves not cordate.
                10. Leaves punctate (sometimes obscurely so); heads mostly sessile in small clusters; rays mostly 15-30 . . . . . *Euthamia*
                10. Leaves not punctate; heads not clustered; rays 7-13, rarely 17 . . . . . *Solidago*

Group V (Heads discoid or disciform; pappus partly or wholly of numerous capillary [sometimes plumose] bristles)

1. Leaves more or less spiny and thistlelike and/or the receptacles densely bristly.
    2. Leaves more or less spiny and thistlelike.
        3. Outer and middle involucral bracts foliaceous with spreading, rigidly-spiny blades, these similar to the upper leaves . . . . . *Carthamus*
        3. Outer and middle involucral bracts not at all foliaceous.
            4. Pappus bristles plumose . . . . . *Cirsium*
            4. Pappus bristles merely barbellate or smooth.
                5. Pappus-bristles smooth; stems smooth . . . . . *Silybum*
                5. Pappus-bristles barbellate; stems with conspicuous spiny-margined wings.
                    6. Receptacles honey-combed; stems densely tomentose . . . . . *Onopordum*
                    6. Receptacles not honey-combed; stems glabrate . . . . . *Carduus*
    2. Leaves entire to toothed, not at all bristly or spiny, the plants not thistlelike.
        7. Involucres with some bracts pectinate, lacerate, spiny, erose or subentire; plants not subalpine or alpine . . . . . *Centaurea*
        7. Involucres with all bracts entire; plants subalpine or alpine . . . . . *Saussurea*
1. Leaves not spiny; receptacles naked, or nearly so.
    8. Shrubs.
        9. Involucral bracts 4-6, equal . . . . . *Tetradymia*
        9. Involucral bracts more numerous, imbricate, or at least in several series.
            10. Involucral bracts aligned in more or less vertical ranks . . . . . *Chrysothamnus*
            10. Involucral bracts not aligned in vertical ranks . . . . . *Brickellia*

8. Herbs (subshrubby in *Luina hypoleuca*).
    11. Flowers all perfect and fertile (heads discoid).
        12. Leaves opposite; flowers yellow or orange . . . . . *Arnica* (*parryi*)
        12. Leaves alternate, or if rarely opposite or whorled, then the flowers not yellow or orange.
            13. Involucral bracts uniseriate, equal, sometimes with a few short outer ones at the base.
                14. Leaves toothed and some of them more or less pinnatifid, never palmately cleft . . . . . *Senecio* (*indecorus* and *pauciflorus*)
                14. Leaves simple and entire or palmately cleft.
                    15. Leaves simple and entire . . . . . *Luina*
                    15. Leaves palmately cleft . . . . . *Cacaliopsis*
            13. Involucral bracts more or less imbricate in 2-several series.
                16. Pappus bristles plumose . . . . . *Saussurea*
                16. Pappus bristles merely barbellate or smooth.
                    17. Achenes 5-angled, not ribbed; leaves toothed, in whorls of three or four . . . . . *Eupatorium*
                    17. Achenes 10-ribbed; leaves (in ours) entire or nearly so and alternate . . . . . *Brickellia*
    11. Flowers all, or at least the outer ones, pistillate (heads disciform).
        18. Basal leaves cordate or sagittate . . . . . *Petasites*
        18. Basal leaves, if any, not cordate or sagittate.
            19. Herbage more or less white-woolly; involucral bracts mostly with dry, scarious, thin, white, to yellowish, brownish, or blackish green tips.
                20. Receptacles chaffy, at least near the margin, and simulating an involucre . . . . . *Filago*
                20. Receptacles naked.
                    21. Plants taprooted annuals or perennials; heads all with outer pistillate and central (or functionally staminate) perfect flowers . . . . . *Gnaphalium*
                    21. Plants fibrous-rooted perennials, often with rhizomes or stolons; dioecious or nearly so, the heads on at least some of the plants wholly staminate or wholly pistillate.
                        22. Basal leaves usually conspicuous, tufted, and persistent, the cauline ones mostly reduced upwards and often few or lacking . . . . . *Antennaria*
                        22. Basal leaves soon deciduous, scarcely if at all larger than the numerous cauline ones . . . . . *Anaphalis*
            19. Herbage often pubescent but not white-woolly; involucral bracts not markedly scarious at the tip.
                23. Perennials . . . . . *Erigeron* (*acris*)
                23. Annuals . . . . . *Aster* (*brachyactis*)

Group VI (Heads discoid or disciform; pappus of scales, awns or very short chaffy bristles, or a mere crown, or sometimes absent)

1. Involucres, or at least some of them, either armed with short, hooked prickles, or nutlike or burlike and provided with tubercles and spines.
    2. Heads of two types; involucres of the pistillate heads nutlike or burlike and provided with hooked prickles, tubercles and spines, those of the staminate heads unarmed; receptacles chaffy; corollas small and inconspicuous, or absent.
        3. Pistillate involucres with hooked prickles . . . . . *Xanthium*
        3. Pistillate involucres with tubercles or straight spines . . . . . *Ambrosia*
    2. Heads all alike with numerous perfect flowers; involucral bracts hooked at the tip; receptacles bristly; corollas more or less evident . . . . . *Arctium*

1. Involucres neither nutlike or burlike nor provided with hooked prickles, all about alike, spiny only in *Centaurea*.
    4. Receptacles chaffy or bristly throughout, or a few of the central flowers bractless.
        5. Plants more or less white-woolly; flowers inconspicuous . . . . . *Psilocarphus*
        5. Plants either not white-woolly or flowers conspicuous, or both.
            6. Heads small, involucres 1.5-4 mm high; the disks up to about 5 mm wide . . . . . *Iva*
            6. Heads obviously larger, involucres over 6 mm high; the disks usually over 1 cm wide.
                7. Receptacles chaffy; involucral bracts biseriate and obviously dimorphic . . . . . *Bidens*
                7. Receptacles bristly; involucral bracts not biseriate . . . . . *Centaurea*
    4. Receptacles naked or with a single row of chaffy bracts between the ray and disk flowers.
        8. Lowermost leaves deltoid-ovate to subreniform below, white-woolly beneath; involucral bracts few, usually only 4-5 . . . . . *Adenocaulon*
        8. Lowermost leaves not deltoid-ovate to subreniform; involucre bracts usually more numerous
            9. Leaves regularly opposite.
                10. Involucral bracts well imbricated in several series; pappus absent . . . . . *Jaumea*
                10. Involucral bracts in a single series; pappus of 3-5 awns and about as many alternating, laciniate, shorter scales . . . . . *Lasthenia*
            9. Leaves alternate, or occasionally some of the lower ones opposite.
                11. Pappus of short, distinct awns or scales . . . . . *Chaenactis*
                11. Pappus a mere minute crown or absent.
                    12. Involucral bracts in a single series, equal, each subtending and wholly enclosing an achene, or nearly so . . . . . *Madia*
                    12. Involucral bracts in several series, not enclosing the achenes.
                        13. Heads in an elongate inflorescence, relatively small, usually numerous . . . . . *Artemisia*
                        13. Heads in an open, round- or flat-topped inflorescence, small to large, solitary to few, sometimes numerous.

14. Receptacles conspicuously hemispherical or conical .... *Matricaria*

14. Receptacles flat or somewhat convex.

    15. Leaves fern-like (pinnate or bipinnate) throughout; achenes sparsely glandular; pappus a minute toothed crown ..... *Tanacetum* (*vulgare*)

    15. Leaves toothed or lobed below, becoming entire above, somewhat succulent and sheathing at the base; achenes nonglandular; pappus lacking ..... *Cotula*

ACHILLEA

1. Leaves pinnately dissected, the divisions again dissected; plants widespread in BC *A. millefolium*

1. Leaves incised, the divisions of the latter merely toothed; plants of northeastern BC ..... *A. sibirica*

***Achillea millefolium* L.** (*A. borealis* Bong. = var. *borealis*, *A. lanulosa* Nutt. = var. *lanulosa*)

Yarrow

Habitat/Range: Mesic to dry sites in every vegetation zone; extremely common throughout BC; N to AK, YT and NT, E to NF and S to FL, TX, CA and MX.

Notes: Taxonomically, one of our most complex and difficult species. For an extensive synonomy see Tyrl (1980) and Douglas (1990). Four ecogeographical forms are recognized at the varietal level.

1. Leaves gray, villous to woolly; plants usually in and east of the coastal mountains.

    2. Involucral bract margins light brown to black, stems usually less than 30 cm tall; plants of the subalpine and alpine zones ..... var. *alpicola* (Rydb.) Garrett

    2. Involucral bract margins light brown to straw-coloured; stems usually more than 30 cm tall; plants of the montane and steppe vegetation zones ..... var. *lanulosa* (Nutt.) Piper in Piper & Beattie

1. Leaves usually green, moderately villous; plants of coastal regions.

    3. Involucral bract margins dark brown to black; stems 10-40 cm tall ..... var. *borealis* (Bong.) Farwell

    3. Involucral bract margins hyaline to light straw-coloured; stems 30-100 cm tall ..... var. *pacifica* (Rydb.) G.N. Jones

***Achillea sibirica* Ledeb.**

Siberian yarrow

Habitat/Range: Mesic sites in the montane zone; frequent in NE BC; N to AK, YT, and NT and E to MB, disjunct to the Gaspe Peninsula.

ADENOCAULON

***Adenocaulon bicolor* Hook.**

Pathfinder

Habitat/Range: Moist to mesic forests in the montane zone; common in S BC; E to AB, S to ID, MT and N CA, disjunct in N MI.

AGOSERIS

1. Achenes often beakless, if beaked then the beak stout and up to about half as long as the body . . . . . *A. glauca*

1. Achenes always beaked, the beak slender and more than half as long as the body.

   2. Beak up to 2 times as long as the body; rays usually burnt orange, rarely yellow . . . . . *A. aurantiaca*

   2. Beak 2-4 times as long as the body; rays always yellow.

      3. Plants annual; involucres with conspicuous purple crosswalls on multicellular hairs . . . . . *A. heterophylla*

      3. Plants perennial; involucres without purple crosswalls on the multicellular hairs . . . . . *A. grandiflora*

Agoseris aurantiaca* (Hook.) Greene ssp. *aurantiaca
Orange agoseris
Habitat/Range: Mesic to dry sites from the upper montane to the alpine zones; frequent throughout BC; N to YT and NT, E to PQ, and S to NM and CA.

***Agoseris glauca* (Pursh) Raf. var. *dasycephala* (T.& G.) Jeps.**
Short-beaked agoseris
Habitat/Range: Mesic to dry sites from the steppe vegetation and montane to the alpine zones; frequent throughout BC except rare in coastal BC; E to AB and S to WA.

***Agoseris grandiflora* (Nutt.) Greene**
Large-flowered agoseris
Habitat/Range: Mesic to dry sites from the lowland to the lower montane zones; infrequent in extreme S BC; S to UT, NV and CA.

Agoseris heterophylla* (Nutt.) Greene ssp. *heterophylla
Annual agoseris
Habitat/Range: Dry, open sites in the lowland, steppe vegetation and lower montane zones; frequent in extreme S BC; E to ID and S to AZ, UT and CA.

AMBROSIA

1. Involucres with 2-4 series of short, sharp spines; leaves mostly alternate . . . . . *A. chamissonis*

1. Involucres with a single series of short spines or tubercles above the middle; leaves or at least the lower ones, opposite.

   2. Plants annual from fibrous roots; leaves mostly petiolate, mostly twice pinnatifid; involucres with short spines . . . . . *A. artemisiifolia*

   2. Plants perennial from creeping roots, leaves short-petiolate or subsessile, only once pinnatifid; involucres with tubercles . . . . . *A. psilostachya*

***Ambrosia artemisiifolia* L.** (*A. elatior* L., *A. artemisiifolia* var. *elatior* [L.] Desc.)
Annual or common ragweed
Habitat/Range: Dry sites; rare, known from only four locations in SC and SE BC; introduced from SW USA.

***Ambrosia chamissonis* (Less.) Greene** (*Franseria chamissonis* Less., *F. chamissonis* var. *bipinnatisecta* Less.)
Silver burweed
Habitat/Range: Beaches and gravelly sites along coastal shores; common on the coast; S to CA.

***Ambrosia psilostachya* DC.** (*A. coronopifolia* T.& G., *A. psilostachya* var. *coronopifolia* [T.& G.] Farw.)
Western ragweed
Habitat/Range: Dry sites; rare, known from only four locations in S BC; introduced from SW USA.

ANAPHALIS

***Anaphalis margaritacea* (L.) Benth. & Hook f. ex C.B. Clarke**
Pearly everlasting
Habitat/Range: Moist to dry sites in the lowland, montane and subalpine zones; common throughout all but NE BC; N to AK and NT, E to NF and NS and S to NM and CA.

ANTENNARIA

Notes: The treatment presented here is traditional and largely artificial. The recent work of Dr. R.J. Bayer and his colleagues (see references), based mainly on cytological investigations, is beginning to shed some light on the genus, especially where apomixis, polyploidy and hybridization are involved. The latter research will eventually lead to a more meaningful and, in many cases, markedly different classification of the genus.

1. Heads solitary, terminal.
    2. Plants with short or elongate stolons; leaves glabrous or glabrate and greenish above; heads on sparsely leafy stems; plants of northern BC . . . . . *A. monocephala*
    2. Plants lacking stolons; leaves densely tomentose above and below; heads on leafy stems; plants of extreme south-central BC . . . . . *A. dimorpha*
1. Heads several to many.
    3. Basal leaves distinctly less pubescent and greener above than below, sooner or later glabrate.
        4. Heads usually borne in an open racemiform inflorescence; plants regularly sexual, the staminate plants occurring with the pistillate ones, the stigmas equalling or surpassing the pappus . . . . . *A. racemosa*
        4. Heads borne in a crowded or sometimes subcapitate inflorescence; plants chiefly apomictic, the staminate plants rare, the pappus surpassing the stigmas . . . . . *A. neglecta*
    3. Basal leaves nearly as densely hairy above as below, glabrate only in extreme age.
        5. Plants mat-forming, with numerous leafy stolons.
            6. Terminal scarious portion of the involucral bracts (at least the outer or middle ones) brownish to darkish green.
                7. Terminal scarious portion of the middle and outer involucral bracts brownish (rarely dark green), inner ones usually white (at least near the tip); involucral bracts usually blunt . . . . . *A. umbrinella*
                7. Terminal scarious portion of the involucral bracts dark green throughout; involucral bracts usually sharp-pointed . . . . . *A. alpina*
            6. Terminal scarious portion of the involucral bracts white, or pink or reddish.

8. Pistillate involucres 7-11 mm high; the dry pistillate corollas 5-8 mm long . . . . . *A. parviflora*

8. Pistillate involucres 4-7 mm high (rarely 10 mm in the far north); the dry pistillate corollas 2.5-4.5 mm long . . . . . *A. microphylla*

5. Plants not mat-forming, without stolons, often multiple-stemmed from a branched rhizome or caudex.

9. Involucral bracts scarious to the base, glabrous or nearly so, the outermost bracts occasionally slightly woolly at the base . . . . . *A. luzuloides*

9. Involucral bracts with a densely pubescent, not at all scarious lower portion, the pubescence extending even to the inner bracts.

10. Plants mostly 1-2 dm tall; involucres blackish in aspect, although the inner bracts may be white at the tip; plants of the subalpine to alpine zones in BC . . . . . *A. lanata*

10. Plants mostly 2-5 dm tall; involucres whitish to blackish in aspect; plants of the steppe vegetation, montane and occasionally the subalpine zones of BC *A. pulcherrima*

***Antennaria alpina* (L.) Gaertn. var. *media* (Greene) Jeps.** (*A. media* Greene)
Alpine pussytoes
Habitat/Range: Mesic to dry well drained sites in the alpine and subalpine zones; common throughout BC; N to AK, YT and NT, E to AB and S to CO and CA.
Notes: For an extensive synonomy see Douglas (1980).

***Antennaria dimorpha* (Nutt.) T.& G.**
Low pussytoes
Habitat/Range: Dry sites in the steppe vegetation and adjacent lower montane zones; frequent in SC BC, E to SK, S to NE, CO and CA.

***Antennaria lanata* (Hook.) Greene**
Woolly pussytoes
Habitat/Range: Moist to mesic, mainly snowbed sites in the subalpine and alpine zones; common east of the Coast-Cascade Mountains in S BC; E to AB and S to WY and OR.

***Antennaria luzuloides* T.& G.**
Woodrush pussytoes
Habitat/Range: Dry, open, gravelly sites in the lower montane zone; infrequent east of the Coast-Cascade Mountains in extreme S BC; E to AB and S to MO, WY, CO, UT and CA.

***Antennaria microphylla* Rydb.** (*A. alborosea* A.E. & M.P. Porsild, *A. nitida* Greene, *A. rosea* Greene)
Rosy pussytoes
Habitat/Range: Mesic to dry sites from the lowland to the alpine zones; common throughout BC; N to AK, YT and NT, E to PQ and S to NM and CA.
Notes: For an extensive synonomy see Douglas (1980).

***Antennaria monocephala* DC.** (*A. angustata* Greene, *A. glabrata* [Vahl] Greene, *A. philonipha* Porsild, *A. pygmaea* Fern.)
One-headed pussytoes
Habitat/Range: Moist to mesic sites in the subalpine and alpine zones; frequent in N BC, infrequent in E BC; amphiberingian, N to AK, YT and NT and E to NF.
Notes: For an extensive synonomy see Douglas (1980).

***Antennaria neglecta* Greene** (*A. howellii* Greene and *A. neodioica* Greene ssp. *howellii* [Greene] Bayer = var. *howellii*, *A. neodioica* var. *attenuata* Fern. = var. *attenuata*)
Field pussytoes
Habitat/Range: Mesic to dry forests in the montane zone; frequent throughout most of BC; N to YT and NT, E to NF and S to VA, AZ and CA.

Notes: Three varieties occur in BC.

1. Plants less than 1.5 dm tall . . . . . var. *athabascensis* (Greene) Tayl. & MacBryde

1. Plants more than 1.5 dm tall.

   2. Leaves glabrous above from the beginning . . . . . var. *howellii* (Greene) Cronq.

   2. Leaves thinly tomentose above when young, sometimes glabrate with age . . . . . var. *attenuata* (Fern.) Cronq.

***Antennaria parviflora* Nutt.** (*A. aprica* Greene)

Nuttall's pussytoes

Habitat/Range: Mesic to dry sites in the lowland, steppe vegetation and montane zones; frequent in S BC, east of the Coast-Cascade Mountains, infrequent on Vancouver Island, the Gulf Islands and the adjacent coast; E to AB and S to AZ, NV and WA.

***Antennaria pulcherrima* (Hook.) Greene** (*A. anaphaloides* Rydb. = var. *anaphaloides*)

Showy pussytoes

Habitat/Range: Mesic sites from the lowland to montane zones; rare on the coast, frequent throughout the remainder of BC; N to AK, YT and NT, E to NF and S to UT, NV and CA.

Notes: Two varieties occur in BC.

1. Involucre blackish in aspect, although some of the bracts may be white at the tip . . . . . var. *pulcherrima*

1. Involucre white or whitish in aspect, although the bracts may have a small dark spot at the base . . . . . var. *anaphaloides* (Rydb.) G.W. Dougl.

***Antennaria racemosa* Hook.**

Racemose pussytoes

Habitat/Range: Mesic sites from the lowland to the alpine zones; frequent throughout BC; E to AB and S to WY and OR.

***Antennaria umbrinella* Rydb.**

Umber pussytoes

Habitat/Range: Mesic to dry sites from the lowland to the alpine zones; frequent throughout BC; N to AK, YT and NT, E to AB and S to AZ, CO and CA.

Notes: For an extensive synonomy see Douglas (1980).

ANTHEMIS

1. Rays yellow . . . . . *A. tinctoria*

1. Rays white.

   2. Receptacles chaffy throughout; achenes with smooth ribs . . . . . *A. arvensis*

   2. Receptacles chaffy only above the middle; achenes with glandular-tuberculate (bumpy) ribs . . . . . *A. cotula*

***Anthemis arvensis* L.**

Corn chamomile

Habitat/Range: Roadsides and disturbed sites; common on S Vancouver Island, infrequent through S BC; introduced from Europe.

***Anthemis cotula* L.**

Stinking chamomile or mayweed

Habitat/Range: Roadsides and disturbed sites; common in S BC; rare in NE BC; introduced from Europe.

***Anthemis tinctoria* L.**
Yellow chamomile
Habitat/Range: Roadsides and disturbed sites; infrequent in S BC; introduced from Eurasia.

ARCTIUM

1. Involucral bracts flat, straight and spreading; heads usually exceeding 2.5 cm wide . . . . . *A. lappa*

1. Involucral bracts angled or narrowed, curved and generally ascending; heads usually less than 2.5 cm wide . . . . . *A. minus*

***Arctium lappa* L.**
Great burdock
Habitat/Range: Roadsides and disturbed areas, rare in BC, known from only two collections in the lower Fraser Valley; introduced from Eurasia.

***Arctium minus* (Hill) Bernh.**
Common burdock
Habitat/Range: Roadsides, disturbed areas and pastures; frequent along the coast and in S BC; introduced from Eurasia.

ARNICA

1. Cauline leaves mostly 5-12 pairs.
    2. Involucral bracts blunt or abruptly pointed, bearing a conspicuous tuft of long, white hairs at or near the tip . . . . . *A. chamissonis*
    2. Involucral bracts more or less sharply pointed, lacking a tuft of white hairs at the tip.
        3. Leaves entire or nearly so . . . . . *A. longifolia*[11]
        3. Leaves more or less toothed . . . . . *A. amplexicaulis*
1. Cauline leaves mostly 1-4 pairs.
    4. Anthers purplish-black . . . . . *A. lessingii*
    4. Anthers yellow.
        5. Heads characteristically discoid (rayless); a few marginal corollas sometimes appear ray-like . . . . . *A. parryi*
        5. Heads characteristically radiate, rarely rayless.
            6. Pappus subplumose, tawny or straw-coloured.
                7. Heads broad (wider than high), subhemispheric . . . . . *A. mollis*
                7. Heads narrow, more or less turbinate (higher than wide) . . . . . *A. diversifolia*
            6. Pappus barbellate, usually white or nearly so.
                8. Leaves broad, basal ones 1-2.5 (rarely 3) times as long as wide.
                    9. Achenes short-hairy throughout; involucre densely white-pilose; leaves often cordate . . . . . *A. cordifolia*
                    9. Achenes glabrous below, or glabrous throughout; involucre with few or no long hairs; leaves various, cauline ones seldom cordate . . . . . *A. latifolia*

[11] This species, although occurring within a few km of the British Columbia border, has yet to be collected in the province.

8. Leaves narrow, basal ones 3-10 times as long as wide.
    10. Achenes usually glabrous below, or glabrous throughout.
        11. Heads usually 3-9, usually erect . . . . . *A. gracilis*
        11. Heads solitary (rarely 3), usually nodding.
            12. Involucral bracts becoming glabrous above, scarcely glandular; achenes scarcely glandular; plants of N BC . . . . . *A. frigida*
            12. Involucral bracts short stipitate-glandular throughout; achenes usually moderately glandular and hirsute above; plants of SE BC . . . . . *A. louiseana*
    10. Achenes usually short-hairy throughout.
        13. Lower cauline leaves sessile (sometimes sub-sessile); ray flowers minutely toothed or entire . . . . . *A. rydbergii*
        13. Lower cauline leaves short to long-petiolate; ray flowers prominently 3-toothed.
            14. Disk corollas densely stipitate-glandular, sometimes also with glandless hairs . . . . . *A. fulgens*
            14. Disk corollas sparsely to densely hairy, scarcely glandular . . . . . *A. angustifolia*

Arnica amplexicaulis* Nutt. ssp. *amplexicaulis

Streambank arnica

Habitat/Range: Moist to mesic sites in montane forests; common in S BC, rare northwards; N to S AK and YT and S to CA and NM.

***Arnica angustifolia* Vahl in Hornem.** (*A. alpina* [L.] Olin & Ladau = ssp. *angustifolia*, *A. lonchophylla* Greene = ssp. *lonchophylla*)

Alpine arnica

Habitat/Range: Mesic to xeric sites from the montane to alpine zones; common in BC; circumboreal, N to AK, YT, E to NF, and S to MN, SD and WA; Eurasia.

Notes: Four subspecies occur in BC:

1. Involucre and herbage conspicuously white woolly-villous; plants 0.5-2 dm tall . . . . . ssp. *tomentosa* (Macoun) G.W. Dougl. & G. Ruyle-Dougl.
1. Involucre and herbage never conspicuously white woolly-villous; plants 1-5 dm tall.
    2. Leaves regularly toothed (at least the basal ones), lower leaves long-petiolate; plants 2-4.5 dm tall . . . . . ssp. *lonchophylla* (Greene) G.W. Dougl. & G. Ruyle-Dougl.
    2. Leaves entire or sometimes irregularly toothed, lower leaves short-petiolate; plants 1-4.5 dm tall.
        3. Heads solitary (rarely 3); cauline leaves 2-3 pairs; plants 1-2.5 (rarely 3) dm tall . . . . . ssp. *angustifolia*
        3. Heads 3-5 (rarely 1 or 7), cauline leaves 4-5 pairs, (rarely 3 pairs); plants 1.5-4.5 dm tall . . . . . ssp. *attenuata* (Greene) G.W. Dougl. & G. Ruyle-Dougl.

***Arnica chamissonis* Less.**

Meadow arnica

Habitat/Range: Mesic to wet meadows in the montane and subalpine zone; widespread in BC; N to AK and YT, E to ON and S to CA and NM.

Notes: Three subspecies occur in BC:

1. Pappus subplumose, tawny; involucre densely villous with some sessile glands, basal hairs of involucre with prominent crosswalls; leaves usually sessile (lowermost sometimes short-petiolate) and toothed; widespread in BC . . . . . ssp. *chamissonis*

1. Pappus barbellate, whitish to straw-coloured; involucre densely villous without sessile glands, basal hairs of involucre with less prominent crosswalls; leaves long-petiolate (at least the lowermost ones) and usually entire.

    2. Leaves densely silver-tomentose; known from only seven stations in S BC . . . . . ssp. *incana* (Gray) Maguire

    2. Leaves less densely hairy, never silvery; rare in N BC; common southward . . . . . ssp. *foliosa* (Nutt.) Maguire

***Arnica cordifolia* Hook.**

Heart-leaved arnica

Habitat/Range: Xeric to mesic montane forests; less frequent in mesic alpine and subalpine sites; very common throughout the province except for coastal areas where it is known only from Bella Coola and the southern tip of Vancouver Island. N to AK, YT and the NT and S to NM and CA; disjunct in N MI.

Notes: Hybridizes with *A. latifolia*, numerous intermediates may be encountered. A poorly defined alpine phase, var. *pumila* (Rydb.) Maguire, may be recognized by its smaller stature (less than 2 dm) narrower and slightly or scarcely cordate leaves, and more glandular achenes.

***Arnica diversifolia* Greene**

Diverse arnica

Habitat/Range: Mainly in montane forests in BC; infrequent in S BC; N to AK and YT, S to N MT and CA.

Notes: This ‘‘species’’ is merely a convenient name for a series of apparent hybrids involving either *A. mollis* or *A. amplexicaulis* and *A. cordifolia* or *A. latifolia*.

***Arnica frigida* C.A. Mey. ex Iljin** (*A. louiseana* ssp. *frigida* [C.A. Mey. ex Iljin] Maguire)

Northern arnica

Habitat/Range: Moist bogs and meadows in the subalpine and alpine zones; infrequent in extreme N BC; amphiberingian, N to AK, YT, and NT, E USSR.

Notes: This species is closely related to *A. louiseana*.

***Arnica fulgens* Pursh** (*A. sororia* Greene = var. *sororia*)

Orange arnica

Habitat/Range: Xeric lower montane forests and steppe vegetation zones; var. *sororia* and var. *fulgens* are common in the southern interior of BC; the latter extends some 400 km farther north (into the Peace River drainage) than the former; E to AB and SK, S to N UT and N CA.

Notes: Recent research by Downie and Denford (1987) clearly verifies that two separate entities are involved here. To recognize them at the specific level, however, would be inconsistent with our taxonomic concepts. Two varieties are recognized in BC.

1. Disk corollas with spreading white hairs among the stipitate-glandular hairs; old leaf bases often with dense tufts of long brown woolly hairs in the axils . . . . . var. *fulgens*

1. Disk corollas without, or occasionally with a few spreading white hairs among the stipitate-glandular hairs, old leaf bases with only a few, if any, long white woolly hairs in the axils . . . . . var. *sororia* (Greene) G.W. Dougl. & G. Ruyle-Dougl. in Taylor & MacBryde

***Arnica gracilis* Rydb.** (*A. latifolia* Bong. var. *gracilis* [Rydb.] Cronq.)

High mountain or slender arnica

Habitat/Range: Mesic to dry, rocky sites in the subalpine and alpine zones; common in S BC; E to AB and S to WY and WA.

Notes: A natural hybrid between *A. cordifolia* and *A. latifolia* (Wolf and Denford 1984a).

***Arnica latifolia* Bong.**

Mountain arnica

Habitat/Range: Moist to mesic sites from the lowland to alpine zones; is extremely common throughout all BC; N to AK, YT and NT, S to CO and CA.

Notes: Hybridizes with *A. cordifolia*, numerous intermediates may be encountered.

***Arnica lessingii* (T.& G.) Greene**
Purple arnica
Habitat/Range: Moist snowbed sites in the alpine zone; infrequent in the northern half of the province; amphiberingian, eastern USSR through AK, YT, and NT and S to N BC.

***Arnica louiseana* Farr**
Lake Louise arnica
Habitat/Range: Mesic alpine fellfields; rare, known from only one station in Kootenay National Park; E to SW AB.

***Arnica mollis* Hook.**
Hairy arnica
Habitat/Range: Moist to mesic sites from the montane to the alpine zones; common in S BC, less frequent northward; N to AK, YT and NT and S to UT, CO and CA.

Arnica parryi* A. Gray ssp. *parryi
Parry's arnica
Habitat/Range: Mesic to xeric montane forests and subalpine meadows; common in the S BC, infrequent or rare northward; N to S YT and S to CO and CA.

***Arnica rydbergii* Greene**
Rydberg's arnica
Habitat/Range: Mesic to dry alpine meadows; frequent in the southern half of the province; S to UT and CO, N to CA.

ARTEMISIA

1. Marginal flowers pistillate; herbs or shrubs.
    2. Receptacle covered with long hairs.
        3. Plants large, usually 4-12 dm tall; the larger leaves 3-8 cm long . . . . . *A. absinthium*
        3. Plants small, usually 1-4 dm tall; the larger leaves less than 3 cm long . . . . . *A. frigida*
    2. Receptacle glabrous.
        4. Annuals or biennials from a taproot; leaves essentially glabrous . . . . . *A. biennis*
        4. Perennials from a rhizome, caudex, or a taproot, leaves more or less hairy.
            5. Leaves mainly basal, few and reduced upwards.
                6. Pubescence of the leaves densely sericeous, the ultimate segments acute or obtuse . . . . . *A. furcata*
                6. Pubescence of the leaves loosely villous, the ultimate segments acuminate to attenuate.
                    7. Heads relatively large, the disks 5-10 mm wide . . . . . *A. norvegica*
                    7. Heads smaller, the disks less than 4.5 mm wide . . . . . *A. campestris*
            5. Leaves mainly cauline.
                8. Leaves usually with one or two pairs of stipule-like lobes at the base . . . . *A. vulgaris*
                8. Leaves without stipule-like lobes at the base.
                    9. Leaves entire or merely lobed or toothed.

10. Leaves essentially entire, rarely pinnately lobed.
    11. Stems clustered from a woody caudex; plants of the Peace River drainage . . . . . *A. longifolia*
    11. Stems loosely clustered or solitary from spreading, creeping rhizomes; plants widespread.
        12. Leaves white-tomentose below . . . . . *A. ludoviciana* var. *ludoviciana*
        12. Leaves glabrous or occasionally villous below, not tomentose . . . . . *A. dracunculus*
10. Leaves lobed or toothed.
    13. Leaves narrow; plants somewhat shrubby at the base; restricted to the interior of S BC . . . . . *A. lindleyana*
    13. Leaves broadly lanceolate to elliptic; plants herbaceous to the base, not taprooted, restricted to coastal BC . . . . . *A. suksdorfii*

9. Leaves deeply divided or subpinnatifid to tripinnatifid.
    14. Leaves bipinnatifid, often with the ultimate segments again toothed.
        15. Involucres usually densely tomentose . . . . *A. ludoviciana* var. *incompta*
        15. Involucres sparingly tomentose or glabrous . . . . . *A. michauxiana*
    14. Leaves deeply divided or pinnatifid.
        16. Involucres narrow, higher than wide . . . . . *A. ludoviciana* var. *latiloba*
        16. Involucres relatively broad, wider than high.
            17. Plants herbs, from a rhizome; leaves tomentose below and green to sparsely tomentose above . . . . . *A. tilesii*
            17. Plants shrubs, from a woody caudex; leaves tomentose on both sides . . . . . *A. alaskana*

1. Flowers all perfect; shrubs.
    18. Leaves deeply divided into 3-5 segments . . . . . *A. tripartita*
    18. Leaves mostly entire or merely 3-toothed at the apex.
        19. Leaves mostly entire, occasionally with 1 or 2 teeth or lobes . . . . . *A. cana*
        19. Leaves 3-toothed at the apex, the upper becoming entire . . . . . *A. tridentata*

***Artemisia absinthium* L.**

Wormwood, common wormwood, or absinthe

Habitat/Range: Roadsides and disturbed sites; common in S BC, rare northward to Dawson Creek; introduced from Eurasia.

***Artemisia alaskana* Rydb.**

Alaska sagebrush

Habitat/Range: Sandy or gravelly river terraces and deltas in the montane zone; rare, known from only a single collection along the Haines Road in N BC; N to YT and AK.

***Artemisia biennis* Willd.**

Biennial wormwood

Habitat/Range: Mesic sites along streambanks and in disturbed areas from the lowland to montane zones; frequent throughout all but extreme N BC; N to AK, E to PQ and NS and S to CA.

***Artemisia campestris* L.** (*A. borealis* Pall. = ssp. *borealis*, *A. campestris* var. *scouleriana* [Bess.] Cronq. = ssp. *pacifica*)

Northern wormwood

Habitat/Range: Mesic to dry habitats in all vegetation zones; common throughout BC east of the Coast-Cascade Mountains, ssp. *pacifica* also found on S Vancouver Island and the adjacent lower mainland; circumboreal, N to AK, YT and NT, E to AB and S to NM and AZ.

Notes: The taxonomy of this species remains unclear, see Douglas (1988) for an extensive synonomy. Two subspecies occur in BC.

1. Plants usually 1-4 dm tall; involucres 3-4.5 mm high . . . . . ssp. *borealis* (Pall.) Hall & Clem.

1. Plants usually 3-10 dm tall; involucres 2-3 mm high . . . . . ssp. *pacifica* (Nutt.) Hall & Clem.

Artemisia cana* Pursh ssp. *cana

Silver sagebrush

Habitat/Range: Dry sites in the steppe vegetation zone; rare, known only from two collections in SC BC; E to SK and S to WA, CA and NM.

***Artemisia dracunculus* L.**

Tarragon

Habitat/Range: Dry sites in the steppe vegetation zones; frequent in S BC, infrequent northward to Dawson Creek; circumboreal, N to AK, YT and NT, E to MB and ME, and S to TX, NM and MX.

***Artemisia frigida* Willd.**

Prairie sagewort

Habitat/Range: Dry, open sites in all vegetation zones; common east of the Coast-Cascade Mountains, especially SC BC, circumboreal, N to AK, YT and NT, E to MB and S to TX, AZ, WI and KS.

***Artemisia furcata* Bieb. var. *heterophylla* (Bess.) Hult.** (*A. heterophylla* Bess., *A. trifurcata* Steph.)

Three-forked mugwort

Habitat/Range: Dry sites in the alpine zone; rare, known only from the Brooks Peninsula, N Vancouver Island; circumpolar, N to AK, YT and NT; Eurasia.

Notes: A problematic species, taxonomically. The closely related var. *furcata* (*A. hyperborea* Rydb.), differing mainly in its once (sometimes twice) palmately or pinnately divided leaves, is known from near the BC border in AB and YT.

***Artemisia lindleyana* Bess. in Hook.**

Columbia River mugwort

Habitat/Range: Below high water levels along rivers; infrequent along Columbia and Fraser River drainages in central BC; S to WA, ID and MT.

***Artemisia longifolia* Nutt.**

Long-leaved mugwort

Habitat/Range: Mesic to dry sites in the steppe vegetation zone; infrequent, restricted to the Peace River drainage in NE BC; E to SK and SD and S to WY.

***Artemisia ludoviciana* Nutt.**

Western mugwort

Habitat/Range: Mesic sites in the steppe vegetation, montane and subalpine zones; var. *ludoviciana* is common in the S half of BC, east of the Coast-Cascade Mountains, var. *latiloba* is frequent only in the SE quarter of BC, var. *incompta* is rare, known only from Nelson; E to ON and IL and S to MX.

Notes: Misidentifications of these taxa are common (see Douglas 1989). Three varieties occur in BC.

1. Leaves mostly entire, sometimes with a few lobes . . . . . var. *ludoviciana*

1. Leaves deeply lobed to bipinnatifid with the ultimate segments often again divided.

   2. Leaves merely lobed, seldom subpinnatifid . . . . . var. *latiloba* Nutt.

   2. Leaves bipinnatifid with the ultimate segments often again divided . . . . . var. *incompta* (Nutt.) Cronq.

***Artemisia michauxiana* Bess. in Hook.**

Michaux's mugwort

Habitat/Range: Mesic to dry sites, mainly in the montane zone but sometimes in the steppe vegetation or subalpine zones; common throughout BC east of the Coast-Cascades Mountains; N to YT and S to WY, UT and CA.

***Artemisia norvegica* Fries ssp. *saxatilis* (Bess. ex Hook.) Hall & Clem.** (*A. arctica* Less.)

Mountain sagewort

Habitat/Range: Moist to mesic sites in all vegetation zones; common throughout BC east of the Coast-Cascade Mountains; circumboreal, N to AK, YT and NT and S to CO and CA; Eurasia.

Notes: Taxonomists using the epithet *A. arctica* for this taxon, often follow, but are not familiar with, the totally inadequate paper by Hulten (1954) nor are they familiar with the species throughout its range.

***Artemisia suksdorfii* Piper**

Suksdorf's mugwort

Habitat/Range: Moist to mesic, gravelly sites along the coast; common from N Vancouver Island S in BC; S to CA.

***Artemisia tilesii* Ledeb.** (*A. tilesii* var. *elatior* T.& G. = var. *unalaschcensis*)

Aleutian mugwort

Habitat/Range: Moist to mesic sites in all vegetation zones; var. *unalaschcensis* is common throughout BC while var. *tilesii* is common and usually restricted to N BC; circumboreal, N to AK, YT and NT and S to MO and OR; Eurasia.

Notes: Two varieties occur in BC.

1. Inflorescences relatively short and compact, usually overtopped by the upper leaves . . . . . var. *tilesii*

1. Inflorescences ample and open to subcompact, always surpassing the upper leaves . . . . . var. *unalaschcensis* (Bess.) Hult.

***Artemisia tridentata* Nutt.**

Big sagebrush

Habitat/Range: Dry open sites in the steppe vegetation or lower montane zones (var. *tridentata*) and mesic open sites in the upper montane to subalpine zones (var. *vaseyana*); both varieties common in SC BC; E to AB and ND, S to NM, CA and MX.

1. Involucres narrowly campanulate, about 4 mm high and 2 mm wide; plants of arid sites at lower elevations . . . . . var. *tridentata*

1. Involucres broader, about 5 mm high and 4 mm wide; plants of cooler, mesic sites at higher (greater than 1150 m) elevations . . . . . var. *vaseyana* (Rydb.) Boivin

***Artemisia tripartita* Rydb.**

Threetip or cutleaf sagebrush

Habitat/Range: Dry sites in the steppe vegetation zone; common in SC and SE BC; S to CO and CA.

***Artemisia vulgaris* L.**

Common mugwort

Habitat/Range: Roadsides and in waste places; infrequent in S BC; introduced from Europe.

ASTER

1. Heads disciform, the rays essentially wanting, the corolla of the pistillate flowers tubular, shorter than the styles . . . . . *A. brachyactis*

1. Heads radiate, the rays usually conspicuous.

    2. Pappus distinctly double, with an outer series of very short bristles in addition to the principal bristles; heads solitary, narrow (less than 4 mm wide); plants of SE BC . . . . . *A. stenomeres*

    2. Pappus simple or occasionally double; heads, habit and range various but not precisely as in *A. stenomeres*.

        3. Rays few, 1-3, white, shorter than the pappus: plants of Vancouver Island and the Gulf Islands . . . . . *A. curtus*

        3. Rays more numerous, 5 or more, white to pink or purple, longer than the pappus; range various.

            4. Rays commonly 13, sometimes 8 or 21, white; involucral bracts tending to be keeled; pappus often with a few short outer setae.

                5. Leaves large, mostly 15-35 mm wide; plants 6-15 dm tall; plants of the Cascade Ranges and eastward in S BC . . . . . *A. engelmannii*

                5. Leaves smaller, 4-13 mm wide; plants 2-5 dm tall; plants of C Vancouver Island . . . . . *A. paucicapitatus*

            4. Plants differing in one or more respects from those above.

                6. Achenes 2-nerved, flattened; heads solitary; plants with the habit of *Erigeron* . . . . . *A. alpinus*

                6. Achenes mostly several-nerved; heads usually numerous; usually not with the habit of *Erigeron*.

                    7. Involucre and peduncles glandular.

                        8. Leaves thick, ovate to elliptic, usually sharply toothed . . . . . *A. conspicuus*

                        8. Leaves thin, linear to lanceolate, entire to remotely toothed.

                            9. Leaves narrow, mostly 2-10 mm wide, entire . . . . . *A. campestris*

                            9. Leaves broader, mostly 10-40 mm wide, remotely toothed, rarely entire . . . . . *A. modestus*

                    7. Involucre and peduncles without glands (or apparently so).

                        10. Involucral bracts usually with purple tips and margins; disk corollas with the tube (basal part) equalling or surpassing the slender limb (including lobes); leaves rough at least beneath.

                            11. Leaves sharply toothed over nearly all of the margin; heads several to many; lowland plants of S Vancouver Island . . . . . *A. radulinus*

                            11. Leaves entire or with relatively few small teeth in the apical portion; heads few, arctic-alpine plants throughout BC . . . . . *A. sibiricus*

                        10. Involucral bracts without purple tips and margins (except in some forms of *A. foliaceus*); disk corollas with tube shorter than the limb; leaves not rough beneath.

                            12. Basal or lower cauline leaves cordate or subcordate and distinctly petiolate . . . . . *A. ciliolatus*

12. Basal or lower cauline leaves not cordate or subcordate and usually sessile or subpetiolate.

    13. Plants slender, leaves less than 1 cm wide; rhizomes slender, less than 2 mm thick; plants of cold bogs and lake margins . . . . . *A. borealis*

    13. Plants differing in one or more respects from the above.

        14. Stems and branchlets pubescent in decurrent lines from the leaf bases; inflorescence generally large and leafy . . . . . *A. hesperius*

        14. Stems and branchlets with uniform pubescence on the peduncles, or if in lines, then uniform below the heads; inflorescence various.

            15. Involucral bracts, at least the outer, with loose or squarrose, minutely spinulose-mucronate tips; rays white (rarely pinkish to purplish).

                16. Plants with well developed, creeping rhizomes; heads few to many, often solitary at the ends of branches which are rarely secund . . . . . *A. falcatus*

                16. Plants with a short rhizome or caudex; heads numerous, usually secund on upwards-curving branches . . . . . *A. ericoides*

            15. Involucral bracts appressed to spreading, without a spinulose-mucronate tip (rarely obscurely so in *A. ascendens* and *A. chilensis*); rays usually blue to purple (pink or white in *A. bracteolatus*).[12]

                17. Involucres strongly graduated, the outer bracts spatulate, or slightly so, and usually obtuse, not foliaceous.

                    18. Heads few to many in a nearly naked, narrow to closed inflorescence; middle cauline leaves usually less than 1 cm wide and more than 7 times as long as wide, plants of SE BC . . . . . *A. ascendens*

                    18. Heads usually numerous on leafy-bracted branches; middle cauline leaves usually more than 1 cm wide and less than 7 times as long as wide, plants of S Vancouver Island . . . . . *A. chilensis*

                17. Involucres not strongly graduated or, if so, then the outer bracts markedly acute; involucral bracts acute, or, if obtuse, then the outer foliaceous.

                    19. Achenes glabrous, or nearly so; herbage glabrous, or nearly so and tending to be glaucous . . . . . *A. laevis*

                    19. Achenes more or less pubescent; herbage variously hairy to subglabrous, not glaucous.

                        20. Outer involucral bracts usually with scarious (not green) margins near the base, the chartaceous portion tending to be darkened, yellowish or brownish rather than white . . . . . *A. subspicatus*

                        20. Outer involucral bracts with inconspicuous or no scarious margins, the chartaceous portion, if present, usually whitish or greenish.

                            21. Inflorescence a long, narrow leafy panicle with numerous heads; ray flowers usually pink or white . . . . . *A. bracteolatus*

                            21. Inflorescence few-headed, or if more, then shorter, more open, and cymose-paniculate; ray flowers usually blue or violet.

[12] This last part of the key (often referred to as the *Aster occidentalis* complex) contains some of the most variable and complex taxa in the Asteraceae. The many intermediates between two or more species result in numerous plants that are extremely difficult to place.

22. Leaves relatively narrowly lanceolate, the bases rounded but not clasping, the middle cauline leaves less than 1 cm wide and more than 7 times as long as wide; involucral bracts small and narrow, never enlarged or leafy . . . . . *A. occidentalis*

22. Leaves broadly lanceolate to lance-ovate, the bases sometimes auriculate clasping, the middle cauline leaves mostly over 1 cm wide and less than 7 times as long as wide, some of the outer involucral bracts often more or less enlarged and leafy . . . . . *A. foliaceous*

***Aster alpinus* L. ssp. *vierhapperi* Onno**
Alpine aster
Habitat/Range: Calcaerous meadows from the montane to alpine zones; infrequent in NE BC; circumboreal, N to AK, YT and NT, E to AB and S to CO; Eurasia.

***Aster ascendens* Lindl. in Hook.** (*A. chilensis* Nees ssp. *adscendens* [Lindl. in Hook.] Cronq.)
Long-leaved aster
Habitat/Range: Dry sites in the steppe vegetation and lower montane zones; rare, known from only three collections in SC and SE BC; S to CO and CA.

***Aster borealis* (T.& G.) Prov.** (*A. junciformis* Rydb.)
Rush or boreal aster
Habitat/Range: Marshes, bogs, fens and lakesides from the lowland to the subalpine zones; frequent throughout BC; N to AK, E to PQ and NJ, and S to CO.

***Aster brachyactis* Blake**
Rayless alkali aster
Habitat/Range: Moist saline or alkaline sites in the steppe vegetation and lower montane zones; frequent in SC and SE BC; E to MB and S to WY, CO and UT.

***Aster bracteolatus* Nutt.** (*A. eatonii* [A. Gray] Howell)
Eaton's aster
Habitat/Range: Moist to wet sites in the lowland and montane zones; frequent in S BC; S to CA and NM.

Aster campestris* Nutt. var. *campestris
Meadow aster
Habitat/Range: Dry sites in the steppe vegetation and montane zones; frequent in SC and SE BC; E to AB and S to WA and UT.

***Aster chilensis* Ness**
Common California aster
Habitat/Range: Moist to mesic sites in the lowland zone; frequent on Vancouver Island, rare on the adjacent mainland; S to S CA.

***Aster ciliolatus* Lindl. in Hook.** (*A. lindleyanus* T.& G.)
Lindley's or fringed aster
Habitat/Range: Moist to dry sites in the montane zone; common in S BC, infrequent in NE BC; N to S NT, E to PQ, NS and NB, and S to OR and WY.

***Aster conspicuus* Lindl. in Hook.**
Showy aster
Habitat/Range: Mesic to dry sites in the montane zone; common in SC, SE and NE BC; E to SA and S to OR and WY.

***Aster curtus* Cronq.** (*Sericocarpus rigidus* Lindl. in Hook.)
White-top aster
Habitat/Range: Dry meadows and rocky areas in the lowland zone; rare on S Vancouver Island and the Gulf Islands; S to SW OR.

***Aster engelmannii* (D.C. Eat.) A. Gray**
Engelmann's aster
Habitat/Range: Mesic meadows and forest openings in the montane and sub-alpine zones; frequent in SC and SE BC; E to SW AB and S to CO and NV.

***Aster ericoides* L. ssp. *pansus* (Blake) A.G. Jones** (*A. pansus* [Blake] Cronq.)
Tufted white prairie aster
Habitat/Range: Mesic to dry sites in the steppe vegetation and montane zones; common in SC, SE and NE BC; E to MB and S to WY and NV.

Aster falcatus* Lindl. in Hook. ssp. *falcatus
Little gray aster
Habitat/Range: Dry sites in the steppe vegetation and montane zones; frequent in SC, SE and NE BC; N to AK, YT, and NT, E to MB, and S to AZ and NM.

***Aster foliaceus* Lindl. in DC.**
Leafy aster
Habitat/Range: Moist to mesic sites from the lowland to the alpine zones; common throughout BC; N to AK and YT, E to AB, and S to CA, AZ and NM.

Aster hesperius* A. Gray var. *hesperius
Western willow aster
Habitat/Range: Moist sites in the lowland and montane zones; infrequent in SE BC; E to SK and WI and S to NM to CA.

***Aster laevis* L. ssp. *geyeri* (A. Gray) Piper**
Smooth aster
Habitat/Range: Mesic to dry open sites in the lowland and montane zones; common in and east of the Coast-Cascade Mountains in S BC, infrequent in NE BC and on Vancouver Island; N to AK, E to SK and S to OR, UT and NM.

***Aster modestus* Lindl. in Hook.**
Great northern aster
Habitat/Range: Moist to mesic sites in the lowland and montane zones; common throughout BC; N to AK, E to ON and MN and S to MO, ID and OR.

***Aster occidentalis* (Nutt.) T.& G.**
Western mountain aster
Habitat/Range: Mesic open sites in the lowland and montane zones; infrequent throughout BC, the var. *intermedius* occurs east of the Coast-Cascade Mountains while var. *occidentalis* also occurs with the latter as well as along the coast; N to NT and S to CO and CA.
Notes: Two often obscure varieties occur in BC.

1. Heads one to several in a sparsely leafy inflorescence . . . . . var. *occidentalis*

1. Heads numerous in a branched, leafy inflorescence . . . . . var. *intermedius* A. Gray

***Aster paucicapitatus* (B.L. Robins.) B.L. Robins.**
Olympic mountain aster
Habitat/Range: Mesic to dry meadows and rock outcrops in the lowland, montane and subalpine zones; rare on C Vancouver Island; S to NW WA (Olympic Mountains).

***Aster radulinus* A. Gray**
Rough-leaved aster
Habitat/Range: Dry open forests and rock outcrops in the lowland zone; rare on SE Vancouver Island; S to CA and disjunct to central OR.

***Aster sibiricus* L.**
Arctic aster
Habitat/Range: Mesic to dry, usually gravelly sites from the montane to the alpine zones; common throughout BC; N to AK, YT and NT and S to OR and WY.
Notes: Two subspecies occur in BC. They are sometimes difficult to distinguish in the herbarium.

1. Involucres usually strongly imbricate, 6-9 mm high; heads often several to many; plants of S BC . . . . . ssp. *meritus* (A. Nels.) G.W. Dougl.

1. Involucres usually scarcely imbricate, 7-16 mm high; heads solitary to several; plants of N BC . . . . . ssp. *sibiricus*

***Aster stenomeres* A. Gray**
Rocky Mountain aster
Habitat/Range: Dry, open sites in the steppe vegetation and montane zones; infrequent in SE BC; S to NE WA, ID and MO.

***Aster subspicatus* Nees** (*A. douglasii* Lindl. in Hook.)
Douglas' aster
Habitat/Range: Moist to mesic sites in the lowland and montane zones; common in S BC; N to AK, E to AB and S to and CA.

BALSAMORHIZA

1. Plants densely and softly hairy, the leaves silvery, especially below; involucres densely woolly-tomentose; plants of the interior of BC . . . . . *B. sagittata*

1. Plants sparsely hairy, the leaves green; involucres sparsely hairy; plants of the SW coast of BC . . . . . *B. deltoidea*

***Balsamorhiza deltoidea* Nutt.**
Deltoid balsamroot
Habitat/Range: Dry, open, grassy areas in the lowland zone; rare on S Vancouver Island; S to CA.

***Balsamorhiza sagittata* (Pursh) Nutt.**
Arrow-leaved balsamroot
Habitat/Range: Dry, open sites in the steppe vegetation and lower montane zones; common in SC and SE BC; E to AB and S to CO and CA.

BELLIS

***Bellis perennis* L.**
English daisy
Habitat/Range: Lawns, pastures and waste places; common along the coast, introduced from Europe.

BIDENS

1. Plants aquatic, the submerged leaves filiform-dissected; achenes subterete . . . . . *B. beckii*

1. Plants subaquatic or terrestrial, the leaves not filiform-dissected; achenes flat or compressed-quadrangular.

   2. Leaves, except sometimes the lowermost, sessile; outer involucral bracts mostly spreading or reflexed.

      3. Leaves toothed to subentire; ray flowers greatly exceeding the involucres, rarely wanting . . . . . *B. cernua*

      3. Leaves deeply 3-parted and toothed; ray flowers barely exceeding the involucres . . . . . *B. amplissima*

   2. Leaves petiolate; outer involucral bracts ascending or erect.

      4. Outer involucral bracts 5-8; disk flowers orange; achenes usually blackish . . . . . *B. frondosa*

      4. Outer involucral bracts 10-16; disk flowers pale yellow; achenes yellowish or brownish . . . . . *B. vulgata*

***Bidens amplissima* Greene**

Vancouver Island beggarticks

Habitat/Range: Wet sites in the lowland zone; frequent on SE Vancouver Island and the adjacent mainland; endemic to BC.

***Bidens beckii* Torr. ex Spreng.** (*Megalodonta beckii* [Torr. ex Spreng.] Greene)

Water marigold

Habitat/Range: Lakeshores; rare, known only from several lakes in SE BC and on Vancouver Island; also occurs in WA and OR, native in E North America, native status uncertain for BC.

Notes: This species might better be placed under *Megalodonta.*

***Bidens cernua* L.**

Nodding beggarticks

Habitat/Range: Wet sites and lakeshores in the steppe vegetation and montane zones; common throughout BC east of the Coast-Cascade Mountains, less frequent on S Vancouver Island and adjacent mainland; circumboreal, occurs throughout most of the northern hemisphere.

***Bidens frondosa* L.**

Common beggarticks

Habitat/Range: Wet to mesic sites in the lowland, steppe vegetation and montane zones; infrequent throughout BC; introduced from E USA.

***Bidens vulgata* Greene**

Tall beggarticks

Habitat/Range: Wet to mesic sites in the steppe vegetation and montane zones; rare, known only from three locations in SC and SE BC; E to PQ and S to TN, WY, NV and CA.

BRICKELLIA

Brickellia oblongifolia* Nutt. ssp. *oblongifolia

Narrow-leaved brickellia

Habitat/Range: Dry sites in the steppe vegetation zone; rare in SC BC; S to ND, NM and CA.

CACALIOPSIS

***Cacaliopsis nardosmia* (A. Gray) A. Gray ssp. *glabrata* Piper** (*Luina nardosmia* [A. Gray] Cronq. var. *glabrata* [Piper] Cronq.)
Silvercrown
Habitat/Range: Mesic to dry, well-drained sites in the montane and subalpine zones; rare, known from only two collections in Manning Provincial Park; S to S OR.

CARDUUS

1. Heads large, nodding, solitary; involucres 3-4 cm wide; involucral bracts 2-8 mm wide .... *C. nutans*

1. Heads smaller, ascending, often clustered, involucres 1-2.5 cm wide; involucral bracts 1-1.5 mm wide.

    2. Involucres hemispherical, 1.5-2.5 cm wide; outer involucral bracts somewhat herbaceous and spreading; plants strongly spiny ..... *C. acanthoides*

    2. Involucres ovoid, 1-1.3 cm wide; outer involucral bracts rigid, scarcely spreading; plants weakly spiny ..... *C. crispus*

***Carduus acanthoides* L.**
Plumeless thistle
Habitat/Range: Roadsides; rare, known only from Robson and Castlegar; introduced from Europe.

***Carduus crispus* L.**
Curled thistle
Habitat/Range: Roadsides; rare, known only from Dawson Creek; introduced from Eurasia.

***Carduus nutans* L. ssp. *leiophyllus* (Petrovic) Stoj. & Stef.**
Nodding or musk thistle
Habitat/Range: Disturbed sites; rare, known only from Alexis Creek; introduced from Eurasia and N. Africa.

CARTHAMUS

***Carthamus lanatus* L. ssp. *baeticus* (Boiss. & Reuter) Nyman**
Distaff thistle
Habitat/Range: Fields; rare; known only from Mayne Island; introduced from the Mediterranean region.

CENTAUREA

1. Outer involucral bracts conspicuously spine-tipped.

    2. Outer involucral bracts with a prominent terminal spine and two or more pairs of smaller lateral spines at the base; flowers yellow ..... *C. melitensis*

    2. Outer involucral bracts with the terminal spine naked; flowers creamy, sometimes purplish, rarely yellow ..... *C. diffusa*

1. Outer involucral bracts pectinate, lacerate, erose and subentire to entire at the tips, not at all spiny.

    3. Pappus well developed, 6-11 mm long; outer involucral bracts erose and subentire to entire at the tips ..... *C. repens*

    3. Pappus absent or short, less than 5 mm long; outer involucral bracts pectinate or lacerate at the tips.

        4. Involucral bracts bearing a conspicuous apical appendage, distinctly broader than the involucral bract base.

5. Involucral bracts about as wide as long, the appendage lacerate and darker in the center than on the chartaceous outer edges . . . . . *C. pratensis*

5. Involucral bracts longer than wide, the appendage pectinate and evenly dark coloured . . . . . *C. nigrescens*

4. Involucral bracts lacking an apical appendage.

6. Involucral bracts pectinate.

7. Involucres 4-6 mm wide, higher than wide; heads paniculate on stiffly diverging branches . . . . . *C. paniculata*

7. Involucres 6-8 mm wide, not much higher than wide; heads corymbose on lax branches . . . . . *C. maculosa*

6. Involucral bracts laciniate.

8. Involucres mostly 11-16 mm high; pappus 3-4 mm long; leaves linear . . . . *C. cyanus*

8. Involucres 20-25 mm high; pappus 0.5 mm long; leaves broadly lanceolate to elliptic . . . . . *C. montana*

***Centaurea cyanus* L.**
Cornflower, or bachelor's-button
Habitat/Range: Roadsides; frequent garden escape in S BC; introduced from the Mediterranean region.

***Centaurea diffusa* Lam.**
Diffuse knapweed
Habitat/Range: Dry sites in the steppe vegetation and lower montane zones; common in S BC east of the Coast-Cascade Mountains; introduced from the E Mediterranean region.

***Centaurea maculosa* Lam.**
Spotted knapweed
Habitat/Range: Roadsides and fields; frequent in S BC east of the Coast-Cascade Mountains; introduced from Eurasia.

***Centaurea melitensis* L.**
Maltese star-thistle
Habitat/Range: Disturbed sites; rare, originally found on ballast dumps but recently reported from Samuel and Georgeson Islands in the Gulf Islands; introduced from the Mediterranean region.

***Centaurea montana* L.**
Mountain bluet
Habitat/Range: Roadsides; infrequent garden escape on S Vancouver Island and the adjacent mainland; introduced from Europe.

***Centaurea nigrescens* Willd.** (*C. vochinensis* Bernh. ex Reichb., *C. dubia* Suter ssp. *vochinensis* [Bernh. ex Reichb.] Hayek)
Short-fringed knotweed
Habitat/Range: Fields; rare, known only from the Saanich Peninsula, Vancouver Island; introduced from Europe.

***Centaurea paniculata* L.**
Jersey knapweed
Habitat/Range: Roadsides and waste places; rare, known only from the Victoria area; introduced from S Europe.

***Centaurea pratensis* Thuill.**
Meadow knapweed
Habitat/Range: Fields and disturbed areas; infrequent in S BC; introduced from Europe.

***Centaurea repens* L.** (*Acroptilon repens* [L.] DC.)
Russian knotweed
Habitat/Range: Roadsides and disturbed areas; frequent in S BC east of the Coast-Cascade Mountains; introduced from Eurasia.
Notes: This species might better be placed within *Acroptilon*, as is done in many European floras.

CHAENACTIS

1. Heads borne on naked, unbranched stems . . . . . *C. alpina*
1. Heads borne on leafy, branched stems . . . . . *C. douglasii*

***Chaenactis alpina* (A. Gray) M.E. Jones** (*C. douglasii* var. *alpina* A. Gray)
Alpine false yarrow
Habitat/Range: Talus slopes in the alpine zone; rare, known from only a single disjunct collection in SC BC; occurs in MO, OR, UT and CO.
Notes: Collections of *C. douglasii* var. *montana* are often identified as this species.

***Chaenactis douglasii* (Hook.) H.& A.**
Hoary false yarrow
Habitat/Range: Dry, sandy or rocky sites in the steppe vegetation zone (var. *achillaefolia*) or dry sites in the subalpine or alpine zones (var. *montana*); the former variety is common while the latter is rare, both occur in S BC east of the Coast-Cascade Mountains; E to MO and S to AZ, NV and CA.
Notes: Two varieties occur in BC.

1. Annual or perennial montane plants 1.5-6 dm tall . . . . . var. *achillaefolia* (H.& A.) A. Nels. in Coult. & Nels.
1. Perennial subalpine or alpine plants 1-1.5 dm tall . . . . . var. *montana* M.E. Jones

CHRYSOTHAMNUS

1. Twigs glabrous or minutely spreading-puberulent, not at all tomentose . . . . . *C. viscidiflorus*
1. Twigs densely tomentose . . . . . *C. nauseosus*

***Chrysothamnus nauseosus* (Pall.) Britt. in Britt. & Brown var. *albicaulis* (Nutt.) Rydb.**
Common rabbit-brush
Habitat/Range: Dry, open sites in the steppe vegetation and lower montane zones; common in SC and SE BC; E to SK and S to TX, NM and CA.

***Chrysothamnus viscidiflorus* (Hook.) Nutt. var. *lanceolatus* (Nutt.) Greene**
Green rabbit-brush
Habitat/Range: Dry, open sites in the steppe vegetation and lower montane zones; frequent in extreme SC BC; S to ND, NM and CA.

CICHORIUM

***Cichorium intybus* L.**
Chicory
Habitat/Range: Roadsides and disturbed areas; frequent in S BC; introduced from Europe.

CIRSIUM

1. Heads small; involucres 1-2 (rarely 2.5) cm high; plants introduced.
    2. Stems distinctly spiny-winged; plants with perfect flowers . . . . . *C. palustre*
    2. Stems not conspicuously spiny-winged; plants partly dioecious . . . . . *C. arvense*
1. Heads large; involucres more than 2 cm high; plants native (except *C. vulgare*).
    3. Leaves setose-spinulose, above, stems distinctly spiny-winged . . . . . *C. vulgare*
    3. Leaves arachnoid-villous to floccose, tomentose or glabrate above, stems not spiny-winged.
        4. Pappus of mature seeds exceeding the corollas by 1-10 mm . . . . . *C. foliosum*
        4. Pappus of mature seeds shorter than the corollas.
            5. Heads large; involucres 3-5 cm high . . . . . *C. drummondii*
            5. Heads small; involucres less than 3 cm high.
                6. Outer involucral bracts more than 2 mm wide at base, slightly if at all hairy and if so, then mainly marginal.
                    7. Outer involucral bracts strongly glandular; lowermost leaves deeply pinnately lobed to more than half the width of the blade . . . . . *C. undulatum*
                    7. Outer involucral bracts glandular; lowermost leaves shallowly pinnately lobed to one-half or less the width of the blade . . . . . *C. scariosum*
                6. Outer involucral bracts less than 2 mm wide at base, densely arachnoid.
                    8. Corollas white or creamy-white, rarely pinkish; involucral bracts greenish . . . . . *C. hookerianum*
                    8. Corollas purplish-red to purplish-pink; outer involucral bracts purplish.
                        9. Styles exceeding the corollas by at least 3 mm; achenes 5-6.5 mm long; leaves usually lobed more than one-half the width of the blade . . . . . *C. edule*
                        9. Styles subequal to or exceeding the corollas by only 1.5 mm; achenes 4-4.5 mm long; leaves usually lobed less than one-half the width of the blade . . . . . *C. brevistylum*

***Cirsium arvense* (L.) Scop. var. *horridum* Wimm. & Grab.**

Canada thistle

Habitat/Range: Roadsides, fields and disturbed areas; common along the coast, the Peace River area and S BC; introduced from Eurasia.

***Cirsium brevistylum* Cronq.**

Short-styled thistle

Habitat/Range: Moist meadows and open forests in the montane and lowland zones; frequent in extreme S BC, S to ID, MO and CA.

***Cirsium drummondii* T.& G.**

Drummond's thistle

Habitat/Range: Roadsides and in meadows and forest openings in the steppe vegetation and lower montane zones; common in SC and SE BC, less frequent in the Peace River area; E to ON and S to WY.

***Cirsium edule* Nutt.**
Edible thistle
Habitat/Range: Moist to mesic sites in the lowland, montane and subalpine zones; common throughout BC; S to N OR.

***Cirsium foliosum* (Hook.) DC.**
Leafy thistle
Habitat/Range: Moist to mesic sites in the montane and subalpine zones; infrequent in BC east of the Coast-Cascade Mountains; N to YK and S to WY.

***Cirsium hookerianum* Nutt.**
Hooker's thistle
Habitat/Range: Moist to mesic sites in the steppe vegetation and montane zones; frequent in S BC east of the Coast-Cascade Mountains; E to AB and S to ID, MO and WA.

***Cirsium palustre* (L.) Scop.**
Marsh thistle
Habitat/Range: Moist sites; rare, known from only Prince Rupert and three locations on S Vancouver Island and the Gulf Islands; introduced from Europe.

***Cirsium scariosum* Nutt.**
Elk thistle
Habitat/Range: Dry, open forests in the montane zone; rare in SE BC, E to AB, ID and MO.

***Cirsium undulatum* (Nutt.) Spreng.**
Wavy-leaved thistle
Habitat/Range: Dry sites in the steppe vegetation zone; common in SC and SE BC; E to MB and S to NM and AZ.

***Cirsium vulgare* (Savi) Tenore**
Bull thistle
Habitat/Range: Roadsides, fields, pastures and disturbed areas; common in S BC, infrequent in N BC; introduced from Eurasia.

CONYZA

***Conyza canadensis* (L.) Cronq. var. *glabrata* (A. Gray) Cronq.** (*Erigeron canadensis* L.)
Horseweed, or Canadian fleabane
Habitat/Range: Roadsides and disturbed areas; frequent in S BC; introduced, native range uncertain.

COREOPSIS

1. Disk flowers purplish or brown; ray flowers yellow with a brownish-purple base; native annuals . . . . . *C. atkinsoniana*

1. Disk flowers yellow; ray flowers yellow; introduced perennials . . . . . *C. lanceolata*

***Coreopsis atkinsoniana* Dougl. ex Lindl.**
Atkinson's coreopsis
Habitat/Range: Moist river banks in the steppe vegetation zone; rare, known from only three locations in extreme SC BC; S to WA and N OR.

***Coreopsis lanceolata* L.**

Garden coreopsis

Habitat/Range: Roadsides and disturbed areas; rare garden escape, known only from Ft. Langley and Nanaimo; introduced from E US.

COTULA

***Cotula coronopifolia* L.**

Brass buttons

Habitat/Range: Tidal flats and marshes; infrequent on the north coast and islands, common on SE Vancouver Island and the adjacent mainland; introduced from South Africa.

CREPIS

1. Introduced annual or biennial weeds; taproots relatively weak; leaves mainly cauline.
    2. Inner involucral bracts pubescent within; mature achenes dark purplish brown . . . . . *C. tectorum*
    2. Inner involucral bracts glabrous within; mature achenes mostly tawny or pale brown.
        3. Achenes 1.5-2.5 mm long, involucres 5-8 mm high; receptacles glabrous . . . . . *C. capillaris*
        3. Achenes 2.5-9 mm long, involucres 8-12 mm high; receptacles ciliate.
            4. Achenes 2.5-4 mm long, beakless . . . . . *C. nicaeensis*
            4. Achenes 4.5-9 mm long, beaked . . . . . *C. vesicaria*
1. Native perennial species, not weedy; taproots well developed; leaves mainly basal.
    5. Stems and leaves glabrous, or more or less hispid, but not at all tomentose.
        6. Rays mostly 20-50 in each head; plants mostly 2-7 dm tall . . . . . *C. runcinata*
        6. Rays mostly 9-12 in each head; plants 0.5-3 dm tall.
            7. Achenes beakless or short-beaked, the ribs broad, rounded, smooth or slightly rugulose; plants 0.5-1 (or rarely 2) dm tall . . . . . *C. nana*
            7. Achenes beaked, the ribs narrow, scabrous-hirtellous at least above; plants mostly 1-3 dm tall . . . . . *C. elegans*
    5. Stems and leaves more or less tomentose or puberulent, sometimes also setose or glandular-hispidulous.
        8. Involucres and lower stems setose but not glandular . . . . . *C. modocensis*
        8. Involucres and stems sparsely setose or, if evidently setose, then the setae gland-tipped.
            9. Leaf segments linear or narrowly lanceolate, mostly entire; achenes generally greenish . . . . . *C. atrabarba*
            9. Leaf segments broader, mostly lanceolate or deltoid, some of them toothed; achenes yellowish or brownish to dark brown.
                10. Involucres tomentulose or rarely glabrous; plants 2-7 dm tall . . . . . *C. intermedia*
                10. Involucres usually glandular-pubescent; plants 1-3 dm tall . . . . . *C. occidentalis*

***Crepis atrabarba* Heller** (*C. exilis* Osterhout)

Slender hawksbeard

Habitat/Range: Dry, open, sandy or gravelly sites in the steppe vegetation and lower montane zones; extremely common (ssp. *originalis*) or rare (ssp. *atrabarba*) E of the Coast-Cascade Mountains in S BC; E to AB and S to NV, UT and CA.

Notes: Two subspecies occur in BC.

1. Plants relatively small, 1.5-3.5 dm tall; heads 3-18; involucral bracts with some glandless setae . . . . . ssp. *atrabarba*

1. Plants taller, 3-7 dm tall; heads 10-40; involucral bracts nearly or completely devoid of setae . . . . . ssp. *originalis* Babc. & Stebb.

***Crepis capillaris* (L.) Wallr.**

Smooth hawksbeard

Habitat/Range: Pastures, disturbed areas and along roadsides; common on SE Vancouver Island and adjacent mainland, infrequent on the Queen Charlotte Islands and farther E in BC; introduced from Europe.

***Crepis elegans* Hook.**

Elegant hawksbeard

Habitat/Range: Gravelly or sandy river bars or terraces, sometimes on upland sites; frequent throughout the province; N to AK, YT and NT, E to AB and SK, S to MT and WY.

***Crepis intermedia* A. Gray**

Gray hawksbeard

Habitat/Range: Mesic to dry open areas in the montane zone; infrequent E of the Coast-Cascade Mountains in S BC; E to AB and S to WY, CO and CA.

Notes: This 'species' consists of a group of polyploid apomicts which combine the characters of *C. occidentalis* and either *C. acuminata* Nutt. or *C. pleurocarpa* A. Gray (Babcock and Stebbins 1938).

***Crepis modocensis* Greene**

Low hawksbeard

Habitat/Range: Dry, open sites in the steppe vegetation zone; rare, known only from a single collection at Pavillion Lake (ssp. *modocensis*) and two collections (ssp. *rostrata*) from Spences Bridge and the Tranquille Range; S to WY, CO and CA.

Notes: Two subspecies occur in BC.

1. Hairs of the stem and petiole stiff, yellowish, those of the involucres blackish, all straight or slightly curved . . . . . ssp. *modocensis*

1. Hairs of the stem, petioles, and involucres all, or nearly all, whitish, elongate, and conspicuously curled or crisped, those of the involucres generally very dense . . . . . ssp. *rostrata* (Coville) Babc. & Stebb.

***Crepis nana* Rich.** (*C. nana* ssp. *clivicola* Leggett, *C. nana* ssp. *ramosa* Babc. & Stebb.)

Dwarf hawksbeard

Habitat/Range: Moist to mesic, sandy, gravelly or rocky sites in the subalpine and alpine zones; common throughout BC east of the Coast-Cascade Mountains; circumpolar, N to AK, E to NF and S to UT, NV and CA.

***Crepis nicaeenis* Balb. ex Pers.**

French hawksbeard

Habitat/Range: Roadsides and disturbed areas; infrequent on southeastern Vancouver Island and adjacent Gulf Islands, also a collection E of Jasper, AB in BC; introduced from Europe.

***Crepis occidentalis* Nutt.**

Western hawksbeard

Habitat/Range: Dry, open sites in the steppe vegetation zone; all subspecies frequent in SC BC, infrequent (only ssp. *occidentalis*) in SE BC; E to S AB and SD, S to NM and CA.

Notes: Three subspecies occur in BC.

1. Involucres with at least some gland-tipped hairs.
    2. Largest heads 18- to 30-flowered, with 10-13 inner involucral bracts .... ssp. *occidentalis*
    2. Largest heads 12- to 14-flowered, with 8-9 inner involucral bracts ..... ssp. *costata* (A. Gray) Babc. & Stebb.
1. Involucres without gland-tipped hairs ..... ssp. *pumila* (Rydb.) Babc. & Stebb.

Crepis runcinata* (James) T.& G. ssp. *runcinata

Dandelion hawksbeard

Habitat/Range: Dry sites in the steppe vegetation and lower montane zones; infrequent in SE BC east of the Coast-Cascade Mountains; E to MB and MN, S to CA, AZ and MX.

***Crepis tectorum* L.**

Annual hawksbeard

Habitat/Range: Roadsides and disturbed areas; common throughout BC, except NW BC and the Queen Charlotte Islands; introduced from Europe.

***Crepis vesicaria* L. spp. *taraxacifolia* (Thuill.) Thell. ex Schinz & Keller**

Weedy hawksbeard

Habitat/Range: Roadsides and disturbed areas; rare, known only from three collections on SE Vancouver Island; introduced from W Europe and NW Africa.

CROCIDIUM

***Crocidium multicaule* Hook.**

Gold star

Habitat/Range: Dry, open sites in the lowland zone; infrequent along the E coast of S Vancouver Island and the adjacent Gulf Islands; S to NE OR and CA.

DORONICUM

***Doronicum pardalianches* L.**

Great leopard's-bane

Habitat/Range: Mesic forest openings and disturbed sites; rare garden escape in the lower Fraser Valley; introduced from Europe.

ERIGERON

1. Pistillate corollas numerous, filiform, with narrow, short, erect rays, these sometimes not exceeding the disk, or the inner pistillate corollas tubular and rayless; involucre glandular and/or hirsute, but not woolly-villous.
    2. Rayless pistillate flowers present between the rays and disk flowers; inflorescence round-topped; peduncles curved upwards, or the head solitary ..... *E. acris*
    2. Rayless pistillate flowers lacking; inflorescence elongate or nearly so; peduncles erect or nearly so, or the head solitary ..... *E. lonchophyllus*

1. Pistillate corollas few to numerous, the rays well-developed and spreading, or occasionally reduced or rarely absent, or if otherwise then involucre woolly-villous.
    3. Pappus of the disk flowers composed of bristles and short outer setae, that of the ray flowers lacking the bristles.
        4. Leaves numerous, deeply toothed; plants mostly 6-15 dm tall . . . . . *E. annuus*
        4. Leaves few, usually entire; plants mostly 3-7 dm tall . . . . . *E. strigosus*
    3. Pappus of the disk and ray flowers alike, of bristles and sometimes with outer scales.
        5. Cauline leaves well developed, gradually reduced upwards, usually lanceolate or broader; all (except *E. glabellus*) with prominently clasping leaf-bases; plants tall and erect, somewhat *Aster*-like.
            6. Rays mostly 2-4 mm wide . . . . . *E. peregrinus*
            6. Rays mostly 1 mm wide or less.
                7. Rays numerous, over 150, and narrow, 0.2-0.6 mm wide . . . . . *E. philadelphicus*
                7. Rays fewer, about 1 mm wide.
                    8. Uppermost leaves strongly reduced, linear; the middle ones usually smaller than the mostly persistent lowermost ones; leaves never clasping . . . . . *E. glabellus*
                    8. Uppermost leaves gradually reduced, lanceolate; the middle ones usually as large or larger than the mostly deciduous lowermost ones; leaves subclasping.
                        9. Leaves and stem long hairy . . . . . *E. subtrinervis*
                        9. Leaves and stem glabrous to sparsely hairy . . . . . *E. speciosus*
        5. Cauline leaves usually much reduced or absent, mostly linear or oblanceolate; plants usually low and spreading, not *Aster*-like.
            10. Leaves dissected, or at least some of them trifid or toothed or lobed at the apex.
                11. Leaves 2-4 times ternately dissected . . . . . *E. compositus*
                11. Leaves trifid, or at least some of them toothed or lobed at the apex.
                    12. Leaves trifid.
                        13. Leaf-segments more than 1 mm wide, the petioles obviously wider at the apex; plants of SE BC . . . . . *E. trifidus*
                        13. Leaf-segments 1 mm wide or less, the petioles not wider at the apex.
                            14. Leaf-lobes oblong to ovate or obovate, the lobes regularly trifid and generally of the same size and shape; plants of Vancouver Island . . . . . *E. salishii*
                            14. Leaf-lobes linear to lanceolate or narrowly oblong, the lobes often irregularly trifid or of dissimilar size and shape on the same plant . . . . . *E. compositus* (var. *discoideus*)[13]
                    12. Leaves, or at least some of them, toothed or lobed at the apex.
                        15. Disks 6-15 mm wide, rays 4-5 mm long . . . . . *E. purpuratus*
                        15. Disks 12-23 mm wide, rays 8-11 mm long . . . . . *E. lanatus*

[13] This taxon, at least as to the type specimen described by Gray (1862), has yet to be recorded for British Columbia.

10. Leaves entire or with teeth not restricted to the apical region, never trifid.
    16. Involucres woolly-villous; heads solitary.
        17. Rays yellow . . . . . *E. aureus*
        17. Rays white, pink, blue or purple.
            18. Hairs of the involucre with conspicuous, dark purplish crosswalls . . . . . *E. humilis*
            18. Hairs of the involucre with clear crosswalls or rarely some of the basal crosswalls reddish-purple.
                19. Plants with at least some well-developed cauline leaves.
                    20. Rays 60-125, 10-15 mm long, 1-2 mm wide *E. grandiflorus*
                    20. Rays 100-200, 3-6 mm long, 0.3-0.6 mm wide *E. uniflorus*
                19. Plants scapose or with only a few, reduced cauline leaves.
                    21. Disks 6-15 mm wide, the rays 4-5 mm long . . . *E. purpuratus*
                    21. Disk 12-23 mm wide, the rays 8-11 mm long . . . . *E. lanatus*
    16. Involucre variously pubescent or glandular but not woolly-villous.
        22. Rays yellow . . . . . *E. linearis*
        22. Rays white, pink, blue or purple.
            23. Pubescence of the stem appressed, ascending, or absent.
                24. Plants with long, trailing, sparsely leafy stolons . . . . . *E. flagellaris*
                24. Plants without stolons.
                    25. Basal leaves broadly oblanceolate . . . . . *E. peregrinus*
                    25. Basal leaves linear to linear-filiform.
                        26. Plants 1-5 dm tall; stem densely hairy towards base; heads few to numerous . . . . . *E. filifolius*
                        26. Plants less than 1 dm tall; stem not more densely hairy at base than above; heads solitary to few . . . . . *E. ochroleucus* var. *scribneri*[14]
            23. Pubescence of the stem widely spreading.
                27. Plants freely branched.
                    28. Leaves long spreading-hairy, disk corollas over 3 mm long . . . . . *E. pumilus*
                    28. Leaves short spreading-hairy, (well under 1 mm long) disk corollas 2-3 mm long . . . . . *E. divergens*
                27. Plants simple or sparingly branched.
                    29. Basal leaves evidently triple-nerved.
                        30. Basal leaves rounded or obtuse at tip; stems rarely purplish at base . . . . . *E. caespitosus*

[14] This species, although occurring within a few km of the British Columbia border in the Rocky Mountains, has yet to be collected in the province.

30. Basal leaves acute, stems usually purplish at base . . . . . *E. corymbosus*

29. Basal leaves not triple-nerved or only very faintly so.

31. Upper cauline leaves broadly oblanceolate to obovate, clasping . . . . . *E. leibergii*

31. Upper cauline leaves linear to lanceolate, not clasping.

32. Achenes densely hairy; rays 24-45 . . . . . *E. polispermus*

32. Achenes not densely hairy; rays 50-175.

33. Basal leaves numerous, oblanceolate; rays 125-175 . . . . . *E. glabellus*

33. Basal leaves few, linear to lanceolate, rarely oblanceolate; rays 50-100 . . . . . *E. pumilus*

***Erigeron acris* L.** (*E. elatus* [Hook.] Greene = var. *elatus*, *E. acris* ssp. *politus* [Fries] Schinz & Keller = var. *asteroides*)

Bitter fleabane

Habitat/Range: Montane or subalpine wetlands (var. *elatus*), mesic montane sites (var. *asteroides*), and moist subalpine or alpine meadows (var. *debilis*); all frequent throughout BC; var. *asteroides* is circumpolar and ranges from AK S to OR and UT, var. *debilis* ranges N to AK, YT and NT, E to AB and S to UT and CA, var. *elatus* ranges N to AK, YT and NT and E to NF.

Notes: Three varieties occur in BC.

1. Peduncles and involucres glandless, or nearly so . . . . . var. *elatus* (Hook.) Cronq.

1. Peduncles and involucres more or less glandular.

2. Plants tall, generally 3-8 dm high; heads several to numerous . . . . . var. *asteroides* (Andrz. ex Bess.) DC.

2. Plants short, generally 0.2-3 dm high; heads several or solitary . . . . . var. *debilis* A. Gray

***Erigeron annuus* (L.) Pers.**

Annual fleabane or daisy

Habitat/Range: Roadsides and disturbed areas; infrequent in the lower Fraser Valley; ranges throughout most of North America, native status uncertain.

***Erigeron aureus* Greene**

Golden fleabane or daisy

Habitat/Range: Mesic to dry sites from the upper montane to the alpine zones; common in S BC east of the Cascade Mountains; S to WA and E to AB.

***Erigeron caespitosus* Nutt.**

Tufted fleabane or daisy

Habitat/Range: Dry river terraces (Peace River area) or alpine meadows (S Rocky Mountains); infrequent in E BC; N to AK, YT and NT, E to MB, and S to WA, AZ and NE.

***Erigeron compositus* Pursh var. *glabratus* Macoun**

Cut-leaved daisy

Habitat/Range: Dry sites from the montane to the alpine zones; common throughout BC; N to AK, YT and NT, E to NF and S to AZ and CA.

***Erigeron corymbosus* Nutt.**

Long-leaved fleabane or daisy

Habitat/Range: Dry sites in the steppe vegetation and lower montane zones; frequent in SC and SE BC; S to ID, MT, WY and E OR.

Erigeron divergens* T.& G. var. *divergens
Diffuse or spreading fleabane or daisy
Habitat/Range: Dry sites in the steppe vegetation zone, frequent in SC and SE BC; E to AB and S to AZ and CA.

Erigeron filifolius* Nutt. var. *filifolius
Thread-leaved fleabane or daisy
Habitat/Range: Dry sites in the steppe vegetation and lower montane zones; common in SC and SE BC; S to MT, WY and CA.

Erigeron flagellaris* A. Gray var. *flagellaris
Trailing fleabane or daisy
Habitat/Range: Dry sites in the steppe vegetation zone; frequent in SC BC; disjunct in BC and SW AB, S to SD, WY, TX and AZ.

***Erigeron glabellus* Nutt. ssp. *pubescens* (Hook.) Cronq.**
Smooth daisy
Habitat/Range: Moist to mesic sites in the montane zone; frequent in SE BC; N to AK, YT and NT, E to AB, S to WI, ND and CO.

***Erigeron grandiflorus* Hook.**
Large-flowered daisy
Habitat/Range: Dry sites in the alpine zone, infrequent in E BC; N to AK and YT and E to AB.

***Erigeron humilis* Grah.**
Arctic daisy
Habitat/Range: Moist to wet sites in the montane to alpine zones; common throughout most of BC, rare in S BC; N to AK, YT and NT, E to PQ and S to MT and N WA.

***Erigeron lanatus* Hook.**
Woolly daisy
Habitat/Range: Dry alpine scree slopes; common locally in E BC; E to AB and S to MT.

***Erigeron leibergii* Piper**
Leiberg's fleabane or daisy
Habitat/Range: Dry sites in the montane zone; rare, known only from the Ashnola River valley, SC BC; S to central WA.

***Erigeron linearis* (Hook.) Piper**
Line-leaved daisy
Habitat/Range: Dry sites in the steppe vegetation zone; frequent in SC and SE BC; S to MO, OR and N NV.

***Erigeron lonchophyllus* Hook.**
Spear-leaved fleabane or daisy
Habitat/Range: Moist to mesic sites in the montane and subalpine zones; common through BC east of the Coast-Cascade Mountains; N to AK, YT, and NT, E to PQ, and S to NM and CA.

***Erigeron peregrinus* (Pursh) Greene** (*E. peregrinus* ssp. *callianthemus* var. *angustifolius* [A. Gray] Cronq. and *E. peregrinus* ssp. *callianthemus* var. *scaposus* [T.& G.] Cronq. = ssp. *callianthemus*, *E. peregrinus* ssp. *peregrinus* var. *dawsonii* Greene and *E. peregrinus* var. *thompsonii* [Blake ex J.W. Thompson] Cronq. = ssp. *peregrinus*)
Subalpine daisy
Habitat/Range: Wet to moist sites in all but the steppe vegetation zone; common, ssp. *peregrinus* occurs on the coast, ssp. *callianthemus* occurs throughout BC except on the Queen Charlotte Islands; N to AK and YT, E to AB, and S to UT, NM and CA.
Notes: Two subspecies occur in BC.

1. Involucral bracts villous on the back or sometimes glutinous on the back with ciliate margins . . . . . ssp. *peregrinus*

1. Involucral bracts glandular on the back, rarely with a few long hairs . . . . . ssp. *callianthemus* (Greene) Cronq.

***Erigeron philadelphicus* L.**
Philadelphia fleabane or daisy
Habitat Range: Moist to mesic sites in the lowland, steppe vegetation and montane zones; frequent throughout all but NW BC; N to YT and NT, E to NF and S to FL, TX and CA.

Erigeron polispermus* A. Gray var. *polispermus
Cushion fleabane or daisy
Habitat/Range: Dry, rocky sites in the steppe vegetation zone; rare, known from only three collections in the Osoyoos area; S to ID and OR.

***Erigeron pumilus* Nutt. var. *intermedius* Cronq.**
Shaggy fleabane or daisy
Habitat/Range: Dry sites in the steppe vegetation zone; common in S BC; E to SK and KS and S to AZ, NM, and CA.

***Erigeron purpuratus* Greene** (*E. pallens* Cronq., *E. purpuratus* ssp. *pallens* [Cronq.] G.W. Dougl. ex Packer & Whitkus)
Purple daisy
Habitat/Range: Alpine scree slopes; frequent throughout most of BC; N to AK, YT and NT and E to AB.

***Erigeron salishii* G.W. Dougl. & Packer**
Salish daisy
Habitat/Range: Alpine scree slopes; rare, known only from central Vancouver Island; S to N WA.
Notes: Collections of this species have previously been identified as *Erigeron compositus* var. *discoideus* or *E. trifidus*.

Erigeron speciosus* (Lindl.) DC. var. *speciosus
Showy daisy
Habitat/Range: Moist to mesic sites in the montane zone; common in most of BC, rare west of the Coast-Cascade Mountains; E to SD and S to AZ and NM.

Erigeron strigosus* Muhl. ex Willd. var. *strigosus
Rough-stemmed fleabane or daisy
Habitat/Range: Roadsides and disturbed areas; frequent in S BC, rare northward to Prince George; E to NF and S to FL and TX.

***Erigeron subtrinervis* Rydb. var. *conspicuous* (Rydb.) Cronq.**
Triple-nerved fleabane or daisy
Habitat/Range: Mesic sites from the steppe vegetation to the subalpine zones; common in most of BC, rare northward to the Peace River drainage; E to AB, and S to SD, UT, NM and NE.

***Erigeron trifidus* Hook.**
Three-lobed daisy
Habitat/Range: High alpine talus and scree slopes; frequent locally in E BC; E to W AB.

***Erigeron uniflorus* L. var. *eriocephalus* (J. Vahl) Boivin**
Northern daisy
Habitat/Range: Wet to moist alpine and subalpine meadows; rare, known only from extreme NW BC; circumpolar, N to AK, YT and NT.

ERIOPHYLLUM

Eriophyllum lanatum* (Pursh) Forbes var. *lanatum
Woolly eriophyllum
Habitat/Range: Dry, open sites from the lowland to the montane zones; common on Vancouver Island and the adjacent mainland, rare in SC and SE BC; S to MT, WY, UT and CA.

EUPATORIUM

***Eupatorium maculatum* L. ssp. *bruneri* (A. Gray) G.W. Dougl.**
Joe-pye weed
Habitat/Range: Moist sites in the lowland zone; infrequent in the lower Fraser Valley; E to NF and S to UT and NM.

EUTHAMIA

1. Inflorescence usually interrupted and elongate; plants glabrous and often glaucous; involucral bracts acuminate . . . . . *E. occidentalis*

1. Inflorescence essentially flat-topped and compact; plants glabrous or pubescent, never glaucous; involucral bracts obtuse to acute, not conspicuously acuminate . . . . . *E. graminifolia*

***Euthamia graminifolia* (L.) Nutt. var. *major* (Michx.) Mold.** (*Solidago graminifolia* [L.] Salisb. var. *major* [Michx.] Fern.)
Fragrant goldenrod
Habitat/Range: River banks and lakeshores in the steppe vegetation and montane zones; infrequent in S BC; E to NF and S to VA and NM.

***Euthamia occidentalis* Nutt.** (*Solidago occidentalis* [Nutt.] T.& G.)
Western goldenrod
Habitat/Range: River banks and lakeshores in the steppe vegetation zone; frequent in SC BC; E to AB and S to NE, AZ, NM and CA.

FILAGO

1. Heads essentially terminal; outer receptacular bracts woolly throughout . . . . . *F. arvensis*

1. Heads axillary as well as terminal; outer receptacular bracts woolly only at the base . . . . . *F. vulgaris*

***Filago arvensis* L.**
Field filago
Habitat/Range: Roadsides, waste areas and overgrazed lands in the steppe vegetation and montane zones; frequent in extreme S BC east of the Coast-Cascade Mountains; introduced from Europe.

***Filago vulgaris* Lam.** (*F. germanica* L.)
Common filago
Habitat/Range: Open, grassy sites and disturbed areas in the lowland zone; rare on the Gulf Islands; introduced from Europe.

GAILLARDIA

Gaillardia aristata Pursh
Brown-eyed Susan
Habitat/Range: Dry sites in the lowland, steppe vegetation and lower montane zone; common in S BC, possibly introduced on the SW coast; E to MB and S to CO, UT and N OR.

GALINSOGA

***Galinsoga ciliata* (Raf.) Blake**
Shaggy galinsoga
Habitat/Range: Gardens and waste areas; rare, known from several locations in the lower Fraser Valley; introduced from Central and South America.

GNAPHALIUM

1. Inflorescence narrow, dense, spike-like.
    2. Plants perennials; leaves linear; involucres 5-7 mm high; involucral bracts rounded to obstuse . . . . . *G. sylvaticum*
    2. Plants annuals or biennials; leaves spatulate or rounded; involucres 3-5 mm high; involucral bracts acute to acuminate . . . . . *G. purpureum*
1. Inflorescence flat-topped to rounded, not spike-like.
    3. Heads small, the involucres mostly 2-4 mm high; glomerules of head leafy-bracted; plants 1.5 dm tall (rarely up to 3 dm), usually much branched.
        4. Leaves linear to narrowly oblanceolate, tomentum appressed; involucral bracts discolored to the tip in mature heads . . . . . *G. uliginosum*
        4. Leaves oblanceolate to oblong, tomentum notably looser; involucral bracts white to brownish with white tips . . . . . *G. palustre*
    3. Heads larger, the involucres mostly 4-7 mm high; glomerules of head not conspicuously leafy; plants mostly 2-9 mm tall, simple or moderately branched.
        5. Herbage more or less glandular-hairy, at least on the upper leaf surfaces . . . . . *G. viscosum*
        5. Herbage more or less tomentose, not at all glandular.
            6. Plants perennials; leaves narrowly decurrent . . . . . *G. microcephalum*
            6. Plants annuals or biennials; leaves clasping . . . . . *G. chilense*

***Gnaphalium chilense* Spreng.**
Cotton-batting cudweed
Habitat/Range: Moist, open or disturbed sites in the lowland and montane zones; frequent on S Vancouver Island, the adjacent lower mainland and SC BC; S to MT, TX and CA.

***Gnaphalium microcephalum* Nutt. ssp. *thermale* (E. Nels.) G.W. Dougl.** (*G. thermale* E. Nels.)
Slender cudweed
Habitat/Range: Dry, open sites and recently burned forests in the lowland, steppe vegetation, and montane zones; common in S BC; S to ID, MT, CO and CA.

***Gnaphalium palustre* Nutt.**
Lowland cudweed
Habitat/Range: Moist, often vernal sites in the lowland, steppe vegetation and montane zones; frequent in S BC; E to AB and S to NM and CA.

Gnaphalium purpureum* L. var. *purpureum
Purple cudweed
Habitat/Range: Dry waste areas in the lowland zone; frequent in SW BC; introduced from more southern regions in North America.

***Gnaphalium sylvaticum* L.**
Woodland cudweed
Habitat/Range: Disturbed sites in the lowland zone; locally common at Kitimat and Jone's Lake (SW of Hope); introduced from eastern North America, Europe and Asia.

***Gnaphalium uliginosum* L.**
Marsh cudweed
Habitat/Range: Streambanks, waste areas and gardens in the lowland, steppe vegetation, and montane zones; common in S BC; introduced from Europe.

***Gnaphalium viscosum* H.B.K.** (*G. macounii* Greene)
Sticky cudweed
Habitat/Range: Montane forests; frequent east of the Coast-Cascade Mountains in S BC; E to PQ and S to TN, CA, and MX.

GRINDELIA

1. Involucral bract tips loose or spreading, but not regularly reflexed; herbage hairy to sometimes nearly glabrous; plants of the west coast of BC . . . . . *G. integrifolia*

1. Involucral bract tips regularly reflexed; herbage glabrous; plants of the interior of BC *G. squarrosa*

***Grindelia integrifolia* DC.** (*G. macrophylla* Greene, *G. integrifolia* var. *macrophylla* [Greene] Cronq.)
Puget Sound or entire-leaved gumweed
Habitat/Range: Wet to mesic sites in the lowland zone; common in coastal BC; S to N CA.

***Grindelia squarrosa* (Pursh) Dunal**
Curly-cup gumweed
Habitat/Range: Roadsides and dry, disturbed sites in the steppe vegetative and montane zones; frequent in SC and SE BC (var. *quasiperennis*), infrequent in S BC (var. *serrulata* and *squarrosa*), the latter two possibly introduced; E to MN and S to TX and CA.
Notes: Three weakly defined varieties occur in BC

   1. Leaves entire or remotely toothed, the lower ones often irregularly toothed or somewhat pinnatifid . . . . . var. *quasiperennis* Lunell

   1. Leaves closely and evenly toothed.

      2. Upper and middle leaves 2-4 times as long as wide, mostly ovate or oblong . . . . . var. *squarrosa*

      2. Upper and middle leaves 5-8 times as long as wide, mostly linear-oblong to lanceolate . . . . . var. *serrulata* (Rydb.) Steyerm.

HAPLOPAPPUS

1. Plants shrubby, low, branching with linear leaves . . . . . *H. bloomeri*

1. Plants herbaceous with oblanceolate to spatulate leaves.

   2. Ray flowers lacking, or if present, then short and inconspicuous; plants of the steppe vegetation or lower montane zones . . . . . *H. carthamoides*

   2. Ray flowers conspicuous; plants of the subalpine or alpine zones . . . . . *H. lyalli*

***Haplopappus bloomeri* A. Gray**
Rabbitbrush goldenweed
Habitat/Range: Dry, open sites in the steppe vegetation and lower montane zones; rare, known only from West Bridge in SC BC; S to CA.

Haplopappus carthamoides* (Hook.) A. Gray ssp. *carthamoides
Columbian goldenweed
Habitat/Range: Dry sites in the steppe vegetation zone; rare in SC BC; S to MT, WY and N CA.

***Haplopappus lyalli* A. Gray**
Lyall's goldenweed
Habitat/Range: Mesic to dry subalpine and alpine meadows; common in S BC; E to SW AB and S to NV and CA.

HELENIUM

***Helenium autumnale* L.**
Mountain sneezeweed
Habitat/Range: Moist to mesic sites in the lowland, steppe vegetation, and montane zones; rare (var. *grandiflorum*) to frequent (var. *montanum*) in S BC; N to NT, E to PQ, and S to FL, TX, and AZ.
Notes: Two varieties occur in BC.

1. Ray flowers 1-1.5 cm long; plants 1.5-8 dm tall . . . . . var. *montanum* (Nutt.) Fern.

1. Ray flowers 1.5-2.5 cm long; plants 4-12 dm tall . . . . . var. *grandiflorum* (Nutt.) T.& G.

HELIANTHELLA

***Helianthella uniflora* (Nutt.) T.& G. var. *douglasii* (T.& G.) W.A. Weber**
Rocky Mountain helianthella, or one-flowered little sunflower
Habitat/Range: Dry, open sites in the steppe vegetation and lower montane zones; locally frequent in SC BC; S to MT and OR.

HELIANTHUS

1. Plants annual; receptacles flat or nearly so . . . . . *H. annuus*

1. Plants perennial; receptacles convex to low-conical.

2. Plants 0.5-2 dm tall, the disks purple, rarely yellow . . . . . *H. rigidus*

2. Plants 6-20 dm tall, the disks yellow . . . . . *H. nuttallii*

***Helianthus annuus* L.**
Common sunflower
Habitat/Range: Dry sites in the steppe vegetation zone; rare in SC BC; probably introduced from the W U.S.

Helianthus nuttallii* T.& G. var. *nuttallii
Nuttall's sunflower
Habitat/Range: Wet to moist sites in the lowland and steppe vegetation zones; rare, known from several widely scattered locations in BC; probably introduced on S Vancouver Island and at Smithers, E to NF and S to MN, GA, NM, AZ, NV and OR.

***Helianthus rigidus* (Cass.) Desf. var. *subrhomboideus* (Rydb.) Cronq.** (*H. laetiflorus* Pers. var. *subrhomboideus* [Rydb.] Fern., *H. subrhomboideus* Rydb.)
Rigid sunflower
Habitat/Range: Dry sites in the lowland and steppe vegetation zones; infrequent in S BC, probably introduced on S Vancouver Island from the U.S.

HETEROTHECA

***Heterotheca villosa* (Pursh) Shinners** (*Chrysopsis villosa* [Pursh] Nutt. ex DC.)
Golden-aster
Habitat/Range: Dry sites in the steppe vegetation and lower montane zones; common in S BC east of the Coast-Cascade Mountains; E to MB, and S to ND, NE, OK, TX, and CA.
Notes: Two varieties occur in BC.

1. Pubescence of the leaves and involucres of spreading hairs, sometimes these partly replaced by glands . . . . . var. *hispida* (Hook.) Harms

1. Pubescence of the leaves appressed or subappressed hairs, seldom at all glandular; pubescence of the involucres appressed to spreading . . . . . var. *villosa*

HIERACIUM[15]

1. Flower heads pale creamish to white or orange-red.
    2. Flower heads pale creamish to white; stolons absent; native species . . . . . *H. albiflorum*
    2. Flower heads orange-red; stolons present; introduced species . . . . . *H. aurantiacum*
1. Flower heads yellow.
    3. Leaves densely stellate beneath; stolons present; introduced species . . . . . *H. pilosella*
    3. Leaves not densely stellate beneath; stolons absent; introduced or native species.
        4. Basal and lowermost cauline leaves small and soon deciduous, those of the midstem numerous and well developed . . . . . *H. umbellatum*
        4. Basal leaves usually well developed and persistent, cauline leaves absent or 1-many and usually reduced upwards.
            5. Leaves ovate to elliptical, often wider than 3 cm, at least some of them toothed near the base . . . . . *H. murorum*
            5. Leaves narrowly elliptical, seldom wider than 3 cm, entire or nearly so.
                6. Cauline leaves several . . . . . *H. scouleri*
                6. Cauline leaves absent or single and small.
                    7. Involucres with bristle-like hairs; plants, montane weeds, restricted to S half of BC . . . . . *H. piloselloides*
                    7. Involucres with soft, gray to black pilose hairs; native plants, subalpine to alpine in S BC and also montane in N BC.
                        8. Involucres with blackish pilose hairs generally 1-3 mm long and intermixed with black glandular hairs . . . . . *H. gracile*
                        8. Involucres with grayish pilose hairs generally 3-5 mm long, without glandular hairs . . . . . *H. triste*

***Hieracium albiflorum* Hook.**
White hawkweed
Habitat/Range: Moist to mesic sites in the lowland, steppe vegetation and montane zones; common throughout BC; N to AK and YT, E to SK and S to CO, UT and CA.

[15] Key adapted from Guppy (1976).

***Hieracium aurantiacum* L.**
Orange hawkweed
Habitat/Range: Roadsides and fields; frequent in S BC; introduced from Europe.

***Hieracium gracile* Hook.** (*H. triste* Willd. ex Spreng. var. *gracile* [Hook.] A. Gray)
Slender hawkweed
Habitat/Range: Moist to mesic sites from the upper montane to the alpine zones; common throughout BC, especially southward; N to AK, YT and NT and S to N CA and NM.
Notes: Easily confused with *H. triste*.

***Hieracium murorum* L.** (*H. lachenalii* K.C. Gmel., *H. vulgatum* Fries)
Wall hawkweed
Habitat/Range: Roadsides and railway tracks; rare in BC, known only from Agassiz, Hope, and Vancouver; introduced from Europe.
Notes: The taxonomy of the '*H. murorum*' group, as with many European *Hieracia*, is extremely difficult due to their polyploid-apomictic nature.

***Hieracium pilosella* L.**
Mouse-ear hawkweed
Habitat/Range: Roadsides and waste places; infrequent in S BC; introduced from Europe.

***Hieracium piloselloides* Vill.** (*H. florentinum* All.)
Tall hawkweed
Habitat/Range: Roadsides and waste places; infrequent in S BC; introduced from Europe.

***Hieracium scouleri* Hook.** (*H. albertinum* Farr = *H. scouleri* var. *albertinum*, *H. cynoglossoides* Arv.-Touv. ex A. Gray = *H. scouleri* var. *griseum*)
Scouler's hawkweed
Habitat/Range: Mesic to dry sites in the steppe vegetation and montane zones; common in SC and SE BC; E to AB and S to UT and CA.
Notes: Three varieties occur in BC.

1. Setose hairs 5-6 mm long, abundant throughout and often obscuring the glandular and stellate hairs of the involucre . . . . . var. *albertinum* (Farr) G.W. Dougl. & G.A. Allen in G.W. Dougl.

1. Setose hairs 2-3 mm long, absent or sparse throughout and rarely obscuring the glandular and stellate hairs of the involucre.

    2. Leaves and stems usually glabrescent, often glaucous; involucral bracts sparsely to moderately pubescent with glandular and stellate hairs . . . . . var. *scouleri*

    2. Leaves and stems pubescent with setae; involucral bracts conspicuously pubescent with glandular and stellate hairs . . . . . var. *griseum* (Rydb.) A. Nels.

***Hieracium triste* Willd. ex Spreng.**
Woolly hawkweed
Habitat/Range: Moist to mesic sites from the subalpine to the alpine zones; widespread in BC, especially common in the north; amphiberingian, N to AK, YT and NT and E to AB.
Notes: Easily confused with *H. gracile*.

Hieracium umbellatum* L. ssp. *umbellatum
Narrow-leaved hawkweed
Habitat/Range: Moist to dry sites in the lowland, steppe vegetation and montane zones; common throughout most of BC; E to MI and S to NW OR and CO.

HYPOCHOERIS

1. Annual; leaves essentially glabrous; ligules broad (twice as long as wide) and equal to the involucres . . . . . *H. glabra*

1. Perennial; leaves densely hispid; ligules narrow (4 times as long as wide) and surpassing the involucres . . . . . *H. radicata*

***Hypochoeris glabra* L.**
Smooth cat's-ear
Habitat/Range: Roadsides, pastures and waste areas; frequent on S Vancouver Island and adjacent Gulf Islands; introduced from Europe.

***Hypochoeris radicata* L.**
Hairy cat's-ear
Habitat/Range: Roadsides, lawns, pastures and waste areas; common in SW BC, especially on Vancouver Island and adjacent Gulf Islands; introduced from Europe.

INULA

***Inula helenium* L.**
Elecampane
Habitat/Range: Waste places; infrequent garden escape in the lower Fraser Valley; introduced from Europe.

IVA

1. Plants annuals; leaves long-petiolate, coarsely toothed; heads not subtended by leaves . . . . . *I. xanthifolia*

1. Plants perennials; leaves sessile or subpetiolate, entire, heads axillary . . . . . *I. axillaris*

***Iva axillaris* Pursh ssp. *robustior* (Hook.) Bassett in Bassett, Mulligan and Frankton**
Poverty-weed
Habitat/Range: Dry, disturbed areas in the steppe vegetation zone; rare in SC BC; E to MB and S to OK and CA.

***Iva xanthifolia* Nutt.**
Marsh-elder
Habitat/Range: Roadsides and moist sites; infrequent, scattered throughout S BC; introduced from W US.

JAUMEA

***Jaumea carnosa* (Less.) A. Gray in Torr.**
Fleshy jaumea
Habitat/Range: Tidal beaches and salt marches; rare on S Vancouver Island; S to CA.

KRIGIA

***Krigia virginica* (L.) Willd.**
Virginia dwarf dandelion
Habitat/Range: Waste places; rare, known only from Bliss Landing and Campbell River; introduced from the E U.S.

LACTUCA

1. Achenes with only a median nerve on each face, occasionally with an additional pair of very obscure ones . . . . . *L. canadensis*

1. Achenes prominently several-nerved on each face.

    2. Perennials; heads relatively large, the fruiting involucres 15-20 mm high; flowers blue . . . . . *L. tatarica*

    2. Annuals or biennials; heads relatively small, the fruiting involucres 9-15 mm high; flowers yellow, blue or whitish.

        3. Heads 5-flowered . . . . . *L. muralis*

        3. Heads 13-55 flowered.

            4. Achenes with a long filiform beak 1-2 times as long as the body; pappus white; introduced species . . . . . *L. serriola*

            4. Achenes beakless or with a short stout beak less than half as long as the body; pappus brownish; native species . . . . . *L. biennis*

***Lactuca biennis* (Moench) Fern.**
Tall blue lettuce
Habitat/Range: Moist habitats, mainly in the montane zone; frequent throughout most of BC; E to NF and S to NC, CO and CA.

Lactuca canadensis* L. var. *canadensis
Canadian wild lettuce
Habitat/Range: Mesic to dry roadsides, fields and waste places; infrequent in extreme S BC; introduced from E North America.

***Lactuca muralis* (L.) Fresn.** (*Mycelis muralis* [L.] Dumort.)
Wall lettuce
Habitat/Range: Moist to mesic sites in the lowland and montane zones; common in S BC; introduced from Europe.

***Lactuca serriola* L.** (*L. scariola* L.)
Prickly lettuce
Habitat/Range: Roadsides, fields and waste places; common throughout S BC; introduced from Europe.

***Lactuca tatarica* (L.) C.A. Mey. ssp. *pulchella* (Pursh) Stebb.** (*L. pulchella* [Pursh] DC.)
Blue lettuce
Habitat/Range: Moist to mesic meadows and shrubby sites in the steppe vegetation and montane zones; frequent throughout all but NW BC; N to AK, YT and NT, E to ON, MN and MO and S to OR and CA.

LAPSANA

***Lapsana communis* L.**
Nipplewort
Habitat/Range: Roadsides, fields and waste places; common in S BC, especially on S Vancouver Island and the adjacent mainland; introduced from Eurasia.

LASTHENIA

***Lasthenia maritima* (A. Gray) Vasey** (*Baeria maritima* A. Gray, *Lasthenia. minor* [DC.] Ornduff ssp. *maritima* [A. Gray] Ornduff)
Hairy goldfields
Habitat/Range: Rocky cliffs and islands; rare along the west coast of Vancouver Island; S to CA.

LEONTODON

1. Stems scaly-bracted and generally several-headed; pappus of plumose bristles; leaves glabrous or hirsute with simple hairs . . . . . *L. autumnalis*

1. Stems usually naked and solitary-headed; pappus with some shorter outer, merely barbellate bristles or scales, some of the marginal achenes without plumose bristles; leaves hispid with shortly forked hairs . . . . . *L. taraxacoides*

***Leontodon autumalis* L.**
Autumn hawkbit
Habitat/Range: Roadsides, pastures and disturbed sites; frequent in extreme S BC; introduced from Eurasia.

***Leontodon taraxacoides* (Vill.) Merat** (*L. leysseri* [Wallr.]) G. Beck, *L. nudicaulis* [L.] Merat ssp. *taraxacoides* [Vill.] Schinz & Thell., *L. saxatilis* L. ssp. *taraxacoides* [Vill.] Holub & Moravec)
Hairy hawkbit
Habitat/Range: Roadsides, lawns and pastures; frequent on the Queen Charlotte Islands, Vancouver Islands and the Gulf Islands; introduced from Europe.

LEUCANTHEMUM

1. Leaves entire, mainly basal . . . . . *L. integrifolium*

1. Leaves palmately lobed or pinnatifid, only the uppermost entire.

   2. Leaves spatulate, the uppermost usually incised; plants introduced throughout BC . . . . . *L. vulgare*

   2. Leaves mostly cuneate, sometimes only toothed at the apex, the uppermost entire; plants native on the N BC coast . . . . . *L. arcticum*

***Leucanthemum arcticum* (L.) A. DC.** (*Chrysanthemum arcticum* L.)
Arctic daisy
Habitat/Range: Salt marshes and gravelly shores; known only from Observatory Inlet on the NW coast; amphiberingian, N to AK, YT and NT and E to PQ, E Asia.

***Leucanthemum integrifolium* (Rich.) DC.** (*Chrysanthemum integrifolium* Rich.)
Entire-leaved daisy
Habitat/Range: Gravelly sites in the alpine zone; rare in NE BC; amphiberingian, N to AK, YT and NT and E to PQ.

***Leucanthemum vulgare* Lam.** (*Chrysanthemum leucanthemum* L.)
Oxeye daisy
Habitat/Range: Roadsides, pastures and waste places; common throughout BC S of 56°N; introduced from Eurasia.

LUINA

***Luina hypoleuca* Benth.**
Silverback luina
Habitat/Range: Mesic to dry rocky slopes and cliffs in the lowland, montane, and subalpine zones; frequent on S Vancouver Island and adjacent SW BC; S to CA.

LYGODESMIA

***Lygodesmia juncea* (Pursh) D. Don**
Rush-like skeleton-plant
Habitat/Range: Open, grassy sites on sandy soil in the steppe vegetation zone; frequent in extreme SC BC; E to MN and S to AR and AZ.

MACHAERANTHERA

***Machaeranthera canescens* (Pursh) A. Gray** (*Aster canescens* Pursh)
Hoary aster
Habitat/Range: Dry sites in the steppe vegetation and lower montane zones; common in SC BC; E to SK and S to CO and CA.

MADIA

1. Heads small, involucres usually less than 4.5 mm high; rays inconspicuous.
   2. Plants branched from near the base; leaves opposite . . . . . *M. minima*
   2. Plants branched above; leaves alternate . . . . . *M. exigua*
1. Heads large, involucres usually more than 5 mm high; rays conspicuous.
   3. Leaves opposite; disk flowers sterile . . . . . *M. madioides*
   3. Leaves alternate; disk flowers fertile.
      4. Involucres fusiform, 2-5 mm wide when pressed; rays 1-5, 1.5-2 mm long . . . . . *M. glomerata*
      4. Involucres ovoid or broadly urn-shaped, 6-12 mm wide when pressed; rays usually 8-13, 3-7 mm long.
         5. Herbage hairy and stipitate-glandular throughout . . . . . *M. sativa*
         5. Herbage mainly hairy, becoming stipitate-glandular above the middle of the stem . . . . . *M. gracilis*

***Madia exigua* (J.E. Smith in Rees) A. Gray**
Little tarweed
Habitat/Range: Roadsides and dry, open sites in the lowland, steppe vegetation and lower montane zones; frequent in extreme S BC; S to NV, CA and MX.

***Madia glomerata* Hook.**
Clustered tarweed
Habitat/Range: Roadsides and dry, open sites in the lowland and montane zones; infrequent, scattered throughout S BC; E to SK and S to CO, AZ and CA.

***Madia gracilis* (J.E. Smith in Rees) Keck**
Slender tarweed
Habitat/Range: Roadsides and dry, open sites in the lowland, steppe vegetation and montane zones; infrequent in extreme S BC; S to UT, NV, CA and MX, disjunct in Chile.

***Madia madioides* (Nutt.) Greene**
Woodland tarweed
Habitat/Range: Moist to mesic open forests and grasslands in the lowland and lower montane zones; common on S Vancouver Island and adjacent Gulf Islands, rare inland; S to CA.

***Madia minima* (A. Gray) Keck**
Small-headed tarweed
Habitat/Range: Dry, open sites in the lowland and lower montane zones; frequent on SE Vancouver Island and the adjacent Gulf Islands; S to CA.

***Madia sativa* Molina**
Chilean tarweed
Habitat/Range: Roadsides and dry, disturbed sites in the lowland zone and lower montane zones; infrequent in S BC, possibly introduced; native range from N WA to CA, disjunct in Chile.

MATRICARIA

1. Heads discoid . . . . . *M. discoidea*

1. Heads radiate with white rays.

   2. Receptacle conic; achenes smooth on the outer surface . . . . . *M. recutita*

   2. Receptacle hemispheric; achenes rugose on the outer surface . . . . . *M. perforata*

***Matricaria discoidea* DC.** (*Chamomilla suaveolens* [Pursh] Rydb., *M. matricarioides* [Less.] Porter).
Pineapple weed
Habitat/Range: Roadsides and gravelly disturbed areas from the lowland to the montane zones; common throughout BC; N to AK, YT and NT, E to NF and S to AZ and MX.

***Matricaria perforata* Merat** (*Chamomilla inodora* [L.] Gilib., *M. maritima* L. var. *agrestis* [Knaf] Willmot, *M. maritima* ssp. *inodora* [L.] Clapham, *M. inodora* L. var. *agrestis* [Knaf.] Willmot)
Scentless mayweed, or false-chamomile
Habitat/Range: Roadsides and disturbed areas; common throughout all but N BC; introduced from Europe.

***Matricaria recutita* L.** (*Chamomilla recutita* [L.] Rausch., *M. chamomilla* L.)
Wild chamomile, sweet false-chamomile, or German chamomile
Habitat/Range: Roadsides and disturbed area; infrequent on the Queen Charlotte Islands and the lower Fraser Valley; introduced from Europe and N. Asia.

MICROSERIS

1. Plants perennials; ligulate flowers conspicuous, well exceeding the involucre; pappus parts 6-60.

   2. Pappus of 30-60 brownish capillary bristles; stems simple and naked . . . . . *M. borealis*

   2. Pappus of 6-30 white or tawny, plumose, awn-tipped scales; stems simple and bracteate or sparingly branched and leafy mostly above . . . . . *M. nutans*

1. Plants annuals; ligulate flowers inconspicuous, equaling or barely exceeding the involucre; pappus of 5 parts.

   3. Pappus of 5 linear scales each terminating in a shorter, hair-like awn arising from a distinct notch in the scale apex; stems caulescent and branched at or near the base . . . . . *M. lindleyi*

   3. Pappus of 5 lanceolate scales each terminating in a longer, hair-like awn arising from the pointed scale; stems acaulescent and simple . . . . . *M. bigelovii*

***Microseris bigelovii* (A. Gray) Schultz-Bip.**
Coast microseris
Habitat/Range: Moist, open sites in the lowland zone; rare on S Vancouver Island; S to CA.

***Microseris borealis* (Bong.) Schultz-Bip.** (*Apargidium boreale* [Bong.] T.& G.)
Apargidium
Habitat/Range: Wet meadows and sphagnum bogs; common along the coast; N to AK and S to N CA.

***Microseris lindleyi* (DC.) A. Gray**
Lindley's microseris
Habitat/Range: Grassy, open rocky bluffs; rare, disjunct in the Gulf Islands; S to ID, AZ, NM and CA.

Microseris nutans* (Hook.) Schultz-Bip. ssp. *nutans
Nodding microseris
Habitat/Range: Moist to mesic sites in the steppe vegetation and montane zones; common in SC and SE BC: S to MT, UT, CO and CA.

NOTHOCALAIS

***Nothocalais troximoides* (A. Gray) Greene** (*Microseris troximoides* A. Gray)
False-agoseris
Habitat/Range: Dry sites in the steppe vegetation zone; frequent in extreme SC BC; S to MT, UT, NV and CA.

ONOPORDUM

***Onopordum acanthium* L.**
Scotch thistle
Habitat/Range: Roadsides and disturbed sites; infrequent, mainly on Vancouver Island and the adjacent mainland; introduced from Eurasia.

PETASITES

1. Leaves distinctly lobed, or if merely toothed then rarely more than 15 teeth per side ..... *P. frigidus*

1. Leaves shallowly to conspicuously dentate, usually with 20 or more teeth per side.

   2. Basal leaves rounded to heart-shaped ..... *P. japonicus*

   2. Basal leaves triangular ..... *P. sagittatus*

***Petasites frigidus* (L.) Fries** (*P. nivalis* Greene, *P. vitifolius* Greene, *P. hyperboreus* Rydb. = var. *nivalis*; *P. palmatus* [Ait.] A. Gray, *P. speciosus* [Nutt.] Piper = var. *palmatus*)
Sweet coltsfoot
Habitat/Range: Wet sites and moist forests and meadows, var. *palmatus* occurs in the lowland to montane zones, vars. *nivalis* and *frigidus* occur in the subalpine and alpine zones; var. *palmatus* is common throughout all BC except the Queen Charlotte Islands and adjacent coast, var. *nivalis* is common throughout BC, and var. *frigidus* is frequent in extreme N BC and rare southward; circumboreal, var. *palmatus* ranges E to MI and MA and S to CA; var. *nivalis* ranges E to PQ and N MN and S to N OR, and var. *frigidus* ranges N to AK, YT and NT.
Notes: Three poorly defined varities occur in BC.

   1. Leaves merely coarsely toothed or shallowly and obscurely lobed ..... var. *frigidus*

   1. Leaves conspicuously lobed.

      2. Leaves palmately lobed and usually deeply cleft more than half way to the leaf base, usually broader than long ..... var. *palmatus* (Ait.) Cronq.

2. Leaves lobed, sometimes palmately but usually not cleft more than half way to the leaf base, usually longer than broad . . . . . var. *nivalis* (Greene) Cronq.

***Petasites japonicus* (Sieb. & Zucc.) Maxim.**
Japanese butterbur
Habitat/Range: Moist ditches and fields; infrequent in SW BC; introduced from Japan.

***Petasites sagittatus* (Banks ex Pursh) A. Gray**
Arrow-leaved coltsfoot
Habitat/Range: Wet to moist bogs, fens and marshes in the montane to subalpine zones; common throughout BC east of the Coast-Cascade Mountains; N to AK, YT and NT, E to PQ and S to WI, ID, CO and WA.

PRENANTHES

1. Lower leaves oblanceolate to elliptic, middle ones sessile and more or less strongly cordate clasping . . . . . *P. racemosa*

1. Lower leaves sagittate to hastate or sometimes deltoid, middle ones short-petiolate or sessile and tapering to the base . . . . . *P. alata*

***Prenanthes alata* (Hook.) D. Dietr.**
Western rattlesnake-root
Habitat/Range: Moist shady sites and along streams in the lowland and montane zones; common in BC S of 56°N; N to AK, E to AB and S to OR.

***Prenanthes racemosa* Michx. ssp. *multiflora* Cronq.**
Purple rattlesnake-root
Habitat/Range: Dry sites in the steppe vegetation zone; rare, known only from two locations in the Peace River drainage; E to PQ and ME, S to IA, WY and CO.

PSILOCARPHUS

1. Plants often prostrate and matted; leaves often spatulate or oblanceolate to oblong; the well developed receptacular bracts 1.3-2.5 mm long at maturity . . . . . *P. tenellus*

1. Plants upright; leaves never spatulate, usually linear-oblong; the well developed receptacular bracts 2.5-3.8 mm long at maturity . . . . . *P. elatior*

***Psilocarphus elatior* A. Gray**
Tall woolly-heads
Habitat/Range: Moist vernal sites in the lowland zone; rare on S Vancouver Island; E to ID and S to OR.

Psilocarphus tenellus* Nutt. var. *tenellus
Slender woolly-heads
Habitat/Range: Moist vernal sites in the lowland zone; rare on extreme S Vancouver Island; S to ID, OR and MX.

RATIBIDA

***Ratibida columnifera* (Nutt.) Woot. & Standl.**
Prairie coneflower
Habitat/Range: Dry sites in the steppe vegetation zone; frequent locally in SE BC; E to MB and MO and S to TX, CA and MX.

RUDBECKIA

***Rudbeckia hirta* L.**
Black-eyed Susan
Habitat/Range: Roadsides and disturbed areas; infrequent in S BC; introduced from central U.S.

SAUSSUREA

1. Receptacles naked; outer involucral bracts about as long as the inner . . . . . *S. nuda*

1. Receptacles chaffy; outer involucral bracts shorter than the inner.

   2. Cauline leaves 0.2-1.2 cm wide, linear to lanceolate, entire to few toothed . . . . . *S. angustifolia*

   2. Cauline leaves 1-7 cm wide, ovate to triangular-ovate or lanceolate, strongly toothed . . . . . *S. americana*

***Saussurea americana* D.C. Eaton**
American sawwort
Habitat/Range: Moist, lush subalpine meadows and montane avalanche tracks; frequent, but scattered along the coast and in SW BC; N to AK and YT, E to AB and S to ID, WA and NE OR.

Saussurea angustifolia* (Willd.) DC. var. *angustifolia
Northern sawwort
Habitat/Range: Moist to mesic bogs, meadows and openings from the montane to the alpine zones; rare; known only from near Atlin; amphiberingian, N to AK, YT and NT.
Notes: The var. *yukonensis* Pors., which is common in the adjacent YT, may be found in BC in the future. It differs mainly in its shorter habit, shorter pedicels (less than 1 cm), and toothed cauline leaf margins.

***Saussurea nuda* Ledeb. ssp. *densa* (Hook.) G.W. Dougl.** (*S. densa* [Hook.] Rydb.)
Dwarf sawwort
Habitat/Range: Dry alpine scree slopes and meadows; infrequent in SE BC; E to AB and S to MO.

SENECIO

1. Cauline leaves well developed, only gradually reduced upwards; basal leaves usually few at flowering time, seldom tufted.

   2. Plants freely branched, decumbent to ascending . . . . . *S. fremontii*

   2. Plants unbranched below, erect.

      3. Leaves entire to toothed.

         4. Leaves triangular . . . . . *S. triangularis*

         4. Leaves lanceolate to rounded, tapering to the base, not triangular.

            5. Leaves densely tomentose below; involucres 20-45 mm wide; ray flowers 2.5-7 mm wide; maritime plants of NW BC . . . . . *S. pseudoarnica*

            5. Leaves glabrous, or nearly so, below; involucres 8-16 mm wide; ray flowers 1-2 mm wide; interior plants of N, E, or SC BC.

               6. Involucral bract tips conspicuously black-tipped; plants of N BC . . . . . *S. sheldonensis*

               6. Involucral bract tips not conspicuously black-tipped, sometimes purplish or inconspicuously black-tipped; plants of E or SC BC.

7. Plants 1-3 dm tall; basal leaves numerous, often tufted; plants of SC BC . . . . . *S. elmeri*

7. Plants 5-20 dm tall; basal leaves few, not tufted; plants of E BC . . . . *S. serra*

3. Leaves (at least some of them) prominently lobed or deeply cleft to 2-3 times pinnatifid.

8. Heads discoid (rayless) . . . . . *S. vulgaris*

8. Heads radiate.

9. Involucral bracts inconspicuously to conspicuously black-tipped.

10. Leaves mostly 2-3 times pinnatifid; introduced in SW BC near the coast . . . . . *S. jacobaea*

10. Lobes merely lobed and deeply cleft.

11. Peduncles glabrous; achenes glabrous; plants native in E BC . . . . . *S. eremophilus*

11. Peduncles sparsely to moderately villous; achenes pubescent; plants introduced in W BC . . . . . *S. sylvaticus*

9. Involucral bracts not black-tipped.

12. Upper stems with long (over 1 mm) yellowish (sometimes whitish) hairs; plants native on moist sites in BC . . . . . *S. congestus*

12. Upper stems with glandular hairs; plants introduced on disturbed sites in coastal BC . . . . . *S. viscosus*

1. Cauline leaves progressively reduced upwards, or sometimes lacking; basal or lower cauline leaves well developed, often tufted.

13. Plants glabrous (although sometimes tomentose when young but glabrous by flowering time) except for inconspicuous tomentum at the base, in the leaf axils, or in the inflorescence.

14. Leaves entire to toothed, not lobed, wavy, or pinnatifid.

15. Basal leaves usually entire, sometimes irregularly toothed.

16. Involucres glabrous; herbage glaucous . . . . . *S. hydrophilus*

16. Involucres pubescent, at least at the base; herbage pubescent and glabrescent but not glaucous . . . . . *S. integerrimus*

15. Basal leaves (or at least some of them) regularly toothed.

17. Leaves relatively narrow, always less than 3 cm wide; plants of N and E BC . . . . . *S. lugens*

17. Leaves relatively wide, at least some of them more than 4 cm wide; plants of SE BC . . . . . *S. foetidus*

14. Leaves (or at least some of them) lobed, wavy or pinnatifid.

18. Heads radiate (sometimes rayless forms occur but these mostly occur with the more abundant, normal, radiate plants).

19. Heads usually several.

20. Basal leaves (or at least some of them) heart-shaped to round . . . . . *S. pseudaureus*

20. Basal leaves elliptic to lanceolate.

21. Basal leaves entire to wavy-margined, rarely a few with evident teeth . . . . . *S. macounii*

21. Basal leaves toothed.

22. Basal leaves numerous, usually 6 or more, relatively thick and firm, entire to toothed above the middle of the blade; plants of dry meadows or open coniferous forests . . . . . *S. streptanthifolius*

22. Basal leaves few, usually 6 or less, relatively thin and lax, toothed almost to the base of the blade or subentire; plants of moist sites . . . . . *S. pauperculus*

19. Heads solitary, or rarely 2.

23. Involucre bases glabrous; plants of extreme S BC . . . . . *S. cymbalarioides*

23. Involucre bases hairy; plants of the Queen Charlotte Islands and N Vancouver Island.

24. Basal leaves toothed, never lobed . . . . . *S. moresbiensis*

24. Basal leaves conspicuously 5-7 lobed . . . . . *S. newcombei*

18. Heads discoid (sometimes radiate forms occur but these mostly occur with the more abundant, normal, discoid plants).

25. Disk flowers orange; involucral bracts purple throughout or in the upper half; heads 1-6 (rarely 7-12) . . . . . *S. pauciflorus*

25. Disk flowers yellow; involucral bracts green, sometimes purplish at the tip; heads 6-40, or more (rarely only 3-5) . . . . . *S. indecorus*

13. Plants (or at least some of them) pubescent at flowering time.

26. Involucres covered with purplish or brownish hairs . . . . . *S. atropurpureus*

26. Involucres covered with white or yellowish hairs, or rarely glabrous.

27. Involucres large, the largest more than 12 mm high; heads 1-6 . . . . *S. megacephalus*

27. Involucres smaller, the largest less than 12 mm high; heads 1-many.

28. Basal leaves (or at least some of them) regularly toothed.

29. Involucral bracts conspicuously black-tipped . . . . . *S. lugens*

29. Involucral bracts not black-tipped, sometimes purplish or inconspicuously black-tipped.

30. Stems ascending; heads often nodding; plants of S BC . . . . *S. elmeri*

30. Stems erect; heads erect; plants of C or N BC.

31. Involucral bracts green throughout or purple in upper half; plants of C BC . . . . . *S. plattensis*

31. Involucral bracts purplish throughout; plants of N BC . . . . . *S. yukonensis*

28. Basal leaves entire, lobed, or wavy-margined, rarely irregularly toothed.

32. Ray flowers orange to orange-yellow . . . . . *S. tundricola*

32. Ray flowers yellow.

33. Heads 1-5.

34. Basal leaves (or at least some of them) deeply lobed; montane to alpine plants of NW BC . . . . . *S. ogotorukensis*

34. Basal leaves usually wavy-margined, rarely lobed; alpine plants of SE BC . . . . . *S. conterminus*

33. Heads 5-many.

35. Leaves densely white-tomentose to lanulose . . . . . *S. canus*

35. Leaves tomentose, but never densely white-tomentose.

36. Involucral bracts not conspicuously black-tipped; plants of coastal SW BC . . . . . *S. macounii*

36. Involucral bracts usually conspicuously black-tipped; plants of south-central to SE BC . . . . . *S. integerrimus*

***Senecio atropurpureus* (Ledeb.) Fedtsch.** (*S. kjellmanii* Pors.)
Purple-haired groundsel
Habitat/Range: Wet to moist bogs, fens and meadows from the montane to alpine zones; rare in extreme N BC; amphiberingian, N to AK, YT and W NT.
Notes: Infraspecific taxa are unworthy of recognition.

***Senecio canus* Hook.**
Woolly groundsel
Habitat/Range: Mesic to dry sites in the steppe vegetation and lower montane zones; common in S BC east of the Coast-Cascade Mountains; E to S SK and S to NE, CO and CA.

***Senecio congestus* (R. Br. in Parry) DC.**
Marsh fleabane
Habitat/Range: Wet to moist streambanks, lakeshores, ponds and marshes in the montane zone; rare in extreme N BC; circumboreal, N to AK, YT and NT and E to PQ.

***Senecio conterminus* Greenm.**
High alpine butterweed
Habitat/Range: Dry, rocky, alpine ridges; locally frequent in extreme SE BC; E to AB and S to MT.

***Senecio cymbalarioides* Buek non Nutt.** (*S. subnudus* DC.)
Alpine meadow butterweed
Habitat/Range: Moist to mesic streambanks and meadows from the upper montane to alpine zones; common locally in SC and SE BC; E to SW AB and S to WY and CA.

***Senecio elmeri* Piper**
Elmer's butterweed
Habitat/Range: Moist talus or gravelly slopes in the subalpine and alpine zones; locally frequent in the Coast-Cascade Mountains of S BC; S to N WA.

Senecio eremophilus* Rich. ssp. *eremophilus
Dryland ragwort
Habitat/Range: Mesic to dry forests in the steppe vegetation and montane zones; frequent, restricted to the Fraser and Peace River drainages in BC; E to ON and S to NE, AZ and NM.

***Senecio foetidus* T.J. Howell** (*S. hydrophiloides* Rydb. = var. *hydrophiloides*)
Sweet-marsh butterweed
Habitat/Range: Wet to moist meadows in the montane and subalpine zones; rare, var. *foetidus* known only from Rossland, the Flathead River, and Grand Forks; and var. *hydrophiloides* from Yahk and Grand Forks; E to AB and S to ID and OR.

Notes: Two varieties occur in BC.

1. Heads clustered; ray flowers usually less than 5, or absent . . . . . var. *foetidus*

1. Heads in an open inflorescence; ray flowers 5-8 . . . . . var. *hydrophiloides* (Rydb.) T.M. Barkl. ex Cronq. in Ferris

Senecio fremontii* T.& G. ssp. *fremontii

Dwarf mountain butterweed

Habitat/Range: Moist to mesic alpine talus and scree slopes; frequent in S BC; E to SW AB and S to CO and CA.

***Senecio hydrophilus* Nutt.**

Alkali-marsh butterweed

Habitat/Range: Swamps, often alkaline sites in the montane zone; rare, known only from Salmon and Kootenay River areas near US border; E to SD and S to WA and CO.

***Senecio indecorus* Greene**

Rayless mountain butterweed

Habitat/Range: Moist forests, bogs, fens and streambanks in the steppe vegetation and montane zones; common throughout BC east of the Coast-Cascade Mountains; N to AK, YT and NT, E to PQ and NS, and S to WY and CA.

***Senecio integerrimus* Nutt.**

Western groundsel

Habitat/Range: Dry to moist sites in the steppe vegetation, montane and lower subalpine zones; common in S BC east of the Coast-Cascade Mountains, var. *ochroleucus* known only from three collections in SC and SE BC; E to SK and MN and S to CA.

Notes: Two poorly defined varieties occur in BC.

1. Ray flowers white . . . . . var. *ochroleucus* (A. Gray) Cronq.

1. Ray flowers yellow . . . . . var. *exaltatus* (Nutt.) Cronq.

***Senecio jacobaea* L.**

Tansy ragwort

Habitat/Range: Fields and pastures in the lowland zone; locally frequent on S Vancouver Island and adjacent lower mainland; introduced from Eurasia.

***Senecio lugens* Rich.**

Black-tipped groundsel

Habitat/Range: Moist to dry, alpine sites; common throughout BC east of the Coast-Cascade Mountains; N to AK, YT and NT, E to AB and S to WY and N WA.

***Senecio macounii* Greene**

Macoun's groundsel

Habitat/Range: Dry, open forests or salt marsh edges in the lowland zone; rare on S Vancouver Island and adjacent mainland; S to OR.

***Senecio megacephalus* Nutt.**

Large-headed groundsel

Habitat/Range: Dry, rocky sites in the montane to lower alpine zones; infrequent locally in SE BC; E to SW AB and S to MT and ID.

***Senecio moresbiensis* (Calder & Taylor) G.W. Dougl. & G. Ruyle-Dougl.** (*S. cymbalarioides* Buek ssp. *moresbiensis* Calder & Taylor)

Queen Charlotte butterweed

Habitat/Range: Shady, moist to wet bogs and slopes in the lowland and montane zones; frequent locally on the Queen Charlotte Islands and extreme N Vancouver Island; N to SE AK.

***Senecio newcombei* Greene**
Newcombe's butterweed
Habitat/Range: Moist boggy sites and open slopes in the lowland and montane zones; endemic, locally frequent on the Queen Charlotte Islands.

***Senecio ogotorukensis* Packer**
Ogotoruk Creek butterweed
Habitat/Range: Dry, montane gravel bars to rocky subalpine or alpine slopes; rare in extreme NW BC; N to AK, YT and NT.

***Senecio pauciflorus* Pursh**
Rayless alpine butterweed
Habitat/Range: Wet to moist meadows in the subalpine and alpine zones; common throughout BC; E to NF and S to WY and CA.

***Senecio pauperculus* Michx.**
Canadian butterweed
Habitat/Range: Moist forests, meadows and streambanks in the lowland, steppe vegetation and montane zones; common throughout BC; E to PQ and S to GA and OR.

***Senecio plattensis* Nutt.**
Plains butterweed
Habitat/Range: Dry, open montane forests; infrequent in C BC; disjunct, E from MT to S ON and S to LA, TX and AZ.

Senecio pseudaureus* Rydb. ssp. *pseudaureus
Streambank butterweed
Habitat/Range: Moist meadows, streambanks, and forests from the montane to subalpine zones; common in S BC east of the Coast-Cascade Mountains, becoming rare northward; E to S MB and S to MO, CO and CA.

***Senecio pseudoarnica* L.**
Beach groundsel
Habitat/Range: Sand dunes, beaches and tidal flats; rare in the N Queen Charlotte Islands; amphiberingian, N to AK, disjunct on the coasts of Labr., NF, PQ, NS and NB, NE Asia.

***Senecio serra* Hook.**
Tall butterweed
Habitat/Range: Mesic meadows and open areas in the montane zone; rare, known only from Pine Pass BC; disjunct, S from WA, ID and MT to UT and CA.

***Senecio sheldonensis* Pors.**
Mount Sheldon butterweed
Habitat/Range: Wet to moist sites in the montane to alpine zones; infrequent in N BC; N to YT and SW NT.

***Senecio streptanthifolius* Greene** (*S. cymbalarioides* [T.& G.] Nutt.)
Rocky Mountain butterweed
Habitat/Range: Mesic to dry sites from the montane to alpine zones; common throughout BC except immediate coast; N to AK, YT, and NT and S to UT and CA.

***Senecio sylvaticus* L.**
Wood groundsel
Habitat/Range: Roadsides and disturbed sites in the lowland zone; frequent in coastal and SW BC; introduced from Europe.

***Senecio triangularis* Hook.**
Arrow-leaved groundsel or ragwort
Habitat/Range: Moist to mesic sites from the lowland to lower alpine zones; common throughout BC; N to S AK, S YT and SW NT, E to SK and S to NM and CA.

***Senecio tundricola* Tolm.** (*S. lindstroemii* [Ostenf.] Pors.)
Northern groundsel
Habitat/Range: Dry, rocky alpine sites; rare in extreme NW BC; amphibergian, N to AK, YT and NT, disjunct in MT and WY.
Notes: This species is often referred to *S. fuscatus* Hayek, a Eurasian species not found in North America (Douglas 1982).

***Senecio viscosus* L.**
Sticky ragwort
Habitat/Range: Roadsides and disturbed sites; rare in the Kitimat and S Vancouver Island areas; introduced from Europe.

***Senecio vulgaris* L.**
Common groundsel
Habitat/Range: Roadsides, disturbed sites, and gardens; extremely common in SW BC; rare elsewhere in S BC; introduced from Europe.

***Senecio yukonensis* Pors.** (*S. alaskanus* Hult.)
Yukon groundsel
Habitat/Range: Moist alpine fellfields and snowbed sites; infrequent in N BC; N to AK, YT and NT.

SILYBUM

***Silybum marianum* (L.) Gaertn.**
Milk thistle
Habitat/Range: Roadsides and disturbed sites; infrequent on SE Vancouver Island and the adjacent mainland; introduced from the Mediterranean region.

SOLIDAGO

1. Plants with well developed creeping rhizomes; stems more or less equally leafy, the lowest leaves not markedly different than the cauline ones.
    2. Stems puberulent, at least above the middle; leaves puberulent to subglabrous ..... *S. canadensis*
    2. Stems glaucous or glabrous below the inflorescence; leaves glabrous or rarely subglabrous.
        3. Stems densely and nearly uniformly leafy throughout, not much reduced, glaucous, 5-20 dm tall, upper leaves lanceolate, sharply serrate ..... *S. gigantea*
        3. Stems with upper leaves reduced, glabrous, not glaucous, 2-5 dm tall, upper leaves mostly linear, entire ..... *S. missouriensis*
1. Plants with a mostly short, stout, woody rhizome or a branched caudex; stems with the basal and lower petiolate leaves much larger than the upper, reduced, sessile ones.
    4. Leaves densely and finely puberulent with short spreading hairs ..... *S. nemoralis*
    4. Leaves glabrous except for the sometimes ciliate margins.

5. Lowermost leaves with ciliate-margined petioles; heads in a flat- or round-topped inflorescence; involucral bracts not much imbricate . . . . . *S. multiradiata*

5. Lowermost leaves without ciliate-margined petioles; heads in an elongate inflorescence; involucral bracts evidently imbricate . . . . . *S. spathulata*

***Solidago canadensis* L.** (*S. lepida* DC. = var. *subserrata*)
Canada goldenrod
Habitat/Range: Moist to mesic sites in the lowland, steppe vegetation and montane zones; common throughout BC; E to NF and S to FL, TX and CA.
Notes: Three, often difficult to separate, varieties occur in BC.

1. Involucral bracts not much imbricate, the outer bracts more than half as long as the inner; inflorescence short and compact, not at all secund, sometimes scarcely surpassing the leaves; plants mostly 4-8 dm tall; pubescence as in var. *salebrosa*, mainly coastal plants . . . . . var. *subserrata* (DC.) Cronq.

1. Involucral bracts more evidently imbricate; inflorescence usually larger.

2. Leaves densely short-hairy on both sides (the hairs a little shorter above); stem densely short-hairy to near the base; branches of the inflorescence obviously secund; plants mostly 4-8 (12) dm tall, mainly interior plants . . . . . var. *gilvocanescens* Rydb.

2. Leaves less densely hairy or even subglabrous; stem less densely hairy, often glabrate below; inflorescence typically elongate and scarcely secund (varying to like that of var. *gilvocanescens* or nearly like that of var. *subserrata)*; plants 4-20 dm tall, coastal and interior plants . . . . . var. *salebrosa* (Piper) M.E. Jones

***Solidago gigantea* Ait. ssp. *serotina* (Ait.) McNeill** (*S. serotina* Ait. non Retz.)
Smooth or giant goldenrod
Habitat/Range: Moist, open sites in the montane zone; rare, known only from Trail and Golden; E to PQ and S to GA, OR and MX.

Solidago missouriensis* Nutt. var. *missouriensis
Missouri goldenrod
Habitat/Range: Dry, open sites in the steppe vegetation and lower montane zones; infrequent in SC, SE and NE BC; E to ON and S to TN, TX and AZ.

***Solidago multiradiata* Ait.**
Northern goldenrod
Habitat/Range: Mesic to dry sites in all vegetation zones; extremely common throughout BC; amphiberingian, N to AK, YT, and NT, E to PQ, and S to NM, AZ, and CA.

***Solidago nemoralis* Ait. ssp. *longipetiolata* (Mack. & Bush) G.W. Dougl.** (*S. decemiflora* DC., *S. nemoralis* var. *decemiflora* [DC.] Fern., *S. longipetiolata* Mack. & Bush)
Field or dyersweed goldenrod
Habitat/Range: Mesic to dry sites in the montane zone; infrequent in E BC; E to NS and S to FL and TX.

***Solidago spathulata* DC.**
Spike-like or dune goldenrod
Habitat/Range: Mesic to dry sites in all but the alpine zone; common throughout BC except the NW coast; N to AK, YT, and NT, E to PQ and NS, and S to VA, NM, AZ, and CA.
Notes: Three, often difficult to separate varieties occur in BC.

1. Plants 1-6 dm tall, very strongly resinous and aromatic, with spiciform-thyrsoid, usually elongate inflorescence, and mostly spatulate or obovate basal leaves . . . . . var. *spathulata*

1. Plants 0.5-8 dm tall, less strongly resinous and aromatic; leaves and inflorescence various.

2. Alpine and subalpine plants, 5-15 cm tall, with short, compact inflorescence and mostly spatulate or obovate basal leaves . . . . . var. *nana* (A. Gray) Cronq.

2. Lowland and montane plants, 1.5-8 dm tall, with more elongate, spiciform-thyrsoid to subracemiform inflorescence, and with mostly oblanceolate basal leaves . . . . . var. *neomexicana* (A. Gray) Cronq.

SONCHUS

1. Perennials from deep-seated roots; heads relatively large, mostly 3-5 cm wide . . . . . *S. arvensis*

1. Annuals or sometimes biennials from a short taproot; heads relatively small, mostly 1.5-2.5 cm wide.

   2. Achenes several nerved and rugulose at maturity . . . . . *S. oleraceus*

   2. Achenes merely several nerved, not rugulose . . . . . *S. asper*

***Sonchus arvensis* L.** (*S. uliginosus* Bieb. = var. *glabrescens*)
Perennial sow-thistle
Habitat/Range: On roadsides and in gardens and disturbed areas; common in S BC; introduced from Europe.
Notes: Two varieties occur in BC.

1. Involucres and peduncles with coarse, spreading, gland-tipped hairs . . . . . var. *arvensis*

1. Involucres and peduncles glabrous or obscurely tomentose . . . . . var. *glabrescens* Guenth., Grab. & Wimm.

***Sonchus asper* (L.) Hill**
Prickly sow-thistle
Habitat/Range: Roadsides, gardens and disturbed areas; frequent in all but N regions of BC; introduced from Europe.

***Sonchus oleraceus* L.**
Common or annual sow-thistle
Habitat/Range: Roadsides, gardens and disturbed areas; frequent on S Vancouver Island, infrequent elsewhere on the coast; introduced from Europe.

STEPHANOMERIA

***Stephanomeria tenuifolia* (Torr.) Hall**
Narrow-leaved stephanomeria, or wire lettuce
Habitat/Range: Dry sites in the steppe vegetation zone; frequent in SC BC; E to MT and S to CA and TX.

TANACETUM

1. Heads disciform, numerous, usually 20-200 . . . . . *T. vulgare*

1. Heads radiate, few to many, usually less than 20.

   2. Rays white; leaves pinnately or bipinnately divided, the relatively broad segments often overlapping . . . . . *T. parthenium*

   2. Rays yellow; leaves bipinnately or more often tripinnately divided, the segments not at all overlapping . . . . . *T. bipinnatum*

***Tanacetum bipinnatum* (L.) Schultz-Bip. ssp. *huronense* (Nutt.) Breiting** (*Chrysanthemum bipinnatum* L. ssp. *huronense* [Nutt.] Hult., *T. douglasii* DC., *T. huronense* Nutt. ssp. *huronense*)
Dune tansy
Habitat/Range: Sand dunes along the coast; infrequent in coastal BC; S to N CA.

***Tanacetum parthenium* (L.) Schultz-Bip.** (*Chrysanthemum parthenium* [L.] Bernh.)
Feverfew
Habitat/Range: Roadsides and disturbed areas; frequent in SW BC, rare in E BC; introduced from Europe.

***Tanacetum vulgare* L.** (*Chrysanthemum vulgare* [L.] Bernh.)
Common tansy
Habitat/Range: Roadsides, fields, and disturbed areas; common in S BC; introduced from Europe.

TARAXACUM

1. Native, nonagressive high elevation species (except rarely along roads in extreme northern British Columbia) . . . . . *T. ceratophorum*

1. Introduced, agressive weedy species of disturbed sites.

   2. Achenes red to reddish brown or reddish purple at maturity, the beak mostly 1-2 (sometimes 3) times as long as the body; leaves mostly deeply cut for their entire length, without an enlarged terminal segment, the lobes narrow; outer involucral bracts appressed to loose or sometimes reflexed; inner involucral bracts usually corniculate . . . . . *T. laevigatum*

   2. Achenes olivaceous or stramineous to brown at maturity, the beak mostly 2.5-4 times as long as the body; leaves usually less deeply cut, often with an enlarged terminal lobe; outer involucral bracts reflexed; inner involucral bracts not corniculate . . . . . *T. officinale*

***Taraxacum ceratophorum* (Ledeb.) DC.** (*T. eriophorum* Rydb., *T. lyratum* [Ledeb.] DC.)
Horned dandelion
Habitat/Range: Moist to dry sites in the subalpine and alpine zones, occasionally found along roads and in disturbed sites in extreme N BC, common throughout BC; N to AK, YT and NT, E to NF and S to NH, ME, NM and CA.
Notes: Further separation of this poorly studied complex is mostly arbitrary and rather futile at this time.

***Taraxacum laevigatum* (Willd.) DC.**
Red-seeded dandelion
Habitat/Range: Roadsides, fields, gardens and waste places; frequent in S BC; introduced from Europe.

***Taraxacum officinale* Weber in Wiggers**
Common dandelion
Habitat/Range: Roads, pastures, gardens and disturbed areas; common in S BC, less frequent northward; introduced from Europe.

TETRADYMIA

***Tetradymia canescens* DC.**
Grey horsebrush
Habitat/Range: Dry sites in the steppe vegetation zone; common in SC BC; E to MT and S to NM and CA.

TOWNSENDIA

1. Heads on tall stems, the stems 10-35 cm tall . . . . . *T. parryi*

1. Heads sessile or on short stems usually less than 5 cm tall.

   2. Involucral bracts linear, acuminate, with a tuft of tangled hairs at the apex . . . . . *T. hookeri*

   2. Involucral bracts narrowly lanceolate, acute, without a tuft of tangled hairs at the apex . . . . . *T. exscapa*

***Townsendia exscapa* (Rich.) Porter** (*T. sericea* Hook.)
Easter daisy
Habitat/Range: Dry meadows in the steppe vegetation and lower montane zones; rare, known only from Athalmer in SE BC; E to MN and S to AZ and MX.

***Townsendia hookeri* Beaman**
Hooker's townsendia
Habitat/Range: Dry meadows in the steppe vegetation and lower montane zones; rare, known from several locations in SE BC; E to AB and SD and S to CO, UT and CA.

***Townsendia parryi* D.C. Eat. in Parry**
Parry's townsendia
Habitat/Range: Dry sites from the montane to alpine zones; rare, known from several locations in SE BC; E to AB and S to CO and OR.

TRAGOPOGON

1. Peduncles cylindrical, not enlarged above; outer ligules yellow, equal to or exceeding the involucral bracts . . . . . *T. pratensis*

1. Peduncles enlarged above; outer ligules yellow or purple, shorter than the involucral bracts.

   2. Ligules purple; involucral bracts usually 8-9; leaves dilated and clasping at the base . . . . . *T. porrifolius*

   2. Ligules yellow; involucral bracts usually 13; leaves generally tapering evenly from the base to the apex . . . . . *T. dubius*

***Tragopogon dubius* Scop.** (*T. major* Jacq.)
Yellow salsify
Habitat/Range: Roadsides, dry fields and waste places; common in S BC; introduced from Europe.

***Tragopogon porrifolius* L.**
Common salsify, or oyster plant
Habitat/Range: Roadsides and disturbed sites; frequent in SC BC and on Vancouver Island and the Gulf Islands; introduced from Europe.

***Tragopogon pratensis* L.**
Meadow salsify
Habitat/Range: Roadsides and disturbed sites; infrequent, known from a single collection on the SW coast and several collections in SC BC; introduced from Europe.

TUSSILAGO

***Tussilago farfara* L.**
Coltsfoot
Habitat/Range: Wet disturbed sites in the lowland zone; rare on S Vancouver Island; introduced from Eurasia.

XANTHIUM

***Xanthium strumarium* L. var. *canadense* (P. Mill.) T.& G.**

Common cocklebur

Habitat/Range: Moist disturbed sites and waste areas; rare in SC BC; introduced from Eurasia.

BALSAMINACEAE

IMPATIENS

1. Saccate sepals not spurred ..... *I. ecalcarata*

1. Saccate sepals spurred.

    2. Leaves or at least some of them, opposite or whorled, finely serrate, flowers red or pinkish ..... *I. glandulifera*

    2. Leaves alternate, coarsely serrate; flowers orange or yellowish.

        3. Spurs straight, directed backward ..... *I. parviflora*

        3. Spurs curved or deflexed forward.

            4. Flowers less than 2 cm long, without spots ..... *I. aurella*

            4. Flowers more than 2 cm long, spotted or mottled.

                5. Flowers orange, brown spotted or mottled ..... *I. noli-tangere*

                5. Flowers yellow, sparingly flecked with brownish-purple ..... *I. capensis*

***Impatiens aurella* Rydb.**

Orange touch-me-not

Habitat/Range: Moist sites in the steppe vegetation or lower montane zones; rare in S BC east of the Coast-Cascade Mountains; S to ID and MT.

***Impatiens capensis* Meerb.** (*I. biflora* Walt; *I. noli-tangere* ssp. *biflora* [Walt.] Hult.)

Spotted touch-me-not

Habitat/Range: Moist forests and openings in the lowland and lower montane zones; rare, known only from several collections in the lower Fraser Valley; E to MB and MN and S to NE WA, MT, FL and AL.

***Impatiens ecalcarata* Blank.** (*I. biflora* Walt. var. *ecalcarata* [Blank.] M.E. Jones)

Spurless or western touch-me-not

Habitat/Range: Moist forests in the montane zone; rare in SC and SE BC; S to MT and N OR.

***Impatiens glandulifera* Royle** (*I. roylei* Walp.)

Policeman's helmet

Habitat/Range: Roadsides and waste places in the steppe vegetation and lowland zones; infrequent in the lower Fraser Valley and extreme SC BC; introduced from Asia.

***Impatiens noli-tangere* L.** (*I. occidentalis* Rydb.)

Common touch-me-not

Habitat/Range: Moist sites in the lowland, steppe vegetation and montane zones; common S of 57°N; circumboreal, N to SE AK, E to MB, and S to ID and OR; Eurasia.

***Impatiens parviflora* DC.**

Small touch-me-not or balsam

Habitat/Range: Moist disturbed sites in the lowland zone; infrequent in the Vancouver area; introduced from Asia.

BERBERIDACEAE

1. Leaves simple . . . . . *Berberis*

1. Leaves pinnate or ternately compound.

   2. Leaves pinnate, spinulose-margined, evergreen; shrubs . . . . . *Mahonia*

   2. Leaves ternately compound, coarsely toothed, deciduous; herbs . . . . . *Achlys*

ACHLYS

***Achlys triphylla* (J.E. Smith) DC.**
Vanilla-leaf, or deer foot
Habitat/Range: Moist forests and open sites in the lowland and montane zones; frequent on Vancouver Island, the Gulf Islands and the adjacent lower mainland; S to NW CA.

BERBERIS

***Berberis vulgaris* L.**
Common barberry
Habitat/Range: Disturbed sites in the lowland and steppe vegetation zones; rare, known from several locations in SW and SC BC; introduced from Eurasia.

MAHONIA

1. Leaflets usually 9-19, palmately nerved . . . . . *M. nervosa*

1. Leaflets usually 5-9, pinnately nerved.

   2. Leaves more than twice as long as broad with mostly 12-29 prominent spinulose teeth; plants 1.5-45 dm tall . . . . . *M. aquifolium*

   2. Leaves less than twice as long as broad with 15-43 inconspicuous spinulose teeth; plants 1.5-10 dm tall . . . . . *M. repens*

***Mahonia aquifolium* (Pursh) Nutt.** (*Berberis aquifolium* Pursh)
Tall Oregon-grape
Habitat/Range: Mesic to dry sites in the lowland, steppe vegetation and subalpine zones; common in S BC; E to AB and S to ID and OR.

***Mahonia nervosa* (Pursh) Nutt.** (*Berberis nervosa* Pursh)
Dull Oregon-grape
Habitat/Range: Mesic to dry sites in the lowland, steppe vegetation and subalpine zones; common in SW BC, infrequent eastward in S BC; S to CA.

***Mahonia repens* (Lindl.) G. Don** (*Berberis aquifolium* Pursh var. *repens* [Lindl.] Scoggan, *B. repens* Lindl.)
Creeping Oregon-grape
Habitat/Range: Dry sites in the steppe vegetation and montane zones; common in SE BC, rare in C and SC BC; E to AB and S to SD, TX, NM, NV and NE CA.

BETULACEAE

1. Fruit a rounded nut, borne in an involucre of fused bractlets; leaves usually cordate . . . . . *Corylus*

1. Fruit a flattened nutlet, without an involucre; leaves rarely cordate.

    2. Fruiting catkin conelike, hardened and persistent after the release of the nutlets; pith usually 3-angled in cross-section . . . . . *Alnus*

    2. Fruiting catkin cylindrical, deciduous with the release of the nutlets; pith usually flattened in cross-section . . . . . *Betula*

ALNUS

1. Leaves finely once- or twice-serrate; axillary buds sessile, pointed; staminate catkins sessile . . . . . *A. crispa*

1. Leaves coarsely to irregularly serrulate-denticulate; axillary buds pedunculate, blunt or short-pointed; staminate catkins pedunculate.

    2. Leaf margins revolute; fruits with narrow wing margins . . . . . *A. rubra*

    2. Leaf margins not revolute; fruits wingless . . . . . *A. tenuifolia*

***Alnus crispa* (Ait.) Pursh** (*A. crispa* ssp. *laciniata* Hult., *A. sinuata* [Regel] Rydb., and *A. viridis* [Chaix] DC. var. *sinuata* Regel = ssp. *sinuata*, *A. viridis* ssp. *crispa* [Ait.] Turrill = ssp. *crispa*)

Green alder (ssp. *crispa*) and Sitka alder (ssp. *sinuata*)

Habitat/Range: Moist slopes, streambanks, bogs and fens in all but the alpine zone; ssp. *crispa* frequent in N BC, ssp. *sinuata* common throughout S BC, becoming less frequent and transitional to ssp. *crispa* in N BC; circumboreal, E to PQ and S to NC, MN, CO and CA.

Notes: Two subspecies occur in BC.

1. Leaf margins shallowly lobed as well as finely serrate . . . . . ssp. *sinuata* (Regel) Hult.

1. Leaf margins not at all, or only slightly lobed, mostly merely finely serrate . . . . . ssp. *crispa*

***Alnus rubra* Bong.** (*A. oregona* Nutt.)

Red alder

Habitat/Range: Moist forests in the lowland and montane zones; common in coastal BC; N to SE AK and S to CA.

***Alnus tenuifolia* Nutt.** (*A. incana* [L.] Moench ssp. *rugosa* [DuRoi] Clausen var. *occidentalis* [Dippel] C.L. Hitchc., *A. incana* ssp. *tenuifolia* [Nutt.] Breit., *A. tenuifolia* var. *occidentalis* [Dippel] Collier in Schneid.)

Mountain alder

Habitat/Range: Moist forests, streamsides, bogs and fens in the montane zone; common in BC east of the Coast-Cascade Mountains; N to AK, YT and NT, E to SK, and S to NM, AZ and CA.

BETULA

1. Nutlet wings narrower than the nutlet; leaves relatively thick and leathery in texture, usually less than 3 cm long, petioles less than 1 cm long; shrubs up to about 2 m tall.

    2. Twigs densely glandular and indistinctly puberulent; leaves with 3, or less, lateral veins and 10, or less, teeth on each side; nutlet wings relatively narrow, less than half the width of the nutlet . . . . . B. *glandulosa*

    2. Twigs densely pubescent and slightly glandular; leaves with 4, or more, lateral veins and 10, or more, teeth on each side; nutlet wings equal to about half the width of the nutlet . . . . . *B. pumila*

1. Nutlet wings at least as wide as the nutlet; leaves relatively thin and membraneous, usually more than 3 cm long, petioles more than 1 cm long; trees or tall shrubs 3 m or taller.

3. Small trees or shrubs 3-10 m tall; bark dark reddish-brown to black; fruiting bracts with pointed lateral lobes . . . . . *B. occidentalis*

3. Medium to large trees 10-30 m tall; bark white or brown, often peeling; fruiting bracts with rounded lateral lobes.

    4. Leaves essentially rounded in outline and pubescent below, rarely glandular; twigs puberulent or pubescent but usually not glandular.

        5. Leaves 4-10 cm long; twigs pubescent with both short and long hairs; native species found throughout most of BC . . . . . *B. papyrifera*

        5. Leaves 2-5 cm long; twigs puberulent with short hairs; introduced horticultural species of extreme SW BC . . . . . *B. pubescens*

    4. Leaves essentially angular in outline and glabrous below; twigs glandular.

        6. Bark thin, smooth, pale and papery; twigs with wart-like resin glands; native species of NE BC . . . . . *B. neoalaskana*

        6. Bark thick, rough, dark and furrowed; twigs with numerous small glands, sometimes sticky; introduced horticultural species of extreme SW BC . . . . . *B. pendula*

***Betula glandulosa* Michx.** (*B. glandulosa* var. *sibirica* [Ledeb.] Blake, *B. nana* L. ssp. *exilis* [Sukats.] Hult.)
Scrub, bog, dwarf or bog glandular birch
Habitat/Range: Wet bogs, fens or streamsides and dry upland sites from the montane to the alpine zones; common throughout BC east of the Coast-Cascade Mountains; N to AK, YT and NT, E to NB and NS, and S to MN, CO and N CA.

***Betula neoalaskana* Sarg.** (*B. papyrifera* Marsh. var. *neoalaskana* [Sarg.] Raup)
Alaska paper or northwestern white birch
Habitat/Range: Wet bogs, fens, swamps or moist forest sites in the montane zone; frequent in NE BC; N to AK, YT and NT and E to ON.

***Betula occidentalis* Hook.** (*B. papyrifera* Marsh. ssp. *occidentalis* [Hook.] Hult., *B. papyrifera* Marsh. var. *occidentalis* [Hook.] Sarg.)
Water, black, red or mountain birch
Habitat/Range: Wet to moist streambanks, forests and marshes in the steppe vegetation and montane zones; frequent in S BC east of the Coast-Cascade Mountains, rare northward; N to AK, YT and NT, E to NF, and S to CO, UT and CA.

***Betula papyrifera* Marsh.**
Paper, white or canoe birch
Habitat/Range: Moist to mesic sites in the lowland, steppe vegetation and montane zones; var. *commutata* frequent in extreme SW BC, var. *papyrifera* common throughout BC east of the Coast-Cascade Mountains; N to AK, YT and NT, E to NF, and S to MN, PA, CO and NE OR.
Notes: Numerous apparent hybrids between *B. papyrifera* and *B. neoalaskana* or *B. occidentalis* (e.g., *B.* X *utahensis* Britt. and *B. subcordata* Rydb.) have been formally named (see Brayshaw 1976, Scoggan 1979). Two varieties occur in BC.

1. Mature bark white; fruiting bracts with ascending lateral lobes . . . . . var. *papyrifera*

1. Mature bark white, yellowish- to reddish-brown or dark gray; fruiting bracts with lateral lobes diverging at right angles . . . . . var. *commutata* (Regel) Fern.

***Betula pendula* Roth**
European birch
Habitat/Range: Wet bogs or marshes in the lowland zone; frequent horticultural escape in the lower Fraser Valley, less common on extreme SE Vancouver Island; horticultural species introduced from Eurasia.

***Betula pubescens* Ehrh.** (*B. alba* L.)
Silver birch
Habitat/Range: Wet bogs in the lowland zone; rare horticultural escape in the lower Fraser Valley and extreme SE Vancouver Island; introduced from Europe.
Notes: This species apparently hybridizes with *B. pendula* and *B. papyrifera* in our area (Brayshaw 1976).

***Betula pumila* L. var. *glandulifera* Regel** (*B. glandulosa* var. *glandulifera* [Regel] Gleason, *B. pumila* var. *glandulifera* f. *hallii* [Howell] Brayshaw, *B. glandulosa* var. *hallii* [Howell] Hitchc.)
Low, swamp or scrub glandular birch
Habitat/Range: Bogs, fens and wet sites in all vegetation zones; frequent throughout BC, east of the Coast-Cascade Mountains except in extreme SW BC; N to AK, YT and NT, E to PQ, and S to WY and OR.

CORYLUS

1. Twigs sparsely to moderately hairy, sometimes slightly glandular; fruits completely enclosed by bristly bractlets . . . . . *C. cornuta*

1. Twigs both hairy and glandular; fruits not completely enclosed by the thinly downy, lacerated bractlets . . . . . *C. avellana*

***Corylus avellana* L.**
Hazelnut
Habitat/Range: Mesic sites in the lowland zone; rare on Salt Spring Island and the Lower Fraser Valley; horticultural species introduced from Europe.

***Corylus cornuta* Marsh.** (*C. californica* [A. DC.] Rose, *C. cornuta* var. *glandulosa* Boivin = *C. cornuta* var. *californica*)
Beaked or California hazelnut
Habitat/Range: Mesic sites in the lowland and montane zones; var. *cornuta* common south of 56°N east of the Coast-Cascade Mountains, var. *californica* frequent on S Vancouver Island and the lower Fraser Valley, becoming rare to the east; E to NF and S to GA (var. *cornuta*) and E to ID and S to CA (var. *californica*).
Notes: Two varieties occur in BC.

1. Involucral beaks about twice as long as the fruit; fruits thinly puberulent; twigs sparsely hairy . . . . . var. *cornuta*

1. Involucral beaks about equal in length to the fruit; fruits glabrous; twigs hairy, sometimes glandular . . . . . var. *californica* (A. DC.) Sharp

BORAGINACEAE

1. Calyces greatly enlarged in fruit; flowers axillary; plants scrambling, with retrosely-prickly stems . . . . . *Asperugo*

1. Calyces not enlarged in fruit; flowers in terminal cymes; habit various.

2. Corollas rotate, greater than 1 cm wide; stamens connivent; rare garden escape . . . . . *Borago*

2. Corollas funnelform, salverform or tubular-campanulate, less than 1 cm wide; stamens not connivent.

3. Corollas irregular; stamens exserted . . . . . *Echium*

3. Corollas regular; stamens included.

4. Nutlets armed with prickles or bristles.

5. Nutlets flattened, with sunken centre and hooked marginal bristles; low, white-flowered annuals . . . . . *Pectocarya*

5. Nutlets rounded or angled with glochidiate prickles.

6. Nutlets spreading, broadest near apex, uniformly prickly all over *Cynoglossum*

6. Nutlets erect, broadest near base, predominate or largest prickles marginal.

7. Fruiting pedicels reflexed; inflorescences mostly lacking bracts beneath each flower . . . . . *Hackelia*

7. Fruiting pedicels erect; inflorescences with bracts beneath each flower . . . . . *Lappula*

4. Nutlets not armed with prickles or spines.

8. Corollas tubular-campanulate.

9. Stems glabrous or with few, relatively soft hairs; fornices nearly absent or much shorter than anthers; flowers blue; native . . . . . *Mertensia*

9. Stems with stiff, spreading hairs; fornices equalling anthers; corolla purplish to white, usually not blue; introduced . . . . . *Symphytum*

8. Corollas salverform.

10. Nutlets nearly round, smooth and shining, with small basal scar; flowers usually blue . . . . . *Myosotis*

10. Nutlets usually pointed, dull and wrinkled or if smooth, with broad, flat base or with lateral scar; flower colour various.

11. Nutlets attached basally, with broad, flat base.

12. Flowers bright blue, with prominent fringed fornices; rare garden escape . . . . . *Anchusa*

12. Flowers white, yellow or greenish, without fornices and without fringes . . . . . *Lithospermum*

11. Nutlets attached laterally.

13. Flowers bright orange-yellow . . . . . *Amsinckia*

13. Flowers white.

14. Nutlets with a long groove, mostly smooth; leaves mostly alternate; annuals or perennials . . . . . *Cryptantha*

14. Nutlets with a raised scar, mostly rough; basal leaves usually opposite; annuals . . . . . *Plagiobothrys*

AMSINCKIA

1. Leaves toothed; one pair of calyx lobes partially united; plants maritime . . . . . *A. spectabilis*

1. Leaves entire; calyx lobes all free; plants not usually maritime.

2. Corollas with well-developed hairy fornices . . . . . *A. lycopsoides*

2. Corollas without fornices.

3. Corollas 2-3 mm wide . . . . . *A. menziesii*

3. Corollas 5-10 mm wide . . . . . *A. intermedia*

***Amsinckia intermedia* Fisch. & Mey.**
Common fiddleneck
Habitat/Range: Roadsides and waste places in the lowland and lower montane zones; frequent in BC east of the Coast-Cascade Mountains, also on S Vancouver Island; S to NM and Baja CA, E to ID.

***Amsinckia lycopsoides* (Lehm.) Lehm.**
Bugloss fiddleneck
Habitat/Range: Dry, disturbed sites in the lowland and lower montane zones; infrequent in extreme S BC, probably introduced at Atlin; N to S AK, S to MT and CA.

***Amsinckia menziesii* (Lehm.) A. Nels. & J.F. Macbr.**
Small-flowered fiddleneck
Habitat/Range: Moist to dry disturbed sites in the steppe vegetation and montane zones; common in S BC east of the Coast-Cascade Mountains, rare northward; N to AK and YK, S to CA.

***Amsinckia spectabilis* Fisch. & Mey.**
Seaside fiddleneck
Habitat/Range: Moist coastal sandy beaches; rare on the Queen Charlotte Islands, Vancouver Island and the Gulf Islands; S to N Baja CA.

ANCHUSA

***Anchusa officinalis* L.**
Alkanet, or common bugloss
Habitat/Range: Roadsides and waste places; rare garden escape in SC BC and S Vancouver Island; introduced from Europe.

ASPERUGO

***Asperugo procumbens* L.**
Madwort, or catchweed
Habitat/Range: Barnyards and waste places; infrequent in SC and SE BC; introduced from Eurasia.

BORAGO

***Borago officinalis* L.**
Common borage
Habitat/Range: Waste places; rare in SC and SE BC; introduced from Europe.

CRYPTANTHA

1. Plants perennials with distinct tuft of basal leaves.

   2. Basal leaves spatulate; nutlets rough on both surfaces . . . . . *C. celosioides*

   2. Basal leaves oblanceolate; nutlets smooth on ventral surface . . . . . *C. nubigena*

1. Plants annuals, lacking tuft of basal leaves.

   3. Flowers large, 4-8 mm wide . . . . . *C. intermedia*

3. Flowers small, not over 2 mm wide.
    4. Nutlets warty ..... *C. ambigua*
    4. Nutlets smooth.
        5. Nutlets lanceolate ..... *C. fendleri*
        5. Nutlets ovate.
            6. Nutlets compressed, with scar toward one margin ..... *C. affinis*
            6. Nutlets not compressed, scar median ..... *C. torreyana*

***Cryptantha affinis* (A. Gray) Greene**
Common cryptantha
Habitat/Range: Dry to mesic sites in the lowland and steppe vegetation zones; infrequent in S BC along the coast and E of the Coast-Cascade Mountains; S to CA, E to SW AB and S to WY.

***Cryptantha ambigua* (A. Gray) Greene**
Obscure cryptantha
Habitat/Range: Dry sites in the steppe vegetation zone; rare in SC and SE BC; S to CO, NV and NE CA.

***Cryptantha celosioides* (Eastw.) Payson** (*C. nubigena* [Greene] Payson var. *celosioides* [Eastw.] Boivin)
Cockscomb cryptantha
Habitat/Range: Dry sites in the steppe vegetation zone; rare in extreme SC BC; S to NE and NV.

***Cryptantha fendleri* (A. Gray) Greene**
Fendler's cryptantha
Habitat/Range: Dry sites in the steppe vegetation zone; rare in extreme SC BC; S to NE and AZ.

Cryptantha intermedia* (A. Gray) Greene var. *grandiflora* (Rydb.) Cronq. in Hitchc. *et al.
Large-flowered cryptantha
Habitat/Range: Dry to mesic sites in the lowland and lower montane zones; rare, known from only three widely-scattered locations; S to ID and CA.

***Cryptantha nubigena* (Greene) Pays.**
Sierra cryptantha
Habitat/Range: Dry sites in the steppe vegetation zone; rare, known only from near Osoyoos; E to SW AB and S to C CA.

***Cryptantha torreyana* (A. Gray) Greene**
Torrey's cryptantha
Habitat/Range: Dry to mesic, open sites in the lowland and steppe vegetation zones; infrequent in SC BC and on S Vancouver Island; S to UT, WY and CA.

CYNOGLOSSUM

1. Corollas blue; stems naked below inflorescences; native perennials ..... *C. boreale*
1. Corollas dull red-purple (rarely white); stems leafy at least to base of inflorescences; weedy introduced biennials ..... *C. officinale*

***Cynoglossum boreale* Fern.**
Northern hound's-tongue, or northern wild comfrey
Habitat/Range: Mesic, open sites in lower montane zone; infrequent in C and N BC; E to NF, S to IN and CT.

***Cynoglossum officinale* L.**
Common hound's-tongue
Habitat/Range: Dry, disturbed sites in the lowland and steppe vegetation zones; common E of the Coast-Cascade Mountains; introduced from Europe.

ECHIUM

***Echium vulgare* L.**
Viper's bugloss, or blueweed
Habitat/Range: Roadsides and waste places; common in C and S BC, east of the Coast-Cascade Mountains, infrequent on the coast; introduced from Europe.

HACKELIA

1. Corollas 1-3 mm wide; annuals or biennials . . . . . *H. deflexa*
1. Corollas 4-20 mm wide; biennials or perennials.
    2. Corollas white . . . . . *H. diffusa*
    2. Corollas blue.
        3. Nutlets with marginal prickles only . . . . . *H. floribunda*
        3. Nutlets with central prickles in addition to marginal ones.
            4. Marginal prickles united for at least one-third their length, forming a cup . . . . . *H. ciliata*
            4. Marginal prickles mostly distinct to base, not forming a cup . . . . . *H. micrantha*

***Hackelia ciliata* (Dougl. ex Lehm.) I.M. Johnst.**
Okanogan stickseed or hackelia
Habitat/Range: Dry sites in the steppe vegetation zone; rare, known only from Rock Creek in SC BC; S to N and C WA.

***Hackelia deflexa* (Wahl.) Opiz in Bercht. ssp. *americana* (A. Gray) Hult.**
Nodding stickseed or hackelia
Habitat/Range: Dry, often disturbed sites in steppe vegetation and lower montane zones; frequent east of the Coast-Cascade Mountains; circumboreal, E to PQ and S to WA, CO and IA.

***Hackelia diffusa* (Dougl. ex Lehm.) I.M. Johnst.**
Spreading stickseed or hackelia
Habitat/Range: Dry sites in steppe vegetation zone; rare, found only in the Thompson-Fraser River highlands; S to WA and OR.

***Hackelia floribunda* (Lehm.) I.M. Johnst.**
Many-flowered stickseed or hackelia
Habitat/Range: Moist to mesic sites in the lowland and steppe vegetation zones; frequent E of Coast-Cascade Mountains in S BC; E to W ON and S to CA and NM.

***Hackelia micrantha* (Eastw.) J.L. Gentry** (*H. jessicae* [McGregor] Brand)
Blue stickseed or hackelia
Habitat/Range: Dry to mesic sites in the lowland, steppe vegetation and montane zones; frequent E of Coast-Cascade Mountains in C and S BC; E to AB and S to UT and CA.

LAPPULA

1. Nutlets with single row of marginal prickles ..... *L. redowskii*

1. Nutlets with 2 rows of marginal prickles ..... *L. echinata*

***Lappula echinata* Gilib.** (*L. squarrosa* [Retz.] Dumort., *L. myosotis* Moench)
Bristly or common stickseed
Habitat/Range: Dry to mesic, usually disturbed sites, common in S BC east of the Coast-Cascade Mountains, less frequent northward; introduced from Eurasia.

***Lappula redowskii* (Hornem.) Greene**
Western stickseed
Habitat/Range: Xeric to mesic sites in lowland and steppe vegetation zones; common east of the Coast-Cascade Mountains, less common on the coast and northward; circumpolar, S to S America; Eurasia.
Note: Two varieties occur in BC.

1. Prickles of nutlets distinct to base; the common variety ..... var. *redowskii*

1. Prickles of nutlets fused at base, forming a cup; rare .....var. *cupulata* (A. Gray) M.E. Jones

LITHOSPERMUM

1. Plants taprooted annuals; flowers white ..... *L. arvense*

1. Plants perennials; flowers greenish to yellow.

2. Corollas yellow-green, lobes entire ..... *L. ruderale*

2. Corollas bright yellow, lobes erose ..... *L. incisum*

***Lithospermum arvense* L.** (*Buglossoides arvense* [L.] I.M. Johnston)
Corn gromwell
Habitat/Range: Roadsides and open, dry, disturbed areas in the lowland and steppe vegetation zones; infrequent in S BC; introduced from Europe.

***Lithospermum incisum* Lehm.**
Yellow gromwell
Habitat/Range: Xeric sites in the steppe vegetation zone; infrequent east of the Coast-Cascade Mountains; E to IN and S to MX.

***Lithospermum ruderale* Dougl. ex Lehm.**
Lemonweed, or Columbia gromwell
Habitat/Range: Xeric sites in the steppe vegetation zone; common east of the Coast-Cascade Mountains; S to CO and N CA.

MERTENSIA

1. Plants decumbent, glaucous, succulent, maritime ..... *M. maritima*

1. Plants erect, not glaucous or succulent, not maritime.

2. Leaves with distinct lateral veins; plants usually much greater than 15 cm tall ..... *M. paniculata*

2. Leaves lacking distinct lateral veins; plants usually less than 15 cm tall ..... *M. longiflora*

***Mertensia longiflora* Greene**

Long-flowered bluebells or mertensia

Habitat/Range: Mesic sites in the steppe vegetation zone; common in S BC east of the Coast-Cascade Mountains; S to W MT, ID and N CA.

Notes: Often misidentified as *M. oblongifolia* in BC.

***Mertensia maritima* (L) F.S. Gray**

Sea bluebells or mertensia, sea-lungwort, or oysterleaf

Habitat/Range: Sandy seashores; rare in BC, known only from the Queen Charlotte Islands; circumpolar, N to AK, YT and NT and E to NF, N Europe, E Asia.

***Mertensia paniculata* (W. Ait.) G. Don**

Tall bluebells, or panicled mertensia

Habitat/Range: Moist to mesic sites in the montane, subalpine and alpine zones; frequent in N BC, infrequent southward; N to AK, E to PQ and S to OR.

Notes: Two varieties occur in BC.

1. Leaves strigose to hirsute on both surfaces; calyces pubescent; plants infrequent to frequent throughout BC . . . . . var. *paniculata*

1. Leaves glabrous above; calyces glabrous; plants rare, known only from extreme SE BC . . . . . var. *borealis* (J.F. Macbr.) L.O. Williams

MYOSOTIS

1. Calyces with appressed hairs, lacking hooks.
    2. Corollas 2-5 mm wide, the tube equal to the calyces . . . . . *M. laxa*
    2. Corollas 5-10 mm wide, the tube longer than calyces . . . . . *M. scorpioides*
1. Calyces with spreading hairs, some of which are hooked.
    3. Corollas 4-10 mm wide.
        4. Stems lax, usually branching above ground; more or less uniformly leafy throughout; introduced at low elevations . . . . . *M. sylvatica*
        4. Stems erect, from branching rootstock forming tight erect clumps; leaves largest basally, gradually reduced upward; native, common at high elevations . . . . . *M. alpestris*
    3. Corollas 1-3 mm wide.
        5. Calyces asymmetrical, 2 lobes longer than other 3 . . . . . *M. verna*
        5. Calyces symmetrical, all 5 lobes equal.
            6. Fruiting pedicels equal to or longer than calyces . . . . . *M. arvensis*
            6. Fruiting pedicels shorter than calyces.
                7. Corollas blue, tube equal to calyces . . . . . *M. micrantha*
                7. Corollas yellow, aging blue, tube surpassing calyces . . . . . *M. discolor*

***Myosotis alpestris* F.W. Schmidt** (*M. asiatica* [Vesterg.] Schischkin & Sergievskaja in Krylov, *M. sylvatica* Hoffm. var. *alpestris* [F.W. Schm.] Koch)

Mountain forget-me-not

Habitat/Range: Meadows and openings in the montane and subalpine zones; common in N BC, less common southward; circumpolar, N to AK, and S to ID, SD and WY; Eurasia.

***Myosotis arvensis* (L.) Hill**
Field forget-me-not
Habitat/Range: Moist to mesic sites in open forests and waste places in the lowland zone; frequent in SW BC; introduced from Europe.

***Myosotis discolor* Pers.**
Common forget-me-not
Habitat/Range: Moist meadows and roadsides in the lowland zone; frequent on S Vancouver Island, the Gulf Islands and adjacent coast, rare E of the Coast-Cascade Mountains; introduced from Europe.

***Myosotis laxa* Lehm.**
Small-flowered forget-me-not
Habitat/Range: Moist, open areas in the lowland zone; common along the coast and in S BC; circumboreal, S to N CA.

***Myosotis scorpioides* L.**
Common forget-me-not
Habitat/Range: Moist, open areas in the lowland zone; common in S BC; introduced from Europe.

***Myosotis stricta* Link ex Roemer & Schultes** (*M. micrantha* auct. non Pallas)
Blue forget-me-not
Habitat/Range: Moist to mesic sites in the lowland zone; frequent in S BC; introduced from Europe.

***Myosotis sylvatica* G.F. Hoffm.**
Wood forget-me-not
Habitat/Range: Open woods and disturbed places in the lowland zone; frequent in S BC, rare elsewhere; introduced from Europe.
Notes: White or pink-flowered populations or individuals among blue-flowered populations are relatively common.

***Myosotis verna* Nutt.**
Spring forget-me-not
Habitat/Range: Moist to mesic sites in the lowland zone; infrequent throughout BC; E to ON and S to FL, TX and OR.

PECTOCARYA

***Pectocarya penicillata* (H.& A.) A. DC.** (*P. linearis* [R.& P.] DC. var. *penicillata* [H.& A.] M.E. Jones)
Winged combseed
Habitat/Range: Dry sites in steppe vegetation zone; rare in SC BC; S to ID, UT and MX; disjunct to Argentina; Chile.

PLAGIOBOTHRYS

1. Flowering plants with basal rosette of leaves; cauline leaves alternate; nutlets cruciform with warty surface ..... *P. tenellus*

1. Flowering plants lacking distinct basal rosette; cauline leaves opposite; nutlets ovate.

   2. Corollas large, 5-10 mm wide; ..... *P. figuratus*

   2. Corollas small, 1-4 mm wide; ..... *P. scouleri*

***Plagiobothrys figuratus* (Piper) I.M. Johnst. ex M.E. Peck**
Fragrant popcornflower
Habitat/Range: Moist to mesic sites in the lowland zone; rare on SE Vancouver Island and the Gulf Islands; N to SW AK and S to OR.

***Plagiobothrys scouleri* (H.& A.) I.M. Johnst.**
Scouler's popcornflower
Habitat/Range: Moist sites in the lowland zone; frequent on S Vancouver Island and SC BC; E to MB and S to CA and NM.

***Plagiobothrys tenellus* (Nutt. ex Hook.) A. Gray**
Slender popcornflower
Habitat/Range: Mesic to dry sites in the lowland zone; rare on S Vancouver Island and the Gulf Islands; S to ID, UT and Baja CA.

SYMPHYTUM

1. Stems not winged with decurrent leaf bases; corolla lobes erect ..... *S. asperum*
1. Stems winged with decurrent leaf bases; corolla lobes recurved at tip ..... *S. officinale*

***Symphytum asperum* Lepech.**
Rough or prickley comfrey
Habitat/Range: Waste places and roadsides in the lowlands; frequent in S BC, infrequent northward; introduced from Europe.

***Symphytum officinale* L.**
Common comfrey
Habitat/Range: Waste places and roadsides in the lowlands; infrequent in S BC; introduced from Europe.

BRASSICACEAE[16]

1. Fruits stipitate, the stipes at least 1 mm long.
    2. Petals purple (rarely white); fruits an elliptic to oval silicle; stipes 7-12 mm long ..... *Lunaria*
    2. Petals white; fruits a slender silique; stipes 1-4 mm long ..... *Thelypodium*
1. Fruits sessile or the stipes less than 1 mm long.
    3. Fruits composed of 2 distinct segments, the basal portion usually valvular, although often indehiscent, usually seed-bearing, sometimes sterile, the upper segment often not valvular, sometimes fertile but usually sterile, sometimes consisting entirely of the scarcely narrowed, often flattened or otherwise beaklike style.
        4. Siliques of 2 rather similar parts, each 1-locular, usually 1-seeded, sometimes 0 or 2-seeded, indehiscent, finally breaking apart; style absent ..... *Cakile*
        4. Siliques of 2 dissimilar parts; seeds sometimes several, usually in the lower part or if in the upper then the style usually conspicuous and beaklike or the siliques torulose or lomentaceous.
            5. Plants stipitate-glandular and pilose; petals pink to magenta; siliques breaking cross-wise, not dehiscent; styles beaklike ..... *Chorispora*
            5. Plants not stipitate-glandular; petals mostly yellow or white, rarely purplish tinged; siliques often dehiscent; styles beaklike or beakless.

[16] Key adapted from Hitchcock *et al* (1964) and Scoggan (1978).

6. Styles beakless, not differentiated from the upper portion of the beaked valves; siliques with a very short, sterile, basal segment distinct from the valvular fertile portion ..... *Raphanus*

6. Styles beaklike and usually sharply differentiated from the body of the silique; siliques without a lower sterile segment.

7. Beaks stout, often much flattened, not styliform, usually well over 5 mm long ..... *Brassica*

7. Beaks usually not flattened, more obviously styliform, less than 5 mm long ..... *Erucastrum*

3. Fruits composed of only 1 segment, this seed-bearing; styles often conspicuous but smaller in diameter than the valves and usually not beaklike.

8. Fruits a silicle, varying from cordate to oval, somewhat oblong, elliptic, or obcordate, sometimes didymous or only 1-seeded.

9. Silicles from greatly compressed to somewhat inflated, but never globose or terete in section, not didymous.

10. Seeds 1 per locule.

11. Silicles broadly winged, oblong, more or less samaroid; glabrous biennial or perennial herbs with auriculate cauline leaves ..... *Isatis*

11. Silicles more nearly oval or rotund; usually pubescent annuals without auriculate leaves.

12. Silicles inflated, broadly elliptic in section, very strongly reticulate-pitted; petals yellow; upper cauline leaves auriculate ..... *Neslia*

12. Silicles strongly compressed, or inflated but not conspicuously reticulate-pitted or the cauline leaves not auriculate; petals white or purplish-tinged.

13. Silicles 2-locular.

14. Plants scapose; pubescence not stellate or malpighiaceous-strigose ..... *Draba*

14. Plants not scapose; pubescence stellate or malpigiaceous-strigose.

15. Valves of the silicles nerveless; pubescence stellate ..... *Alyssum*

15. Valves of the silicles 1-nerved; pubescence malpighiaceous-*strigose* ..... *Lobularia*

13. Silicles 1-locular.

16. Fruits less than 5 mm long and pubescent with hooked hairs ..... *Athysanus*

16. Fruits usually more than 5 mm long and glabrous or if pubescent then without hooked hairs ..... *Thysanocarpus*

10. Seeds 2 or more per locule.

17. Plants scapose, the scapes bearing a solitary terminal flower; seeds conspicuously wing-margined ..... *Idahoa*

17. Plants either not scapose, or the scapes supporting 2-or more-flowered racemes; seeds unwinged.

18. Silicles oblong to elliptic, usually over twice as long as broad ..... *Draba*

18. Silicles oval to obovate, not over twice as long as broad.

19. Petals yellow; plants perennials, densely stellate with appressed hairs ..... *Lesquerella*

19. Petals usually white or if pale yellow then either annuals or not appressed stellate.

20. Styles not over 1 mm long; silicles oval in outline, less than 5 mm long; petals not bilobed ..... *Alyssum*

20. Styles usually 2-3 mm long; silicles oval-elliptic to obovate, usually at least 5 mm long; petals often bilobed.

21. Petals white, deeply bilobed; seeds slightly winged; silicles compressed, not thickly biconvex in section ..... *Berteroa*

21. Petals pale yellow, not deeply bilobed; seeds unwinged; silicles somewhat turgid, thickly biconvex in section ..... *Camelina*

9. Silicles from conspicuously to only slightly obcompressed, or so greatly inflated as to be terete and often didymous.

22. Silicles 1-locular and 1-seeded, samaroid; plants glabrous, glaucous, auriculate-leaved biennial or perennial ..... *Isatis*

22. Silicles 2-locular and usually several-seeded, not samaroid; plants various.

23. Plants aquatic, scapose, the leaves linear, more or less terete, acicular ..... *Subularia*

23. Plants not aquatic or if appearing so then not scapose and the leaves not acicular.

24. Plants fleshy maritime herbs; basal leaves with slender petioles that are considerably longer than the reniform to oval, simple blades; seeds numerous, biseriate ..... *Cochlearia*

24. Plants various but not usually maritime; basal leaves various; seeds commonly few and usually not biseriate.

25. Silicles inflated, sometimes didymous.

26. Petals yellow.

27. Pubescence stellate; plants usually of dry sites ..... *Physaria*

27. Pubescence, if any, unbranched; plants usually of moist sites ..... *Rorippa*

26. Petals white or purple.

28. Plants annuals; leaves pinnatifid ..... *Coronopus*

28. Plants perennials; leaves simple.

29. Petals 2-4 mm long; leaves 1-10 cm long ..... *Cardaria*

29. Petals 5-7 mm long; leaves 10-55 cm long ..... *Armoracia*

25. Silicles more or less obcompressed, not inflated.

30. Silicles obcordate to triangular, with more than 1 seed per locule; cauline leaves auriculate . . . . . *Capsella*

30. Silicles not obcordate or triangular, or seeds only 1 per locule, or cauline leaves not auriculate.

31. Plants stellate-pubescent.

32. Silicles usually more than 7 mm long, usually didymous or at least with a prominent apical sinus *Physaria*

32. Silicles less than 7 mm long, never didymous, usually without an apical sinus or the sinus not over 1 mm deep . . . . . *Lesquerella*

31. Plants glabrous to pubescent with simple hairs.

33. Seeds 1 per locule . . . . . *Lepidium*

33. Seeds 2-several per locule.

34. Cauline leaves more or less auriculate; silicles usually more than 4 mm long . . . . . *Thlaspi*

34. Cauline leaves, if any, not auriculate; silicles not more than 4 mm long.

35. Plants semiscapose; filaments with small, scalelike basal appendages; seeds 2 per locule . . . . . *Teesdalia*

35. Plants leafy-stemmed; filaments not appendaged at the base; seeds more than 2 per locule . . . . . *Hutchinsia*

8. Fruits an elliptic to linear silique, in normal specimens the fruit more than 1-seeded.

36. Leaves (at least the basal and lower-stem leaves) more or less pinnatifid.

37. Petals pale to deep yellow.

38. Plants more or less pubescent with forked or stellate hairs . . . . . *Descurainia*

38. Plants glabrous to pubescent with simple hairs.

39. Racemes bracted nearly or quite throughout; stems retrorsely strigose-pilose . . . . . *Erucastrum*

39. Racemes bractless except sometimes at the base; stems glabrous or pubescence spreading and relatively stiff (except sometimes retrorse in *Sisymbrium loeslii*).

40. Styles (or what appears to be the styles) beaklike, nearly as broad as the valves.

41. Siliques 1-celled, indehiscent, usually torulose . . . . . *Raphanus*

41. Siliques 2-celled, tardily dehiscent, not torulose . . . . . *Barbarea*

40. Styles not beaklike, if prominent then much narrower than the valves.

42. Leaves linear, 4 mm wide or less; valves with an obscure midnerve . . . . . *Schoenocrambe*

42. Leaves broad (at least below), over 4 mm wide; valves with a prominent midnerve.

43. Stem-leaves strongly auriculate clasping ..... *Barbarea*

43. Stem-leaves not clasping.

44. Seeds uniserate; valves of pods nerved *Sisymbrium*

44. Seeds biserate; valves of pods nerveless .... *Rorippa*

37. Petals white or pinkish to purple.

45. Seeds biserate ..... *Nasturtium*

45. Seeds uniserate.

46. Plants copiously grayish-pubescent with both long, soft, simple, forking hairs and shorter freely branched hairs ..... *Smelowskia*

46. Plants glabrous or pubescent with simple hairs only.

47. Siliques indehiscent, usually torulose ..... *Raphanus*

47. Siliques dehiscent, not torulose.

48. Plants annuals or biennials; upper cauline leaves not pinnatifid ..... *Thelypodium*

48. Plants perennials, or if annuals or biennials then the upper cauline leaves pinnatifid ..... *Cardamine*

36. Leaves entire to coarsely toothed or sometimes lobed or lyrate, rarely distinctly pinnatifid.

49. Petals creamy, yellow, dark orange or reddish.

50. Stem leaves strongly cordate-clasping ..... *Conringia*

50. Stem leaves not clasping.

51. Plants glabrous and somewhat glaucous ..... *Schoenocrambe*

51. Plants pubescent with forked or branched hairs and often simple hairs.

52. Seeds uniserate; pubescence consisting of appressed 2-pronged hairs ..... *Erysimum*

52. Seeds biserate; pubescence consisting mostly of stellate or branched stalked hairs with or without simple hairs ..... *Draba*

49. Petals white to pink or purple.

53. Plants pubescent with forked, stellate, branched or dendritic hairs with or without simple hairs.

54. Petals 15-25 mm long ..... *Hesperis*

54. Petals usually less than 15 mm long.

55. Siliques moderately to strongly compressed.

56. Siliques shorter, less than 8 times as long as broad ..... *Draba*

56. Siliques much elongate, usually at least 8 times as long as broad.

57. Seeds wingless; petals pink to purple ..... *Erysimum*

57. Seeds winged or if wingless, then the petals white or cream, rarely pink ..... *Arabis*

55. Siliques terete, subterete, or slightly 4-angled, slightly if at all compressed.
    58. Stem leaves sagittate-clasping, seeds biserate; siliques glabrous . . . . . *Halimolobos*
    58. Stem leaves not clasping; seeds uniserate or biserate; siliques glabrous or pubescent.
        59. Siliques torulose . . . . . *Braya*
        59. Silques not torulose or only slightly so.
            60. Siliques glabrous; plants annuals . . . . . *Arabidopsis*
            60. Siliques pubescent; plants perennials . . . . *Halimolobos*

53. Plants glabrous or pubescent with simple hairs only.
    61. Plants scapose or subscapose.
        62. Plants glandular-pubescent, rarely glabrous; siliques 4-7 mm wide . . . . . *Parrya*
        62. Plants not glandular-pubescent; siliques usually less than 4 mm wide.
            63. Siliques 1.0-3.5 cm long; plants glabrous . . . . . *Cardamine*
            63. Siliques less than 1.0 cm long; plants subglabrous to pubescent . . . . . *Braya*
    61. Plants leafy-stemmed.
        64. Stem leaves auriculate-clasping.
            65. Plants glabrous and glaucous . . . . . *Thellungiella*
            65. Plants pubescent . . . . . *Arabis*
        64. Stem leaves not clasping.
            66. Siliques indehiscent . . . . . *Chorispora*
            66. Siliques dehiscent.
                67. Leaves lanceolate to oblanceolate or narrowly obovate.
                    68. Plants glabrous; leaves entire; seeds uniserate . . . . . *Eutrema*
                    68. Plants usually pubescent; leaves often toothed, at least below; seeds uniserate or biserate . . . . . *Arabis*
                67. Leaves deltoid to cordate-rotund or reniform.
                    69. Plants native perennials with slender, elongate rhizomes; petals 7-9 mm long . . . . . *Cardamine*
                    69. Plants introduced biennials from a taproot, garlic-scented; petals less than 7 mm long . . . . . *Alliaria*

ALLIARIA

***Alliaria petiolata* (Bieb.) Cav. & Grande** (*A. officinalis* Andrz. ex Bieb.)
Garlic mustard
Habitat/Range: Disturbed sites and waste places; rare on SE Vancouver Island; introduced from Eurasia.

ALYSSUM

1. Ovules and seeds 1 per locule . . . . . *A. murale*

1. Ovules and seeds 2 per locule.

    2. Silicles glabrous; styles about 1 mm long . . . . . *A. desertorum*

    2. Silicles stellate-pubescent; styles 0.5 mm long, or less . . . . . *A. alyssoides*

***Alyssum alyssoides* L.**
Pale alyssum
Habitat/Range: Roadsides and waste places; infrequent in SC and SE BC, rare on S. Vancouver Island; introduced from Europe.

***Alyssum desertorum* Stapf**
Desert alyssum
Habitat/Range: Dry sites in the steppe vegetation zone; rare in SC BC, introduced from Eurasia.

***Alyssum murale* Waldst. & Kit**.
Wall alyssum
Habitat/Range: Disturbed sites and waste places; rare garden escape in SW BC, introduced from Eurasia.

ARABIDOPSIS

***Arabidopsis thaliana* (L.) Heynh.**
Mouse-ear or Thale cress
Habitat/Range: Roadsides, fields and waste places; frequent on Vancouver Island, the Gulf Islands and Lower Mainland, rare in SE BC; introduced from Eurasia.

ARABIS

Notes: This is a very difficult genus, with extreme variation in individuals and populations and no key will be satisfactory for identification of all specimens. Mature fruits and seeds are necessary for determination of many species.

1. Mature siliques predominately erect or angled upward.

    2. Cauline leaves auriculate at base.

        3. Mature siliques tightly appressed against stem.

            4. Stems glabrous or sparsely hirsute at base; petals 7-12 mm long; siliques 2-3 mm thick; seeds with wings up to 1 mm wide . . . . . *A. drummondii*

            4. Stems densely hirsute at base; petals 4-9 mm long; siliques 1-2 mm thick; seeds with wings up to 0.3 mm wide.

                5. Seeds uniseriate; siliques flattened; sepals gibbous-based . . . . . *A. hirsuta*

                5. Seeds biseriate; siliques terete; sepals not gibbous-based . . . . . *A. glabra*

        3. Mature siliques somewhat spreading away from stem.

            6. Stems 25-80 cm tall, usually from an unbranched rootstock . . . . . *A. divaricarpa*

            6. Stems 10-25 cm tall, usually from a branched rootstock.

                7. Basal leaves usually toothed; leaves usually gray pubescent . . . . . *A. microphylla*

                7. Basal leaves entire; leaves glabrous, green . . . . . *A. lyallii*

    2. Cauline leaves not auriculate at base.

8. Basal leaves, at least some, lyrate-pinnatifid . . . . . *A. lyrata*

8. Basal leaves entire to dentate . . . . . *A. nuttallii*

1. Mature siliques arching, drooping or reflexed.

9. Fruiting pedicels reflexed, siliques angled downward . . . . . *A. holboellii*

9. Fruiting pedicels more or less erect, siliques curved downward.

10. Plants generally greater than 30 cm tall . . . . . *A. sparsiflora*

10. Plants generally less than 20 cm tall . . . . . *A. lemmonii*

***Arabis divaricarpa* A. Nels.**

Spreading-pod rockcress

Habitat/Range: Meadows, gravelly and rocky places in the montane to alpine zones; var. *divaricarpa* is common east of the Coast-Cascade Mountains, var. *interposita* is known only from Chilcotin and Lytton; N to AK, E to NB and VT, S to CA and CO.

Notes: Two varieties occur in BC.

1. Pedicels and upper stems glabrous . . . . . var. *divaricarpa*

1. Pedicels and upper stems pubescent . . . . . var. *interposita* (Greene) Roll.

***Arabis drummondii* A. Gray**

Drummond's rockcress

Habitat/Range: Rock outcrops, gravelly soils in the montane to alpine zones; common throughout BC; N to AK and NT, E to NF, S to CA and DE.

Arabis glabra* (L.) Bernh. var. *glabra

Tower mustard

Habitat/Range: Rock outcrops and waste areas in the lowland and montane zones; common throughout BC; E to PQ, and S to GA and N CA; apparently introduced from Europe.

***Arabis hirsuta* (L.) Scop.**

Hairy rockcress

Habitat/Range: Rock outcrops, waste places and open areas, from the lowland to montane vegetation zones; common throughout BC, (var. *eschscholtziana* along the coast, vars. *pycnocarpa* and *glabrata* inland); circumpolar, S to CA, NM and GA.

Notes: Three weakly defined varieties occur in BC.

1. Leaves usually toothed; coastal . . . . . var. *eschscholtziana* (Andrz.) Roll.

1. Leaves usually entire; interior.

2. Petals to 5 mm long . . . . . var. *pycnocarpa* (M. Hopkins) Roll.

2. Petals to 9 mm long . . . . . var. *glabrata* Torr. & Gray

***Arabis holboellii* Hornem.**

Holboell's rockcress

Habitat/Range: Mesic to dry rocky slopes, gravelly areas and grasslands in the steppe vegetation and montane to alpine zones; common throughout BC east of the Coast-Cascade Mountains; S to CA, E to PQ and MI; Greenland.

Notes: An extremely variable species. Five varieties occur in BC.

1. Cauline leaves usually not auriculate at base . . . . . var. *pendulocarpa* (A. Nels.) Roll.

1. Cauline leaves usually auriculate at base.

2. Fruiting pedicels recurved; siliques often curved . . . . . var. *pinetorum* (Tidestrom) Roll.

2. Fruiting pedicels abruptly reflexed; siliques usually straight.

    3. Petals mostly less than 7 mm long; base of stem with coarse, simple or forked hairs . . . . . var. *collinsii* (Fern.) Roll.

    3. Petals mostly over 7 mm long; base of stem with fine, dendritic, appressed hairs.

        4. Mature siliques 2-2.5 mm thick; leaves green; cauline leaves not revolute . . . . . var. *holboellii*

        4. Mature siliques 1.5-2 mm thick; leaves grayish; cauline leaves revolute . . . . . var. *retrofracta* (Grah.) Rydb.

***Arabis lemmonii* S. Wats.**
Lemmon's rockcress
Habitat/Range: Mesic meadows and talus slopes in the alpine zone; infrequent in C and S BC; S to CO and CA.

***Arabis lyallii* S. Wats.**
Lyall's rockcress
Habitat/Range: Dry to mesic meadows, rock outcrops and scree slopes in the montane zone; frequent in S BC, east of the Coast-Cascade Mountains; N to YK, S to CA and UT.

***Arabis lyrata* L. ssp. *kamchatica* (Fisch. ex DC.) Hult.**
Lyre-leaved rockcress
Habitat/Range: Mesic to moist gravel banks, talus slopes and disturbed areas in the montane to alpine zones; common throughout BC; amphiberingian, N to AK, S to WA, E to SK; E Asia.

Arabis microphylla* Nutt. in T.& G. var. *microphylla
Littleleaf rockcress
Habitat/Range: Mesic meadows in the montane to alpine zones; infrequent in S BC east of the Coast-Cascade Mountains; S to MT, WY and OR.

***Arabis nuttallii* B.L. Robins. in A. Gray**
Nuttall's rockcress
Habitat/Range: Rock outcrops and talus slopes in the alpine zone; rare in S BC; E to S AB and S to NV and WY.

***Arabis sparsiflora* Nutt. in T.& G.**
Sickle-pod rockcress
Habitat/Range: Mesic sites in open grasslands, gravel beaches and disturbed areas in the lowland, steppe vegetation and montane zones; infrequent in C and S BC, rare northward; N to YT and S to W MT.

ARMORACIA

***Armoracia rusticana* Gaertn., Mey. & Scherb.** (*A. lapathifolia* Gilib.)
Common horseradish
Habitat/Range: Moist, disturbed sites; rare garden escape in S BC; introduced from Eurasia.

ATHYSANUS

***Athysanus pusillus* (Hook.) Greene**
Common sandweed
Habitat/Range: Moist to wet, grassy sites in the lowland and steppe vegetation zones; rare in S BC; S to ID and CA.

BARBAREA

1. Uppermost leaves lobed, rarely pinnatifid, lowermost leaves with 1-2 pairs of lateral lobes; styles 2-3 mm long, distinctly beaklike . . . . . *B. vulgaris*

1. Uppermost leaves lyrate-pinnatifid, lowermost leaves with 2-10 pairs of lateral lobes; styles 0.5-1.5 mm long, not beaklike.

    2. Siliques 1.5-5 cm long; basal leaves with 2-5 pairs of lateral lobes . . . . . *B. orthoceras*

    2. Siliques 4.5-8 cm long; basal leaves with 4-10 pairs of lateral lobes . . . . . *B. verna*

***Barbarea orthoceras* Ledeb.** (*B. americana* Rydb., B. *orthoceras* var. *dolichocarpa* Fern.)
American winter cress
Habitat/Range: Moist sites in forests and along streams in the lowland, steppe vegetation and montane zones; common along the coast, less frequent elsewhere in BC; N to AK, YT and NT, E to NF, and S to MN, NH, CO, AZ and CA.

***Barbarea verna* (P. Mill.) Asch.**
Early winter cress
Habitat/Range: Fields and waste places; rare in S BC: introduced from Eurasia.

***Barbarea vulgaris* R. Br.** (*B. vulgaris* var. *brachycarpa* Rouy & Foucaud)
Bitter or common winter cress, or yellow rocket
Habitat/Range: Moist to wet roadsides, fields and disturbed sites; frequent in SC BC, rare northward; introduced from Eurasia.

BERTEROA

***Berteroa incana* (L.) DC.**
Hoary alyssum
Habitat/Range: Fields and waste places; frequent in SC and SE BC; introduced from Eurasia.

BRASSICA

1. Silique beaks conspicuously flattened, 3-nerved; valves 3-nerved.

    2. Siliques bristly - hirsute, 3.5-4.5 mm wide . . . . . *B. hirta*

    2. Siliques usually glabrous, 2-3 mm wide . . . . . *B. kaber*

1. Silique beaks more or less terete, usually 1-nerved; valves 1-nerved.

    3. Cauline leaves sessile, auriculate-clasping.

        4. Leaves glabrous to sparsely hirsute; petals 10-14 mm long . . . . . *B. napus*

        4. Leaves bristly; petals 6-8 mm long . . . . . *B. campestris*

    3. Cauline leaves sessile to petiolate, not auriculate-clasping.

        5. Siliques more or less tightly appressed-ascending, 1-2.5 cm long, the midnerve as prominent as the sutures . . . . . *B. nigra*

        5. Siliques spreading ascending, 2-4 cm long, the midnerve less prominent than the sutures . . . . . *B. juncea*

***Brassica campestris* L.** (*B. rapa* L. ssp. *campestris* [L.] Clapham)
Rape or field mustard
Habitat/Range: Roadsides, fields and waste places; frequent in BC S of 56°N; introduced from Eurasia.

***Brassica hirta* Moench** (*Sinapis alba* L.)
White mustard
Habitat/Range: Roadsides, fields and waste places; rare in S BC; introduced from Eurasia.

***Brassica juncea* (L.) Czern.** (*Sinapis juncea* L.)
Indian, brown, leaf or Chinese mustard
Habitat/Range: Fields and waste places; rare on S Vancouver Island and in the Dawson Creek area; introduced from Asia.

***Brassica kaber* (DC.) L.C. Wheeler** (*Sinapis arvensis* L.)
Charlock, or wild mustard
Habitat/Range: Fields and waste places; rare in SW and SC BC: introduced from Eurasia.

***Brassica napus* L.**
Turnip, or winter rape
Habitat/Range: Fields and waste places; rare in BC S of 55°N; introduced from Eurasia.

***Brassica nigra* (L.) Koch in Rohl.**
Black mustard
Habitat/Range: Fields and waste places; rare in SW BC; introduced from Europe.

BRAYA

1. Cauline leaves present; pods linear, about 1 mm wide . . . . . *B. humilis*

1. Cauline leaves absent; pods plump, 2-3 mm wide . . . . . *B. purpurascens*

***Braya humilis* (C.A. Mey.) B.L. Robins.** (*B. richardsonii* [Rydb.] Fern.)
Dwarf or low braya
Habitat/Range: Moist to dry forests and gravelly slopes in the montane to the alpine zones; infrequent in N BC, rare southward in the Rocky Mountains; N to AK, YT and NT, E to NF and disjunct in CO.
Notes: An adequate monograph of North American *Braya* (especially those of the far north) has yet to be done.

***Braya purpurascens* (R. Br.) Bunge ex Ledeb.** (*B. americana* [Hook.] Fern., *B. glabella* Rich., *B. henryae* Raup)
Purple braya
Habitat/Range: Dry, alpine scree slopes; rare in N BC: circumpolar, N to AK, YT and NT and E to PQ.

CAKILE

1. Fruits slightly to much constricted at the joints; leaves mostly spatulate and sinuately toothed, sometimes pinnately lobed or nearly entire . . . . . *C. edentula*

1. Fruits usually expanded at the joints into projecting wings; at least the lower leaves usually distinctly pinnatifid . . . . . *C. maritima*

***Cakile edentula* (Bigel.) Hook.** (*C. edentula* var. *californica* [Heller] Fern.)
American searocket
Habitat/Range: Sandy shorelines; common on the coast; N to AK and S to CA, also along the Great Lakes and the Atlantic Coast.

***Cakile maritima* Scop.**
European searocket
Habitat/Range: Disturbed sites; rare on west coast of Vancouver Island; introduced from Europe.

CAMELINA

1. Plants pubescent at least below, with both long, simple and stellate hairs; silicles 4-7 mm long; seeds mostly less than 1 mm long . . . . . *C. microcarpa*

1. Plants glabrous or, if sparsely pubescent, then the simple hairs not exceeding the stellate; silicles 6-9 mm long; seeds 1-2 mm long . . . . . *C. sativa*

***Camelina microcarpa* Andrz. ex DC.**
Littlepod or hairy flax
Habitat/Range: Roadsides, fields and waste places; rare in SC and NE BC; introduced from Eurasia.

***Camelina sativa* (L.) Crantz**
Falseflax, or gold-of-pleasure
Habitat/Range: Roadsides, fields and waste places; rare in SC BC and S Vancouver Island; introduced from Eurasia.

CAPSELLA

***Capsella bursa-pastoris* (L.) Medic.**
Shepherd's purse
Habitat/Range: Roadsides, fields and waste places; common throughout BC; introduced from Eurasia.

CARDAMINE

Notes: The complex of similar species including *C. breweri*, *hirsuta*, *oligosperma*, *parviflora*, *pensylvanica* and *umbellata* is often considered to be one polymorphic species, *C. oligosperma*, and is variously treated in different manuals.

1. Lower leaves mostly simple.
    2. Plants 2-10 cm tall; leaves in distinct basal rosette; petals 3-5 mm long . . . . . *C. bellidifolia*
    2. Plants 20-60 cm tall; leaves not in distinct basal rosette; petals 7-12 mm long.
        3. Cauline leaves lobed or compound . . . . . *C. pulcherrima*
        3. Cauline leaves entire and simple . . . . . *C. cordifolia*

1. Lower leaves mostly compound.
    4. Petals 8-15 mm long.
        5. Basal leaves pinnately compound . . . . . *C. pratensis*
        5. Basal leaves 3-5 foliate.
            6. Rhizomes tuberous; upper cauline leaves with lanceolate, usually entire segments; common in SW BC . . . . . *C. pulcherrima*
            6. Rhizomes slender, not tuberous; upper cauline leaves ovate, with 3-5 large teeth; rare on the Queen Charlotte Islands and W Vancouver Island . . . . . *C. angulata*
    4. Petals 2-6 mm long.
        7. Plants rhizomatous perennials.
            8. Basal or lower cauline leaves, at least some of them simple . . . . . *C. breweri*
            8. Basal and lower cauline leaves all pinnately compound.

9. Cauline leaves numerous; basal rosettes often not present; plants often partially submerged; S BC . . . . . *C. occidentalis*

9. Cauline leaves few (often 1-3); basal rosettes more prominent than cauline leaves; plants not partially submerged; N BC . . . . . *C. umbellata*

7. Plants annuals or biennials, lacking rhizomes.

10. Lateral leaflets of cauline leaves linear or narrowly oblanceolate, not over 2 mm wide . . . . . *C. parviflora*

10. Lateral leaflets of cauline leaves broader, oblanceolate to ovate, greater than 2 mm wide.

11. Stems glabrous at base; leaf blades sparsely hirsute . . . . . *C. hirsuta*

11. Stems hirsute at base; leaf blades glabrous.

12. Petioles ciliate; mature siliques mostly 1.2-1.5 mm thick . . . . . *C. oligosperma*

12. Petioles lacking cilia; mature siliques mostly 0.7-1.0 mm thick . . . . . *C. pensylvanica*

***Cardamine angulata* Hook.**

Angled bitter-cress

Habitat/Range: Moist woods and riverbanks in the lowland zone; rare on the Queen Charlotte Islands and Vancouver Island; N to S AK and S to N CA.

Cardamine bellidifolia* L. var. *bellidifolia

Alpine bitter-cress

Habitat/Range: Moist scree slopes and mossy rocks in the upper montane to alpine zones; frequent in northern BC, rare southward and on Vancouver Island; circumpolar, E to NF and S to ME, NH and N CA.

***Cardamine breweri* S. Wats.**

Brewer's bitter-cress

Habitat/Range: Standing water, streambanks, boggy areas in the lowland and montane zones; frequent in S BC; S to WY, NV and N CA.

Notes: Two varieties occur in BC.

1. Terminal lobe of lower cauline leaves cordate at base . . . . . var. *orbicularis* (Greene) Detl.

1. Terminal lobe of lower cauline leaves cuneate or rounded at base . . . . . var. *breweri*

***Cardamine cordifolia* A. Gray var. *lyallii* (S. Wats.) Nels. & Macbr.**

Heart-leaved or large mountain bitter cress

Habitat/Range: Streambanks and moist meadows in the montane to alpine zones; infrequent in S BC, east of the Coast-Cascade Mountains; S to ID, NV and N CA.

***Cardamine hirsuta* L.**

Hairy bitter-cress

Habitat/Range: Waste places, roadsides and open woods in the lowland zone; frequent in S BC; introduced from Eurasia.

***Cardamine occidentalis* (S. Wats. ex B.L. Robins.) Howell**

Western bitter-cress

Habitat/Range: Streambanks and lakeshores in the lowland zone; infrequent in S BC; N to AK and S to CA.

***Cardamine oligosperma* Nutt.**

Little western or few-seeded bitter-cress

Habitat/Range: Waste places, roadsides and open woods in the lowland and lower montane zones; common in S BC, less frequent northward; amphiberingian, S to MT and CA; Siberia.

***Cardamine parviflora* L.**
Small-flowered bitter-cress
Habitat/Range: Dry sandy or rocky places in the lowland zone; rare in widely scattered localities; N to NT, E to NF, S to TX, FL and OR.

***Cardamine pensylvanica* Muhl. ex Willd.**
Pennsylvanian bitter-cress
Habitat/Range: Moist sites in open woods and waste places in the lowland and montane vegetation zones; common throughout BC, especially southward; E to NF and S to TX, FL and N CA.

***Cardamine pratensis* L. var. *angustifolia* Hook.**
Cuckoo bitter-cress, cuckoo-flower, or lady's-smock
Habitat/Range: Moist, peaty meadows in the lowland and montane zones; infrequent in widely scattered localities (some likely introduced); circumpolar, N to AK, E to NF and S to OH and MS; Eurasia.

***Cardamine pulcherrima* Greene var. *tenella* (Pursh) C.L. Hitchc.** (*C. nuttallii* Greene)
Slender toothwort, or beautiful bitter-cress
Habitat/Range: Moist woods in the lowland zone; common on S Vancouver Island, the Gulf Islands and adjacent mainland of BC; S to N CA.

***Cardamine umbellata* Greene** (*C. oligosperma* var. *kamtschatica* [Regel] Detl.)
Siberian or umbellate bitter-cress
Habitat/Range: Streambanks in the montane zone; rare in N BC; N to AK and YT and S to N CA.

CARDARIA

1. Silicles and sepals with short simple hairs . . . . . *C. pubescens*

1. Silicles and sepals glabrous.

    2. Silicles cordate . . . . . *C. draba*

    2. Silicles not cordate . . . . . *C. chalepensis*

***Cardaria chalepensis* (L.) Handel-Mazzetti** (*C. draba* ssp. *chalepensis* [L.] O.E. Schulz)
Chalapa hoary-cress
Habitat/Range: Roadsides, fields and waste places; rare in SC BC; introduced from Eurasia.

***Cardaria draba* (L.) Desv.**
Heart-podded hoary-cress
Habitat/Range: Roadsides, fields and waste places; infrequent in S BC; introduced from Eurasia.

***Cardaria pubescens* (C.A. Mey.) Jarm.**
Globe-pod hoary-cress
Habitat/Range: Roadsides, fields and waste places; infrequent in SC BC, rare northward to Dawson Creek; introduced from Eurasia.

CHORISPORA

***Chorispora tenella* (Pall.) DC.**
Blue mustard
Habitat/Range: Dry roadsides and waste places; rare in SC BC; introduced from Eurasia.

COCHLEARIA

***Cochlearia officinalis* L. ssp. *oblongifolia* (DC.) Hult.**
Scurvy grass, or spoonwort
Habitat/Range: Moist sandy shorelines, marshes and mudflats; frequent on the coast, circumboreal, N to AK, YT and NT and S to WA.

CONRINGIA

***Conringia orientalis* (L.) Dumort.**
Hare's-ear mustard
Habitat/Range: Roadsides, fields and waste places; rare in SW and SC BC; introduced from Eurasia.

CORONOPUS

***Coronopus didymus* (L.) Sm.**
Lesser swine-cress
Habitat/Range: Fields and waste places; rare on SE Vancouver Island; introduced from Europe.

DESCURAINIA

1. Siliques 7-12, rarely 15 mm long; pedicels less than half the length of the siliques, seeds 1- or 2- ranked; leaves generally pinnate.
    2. Siliques somewhat clavate, rounded above, about as long or shorter than the pedicels; seeds 2-ranked, at least in part . . . . . *D. pinnata*
    2. Siliques linear, pointed above, usually longer than the pedicels; seeds 1- ranked *D. richardsonii*
1. Siliques 11-33 mm long; pedicels more than half the length of the siliques; seeds 1-ranked, leaves, or at least some of them bi- or tri-pinnate.
    3. Pedicels 1-9 mm long; stems sparsely to densely stipitate-glandular; racemes clustered at the top . . . . . *D. sophioides*
    3. Pedicels 7-14 mm long; stems not stipitate-glandular; racemes elongated . . . . . *D. sophia*

***Descurainia pinnata* (Walt.) Britt.** (*D. pinnata* var. *filipes* [A. Gray] Peck, *D. pinnata* var. *intermedia* [Rydb.] C.L. Hitchc.)
Western tansymustard
Habitat/Range: Dry open sites and waste places in the montane and steppe vegetation zones; common in S BC; S to E WA, E CA, CO and NV.

***Descurainia richardsonii* (Sweet) O.E. Schulz in Engl.** (*D. richardsonii* var. *viscosa* [Rydb.] Peck)
Richardson's tansymustard
Habitat/Range: Roadsides, disturbed sites and waste places in the montane and steppe vegetation zones; common in S BC, rare (and possibly introduced northward); N to AK, YT and NT, E to PQ and S to KS, MN, CO, NM, and CA.

***Descurainia sophia* (L.) Webb ex Prantl**
Flixweed
Habitat/Range: Roadsides, fields and waste places; frequent throughout BC except Queen Charlotte Islands and adjacent coast; introduced from Eurasia.

***Descurainia sophioides* (Fisch.) O.E. Schulz**

Northern tansymustard

Habitat/Range: Moist to mesic disturbed sites and waste places; rare in N BC; amphiberingian, N to AK, YT and NT and E to N to MB, Siberia.

DRABA[17]

1. Large succulent plants with leaves up to 30 cm long and silicles 18-22 mm long; seeds 1.5 mm long, black (W seacoast plants, from Vancouver Island to Alaska; mostly on highly nitrified substrate of bird-nesting sites) . . . . . *D. hyperborea*

1. Small non-succulent plants with leaves shorter than 15 cm and silicles less than 18 mm long; seeds less than 0.5 mm, brown.

    2. Styles less than 0.15 mm long.

        3. Annual or biennial plants of lowland habitats.

            4. Petals deeply bilobed, white; cauline leaves absent . . . . . *D. verna*

            4. Petals emarginate, yellow; cauline leaves present.

                5. Silicles about six times as long as broad . . . . . *D. reptans*

                5. Silicles less than three times as long as broad . . . . . *D. nemorosa*

        3. Perennial plants of alpine habitats.

            6. Lower leaf surfaces glabrous or with simple to multiforked hairs; cruciform to stellate hairs absent[18] . . . . . *D. crassifolia*

            6. Lower leaf surfaces with mainly cruciform to stellate hairs.

                7. Lower leaf surfaces with mainly stellate hairs . . . . . *D. praealta*

                7. Lower leaf surfaces with mainly cruciform hairs.

                    8. Upper leaf surfaces with mainly trifid and cruciform hairs . . . . . *D. stenoloba*

                    8. Upper leaf surfaces with mainly simple or bifid hairs; stems mainly with simple hairs . . . . . *D. albertina*

    2. Styles more than 0.15 mm long.

        9. Silicles with mainly short-stalked cruciform or stellate hairs.

            10. Cauline leaves (3) 5-8 (12); usually some flowers or silicles in leaf axils; fruiting racemes usually occupying top half of stem; silicles narrower at base and apex, frequently twisted; pedicels usually appressed to stem . . . . . *D. cana*

            10. Cauline leaves (0) 1-4 (5); inflorescence leafless; fruiting racemes occupying top third of stem; silicles narrowed equally at base and apex, not twisted; pedicels spreading to semierect . . . . . *D. cinerea*

        9. Silicles glabrous or with simple to forked hairs.

            11. Lower leaf surfaces predominantly with simple to many-forked hairs.

                12. Lower leaf surfaces with mainly 4- to many-forked hairs.

                    13. Forked hairs less than 0.25 mm broad, concentrated towards apex of leaves, mainly 7- to many-forked . . . . . *D. lactea*

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[17] Key adapted from Mulligan (1976).

[18] Strong magnification may be required when examining hairs of *Draba*.

13. Forked hairs more than 0.25 mm broad, uniformly distributed on lower surfaces of leaves, mainly less than 7-forked . . . . . *D. alpina*

12. Lower leaf surfaces mainly with simple to three-forked hairs.

14. Stem glabrous . . . . . *D. fladnizensis*

14. Stem pubescent.

15. Petals narrower than sepals; stigmas capitate . . . . . *D. stenopetala*

15. Petals broader than sepals; stigmas bilobed.

16. Style over 0.5 mm long . . . . . D. densifolia

16. Style less than 0.5 mm long.

17. Lower leaf surfaces with some simple hairs; silicles usually glabrous . . . . . *D. alpina*

17. Lower leaf surfaces lacking simple hairs; silicles puberulent . . . . . *D. corymbosa*

11. Lower leaf surfaces predominantly with cruciform to stellate hairs.

18. Lower leaf surfaces mainly with cruciform hairs.

19. Stem leaves (2) 3-6 (10); fruiting stems usually more than 15 cm high . . . . . *D. borealis*

19. Stem leaves 0-2 (3); fruiting stems usually less than 15 cm high.

20. Lowest pedicels shorter than silicles; basal leaves compacted.

21. Petals white; stems leafless or with one leaf; upper leaf surfaces with some stellate hairs . . . . . *D. porsildii*

21. Petals yellow; stems leafless; upper leaf surfaces lacking stellate hairs . . . . . *D. macounii*

20. Lowest pedicels usually about same to twice length of silicles; basal leaves loosely tufted . . . . . *D. longipes*

18. Lower leaf surfaces mainly with stellate hairs.

22. Lower leaf surfaces mainly with long-stalked stellate hairs.

23. Upper leaf surfaces with long-stalked stellate hairs . . . . . *D. ventosa*

23. Upper leaf surfaces with long, simple or once- or twice-forked hairs.

24. Stems and pedicels with simple, rarely forked hairs; leaves greater than 2 mm broad . . . . . *D. ruaxes*

24. Stems and pedicels with stellate and forked, rarely simple, hairs; leaves less than 2 mm broad . . . . . *D. paysonii*

22. Lower leaf surfaces predominantly with short-stalked or sessile hairs.

25. Stellate hairs on lower leaf surfaces mainly with 9 or more rays.

26. Stellate hairs on lower leaf surfaces sessile . . . . . *D. oligosperma*

26. Stellate hairs on lower leaf surfaces stalked.

27. Stellate hairs less than 0.2 mm in diameter.

28. Both leaf surfaces canescent with stellate hairs; stems and pedicels canescent with stellate hairs; rays of stellate hairs mainly parallel of leaf surfaces . . . . . *D. nivalis*

28. Stellate hairs mostly on underside of green leaf, especially towards apex; stems and pedicels usually glabrous; rays of stellate hairs pointing in many directions . . . . . *D. lactea*

27. Stellate hairs more than 0.2 mm in diameter.

29. Cauline leaves 2-10, rarely fewer; stems over 10 cm high . . . . . *D. glabella*

29. Cauline leaves 0-1; stems less than 10 cm high (occasionally taller in *D. incerta*).

30. Stellate hairs mostly with one longer central axis; lowest pedicel usually twice length of silicle; petals yellow . . . . . *D. incerta*

30. Stellate hairs without a longer central axis; lowest pedicel less than twice length of silicle; petals white.

31. Petals over 4.0 mm long; styles over 0.5 mm long; silicles narrowly elliptic . . . . . *D. palanderiana*

31. Petals 4.0 mm, or shorter; styles less than 0.5 mm long; silicles narrowly oblong . . . . *D. lonchocarpa*

25. Stellate hairs on lower surfaces of leaves mainly with 8 or less rays.

32. Stems with zero to two leaves.

33. Stems with 1-2 leaves, usually more than 2 mm broad; silicles appressed to stem; stem and pedicels frequently pubescent . . . . . *D. lonchocarpa* (var. *vestita*)

33. Stems leafless or rarely with 1 leaf, less than 2 mm broad. silicles spreading; stem and pedicels usually glabrous . . . . . *D. porsildii*

32. Stems with 4 or more leaves.

34. Stems with more than 10 leaves; pedicels appressed to stem . . . . . *D. aurea*

34. Stems with less than 10 leaves; pedicels spreading.

35. Lowest pedicel about same length to twice length of silicle; some of the cruciform and stellate hairs long-stalked; petals creamy yellow . . . . . *D. praealta*

35. Lowest pedicel shorter than silicle; all of the cruciform and stellate hairs short-stalked; petals white.

36. Styles more than 0.5 mm long . . . . . *D. borealis*

36. Styles less than 0.5 mm long . . . . . *D. glabella*

***Draba albertina* Greene** (*D. stenoloba* var. *nana* [O.E. Schulz] C.L. Hitchc.)

Slender draba or whitlow-grass

Habitat/Range: Mesic to dry openings and meadows from the montane to alpine zones; infrequent in SC and SE BC, rare northward to Atlin and westward to central Vancouver Island; N to YT and NT, E to SW and S to CO and CA.

***Draba alpina* L.** (*D. alpina* var. *pilosa* [Adams] Regel, *D. pilosa* Adams ex DC.)
Alpine draba or rock-cress
Habitat/Range: Dry meadows and rocky slopes in the subalpine and alpine zones; rare in N BC; N to AK, YT and NT, and E to PQ.

***Draba aurea* Vahl in Horn.** (*D. aurea* var. *leiocarpa* [Pays. & St. John] C.L. Hitchc.)
Golden draba or whitlow-grass
Habitat/Range: Dry openings, meadows and talus slopes from the montane to alpine zones; common throughout BC east of the Coast-Cascade Mountains; N to AK, YT and NT, E to PQ and S to N WA, ID, MT, NM and AZ.

***Draba borealis* DC.** (*D. maxima* Hult., *D. mccallae* Rydb.)
Northern draba or whitlow-grass
Habitat/Range: Mesic meadows in the subalpine and alpine zones; frequent in N BC; N to AK, YT and NT and W to SW AB.

***Draba cana* Rydb.**
Lance-leaved draba or whitlow-grass
Habitat/Range: Dry meadows and cliffs in the subalpine and alpine zones; frequent in N BC, less frequent southward east of the Coast-Cascade Mountains; circumpolar, N to AK, YT and NT, E to PQ and S to CO, VT and NV.
Notes: In North America this species has often been incorrectly placed under *D. lanceolata* Royle, an Asian species.

***Draba cinerea* J.E. Adams**
Gray-leaved draba or whitlow-grass
Habitat/Range: Dry meadows and cliffs in the alpine zone; rare in N BC; circumpolar, N to AK, YT and NT and E to N PQ; Eurasia.

***Draba corymbosa* R. Br. ex DC.** (*D. bellii* Holm, *D. macrocarpa* J.E. Adams)
Baffin's Bay draba or whitlow-grass
Habitat/Range: Mesic to dry meadows in the alpine zone; rare in NW BC; N to AK, YT and NT and E to PQ.

***Draba crassifolia* Grah. in Jameson**
Rocky Mountain draba or whitlow-grass
Habitat/Range: Mesic to dry meadows and cliffs in the subalpine and alpine zones; infrequent throughout BC east of the Coast-Cascade Mountains; N to AK, YT, and NT, E to PQ and S to CO, AZ and CA.

***Draba densifolia* Nutt. in T.& G.**
Nuttall's draba or whitlow-grass
Habitat/Range: Mesic to dry openings, meadows, and cliffs from the upper montane to alpine zones; rare in SC BC; E to SW AB, S to WY, VT and CA, disjunct in AK.
Notes: American authors often mistakenly treat this species as synonymous with *D. stenopetala.*

***Draba fladnizensis* Wulf. in Jacq.**
Austrian draba or whitlow-grass
Habitat/Range: Mesic to dry meadows, cliffs and talus slopes in the subalpine and alpine zones, rare in N BC; circumpolar, N to AK, YT and NT, E to AB and S to CO and VT; Eurasia.

Draba glabella* Pursh var. *glabella
Smooth draba or whitlow-grass
Habitat/Range: Moist to mesic meadows and cliffs in the subalpine and alpine zones; rare in N BC; circumpolar, N to AK, YT and NT and E to NF.
Notes: The name *D. hirta* L. is sometimes misapplied to this species.

***Draba hyperborea* (L.) Desv.**

North Pacific draba or whitlow-grass

Habitat/Range: Mesic coastal cliffs; locally frequent from N Vancouver Island northward; amphiberingian, N to AK; E Asia.

***Draba incerta* Pays.**

Yellowstone draba or whitlow-grass

Habitat/Range: Dry meadows and cliffs in the upper montane, subalpine and alpine zones; common throughout BC east of the Coast-Cascade Mountains; N to AK and YT, E to AB and S to WA, ID, MT and WY, disjunct in PQ.

***Draba lactea* Adams** (*D. allenii* Fern.)

Milky draba or whitlow-grass

Habitat/Range: Mesic to dry meadows and cliffs in the subalpine and alpine zones; rare in N BC; circumboreal, N to AK, YT and NT; Eurasia.

***Draba lonchocarpa* Rydb.** (*D. lonchocarpa* var. *exigua* O.E. Schulz in Engl. and *D. nivalis* Lilj. var. *elongata* S. Wats. = var. *lonchocarpa*, *D. lonchocarpa* var. *denudata* O.E. Schulz in Engl. and *D. nivalis* var. *denudata* [O.E. Schulz in Engl.] C.L. Hitchc. = var. *vestita*, *E. nivalis* var. *thompsonii* C.L. Hitchc. = var. *thompsonii)*

Lance-fruited draba or whitlow-grass

Habitat/Range: Mesic to dry meadows, cliffs and scree slopes in the subalpine and alpine zones; var. *lonchocarpa* common throughout BC E of the Coast-Cascade Mountains, var. *thompsonii* rare in and E of the Coast-Cascade Mountains south of 57°N, var. *vestita* rare in coastal and west-central BC; var. *lonchocarpa* ranges N to AK, YT and NT, E to AB, and KS to OR, MT and WY, var. *thompsonii* ranges S to N WA and var. *vestita* ranges N to SC AK.

Notes: Three varieties occur in BC.

1. Stems with 1 or 2 leaves, usually more than 2 mm wide; silicles usually appressed to stem; stems and pedicels frequently pubescent . . . . . var. *vestita* O.E. Schulz

1. Stems leafless or rarely with 1 leaf, less than 2 mm wide; silicles usually spreading; upper stems and pedicels usually glabrous.

    2. Silicles more than 2 mm wide . . . . . var. *thompsonii* (C.L. Hitchc.) Rollins

    2. Silicles less than 2 mm wide . . . . . var. *lonchocarpa*

***Draba longipes* Raup**

Long-stalked draba or whitlow-grass

Habitat/Range: Moist meadows and cliffs in the subalpine and alpine zones; rare in N BC; N to AK, YT and W NT and E to AB.

***Draba macounii* O.E. Schulz in Engl.**

Macoun's draba or whitlow-grass

Habitat/Range: Mesic to dry meadows and scree slopes in the subalpine and alpine zones; rare in N BC; N to AK, S YT and SW NT and E to AB.

***Draba nemorosa* L.**

Woods draba or whitlow-grass

Habitat/Range: Moist to dry open sites in the lowland, steppe vegetation and montane zones; common in S BC, rare northward; circumpolar, N to AK, YT and NT, E to PQ and S to CO and N CA; Eurasia.

***Draba nivalis* Lilj.**

Snow draba or whitlow-grass

Habitat/Range: Dry meadows and scree slopes in the subalpine and alpine zones; infrequent throughout BC; N to AK, YT and NT and E to NF.

***Draba oligosperma* Hook.**
Few-seeded draba or whitlow-grass
Habitat/Range: Dry rocky slopes, cliffs and meadows from the steppe vegetation to the alpine zones; infrequent in S BC, rare northward; N to AK, YT and NT, E to SW AB and S to WY, CO, NV and CA.

***Draba palanderiana* Kjellm.**
Palander's draba or whitlow-grass
Habitat/Range: Mesic to dry meadows and cliffs in the subalpine and alpine zones; rare, known only from the Cassiar area; N to AK, YT and W NT.
Notes: The name *D. caesia* Adams has often been misapplied to this species.

***Draba paysonii* Macbr.** (*D. paysonii* var. *treleasii* [O.E. Schulz] C.L. Hitchc.)
Payson's draba or whitlow-grass
Habitat/Range: Dry meadows and cliffs in the subalpine and alpine zones; infrequent in S BC; N to AK, E to SW AB and S to WY, VT, NV and CA.

***Draba porsildii* Mulligan**
Porsild's draba or whitlow-grass
Habitat/Range: Talus slopes and cliffs in the subalpine and alpine zones; rare in NE and SE BC; N to AK, S YT and W NT, E to SW AB.

***Draba praealta* Greene**
Tall draba or whitlow-grass
Habitat/Range: Moist to mesic forests and meadows in the steppe vegetation, montane and subalpine zones; infrequent in S BC east of the Coast-Cascade Mountains, rare northward; N to AK, YT and NT, E to AB and S to WY, NV and OR.

***Draba reptans* (Lam.) Fern.**
Carolina draba or whitlow-grass
Habitat/Range: Dry sites in the steppe vegetation and lower montane zones; rare in SC BC; E to AB and S to TX, GA, CO, NM, AZ and CA.

***Draba ruaxes* Pays. & St. John** (*D. ventosa* var. *ruaxes* [Pays. & St. John] C.L. Hitchc.)
Coast Mountain draba or whitlow-grass
Habitat/Range: Dry meadows and cliffs in the subalpine and alpine zones; rare in the Coast-Cascade Mountains; N to AK and YT and S to N WA.

***Draba stenoloba* Ledeb.**
Alaska draba or whitlow-grass
Habitat/Range: Moist to dry meadows and cliffs in the subalpine and alpine zones; infrequent throughout BC; N to AK, YT, W NT and SW AB.

***Draba stenopetala* Trautv.**
Star-flowered draba or whitlow-grass
Habitat/Range: Mesic to dry meadows and cliffs in the subalpine and alpine zones; rare, known only from Mt. Edziza; amphiberingian, N to AK and YT.

***Draba ventosa* A. Gray**
Wind River draba or whitlow-grass
Habitat/Range: Dry meadows and cliffs in the subalpine and alpine zones; rare in SE BC; N to YT, E to SW AB and S to WY and VT.

***Draba verna* L.** (*Erophila verna* [L.] Chev.)
Common draba or whitlow-grass
Habitat/Range: Dry, open sites; locally frequent on SE Vancouver Island, the Gulf Islands and the adjacent lower mainland, rare in SC BC; introduced from Eurasia.

ERUCASTRUM

***Erucastrum gallicum* (Willd.) O.E. Schulz**
Dog mustard
Habitat/Range: Fields and waste places; rare, known only from Radium; introduced from Eurasia.

ERYSIMUM

1. Petals pink to pinkish purple; plants alpine . . . . . *E. pallasii*
1. Petals yellow to deep orange; plants not alpine.
    2. Petals 3-12 mm long.
        3. Petals 3-5 mm long; siliques 1.5-3 cm long . . . . . *E. cheiranthoides*
        3. Petals 6-12 mm long; siliques 2.5-5 cm (rarely 1.5 cm) long . . . . . *E. inconspicuum*
    2. Petals 15-25 mm long.
        4. Herbage usually greenish; siliques flattened; plants alpine . . . . . *E. arenicola*
        4. Herbage usually grayish; siliques not markedly flattened; plants lowland or montane.
            5. Seeds in 1 row; nectary glands present at base of filaments . . . . . *E. asperum*
            5. Seeds more or less in 2 rows; nectary glands absent . . . . . *E. cheiri*

***Erysimum arenicola* S. Wats. var. *torulosum* (Piper) C.L. Hitchc. in C.L. Hitchc. & Cronq.** (*E. torulosum* Piper)
Sand-dwelling wallflower
Habitat/Range: Moist to mesic rocky or talus slopes in the alpine zone; rare on Vancouver Island; S to OR.

***Erysimum asperum* (Nutt.) DC.** (*E. capitatum* [Dougl.] Greene)
Prairie rocket, or western wallflower
Habitat/Range: Dry sites in the montane zone; rare, scattered throughout BC; E to S MB and S to KS, MN, NM and N CA.

***Erysimum cheiranthoides* L.** (*E. cheiranthoides* ssp. *altum* Ahti)
Wormseed mustard
Habitat/Range: Roadsides, fields and waste places; frequent throughout BC except the Queen Charlotte Islands and adjacent coast; circumboreal, native status uncertain.

***Erysimum cheiri* (L.) Crantz** (*Cheiranthus cheiri* L.)
Common wallflower
Habitat/Range: Rock outcrops and waste places in the lowland zone; infrequent garden escape on SE Vancouver Island; introduced from Europe.

***Erysimum inconspicuum* (S. Wats.) MacMill.**
Small wallflower, or small-flowered rocket
Habitat/Range: Dry open sites in the steppe vegetation and montane zones; frequent throughout BC east of the Coast-Cascade Mountains; N to AK, YT and NT, E to PQ and S to KS, NC, VT, NM and CA.

***Erysimum pallasii* (Pursh) Fern.**
Pallas' wallflower
Habitat/Range: Dry talus slopes in the alpine zone; rare, known only from Mt. Edziza; circumpolar, N to AK, YT and NT.

EUTREMA

***Eutrema edwardsii* R. Br. in Parry**
Edward's wallflower
Habitat/Range: Dry talus slopes in the subalpine and alpine zones; rare in N BC; circumboreal, N to AK, YT and NT; Eurasia.

HALIMOLOBOS

1. Cauline leaves lanceolate to oblong, auriculate-clasping at the base; siliques glabrous, seeds in 2 rows; plants of N BC . . . . . *H. mollis*

1. Cauline leaves linear-lanceolate to narrowly oblanceolate, not auriculate-clasping at the base; siliques finely stellate-pubescent, seeds in 1 row; plants of SC BC . . . . . *H. whitedii*

***Halimolobos mollis* (Hook.) Rollins** (*Arabis hookeri* Lange)
Soft halimolobos
Habitat/Range: Dry slopes and open forests in the montane zone; rare in N BC; N to AK, YT and NT.

***Halimolobos whitedii* (Piper) Rollins**
Whited's halimolobos
Habitat/Range: Dry sites in the steppe vegetation zone; rare in SC BC; S to N WA.

HESPERIS

***Hesperis matronalis* L.**
Dames's-violet
Habitat/Range: Roadsides, fields and disturbed sites; frequent garden escape on Vancouver Island and adjacent mainland, rare eastward in S BC; introduced from Eurasia.

HUTCHINSIA

***Hutchinsia procumbens* (L.) Desv.** (*Hymenolobus procumbens* [L.] Nutt. ex T.& G.)
Hutchinsia
Habitat/Range: Moist saline or alkaline sites in the steppe vegetation zone; rare in SC BC; E to NF and S to CO and CA; also known in Chile, Eurasia, N Africa and Australia.

IDAHOA

***Idahoa scapigera* (Hook.) A. Nels. & J.F. MacBr.**
Scalepod
Habitat/Range: Moist seepages to dry slopes; rare on S Vancouver Island and the Gulf Islands, rare eastward in S BC; S to ID and CA.

ISATIS

***Isatis tinctoria* L.**

Dyer's woad, or asp-of-Jerusalem

Habitat/Range: Roadsides and waste places; rare garden escape, known only from the Duncan and Nelson areas; introduced from Europe.

LEPIDIUM[19]

1. Middle and upper leaves suborbicular, deeply cordate clasping with a closed sinus and slightly overlapping lobes, thus appearing perfoliate . . . . . *L. perfoliatum*

1. Middle and upper leaves narrower, linear to broadly lanceolate, if clasping, then not appearing perfoliate.

    2. Silicles 5 to 6 mm long.

        3. Middle and upper leaves not clasping, silicles on strongly ascending to appressed pedicels . . . . . *L. sativum*

        3. Middle and upper leaves clasping the stem, silicles on spreading pedicels.

            4. Annuals or biennials usually with a single erect stem; anthers yellow; silicles covered with small white vesicles, styles included to slightly exserted from shallow apical notch . . . . . *L. campestre*

            4. Perennials with numerous ascending stems; anthers violet; silicles with few or no vesicles, styles mostly exserted from shallow apical notch . . . . . *L. heterophyllum*

    2. Silicles 2.5-3.5 mm long.

        5. Silicles puberulent, at least on the margin.

            6. Silicles 2.5-3 by 1.5-2 mm, nearly elliptic, narrowed into acute apical teeth; inflorescence congested into numerous axillary racemes as well as terminal ones . . . *L. ramosissimum*

            6. Silicles 3-3.5 by 2.5-3 mm, round-obcordate to short oblong-obovate, rounded to abruptly curved into obtuse apical teeth; inflorecence a single raceme or of sparsely branched racemes . . . . . *L. densiflorum*

        5. Silicles glabrous.

            7. Silicles oval, orbicular to rotund; petals conspicuous, as long or slightly longer than sepals . . . . . *L. virginicum*

            7. Silicles ovate, obovate to round obcordate, petals shorter than sepals or lacking.

                8. Silicles ovate to obovate, narrowed into acutish apical teeth . . . . . *L. bourgeauanum*

                8. Silicles round obcordate to short-obovate, rounded to abruptly curved into obtuse apical teeth . . . . . *L. densiflorum*

***Lepidium bourgeauanum* Thell.**

Branched or Bourgeau's pepper-grass

Habitat/Range: Disturbed sites; rare in C and SE BC; N to YT and NT and E to MB, also introduced E to NF.

***Lepidium campestre* (L.) R. Br.**

Field pepper-grass

Habitat/Range: Fields, roadsites and waste places; infrequent in SE BC; introduced from Eurasia.

[19] Key adapted from Mulligan (1961).

***Lepidium densiflorum* Schrad.**
Prairie pepper-grass
Habitat/Range: Dry, open sites in the steppe vegetation and montane zones, also in disturbed sites (var. *densiflorum*); var. *densiflorum* frequent throughout BC, var. *elongatum* frequent in S and NW BC, var. *macrocarpum* frequent in S and E BC, and var. *pubicarpum* rare in SC BC; var. *densiflorum* native from SE BC to MB, introduced elsewhere, var. *elongatum* ranges N to YT an NT, var. *macrocarpum* ranges E to SK, and var. *pubicarpum* ranges S to VT and CA.
Notes: Four varieties occur in BC.

1. Silicles averaging 2.5 mm long, glabrous; pedicels slightly flattened . . . . . var. *densiflorum*
1. Silicles averaging 3 mm long, glabrous or puberulent; pedicels conspicuously flattened.
    2. Silicles glabrous . . . . . var. *macrocarpum* Mulligan
    2. Silicles puberulent.
        3. Silicles puberulent on both surfaces . . . . . var. *pubicarpum* (A. Nelson) Thell.
        3. Silicles puberulent only on the margins . . . . . var. *elongatum* (Rydb.) Thell.

***Lepidium heterophyllum* (DC.) Benth.** (L. *smithii* Hook.)
Smith's pepper-grass
Habitat/Range: Fields, roadsides and waste places; rare on S Vancouver Island; introduced from Europe.

***Lepidium perfoliatum* L.**
Clasping-leaved pepper-grass
Habitat/Range: Roadsides and waste places; infrequent in SC BC; introduced from Eurasia.

***Lepidium ramosissimum* A. Nels.**
Branched pepper-grass
Habitat/Range: Dry sites in the lowland and steppe vegetation zones; rare in E BC and on the Gulf Islands; E to ON and S to NM, native status uncertain in BC.

***Lepidium sativum* L.**
Garden cress
Habitat/Range: Roadsides and waste places; rare garden escape in SE BC and S Vancouver Island; introduced from Eurasia.

***Lepidium virginicum* L.**
Tall pepper-grass
Habitat/Range: Mesic to dry, open sites in the lowland zone; rare on S Vancouver Island, the Gulf Islands and the adjacent mainland; S to OK, TX, NM, AZ and CA.

LESQUERELLA

1. Silicles 5-8 mm long, slightly longer than wide; cauline leaves few; plants of extreme N BC . . . . . *L. arctica*
1. Silicles 3-4 mm long; as wide as long; cauline leaves usually numerous; plants of S BC *L. douglasii*

Lesquerella arctica* (Wormsk. ex Hornem.) S. Wats. var. *arctica (*L. purshii* [S. Wats.] Fern. var. *arctica*)
Arctic bladderpod
Habitat/Range: Mesic to dry sites in the montane to alpine zones; rare in extreme N BC; amphiberingian, N to AK, YT and NT; NW Asia.

***Lesquerella douglasii* S. Wats.**
Columbia bladderpod
Habitat/Range: Dry sites in the steppe vegetation and montane to alpine zones; infrequent in S BC; S to ID and N OR.

LOBULARIA

***Lobularia maritima* (L.) Desv.**
Sweet alyssum
Habitat/Range: Waste places; rare garden escape on SE Vancouver Island; introduced from Europe.

LUNARIA

***Lunaria annua* L.**
Honesty
Habitat/Range: Roadsides and waste places; rare garden escape in S BC; introduced from Europe.

NASTURTIUM [20]

1. Styles usually over 1 mm long; seeds more or less 1-rowed with about 100 pits on each face . . . . . *N. microphyllum*

1. Styles absent or less than 1 mm long; seeds distinctly 2-rowed with about 25 pits on each face . . . . . *N. officinale*

***Nasturtium microphyllum* (Boenn.) Reichenb.** (*N. officinale* R. Br. in W. Ait. var. *microphyllum* [Boenn.] Thell., *Rorippa microphyllum* [Boenn.] Hyl.)
One-rowed water cress
Habitat/Range: Wet sites in the lowland and montane zones; rare, known only from S Vancouver Island and Atlin; probably introduced from E Canada.

***Nasturtium officinale* R. Br. in W. Ait.** (*Rorippa nasturtium-aquaticum* [L.] Hayek)
Common water cress
Habitat/Range: Streams and shallow ponds in the lowland and montane zones; frequent in S BC, rare northward; introduced from Europe.

NESLIA

***Neslia paniculata* (L.) Desv.**
Ball mustard
Habitat/Range: Fields and waste places; infrequent in S BC, rare northward; introduced from Eurasia.

PARRYA

***Parrya nudicaulis* (L.) Boiss.** (*P. nudicaulis* ssp. *interior* Hult.)
Northern parrya
Habitat/Range: Moist to mesic sites in the alpine zone; rare in extreme NW BC; amphiberingian, N TO AK, YT and NT; Asia.

PHYSARIA

Physaria didymocarpa* (Hook.) A. Gray var. *didymocarpa
Common twinpod
Habitat/Range: Dry sites in the steppe vegetation and montane zones; rare in SE BC; E to SW AB and S to WA, ID, and WY.

[20] Key adapted from Scoggan (1978).

RAPHANUS

1. Flowers usually yellow; siliques usually 4-12 seeded, rarely 2 or 3 seeded, 3-6 mm wide . . . . . *R. raphanistrum*

1. Flowers usually purple; siliques 1-3 seeded, rarely 4 or 5 seeded, 5-10 mm wide . . . . . *R. sativus*

***Raphanus raphanistrum* L.**
Wild radish
Habitat/Range: Fields and waste places; frequent in SW BC, rare in SC BC; introduced from Eurasia.

***Raphanus sativus* L.**
Garden radish
Habitat/Range: Disturbed sites and waste places; infrequent garden escape in SW BC; introduced from Eurasia.

RORIPPA

Notes: This is a difficult genus with many forms having been given specific status by various authors. There is a great deal of overlap in morphological characters among the taxa.

1. Plants rhizomatous perennials . . . . . *R. sylvestris*

1. Plants annuals or biennials, lacking rhizomes.

   2. Siliques 4-6 valved, globose or pear-shaped; rare in N BC . . . . . *R. barbareifolia*

   2. Siliques 2 valved, ovate to linear; mostly in S BC.

      3. Fruiting pedicels mostly 4-12 mm long, longer than siliques; stems usually erect, 3-10 dm tall . . . . . *R. palustris*

      3. Fruiting pedicels mostly 2-4 mm long, shorter than siliques; stems often spreading or decumbent, to 4 dm tall.

         4. Siliques oval to oblong, 2-6 mm long, 2-2.5 mm thick, usually not curved . . . . *R. curvipes*

         4. Siliques linear oblong; 6-15 mm long, 1-1.5 mm thick, usually curved . . . . . *R. curvisiliqua*

***Rorippa barbareifolia* (DC.) Kitagawa**
Hoary yellow cress
Habitat/Range: Roadsides in the montane zone; rare, known from one collection along the Alaska Highway, where probably introduced; AK and NT.

***Rorippa curvipes* Greene var. *integra* (Rydb.) Stuckey** (*R. obtusa* [Nutt.] Britt.)
Blunt-leaved yellow cress
Habitat/Range: Moist sandy soils in the lowland to lower montane zones; infrequent in S BC E of the Coast-Cascade Mountains; S to MI, MO, TX, CA and N MX.

***Rorippa curvisiliqua* (Hook.) Bess. ex Britt.**
Western yellow cress
Habitat/Range: Moist soil in waste places, meadows and open woods in the lowland and lower montane zones; common in S BC; S to MT, CO and Baja CA.
Notes: Several poorly defined varieties are sometimes recognized, but are not treated here.

***Rorippa palustris* (L.) Bess.** (*R. islandica* [Oed.] Borbas)
Marsh yellow cress
Habitat/Range: Wet meadows and boggy areas in the lowland and lower montane zones; common throughout BC; circumboreal, throughout North America.
Notes: At least six poorly defined varieties have been attributed to the BC flora, but are not treated here.

***Rorippa sylvestris* (L.) Bess.**
Creeping yellow cress
Habitat/Range: Lawns, waste places and fields in the lowland and montane zones; frequent on S Vancouver Island, the Gulf Islands and adjacent mainland, rare eastward and northward; introduced from Europe.

SCHOENOCRAMBE

***Schoenocrambe linifolia* (Nutt.) Greene**
Plains or rush mustard
Habitat/Range: Dry sites in the steppe vegetation zone; infrequent in SC BC; S to MT, NM and NV.

SISYMBRIUM

1. Siliques closely and tightly appressed to the rachis; petals 3-4 mm long . . . . . *S. officinale*

1. Siliques spreading to erect, not appressed; petals 5-8 mm long.

    2. Pedicels slender, much thinner than the fruits; siliques ascending to erect, 2-3.5 cm long . . . . . *S. loeselii*

    2. Pedicels stout, nearly as thick as the fruits; siliques spreading, rigid, 5-10 cm long . . . . . *S. altissimum*

***Sisymbrium altissimum* L.**
Tall tumble-mustard
Habitat/Range: Fields and waste places; common in S BC; introduced from Eurasia.

***Sisymbrium loeselii* L.**
Loesel's tumble-mustard
Habitat/Range: Fields and waste places; rare in S BC; introduced from Eurasia.

***Sisymbrium officinale* (L.) Scop.**
Hedge mustard
Habitat/Range: Fields and waste places; frequent in SW BC; introduced from Eurasia.

SMELOWSKIA

1. Siliques linear to narrowly oblong, tapering at both ends, 5-13 mm long; basal leaves strongly ciliate along the petioles . . . . . *S. calycina*

1. Siliques oblong to ovate, tapering only at the apex, 3-6 mm long; basal leaves not ciliate *S. ovalis*

***Smelowskia calycina* (Steph.) C.A. Mey. in Ledeb.**
Alpine smelowskia
Habitat/Range: Dry alpine talus slopes; rare in extreme SE BC; amphiberingian, N to AK, YT and NT, E to SW AB and S to CO, VT and NV.

***Smelowskia ovalis* M.E. Jones**
Short-fruited smelowskia
Habitat/Range: Mesic to dry sites in the alpine zone; rare in extreme SC BC; S to N CA.

SUBULARIA

***Subularia aquatica* L. ssp. *americana* Mulligan & Calder**
Awlwort
Habitat/Range: Streams, shorelines and shallow ponds; infrequent in S BC; N to AK, YT and NT, E to NF and S to WY and CA.

TEESDALIA

***Teesdalia nudicaulis* (L.) R. Br.**
Shepherd's cress
Habitat/Range: Mesic to dry, usually disturbed sites in the lowland zone; locally frequent in SW BC; introduced from Europe.

THELLUNGIELLA

***Thellungiella salsuginea* (Pall.) O.E. Schulz in Engl.** (*Arabidopsis salsuginea* [Pall.] N. Busch)
Salt-water cress
Habitat/Range: Dry saline lakes and meadows in the steppe vegetation zone; rare in SE BC; amphiberingian, N to YT and NT, E to MB and S to CO; Eurasia.

THELYPODIUM

1. Siliques strongly ascending-erect, 3-6 mm long . . . . . *T. milleflorum*
1. Siliques spreading, 4-11 mm long . . . . . *T. laciniatum*

***Thelypodium laciniatum* (Hook.) Endl. in Walp.**
Thick-leaved thelypody
Habitat/Range: Dry sites in the steppe vegetation zone; rare in SC BC; S to ID, NV and CA.

***Thelypodium milleflorum* A. Nels.** (*T. lacinatum* var. *milleflorum* [A. Nels.] Pays.)
Many-flowered thelypody
Habitat/Range: Dry sites in the steppe vegetation zone; rare in SC BC; S to ID and NV.

THLASPI

***Thlaspi arvense* L.**
Field pennycress
Habitat/Range: Fields and waste places; common throughout BC except Queen Charlotte Islands and adjacent mainland; introduced from Eurasia.

THYSANOCARPUS

***Thysanocarpus curvipes* Hook.**
Sand lacepod
Habitat/Range: Dry sites in the lowland zone; locally frequent on SE Vancouver Island; S to ID and CA.

BUDDLEJACEAE

BUDDLEJA

***Buddleja davidii* Franch.**

Butterfly-bush

Habitat/Range: Disturbed sites in the lowland zone; rare horticultural species known from several locations on SE Vancouver Island and the lower Fraser Valley; introduced from China.

CACTACEAE

OPUNTIA

1. Stem joints not much flattened, readily detached from the plant; spines strongly barbed; oreoles white-woolly . . . . . *O. fragilis*

1. Stem joints flattened, not readily detached from the plant; spines only slightly barbed; oreoles rusty-woolly or not woolly . . . . . *O. polyacantha*

***Opuntia fragilis* (Nutt.) Haw.**

Brittle prickly-pear cactus

Habitat/Range: Dry sandy or gravelly sites in the lowland and steppe vegetation zones; common in S BC east of the Coast-Cascade Mountains, less frequent on SE Vancouver Island and the Gulf Islands; E to ON and S to KS, IL, TX and N CA.

***Opuntia polyacantha* Haw.**

Plains prickly-pear cactus

Habitat/Range: Dry sandy or gravelly sites in the steppe vegetation zone; common in S BC east of the Coast-Cascade Mountains, less frequent in NE BC; E to S SK and S to MO, TX, AZ and E OR.

CALLITRICHACEAE

CALLITRICHE

1. Pistillate flowers borne on distinct pedicels, much longer than the fruits; styles sharply reflexed . . . . . *C. marginalis*

1. Pistillate flowers sessile or subsessile; styles ascending (sometimes reflexed in *C. stagnalis).*

    2. Fruits encircled by a conspicuous wing margin . . . . . *C. stagnalis*

    2. Fruits wingless or wing-margined toward the summit.

        3. Leaves all linear, single-nerved, their bases not joined by a ridge or wing . . . . . *C. hermaphroditica*

        3. Leaves linear below, lanceolate, obovate or spatulate above, their bases joined by a small, winglike ridge.

            4. Carpel faces with rather regular vertical lines of tiny pitlike markings; fruits slightly wing-margined above . . . . . *C. verna*

            4. Carpel faces with irregularly distributed tiny pitlike markings; fruits scarcely, if at all wing-margined.

                5. Fruits obovate or slightly heart-shaped in outline, broadest above the middle; submersed leaves usually broader than the stem; plants long-stemmed . . . . . *C. heterophylla*

5. Fruits usually more nearly round or ovate in outline; submersed leaves much narrower than the flattened stem; plants short-stemmed . . . . . *C. anceps*

***Callitriche anceps* Fern.**
Two-edged water-starwort
Habitat/Range: Shallow ponds and shorelines in the lowland and montane zones; rare along the coast in BC; N to AK, YT and NT, E to NF and S to WA, UT and GA.

***Callitriche hermaphroditica* L.**
Northern water-starwort
Habitat/Range: Slow-moving streams and sloughs in the lowland, steppe vegetation and montane zones; common in SW BC, less frequent in SC and SE BC; circumboreal, N to AK, YT and NT, E to NF and S to MN, MI, NM and CA; Eurasia.

***Callitriche heterophylla* Pursh ssp. *bolanderi* (Hegelm.) Calder & Taylor.**
Diverse-leaved water-starwort
Habitat/Range: Slow-moving streams and shorelines in the lowland zone; frequent on S Vancouver Island, rare in SE BC; N to SE AK, E to NF and S to TX, OK and CA, also in South America.

***Callitriche marginata* Torr.**
Winged water-starwort
Habitat/Range: Vernal pools in the lowland zone; rare, known only from Mittlenatch Island and Victoria; S to CA and MX.

***Callitriche stagnalis* Scop.**
Pond water-starwort
Habitat/Range: Slow-moving streams and ponds; infrequent in S BC; introduced from Europe.

***Callitriche verna* L.** (*C. palustris* L.)
Spring water-starwort
Habitat/Range: Slow-moving streams and shorelines in the lowland, steppe vegetation and montane zones; frequent in S BC; circumboreal, N to AK, YT and NT, E to NF and S to NE, VA, NM and CA, Eurasia.

CAMPANULACEAE

1. Filaments and anthers united into a tube; corollas irregular.
   2. Flowers sessile in leaf axils . . . . . *Downingia*
   2. Flowers pedicelled in terminal bracted racemes . . . . . *Lobelia*
1. Filaments and anthers distinct; corollas regular.
   3. Perennials (except for one biennial species); flowers pedicellate or pedunculate . . . . . *Campanula*
   3. Annuals; flowers sessile or subsessile.
      4. Corollas shorter than the calyx lobes; leaves lanceolate . . . . . *Githopsis*
      4. Corollas longer than the calyx lobes; leaves rotund or rotund-ovate.
         5. Upper flowers blue, 3-6 mm long, inserted opposite the bracts . . . . . *Heterocodon*
         5. Upper flowers pale lavender to purple, 8-13 mm long, inserted in the bract-axils . . . . . *Legouisia*

CAMPANULA

1. Plants usually over 5 dm tall; stems leafy; flowers in a terminal cluster; introduced species.
    2. Plants biennials, hispid-hairy; calyx with a conspicuous appendage at each sinus; corollas large, usually 3.5-5 cm long . . . . . *C. medium*
    2. Plants perennials, glabrous or sparsely pubescent; calyx without appendages; corollas smaller, usually 2-3.5 cm long.
        3. Leaves linear to linear-lanceolate, finely crenate, the lower stem leaves subsessile . . . . . *C. persicifolia*
        3. Leaves lanceolate to ovate, irregularly serrate, the lower stem leaves petiolate . . . . . *C. rapunculoides*

1. Plants smaller (except some forms of *C. rotundifolia*); stems mainly basal; flowers solitary or in loose clusters; plants native.
    4. Corollas 15-35 mm long.
        5. Calyx tubes glabrous; sepals entire . . . . . *C. rotundifolia*
        5. Calyx tubes pubescent; sepals laciniate . . . . . *C. lasiocarpa*
    4. Corollas 2-18 mm long.
        6. Flowers usually several in loose clusters . . . . . *C. scouleri*
        6. Flowers solitary.
            7. Styles exserted from the corolla; corolla lobes spreading or recurved, equalling or longer than the tube . . . . . *C. aurita*
            7. Styles shorter than or equalling the corolla; corolla lobes erect to ascending, usually shorter than the tube . . . . . *C. uniflora*

***Campanula aurita* Greene**

Alaskan harebell, or Yukon bellflower

Habitat/Range: Mesic to dry meadows, forests and rock outcrops in the montane and subalpine zones; frequent in extreme NE BC; N to AK, YT and NT.

***Campanula lasiocarpa* Cham.**

Mountain harebell

Habitat/Range: Moist to mesic forests, meadows and rocky slopes from the montane to subalpine zones; common N of 52°N; amphiberingian, N to AK, YT, and NT, E to W AB and S to N WA.

***Campanula medium* L.**

Canterbury-bells

Habitat/Range: Mesic sites in the lowland zone; rare garden escape, known only from Nanaimo area and Alert Bay; introduced from Europe.

***Campanula persicifolia* L.**

Peach-leaved bellflower

Habitat/Range: Disturbed sites; rare garden escape, known from Nanaimo area and Alert Bay; introduced from Eurasia.

***Campanula rapunculoides* L.**

Creeping bellflower

Habitat/Range: Disturbed sites in the lowland and lower montane zones; rare garden escape, scattered across extreme S BC; introduced from Eurasia.

***Campanula rotundifolia* L.** (*C. alaskana* [A. Gray] Wight in J.P. Anders. and *C. latisepala* Hult. = var. *alaskana*)

Common harebell, or bluebells of Scotland

Habitat/Range: Moist to dry sites in all vegetation zones; common throughout BC, var. *alaskana* replacing var. *rotundifolia* along all but the southern coast; circumboreal, N to AK, YT and NT, E to NF and S to TX, NM and N CA.

Notes: There is little evidence to suggest that *C. alaskana* is anything other than a coastal race of the highly variable *C. rotundifolia*. In fact, many taxonomists (e.g., Shetler 1963, Welsh 1974, Scoggan 1979, etc.), do not recognize any infraspecific taxa within this species. Two varieties are recognized for BC.

1. Cauline leaves narrowly to broadly ovate, flowers usually solitary ..... var. *alaskana* A. Gray

1. Cauline leaves linear to linear-lanceolate, flowers usually two or more ..... var. *rotundifolia*

***Campanula scouleri* Hook. ex A. DC.**

Scouler's harebell

Habitat/Range: Mesic to dry forests, rock outcrops and talus slopes in the lowland zone; locally common on Vancouver Island and the Gulf Islands; N to SE AK and S to N CA.

***Campanula uniflora* L.**

Arctic harebell

Habitat/Range: Mesic to dry meadows and ridges in the montane to alpine zones; infrequent and scattered throughout BC east of the Coast-Cascade Mountains; circumboreal, N to AK, YT and NT, E to PQ, and S to CO.

DOWNINGIA

***Downingia elegans* (Dougl. in Lindl.) Torr.**

Common downingia

Habitat/Range: Wet meadows and ponds in the steppe vegetation and lower montane zones; rare in SE BC, known only from Creston; S to NV and N CA.

GITHOPSIS

***Githopsis specularioides* Nutt.**

Common bluecup

Habitat/Range: Seepage areas in the lowland zone; rare on S Vancouver Island; S to CA.

HETEROCODON

***Heterocodon rariflorum* Nutt.**

Heterocodon

Habitat/Range: Moist sites in the lowland and lower montane zones; rare on S Vancouver Island and SE BC; S to WY, NV and CA.

LEGOUSIA

***Legousia perfoliata* (L.) Britt.** (*Specularia perfoliata* [L.] A. DC., *Triodanis perfoliata* [L.] Nieuwl.)

Venus' looking-glass

Habitat/Range: Dry open forests and disturbed sites in the lowland and lower montane zones; infrequent in S BC; E to PQ and S to FL, TX, NM and CA.

LOBELIA

1. Plants scapose ..... *L. dortmanna*
1. Plants leafy-stemmed.
    2. Leaves entire to obscurely toothed; flowers blue with a large white eye ..... *L. kalmii*
    2. Leaves conspicuously toothed; flowers whitish to pinkish or pale violet ..... *L. inflata*

***Lobelia dortmanna* L.**
Water lobelia
Habitat/Range: Shallow, sandy or gravelly lake and pond margins in the lowland zone; locally common in coastal SW BC; E to NF and S to PA and N OR, also in NW Europe.

***Lobelia inflata* L.**
Indian-tobacco
Habitat/Range: Roadsides and disturbed areas in the lower montane zone; rare, known only from the lower Fraser Valley area; introduced from E North America.

***Lobelia kalmii* L.**
Kalm's lobelia
Habitat/Range: Wet to moist sites in the montane zone; frequent in SE and N BC; E to NF and S to PA, SD, MT and WA.

CANNABACEAE

HUMULUS

***Humulus lupulus* L.**
Common hop
Habitat/Range: Ditches and disturbed areas in the lowland zone; rare agricultural escape in the lower Fraser Valley; possibly introduced from Europe or elsewhere in North America.

CAPPARIDACEAE

CLEOME

***Cleome serrulata* Pursh**
Stinking-clover, spider-flower, or Rocky Mountain bee-plant
Habitat/Range: Moist to mesic sandy sites and waste places in the steppe vegetation and lower montane zones; rare in SC and SE BC; E to MN and S to IL, NM and CA.

CAPRIFOLIACEAE

1. Leaves pinnately compound ..... *Sambucus*
1. Leaves simple.
    2. Stems extensively creeping, slender ..... *Linnaea*
    2. Stems erect or climbing, stout.
        3. Leaves toothed ..... *Viburnum*

3. Leaves entire or sometimes slightly lobed or undulate.

    4. Corollas regular or nearly so, campanulate; fruits a 2-seeded white drupe . . . . . *Symphoricarpos*

    4. Corollas irregular, funnelform to tubular; fruits a several-seeded berry . . . . . *Lonicera*

LINNAEA

***Linnaea borealis* L.** (*L. borealis* ssp. *americana* [Forbes] Hult. and *L. borealis* var. *americana* [Forbes] Rehd. = ssp. *longiflora*)

Twinflower

Habitat/Range: Mesic forests in the lowland and montane zones; ssp. *longiflora* common throughout BC; ssp. *borealis* rare in extreme NW BC; circumboreal, N to AK (ssp. *borealis*), N to YT and NT, E to NF and S to IN, NM and CA (ssp. *longiflora*).

Notes: Two subspecies occur in BC.

1. Corollas 9-11 mm long, narrowly campanulate, flaring from within the calyx, tubes very short or sometimes absent . . . . . ssp. *borealis*

1. Corollas 10-16 mm long, funnelform, the tubes about equaling or surpassing the calyx . . . . . ssp. *longiflora* (Torr.) Hult.

LONICERA

1. Flowers in pairs (appearing united in *L. caerulea*) on axillary peduncles; leaves distinct; plants more or less erect shrubs.

    2. Involucral bracts 4, relatively large, broad and foliaceous; ovaries and fruits wholly distinct . . . . . *L. involucrata*

    2. Involucral bracts 2, small, linear to lance-oblong; ovaries and fruits wholly or partly united.

        3. Ovaries and fruits wholly united; corolla lobes about as long as the tube . . . . . *L. caerulea*

        3. Ovaries and fruits united (sometimes scarcely) at the base; corolla lobes much shorter than the tube . . . . . *L. utahensis*

1. Flowers several to many in terminal or terminal and axillary inflorescences; leaves connate-perfoliate; plants vines or climbing shrubs.

    4. Leaves, or at least some of them with well-developed, ovate to rounded stipules . . . . *L. hispidula*

    4. Leaves without stipules.

        5. Leaves long-ciliate . . . . . *L. ciliosa*

        5. Leaves not ciliate.

            6. Corollas 1.5-2.5 cm long, the tubes densely hairy within . . . . . *L. dioica*

            6. Corollas 3-5 cm long, the tubes glabrous within . . . . . *L. etrusca*

***Lonicera caerulea* L.**

Bluefly honeysuckle

Habitat/Range: Moist to dry sites in the montane zone; locally common in SE BC; circumboreal, E to AB and S to PA, MN, WY, NV and CA; Eurasia.

***Lonicera ciliosa* (Pursh) DC.**

Western trumpet or orange honeysuckle

Habitat/Range: Mesic to dry forests in the lowland, steppe vegetation and montane zones; common in S BC; S to MT and CA.

***Lonicera dioica* L. var. *glaucescens* (Rydb.) Butters**

Glaucous-leaved, smooth-leaved or red honeysuckle

Habitat/Range: Moist to dry forest and rocky sites in the lowland and montane zones; frequent in E BC, rare in SW BC; N to NT, E to PQ and S to NC, OK and SO.

***Lonicera etrusca* Santi**

Etruscan honeysuckle

Habitat/Range: Moist to mesic sites in the lowland zone; rare garden escape on the Queen Charlotte Islands, more frequent on S Vancouver Island; introduced from Europe.

***Lonicera hispidula* (Lindl.) Dougl. in T.& G.**

Hairy honeysuckle

Habitat/Range: Mesic to dry forests in the lowland and montane zones; common locally on S Vancouver Island and the Gulf Islands; S to CA.

***Lonicera involucrata* (Richards.) Banks ex Spreng.**

Black twinberry, or bearberry honeysuckle

Habitat/Range: Moist forests and thickets in the lowland, steppe vegetation and montane zones; common in BC S of 58 N; E to PQ and S to MI, WI, NM, CA and MX.

***Lonicera utahensis* S. Wats.**

Utah honeysuckle

Habitat/Range: Moist to mesic forests and openings in the lowland, steppe vegetation and montane zones; common in SC and SE BC, rare in SW BC; E to SW AB and S to MT, WY, UT and N CA.

SAMBUCUS

1. Inflorescences pyramidal or strongly convex; fruits not glaucous . . . . . *S. racemosa*

1. Inflorescences flat-topped; fruits strongly glaucous . . . . . *S. cerulea*

***Sambucus cerulea* Raf.**

Blue elder or elderberry

Habitat/Range: Moist to mesic sites in the lowland, steppe vegetation and montane zones; common in S BC; S to MT, AZ, NM and CA.

***Sambucus racemosa* L. ssp. *pubens* (Michx.) House**

Black elder or elderberry (var. *melanocarpa*), coastal red elder or elderberry (var. *arborescens*), eastern red elder or elderberry (var. *leucocarpa*)

Habitat/Range: Moist to mesic sites in the lowland, steppe vegetation, and montane zones; var. *arborescens* is common W of the Coast-Cascade Mountains, var. *melanocarpa* is common E of the Coast-Cascade Mountains and less frequent to the W of them, var. *leucocarpa* is infrequent in SE BC; var. *arborescens* - N to AK and S to CA; var. *melanocarpa* - E to AB and NM, AZ, NV and N CA, var. *leucocarpa* - E to PQ, and NB, S to TN and GA.

Notes: Three varieties of the North American subspecies occur in BC.

1. Fruits black or purplish-black; nutlets slightly rugose or pebbly . . . . . var. *melanocarpa* (A. Gray) McMinn

1. Fruits bright red (sometimes yellow or white); nutlets mostly smooth or slightly rugose or pebbly.

2. Nutlets mostly smooth; plants 2-6 m tall . . . . . var. *arborescens* (T.& G.) A. Gray

2. Nutlets slightly rugose or pebbly; plants 0.5-3 m tall . . . . . var. *leucocarpa* (T.& G.) Cronq. in Cronq. & Hitchc.

SYMPHORICARPOS

1. Stems trailing and rooting at the nodes, the branches rising less than 5 dm . . . . . *S. mollis*

1. Stems erect, more or less branching, 3-30 dm tall.

   2. Corollas relatively long and narrow, the lobes not more than half the length of the tubes . . . . . *S. oreophilus*

   2. Corollas relatively short and broad, the lobes nearly equaling the tubes.

      3. Styles elongate, more or less exserted, usually long-hairy near the middle; flowers mainly sessile . . . . . *S. occidentalis*

      3. Styles short, not exserted, glabrous; flowers subsessile to pedunculate . . . . . *S. albus*

***Symphoricarpos albus* (L.) Blake**
Common snowberry
Habitat/Range: Mesic to dry sites in the lowland, steppe vegetation and montane zones; extremely common in S BC, infrequent northward; N to NT, E to PQ, and S to NE, VA, CO and CA.
Notes: Two varieties occur in BC.

1. Plants 0.5-1 m tall; fruits usually less than 1 cm long; infrequent in E BC . . . . . var. *albus*

1. Plants 1-3 m tall; fruits 1-1.5 cm long; our common phase . . . . . var. *laevigatus* (Fern.) Blake

***Symphoricarpos mollis* Nutt. in T.& G. var. *hesperius* (G.N. Jones) Cronq. in Hitchc. & Cronq.** (*S. hesperius* Jones)
Trailing or creeping snowberry
Habitat/Range: Mesic to dry forests and openings in the lowland zone; locally common on SE Vancouver Island, the Gulf Islands and the lower Fraser Valley; E to N ID and S to CA.

***Symphoricarpos occidentalis* Hook.**
Western snowberry, or wolfberry
Habitat/Range: Moist sites along streams and lakes in the steppe vegetation and montane zones; frequent in BC E of Coast-Cascade Mountains; E to PQ and S to KS, MO, VT, NM and WA.

***Symphoricarpos oreophilus* A. Gray var. *utahensis* (Rydb.) A. Nels. in Coult. & Nels.**
Mountain snowberry
Habitat/Range: Dry open slopes in the steppe vegetation to subalpine zones; locally common in extreme SC BC; S to NM, CA and N MX.

VIBURNUM

1. Leaves deeply trilobed; corollas 1.5-2.5 cm across; stamens conspicuous, exserted . . . . . *V. opulus*

1. Leaves shallowly trilobed; corollas 0.4-0.7 cm across; stamens inconspicuous . . . . . *V. edule*

***Viburnum edule* (Michx.) Raf.**
Highbush-cranberry, squashberry, or mooseberry
Habitat/Range: Wet to moist swamps and forests in the lowland, steppe vegetation and montane zones; common throughout BC; N to AK, YT and NT, E to NF, and S to PA, ID, CO and OR.

***Viburnum opulus* L. ssp. *trilobum* (Marsh.) Hult.**
American bush-cranberry, or wild guelder-rose
Habitat/Range: Moist sites along streams in the steppe vegetation and montane zones; rare, scattered in SE BC; E to NF and S to PA, WY, ID, and WA.

CARYOPHYLLACEAE

1. Fruits 1-seeded, indehiscent.
   2. Leaves alternate; styles 3 . . . . . *Corrigiola*
   2. Leaves opposite; styles 1-2 . . . . . *Scleranthus*
1. Fruits several-seeded, dehiscent.
   3. Leaves whorled . . . . . *Spergula*
   3. Leaves opposite.
      4. Calyces of separate sepals, or nearly so; petals lacking claws; ovaries not stipitate.
         5. Stipules present, scarious.
            6. Styles 1, 3-cleft or -toothed . . . . . *Spergularia*
            6. Styles 3, distinct . . . . . *Polycarpon*
         5. Stipules absent.
            7. Capsules cylindrical, often bent near summit.
               8. Plants usually pubescent; petals 5, sometimes 4, distinctly bifid . . . . . *Cerastium*
               8. Plants glabrous; petals 4, sometimes 5, entire or emarginate . . . . . *Moenchia*
            7. Capsules ovoid or ellipsoid (or ovoid-cylindric in *Holosteum*).
               9. Styles 4 or 5.
                  10. Leaves filiform or subulate; petals entire or none . . . . . *Sagina*
                  10. Leaves lanceolate to cordate-ovate; petals deeply notched . . . . . *Myosoton*
               9. Styles 3.
                  11. Petals deeply notched or 2-cleft . . . . . *Stellaria*
                  11. Petals entire to shallowly lobed or denticulate.
                     12. Plants markedly fleshy and succulent; seeds 3-4.5 mm long . . . . . *Honkenya*
                     12. Plants of varied habit; seeds rarely over 1.5 mm long.
                        13. Inflorescences umbellate; petals denticulate; plants introduced . . . . . *Holosteum*
                        13. Inflorescences cymose; petals entire to shallowly lobed; plants native.
                           14. Leaves elliptic to oblong-lanceolate, 1-4 cm long, usually more than 3 mm wide; seeds with a fleshy appendage (strophiole) . . . . . *Moehringia*

14. Leaves linear-lanceolate or subulate, if ovate to elliptic then less than 1 cm long and 3 mm wide; seeds without a strophiole.

15. Capsules dehiscing by 6 valves or teeth . . . . . *Arenaria*

15. Capsules dehiscing by 3 entire valves . . . . . *Minuartia*

4. Calyces of united sepals; petals clawed; ovaries stipitate.

16. Styles 2, capsules mostly 4-valved or -toothed.

17. Calyces subtended by 1-3 pairs of bracts.

18. Calyces 5-nerved, 4-6 mm long . . . . . *Petrorhagia*

18. Calyces 20-40 nerved, more than 10 mm long . . . . . *Dianthus*

17. Calyces without involucral bracts at the base.

19. Calyces about 2 mm long . . . . . *Gypsophila*

19. Calyces more than 10 mm long.

20. Calyces ovoid, 5-ribbed, wing-angled; petals not appendaged . . . . . *Vaccaria*

20. Calyces tubular, 20-nerved, not wing-angled; petals appendaged at base of blade . . . . . *Saponaria*

16. Styles 3-5, capsules 3-, 5-, 6-, or 10-valved or -toothed.

21. Styles 3, sometimes 4 or 5; capsules opening by twice as many valves or teeth as styles . . . . . *Silene*

21. Styles 5, rarely 4 or 6; capsules opening by as many valves or teeth as styles.

22. Calyces glandular, often inflated in fruit; inflorescences usually one to few flowered, never contracted; plants never tomentose . . . . . *Silene*

22. Calyces glabrous or hairy, eglandular, never inflated; inflorescences usually many-flowered and densely contracted, or, if few flowered then plants densely tomentose . . . . . *Lychnis*

ARENARIA

1. Plants annuals, ascending, not mat-forming or tufted . . . . . *A. serpyllifolia*

1. Plants perennials, mat-forming.

2. Stems 2-4 cm tall, with 1-2 pairs of leaves; flowers solitary . . . . . *A. longipedunculata*

2. Stems 10-20 cm tall, with 2-5 pairs of leaves; flowers several in a branching inflorescence . . . . . *A. capillaris*

***Arenaria capillaris* Poir. ssp. *americana* Maquire** (*A. capillaris* var. *americana* [Maquire] R.J. Davis)
Thread-leaved sandwort
Habitat/Range: Dry, open areas and meadows from the steppe vegetation to alpine zones; common in SC and SE BC, rare on Vancouver Island; E to AB and S to MT, NV and N OR.

***Arenaria longipedunculata* Hult.**

Low sandwort

Habitat/Range: Moist gravelly sites in the subalpine and alpine zones; rare, known only from Mt. Robson Provincial Park; E to AB and N to AK, YT and NT.

Notes: Often treated as *A. humifusa* Wahl.

***Arenaria serpyllifolia* L.**

Thyme-leaved sandwort

Habitat/Range: Dry roadsides and disturbed areas; common in S BC; introduced from Eurasia.

CERASTIUM

1. Leaves and stems densely white-tomentose . . . . . *C. tomentosum*
1. Leaves and stems never tomentose.
    2. Plants native perennials; petals longer than the sepals.
        3. Leaves linear to lance-linear, oblong or narrowly elliptical, (sometimes broader above); sterile branches arising in most leaf axils; bracts of the inflorescence scarious-margined . . . . . *C. arvense*
        3. Leaves broader, lanceolate to elliptical, oblong or oblanceolate; sterile branches absent, or present only in the lowermost leaf axils; bracts of the inflorescence not or only slightly scarious-margined.
            4. Stems coarse, 1-1.5 mm in diameter, yellowish-hirsute; pedicels reflexed in fruit, yellowish-hirsute . . . . . *C. fischerianum*
            4. Stems slender, less than 1 mm in diameter, not yellowish-hirsute; pedicels not reflexed in fruit, not yellowish-hirsute . . . . . *C. beeringianum*
    2. Plants either annuals or introduced biennials or perennials; petals equal or subequal to the sepals.
        5. Flowers more or less glomerate; pedicels shorter than the sepals . . . . . *C. glomeratum*
        5. Flowers not glomerate; pedicels conspicuously longer than the sepals.
            6. Sepals nearly 1 mm longer than the shallowly retuse petals, broadly scarious margined . . . . . *C. semidecandrum*
            6. Sepals slightly, if at all, longer than the more or less bilobed petals, not broadly scarious margined.
                7. Plants native annuals, ascending to erect, not matted; pedicels and calyces generally glandular-pilose . . . . . *C. nutans*
                7. Plants introduced biennials or perennials, more or less matted; pedicels and calyces generally hirsute, seldom glandular . . . . . *C. fontanum*

***Cerastium arvense* L.**

Field chickweed

Habitat/Range: Coastal cliffs and rocky, gravelly open areas in all vegetation zones; common throughout B.C.; circumpolar, N to AK, YT and NT, E to NF and S to NE, GA, NM and CA; Eurasia.

Notes: Highly variable, often confused with *C. beeringianum*.

***Cerastium beeringianum* Cham. & Schlecht.** (*C. beeringianum* var. *capillare* Fern & Wieg. = ssp. *earlei*)

Bering or alpine chickweed

Habitat/Range: Dry slopes and cliffs in the upper subalpine and alpine zones; common E of the Coast-Cascade Ranges, rare on Vancouver Island; circumpolar, N to AK, YT and NT, E to NF and S to UT, CO, AZ and CA; Asia.

Notes: Sometimes confused with *C. fischerianum* where their ranges overlap. Two subspecies occur in BC.

1. Pedicels with very fine, short glandular hairs; plants of S BC . . . . . ssp. *earlei* (Rydb.) Hult.

1. Pedicels with long glandular hairs, plants of N BC . . . . . ssp. *beeringianum*

***Cerastium fischerianum* Ser. in DC.**

Fisher's chickweed

Habitat/Range: Gravelly shores and open hillsides in the lowland zone; rare on N Vancouver Island and the Queen Charlotte Islands; amphiberingian, N to AK.

***Cerastium fontanum* Baumg. ssp. *triviale* (Link) Jalas** (*C. vulgatum* L.)

Mouse-ear chickweed

Habitat/Range: Roadsides, waste places, gardens and fields in the lowland, steppe vegetation and lower montane zones; common in all but NC and NE BC; introduced from Eurasia.

***Cerastium glomeratum* Thuill.** (*C. viscosum* auct. non L.)

Sticky chickweed

Habitat/Range: Roadsides, waste places, lawns and pastures in the lowland, steppe vegetation and lower montane zones; common in SW BC, rare elsewhere in S BC and the Queen Charlotte Islands; introduced from Eurasia.

***Cerastium nutans* Raf.**

Nodding chickweed

Habitat/Range: Moist to mesic sites in the steppe vegetation and lower montane zones; infrequent in SC BC, rare in the Peace River area; N to S AK and S NT, E to PQ and NS, and S to SC, FL, UT, TX, AZ and OR.

***Cerastium semidecandrum* L.**

Little chickweed

Habitat/Range: Roadsides and fields in the lowland zone; rare on S Vancouver Island and lower Fraser Valley; introduced from Eurasia.

***Cerastium tomentosum* L.**

Snow-in-summer, or dusty miller

Habitat/Range: Disturbed sites in the lowland zone; rare garden escape on SE Vancouver Island; introduced from Europe.

CORRIGIOLA

***Corrigiola litoralis* L.**

Strapwort

Habitat/Range: Waste places in the lowland zone; rare, known only from Vancouver and Langley; introduced from Europe.

DIANTHUS

1. Leaves 1.5-2 cm wide; plants glabrous . . . . . *D. barbatus*

1. Leaves narrower, less than 0.8 mm wide; plants usually pubescent.

   2. Flowers all or nearly all solitary; plants scabrid-puberulent . . . . . *D. deltoides*

   2. Flowers in dense terminal clusters or cymes; plants usually more or less crisp-pubescent . . . . . *D. armeria*

***Dianthus armeria* L.**
Deptford Pink
Habitat/Range: Waste places in the lowland, steppe vegetation and montane zones; rare garden escape in extreme S BC; introduced from Eurasia.

***Dianthus barbatus* L.**
Sweet William
Habitat/Range: Waste places in the lowland, steppe vegetation and montane zones; rare garden escape in S BC; introduced from Eurasia.

***Dianthus deltoides* L.**
Maiden pink
Habitat/Range: Waste places in the lowland, steppe vegetation and montane zones; rare garden escape in S BC; introduced from Eurasia.

GYPSOPHILA

***Gypsophila paniculata* L.**
Baby's breath
Habitat/Range: Roadsides, fields and waste places in the steppe vegetation and lower montane zones; infrequent garden escape in SC and SE BC; introduced from Eurasia.

HOLOSTEUM

***Holosteum umbellatum* L.**
Umbellate chickweed
Habitat/Range: Dry sites in the steppe vegetation zone; frequent in SC BC, also known from the Saanich Peninsula; introduced from Eurasia.

HONKENYA

***Honkenya peploides* (L.) Ehrhart ssp. *major* (Hook.) Hult.** (*Arenaria peploides* L. var. *major* Hook., *Honkenya peploides* var. *major* [Hook.] Abrams)
Seabeach sandwort
Habitat/Range: Moist sandy beaches and grassy shorelines in the lowland zone; common along the coast; N to AK, YT and NT and S to NW OR.

LYCHNIS

***Lychnis coronaria* (L.) Desr. in Lam.**
Rose campion
Habitat/Range: Roadsides and waste places in the lowland zone; frequent garden escape on S Vancouver Island, the Gulf Islands and the lower Fraser Valley; introduced from Europe.

MINUARTIA

1. Sepals oblong, rounded to obtuse at apex.

    2. Flowering stems more than 3 cm tall; sepals more than 4 mm long; petals obovate or spatulate, usually much longer than the sepals . . . . . *M. obtusiloba*

2. Flowering stems less than 3 cm tall; sepals less than 4 mm long; petals narrowly oblong, usually not much longer than the sepals . . . . . *M. biflora*

1. Sepals acuminate, acute.

3. Plants glabrous.

4. Annuals, rare on S Vancouver Island . . . . . *M. pusilla*

4. Perennials, rare to frequent in NE and SE BC.

5. Flowers several, in a loose inflorescence . . . . . *M. dawsonensis*

5. Flowers solitary.

6. Sepals purple, weakly 3-nerved; petals as long as sepals, rarely absent; rare in NE BC . . . . . *M. elegans*

6. Sepals green, strongly 3-nerved; petals shorter than sepals, usually absent; frequent in SE BC . . . . . *M. austromontana*

3. Plants glandular-pubescent.

7. Annuals, 1.0-2.5 cm tall, not at all matted . . . . . *M. tenella*

7. Perennials, 0.3-1.0 (rarely 1.5) cm tall, usually low and matted.

8. Leaves mostly 8-10 mm long, about 1 mm wide, often curved; sepals 4-6 mm long, obscurely 3-nerved; seeds about 1.5 mm long . . . . . *M. nuttallii*

8. Leaves generally shorter, narrower, not curved; sepals 2-4 mm long; strongly 3-nerved; seeds less than 1.0 mm long . . . . . *M. rubella*

***Minuartia austromontana* Wolf & Packer**

Rocky Mountain sandwort

Habitat/Range: Dry calcareous alpine slopes; rare in extreme SE BC; E to AB and S to WY, UT and NE OR.

Notes: Collections of this species were previously identified as *M. rossii* ssp. *columbiana* (*M. elegans*) (Wolf *et al.* 1979).

***Minuartia biflora* (L.) Schinz & Thell.** (*Arenaria sajanensis* Willd. ex Schlecht.)

Mountain sandwort

Habitat/Range: Dry, gravelly to rocky, calcareous alpine slopes; rare SE BC; N to AK, YT and NT and E to PQ.

***Minuartia dawsonensis* (Britt.) House** (*Arenaria dawsonensis* Britt., *A. stricta* Michx. var. *dawsonensis* [Britt.] Scog.)

Rock sandwort

Habitat/Range: Moist to mesic forest openings and meadows in the montane and subalpine zones; frequent in NE BC; N to AK, YT and NT and E to PQ.

***Minuartia elegans* (Cham. & Schlecht.) Schischk.** (*Arenaria elegans* Cham. & Schlecht., *A. rossii* R. Br. var. *columbiana* [Raup] Maguire, *A. rossii* ssp. *elegans* [Cham. & Schlecht.] Maguire, *Minuartia rossii* [R. Br.] Graebn. var. *orthotrichoides* [Schischk.] Hult.)

Northern sandwort

Habitat/Range: Moist alpine slopes; rare in NE BC; amphiberingian, N to AK, YT and NT and E to W AB.

Minuartia nuttallii* (Pax) Brig. ssp. *nuttallii (*Arenaria nuttallii* Pax)

Nuttall's sandwort

Habitat/Range: Dry, open sites from the steppe vegetation to the alpine zones; infrequent in S BC; E to AB and S to WY, UT and OR.

***Minuartia obtusiloba* (Rydb.) House** (*Arenaria obtusiloba* [Rydb.] Fern.)
Alpine sandwort
Habitat/Range: Dry gravelly slopes and meadows in the subalpine and alpine zones; common in S BC east of the Coast-Cascade Mountains; N to AK, YT and NT, E to W AB and S to ID, NM and NE OR.

***Minuartia pusilla* (S. Wats.) Mattf.** (*Arenaria pusilla* S. Wats.)
Dwarf sandwort
Habitat/Range: Coastal rock cliffs; rare, known only from a single locality on S Vancouver Island; S to AZ and NW CA.

***Minuartia rubella* (Wahl.) Hiern** (*Arenaria rubella* [Wahl.] Sm.)
Boreal sandwort
Habitat/Range: Dry sandy or gravelly sites in the subalpine and alpine zones; common throughout BC except the Queen Charlotte Islands; circumpolar, N to AK, YT and NT, E to NF and S to NM, NV and CA.

***Minuartia tenella* (Nutt. in T.& G.) Mattf.** (*Arenaria stricta* Michx. ssp. *macra* [A. Nels. & J.F. Macbr.] Maguire, *A. stricta* var. *puberulenta* [Peck] C.L. Hitchc., *A. tenella* Nutt. in T.& G.)
Slender sandwort
Habitat/Range: Mesic to dry coastal bluffs and open sites in the lowland and montane zones; common in SW BC, rare E of the Coast-Cascade Mountains; S to N OR.

MOEHRINGIA

1. Leaves acute, essentially glabrous; sepals acute or acuminate . . . . . *M. macrophylla*

1. Leaves mostly rounded to obtuse, usually minutely pubescent; sepals oblong, rounded . . . . . *M. lateriflora*

***Moehringia lateriflora* (L.) Fenzl** (*Arenaria lateriflora* L.)
Blunt-leaved sandwort
Habitat/Range: Moist to dry forests and meadows in the lowland, steppe vegetation and montane zones; common E of the Coast-Cascade Mountains, rare on the Queen Charlotte Islands; N to AK, YT and NT, E to NF and S to PA, NM and CA.

***Moehringia macrophylla* (Hook.) Fenzl** (*Arenaria macrophylla* Hook.)
Big-leaved sandwort
Habitat/Range: Moist to dry forests and rocky slopes in the lowland, steppe vegetation and montane zones; common in extreme S BC, rare northward to 55°N; N to NT, E to PQ and S to NM and CA.

MOENCHIA

Moenchia erecta* (L.) Gaertn., Mey. & Scherb. var. *erecta
Upright chickweed
Habitat/Range: Dry, grassy sites in the lowland zone; rare, known from several collections in the Victoria area; introduced from Europe.

MYOSOTON

***Myosoton aquaticum* (L.) Moench** (*Stellaria aquatica* [L.] Scop., *Malachium aquaticum* [L.] Fries)
Water chickweed
Habitat/Range: Moist shorelines and mesic meadows in the lowland zone; infrequent on S Vancouver Island and the lower Fraser Valley; introduced from Europe.

PETRORHAGIA

***Petrorhagia saxifraga* (L.) Link** (*Tunica saxifraga* [L.] Scop.)
Tunic flower
Habitat/Range: Roadsides and waste places; rare garden escape, known only from Prince George; introduced from Europe.

POLYCARPON

***Polycarpon tetraphyllum* (L.) L.**
Four-leaved all-seed
Habitat/Range: Roadsides and waste places; rare, known only from Victoria; introduced from Europe.

SAGINA[20]

1. Flowers 5-merous; leaves succulent; seeds reniform or nearly globose, lacking a dorsal groove.
    2. Seeds dark brown, distinctly tuberculate . . . . . *S. japonica*
    2. Seeds reddish-brown, smooth to slightly pebbled . . . . . *S. maxima*
1. Flowers 4- or 5-merous; leaves not succulent, or if so then flowers predominantly 4-merous; seeds obliquely triangular, dorsal groove present.
    3. Plants annual; stems capillary, upper cauline leaves subulate, becoming shorter toward apex of stem . . . . . *S. decumbens*
    3. Plants perennial; stems not capillary, upper cauline leaves linear to linear-subulate or if subulate then plants caespitose.
        4. Plants caespitose, forming low cushions, cauline leaves subulate; sepal margins purple . . . . . *S. nivalis*
        4. Plants ascending, spreading, procumbent or mat-forming, rarely caespitose, except in some alpine plants, cauline leaves linear to linear-subulate; sepal margins green or white.
            5. Flowers 4-merous, sometimes with some 5-merous flowers; petals less than 1 mm long, sometimes absent; sepals divergent at time of capsule dehiscence . . . . . *S. procumbens*
            5. Flowers 5-merous; petals more than 1 mm long; sepals appressed or at least loosely appressed at time of capsule dehiscence . . . . . *S. saginoides*

***Sagina decumbens* (Ell.) T.& G. ssp. *occidentalis* (S. Wats.) Crow** (*S. occidentalis* S. Wats.)
Western pearlwort
Habitat/Range: Margins of vernal pools, mesic forest openings and dry hillsides in the lowland zone; rare in SW BC; S to CA.

***Sagina japonica* (Sw.) Ohwi**
Japanese pearlwort
Habitat/Range: Dry sites and waste places in the lowland zone; rare, known only from Prince Rupert and Nanaimo; introduced from E. Asia.

***Sagina maxima* A. Gray** (*S. crassicaulis* S. Wats. = ssp. *crassicaulis*)
Coastal pearlwort
Habitat/Range: Mesic to dry rocky or sandy bluffs and gravelly beaches in the lowland zone; common in coastal BC; amphiberingian, ssp. *maxima* ranges S to N WA and ssp. *crassicaulis* S to CA.
Notes: Two subspecies occur in BC.

[20] Key adapted from Crow (1978).

1. Plants glandular above . . . . . ssp. *maxima*

1. Plants glabrous . . . . . ssp. *crassicaulis* (S. Wats.) Crow

***Sagina nivalis* (Lindbl.) Fries** (*S. intermedia* Fenzl)
Snow pearlwort
Habitat/Range: Moist to mesic sites in the lowland, montane, subalpine and alpine zones; rare, known only from Morfee Mountain in N BC; N to AK, YT and NT and E to PQ.

***Sagina procumbens* L.**
Bird's-eye pearlwort
Habitat/Range: Wet to moist roadsides, lawns, sea cliffs and pond margins in the lowland and steppe vegetation zones; common in SW BC, less frequent northward along the coast and in SC BC; N to AK, E to NF and S to AR, UT, CA and MX.

***Sagina saginoides* (L.) Karst.**
Arctic pearlwort
Habitat/Range: Wet to moist pond margins, streamsides and meadows from the lowland to the alpine zones; common in S BC, rare northward; N to AK, YT and NT, E to PQ and S to NM, AZ, CA and MX.

SAPONARIA

***Saponaria officinalis* L.**
Bouncing-bet, soapwort
Habitat/Range: Roadsides and waste places in the lowland, steppe vegetation and montane zones; infrequent in SW and SC BC; introduced from Eurasia.

SCLERANTHUS

***Scleranthus annuus* L.**
Annual knawel
Habitat/Range: Roadsides and waste places in the lowland, steppe vegetation and montane zones; infrequent in S BC; introduced from Eurasia.

SILENE[21]

1. Calyces glabrous.
    2. Plants cushion-forming, less than 1 dm tall . . . . . *S. acaulis*
    2. Plants taller, not cushion-forming, more than 1 dm tall.
        3. Petals white, 2-cleft.
            4. Calyces 15-20 mm long, inflated, prominently net-veined above the middle . . . . . *S. vulgaris*
            4. Calyces 8-12 mm long, not inflated, obscurely net-veined above the middle . . . . *S. cserei*
        3. Petals white, pink, rose or lavender, not 2-cleft.
            5. Petals white to pink; stems slender, the upper part usually with dark glutinous bands below the nodes, otherwise glabrous above; calyces 4-10 mm long . . . . . *S. antirrhina*
            5. Petals pink to rose or lavender; stems relatively stout, without glutinous bands, glabrous to sparsely puberulent above; calyces 12-17 mm long . . . . . *S. armeria*

[21] Key adapted from Hitchcock and Cronquist (1973).

1. Calyces pubescent.
    6. Plants introduced annuals; styles 3.
        7. Inflorescences cymose, the flowers 2 or more at each node; petal blades 2-cleft less than half their length ..... *S. noctiflora*
        7. Inflorescences falsely racemose, the flowers solitary at each node; petal blades mostly entire or 2-cleft more than half their length.
            8. Petal blades entire or shallowly notched at the apex, the basal appendages about 1 mm long and linear ..... *S. gallica*
            8. Petal blades bilobed more than half their length, the basal appendages about 0.2 mm long and rounded ..... *S. dichotoma*
    6. Plants native or introduced biennials or perennials; styles 4 or 5 or if 3 then plants native perennials.
        9. Flowers usually solitary, purplish or rarely pinkish.
            10. Petals included or slightly exserted; flowers nodding in bud ..... *S. uralensis*
            10. Petals well exserted; flowers erect or spreading in bud ..... *S. involucrata*
        9. Flowers 3 or more (rarely solitary in *S. taimyrensis*), white, pinkish or greenish or sometimes purplish-tinged.
            11. Petals with prominent lateral teeth on each blade lobe.
                12. Leaves 6-20 cm long, the cauline ones consisting of 3-12 pairs (rarely 1 or 2), progressively reduced upwards ..... *S. scouleri*
                12. Leaves 3-8 cm long, the cauline ones consisting of 2-3 pairs, not greatly reduced upwards ..... *S. parryi*
            11. Petals without prominent lateral teeth on each blade lobe.
                13. Petals included or slightly exserted, not bilobed ..... *S. drummondii*
                13. Petals well exserted, bilobed.
                    14. Calyces usually less than 1 cm long.
                        15. Styles 3 or sometimes 4; plants of S BC ..... *S. menziesii*
                        15. Styles 5; plants of NW BC ..... *S. taimyrensis*
                    14. Calyces more than 1 cm long.
                        16. Plants stout, erect; calyx teeth rounded; petal blade appendages triangular, erose; flowers imperfect (the plants dioecious).
                            17. Flowers white ..... *S. alba*
                            17. Flowers red or pink ..... *S. dioica*
                        16. Plants caespitose, often matted; calyx teeth acute to attenuate; petal blade appendages oblong or ovate; flowers perfect.
                            18. Capsules 3-celled (rarely 4-celled) nearly to the tip; calyces white to pink or purple, strongly hirsute and more or less glandular ..... *S. repens*
                            18. Capsules 1-celled; calyces creamy-white, greenish, pink, or purplish tinged, eglandular or sparsely glandular-puberulent *S. douglasii*

***Silene acaulis* (L.) Jacq.** (*S. acaulis* var. *exscapa* [All.] DC. = var. *acaulis*)
Moss campion
Habitat/Range: Mesic to dry meadows and cliffs in the alpine zone; common throughout BC, absent from the Queen Charlotte Islands; circumpolar, N to AK, YT, and NT, E to NF and S to AZ, NM, NV and OR.
Notes: Two varieties occur in BC.

1. Calyces 4-7 mm tall ..... var. *acaulis*
1. Calyces 6-11 mm tall ..... var. *subcaulescens* (F.N. Williams) Fern. & St. John

***Silene alba* (P. Mill.) Krause in Sturm** (*Lychnis alba* P. Mill., *L. loveae* Boivin; *Melandrium album* [P. Mill.] Garcke)
White cockle or campion
Habitat/Range: Roadsides, fields and waste places in the lowland, steppe vegetation and montane zones; infrequent in SW BC; introduced from Europe.
Notes: Hybrids between *S. alba* and *S. dioica* have been collected in the lower Fraser Valley and N to Prince George (McNeill 1978).

***Silene antirrhina* L.**
Sleepy catchfly
Habitat/Range: Roadsides, fields and open forests in the lowland, steppe vegetation and montane zones; common in S BC; E to PQ and NB and S to TX, AZ, NM and MX.

***Silene armeria* L.**
Sweet William catchfly
Habitat/Range: Roadsides and fields in the lowland zone; infrequent garden escape on S Vancouver Island and the lower Fraser Valley; introduced from Europe.

***Silene cserei* Baumg.**
Biennial campion
Habitat/Range: Roadsides and waste places in the steppe vegetation and montane zones; rare in SC and SE BC, also known from Prince George; introduced from Europe.

***Silene dichotoma* Ehrh.**
Forked catchfly
Habitat/Range: Roadsides, fields and waste places in the steppe vegetation and montane zones; rare in SE BC; introduced from Eurasia.

***Silene dioica* (L.) Clairville** (*Lychnis dioica* L., *Melandrium dioicium* [L.] Cosson & Germ.)
Red campion
Habitat/Range: Open forests in the lowland zone; rare in the lower Fraser Valley; introduced from Eurasia.
Notes: See *S. alba* for discussion of hybridization.

Silene douglasii* Hook. var. *douglasii
Douglas' campion or silene or catchfly
Habitat/Range: Dry open sites in the lowland, steppe vegetation and montane zones; common in S BC; S to MT, VT, NV and CA.

Silene drummondii* Hook. var. *drummondii (*Lychnis drummondii* [Hook.] S. Wats., *Melandrium drummondii* [Hook.] Hult.)
Drummond's campion
Habitat/Range: Dry sites in the steppe vegetation and alpine zones; rare at scattered locations through BC east of the Coast-Cascade Mountains; E to S MB and S to NE, CO, AZ and OR.

***Silene gallica* L.**

Small-flowered catchfly

Habitat/Range: Roadside and waste places; common on SE Vancouver Island, the Gulf Islands and the adjacent mainland; introduced from Europe.

Silene involucrata* (Cham. & Schlecht.) Bocquet ssp. *involucrata (*Lychnis furcata* [Raf.] Fern., *Silene furcata* Raf.)

Arctic campion

Habitat/Range: Meadows and rocky cliffs in the alpine zone; rare, known only from Nevis Creek in NE BC; N to AK, YT and NT, E to SW AB and PQ.

***Silene menziesii* Hook.**

Menzies' campion or silene or catchfly

Habitat/Range: Mesic meadows and open forests in the lowland, steppe vegetation and montane zones; common in S BC; N to AK, YT and NT, E to MB and S to NM and CA.

Notes: Two varieties occur in BC.

1. Stems densely pubescent with eglandular hairs below . . . . . var. *menziesii*

1. Stems densely villous or pilose with spreading, glandular hairs . . . . . var. *viscosa* (Greene) C.L. Hitchc. & Maguire

***Silene noctiflora* L.** (*Melandrium noctiflorum* [L.] Fries)

Night-flowering catchfly, or sticky cockle

Habitat/Range: Waste places and cultivated fields in the lowland, steppe vegetation and montane zones; common in S BC, rare on the Queen Charlotte Islands; introduced from Europe.

***Silene parryi* (S. Wats.) C.L. Hitchc. & Maguire**

Parry's campion or catchfly

Habitat/Range: Mesic to dry meadows and open forests from the montane to alpine zones; common in SC and SE BC; E to AB and S to WY.

***Silene repens* Patrin ex Pers.**

Pink campion

Habitat/Range: Dry meadows and open forests from the montane to alpine zones; rare, known from only a few stations in BC east of the Coast-Cascade Ranges; circumpolar, N to AK, YT and NT and S to MT and WY; Eurasia.

***Silene scouleri* (Eastw.) C.L. Hitchc. & Maguire** (*S. grandis* Eastw., *S. pacifica* Eastw. and *S. scouleri* var. *pacifica* [Eastw.] C.L. Hitchc. = ssp. *grandis*)

Scouler's campion or catchfly

Habitat/Range: Dry gravelly sites in the lowland and steppe vegetation zones; rare on Vancouver Island and the Gulf Islands (ssp. *grandis*) and infrequent in SC BC (ssp. *scouleri*); S to MT, NM, AZ and CA.

Notes: Two subspecies occur in BC.

1. Leaves less than 15 mm wide, the cauline ones usually 4-6 pairs; plants mostly of SC BC . . . . . ssp. *scouleri*

1. Leaves, or at least some of them, more than 15 mm wide, the cauline ones usually 3-11 pairs; plants of coastal BC . . . . . ssp. *grandis* (Eastw.) C.L. Hitchc. & Maquire

***Silene taimyrensis* (Tolm.) Bocquet** (*Lychnis triflora* R. Br. ex Sommerf., *L. dawsonii* [B.L. Robins.] J.P. Andrs., *Melandrium ostenfeldii* Pors., *M. taimyrensis* Tolm., *Silene sorensensis* [Boivin] Boquet)

Taimyr campion

Habitat/Range: Dry open, calcareous sites from the montane to alpine zones; rare, known only from the Dease Lake area in NW BC; N to AK, YT and NT and E to Greenland.

***Silene uralensis* (Rupr.) Bocquet ssp. *attenuata* (Farr) McNeill** (*Lychnis apetala* L. ssp. *attenuata* [Farr] Maguire, *L. apetala* var. *attenuata* [Farr] C.L. Hitchc.)
Apetalous campion
Habitat/Range: Mesic to dry riverbanks, talus slopes and meadows from the montane to alpine zones; infrequent, scattered throughout N and E BC; circumpolar, N to AK, YT and NT and E to AB.

***Silene vulgaris* (Moench) Garcke** (*S. cucubalus* Wibel, *S. cucubalus* var. *latifolia* [P. Mill.] G. Beck, *S. latifolia* [P. Mill.] Britt. & Rendle)
Bladder campion
Habitat/Range: Roadsides, fields and waste places; common in S BC; introduced from Eurasia.

SPERGULA

***Spergula arvensis* L.**
Corn-spurry, or stickwort
Habitat/Range: Fields and waste places; common in SW BC, rare elsewhere in S BC; introduced from Eurasia.

SPERGULARIA

1. Stamens 6-10; sepals densely glandular-pubescent.
    2. Seeds dark, reddish brown, nearly smooth, usually surrounded with a thin, white wing; sepals more than 5 mm long; plants native perennials . . . . . *S. macrotheca*
    2. Seeds dark brown, finely reticulate and papillate, wingless; sepals 5 mm long, or less; plants introduced annuals . . . . . *S. rubra*
1. Stamens 2-5; sepals glabrous to moderately glandular-pubescent.
    3. Leaves blunt; seeds usually wing-margined, 0.8-1.1 mm long . . . . . *S. canadensis*
    3. Leaves abruptly mucronate; seeds wingless, 0.6-0.9 mm long . . . . . *S. marina*

***Spergularia canadensis* (Pers.) G. Don**
Canadian sand-spurry
Habitat/Range: Coastal mud flats and tidelands; common in coastal BC; var. *canadensis* ranges N to AK and along the Atlantic Coast, var. *occidentalis* ranges S to N CA.
Notes: Two sometimes poorly defined varieties occur in BC.

1. Plants prostrate or decumbent; plants occurring N of Vancouver Island . . . . . *var. canadensis*
1. Plants erect or strongly ascending; plants of Vancouver Island and southward . . . . . var. *occidentalis* Rossbach

***Spergularia macrotheca* (Hornem.) Heynh.**
Beach sand-spurry
Habitat/Range: Salt marshes and sandy, coastal beaches; rare on SE Vancouver Island and adjacent Gulf Islands; S to CA and MX.

***Spergularia marina* (L.) Griseb.**
Salt marsh sand-spurry
Habitat/Range: Coastal mudflats and tidelands or inland alkaline or saline ponds; common in SW BC, rare northward; introduced from Eurasia.

***Spergularia rubra* (L.) J. & C. Presl**

Red sand-spurry

Habitat/Range: Gardens, disturbed sites and waste places; common in S BC, rare northwards; introduced from Europe.

STELLARIA[22]

1. Leaves linear to lanceolate, usually sessile.
    2. Petals rudimentary or absent, less than half the length of the 2-3 mm sepals; stems and pedicels slender; flowers cymose . . . . . *S. umbellata*
    2. Petals usually more than half the length of the more than 3 mm long sepals; stems and pedicels stouter; flowers axillary or cymose.
        3. Flowers axillary, not cymose; petals at least as long as the sepals.
            4. Leaves linear or linear-lanceolate, sharply acute, stiff; sepals strongly 3-nerved . . . . . *S. longipes*
            4. Leaves linear-lanceolate to oblong, acute or obtuse not stiff; sepals lightly 1- or 3-nerved.
                5. Sepals 3.5-5 mm long at anthesis, lightly 3-nerved, longer than the capsule; leaves fleshy; plants of coastal BC . . . . . *S. humifusa*
                5. Sepals 2-3 mm long at anthesis, lightly 1-nerved, shorter than the capsule; leaves thin; plants not coastal . . . . . *S. crassifolia*
        3. Flowers cymose, petals usually shorter than sepals.
            6. Cymes leafy-bracteate; petals shorter than the sepals, sometimes absent . . . . . *S. calycantha*
            6. Cymes either membraneous-bracteate or the petals longer than the sepals.
                7. Sepals usually prominently ciliate; capsules green, about equalling the calyces . . . . . *S. graminea*
                7. Sepals usually glabrous; capsules usually purplish, mostly longer than the calyces . . . . . *S. longipes*

1. Leaves, or at least the basal, broadly lanceolate, elliptic, oblong or obovate, at least some petiolate.
    8. Leaves, or at least the basal ones, long-petiolate.
        9. Stems decumbent, rooting nodally, pubescent in longitudinal lines . . . . . *S. media*
        9. Stems erect, more or less filiform, not rooting nodally, glabrous or uniformly crisp-pubescent . . . . . *S. nitens*
    8. Leaves sessile, subsessile or short-petiolate.
        10. Plants strongly glandular-pubescent above; petals much longer than the sepals . . . . . *S. americana*
        10. Plants glabrous or pubescent, never strongly glandular; petals often shorter than the sepals, sometimes absent.
            11. Stems pubescent, at least above . . . . . *S. simcoei*
            11. Stems glabrous.

[22] Key adapted from Hitchcock and Cronquist (1964).

12. Flowers single in the axils.

    13. Leaves usually glabrous, the margins minutely crisped; sepals acute . . . . . *S. crispa*

    13. Leaves ciliate at the base, the margins not crisped; sepals more or less obtuse . . . . . *S. obtusa*

12. Flowers in axillary or terminal cymes.

    14. Cymes leafy-bracteate; leaves linear-lanceolate to lanceolate; seeds slightly roughened . . . . . S. *calycantha*

    14. Cymes scarious-bracteate; leaves mostly oblong to oblanceolate; seeds strongly papillate-rugose . . . . . *S. alsine*

***Stellaria alsine* Grimm**

Bog starwort

Habitat/Range: Wet to mesic disturbed sites in the lowland and steppe vegetation zones; rare on SE Vancouver Island and SC BC; introduced from Eurasia.

***Stellaria americana* (Porter ex B.L. Robins.) Standley**

American starwort

Habitat/Range: Dry talus slopes in the subalpine and alpine zones; rare, known only from the Ashnola River Valley; E to AB and S to MT.

***Stellaria calycantha* (Ledeb.) Bong.** (*S. calycantha* var. *isophylla* [Fern.] Fern. = var. *bongardiana* [Fern.] Fern., *S. sitchana* Steud. = var. *sitchana*)

Northern starwort

Habitat/Range: Wet to moist sites in all but the subalpine and alpine zones; common throughout BC; circumpolar, N to AK, YT and NT, E to NF and S to NY, MI, VT, WY and CA.

Notes: Three, sometimes difficult to separate, varieties occur in BC.

1. Calyces mostly 2-2.7 mm long at anthesis; capsules 3-5 mm long; leaves ovate to lanceolate . . . . . var. *calycantha*

1. Calyces mostly 2.7-4.5 mm long at anthesis; capsules 4.5-7.5 mm long; leaves narrowly to broadly lanceolate.

    2. Flowers several in small, terminal, bracteate cymes . . . . . var. *sitchana* (Steud.) Fern.

    2. Flowers few in mostly axillary, leafy-bracteate cymes . . . . . var. *bongardiana* (Fern.) Fern.

***Stellaria crassifolia* Ehrh.**

Thick-leaved starwort

Habitat/Range: Wet to moist streambanks, meadows and lake shores in the montane zone; infrequent throughout BC east of the Coast-Cascade Mountains; circumpolar, N to AK, YT and NT, E to NF and S to MN, ND and CO; Eurasia.

***Stellaria crispa* Cham. & Schlecht.**

Crisp starwort or sandwort

Habitat/Range: Moist sites in the montane zone; common in S BC, infrequent northward; N to AK and YT, E to SW AB and S to WY and CA.

***Stellaria graminea* L.**

Grass-leaved starwort

Habitat/Range: Roadsides, gardens, lawns and disturbed sites; infrequent throughout BC; introduced from Eurasia.

***Stellaria humifusa* Rottb.**
Salt marsh starwort
Habitat/Range: Salt marshes, saline shores and meadows; infrequent on the Queen Charlotte Islands and Vancouver Island; circumpolar, N to AK, YT and NT, E to NF and S to OR; Eurasia.

***Stellaria longipes* Goldie** (*S. alaskana* Hult., S. *edwardsii* R. Br., *S. laeta* Richards., *S. longipes* var. *altocaulis* [Hult.] C.L. Hitchc., *S. longipes* var. *edwardsii* [R. Br.] A. Gray, *S. longipes* var. *laeta* [Richards.] S. Wats. in A. Gray, *S. longipes* var. *subvestita* [Greene] Pol., *S. monantha* Hult., *S. monantha* var. *altocaulis* Hult., *S. stricta* Richards., *S. subvestita* Greene)
Long-stalked starwort
Habitat/Range: Mesic to dry sites in all vegetation zones; common throughout BC; circumpolar, N to AK, YT and NT, E to NF and S to SD, NM, AZ and CA; Eurasia.
Notes: *Stellaria longipes* is best treated as a single, highly variable taxon (Chinnappa and Morton 1976, 1984). The key by Scoggan (1978) is available for those attempting to separate the numerous 'microspecies'.

***Stellaria media* (L.) Vill.**
Chickweed, or common starwort
Habitat/Range: Gardens and waste places; frequent in S BC; introduced from Eurasia.

***Stellaria nitens* Nutt. in T.& G.**
Shining starwort
Habitat/Range: Mesic to dry sites in the lowland, steppe vegetation and montane zones; frequent on S Vancouver Island and the Gulf Islands, rare E of the Coast-Cascade Mountains in S BC; E to SW AB and S to MT, VT, CA and MX.

***Stellaria obtusa* Engelm.**
Blunt-sepaled starwort
Habitat/Range: Wet to moist sites in the steppe vegetation and montane zones; rare E of the Coast-Cascade Mountains in S BC; N to S AK, E to AB and S to CO and CA.

***Stellaria simcoei* (Howell) C. L. Hitchc.** (*S. calycantha* ssp. *interior* Hutl., *S. calycantha* var. *simcoei* [Howell] Fern.)
Simcoe starwort
Habitat/Range: Moist to mesic sites in the montane zone; infrequent in S BC; N to AK and YT and S to ID, MT and CA.

***Stellaria umbellata* Turcz. ex Kar. & Kir.**
Umbellate starwort
Habitat/Range: Moist sites in the montane to alpine zones; rare throughout S BC; circumpolar, N to AK, E to AB and S to MT, CO and CA; Eurasia.

VACCARIA

***Vaccaria pyramidata* Medikus** (*Saponaria vaccaria* L., *Vaccaria segetalis* [Neck.] Garcke ex Aschers.)
Cow-basil, cowherb, or cow-cockle
Habitat/Range: Fields and waste places; rare in SC BC; introduced from Eurasia.

CELASTRACEAE

1. Leaves evergreen, 1-3 cm long; plants less than 1 m tall . . . . . *Pachistima*
1. Leaves deciduous, usually well over 3 cm long; plants 2-5 m tall . . . . . *Euonymus*

EUONYMUS

***Euonymus occidentalis* Nutt. ex Torr.**
Western wahoo
Habitat/Range: Mesic forests and thickets in the lowland and montane zones; rare, known only from Courtenay, Vancouver Island; S to CA.

PACHISTIMA

***Pachistima myrsinites* (Pursh) Raf.** (*Paxistima myrsinites* [Pursh] Wheeler)
Falsebox, mountain or Oregon boxwood, mountain-box, or mountain-lover
Habitat/Range: Mesic to dry sites in the lowland, steppe vegetation and montane zones; common in BC S of 56 N; E to SW AB and S to CA.
Notes: For a discussion of *Pachistima* versus *Paxistima* see Hitchcock *et al*. (1961).

CERATOPHYLLACEAE

CERATOPHYLLUM

1. Fruits wing-margined, with several lateral spines; leaf divisions fine, threadlike sometimes with fine teeth . . . . . *C. echinatum*

1. Fruits wingless, with only two basal spines; leaf divisions stout, stiff, with distinct teeth . . . . . *C. demersum*

***Ceratophyllum demersum* L.**
Common hornwort, or coontail
Habitat/Range: Ponds, lakes and slow-moving streams in the lowland, steppe vegetation and montane zones; common in S BC, less frequent northwards; N to AK, YT and NT, E to PQ, NS and NB and S to FL, TX, CA and MX.

***Ceratophyllum echinatum* A. Gray**
Spring hornwort
Habitat/Range: Lakes and sloughs in the lowland and montane zones; locally frequent on S Vancouver Island and the Gulf Islands, rare in the lower Fraser Valley and along the Alaska Highway; E to MI and ME and S to FL and MX.

CHENOPODIACEAE

1. Stems jointed; leaves reduced to small, appressed scales; flowers sunken in hollows or pits . . . . . *Salicornia*

1. Stems not jointed; leaves not scalelike; flowers not sunken.

    2. Leaves and bracts strongly spinulose at the tips; fruiting calyces broadly winged transversely . . . . . *Salsola*

    2. Leaves and bracts not spinulose; fruiting calyces usually not transversely winged.

        3. Leaves filiform to linear, linear-lanceolate or linear-oblong, entire, sessile.

            4. Calyx-lobes each terminating in a slender hooked dorsal spine . . . . . *Bassia*

4. Calyx-lobes without hooked dorsal spines.

5. Leaves thick and fleshy, terete or subterete in cross-section . . . . . *Suaeda*

5. Leaves relatively flat and non-fleshy.

6. Leaves finely ciliate; fruits convex . . . . . *Kochia*

6. Leaves not ciliate; fruits strongly flattened . . . . . *Corispermum*

3. Leaves broader, toothed or lobed (except *Axyris*), petiolate, at least below.

7. Leaves and stems stellate-pubescent, entire . . . . . *Axyris*

7. Leaves and stems not stellate-pubescent, toothed or lobed.

8. Perianths consisting of a single bractlike segment, smaller than the fruit and not enclosing it; seeds vertical . . . . . *Monolepis*

8. Perianths 3- to 5-lobed; fruit at least partially enclosed by the perianth or by large subtending bracts; seeds often horizontal.

9. Flowers mostly perfect or pistillate, or both, not enclosed between bractlets . . . . . *Chenopodium*

9. Flowers imperfect, the pistillate ones enclosed by 2 bractlets . . . . . *Atriplex*

ATRIPLEX

1. Plants copiously and permanently grayish-farinose, especially on the lower leaf surfaces and in the inflorescence.

2. Leaves usually toothed, whitish-gray . . . . . *A. rosea*

2. Leaves usually entire, grayish-green.

3. Bracteoles obovate, 4-8 mm long, deeply toothed . . . . . *A. argentea*

3. Bracteoles cuneate to oblong, 2.0-3.5 mm long, entire or undulating, never toothed . . . . . *A. truncata*

1. Plants soon green and glabrate, sometimes sparsely grayish farinose on the lower leaf surfaces and in the inflorescence but these still appearing green.

4. Bracteoles more or less thickened toward the base by the presence of spongy inner tissue . . . . . *A. subspicata*

4. Bracteoles relatively thin, herbaceous or membranous throughout.

5. Bractioles orbicular, entire, without lateral angles.

6. Seeds both horizontal and vertical; bracteoles subcordate or broadly rounded at the base, the veins merging above the base . . . . . *A. hortensis*

6. Seeds vertical; bracteoles shortly attenuate at the base, the veins merging only at the base . . . . . *A. heterosperma*

5. Bracteoles never orbicular, frequently toothed, usually with lateral angles.

7. Largest bracteoles ovate, ovate-triangular or rhombic.
    8. Largest bracteoles ovate or ovate-triangular, margins free to the base, lateral angles absent, loosely spaced in the inflorescence, of several sizes; upper leaves whitish below . . . . . *A. oblongifolia*
    8. Largest bracteoles rhombic, margins united almost to the middle, lateral angles present, densely compressed in the inflorescence, more or less uniform in size; upper leaves green below . . . . . *A. patula*
7. Largest bracteoles strap-shaped or ovate-lanceolate.
    9. Seeds 1.7-2.7 mm wide . . . . . *A. gmelinii*
    9. Seeds 2.8-3.7 mm wide . . . . . *A. alaskensis*

***Atriplex alaskensis* S. Wats.** (*A. patula* ssp. *alaskensis* [S. Wats.] Hall & Clem., *A. patula* var. *alaskensis* [S. Wats.] Welsh)
Alaskan orache
Habitat/Range: Moist to mesic shorelines in the lowland zone; rare, known only from the Queen Charlotte Islands; N to AK.

Atriplex argentea* Nutt. ssp. *argentea
Silvery orache
Habitat/Range: Saline habitats or disturbed sites and fields in the steppe vegetation and montane zones; rare in SC and SE BC; E to W MB and S to NM and N CA.

***Atriplex gmelinii* C.A. Mey. ex Bong.** (*A. patula* L. ssp. *obtusa* [Cham.] Hall & Clem., *A. patula* var. *obtusa* [Cham.] Peck, *A. patula* ssp. *zosterifolia* [Hook.] Hall & Clem., *A. patula* var. *zosterifolia* [Hook.] C.L. Hitchc.)
Gmelin's orache
Habitat/Range: Moist to mesic shorelines in the lowland zone; infrequent along the coast; N to AK.

***Atriplex heterosperma* Bunge**
Russian orache
Habitat/Range: Roads and waste places in the steppe vegetation zone; frequent in SC BC; introduced from Eurasia.

***Atriplex hortensis* L.**
Garden orache
Habitat/Range: Roadsides and waste places in the lowland, steppe vegetation and montane zones; infrequent garden escape in S BC; introduced from Asia.

***Atriplex oblongifolia* Waldst. & Kit.**
Oblong-leaved orache
Habitat/Range: Roadsides and waste places in the steppe vegetation and montane zones; rare in SC and SE BC; introduced from Eurasia.

***Atriplex patula* L.**
Common orache
Habitat/Range: Roadsides, waste places and gardens in the lowland, steppe vegetation and montane zones; rare in S BC; probably introduced from Eurasia.

***Atriplex rosea* L.**
Red or tumbling orache
Habitat/Range: Roadsides and disturbed sites in the steppe vegetation zone; infrequent in SC BC; introduced from Europe.

***Atriplex subspicata* (Nutt.) Rydb.** (*A. patula* ssp. *hastata* [L.] Hall & Clem. *pro parte*)
Saline orache
Habitat/Range: Saline and alkaline sites, roadsides and waste places in the lowland, steppe vegetation and montane zones; frequent in S BC; E to NF and S to NC and CA.
Notes: Narrow-leaved forms of *A. subspicata* are often mistakenly called *A. littoralis* L. (*A. patula* ssp. *littoralis* [L.] Hall & Clem.), an eastern species.

***Atriplex truncata* (Torr. in S. Wats.) A. Gray**
Wedgescalf orache
Habitat/Range: Roadsides, waste places and alkaline sites in the steppe vegetation and montane zones; infrequent in S BC east of the Coast-Cascade Mountains; E to SE SK and S to CO, UT and CA.

AXYRIS

***Axyris amaranthoides* L.**
Russian pigweed
Habitat/Range: Roadsides, fields and waste places in the steppe vegetation zone; infrequent in SC BC; introduced from Eurasia.

BASSIA

***Bassia hyssopifolia* (Pall.) O. Kuntze**
Five-hooked bassia
Habitat/Range: Roadsides and waste places in the steppe vegetation and montane zones; frequent in SC and SE BC; introduced from Eurasia.

CHENOPODIUM[23]

1. Plants usually glandular, strongly aromatic, not farinose ..... *C. botrys*

1. Plants eglandular, non-aromatic, often farinose.

    2. Seeds usually erect, the fruits laterally flattened; leaves large, triangular, often hastate, greenish on both surfaces, never farinose.

        3. Calyces becoming reddish and fleshy in fruit; glomerules more than 4 mm wide at maturity ..... *C. capitatum*

        3. Calyces not reddish and fleshy in fruit; glomerules less than 4 mm wide at maturity ..... *C. rubrum*

    2. Seeds mostly horizontal, the fruits flattened at the top, if seed vertical then seeds either farinose or not hastate.

        4. Plants usually prostrate or low and spreading; leaves green above, grayish-farinose below; at least some of the seeds usually vertical ..... *C. glaucum*

        4. Plants usually erect; leaves not grayish-farinose below, or if so, then the seeds all horizontal.

            5. Leaves linear to lanceolate, mostly entire.

                6. Leaves usually white-farinose below ..... *C. leptophyllum*

                6. Leaves sparsely farinose below ..... *C. atrovirens*

[23] Key adapted from Hitchcock *et al.* (1964).

5. Leaves broadly lanceolate, ovate-rhombic, or deltoid, shallowly to prominently toothed or lobed.

7. Leaves sparsely to densely farinose; sepals of the fruiting plants strongly keeled . . . . . *C. album*

7. Leaves glabrous; sepals of the fruiting plants not keeled.

8. Seed margins rounded, the surface apparently smooth although reticulately lined . . . . . *C. urbicum*

8. Seed margins sharply angled, the surface finely pitted . . . . . *C. hybridum*

***Chenopodium album* L.** (*C. strictum* Roth ssp. *glaucophyllum* [Aellen] Aellen in Aellen & Just = ssp. *striatum*)
Lamb's-quarters
Habitat/Range: Gardens, fields and waste places; common throughout BC except the Queen Charlotte Islands and adjacent coast; introduced from Eurasia.
Notes: The two subspecies recognized by Tutin (1964) for *C. album* both appear to be present in our flora.

1. Leaves lanceolate to rhombic-ovate, often acute, margins not always parallel; stems green or red . . . . . ssp. *album*

1. Leaves oblong, obtuse, margins more or less parallel; stems often red striped . . . . . ssp. *striatum* (Krasan) J. Murr in Urban & Graebn.

***Chenopodium atrovirens* Rydb.**
Dark lamb's-quarters
Habitat/Range: Saline or alkaline sites in the steppe vegetation zone; rare in SC BC; E to AB and S to MT and CA.

***Chenopodium botrys* L.**
Jerusalem-oak, or feather geranium
Habitat/Range: Roadsides, fields and waste places in the steppe vegetation and lower montane zones; common in SC BC; introduced from Eurasia.

***Chenopodium capitatum* (L.) Aschers.**
Strawberry-blite, or Indian paint
Habitat/Range: Disturbed areas and waste places in the lowland, steppe vegetation and montane zones; common throughout most of BC, rare W of the Coast-Cascade Mountains; N to AK, YT and NT, E to PQ and NS and S to PA, MN, NM and CA, also Eurasia, native status uncertain.

***Chenopodium glaucum* L.** (*C. glaucum* ssp. *salinum* [Standl.] Aellen, *C. glaucum* var. *salinum* [Standl.] Boiv., *C. glaucum* var. *pulchrum* Aellen, *C. salinum* Standl.)
Oak-leaved goosefoot
Habitat/Range: Roadsides, waste places and saline or alkaline sites in the steppe vegetation and montane zones; frequent in SC and SE BC; introduced from Eurasia.

***Chenopodium hybridum* L.** (*C. gigantospermum* Aellen in Fedde, *C. hybridum* var. *gigantospermum* [Aellen] Rouleau)
Maple-leaved goosefoot
Habitat/Range: Moist to dry forests and disturbed areas; frequent in SC and SE BC, rare northward to Dawson Creek; introduced from Eurasia.

***Chenopodium leptophyllum* (Moq.) S. Wats. var. *oblongifolium* S. Wats.** (*C. desiccatum* A. Nels., *C. oblongifolium* [S. Wats.] Rydb.)
Narrow-leaved goosefoot
Habitat/Range: Saline or alkaline sites in the steppe vegetation zone; rare in S BC; E to MB and S to MI, TX, MX and CA.

***Chenopodium rubrum* L.**
Red goosefoot, or coast-blite
Habitat/Range: Salt marshes or saline and alkaline sites in the lowland, steppe vegetation and lower montane zones; infrequent in S BC, rare northward to NE BC; circumpolar N to YT and NT, E to NF and S to MO, NE, NM, AZ, and CA.
Notes: Two, sometimes poorly defined, varieties occur in BC.

1. Stems prostrate, branched at the base, less than 2.5 dm tall . . . . . var. *humile* (Hook.) Wats.

1. Stems, erect, not branched at the base, over 2.5 dm tall . . . . . var. *rubrum*

***Chenopodium urbicum* L.**
Upright goosefoot
Habitat/Range: Disturbed sites and waste places; rare in S BC; introduced from Eurasia.

CORISPERMUM

***Corispermum hyssopifolium* L.** (*C. marginale* Rydb.)
Bugseed
Habitat/Range: Sandy habitats in the steppe vegetation zone; rare in SC BC; N to AK and NT, E to PQ and S to OK, IN and MX.

KOCHIA

***Kochia scoparia* (L.) Schrad.**
Summer-cypress
Habitat/Range: Waste places in the steppe vegetation zone; rare in SC BC; introduced from Eurasia.

MONOLEPIS

***Monolepis nuttalliana* (Roemer & Schultes) Greene**
Poverty weed, or Nuttall's monolepis
Habitat/Range: Roadsides, waste places, and saline and alkaline sites in the steppe vegetation and montane zones; frequent in SC and SE BC; introduced from the U.S.

SALICORNIA

1. Plants perennials with slender rhizomes, usually matted; central flowers in each cluster barely exceeding the lateral ones . . . . . *S. virginica*

1. Plants annuals, usually erect; central flowers in each cluster much exceeding the lateral ones . . . . . *S. europaea*

***Salicornia europaea* L.** (*S. rubra* A. Nels. = ssp. *rubra*)
European glasswort
Habitat/Range: Salt marshes, shorelines and saline and alkaline habitats in the lowland, steppe vegetation and montane zones; infrequent in S BC; circumboreal, N to AK, YT and NT, E to NF and S to GA, KS, NV and CA.
Notes: Two subspecies occur in BC.

1. Joints of the spikes mostly 2 (rarely 2.5) mm long and almost or quite as thick . . . . . ssp. *rubra* (A. Nels.) Breit.

1. Joints of the spikes 2.5-4 (rarely 2) mm long and about half as thick . . . . . ssp. *europaea*

***Salicornia virginica* L.** (*S. pacifica* Standl.)
American glasswort, or perennial saltwort
Habitat/Range: Salt marshes and beaches in the lowland zone; common along the coast in BC; N to SE AK and S to CA and MX, also along the Atlantic and Gulf of MX.

SALSOLA

***Salsola kali* L.**
Russian thistle, or tumbleweed
Habitat/Range: Roadsides, fields and waste places in the lowland, steppe vegetation and montane zones, frequent in S BC; introduced from Eurasia.

SUAEDA

***Suaeda calceoliformis* (Hook.) Moq.** (*S. americana* [Pers.] Fern., *S. depressa* sensu S. Wats. et auct. non Pursh, *S. maritima* [L.] Dumort. var. *americana* [Pers.] Boiv.)
Seablite, or pahute weed
Habitat/Range: Salt marshes, beaches and saline and alkaline habitats in the lowland, steppe vegetation and montane zones; common in SC and SE BC, rare along the coast; N to YT, E to NF and S to TX and CA.

CONVOLVULACEAE

1. Plants green; leaves relatively large, more or less hastate; flowers large, funnelform . . . . *Convolvulus*

1. Plants yellow to orange-brown; leaves reduced to minute scales; flowers small, not funnelform . . . . . *Cuscuta*

CONVOLVULUS

1. Leaves thick, fleshy, reniform, glabrous; restricted to coastal sand dunes . . . . . *C. soldanella*

1. Leaves thin, not fleshy, seldom reniform, glabrous to hairy; seldom, if ever, on coastal sand dunes.

   2. Bracts broad, often cordate, usually borne adjacent to the calyces and largely concealing it . . . . . *C. sepium*

   2. Bracts linear, often borne well below the calyces . . . . . *C. arvensis*

***Convolvulus arvensis* L.**
Field bindweed
Habitat/Range: Mesic to dry disturbed sites and waste places in the lowland, steppe vegetation and montane zones; common in S BC, rare northward to Dawson Creek; introduced from Eurasia.

***Convolvulus sepium* L.** (*Calystegia sepium* [L.] R. Br.)
Hedge bindweed, or wild morning-glory
Habitat/Range: Moist sites along streams and shores in the lowland and montane zones; common in SW BC, infrequent on the Queen Charlotte Islands, rare in NE and SE BC; introduced from E North America.

***Convolvulus soldanella* L.** (*Calystegia soldanella* [L.] R. Br.)
Beach bindweed, or beach morning-glory
Habitat/Range: Moist to mesic sand dunes; common along the coast; S to CA, also in the islands of the Pacific and Europe.

CUSCUTA

1. Stigmas attenuate, not capitate, capsules irregularly circumscissile near the base.
   2. Calyx lobes as broad as long, slightly fleshy; corolla tubes seldom longer than the calyces . . . . . *C. approximata*
   2. Calyx lobes longer than broad, membraneous; corolla tubes usually longer than the calyces . . . . . *C. epithymum*
1. Stigmas capitate; capsules not circumscissile.
   3. Flowers 4- (sometimes 3 or 5) merous, sessile, or nearly so; sepals free nearly to the base, unequal . . . . . *C. cephalanthii*
   3. Flowers 5- (sometimes 4) merous, pedicellate; sepals free to about half way to the base, nearly equal.
      4. Capsules depressed-globose, usually not at all beaked; stamens slightly exserted . . . . . *C. pentagona*
      4. Capsules globose-ovoid, somewhat beaked; stamens not exserted . . . . . *C. salina*

***Cuscuta approximata* Bab.**
Clustered or alfalfa dodder
Habitat/Range: Parasitic, especially on legumes, in the steppe vegetation or lower montane zone; rare in SC BC; introduced from Eurasia or Africa.

***Cuscuta cephalanthii* Engelm.**
Button-bush dodder
Habitat/Range: Parasitic on shrubs and subshrubs in the lowland zone; rare, known only from SW BC; S to OR, also Atlantic Coast, possibly introduced.

***Cuscuta epithymum* (L.) L.**
Common or thyme dodder
Habitat/Range: Parasitic, especially on legumes, in the lowland and steppe vegetation zones; infrequent in SW and SC BC; introduced from Eurasia.

***Cuscuta pentagona* Engelm.** (*Grammica pentagona* [Engelm.] Weber)
Field or five-angled dodder
Habitat/Range: Parasitic, especially on legumes, in the lowland zone; rare on S Vancouver Island; ranges over much of U.S. and Canada.

***Cuscuta salina* Engelm.** (*Grammica salina* [Engelm.] Taylor & MacBryde)
Salt marsh or alkali dodder
Habitat/Range: Parasitic on chenopodiaceous and asteraceous plants on saline sites in the lowland zone; locally frequent on S Vancouver Island, the Gulf Islands and the lower Fraser Valley; S to UT, AZ, CA and MX.

CORNACEAE

CORNUS

1. Flowers in open cymes; bracts inconspicuous; mature drupes white to somewhat bluish; plants medium to tall shrubs . . . . . *C. stolonifera*

1. Flowers in dense clusters; bracts large, showy, white, 4 or more; mature drupes red; plants either low herbs or medium-sized trees.

    2. Plants medium-sized trees; flowers sessile . . . . . *C. nuttallii*

    2. Plants low herbs; flowers short-pedicelled.

        3. Leaves sessile, elliptic, obtuse, lateral veins arising from the base of the leaf, or nearly so; petals and sepals dark purplish . . . . . *C. suecica*

        3. Leaves short-petioled, ovate-oblong to rhombic, acute or acutish, lateral veins arising from the midvein in the lower third of the leaf, petals and sepals usually yellowish or greenish, never dark-purplish . . . . . *C. canadensis*

***Cornus canadensis* L.**

Bunchberry, or Canadian bunchberry

Habitat/Range: Moist to mesic forests and openings in all but the alpine zone; common throughout BC; amphiberingian, N to AK, YT and NT, E to NF and S to MN, PA, NM and CA.

Notes: Hybrids between *C. canadensis* and *C. suecica* have been treated as either a variety of *C. canadensis* (var. *intermedia* Farr.) or as a separate species (*C. unalaschkensis* Ledeb.).

***Cornus nuttallii* Aud. ex T.& G.**

Western, flowering or Pacific dogwood

Habitat/Range: Mesic to dry sites in the lowland and montane zones; common in SW BC; S to CA, disjunct in ID.

***Cornus stolonifera* Michx.** (*C. sericea* L.)

Red-osier dogwood

Habitat/Range: Wet to mesic sites in forests and along streams and lakes in the lowland, steppe vegetation and montane zones; common throughout BC; N to AK, YT and NT, E to NF and S to WV, OH, NB, NM, CA and MX.

***Cornus suecica* L.**

Dwarf bog bunchberry

Habitat/Range: Moist to mesic sites from the lowland to the alpine zones; rare along the coast in BC; circumpolar, N to AK and NT and E to NF.

CRASSULACEAE

1. Plants perennials; flowers usually 5-merous; stamens usually 10 . . . . . *Sedum*

1. Plants annuals; flowers usually 4-merous; stamens 4 . . . . . *Crassula*

CRASSULA

1. Flowers solitary; carpels several-seeded . . . . . *C. aquatica*
1. Flowers clustered; carpels 1-2 seeded . . . . . *C. erecta*

***Crassula aquatica* (L.) Schoenl.** (*Tillaea aquatica* L.)
Pigmyweed
Habitat/Range: Vernal pools and mudflats in the lowland zone; rare, scattered through S BC; circumpolar, N to AK and NT and S to CA and MX.

***Crassula erecta* (H.& A.) Berger** (*Tillaea erecta* H.& A.)
Erect pigmyweed
Habitat/Range: Wet sites on coastal bluffs in the lowland zone; rare on S Vancouver Island and the Gulf Islands; S to AZ, CA and MX, Chile.

SEDUM

1. Flowers usually purple . . . . . *S. integrifolium*
1. Flowers usually yellow.
    2. Leaves of the flowering stems mainly opposite . . . . . *S. divergens*
    2. Leaves of the flowering stems alternate.
        3. Leaves usually broadest below midlength, tapering from midlength to the tip, or to both ends, either strongly keeled or more or less terete.
            4. Leaves strongly keeled, strongly acuminate, usually bearing bulbil-like propagules in the upper leaves . . . . . *S. stenopetalum*
            4. Leaves not strongly keeled, sometimes completely deciduous by anthesis, more or less terete, rarely bearing propagules in the upper leaves.
                5. Follicles divergent; leaves smooth, ovoid . . . . . *S. acre*
                5. Follicles erect; leaves usually finely papillate, linear . . . . . *S. lanceolatum*
        3. Leaves usually broadest above midlength and tapered to the base, usually strongly flattened.
            6. Petals white, obtuse, about equal to the stamens . . . . . *S. album*
            6. Petals yellow, acute to acuminate, subequal to the stamens.
                7. Petals 8-13 mm long, narrowly lanceolate and long-acuminate; follicles erect . . . . . *S. oreganum*
                7. Petals 6-10 mm long, narrowly oblong-lanceolate but not long-acuminate; follicles more or less divergent . . . . . *S. spathulifolium*

***Sedum acre* L.**
Goldmoss stonecrop
Habitat/Range: Rocky sites; locally frequent garden escape on S Vancouver Island, the Gulf Islands and adjacent mainland, rare elsewhere in S BC; introduced from Eurasia.

***Sedum album* L.**
White stonecrop
Habitat/Range: Dry, gravelly sites; rare garden escape in SW BC; introduced from Eurasia.

***Sedum divergens* S. Wats.**
Spreading stonecrop
Habitat/Range: Dry rocky cliffs and talus slopes from lowland to the alpine zones; frequent throughout BC; S to OR.

Sedum integrifolium* (Raf.) A. Nels. in Coult. & A. Nels. ssp. *integrifolium (*Rhodiola integrifolia* Raf., *Sedum alaskanum* [Rose] Rose ex Hutchins., *S. frigidum* Rydb., *S. rosea* ssp. *integrifolium* [Raf.] Hult., *S. rosea* var. *integrifolium* [Raf.] Berger in Engl. & Prantl)
Roseroot
Habitat/Range: Moist to mesic rocky cliffs, talus slopes and meadows in the lowland to alpine zones; common throughout BC; N to AK, YT and NT, E to AB and S to CO, NV and CA.

***Sedum lanceolatum* Torr.**
Lance-leaved stonecrop
Habitat/Range: Mesic to dry, rocky, open sites in all zones except the alpine zone; common throughout BC; absent from the Queen Charlotte Islands and adjacent coast; N to YT, E to S SK, and S to NE, CO, NM and CA.
Notes: Two varieties occur in BC.

1. Leaves usually smooth, closely tufted and overlapping on the flowering stems . . . . . var. *nesioticum* (G.N. Jones) C.L. Hitchc.

1. Leaves usually finely papillate, usually not overlapping on the flowering stems . . . . . var. *lanceolatum*

***Sedum oreganum* Nutt. in T.& G.**
Oregon stonecrop
Habitat/Range: Rocky cliffs and talus slopes in the lowland and montane zones; common in SW BC; N to AK and S to CA.

***Sedum spathulifolium* Hook.** (*S. pruinosum* Britt. and *S. spathulifolium* ssp. *pruinosum* [Britt.] Clausen & Uhl = var. *pruinosum*)
Broad-leaved stonecrop
Habitat/Range: Mesic coastal cliffs and forest openings in the lowland and montane zones; common on Vancouver Island and the Gulf Islands; S to CA.
Notes: Two varieties occur in BC.

1. Rosette leaves glaucous . . . . . var. *spathulifolium*

1. Rosette leaves conspicuously pruinose . . . . . var. *pruinosum* (Britt.) Boivin

***Sedum stenopetalum* Pursh** (*S. douglasii* Hook.)
Worm-leaved or narrow-petaled stonecrop
Habitat/Range: Dry, rocky cliffs, talus slopes and meadows from the lowland and steppe vegetation to the subalpine zones; frequent in S BC, rare northward to Dawson Creek; E to SW AB and S to MT and CA.

CUCURBITACEAE

1. Annuals; seeds flattened, rough . . . . . *Echinocystis*

1. Perennials; seeds turgid, smooth . . . . . *Marah*

ECHINOCYSTIS

***Echinocystis lobata* (Michx.) T.& G.**
Wild or prickly cucumber
Habitat/Range: Moist sites in the steppe vegetation zone; rare in SC BC; introduced from E North America.

MARAH

***Marah oreganus* (T.& G.) Howell**

Manroot or Bigroot

Habitat/Range: Moist fields and open sites in the lowland zone; rare on Vancouver Island and the Gulf Islands; S to N CA.

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APPENDIX

EXCLUDED SPECIES

AMARANTHACEAE

***Amaranthus hybridus* L.** (*A. paniculatus* L.). This species has not been recorded since its first report by Henry (1915).

APIACEAE

***Aethusa cynapium* L.** This species, reported by Scoggan (1979), has not been collected in recent years.

***Anthriscus cerefolium* (L.) Hoffm.** A garden herb, listed by Taylor and MacBryde (1977), which does not persist in our region.

***Bupleurum rotundifolium* L.** This species, reported by Scoggan (1979), does not persist outside gardens.

***Conioselinum chinense* (L.) B.S.P.** This name was apparently misapplied by Scoggan (1979) to our species, *C. pacificum*.

***Hydrocotyle umbellata* L.** Listed by Taylor and MacBryde (1977), but no BC material seen.

***Ligusticum apiifolium* (Nutt.) A. Gray.** This species, reported by Macoun (1886), does not reach our range from the south.

***Ligusticum grayii* Coult.& Rose**. This western U.S.A. species, often confused with *L. canbyi*, was listed by Taylor and MacBryde (1977).

***Lomatium gormanii* (Howell) Coult.& Rose**. Listed by Taylor and MacBryde (1977), but no BC specimens seen.

***Petroselinum crispum* (P. Mill.) Hill**. This biennial or short-lived perennial garden escape, reported by Taylor and MacBryde (1977), does not usually persist in our region.

ASTERACEAE

***Achillea filipendula* Lam.** A garden escape reported by Taylor and MacBryde (1977), known from only one location (Seschelt Peninsula) and not persistent.

Achillea millefolium* L. var. *millefolium. There is no evidence that this old world taxon occurs in BC (Mulligan 1970, Gervais 1977).

***Achillea millefolium* var. *nigrescens* E. Mey.** (*A. nigrescens* [E. Mey.] Rydb.). This variety of eastern North America does not extend into our region.

***Achillea ptarmica* L.** This garden plant has not been recorded since its first collection at Langley in 1954.

***Agoseris elata* (Nutt.) Greene**. Listed by Taylor and MacBryde but probably based on misidentifications at V.

***Ambrosia trifida* L.** Since this species has not been collected during this century it is probably no longer part of our flora.

***Antennaria corymbosa* E. Nels.** The report by Scoggan (1979) of a BC specimen at CAN was reidentified as *A. umbrinella* (Douglas 1990).

***Antennaria stenophylla* A. Gray**. The specimen reported as this species by Eastham (1947) and later by Taylor and MacBryde (1977) was reidentified as *A. luzuloides* (Douglas 1990).

***Anthemis mixta* L.** First reported by Ferris (1960), but apparently not persistent on old ballast dumps at Nanaimo.

***Arctium nemorosum* Lej. & Court**. The specimen reported by Boivin (1966-1967) was later reidentified as *A. minus* (Douglas 1989).

***Artemisia douglasiana* Bess. in Hook.** (*A. heterophylla* Nutt.). The early collections by Macoun (1884) have been reidentified as *A. suksdorfii*.

***Artemisia stelleriana* Bess.** A garden escape first collected in 1948 at Victoria and not reported since then.

***Artemisia underwoodii* Rydb.** (*A. ludoviciana* var. *mexicana* [Willd.] Fern.). This variety of *A. ludoviciana*, reported for BC by Rydberg (1922), occurs only to the south of our range.

***Aster chilensis* ssp. *hallii* (A. Gray) Cronq.** (*A. hallii* A. Gray). This species occurs to the south of our region (Douglas 1990).

***Aster frondosus* (Nutt.) T.& G.** Reported by Eastham (1947) and probably based on a specimen of *A. brachyactis*.

***Aster praealtus* Poir.** First reported by Taylor and MacBryde (1977) but no specimens seen.

***Aster scopulorum* A. Gray**. The report by Eastham (1947) was based on a misidenification of *A. stenomeres* (Douglas 1990).

***Aster yukonesis* Cronq.** A species approaching our borders in the Yukon, but not yet collected (Douglas 1990).

***Aster ledophyllus* (A. Gray) A. Gray**. No voucher specimens exist for this U.S. species reported by Trelawny in Clark (1976).

***Balsamorhiza careyana* A. Gray**. Not yet collected in BC, first reported by Cronquist (1955).

***Balsamorhiza hirsuta* Nutt.** Reported in the early literature (i.e., Macoun 1886, Henry 1915, Rydberg 1922) but no specimens available.

***Blepharipappus scaber* Hook.** First reported by Henry (1915) but no BC material available.

***Brickellia grandiflora* (Hook.) Nutt.** The collection in 1874 at South Kootenay Pass (Henry 1915) was actually made in Alberta (B. Boivin, pers. comm.).

***Calendula arvensis* L.** This occasional garden-escape, cited for BC by Taylor and MacBryde (1977), does not persist in our region.

***Centaurea moschata* L.** This is probably merely a garden escape and not naturalized (Moore and Frankton 1974).

***Centaurea calcitrapa* L.** This species, collected on ballast dumps at Nanaimo (Henry 1915), no longer persists.

***Centaurea jacea* L.** The 1887 collection from Victoria reported by Henry (1915) is the only one known.

***Centaurea macrocephala* Pushk. ex Willd.** This species, with its attractive yellow rays, is a garden escape which does not persist in our region.

***Centaurea nigra* L.** The collections bearing this name have all been reidentified, mainly as *C. pratensis* (Moore and Frankton 1974).

***Centaurea scabiosa* L.** The collection (at V) that Scoggan (1979) probably based his BC report on, was later reidentified as *C. moschata*, a nonpersistant garden escape in BC.

Chrysothamnus nauseosus* (Pall.) Britt. in Britt. & Brown var. *glabratus* (A. Gray) Cronq. and var. *nauseosus. The above varieties belong to a highly variable species and BC specimens are best placed with *C. nauseosus* var. *albicaulis* (Douglas 1990).

***Chrysothamnus viscidiflorus* (Hook.) Nutt. var. *puberulus* (Eat.) Jeps.** Specimens of this variety, first reported by Rydberg (1922), have not been seen.

***Cirsium arvense* (L.) Scop. var. *integrifolium* Wimm. & Grab.** Collected once in 1899 at Victoria (Moore and Frankton 1974) and almost certainly no longer persisting.

***Cirsium flodmanii* (Rydb.) Arthur**. A BC specimen reported as this species from the U.S. Nat. Herbarium should be referred to *C. undulatum* (Douglas 1990).

***Cnicus benedictus* L.** The report by Campbell (1904) was actually based on a specimen from Port Angeles, WA (Moore and Frankton 1974).

Conyza canadensis* (L.) Cronq. var. *canadensis (*Erigeron canadensis* L. var. *canadensis*). All material of this species in BC has been placed under var. *glabratus* (Douglas 1990).

***Coreopsis tinctoria* Nutt.** This species, reported by Rydberg (1922), occurs only to the south of our range.

***Cotula australis* (Sieb. ex Spreng.) Hook. f.** Collected once on ballast at Nanaimo in 1895 and no longer persisting.

***Crepis acuminata* Nutt.** Early reports in the literature (i.e., Macoun 1884, 1886, Henry 1915) are based on misidentifications of *C. atrabarba* at CAN (Douglas 1990).

***Crepis biennis* L.** Although reported by Henry (1915) and Szczawinski and Harrison (1973) no BC material has been examined.

***Doronicum orientale* Hoffm.** This garden escape, cited by Taylor and MacBryde (1977) does not persist in our region.

***Echinops exaltatus* Schrad.** This garden escape has not been recollected since the first record was taken at Vancouver in 1940.

***Echinops sphaerocephalus* L.** First collected in 1944, this garden escape probably no longer persists.

***Erigeron hyssopifolius* Michx.** First reported for BC by Cronquist (1947), the relevant collection appears to be from Alberta (Douglas 1990).

***Erigeron monocephalus* Nels.** This species, reported by Ulke (1935), occurs only to the south of our range.

***Erigeron ochroleucus* Nutt. var. *scribneri* (Canby) Cronq.** (*E. macounii* Green). Henry (1915) first reported this species from BC but no collections are known to date.

***Erigeron radicatus* Hook.** First listed by Rydberg (1922) for BC but yet to be collected.

***Eriophyllum lanatum* (Pursh) Forbes var. *achillaeoides* (DC.) Jeps. and var. *integrifolium* (Hook.) Smiley**. All material of this species in BC belongs to var. *lanatum* (Douglas 1990).

***Eupatorium cannabinum* L.** Since no further collections of this species have been made since Henry (1915) first reported it, it is likely that it no longer exists in BC.

Euthamia graminifolia* (L.) Nutt. var. *graminifolia (*Solidago graminifolia* [L.] Salisb. var. *graminifolia*). The report of this variety by Boivin (1966-1967) is probably based on the var. *major*, a closely related taxa.

***Galinsoga parviflora* Cav.** There are no records in various herbaria for this species reported by Taylor and MacBryde (1977) and Scoggan (1979).

***Gnaphalium californicum* DC.** The relevant collections of this species, reported by Macoun (1896) have been reidentified as *G. viscosum* (Douglas 1990).

***Gnaphalium obtusifolium* L.** This species, known only from the report by Ulke (1935), has probably not persisted.

***Grindelia columbiana* (Piper) Rydb.** (*G. nana* Nutt. var. *columbiana* Piper). Although reported for BC by Eastham (1947) no BC material has been found.

***Grindelia nana* Nutt.** (*G. nana* var. *integerrima* [Rydb.] Steyerm., *G. squarrosa* [Pursh] Dunal var. *integrifolia* [Nutt.] Boivin). The relevant collections of this species, reported by Eastham (1947) and Boivin (1966-1967) are better placed with *G. squarrosa* var. *quasiperennis*.

***Haplopappus lanceolatus* (Hook.) T.& G.** First reported by Taylor and MacBryde (1977) but no BC material has been found.

***Helianthus cusickii* A. Gray**. The relevant collection of this species, cited by Rydberg (1922), may have been based on a collection reidentified as *Helianthella uniflora* at CAN.

***Helianthus giganteus* L.** Many early collections of *H. nuttallii* T.& G. var. *nuttallii* from S BC were originally identified as this species (Douglas 1990).

***Helianthus grosseserratus* Martens**. Reported by Taylor and MacBryde (1977) but not substantiated in any Canadian herbaria.

Helianthus laetiflorus* Pers. var. *laetiflorus (*H. scaberrimus* Ell.). Apparently, this name has been misapplied to species of *H. rigidus* (Cass.) Desf. ssp. *subrhomboideus* (Rydb.) Heiser (Douglas 1990).

***Helianthus maximillianii* Schrad.** This species probably no longer exists in the province since it has not been recollected since the turn of the century.

***Helianthus nuttallii* T.& G. var. *subtuberosus* (Britt.) Boivin**. Only the var. *nuttallii* of this complex is found in BC (Long 1966).

Helianthus petiolaris* Nutt. var. *petiolaris. First reported for BC by Macoun (1886), this species probably no longer persists in our region.

***Heliopsis helianthoides* (L.) Sweet ssp. *scabra* (Dunal) T.R. Fisher**. This species, reported by Boivin 1966-1967, has not been recollected since 1904 thus it probably no longer exists.

***Hieracium canadense* Michx.** (*H. umbellatum* L. ssp. *canadense* [Michx.] Guppy). All material from BC, previously identified by most western taxonomists as this more eastern species, is actually *H. umbellatum* ssp. *umbellatum* (Guppy 1978).

***Hieracium caespitosum* Dumort.** (*H. pratense* Tausch). Reports of this species (Taylor and MacBryde 1977) were probably based on material at DAO which is now placed under *H. piloselloides*.

***Hieracium floribundum* Wimm.& Grab.** Collections reported by Boivin (1966-1967), have been reidentified as *H. piloselloides*.

***Layia glandulosa* (Hook.) H.& A.** First reported for BC by Macoun (1886) but no material available.

***Leontodon hispidus* L.** (*L. hastilis* L. var. *vulgaris* Koch). This species, cited by Henry (1915) and Eastham (1947), was based on misidentifications of *L. taraxacoides*.

***Leucanthemella serotina* (L.) Tzvelev** (*Chrysanthemum uliginosum* Pers., *Leucanthemum serotinum* [L.] Stankov). This garden plant, listed by Boivin (1966-1967), does not persist outside of cultivation in our region.

***Madia elegans* D. Don ex Lindley**. Reported for BC by Szczawinski and Harrison (1973) but no material is available.

***Petasites hybridus* (L.) G.M.S.** (*P. vulgaris* Hill). Reports of this species by Eastham (1947) and Boivin (1966-1967) are probably based on collections of *P. japonicus*.

***Senecio aureus* L.** Boivin (1966-1967) considered this eastern species to be synonymous with *S. pseudaureus*, thus it was included in the flora of BC.

***Senecio crocatus* Rydb.** This species, reported for BC by Henry (1915), occurs only to the south of our region.

***Senecio cymbalaria* Pursh** (*S. resedifolius* Less.). This species, reported for BC by Henry (1915), occurs only to the north of our region.

***Senecio fuscatus* Hayek**. This name has been misapplied to specimens of *S. tundricola* in North America (Douglas 1982).

Senecio integerrimus* Nutt. var. *integerrimus. Reported by Boivin (1966-1967), but probably based on a collection of *S. integerrimus* var. *exaltatus*.

***Senecio obovatus* Muhl.** This species, reported from BC by Henry (1915), occurs only in the eastern US.

Senecio werneriaefolius (A. Gray) A. Gray (*Senecio petrocallis* Greene). This US species, first cited by Henry (1915), was based on misidentifications of *S. elmeri* and *S. fremontii* at UBC.

Solidago graminifolia* var. *graminifolia = *Euthamia graminifolia* var. *graminifolia*

***Stephanomeria lactucina* A. Gray**. It is not likely that this species, reported by Scoggan (1979), occurs north of OR.

***Tanacetum balsamita* L.** (*Chrysanthemum balsamitum* L.). This species was first reported by Groh (1946) from Langley but probably has not persisted.

***Wyethia amplexicaulis* (Nutt.) Nutt.** Although reported by several authors (i.e., Gray 1884, Henry 1915), all material examined actually represents *Balsamorhiza saggitata* (Douglas 1990).

***Xanthium spinosum* L.** First collected on ballast at Nanaimo (Eastham 1947), but no longer persisting.

BALSAMINACEAE

***Impatiens pallida* Nutt.** Reports of this species by Macoun (1895) are based on specimens of *I. noli-tangere*.

BERBERIDACEAE

***Vancouveria hexandra* (Hook.) Morr. & Dec.** Listed by Taylor and MacBryde (1977) but all BC material seen was acquired from gardens.

BETULACEAE

***Alnus rhombifolia* Nutt.** Reports of this species by Henry (1915) were based on misidentifications (Scoggan 1978).

BORAGINACEAE

***Amsinckia retrorsa* Suksd.** Cited by Hitchcock *et al*. (1959) as occurring in S BC, but no specimens seen.

***Amsinckia tesselata* A. Gray**. A specimen in UBC from New Westminster collected in 1886 is probably this species but no recent collections are known.

***Anchusa azurea* P. Mill.** Collected a few times near Victoria, but not established or persisting.

***Cryptantha circumscissa* (H.& A.) I.M. Johnst.** Reported by Henry (1915) from Spences Bridge, but probably a misidentification.

***Cryptantha flaccida* (Dougl.) Greene**. Cited by Henry (1915) from S BC, but probably a misidentification.

***Cynoglossum grande* Dougl.** Listed by Henry (1915) and illustrated in Clark (1973), but no specimens known.

***Hackelia arida* (Piper) I.M. Johnst.** Attributed to the province by Boivin (1966-1967) from Rock Creek, but it is likely *H. cinerea*.

***Hackelia hispida* (A. Gray) I.M. Johnst.** Reported by Henry (1915) from Spences Bridge, presumably based on a misidentification.

***Hackelia patens* (Nutt.) I.M. Johnst.** Cited by Eastham (1947) and presumably based on a misidentification.

***Lithospermum officinale* L.** Listed by Taylor & MacBryde (1977), but no specimens seen.

***Mertensia oblongifolia* (Nutt.) G. Don**. References to this taxon (e.g. Macoun 1884, Henry 1915, Taylor and MacBryde 1977) in the province all seem to be based on misidentifications of *M. longiflora*.

***Nonea vesicaria* (L.) Rchb.** There is a specimen in V, collected at McMurdo in 1936 but no recent collections seen.

***Trigonotis peduncularis* (Trev.) Benth.** Known in North America only from a 1893 collection by Macoun from Nanaimo (Scoggan 1979).

BRASSICACEAE

***Bunias orientalis* L.** A European plant, cited in Scoggan (1978) from BC, but no specimens known.

***Cardamine debilis* D. Don**. A European species recorded from the Peace River District, but probably referrable to *C. hirsuta*.

***Cardamine flexuosa* With.** A European species collected once at Chilliwack, needs further collecting and confirmation.

***Cardamine impatiens* L.** A European species, probably confused with *C. angulata*.

***Caulanthus pilosus* S. Wats.** This species, listed from BC by Rydberg (1922), occurs only to the south of our region.

***Cochlearia anglica* L.** Reports of this species by Henry (1915) probably refer to specimens of *C. officinalis* L. (Scoggan 1978).

***Lepidium lasiocarpum* Nutt.** Cited by Henry (1915), but no specimens seen.

***Lepidium oxycarpum* T.& G.** This western U.S. species, cited by Mulligan (1961) and based on a single collection, is probably not established in BC.

***Lobularia maritima* (L.) Desv.** A European garden plant, listed by Scoggan (1978), but not seen again during this century.

***Lunaria rediviva* L.** Cited by Taylor and MacBryde (1977), but no BC material known.

***Rorippa heterophylla* (Blume) R.O. Williams**. Mapped from a single locality on SE Vancouver Island by Stuckey (1972) but no specimens seen.

***Rorippa microsperma* (D.C.) Bailey**. An Asian species, reported by Taylor and MacBryde (1977), known only from a single collection at Nanaimo in 1892.

CAMPANULACEAE

***Jasione montana* L.** Listed by Eastham (1947), but not persisting in our region.

CARYOPHYLLACEAE

***Agrostemma githago* L.** Cited by Taylor and MacBryde (1977), but apparently represented by only a single 1915 collection from the Okanagan.

***Lychnis chalcedonica* L.** Reported by Taylor and MacBryde (1977), but not persisting in our region.

***Spergularia diandra* (Guss.) Boiss.** This European plant, listed by Eastham (1947), has been collected only once at Kamloops.

***Stellaria longifolia* Muhl.** Cited by Taylor and MacBryde (1977), but no BC specimens known.

CHENOPODIACEAE

***Beta vulgaris* L.** This species (the common beet) is not established in our region (Scoggan 1978).

***Chenopodium macrospermum* Hook. var. *halophilum* Standley**. Known from a single collection at Anahim Lake, this species is sometimes treated under *C. chenopodioides* but the group is poorly understood.

***Sarcobatus vermiculatus* (Hook.) Torr.** Listed by Henry (1915), but not collected since.

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