ILLUSTRATED FLORA OF BRITISH COLUMBIA

edited by George W. Douglas, Gerald B. Straley, Del Meidinger and Jim Pojar

BRITISH COLUMBIA
Ministry of Environment, Lands and Parks
Ministry of Forests

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FOREWORD

British Columbia, Canada's most westerly province, has a bounty of biological diversity. British Columbia's snowclad peaks, rain-drenched forests, arid grasslands, all sizes of rivers, lakes, and wetlands, and a long and rugged coast provide habitats for more species of living organisms than are found anywhere else in Canada. However, this very diversity means that there is much to be discovered about these organisms—their distribution, abundance, habitat requirements, and interrelationships with their environment. Increasing our knowledge of this biodiversity will help us with the complex task of sustainably managing our land and waters.

In 1992, the provincial government initiated a co-operative biodiversity research program with funding from the Corporate Resource Inventory Initiative, the British Columbia Ministries of Forests (Research Branch), Environment, Lands, and Parks (Wildlife and Habitat Protection Branches), and Tourism and Culture (Royal B.C. Museum); and the Forest Resource Development Agreement (FRDA II).

In 1995, the Ministry of Forests Research Branch and the Ministry of Environment, Lands and Parks developed a biodiversity research and extension strategy, with the assistance of the provincial research community. This strategy was presented to Forest Renewal BC (FRBC), who provided funding for a program beginning in 1995. The goal of the extension component of this program is to extend information to scientists, resource managers, and the public through biodiversity publications. These publications are intended to increase awareness and understanding of biodiversity, promote the concepts and importance of conserving biodiversity, and communicate provincial government initiatives related to biodiversity. We hope that they will be used as tools for the conservation of British Columbia's rich, living legacy.

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ILLUSTRATED FLORA
of BRITISH COLUMBIA

Volume 1
Gymnosperms and Dicotyledons
(Aceraceae through Asteraceae)

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September 1998
GERALD BANE STRALEY  
(1945–1997)

Prior to the publication of this manual, Gerald B. Straley passed away after a lengthy illness. With Gerald’s passing, British Columbia lost an excellent botanist and an extremely knowledgable plantsman.

Gerald’s poor health in recent years made it very difficult for him to work, especially when the research required intense concentration. As we began to revise our earlier work, *The Vascular Plants of British Columbia*, and produce the *Illustrated Flora*, we realized that Gerald would not be able to carry the research load of the former manual. Despite this, he continued to work, and true to form, Gerald chose one of our most difficult genera, *Arabis*. This genus has always been perplexing and a continual headache for botanists. To make matters even more difficult two very competent systematic botanists, R.C. Rollins and G.A. Mulligan, produced respectively, a North American treatment of *Arabis* in 1993 and a Canadian treatment of *Arabis* in 1995. These treatments varied markedly in their taxonomic concepts. Gerald was forced to reexamine most of our British Columbia material in light of each author’s description and interpretation of each species. The result is an impressive, practical treatment for our 20 *Arabis* taxa that will be with us for years to come.

Gerald’s persistence, patience and mellow approach during the frustrating months of working on *Arabis*, reflected his remarkable outlook towards life. We have indeed lost an irreplaceable friend and scientist.

GEORGE W. DOUGLAS
ACKNOWLEDGEMENTS

Gerry A. Allen provided valuable suggestions during the initial stages of preparation for The Vascular Plants of British Columbia project. Gerry A. Allen, Adolf Ceska and Fred Ganders reviewed taxonomically difficult groups for the latter project.

The present flora was meticulously reviewed by Frank Lomer, Ernie McNaughton, Malcolm Martin and Hans Roemer. The latter four botanists and Anna Roberts also provided the senior editor with manuscript corrections and range information during the past several years. W. (Bill) J. Cody and Gerry Mulligan kindly searched the DAO herbarium and provided information on several families.

Special thanks are due to our illustrators: Donald Gunn, Gail F. Harcombe, Jane Lee Ling, Sherry Mitchell, Lora M. Richards and Elizabeth J. Stephen.

Many of the initial writeups for the technical descriptions were contributed by Lynne Milnes. Marie Fontaine and Jenifer Penny made numerous corrections and provided aid on late drafts. Sharon Hartwell proofread the final draft of the final manuscript.

Elizabeth Campbell prepared the glossary and Marie Fontaine revised it with respect to terms used in the present text. Art prepress and final typesetting were done by Frances Hunter, and Gail F. Harcombe coordinated the prepress and print production of the flora. Cover design was created by Annie Weeks.

The curators of all of the herbaria visited during this study deserve a special thanks for providing help whenever needed. The herbaria curators and staff include: George Argus and Michael Shchepanek (The National Herbarium, National Museums, Ottawa); T. Christopher Brayshaw, John PinderMoss, Jim Cosgrove, Joan Kerik, Lesley Kennes and Leon Pavlick (Herbarium, Royal British Columbia Museum, Victoria); William Cody, Giselle Mitrow and Paul Catling (Vascular Plant Herbarium, Department of Agriculture, Ottawa); Olivia Lee and Jack Maze (Herbarium, Department of Botany, University of British Columbia, Vancouver); Brenda Constanzo and Gerry Allen (Herbarium, Department of Biology, University of Victoria); Ray Coupé and Anna Roberts (Herbarium, B.C. Ministry of Forests, Williams Lake) and Jim Pojar and Karen McKeown (Herbarium, B.C. Ministry of Forests, Smithers).

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INTRODUCTION

This flora, in eight volumes, keys, describes and illustrates all of the flowering plants and vascular cryptogams, both native and naturalized, known to occur at the time of writing within the borders of British Columbia. In part, it is a revision of *The Vascular Plants of British Columbia* (Douglas et al. 1989, 1990, 1991, 1994). Keys are included for all genera, species, subspecies and varieties. Species previously recorded for the province but excluded from this treatment appear in an annotated list in Appendix I.

With respect to this volume, 20 new species taxa, discovered in the province in recent years, have been added. Recent taxonomic or nomenclatural research has also resulted in new name changes for 24 taxa since Douglas (1989). These new name changes are listed in Appendix II.

FORMAT

The floristic treatment is in alphabetical order by families, genera and species since most 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. Each entry includes the following:

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

English Names
An English name for each species is included. These are based mainly on names appearing most frequently in the western North American literature.

Habitat and Moisture Regime
A brief description of each 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 regional zonation systems (Krajina 1965; Rowe 1959, 1972; Franklin and Dymness 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 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 ecologists (e.g., Krajina 1965) in the subalpine zone, are 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 two-to four-metre *Salix* and *Betula*) 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 zone* (Daubenmire 1970) occurs in the interior of the province and includes what is often referred to as sagebrush or grassland vegetation (Tisdale 1947). This zone occurs at lower elevations in the Thompson, Okanagan, Kootenay and Columbia River valleys in southern British Columbia. Parts of the Fraser and Thompson plateaus also have grassland or steppe vegetation.
Abundance
The abundance of a species is given by a general scale: rare - infrequent - frequent - common. The rare plants are well documented in Douglas et al. (1998). Most of the common plants are also well known from numerous other sources. 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 (Figure 1). Maps compiled at the Royal British Columbia Museum were extremely helpful for the more common species. Rare plant distributions were provided by the maps in Douglas et al. (1998). Abbreviations used within the province are as follows:

| E - Eastern | S - Southern |
| BC - Eastcentral | SC - Southcentral |
| N - Northern | Sh - Southeastern |
| NE - Northeastern | SW - Southwestern |
| NW - Northwestern | WC - Westcentral |

For ranges outside of B.C. the outer peripheries (i.e., provinces/states) of the ranges are given using the following abbreviations:

| 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 | M |
| Ontario | ON | Montana | M |
| Prince Edward Island | PE | Nebraska | NE |
| Quebec | PQ | Nevada | NV |
| Saskatchewan | SK | New Hampshire | NH |
| Yukon | YT | New Jersey | NJ |
| New Mexico | NM | New York | NY |
| Arizona | AZ | 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 |
| Florida | FL | 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 | | |
Figure 1. Geographical Regions of British Columbia.
Descriptions
Major morphological characters are given for each taxon. In most cases technical terminology has been kept to a minimum since most of our users have a limited botanical background. All terms, both technical and simplified appear in the glossary.

Notes
Specific items of importance, or problems, especially those related to taxonomy and nomenclature, are noted. Infraspecific taxa worthy of recognition are keyed here.

A floristic bibliography, arranged by families, is also appended for users wishing to study a species further.

DATABASE

The present manual is based on a wealth of regional publications dating back over a hundred years. In 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 (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 of 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 the Queen Charlotte Island's vascular plants, Calder and Taylor (1968) contributed one of the few floras dealing solely with a part of British Columbia. British Columbia was again included in a regional flora of northwestern North America when Welsh (1974) treated the plants of Alaska and adjacent parts of Canada, including northern British Columbia. A literature review by Taylor and MacBryde (1977), mainly of North American works, resulted in a resource inventory of vascular plants for British Columbia. (Unfortunately, this extensive review treated several hundred erroneous citations as valid records for the province. It also ignored many herbaria records that had never been published.) Recently, a modern Canadian flora was produced by Scoggan (1978-1979). All of the province's rare or infrequent plants were examined and verified in various Canadian herbaria by Straley et al. (1985) and, more recently, by Douglas et al. (1998). Finally, the B.C. flora was documented, annotated and all plants keyed in The Vascular Plants of B.C. (Douglas et al. 1989, 1990, 1991, 1994).

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.

This study was supplemented by the 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.

TAXONOMIC CONCEPTS

Our view of species limits is a practical one. Therefore, species had to be readily characterized morphologically in order to produce user-friendly keys. 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 sympatric ranges are treated at the varietal level. Since we have not made any nomenclatural changes associated with the production of the manual, this distinction between subspecies and variety was not always possible. With the exception of Sambucus racemosa, we have not used more than one infraspecific rank in this work for a single species. Taxa are not recognized at the forma level. "constricted between the seeds".
GYMNOSPERMS

1. Seeds solitary, surrounded by a red, fleshy, cuplike 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 berrylike fruit; plants monoecious or dioecious; leaves needle- or scalelike, when needle-like, with resin ducts visible in cross-section at 10 power magnification.

2. Leaves scalelike, or awl-shaped but opposite or whorled; seed 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; seed cones mostly greater than 15 mm, woody to papery, the scales many and spirally arranged ........................................................................ PINACEAE

CUPRESSACEAE

1. Fruits berrylike; branchlets 4-angled; leaves scalelike or awl-shaped ................................................. Juniperus

1. Fruits a dry cone; branchlets flattened; leaves scalelike.

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

2. Cones erect, berrylike when young, as wide as long or wider; leaf tips often diverging and therefore prickly to touch; branchlets somewhat flattened ........................................................................ Chamaecyparis

CHAMAECYPARIS

Chamaecyparis nootkatensis (D. Don) Spach (Cupressus nootkatensis D. Don)
yellow-cedar; yellow-cypress; Alaska cedar; cypress

Habitat/Range:
Wet to mesic slopes and bogs in the lowland, montane and subalpine zones; common in and W of the Coast-Cascade Mountains, rare in SE BC; N to SE AK and S to N CA.

Description:
General: Tree, usually 20-40 m tall when mature; branches and branchlets droop strongly; bark ridged and fissured, not tearing off in long thin strips; wood aromatic (potato-like smell); growing "tip" (leader) drooping.

Leaves: Scalelike, opposite, somewhat overlapping, close to stem, with sharp, rigid tip; bluish green.

Cones: Seed cones like a round, bumpy light green "berry" when immature, brown when ripe, less than 10 mm long, glaucous; pollen cones about 4 mm long.
Chamaecyparis nootkatensis
JUNIPERUS

1. Leaves awl-shaped, in whorls of 3, spreading; the berrylke fruits sessile in the leaf axils....... *J. communis*
2. Leaves mostly scalelike, opposite, appressed to stem; the berrylke-like fruits terminal on the branchlets.
   1. Low, spreading or creeping shrubs; fruits recurved on short stalks ................. *J. horizontalis*
   2. Small trees or erect shrubs; fruits erect or nodding ........................................ *J. scopulorum*

*Juniperus communis* L. (*J. sibirica* Burgsd., *J. nana* Willd.)

**common juniper; ground juniper**

**Habitat/Range:**
Dry slopes and open forests to wet coastal muskeg in the lowland to alpine zones; common throughout BC; circumpolar, N to AK, E to NF and S to CA, AZ, NM, and GA; Eurasia.

**Description:**
General: Sprawling, evergreen shrub, 0.5-3.0 m tall; bark very thin, reddish-brown, shredding and scaly.
Leaves: Needle-like, with whitish channel on upper surface, (5) 7-12 (19) mm long, in whorls of three on stem.
Cones: Seed cones fleshy, berrylke, egg-shaped to globose, 6-9 mm long, green in first year, ripening in second year to bluish black; pollen and seed cones on separate plants.

*Juniperus horizontalis* Moench (*J. prostrata* Pers.)

**creeping juniper**

**Habitat/Range:**
Dry rocky or sandy slopes and flats in the montane zone; common in N BC, infrequent southward; N to SC AK, E to NF and S to CO.

**Description:**
General: Sprawling, evergreen shrub, usually less than 30 cm tall, the branch tips trailing.
Leaves: Scalelike, somewhat overlapping, closely pressed to stem; green, grey-green or blue-green.
Cones: Seed cones fleshy, berrylke, 5-8 mm long, maturing to bluish-purple, glaucous, on short, recurved stalks; pollen and seed cones on separate plants.
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 soils in the lowland, steppe 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.

**Description:**
General: Usually a small, erect evergreen tree to 10 m tall, with conical form, but also a sprawling shrub less than 1 m; bark reddish-brown, scaly or fibrous and stringy.
Leaves: Mostly scalelike, opposite, not prickly, but young leaves needle-like, 5-7 mm long, in whorls of three on stem.
Cones: Seed cones fleshy, berrylke, 5-6 mm long, bluish-purple when mature, glaucous; pollen and seed cones on separate plants.
Notes: See *J. horizontalis* for discussion of hybridization.
Juniperus communis

Juniperus horizontalis

Juniperus scopulorum
CUPRESSACEAE/PINACEAE

THUJA

*Thuja plicata* Donn ex D. Don
western redcedar

**HABITAT/RANGE:**
Wet to moist floodplains, river terraces and slopes, often rich with nutrients from seepage or fluvial deposits, or rich parent material, 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

**DESCRIPTION:**
General: Large tree, up to about 60 m tall; mature trees generally fluted and buttressed at the base; branches tend to spread, or droop slightly and then upturn; the branchlets spray-like, strongly flattened horizontally; bark ridged and fissured, readily tearing off in long thin strips; wood aromatic; growing 'tip' (leader) drooping.

Leaves: Scale-like, somewhat overlapping, closely pressed to stem, in opposite pairs; glossy yellowish-green, turning brown and shedding with age.

Cones: Seed cones green when immature, brown, egg-shaped, and 8-10 mm long when mature; pollen cones minute and reddish, numerous.

Notes: This is the provincial tree of BC.

PINACEAE

1. Leaves (needles) borne in clusters of 2 or more.
2. Needles 2-5 in a cluster, evergreen .......................................................... *Pinus*
3. Needles 7-45 in a cluster, deciduous .......................................................... *Larix*
4. Young branches smooth where needles have fallen since the scars are only small craters; cones either erect with deciduous scales, or drooping with persistent scales and a prominent 3-lobed bract longer than the scales; needles flat.
   4. Cones erect, shed scale by scale at maturity; winter buds blunt; leaf scars circular; needles blunt and often notched at tip ......................................................... *Abies*
   4. Cones drooping, shed whole; winter buds abruptly sharp-pointed; leaf scars oval; needles dull pointed .................................................................................. *Pseudotsuga*
5. Young branches rough where needles have fallen since the leaf bases persist as small peg-like structures; cones not erect, have persistent scales without 3-lobed bract; needles 4-angled or flattened.
6. Needles commonly firmly abruptly sharp-pointed, 4-angled or sometimes somewhat flattened, pungent; leaders erect ............................................................................ *Picea*
7. Needles blunt, strongly flattened, not firmly abruptly sharp-pointed; leaders often drooping .................................................................................. *Tsuga*
PINACEAE

ABIES 1,2

1. Needles with stomata on both surfaces, blue-green and glaucous; branches not spray-like, leaves tending to curve upwards; 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; 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; seed 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 on upper side of twig and more or less completely hiding the twigs, seed cones deep purple ......................................................... A. amabilis

Abies amabilis (Dougl. ex Loud.) Dougl. ex Forbes
amabilis fir; Pacific silver fir
Habitat/Range:
Moist to mesic forests with deep, well-drained soils in the lowland to subalpine zones; common in and W of Coast-Cascade Mountains, except Queen Charlotte Islands; N to SE AK and S to N CA.

Description:
General: Tall, straight tree, up to 55 m tall, with dense cylindric or conical crown; bark grey to nearly white, smooth but becoming scaly with age, with resin blisters; branches flattened and spray-like.
Leaves: Needles flattened, blunt and mostly notched at the tip; shiny, dark green and grooved above, having two distinct silvery bands of stomata and ridged below; spreading to somewhat erect needles 1.5-3 cm long; strongly appressed needles on upper surface of twig 0.7-2 cm.
Cones: Seed cones erect, deep purple, 8-10 (15) cm long, 3.5-4 (5) cm thick, the bracts deciduous; pollen cones reddish.

Abies grandis (Dougl. ex D. Don) Lindl. (A. excelsior Franco)
grand fir
Habitat/Range:
Moist to mesic slopes and river terraces in the lowland and montane zones; frequent in SW BC, infrequent in SC BC; S to N CA, ID, W MT, SE WA and NE OR.

Description:
General: Tall, straight tree, up to 80 m tall; bark greyish to light brown, with resin blisters, smooth to shallowly ridged, becoming flaky; branches flattened and spray-like.
Leaves: Needles flat, rounded and usually notched at the tip; dark green and shallowly grooved above, having two distinct whitish bands of stomata below; definitely spreading horizontally, 2-4 (5) cm long.
Cones: Seed cones erect, yellowish-green to green, 6-11 cm long, 3.5-4 cm thick, the bracts deciduous; pollen cones yellowish.

1 Key adapted from Hitchcock et al. (1969).
2 All Abies are commonly called “balsam”, however, this name does not differentiate our species in BC and is used for A. balsamea (L.) P. Mill. in the rest of Canada.


*Abies amabilis*

*Abies grandis*
**PINACEAE**

_Abies lasiocarpa_ (Hook.) Nutt. var. _lasiocarpa_ (Abies bifolia A. Murray; _Abies balsamea_ [L.] Mill. ssp. _lasiocarpa_ [Hook.] Boivin)

_subalpine fir; alpine fir

**Habitat/Range:**
Moist to mesic slopes 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.

**Description:**

**General:** Usually straight tree, seldom over 35 m tall (up to 50 m in some areas), with distinctly spire-shaped crown; bark grey, smooth, with resin blisters, becoming somewhat ridged with age; branches not spray-like; a common tree-line species, in stunted form.

**Leaves:** Needles flattened, blunt and usually notched at the tip; bluish-green, flat above, ridged beneath, having stomata on both surfaces; (2) 2.5-3 (4) cm long, tending to curve upwards, not horizontally spreading.

**Cones:** Seed cones erect, deep purple, 6-10 (11) cm long, 3-3.5 cm thick, the bracts deciduous; pollen cones bluish.

**Note:** In the recently published Flora of North America, Hunt (1993) recognized _Abies lasiocarpa_ as occurring only along the coast with the interior populations assigned to _Abies bifolia_. Differences between the two occur in the wood chemistry, lack of crystals in ray parenchyma in _A. bifolia_, shape of basal bud scales, and color of the periderm. However, introgression occurs throughout most of BC, thus hybrid populations predominate. The only unique populations of _A. lasiocarpa_ are in coastal Alaska. Due to the introgression in BC and the relatively minor morphological differences between the two taxa, we include _A. bifolia_ within _A. lasiocarpa_.

**LARIX**

1. Seed cones about 1.2 cm long, bracts shorter than scales; needles 1.2.5 cm long, triangular in cross-section

............................................................................................................................................. _L. laricina_

1. Seed cones usually over 2.5 cm long, bracts longer than scales; needles 3-4 cm long.

   2. Needles 4-angled in cross-section; young twigs strongly woolly-hairy; cones usually over 3.5 cm long; trees usually at or near timberline

   ............................................................................................................................................. _L. lyallii_

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

   ............................................................................................................................................. _L. occidentalis_

_Larix laricina_ (Du Roi) K. Koch (_L. alaskensis_ W.F. Wight)

_tamarack_

**Habitat/Range:**

Wet to moist fens, bogs, swamps and some moist, rich slopes in the montane zone; frequent in NE BC, rare southward to C BC, N to AK, YT and NT, E to NE, and S to C AB, MN, WI, N NJ and ME.

**Description:**

**General:** Small tree, to 15 m (rarely 25 m) tall; delicate foliage; brownish, scaly bark; branches long, slender and pliable.

**Leaves:** Needles deciduous; blue-green, turning yellow in the autumn; in bundles of 12-20 on short spur branches; 5-22 mm long.

**Cones:** Seed cones egg-shaped, erect, 10-20 mm long, 7-20 mm thick, purplish, becoming brownish with age; pollen cones small, egg-shaped.
Abies lasiocarpa var. lasiocarpa

Larix laricina
**PINACEAE**

*Larix lyallii* Parl.
subalpine larch; alpine larch

**Habitat/Range:**
Mesic to dry rocky or gravelly slopes in the subalpine to alpine zones; frequent in SC and SE BC; E to SW AB, and S to WA, N ID and W MT.

**Description:**
**General:** Small tree, seldom symmetric, 10-15 (up to 25) m tall; bark thin but deeply furrowed and flaking, reddish-brown to purplish-brown scales; young twigs white or yellowish tomentose.

**Leaves:** Needles deciduous; pale blue-green (yellow in the autumn); rigid; in bundles of 30-40 per spur; 4-angled; 25-35 (40) mm long.

**Cones:** Seed cones elongate, 35-45 mm long, 1.5-2 times longer than wide; pollen cones yellow, about 15 mm long.

*Larix occidentalis* Nutt.
western larch

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

**Description:**
**General:** Large tree, up to 55 (rarely 70-80) m tall; bark thick, furrowed into large plates, scales cinnamon colored; young twigs glabrous to hairy, not woolly-hairy.

**Leaves:** Needles deciduous; pale green (yellow in the autumn); stiff; 15-30 per spur; 25-45 mm long; broadly triangular in cross-section.

**Cones:** Seed cones 25-30 (35) mm long, yellowish-brown; pollen cones yellow, about 10 mm long.

**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 length\(^3\) less than 10.5 mm; young twigs densely hairy with short rusty hairs

............................................................................................................................................ *P. mariana*

1. Cones generally longer, cylindric, 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. 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 abruptly sharp-pointed, smooth to wavy margined, with mean scale width greater than 9 mm.

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

............................................................................................................................................ *P. glauca*

3. Young twigs usually sparsely hairy; needles often 2-3 cm long; cones 4-5 (6) 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*

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\(^3\) Mean scale measurements should be taken from the middle of 5-10 mature cones from several trees in a population.
PINACEAE


**Engelmann spruce**

**Habitat/Range:**
Moist to dry slopes, floodplains, and flats in the montane and subalpine zones; very common in C and S BC, except on coast; E to W AB and S to N CA, AZ and NM.

**Description:**
- **General:** Tree straight, spire-like, up to 50 m tall; bark brownish-red and loosely scaly, thin; young twigs usually hairy, occasionally glabrous.
- **Leaves:** Needles sharp, not stiff; twisting somewhat toward upper side of branch; 4-angled; strong odour.
- **Cones:** Seed cones 4-5 cm long, becoming yellowish-brown at maturity; scales blunt to abruptly sharp-pointed, finely irregular wavy margined, papery thin; pollen cones yellow, 10-15 mm long.
- **Notes:** Known to hybridize with *P. stichensis* (west side of the Coast-Cascade Mountains) and *P. glauca* (see notes under *P. glauca*). Pure *P. engelmannii* is found mainly in the Rocky Mountains.

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

**white spruce**

**Habitat/Range:**
Wet to dry slopes, river terraces, bogs and fens in the montane and subalpine zones; 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.

**Description:**
- **General:** Tree erect, up to 40 m tall; bark silvery-brown to blackish, scaly, thin; young twigs glabrous.
- **Leaves:** Needles pointed, stiff; standing out in all directions; 4-angled; aromatic when crushed.
- **Cones:** Seed cones 2.5-3.5 cm long, becoming yellowish-brown at maturity, scales rounded to blunt at tip, smooth margined, not papery thin; pollen cones pale red.
- **Notes:** Hybridizes with *P. engelmannii* and *P. stichensis*. Hybrids with *P. stichensis* have been called *P. x lutii* Little and occur in the Coast Mountains. Hybrids with *P. engelmannii* occur throughout much of interior BC; pure *P. glauca* is found mostly N of 56ºN and in the Chilcotin.

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

**black spruce**

**Habitat/Range:**
Wet to mesic bogs, fens, swamps, and lower slopes in the montane zone; common in C and N BC interior; N to AK, E to NF and S to MN and PA.

**Description:**
- **General:** Small tree, to 20 m tall, with short branches; bark grey to blackish, scaly, thin; young twigs densely hairy and glandular.
- **Leaves:** Needles short, 5-10 (12) mm long, sharp or blunt, with whitish bloom; standing out in all directions or mostly pointing upwards; 4-angled.
- **Cones:** Seed cones persistent, 1.5-3 cm long, becoming purplish; scales broadly rounded and irregularly toothed at tip.
- **Notes:** Reports of hybrids with *P. glauca* are probably erroneous; see Parker and McLachlan (1978).

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

**Sitka spruce**

**Habitat/Range:**
Moist to mesic slopes and river terraces in the lowland and montane zones; common in extreme W BC; N to SE AK and S to N CA.

**Description:**
- **General:** Tall tree, up to 90 m tall; bark greyish-brown to purplish, scaly, thin; young twigs glabrous; main branches of tree noticeably long and horizontal with drooping branchlets.
- **Leaves:** Needles sharp, flattened; standing out in all directions; pungent.
- **Cones:** Seed cones 5-9 cm long, reddish-brown to yellowish-brown, scales rounded and finely irregularly toothed at tip; pollen cones red.
- **Notes:** Hybridizes with *P. glauca* and *P. engelmannii* (see notes under *P. glauca* and *P. engelmannii*).
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, 6-9 cm thick at maturity; cone scales thin and flexible; seeds prominently winged .............................................................................. P. monticola
   4. Cones sessile or subsessile, 5-25 cm long; cone scales thick, woody, and sometimes remaining closed; seeds wingless or wings short and remaining attached to scale.
   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:
Mesor to dry slopes 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.
DESCRIPTION:
General: Often contorted and dwarfed, 5-10 m tall, or a shrubby sprawling timberline tree, but also straight and up to 20 m; bark thin with light-whitish scales; young twigs hairy.
Leaves: Needles in bunches of five, clustered towards ends of branches, (3) 4-7 cm long; yellow green.
Cones: Seed cones egg-shaped, deep red to purple, (3.5) 5-8 cm long; scales remain closed and shed the seeds slowly, rarely falling from tree intact; pollen cones red.

Pinus banksiana Lamb. (P. divaricata [Ait.] Dumort.)
jack pine
HABITAT/RANGE:
Dry slopes 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.
DESCRIPTION:
General: Tree to 30 m tall; straight and columnar with narrow rounded crown; bark reddish-brown to blackish, cracked at the base and somewhat flaky above.
Leaves: Needles in groups of two, not twisted, 1-4 cm long; deep green.
Cones: Seed cones egg-shaped, lopsided, 3-6 cm long; bracts stiff, not armed; serotinous; pollen cones reddish green in clusters at tips of branches.
Notes: Hybridizes with P. contorta var. latifolia; these have been named P. x murraybanksiana Righter & Stockwell.
**Pinus albicaulis**

**Pinus banksiana**
PINACEAE

Pinus contorta Dougl. ex Loud.
lodgepole pine; shore pine
Habitat/Range:
Wet to dry bogs, lower slopes and high river terraces 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.
Description:
General: Tree, mostly to 30 m tall, but up to 40 m; var. latifolia mostly straight and columnar with narrow rounded crown, var. contorta often somewhat contorted and even bonsai-like; bark reddish-brown to blackish, cracked at the base and somewhat flaky above, furrowed and thicker in var. contorta.
Leaves: Needles in groups of two, usually curved and slightly twisted, 2-7 cm long; deep green in var. contorta, yellowish-green in var. latifolia.
Cones: Seed cones egg-shaped, lopsided, 3-6 cm long; stiff bracts with armed tips; serotinous; cones point backwards on twig in var. contorta, outward in var. latifolia; pollen cones reddish-green in clusters at tips of branches.
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 greyish-black, 2-2.5 cm thick on older trees; needles deep green; coastal .............................. var. contorta (shore pine)

1. Trees usually columnar when close together, 20-40 m tall; bark reddish-brown, very thin, rarely over 1 cm thick; needles yellowish-green; inland .......................... var. latifolia Engelm. ex S. Wats. (Lodgepole pine)

Pinus flexilis James
limber pine
Habitat/Range:
Mesic to dry slopes in the subalpine zone; infrequent in the Rocky Mountains of SE BC; E to SW AB and S to S CA, AZ, NM, and NE.
Description:
General: Usually a contorted, dwarfed tree 4-15 (20) m tall but also shrubby and sprawling at timberline; bark grey when young, becoming thickened and brown to blackish; young twigs puberulent.
Leaves: Needles in fives, 4-7 cm long; deep yellow green.
Cones: Seed cones slender egg-shaped, light brown to greenish-brown, 8-25 cm long, deciduous; cone scales open at maturity; pollen cones red.

Pinus monticola Dougl. ex D. Don.
western white pine
Habitat/Range:
Moist to dry slopes in the lowland and montane zones; frequent in S BC; E to SW AB and S to CA, NV, ID, and MT.
Description:
General: Tree to 50 m tall, sometimes taller; bark thin, grey and smooth when young, developing into small, squarish scales, greyish where flakes exposed, cinnamon brown underneath; young twigs puberulent.
Leaves: Needles in fives, (3) 5-10 cm long; light blue-green.
Cones: Seed cones pendant at ends of upper branches, yellow-green to purple when young, turning yellowish-brown, 15-25 cm long when mature; scales thin; pollen cones yellow, clustered.

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4 Key adapted for Hitchcock et al. (1961).
Pinus contorta

Pinus monticola
**Pinaceae**

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

**ponderosa pine; yellow pine**

**Habitat/Range:**
Mesic to dry slopes, river terraces and flats in the steppe and montane zones; common in SC and SE BC; S to CA, NM, TX, NE, and SD.

**Description:**
*General:* Tree to 40-50 m tall; bark thick, deeply furrowed, dark reddish-brown or blackish when young, changing to cinnamon red when older and exfoliating as irregular scales.

*Leaves:* Needles mostly in threes, often twos, occasionally fours or fives, (10) 12-20 (25) cm long, clustered towards branch ends; yellowish-green.

*Cones:* Seed cones near branch tips, deep reddish-purple when young, maturing late in second year, turning brown; egg-shaped, 8-14 cm long; scales brown with thickened, yellowish, prickly tip; pollen cones yellow to purplish, strongly clustered.

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**Pseu**

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

**Douglas-fir**

**Habitat/Range:**
Moist to dry slopes, river terraces and flats 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.

**Description:**
*General:* Tree up to 70 (occasionally to 90) m tall; rounded to flattened crown when older, young trees with pyramidal crown; bark very thick, rough, dark brown.

*Leaves:* Needles (1.5) 2-3 (3.5) cm long, spreading around twig or turned upward, obtuse to abruptly sharp-pointed tip; color varies from yellow-green to dark-green in var. *menziesii* to blue-green in var. *glauc*; lower surface with two longitudinal bands of white stomata.

*Cones:* Seed cones drooping, yellowish- to purplish-green when young, turning reddish-brown, soon deciduous; 6-10 cm long in var. *menziesii*, 4-7 cm in var. *glauc*; scales with 3-lobed tip, the centre one the longest; pollen cones yellow to reddish, 6-10 mm long.

**Notes:** Two varieties are recognized in BC

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)

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

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**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 egg-shaped, 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*
Pinus ponderosa

Pseudotsuga menziesii

var. menziesii

var. glauca
Tsuga heterophylla (Raf.) Sarg.
western hemlock

Habitat/Range:
Moist to dry slopes, river terraces and flats in the lowland and montane zones; common in and W of the Coast-Cascade Mountains in W BC and in SE BC; N to SE AK and S to N CA, N ID and NW MT.

Description:
General: Tree to 50 (60) m tall; narrow crown, with noticeably drooping leader (growing tip); young twigs covered with mix of short hairs and longer hairs; bark rough and scaly, strongly furrowed and ridged in older trees, dark brown to reddish-brown.

Leaves: Needles somewhat flattened, rounded at tip, 8-20 (25) mm long and characteristically unequal in length, spread unevenly at right angles to the branches to form feathery, flat sprays; glossy and yellow-green on upper surface, almost entirely white-stomatiferous on the lower.

Cones: Seed cones maturing from green to brown, 1.5-2.5 cm long, oblong-egg-shaped; pollen cones yellow, 3-4 mm long.

Notes: Hybrids with *T. mertensiana* have been reported (*T. x jeffreyi* [Henry] Henry) but are considered rare; some reports may be at upper elevations of its range where *T. heterophylla* may take on some characteristics of *T. mertensiana*, e.g., leaves less 2-ranked and stomatal bands on the lower leaf surfaces less distinct.

Tsuga mertensiana (Bong.) Carr.
mountain hemlock

Habitat/Range:
Wet to dry slopes in the lowland to subalpine zones; common at high elevations along W BC and infrequent in SE BC and lower elevations of NW BC coast; N to SE AK and S to C CA, N ID and W MT.

Description:
General: Tree, seldom to 40 m tall, much shorter near tree-line; narrow crown, with slightly drooping leader (growing tip), less evident with age; twigs strongly hairy with mix of short and long hairs; bark thick, strongly furrowed and ridged, dark purplish- to reddish-brown.

Leaves: Needles thickened in centre and somewhat 4-sided, round to blunt at tip, (10) 12-20 mm long, spread around branches to somewhat upturned, not forming flat sprays; yellow-green to deep blue-green, stomata on both surfaces, rarely whitish.

Cones: Seed cones maturing from green or purple to dark brown, (2.5) 3-6 (7) cm long, cylindric with narrowed ends; pollen cones bluish, 3-4 mm long.

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

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**TAXACEAE**

**TAXUS**

*Taxus brevifolia* Nutt.
western yew; Pacific yew

Habitat/Range:
Moist to mesic slopes and creek sides in the lowland and montane zones; common along the coast and in SC and SE BC; N to SE AK and S to N CA, NE OR, ID, and NW MT.

Description:
General: Small tree 2-15 m tall, often shrubby; branches spreading to drooping in flat sprays; bark thin, with outer purplish scales over reddish to reddish-purple inner bark; male and female plants separate.

Leaves: Needles 2-ranked, flattened, and pointed at tip, (12) 14-18 mm long, 1-2 mm broad; yellow-green and paler on lower surface.

Cones: Fruit is a round, red, fleshy aril, 5-6 mm long, borne on the underside of the branches; pollen cones yellow, globe-shaped, 3 mm long.
Tsuga heterophylla

Tsuga mertensiana

Taxus brevifolia
ACERACEAE

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 in panicles; trees up to 30 m tall.

3. Leaves grey, white or purplish below, the stalks without milky juice when cut; inflorescence in long, hanging panicles; fruits glabrous ...................................................... A. pseudoplatanus

3. Leaves green below, the stalks with milky juice when cut; inflorescence racemose or in stiff, more or less erect panicles; fruits glabrous or hairy.

4. Leaves lobed beyond the middle, the tips abruptly sharp-pointed; inflorescence racemose; fruits hairy .............................................................. A. macrophyllum

4. Leaves not lobed beyond the middle, the tips bristlelike; inflorescence in stiff, more or less erect panicles; 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- to 5-lobed, glabrous to sparsely glandular short-hairy; sepals green ............. A. glabrum

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

Acer circinatum Pursh
vine maple

Habitat/Range:
Wet to mesic closed and open forests and streamsides in the lowland and montane zones; common in SW BC, rare on S Vancouver Island; S to N CA.

Description:
General: Deciduous small tree or shrub, 1-8 m tall, often propagating by layering, sometimes forming dense thickets; stems branching, pale green to reddish, becoming brown with age.

Leaves: Opposite, 3-12 cm wide, 7- to 9-lobed, hairy on the lower surface and on the upper surface along the veins, becoming golden to bright red (in full sun) in the autumn.

Flowers: Inflorescence of flat-topped, indeterminate clusters at the end of shoots; petals white, 6-9 mm wide; sepals usually red.

Fruits: Winged, in pairs, 2-4 cm long, widely spreading, green becoming reddish-brown, pairs attached at a 180° angle, or nearly so.

Acer glabrum Torr. var. douglasii (Hook.) Dippel (A. douglasii Hook.)
Douglas maple; Rocky Mountain maple

Habitat/Range:
Mesic to dry forests and rocky slopes 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.

Description:
General: Deciduous shrub or small tree, up to 10 m tall; stems branching, glabrous, young twigs reddish; bark greyish to reddish-purple.

Leaves: Opposite, 2-12 cm wide, 3- to 5-lobed, glabrous to sparsely glandular short-hairy, coarsely toothed, paler on the lower surface, turning yellow to orange or crimson in fall.

Flowers: Inflorescence of flat-topped, terminal or axillary clusters of about 10 flowers, male and female flowers on separate or same plants, appearing with the leaves; petals and sepals yellowish-green.

Fruits: Winged, in pairs, 2-3 cm long, greenish-brown, pairs attached in a V-shape.
Acer circinatum

Acer glabrum var. douglasii
ACERACEAE

Acer macrophyllum Pursh
bigleaf; Oregon maple

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

Description:
General: Large, deciduous, spreading tree up to 30 m tall; branches greenish-barked, smooth; older bark greyish-brown, ridged and often covered with lichens and mosses.
Leaves: Opposite, 10-30 cm wide, deeply 5-lobed, tips abruptly sharp-pointed, dark green above and paler green below, turning yellow in fall, stalks with milky juice when cut.
Flowers: Inflorescence racemose with male and female flowers on the same plant; numerous on short stalks, appearing with or before the leaves; petals greenish-white,
Fruits: Winged, in pairs, 3-6 cm long, yellowish-brown, hairy, pairs attached in a V-shape.

Acer negundo L.
box-elder; Manitoba maple

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

Description:
General: Deciduous, spreading tree up to 20 m tall; young branches glabrous to finely hairy, light brown, becoming furrowed with age.
Leaves: Opposite, pinnately compound, with 3-7 (9) leaflets, oblong-lanceolate to oblanceolate, coarsely few-toothed, usually hairy.
Flowers: Inflorescence of racemes in dense axillary clusters on slender stalks, male and female flowers on separate trees; petals lacking.
Fruits: Winged in pairs, 2.5-3.8 cm long, hairy, pairs attached in a V-shape.
Notes: This species is probably naturalized in BC.

Acer platanoides L.
Norway maple

Habitat/Range:
Mesic forest openings in the lowland or montane zones; rare horticultural escape in forests near urban areas in S BC; introduced from Europe.

Description:
General: Deciduous, spreading tree up to 30 m tall; bark more or less smooth, greyish.
Leaves: Opposite, 10-25 cm wide, palmately 5- to 7-lobed but not beyond the middle, green, the tips bristlelike; stalks with milky juice when cut.
Flowers: Inflorescence in stiff, more or less erect panicles with male and female flowers on the same plant.
Fruits: Winged, in pairs, 3.5-5 cm long, glabrous, pairs widely spread, almost flat.
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.  

DESCRIPTION:  
General: Deciduous, spreading tree up to 30 m tall; bark scaly, various shades of brown.  
Leaves: Opposite, 7.5-18 cm wide, palmately 5-lobed, green above, grey, white or purplish below; stalks without milky juice when cut.  
Flowers: Inflorescence of long, hanging panicles.  
Fruits: Winged, in pairs, 3.3-5.0 cm long, glabrous, pairs attached in a U-shape.

ADOXACEAE

ADOXA

Adoxa moschatellina L.  
moschatel  

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

DESCRIPTION:  
General: Perennial herb from a fleshy-scaled rhizome; stems erect, 5-20 cm tall; plant gives off a musky odor.  
Leaves: Basal leaves long-stalked, divided into 3 long-stalked, 3-cleft leaflets, 4-16 cm long, glabrous; stems leaves opposite, 0.8-4 cm long, palmately lobed, usually borne a little above the middle of the flowering shoot.  
Flowers: Inflorescence of inconspicuous flowers, sessile in the heads; petals yellowish-green, 4- to 6-lobed, 5-8 mm wide.  
Fruits: Dry, green drupes, 2-3 mm long, with 4-5 nutlets.
Acer pseudoplatanus

Adoxa moschatellina
Amaranthaceae

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 (flower scales) 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 long-hairy with dandruff-like scales below the inflorescence; leaves usually hairy beneath, at least along the veins; stamens usually 5 .................................................................A. retroflexus
   3. Plants glabrous to short-hairy below the inflorescence; leaves glabrous or nearly so; stamens usually 3
      ...........................................................................A. powellii

Amaranthus albus L.  
tumbleweed; white pigweed

Habitat/Range:
Dry disturbed areas and waste places in the montane zone; infrequent in S BC; throughout N. America, S. America and the Old World.

Description:
General: Annual herb from a taproot; stems erect or ascending, several, glabrous to short-hairy, branching basally forming a rounded plant to 1 m tall, tending to break off at the base at maturity and then behaving as a "tumbleweed".
Leaves: Alternate or opposite; leaf blades rarely over 3 cm long, rounded, diamond-shaped to egg-shaped, callous-margined, bristle-tipped, narrowing to a slender stalk.
Flowers: Inflorescence of small axillary clusters; bracts rigid; tepals mainly 3; stamens 1-3.
Fruits: Capsules opening along an "equator", the top coming off like a lid, 1-seeded; seeds 0.6-1.0 mm long, lens-shaped.

Amaranthus blitoides S. Wats. (A. graecizans auct. non L.)  
prostrate pigweed; prostrate tumbleweed

Habitat/Range:
Dry disturbed areas in the lowland, steppe and montane zones; infrequent in S BC; throughout N. America, W. Indies, Europe.

Description:
General: Annual herb from a taproot; stems prostrate or decumbent, several, glabrous to short-hairy, 30-70 cm tall.
Leaves: Alternate or opposite, the blades rarely over 3 cm long, diamond-shaped to egg-shaped, callous-margined, bristle-tipped narrowing to a slender stalk.
Flowers: Inflorescence in small axillary clusters; bracts narrowly lanceolate, bristle-tipped; tepals 4-5; stamens 3-4.
Fruits: Capsules opening along an "equator", the top coming off like a lid, 1-seeded; seeds 1.3-1.7 mm long, lens-shaped.
Amaranthaceae/Anacardiaceae

Amaranthus powelli S. Wats. (A. retroflexus L. var. powelli [S. Wats.] Boiv.)
Powell's amaranth; green pigweed

Habitat/Range:
Moist to dry fields, disturbed areas and waste places; infrequent in SW and SC BC, known from the Gulf Islands, the Vancouver area and the Okanagan Valley; throughout N. America, S. America and the Old World.

Description:
General: Annual herb from a taproot; stems erect, simple to freely branched, 0.3-2.0 m tall, grooved, often reddish, glabrous to short-hairy or sparsely hairy below the flowers.
Leaves: Alternate or opposite, leaf blades 2.5-14 cm long, glabrous or nearly so, egg-shaped to deltoid-elliptic.
Flowers: Inflorescence in terminal and axillary spikes; bracts linear-lanceolate and spiny; sepals unequal; stamens 3-4.
Fruits: Capsules opening along an "equator", the top coming off like a lid, 1-seeded; seeds 1 mm long, lens-shaped.

Amaranthus retroflexus L.
rough pigweed; red pigweed; pigweed amaranth

Habitat/Range:
Moist to dry fields, disturbed areas and waste places in the lowland, steppe and montane zones; frequent in SC BC, rare northward; throughout N. America and the Old World.

Description:
General: Annual herb; stems 50-100 cm tall, simple to freely branched, long-hairy with danduff-like scales below the flowers.
Leaves: Alternate or opposite, leaf blades 3-8 cm long, hairy below, at least along the veins, narrowed abruptly to the stalks.
Flowers: Inflorescence in terminal and axillary spikes; bracts long and needle-shaped or spiny; stamens usually 5, sometimes 4.
Fruits: Capsules opening along an "equator", the top coming off like a lid, 1-seeded; seeds 1 mm long, rounded and convex.

Anacardiaceae

1. Fruits red, hairy; leaflets 7-29 .............................................................. Rhus

1. Fruits white or yellowish, glabrous; leaflets 3-5 ................................................. Toxicodendron

Rhhus glabra L.
smooth sumac

Habitat/Range:
Dry to mesic open streambanks and forest openings and margins in the montane zone; infrequent in SC and SE BC, E to PQ and S to FL, TX and Mx.

Description:
General: Deciduous shrub up to 3 m tall; bark smooth; branches glabrous or sparsely hairy near the flowers, exuding milky juice when cut.
Leaves: Leaflets 7-29, oblong-lanceolate to elliptic, saw-toothed, 5-12 cm long, turning golden to scarlet in fall.
Flowers: Inflorescence in large, dense, compound, pyramid-shaped panicles; petals 1-2 mm long, abruptly sharp-pointed, yellowish.
Fruits: Berrylike drupes, 4-5 mm long, reddish, hairy, somewhat flattened.
Notes: Often used as an ornamental due to its bright fall colors.
Amaranthus powellii

Amaranthus retroflexus

Rhus glabra
Anacardiaceae

Toxicodendron

1. Leaflets abruptly sharp-pointed or long-pointed at the tips; fruits about 4 mm long.............. T. rydbergii
1. Leaflets rounded, obtuse or rarely abruptly sharp-pointed at the tips; fruits about 5 mm long.............

............................................................... T. diversilobum

Toxicodendron diversilobum [T. & G.] Greene (Rhus diversiloba T. & G.)

Poison oak

Habitat/Range:
Dry to mesic rocky slopes (often climbing trees) in the lowland zone; rare in SW BC, known from SE Vancouver Island, the Gulf Islands and Howe Sound; S to MX.

Description:
General: Deciduous shrub 1-2 m tall or woody climbing vine up to 15 m tall, glabrous to hairy, exuding milky juice when cut.
Leaves: Leaflets 3-5, rounded, obtuse or sometimes, 3-7 cm long, turning scarlet in autumn.
Flowers: Inflorescence in loose, axillary, often reflexed panicles; flowers bisexual or unisexual, 1-2 mm long, yellowish-green; stamens exerted.
Fruits: Berrylike drupes, 5 mm long, white, glabrous.
Notes: Many people develop an itching or burning rash after contacting this plant because of its slightly volatile oil.

Toxicodendron rydbergii (Small ex Rydb.) Erskine (Rhus radicans L. var. rydbergii [Small ex Rydb.] Rehd., R. rydbergii [Small ex Rydb.] Greene, R. toxicodendron L. var. vulgaris Michx.)

Poison ivy

Habitat/Range:
Dry to mesic slopes in the montane zone; infrequent in SC and SE BC, rare in SW BC; E to PQ, NB and NS and S to MX.

Description:
General: Deciduous slender shrub, decumbent to erect, ivylike, up to 2 m tall, somewhat hairy, exuding milky juice when cut.
Leaves: Leaflets 3, abruptly sharp-pointed or long-pointed, broadly egg-shaped, entire or shallowly crenate to lobed, 5-15 cm long.
Flowers: Inflorescence of crowded axillary panicles; flowers 2-3 mm long.
Fruits: Berrylike drupes, 4 mm long, white to greenish-yellow, glabrous.
Notes: The slightly volatile oils of this plant cause an allergic reaction for some people.

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5 Key adapted from Gleason and Cronquist (1963).
APIACEAE

1. Leaves simple, entire, toothed or palmately lobed.
2. Inflorescences dense heads, without spikes; flowers and fruits sessile; leaves spiny-toothed. *Eryngium*
3. Inflorescences umbels, with spikes; flowers and fruits more or less stalked; leaves not spiny-toothed.
   3. Leaves reduced to long, narrow, segmented, bladeless tubes. *Lilaeopsis*
   3. Leaves with rounded or narrow blades. *Bupleurum*

1. Leaves, or at least most of them, compound or deeply cleft.
4. Leaves, or at least many of them, with well-defined leaflets, not dissected into small and narrow segments.
5. Basal leaves simple, toothed. *Zizia*
6. Basal leaves, when well-developed, compound or deeply cleft.
   6. Leaflets 3, very large, usually more than 10 cm long and wide. *Heracleum*
   6. Leaflets usually more than 3, usually less than 10 cm long and wide.

7. Plants perennial from fibrous or fleshy-thickened, closely clustered roots.
   8. Leaves palmately deeply cleft or palmately once compound; fruits armed with hooked prickles. *Sanicula*
7. Plants perennial from fibrous or fleshy-thickened, closely clustered roots.
8. Leaves pinnately to ternately once to several times compound.
   9. Base of the stems 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. Ribs of the fruit inconspicuous; calyx teeth minute or obsolete; fruits rounded.
    11. Leaves pinnate, plants aquatic or semi-aquatic. *Berula*
    11. Leaves bipinnate, plants not aquatic or semi-aquatic. *Aegopodium*
   10. Ribs of the fruit conspicuous; calyx teeth well-developed or minute or obsolete; fruits oblong or elliptic.
    12. Plants usually reclining or scrambling-ascending; primary lateral veins of the leaflets tending to be directed to the teeth; calyx teeth well-developed. *Oenanthe*
    12. Plants erect; veins not directed to the teeth; calyx teeth minute or obsolete. *Silene*

7. Plants annual, biennial, or perennial from a taproot or stout stem-base (or sometimes with fleshy-fibrous roots from a rhizomatous stem-base in *Conioselinum*).
13. Annual or biennial weeds. *Pastinaca*
13. Perennials, not weedy.
   14. Umbellets headlike, the flowers and fruits unstalked. *Glehnia*
   14. Umbellets not headlike, the flowers and fruits stalked.

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6 Contributed by G.W. Douglas and J. Pojar.
7 Key adapted from Hitchcock et al. (1969).
15. Fruits dorsally flattened.
   16. Stylopodium obsolete or nearly so ........................................... Lomatium
   16. Stylopodium well-developed ......................................................... Angelica
15. Fruits subterete or flattened laterally.
   17. Fruits linear or linear-oblong to club-shaped, not winged, 8-22 long .......... Osmorhiza
   17. Fruits broader, usually winged, 2-6 mm long .................................. Ligusticum
4. Leaves more or less dissected into rather small, narrow ultimate segments, without well-defined leaflets.
18. Stems purple-spotted; robust biennial weeds 0.5-3 m tall ................................ Conium
18. Stems not purple-spotted; habit various.
   20. Fruits strongly flattened dorsally, the lateral ribs winged ........................ Anethum
   20. Fruits not strongly flattened, the ribs not winged ................................ Foeniculum
19. Ultimate leaf-segments linear, lanceolate or broader (linear-filiform only in upper leaves of Carum).
   21. Fruits bristly or prickly.
   22. Fruits beaked.
      23. Sheaths of the upper leaves long-hairy on the margins; stems glabrous .......... Anthriscus
      23. Sheaths of the upper leaves entire; stems stiff-hairy ............................. Torilis
   22. Fruits beakless.
   24. Bristles of the fruit not in straight rows ............................................ Sanicula
   24. Bristles of the fruit in straight rows corresponding to the ribs.
      25. Fruits dorsally somewhat compressed, bristles barbed at the tip ............. Daucus
      25. Fruits laterally somewhat compressed, bristles hooked at the tip ............. Yabea
21. Fruits not bristly or prickly (sometimes inconspicuously bristly in Myrrhis).
26. Plants annual or biennial introduced weeds, taprooted.
   27. Fruits distinctly beaked, 6-15 mm long, tipped by a stout beak 2-7 mm long . Scandix
   27. Fruits beakless, 3-4 mm long ............................................................. Carum
26. Plants perennial natives (except Myrrhis which is introduced), with or without a taproot.
   28. Plants strictly maritime ................................................................. Contoselinum
   28. Plants not strictly maritime.
   29. Plants with closely clustered roots.
      30. Leaf blades 1-pinnate or occasionally 2-pinnate or ternate, the ultimate segments linear; plants of S BC ................................................................. Perideridia
      30. Leaf blades 2-3 pinnate, the ultimate segments lanceolate and abruptly sharp-pointed; plants of NW BC ......................................................... Cnidium
29. Plants definitely taprooted, the taproot sometimes fleshy-thickened, but distinctly elongate, taproot often surmounted by a stout, branching stem-base.
   31. Fruits distinctly compressed dorsally ............................................... Lomatium
   31. Fruits subterete or slightly compressed laterally.
      32. Fruits 4-8 mm long ............................................................................. Ligusticum
      32. Fruits 15-25 mm long ........................................................................ Myrrhis
AEGOPODIUM

Aegopodium podagraria L.
goutweed; ground elder

Habitat/Range:
Mesic to dry roadsides and waste places in the lowland zone; rare in SW BC, known only from the lower Fraser Valley; introduced from Eurasia.

Description:
General: Perennial herb from a long-creeping rhizome, often in bundles; plants creeping, patch-forming; stems hollow, grooved, glabrous, 0.3-1.0 m tall.
Leaves: Basal leaves 2 times pinnately-cut, leaf segments stalked, egg-shaped, the tips long-pointed, stem leaves deeply indented with leaflets once to several times compound, 10-20 cm long, the segments 4-8 cm long, sessile or shortly stalked, reduced upwards.
Flowers: Inflorescence terminal in compound umbels; petals white or sometimes pink, usually lacking bracts.
Fruits: Egg-shaped, 3-4 mm long, ribs inconspicuous.
Notes: This is potentially a very persistent weed, especially in calcareous habitats.

ANETHUM

Anethum graveolens L.
common dill

Habitat/Range:
Mesic to dry fields, roadsides and waste places in the lowland zone; rare in SW BC, known from SE Vancouver Island and the lower Fraser Valley; introduced from Asia.

Description:
General: Annual herb from a taproot; stems erect, glabrous, 0.3-1 (1.5) m tall.
Leaves: Stem leaves compound, dissected into linear segments, 4-8 cm long; without well-defined leaflets; aromatic.
Flowers: Inflorescence terminal, flat-topped, of umbrella-like clusters; flowers yellow.
Fruits: Numerous, 4 mm long, elliptic, strongly flattened crosswise with winged lateral ribs.
APIACEAE

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 lacking or rarely a few bracts present.

3. Main axis of the leaves bent, leaflets deflexed .............................................................. A. genuflexa

3. Main axis of the leaves straight, leaflets not deflexed ..................................................... A. arguta

Angelica arguta Nutt.
sharp-toothed angelica

HABITAT/RANGE:
Wet to moist streambanks, meadows and open forests in the lowland, steppe and montane zones; frequent in extreme S BC; E to AB and S to WY, UT and N CA.

DESCRIPTION:
General: Perennial herb from a taproot; stems erect, 0.5-2.0 m tall.
Leaves: Stem leaves compound with three major divisions, divided in turn once or twice again; leaflets hairy along the underside of the veins or glabrous, 4-14 cm long.
Flowers: Inflorescence terminal, flat-topped, of umbrella-like clusters with 1-4 secondary clusters from the main stem; flowers white or sometimes pinkish.
Fruits: Numerous, 4-7 mm long, glabrous, dorsal ribs narrowly winged.

Angelica dawsonii S. Wats.
Dawson's angelica

HABITAT/RANGE:
Wet to moist streambanks and meadows in the montane zone; rare in extreme SE BC; E to SW AB and S to ID and MT.

DESCRIPTION:
General: Stout perennial herb from a fleshy enlargement above the taproot; stems erect, 0.3-1.2 m tall.
Leaves: Basal and stem leaves compound with three major divisions that are in turn divided; leaflets with or without stalks, closely toothed, 2.5-9 cm long.
Flowers: Inflorescence terminal, of umbrella-like clusters; involucral bracts toothed, leafy; flowers pale-greenish to yellow, drying a distinct yellow.
Fruits: Numerous, 4-7 mm long, glabrous, with narrowly winged dorsal ribs.

Angelica genuflexa Nutt.
kneeling angelica

HABITAT/RANGE:
Moist streambanks and open forests in the montane zone; common throughout BC, infrequent in the Queen Charlotte Islands and the adjacent coast; amphitropical, N to AK, E to AB and S to N CA; E Asia.

DESCRIPTION:
General: Stout perennial herb from a taproot; stems 1-3 m, glabrous, hollow, arising from erect, tuberous, chambered stem-base, often purplish and glaucous.
Leaves: Stem leaves compound with three major divisions that are in turn divided again; primary divisions bent back (not directed forward as in other similar species); leaf axis bent; leaflets reflexed, oblong to lanceolate, 4-10 cm long.
Flowers: Inflorescence terminal, of umbrella-like clusters; flowers white or pinkish; involucral bracts lacking.
Fruits: Rounded, 3-4 mm long, glabrous, with broadly winged lateral ribs.
Angelica arguta

Angelica dawsonii

Angelica genuflexa
**AEEACAE**

*Angelica lucida* L.

seacoast angelica; sea-watch

**Habitat/Range:**
Moist to mesic beaches, coastal bluffs and meadows in the lowland to subalpine zones; common in and W of the Coast-Cascade Mountains, infrequent eastward; amphiberianigian, N to AK and S to CA; E. Asia.

**Description:**
- **General:** Stout perennial herb from a strong taproot and partitioned stem-base; stems erect, single, 0.5-1.4 m tall.
- **Leaves:** Stem leaves glabrous, 2-3 times divided in 3's; leaflets egg-shaped to deltoid, 2-7 cm long, irregularly toothed; leaf stalks inflated, with expanded sheathing base.
- **Flowers:** Numerous, small compact heads in 1- several compound umbels; flowers white; involucral bracts lacking.
- **Fruits:** Oblong-elliptic, 4-9 mm long, glabrous, with corky-thickened, thin-edged ribs.

**ANTHRISCUS**

1. Fruits egg-shaped, with coarse, hooked hairs; leaves with coarse hairs ........................................... *A. caucalis*

1. Fruits linear to lanceolate, glabrous; leaves glabrous or with long, soft hairs.

2. Fruits lanceolate, the beak 1/6 the length of the body; bracts lance-egg-shaped ........*A. sylvestris*

2. Fruits linear, the beak 1/3 the length of the body; bracts lance-linear .............................. *A. cerefolium*


**bur chervil**

**Habitat/Range:**
Moist fields, ditches, disturbed sites and waste places in the lowland zone; rare in SW BC, known from SE Vancouver Island, the Gulf Islands and the Fraser River delta; introduced from Europe.

**Description:**
- **General:** Annual or biennial herb from a taproot; stems branched, glabrous, 40-90 cm tall.
- **Leaves:** Basal and stem leaves similar, triangular in outline, stalked, reduced upwards, coarse-hairy.
- **Flowers:** Inflorescence small, on short stalks 2 cm long opposite the upper leaves, in umbrella-like clusters of 3-7 flowers, each with a ring of short, flattened hairs.
- **Fruits:** Egg-shaped, 4 mm long, covered with short, thick, hooked prickles and an unarmed short stout beak.

*Anthriscus cerefolium* (L.) Hoffm.

**chervil**

**Habitat/Range:**
Moist waste places in the lowland zone; rare in SW BC, known only from the lower Fraser Valley; introduced from Europe.

**Description:**
- **General:** Annual or biennial herb from a taproot; stems branching, glabrous to sparsely soft-hairy, 50-70 cm tall.
- **Leaves:** Basal and stem leaves similar, triangular in outline, glabrous to sparsely soft-hairy, reduced upwards.
- **Flowers:** Inflorescence small, on stalks 2 cm long, borne opposite the upper leaves, in umbrella-like clusters.
- **Fruits:** Linear, 7-9 mm long, including the 2-3 mm long beak, the beak 1/3 the length of the body; glabrous.

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* Key adapted from Gleason and Cronquist (1963).
Angelica lucida

Anthriscus caucalis

Anthriscus cerefolium
**APIACEAE**

*Anthriscus sylvestris* (L.) Hoffm.

**wild chervil**

**Habitat/Range:**
Wet to moist disturbed sites, fields and margins of woods in the lowland and montane zones; rare in SW and SE BC; introduced from Europe.

**Description:**
**General:** Annual or biennial herb from a taproot; stems branching, glabrous, to sparsely soft-hairy, 50-100 cm tall.
**Leaves:** Basal and stem leaves similar, triangular in outline, glabrous to sparsely soft-hairy, reduced upwards.
**Flowers:** Inflorescence small, on stalks 2 cm long, borne opposite the upper leaves, in umbrella-like clusters.
**Fruits:** Linear, 6-7 mm long, including the 1 mm long beak, the beak 1/6 the length of the body, glabrous.

**BERULA**

*Berula erecta* (Huds.) Cov. var. *incisa* (Torr.) Cronq. (*Sium incisum* Torr.)

**cut-leaved water-parsnip**

**Habitat/Range:**
Wet to moist streambanks, ditches and opens areas in the lowland, steppe and montane zones; rare in S BC; E to NY and S to FL and MX.

**Description:**
**General:** Perennial herb from a fibrous root, often forming stolons; stems freely branching, soft, 20-80 cm tall.
**Leaves:** Basal leaves soon deciduous; lower stem leaves compound, oblong, scalloped with toothed edges, 6-12 cm; upper stem leaves smaller, narrower, sharply toothed and often irregularly indented; sometimes with submerged, dissected leaves.
**Flowers:** Several to many, in umbrella-like clusters; flowers small, white.
**Fruits:** Rounded, 1.5-2 mm long, ribs inconspicuous.

**BUPELIRUM**

*Bupleurum americanum* Coulter. & Rose (*B. triradiatum* Adams ssp. *arcticum* [Reg.] Hult.)

**American thorough-wax**

**Habitat/Range:**
Dry rock outcrops, grasslands and shrublands 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.

**Description:**
**General:** Perennial herb from a taproot and thickened base; stems several, branched, glabrous, glaucous, 5-50 cm tall.
**Leaves:** Simple, with long, narrow blades; basal leaves up to 16 cm long, 1 cm wide; upper leaves unstalked, tapering from the stems.
**Flowers:** Compact umbrella-shaped clusters; flowers yellow or sometimes purple; 2-6 well-developed involucral bracts.
**Fruits:** Broadly oblong, 3-4 mm long, ribs prominently raised.
APIACEAE

CARUM

Carum carvi L.
caraway

Habitat/Range:
Fields and waste places in the montane zone; infrequent throughout BC S of 56°N; introduced from Eurasia.

Description:
General: Biennial herb from a taproot; stems single at the base, branching above, 0.3-1 m tall.
Leaves: Upper leaves finely dissected into linear, threadlike segments; lower leaves stalked, well-developed, 8-17 cm long.
Flowers: Inflorescence terminal, in umbrella-like clusters; flowers white or rarely pink; spokes of the umbel 7-14.
Fruits: Broadly oblong-elliptic, 3-4 mm long, scented.

CICUTA

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

1. Axils of leaves without bulblets; 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. Leaflets 3-4 times as long as broad, lanceolate to narrowly oblong or elliptic; fruit with a narrow raised border along edge of dark interval ..................................................... C. douglasii

3. Leaflets more than 5 times as long as broad, linear to narrowly lanceolate; fruit without a raised border along edge of dark interval ..................................................... C. maculata

Cicuta bulbifera L.
bulbous water-hemlock

Habitat/Range:
Wet marshes and meadows in the montane zone; infrequent 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.

Description:
General: Stout perennial herb from a taproot or cluster of tuberous roots; stems single, not thickened at the base, erect, 0.3 to 1 m tall.
Leaves: Basal leaves absent; stem leaves compound, divided 1-3 times; the middle and lower leaves dissected, narrowly linear; the upper leaves reduced with fewer segments, many bearing axillary bulbils; leaflets 3-5 cm long.
Flowers: Inflorescence terminal in a compound umbel, white to greenish; calyx saw-toothed.
Fruits: Rounded, 1.5-2 mm long, constricted where the carpels join, ribs broad.

* Key adapted from Mulligan (1980)
A P I A C E A E

* Cicuta douglasii* (DC.) Coul. & Rose
  **Douglas' water-hemlock**

**Habitat/Range:**
Wet stream edges, ditches and marshes in the lowland, steppe and montane zones; common throughout BC except the Queen Charlotte Islands; N to AK and S to ID, NV and CA.

**Description:**
**General:** Stout perennial herb from a taproot or cluster of tuberous roots; stems solitary or few together from a tuberous-thickened and chambered base, leafy, glabrous, 0.5-2 m tall.

**Leaves:** Basal and stem leaves divided 1-3 times, leaflets 3-4 times as long as broad, lanceolate to narrowly oblong or elliptic, these sharply pointed and toothed, 4-7 mm long; lateral veins ending at base of the teeth.

**Flowers:** Inflorescence of several to many small, compact clusters forming several compound umbels; flowers white to greenish; involucral bracts mostly lacking.

**Fruits:** Egg-shaped to orbicular, 2-4 mm long, glabrous, corky-thickened; ribs unequal, with a narrow raised border on edge of dark intervals.

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

**Habitat/Range:**
Wet streamside, ditches and marshes in the steppe 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.

**Description:**
**General:** Stout perennial herb from a taproot or cluster of tuberous roots; stems solitary or few together from a tuberous-thickened chambered base, glabrous, 0.5-2 m tall.

**Leaves:** Stem leaves compound, divided 1-3 times without bulbls in axils; leaflets more than 5 times as long as broad, linear to narrowly lanceolate; midvein on upper leaflet surface glabrous.

**Flowers:** Inflorescence of several to many small compact clusters aggregated in several compound umbels; flowers white to greenish, small, numerous; involucral bracts mostly lacking.

**Fruits:** Egg-shaped to orbicular, 2-4 mm long, longer than wide, without raised border on edge of dark interval.

**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 stream banks, marshes, lake and pond shores in the montane zone; rare in NE BC; N to AK, YT and NT and E to PQ.

**Description:**
**General:** Stout perennial herb from a taproot or cluster of tuberous roots; stems single from a sometimes thickened and chambered base, erect, 0.3-1 m tall.

**Leaves:** Stem leaves compound, divided 1-3 times, axils without bulblets; leaflets linear to narrowly lanceolate, midvein on upper leaflet surface scabrous.

**Flowers:** Inflorescence terminal in a compound umbel; flowers white to greenish or pinkish.

**Fruits:** Rounded, broader than long, 1.5-2 mm long.
**APIACEAE**

**CNIDIDIUM**

*CNIDIDIUM CNIAMFOLIIUM (Turcz.) Schischk.* (*Conioselium cnidifolium* [Turcz.] Porsild)  
**northern hemlock-parsley**

**HABITAT/RANGE:**
Moist to mesic meadows, roadsides, gravelly slopes and forest openings in the montane zone; rare in NW BC, known only from the Atlin Road; amphibenigian, N to AK, YT and NT; E. Asia.

**DESCRIPTION:**
**General:** Perennial herb from a closely clustered, many-rooted stem-base; stems several, branched above, 25-90 cm tall.

**Leaves:** Basal leaves soon deciduous; stem leaves 2-3 pinnate; the ultimate segments lanceolate and abruptly sharp-pointed.

**Flowers:** Inflorescence of compound umbels with numerous spokes; flowers yellow; involucral bracts 1-several, chaffy or lacking.

**Fruits:** Egg-shaped to oblief-oval, 4-5 mm long, glabrous, wings of dorsal ribs almost as broad as the lateral.

**CONIOSELINUM**

**Pacific hemlock-parsley**

**HABITAT/RANGE:**
Moist to mesic coastal bluffs, sandy beaches, tidal marshes and bog woodlands in the lowland zone; common along the coast in BC; N to AK and S to CA.

**DESCRIPTION:**
**General:** Glabrous perennial herb from a short, stout rhizomatous stem-base with a cluster of fleshy roots or a taproot, sometimes glaucous; stems solitary, 0.2-1.2 m tall.

**Leaves:** Stem leaves egg-shaped to deltoid in outline, 2-4 times pinnately dissected, with lobed or cleft leaflets; leaflet stalks sheathing at base, the blades 15-30 cm long.

**Flowers:** Inflorescence of 1 or more compound umbels; flowers white, small, numerous in 8-30 small, compact heads; involucral bracts linear, I-few or lacking.

**Fruits:** Oblong-oval, 5.0-8.5 mm long, glabrous, ribbed, the lateral ribs with broad, thin wings.

**CONIUM**

*CONIUM MACULATUM L.*  
**poison-hemlock**

**HABITAT/RANGE:**
Wet to mesic ditches and disturbed sites in the lowland zone; locally common in in SW BC (known in the Victoria area and Vancouver) rare in SC BC; introduced from Europe.

**DESCRIPTION:**
**General:** Robust biennial herb from a stout whitish taproot, with a disagreeable odour, especially when crushed; stems erect, freely branched, purple-blotched, hollow, 0.5-3 m tall, glabrous, glaucous.

**Leaves:** Stem leaves pinnately dissected, fernlike, with small ultimate segments giving the plant a lacy appearance; leaf stalks enlarged and sheathing at the base, the blades 15-30 cm long.

**Flowers:** Inflorescence terminal and axillary in many compound umbels; flowers white; involucral bracts small, lance-shaped.

**Fruits:** Egg-shaped, somewhat flattened, 2-2.5 mm long, glabrous, with prominent, raised, often wavy ribs.

**Notes:** Plants highly poisonous.
Cnidium cnidifolium

Conioselinum gmelinii

Conium maculatum
DAUCUS

1. Involucral bracts with paper-like edges below; leaf segments threadlike to awl-shaped; plants introduced, coarse biennials ........................................................................................................... D. carota

1. Involucral bracts without paper-like edges below; leaf segments linear or lanceolate, scarcely elongate; plants native, slender annuals ........................................................................................................... D. pusillus

DAucus carota L.

wild carrot; Queen Anne’s lace

Habitat/RANGE:
Roadsides, fields and waste places in the lowland zone; common in SW BC; known from SE Vancouver Island, the Gulf Islands and adjacent mainland, also known from Vernon; introduced from Eurasia.

DESCRIPTION:
General: Coarse biennial herb from a well-developed, whitish, bitter taproot, hairy throughout to nearly glabrous; stems single, 20-120 cm tall.
Leaves: Basal and stem leaves pinnately dissected with small, narrow ultimate segments, fernlike, with short stalks, the blades 5-15 cm long.
Flowers: Inflorescence of numerous, compound umbels with small compact heads; flowers white or yellowish (but the central flower of the umbel commonly purple or pink); involucral bracts with paper-like edges below; segments threadlike to awl-shaped.
Fruits: Egg-shaped, 3-4 mm long, ribbed and armed with barbed prickles along alternate ribs; inflorescence narrower in fruit than in flower, and with outer, longer spokes arching inwards, producing a “bird’s nest” effect.

DAucus pusillus Michx.

American wild carrot

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

DESCRIPTION:
General: Slender annual herb from a slender taproot; stems single, 50-70 (90) cm tall, stiffer-hairy throughout.
Leaves: Basal and stem leaves pinnately dissected with small narrow ultimate segments, leaf blades 3-10 cm long.
Flowers: Inflorescence of numerous, compound umbels with compact heads; flowers white, small; involucral bracts pinnatifid into linear segments without paper-like margins.
Fruits: Oblong, 3-5 mm long, 2 mm wide, usually broadest below the middle, ribbed and armed with barbed prickles along alternate ribs.

ERYNGIUM

Eryngium planum L.

plains eryngo

Habitat/RANGE:
Mesic to dry fields and waste places in the lowland and montane zones; rare garden escape in S BC; introduced from Eurasia.

DESCRIPTION:
General: Fibrous-rooted biennial or perennial herb from a taproot; stems branching, glabrous, 30-100 cm tall.
Leaves: Spiny-toothed, blades of the basal leaves equal to or longer than the stalks, rounded to heart-shaped at the base.
Flowers: Inflorescence of terminal, densely capitate umbellets without spokes, stalked; flowers white to blue.
Fruits: Sphere-like to egg-shaped, flattened lengthwise, covered with scales or tubercles, sessile; without ribs.
Daucus carota

Daucus pusillus

Eryngium planum
FOeniculum

Foeniculum vulgare P. Mill.
sweet fennel

Habitat/Range:
Meso to dry roadsides, fields and waste places in the lowland zone; rare in SW BC, known from SE Vancouver Island, the Gulf Islands and Vancouver; introduced from Europe.

Description:
General: Stout, short-lived perennial or biennial herb from a taproot, with a strong anise odor; stems erect, often branched above, 1-2 m tall.
Leaves: Basal leaves lacking; stem leaves glabrous and glaucous, pinnately dissected into small, thread-like ultimate segments, without well-defined leaflets; leaf stalks often sheathing, the blades 30-40 cm long.
Flowers: Inflorescence of compound umbrella-like clusters; flowers small, yellow; spokes unequal in length.
Fruits: Oblong, not strongly flattened, 3.5-4 mm long, ribs not winged.

GLEHNA

Glehnia littoralis F. Schmidt ex Miq. ssp. leiocarpa (Mathias) Hult. (G. leiocarpa Mathias)
American glehnia

Description:
Habitat/Range:
Moist to mesic coastal dunes and sandy beaches in the lowland zone; infrequent on the Queen Charlotte Islands and Vancouver Island; amphiberian, N to AK and S to N CA; E. Asia.
General: Perennial herb from a stout woody taproot; stemless or with short stems and strongly sheathing leaf stalks buried in the sand.
Leaves: Basal leaves spreading, often prostrate, thick and firm, glabrous above, white woolly beneath, once or twice divided in 3's; leaflets broadly elliptic to egg-shaped, coarsely toothed.
Flowers: Inflorescence of several compact clusters; stalks hairy, 1.5-5 cm long; flowers white, small.
Fruits: Oblong egg-shaped to globose, 6-13 mm long, somewhat flattened, glabrous or hairy towards tip, with broadly corky-winged ribs.

HERACLEUM

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

Heracleum mantegazzianum Sommier & Lev.
giant cow-parsnip; hogweed

Habitat/Range:
Wet to moist disturbed sites in the lowland zone; rare in SW BC, known from S Vancouver Island, the Gulf Islands and Vancouver; introduced from Asia.

Description:
General: Very large, hairy perennial herb from a stout taproot or a cluster of fleshy, fibrous roots; stems erect, single, leafy 1.5-4.5 m tall, with a strong pungent odour when mature.
Leaves: Stem leaves large, compound, stalked, divided into 3 large segments, these segments 10-40 cm long and wide, each coarsely toothed and palmately lobed; base of leaf stalk conspicuously inflated and winged, lower surface of leaves woolly-hairy at least when young, upper leaves sometimes simple, maple-leaf-like.
Flowers: Inflorescence in large terminal, umbrella-like clusters, flat-topped with 1-4 secondary umbels from side shoots; flowers white; involucral bracts 5-10, narrow deciduous.
Fruits: Egg-to heart-shaped, flattened, obtuse basally, 7-12 mm long, 1-seeded, aromatic, lateral ribs broadly winged.
Notes: This plant can cause severe dermatitis when handled.
**Apiaceae**

*Foeniculum vulgare*

*Glehnia littoralis ssp. leioca*

*Heracleum mantegazzianum*
**Apiaceae**


**cow-parsnip**

**Habitat/Range:**
Wet to moist streambanks, upper beaches, marshes, forest openings and meadows from the lowland to alpine zones; common throughout BC; amphiberigian, E to NF and S to GA, NM and CA; E. Asia.

**Description:**

**General:** Large, hairy perennial herb from a stout taproot or cluster of fleshy, fibrous roots; stems erect, single, hollow, 1-3 m tall, with strong pungent odour when mature.

**Leaves:** Stem leaves large, compound, stalked, divided into 3 large segments, these segments 10-40 cm long and wide, each coarsely toothed and palmately lobed; leaf stalk bases inflated and winged; leaves woolly-hairy at least when young; upper leaves sometimes simple, maple-leaf-like.

**Flowers:** Inflorescence in large terminal, umbrella-like clusters, flat-topped with 1-4 secondary umbels from side shoots; flowers white; involucral bracts 5-10, narrow, deciduous.

**Fruits:** Egg- to heart-shaped, flattened, narrowed basally, 7-12 mm long, with or without hairs, 1-seeded, aromatic; lateral ribs broadly winged.

**Ligusticium**

1. Leaves twice divided in 3's into rounded, broad toothed or coarsely saw-toothed leaflets .......... *L. scoticum*

1. Leaves once divided into 3 pinnate-pinnatifid leaflets.

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

2. Spokes 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 boggy or rocky slopes and meadows from the lowland to alpine zones; locally frequent on the Queen Charlotte Islands, infrequent on N Vancouver Island and adjacent mainland (near-shore islands); N to SE AK.

**Description:**

**General:** Stout perennial herb from a taproot; stems 20-60 cm tall, leafy, with fibrous remains of leaf sheaths at the base.

**Leaves:** Compound, mostly basal, divided into distinct toothed leaflets up to 3 cm long; stem leaves reduced, only 1 or 2.

**Flowers:** Inflorescence in small, compound umbels with 7-14 small compact heads; flowers white; spokes of terminal umbels 15 or less; involucral bracts lacking.

**Fruits:** Oblong to elliptic, 4-6 mm long, glabrous, with narrowly winged ribs.
Heracleum maximum

Ligusticum calderi
Apiales

*Ligusticum canbyi* Cault. & Rose
Canby's lovage

**Habitat/Range:**
Moist streambanks, slopes and meadows in the montane zone; locally frequent in SC and SE BC; S to ID, MT and NE OR.

**Description:**
**General:** Stout perennial herb from a thick taproot; stems 50-120 cm tall, branching, glabrous, leafy with fibrous remains of leaf sheaths at the base.

**Leaves:** Compound, mostly basal, divided into distinct toothed leaflets up to 5 cm long; stem leaves reduced but at least 1 fairly well-developed.

**Flowers:** Inflorescence in small compound umbels with 7-14 compact heads; flowers white, rays of terminal umbels 15-40; involucral bracts lacking.

**Fruits:** Oblong to elliptic, 4.5 mm long, glabrous, with narrowly winged ribs.

*Ligusticum scoticum* L. ssp. *hultenii* (Fern.) Calder & Tayl. (*L. hultenii* Fern.)
beach lovage

**Habitat/Range:**
Moist to mesic upper beaches and coastal bluffs in the lowland zone; infrequent on the Queen Charlotte Islands and adjacent mainland; amphiberianig, N to AK; E Asia.

**Description:**
**General:** Stout perennial herb from thick taproot; stems single, 10-80 cm tall, glabrous, reddish-purple at the bases.

**Leaves:** Basal and stem leaves thick, firm, mostly twice divided in 3's, the usually 9 leaflets egg-shaped, 2-6 cm long, coarsely toothed; stemleaf stalks with long, often purplish, but not greatly expanded, basal sheaths.

**Flowers:** Inflorescence in 5-16 small, compact heads in 1-several compound umbels; flowers white or pinkish; involucral bracts few to several, narrow.

**Fruits:** Oblong, 7-8 mm long, glabrous, with narrowly winged ribs.

*Ligusticum verticillatum* (Geyer) Cault. & Rose ex Rose
verticillate-umbel lovage

**Habitat/Range:**
Moist to mesic streambanks, marshes, forest openings and meadows in the montane to subalpine zones; rare in SC and SE BC; S to N ID and W MT.

**Description:**
**General:** Robust perennial herb from a taproot; stems soft, 1-2 m tall, glabrous or slightly rough-hairy.

**Leaves:** Basal and stem leaves compound, divided into distinct toothed or lobed leaflets, 3-8 cm long; stem leaves several, well-developed; basal leaves with shorter stalks but larger leaflets.

**Flowers:** Inflorescence numerous in 5-16 small compound heads in 1-several compound umbels; flowers white or pinkish; spokes of terminal umbels 15-30; involucral bracts lacking.

**Fruits:** Elliptic, 4-6 mm long, with narrowly winged ribs.

**LILAEOPSIS**

*Lilaeopsis occidentalis* Cault. & Rose
western lilaeopsis

**Habitat/Range:**
Wet tidal marshes, mudflats and shores in the lowland zone; infrequent along the coast; N to S AK and S to CA.

**Description:**
**General:** Perennial herb from rhizomes; erect stems lacking.

**Leaves:** All basal, tufted, narrow, hollow tubes, 3-15 cm long, 1-4 mm wide, with 5-11 partitions.

**Flowers:** Inflorescence of small umbrella-shaped clusters on slender stalks that are 0.5-4 cm long (usually much shorter than the leaves) and ascending to arched; flowers inconspicuous, 5-12, white.

**Fruits:** Egg-shaped, about 2 mm long, glabrous, with pale, prominent, corky-thickened ribs.
Ligusticum canbyi

Ligusticum scoticum ssp. hultenii

Ligusticum verticillatum

Lilaopsis occidentalis
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 cream, sometimes yellow. L. martindalei
4. Leaflets mostly entire or shallowly toothed; flowers yellow.
   4a. Leaflets mostly 10-60 (rarely 4) mm wide; longest spokes of the umbel mostly 6-20 cm long in fruit ................................................................. L. nudicaule
   4b. Leaflets mostly 2-8 mm wide; longest spokes of the umbel mostly 3-5 cm 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
7. Involucels present; leaves usually finely short-hairy ...................................................... L. triternatum
5a. Leaves much dissected (fernlike).
7a. Flowers white, rarely purple; plants 15-40 cm tall; wings of the fruit more than 1 mm wide...
       ........................................................................................................ L. geyeri
7b. Flowers yellow or purple; plants 50-200 cm 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. Involucel bractlets broadly oblanceolate to egg-shaped, sometimes more or less strongly fused.
9. Involucel bractlets more or less strongly fused; plants rare in NE BC .................. L. foeniculacum
8a. Involucel bractlets not fused; plants locally common in SW BC ....................... L. utriculatum
8b. Involucel bractlets narrow, mostly linear or lanceolate, distinct or fused merely at the base, or lacking.
10. Wings of the fruits more or less corky-thickened, narrow ......................................... L. dissectum
10a. Wings of the fruits thin, either narrow or broad.
11. Leaves not much dissected, more nearly with toothed or cleft leaflets, flowers usually white or cream, sometimes yellow ....................................................... L. martindalei
11a. Leaves much dissected, the small and narrow ultimate segments not resembling leaflets.
12. Flowers white or somewhat purplish, rarely purple; wings of the fruits broad.
13. Plants essentially glabrous ............................................................................ L. geyeri
13a. Plants sparsely to densely short-hairy ............................................................... L. macrocarpum
12a. Flowers yellow; wings of the fruits broad or narrow.
14. Ovaries and young fruits granular rough-hairy or short-hairy, elliptic or rounded; wings of the fruits narrow, less than 1/2 as wide as the body.

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10Key adapted from Hitchcock et al. (1969).
15. Plants granular rough-hairy to subglabrous; plants rare in SE BC ...... *L. sandbergii*
15. Plants short-hairy; plants rare in NE BC .................................. *L. foeniculaceum*
14. Ovaries and fruits glabrous, elliptic or narrowly oblong; wings of the fruits broad or narrow.
16. Fruits elliptic; wings of the fruits 1/3-1/2 as wide as the body .............. *L. grayi*
16. Fruits narrowly oblong; wings of the fruits less than 1/3 as wide as the body .......................................................... *L. ambiguum*
Lomatium ambiguum (Nutt.) Coulter & Rose
swale desert-parsley

HABITAT/RANGE:
Dry rocky slopes, grasslands and shrublands in the steppe and montane zones; frequent in S BC east of the Coast-Cascade Mountains, rare westward; S to WY, UT and OR.

DESCRIPTION:
General: Stout, glabrous perennial herb from a globose thickened or necklace-like to elongate and slender taproot; stems erect, sometimes branching.
Leaves: All basal, compoundly dissected, glabrous; ultimate segments of the leaves narrow and scarcely leaflike, less than 5 mm wide.
Flowers: Inflorescence of compound umbels; flowers usually yellow or sometimes white, sometimes purple; involucels generally wanting.
Fruits: Linear to narrowly oblong, mostly 3-8 times as long as wide (less than 4 mm wide), wings evident but narrow, less than 1/3 as wide as the body or obsolete.

Lomatium brandegei (Coulter & Rose) I.P. Macbr.
Brandegee's lomatium

HABITAT/RANGE:
Mesic to dry grasslands, shrublands and open forests in the steppe and montane zones; rare in SW and SC BC; S to WA.

DESCRIPTION:
General: Stout perennial herb from a short taproot, thickened at the top with a branched, woody stem-base; stems 20-60 cm tall, branched.
Leaves: Mostly basal, large, 1-3 times divided, glaucous, ultimate segments of the leaves 1-5 cm long, entire or shallowly toothed, 2-8 mm wide.
Flowers: Inflorescence of compound umbels; flowers yellow; longer spokes of the umbel mostly 3-5 cm long in maturity; involucel of several narrow bractlets.
Fruits: Oblong to elliptic, 8-12 mm long, crosswise flattened, with broad wings and distinct ribs.

Lomatium dissectum (Nutt.) Mathias & Const.
fern-leaved desert-parsley

HABITAT/RANGE:
Dry grasslands, shrublands, talus and rocky slopes in the steppe 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.

DESCRIPTION:
General: Stout perennial herb from a taproot; stems several, 0.5-1.5 (2) m tall.
Leaves: Mostly basal, finely dissected, fernlike, 1-3 times divided; ultimate segments narrow and scarcely leaflike, usually less than 5 mm wide.
Flowers: Inflorescence of compound umbels; flowers yellow or purple; bracts of umbellets very narrow.
Fruits: Oblong to elliptic, 8-18 mm long, with corky-thickened narrow wings.
Notes: Two varieties occur in BC.

1. Fruits sessile or the stalks short, shorter than sterile flowers ........................................ var. dissectum

1. Fruits with well-developed (4-20 mm) stalks ........................................ var. multifidum (Nutt.) Mathias & Const.
**Lomatium foeniculaceum** (Nutt.) Coul.

**fennel-leaved desert-parsley**

**HABITAT/RANGE:**
Dry grassy slopes in the montane zone; rare in NE BC, known recently only from Golata Creek (Peace River area); E to MB and S to TX, AZ and OR.

**DESCRIPTION:**
General: Perennial herb from a long, woody or somewhat fleshy taproot, sometimes with a branching stem-base; stems solitarily or several, short-hairy, 20-90 cm tall.
Leaves: Mostly basal, short, 1-3 times divided, short-hairy with short stalks or unstalked; ultimate segments of the leaves relatively small, 1-3 mm long.
Flowers: Inflorescence of compound umbels; flowers yellow; involucel bractlets broadly oblanceolate to egg-shaped, finely hairy; involucels more or less strongly fused.
Fruits: Oblong to elliptic, 5-10 mm long, short-hairy at least when young, wings thin, not corky-thickened.

**Lomatium geyeri** (S. Wats.) Coul.

**Geyer's desert-parsley**

**HABITAT/RANGE:**
Dry slopes in the steppe and montane zones; frequent in SC and SE BC; S to ID and WA.

**DESCRIPTION:**
General: Stout perennial herb from a taproot, subglobose-thickened to more elongate and necklace-like; stems solitary, glabrous, 15-30 (40) cm tall.
Leaves: All basal, finely dissected, fernlike, 1-3 times divided, glabrous; ultimate segments of the leaves narrow and scarcely leaflike, usually less than 5 mm wide.
Flowers: Inflorescence of compound umbels; flowers white or sometimes purplish, rarely purple; involucel bractlets 2-3 mm long, narrow lanceolate.
Fruits: Oblong to elliptic, 7-12 mm long, wings more than 1 mm wide.

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

**Gray's desert-parsley**

**HABITAT/RANGE:**
Dry rocky or open slopes in the lowland zone; rare in SW BC, known only from Galiano Island and Saltspings Island; S to WY, CO, NV and OR.

**DESCRIPTION:**
General: Malodorous perennial herb from a long, stout taproot below a branching stem-base which is often covered by the dead leaves of the previous year; stems several, glabrous, 15-50 cm tall.
Leaves: Mostly basal, short rough-hairy, very finely dissected, with numerous, very narrow, often subterete ultimate segments that lie in numerous planes to form a thick mat.
Flowers: Inflorescence of compound umbels; flowers yellow; spines of the umbel elongate unequally, 3.5-10 cm long; involucels well-developed.
Fruits: Elliptic, 8-15 mm long, glabrous, lateral wings 1/3 - 1/2 as wide as the body.
Lomatium foeniculaceum var. foeniculaceum

Lomatium geyeri

Lomatium grayi
Apiceae

Lomatium macrocarpum (Nutt. ex T. & G.) Coul. & Rose
large-fruited desert-parsley

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

Description:
General: Stout perennial herb from an elongated, thickened taproot or necklace-like or tuberous base, capped by a simple, often subterranean root-crown; stem branched near the base, 12-50 cm tall, spreading or ascending.
Leaves: All basal, clustered near the ground, finely dissected, greyish, hairy to woolly-hairy; ultimate segments not resembling leaflets, small, narrow, pinnately dissected.
Flowers: Inflorescence of compound umbels; flowers white or purplish-white, rarely yellow; spokes of the umbel elongating unequally, 2-6 cm long; involucel bractlets narrow, mostly linear or irregularly fused, well-developed and conspicuous.
Fruits: Oblong to elliptic, 7-28 mm long, glabrous; wings of the fruit narrow to fairly broad.

Lomatium martindalei (Coul. & Rose) Coul. & Rose var. angustatum Coul. & Rose
Martindale's lomatium; few-fruit lomatium

Habitat/Range:
Dry rocky slopes and meadows in the montane to alpine zones; infrequent in SW BC; S to OR.

Description:
General: Perennial herb from an elongate taproot or a thickened, subterranean root crown or branching stem-base; stems prostrate to ascending, up to 40 cm long, glabrous.
Leaves: Mostly basal, prostrate, not much dissected, with toothed or cleft leaflets.
Flowers: Inflorescence of compound umbels; flowers white or yellowish-white; longer spokes up to 1.5-6 cm long at maturity; involucels of a few inconspicuous, narrow bractlets.
Fruits: Oblong to elliptic, 8-16 mm long; wings thin, equal to or narrower than the body.

Lomatium nudicaule (Pursh) Coul. & Rose
barestem desert-parsley

Habitat/Range:
Dry rocky or grassy slopes and open woods in the lowland and steppe 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.

Description:
General: Stout perennial herb from a taproot, glabrous, strongly glaucous; stems solitary to several, 20-90 cm tall.
Leaves: Mostly basal, large, compound, 1-3 times divided; ultimate segments 3-30, entire or shallowly toothed, 2-9 cm long, 10-60 (rarely 4) mm wide, veiny, often stalked.
Flowers: Inflorescence of compound umbels; flowers yellow, small, stalks of unequal length; involucels lacking.
Fruits: Oblong to elliptic, 7-15 mm long, sometimes narrowed to a beaklike tip; ribs distinct with wings up to 1/2 the width of the body.
**Lomatium sandbergii** (Coul. & Rose) Coult. & Rose  
**Sandberg’s desert-parsley**

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

**Description:**  
**General:** Stout perennial herb from a taproot, elongate and slightly thickened with a simple crown; stems 10-30 cm tall at maturity, branched.

**Leaves:** Mostly basal, pinnately dissected into narrow segments 1.4 mm long lying in a single plane; ultimate segments not resembling leaflets, granular rough-hairy to nearly glabrous.

**Flowers:** Inflorescence of compound umbels; flowers yellow, spokes elongating unequally, 2.5-10 cm at maturity; involucels of several slender bractlets.

**Fruits:** Elliptic, granular rough-hairy, 5-8 mm long, wings only 1/5-1/3 as wide as body.

**Lomatium triternatum** (Pursh) Coul. & Rose (*L. simplex* [Nutt.] J.F. MacBr. = *ssp. platycarpum*)  
**nine-leaved desert-parsley**

**Habitat/Range:**  
Dry open slopes and grasslands in the lowland, steppe 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.

**Description:**  
**General:** Perennial herb from an elongated taproot, seldom thickened, surmounted by a simple branched crown or stem-base; stems or scapes solitary or few, erect, 10-80 cm tall, glabrous.

**Leaves:** Mostly basal, pinnately compound, divided 1-3 times or, at the base, 2-3 times; stem leaves 1 or more on the middle or upper stem; ultimate leaf segments narrow and scarcely leaflike, usually less than 5 mm wide, finely hairy.

**Flowers:** Inflorescence of compound umbels; flowers yellow, spokes of the umbel elongating unequally, 2-10 cm long; involucels present.

**Fruits:** Oblong to broadly elliptic, 7-15 mm long, narrowly to very broadly winged, glabrous to minutely hairy or granular-roughened.

**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. ex T.& G.) Coul. & Rose  
**spring gold; fine-leaved lomatium**

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

**Description:**  
**General:** Perennial herb from a long, slender taproot, glabrous or short-hairy; stems 10-60 cm tall, leafy.

**Leaves:** Mostly basal, pinnately compound, much dissected into small, very narrow segments; ultimate segments small, rarely as long as 1 cm.

**Flowers:** Inflorescence of compound umbels with up to 15 compact heads; flowers bright yellow, small; involucels well-developed with egg-shaped, toothed bractlets.

**Fruits:** Oblong to elliptic, 5-11 mm long, somewhat granular-roughened when young, usually glabrous at maturity, flattened, broadly winged with prominent ribs.
Lomatium sandbergii

Lomatium utriculatum

ssp. triternatum

ssp. platycarpum

Lomatium triternatum
**APIACEAE**

**MYRRHIS**

*Myrrhis odorata* (L.) Scop.

sweet cicely

**Habitat/Range:**
Mesic to dry roadsides, fields and waste places in the lowland zone; rare in SW BC, known only from the Vancouver area; introduced from Eurasia.

**Description:**
**General:** Perennial herb from a long, slender taproot, softly short-hairy; stems erect, hollow, 30-1.8 m tall, leafy.
**Leaves:** Mostly basal, 2-4 pinnately-cut, the lobes oblong-lanceolate, deeply toothed, with whitish patches.
**Flowers:** Inflorescence of compound umbels; flowers white; involucels well-developed with egg-shaped, toothed bracelets or the bracelets lacking.
**Fruits:** Oblong to elliptic, 3 times as long as wide, 15-25 mm long, slightly compressed laterally, glabrous or minutely bristly, ribs well-developed ridges; beaks short.

**OENANTHE**

*Oenanthe sarmentosa* Presl ex DC.

Pacific water-parsley

**Habitat/Range:**
Wet streamsides, marshes, meadows and open forests in the lowland and montane zones; common in and W of the Coast-Cascade Mountains; N to AK and S to CA.

**Description:**
**General:** Fibrous-rooted perennial herb; stems soft, weak, loosely branched, up to 1 m long, reclining to ascending, sometimes rooting at the nodes, glabrous.
**Leaves:** Basal and stem leaves pinnately divided 2-3 times; leaflets toothed and cleft, primary lateral veins of the leaflets directed to the marginal teeth.
**Flowers:** Inflorescence of compound umbels on long stalks; flowers white, small; involucel of numerous, small, narrow bracelets.
**Fruits:** Oblong, 2.5-3.5 mm long, 2 mm wide; ribs broader than the narrow intervals.

**OSMORHIZA**

1. Fruits glabrous, obtuse at base; flowers yellow; stems clustered .......................... *O. occidentalis*

1. Fruits bristly, long-tapering at base; flowers whitish, sometimes pink or purple; stems usually solitary.
2. Fruits convexly narrowed to the rounded or obtuse summit, the apex not beaklike ...... *O. depauperata*
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; leaves hairy ............... *O. berteroi*
3. Fruits usually 8-13 mm long, the beaklike apex wider than tall; leaves glabrous .......... *O. purpurea*
Osmorhiza berteroi DC. (O. chilensis H. & A.)
mountain sweet-cicely
HABITAT/RANGE:
Mesic open forests and forest margins 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.
DESCRIPTION:
General: Perennial herb from a well-developed taproot, sometimes below a slightly branched stem-base; stems solitary or sometimes 2-3, 0.3-1 m tall, branching.
Leaves: Basal and stem leaves twice divided into 3’s, leaflets coarsely toothed, 2-9 cm long, 1-5.5 cm wide, more or less hairy, thin; basal leaves several with long stalks; stem leaves 1-3 with short stalks.
Flowers: Inflorescence of loose compound umbels; flowers greenish-white, sometimes pink or purple, inconspicuous; stalks short when flowering becoming longer at maturity; involucels lacking.
Fruits: Linear-oblong, needle-like, 12-22 mm long, black, bristly hairy basally, narrowing to a beak, often catching on clothing or fur.

Osmorhiza depauperata Phil.
blunt-fruited sweet-cicely
HABITAT/RANGE:
Moist to mesic open forests and forest margins 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.
DESCRIPTION:
General: Perennial herb from a well-developed taproot, sometimes below a slightly branched stem-base; stems solitary or sometimes 2-3, 15-70 cm tall, branching.
Leaves: Basal and stem leaves twice divided into 3’s, leaflets coarsely toothed, 1.5-7 cm long, 1-4 cm wide, more or less hairy; thin basal leaves several, stalks long; stem leaves 1-3, stalks short.
Flowers: Inflorescence of loose compound umbels; flowers greenish-white, sometimes pink or purple, inconspicuous; involucels lacking.
Fruits: Club-shaped, 10-15 mm long, narrowing to a rounded or blunt end, the tip not beaklike.

Osmorhiza occidentalis (Nutt. ex T. & G.) Torr.
western sweet-cicely
HABITAT/RANGE:
Mesic to dry forest opening and rocky slopes in the montane zone; infrequent in extreme SC and SE BC; E to SW AB and S to CO and CA.
DESCRIPTION:
General: Perennial herb from a well-developed taproot with a strong licorice odor, below a slightly branched stem-base; stems stout, 0.4-1.2 m tall, clustered, glabrous.
Leaves: Basal leaves clustered on long stalks; stem leaves several on shorter stalks, divided 1-3 times; leaflets lance-shaped and toothed, 2-10 cm long, 0.5-5 cm wide.
Flowers: Inflorescence of loose compound umbels; flowers yellow, stalks short at flowering, becoming longer at maturity; involucels lacking.
Fruits: Linear-oblong, blunt at the base, glabrous, 12-20 mm long, narrowing to a short beaklike tip.
**Apiaceae**

**Osmorhiza purpurea** (Coutl. & Rose) Suksd. *(O. chilensis var. purpurea [Coutl. & Rose] Boivin)*

**purple sweet-cicely**

**Habitat/Range:**
Meadows to moist streambanks, meadows and open forests in the lowland, montane and subalpine zones; common throughout BC; N to AK, S to ID, MT and CA.

**Description:**
- **General:** Perennial herb from a well-developed taproot, sometimes below a slightly branched stem-base; stems single, 20-70 cm tall, branching.
- **Leaves:** Basal and stem leaves deltoid in general outline, twice divided into 3’s, leaflets coarsely toothed, 1-8 cm long, 0.5-4 wide, usually glabrous, yellowish-green; stem leaves reduced.
- **Flowers:** Inflorescence of loose compound umbels; flowers pink to purplish (sometimes greenish-white), several to many in 2-6 spreading heads; involucels absent.
- **Fruits:** Spindle-shaped, 8-13 mm long, bristly hairy, with constriction below the beaked tip, which is broader than tall.

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**Pastinaca sativa** L.

**common parsnip**

**Habitat/Range:**
Fields, roadsides and waste places in the lowland zone; rare in SW BC; introduced from Europe.

**Description:**
- **General:** Stout, aromatic biennial herb from a stout taproot; stems erect, 0.3-1.8 m tall.
- **Leaves:** Pinnately compound, stem leaves progressively reduced, basal leaves up to 50 cm long and nearly half as wide; leaflets pinnately cleft.
- **Flowers:** Inflorescence of compound umbels on terminal and lateral stalks; flowers yellow; spokes 15-25, unequal.
- **Fruits:** Broadly elliptic, 5-6 mm long, strongly flattened crosswise, glabrous.

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**Perideridia gairdneri** (H. & A.) Mathias

**Gairdner’s yampah**

**Habitat/Range:**
Moist to dry meadows and woodlands in the lowland and montane zones; infrequent in SE and SW BC (known from SE Vancouver Island and the Gulf Islands), also rare in SC BC; E to SK and S to SD, CO, NM and CA.

**Description:**
- **General:** Slender perennial herb from tuberous-thickened and often clustered edible root, often fascicled, glabrous; stems solitary, 0.4-1.2 m tall.
- **Leaves:** Several, well distributed along stem, divided 1-3 times, elongate; basal leaf sheaths not much inflated; ultimate segments long and narrow.
- **Flowers:** Inflorescence of compound umbels; flowers terminal and lateral; spokes up to 6 cm long at maturity; flowers white or pink; involucel bracelets bristly or obsolete.
- **Fruits:** Roundish, 2-3 mm long and wide, slightly flattened, glabrous, prominent ribs.
Osmorhiza purpurea

Pastinaca sativa

Perideridia gairdneri
Sanicula arctopoides Hook & Arn.

**snake-root**; bear's-foot sanicle; "footsteps of spring"

**Habitat/Range:**
Mesic coastal bluffs in the lowland zone; rare in SW BC, known from SE Vancouver Island; S to CA.

**Description:**
**General:** Perennial herb from a taproot; stems prostrate or ascending, 5-30 cm tall, branching.
**Leaves:** Basal leaves rosette forming, somewhat succulent, often yellowish, stem leaves reduced, becoming sessile, irregularly toothed or cleft, the blades 2.5-6 cm long, 2.5-9 cm wide.
**Flowers:** Inflorescence of several to many compact headlike umbels; flowers yellow; involucre conspicuous, surpassing the heads, the bractlets entire or triileded.
**Fruits:** Egg-shaped to subglobose, 2.5 mm long, covered with stout, hooked prickles.

Sanicula bipinnatifida Dougl. ex Hook.

**purple sanicle**

**Habitat/Range:**
Mesic to dry meadows and woodlands in the lowland zone; rare on SE Vancouver Island; S to CA and MX.

**Description:**
**General:** Perennial herb from a taproot; stems erect, 10-60 cm tall, branching.
**Leaves:** Basal and lower stem leaves pinnately divided, toothed or with a winged and toothed leaf axis, the stalks sharply toothed, the blades 4-13 cm long, 3-12 cm wide.
**Flowers:** Inflorescence of several to many compact headlike umbels; flowers purple; involucre inconspicuous, of 6-8 lanceolate bractlets.
**Fruits:** Egg-shaped to subglobose, 3-6 mm long, covered with stout, hooked prickles.
Sanicula arctopoides

Sanicula bipinnatifida
APIACEAE

Sanicula crassicalis Poepp. ex DC. var. crassicalis
Pacific sanicle

Habitat/Range:
Moist to dry coastal bluffs, meadows and woodlands in the lowland zone; frequent in SW BC, known from S Vancouver Island, the Gulf Islands and adjacent coast, infrequent in WC BC, known from the Queen Charlotte Islands and Skeena River valley; S to CA and MX, disjunct to Chile.

Description:
General: Perennial herb from a taproot; stem solitary, erect, 25-120 cm tall.
Leaves: Alternate; basal and lower stem leaves palmately 3-5 lobed or divided without a narrow leaf axis, stalked below, becoming sessile above, primary divisions merely lobed or with teeth, blades 3-13 cm long, 2-18 cm wide.
Flowers: Inflorescence of terminal umbels less than 1 cm wide in flower; flowers yellow or sometimes purplish; involucre inconspicuous, of 5 narrow bracts.
Fruits: Subglobose burrs, 2-5 mm long, covered, except sometimes at the base, with stout, hooked prickles.

Sanicula graveolens Poepp. ex DC.
Sierra sanicle

Habitat/Range:
Mesic to dry rocky slopes and open forests in the lowland to montane zones; infrequent in BC south of 53° N, rare northward in WC BC to 56° N; S to MT, WY and CA, disjunct to S. America.

Description:
General: Perennial herb from a taproot; stems solitary, erect, branched near the base, irregularly branched upwards, 5-50 cm tall.
Leaves: Alternate; lowermost stem leaves long-stalked, often attached below ground level and seeming to arise separately from the stem, pinnately divided in 3's, the primary divisions also lobed and toothed, the blades 1.5-4 cm long, 2-3.5 cm wide, lowermost pair of primary divisions separated from the upper by a narrow, entire leaf axis; middle and upper stem leaves few, smaller, often becoming sessile.
Flowers: Inflorescence of terminal umbels; flowers light yellowish; involucre inconspicuous, of 6-10 bracts.
Fruits: Egg-shaped to globose burrs, 3-5 mm long, covered, at least on upper portion, with stout, hooked prickles.

Sanicula marilandica L.
black sanicle; snake-root

Habitat/Range:
Wet to moist streambanks, meadows, mineral-rich seeps, hot springs and woodlands in the steppe and montane zones; infrequent in S BC, rare and scattered in N BC; E to NF and S to MO, FL, CO and NM.

Description:
General: Perennial herb from fibrous roots; stems solitary, erect, 0.4-1.2 m tall, branching above.
Leaves: Alternate; basal and lower stem leaves palmately 5- to 7-parted or compounded, long-stalked, the blades 4-12 cm long, 6-15 cm wide, the leaflets sharply toothed and sometimes shallowly lobed, becoming sessile.
Flowers: Inflorescence of terminal umbels less than 1 cm wide in flower; flowers greenish-white; involucres deeply cleft.
Fruits: Egg-shaped, 4-6 mm long, covered with numerous, basally thickened, hooked prickles.
Sanicula crassicaulis var. crassicaulis  
Sanicula graveolens  
Sanicula marilandica
**SCANDIX**

*Scandix pecten-veneris* L.

**Venus' comb; shepherd's-needle**

**Habitat/Range:**

Dry roadsides and waste places in the lowland zone; rare in SW BC, known from SE Vancouver Island; introduced from Eurasia.

**Description:**

**General:** Annual or biennial herb from a taproot; stems hairy to subglabrous, 10-30 cm long, branched above the base.

**Leaves:** Basal and stem leaves pinnately dissected, stalked, blades 1.5-9 (15) cm long; ultimate segments short, narrow.

**Flowers:** Inflorescence of compound or simple compact umbels; flowers white; involucre of several lobed or dissected bractlets.

**Fruits:** Linear with a quadrangular body, 6-15 mm long, tipped with a stout beak, 2-7 cm long, somewhat flattened.

**SIUM**

*Stum suave* Walt.

**hemlock water-parsnip**

**Habitat/Range:**

Wet stream sides, swamps, marshes, lake and pond shores 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 HI, VA, KS and CA.

**Description:**

**General:** Terrestrial to semi-aquatic perennial herb from a very short, erect stem-base (not chambered) with fibrous roots that sometimes are tuberous-thickened; stems solitary, 0.5-1.2 cm tall, stout, hollow, strongly ridged, generally branched above.

**Leaves:** Stem leaves pinnately compound; leaf stalks with sheathing bases, blades 2-9 cm long, 1.5-10 (20) mm wide, divided into 7-15 leaflets that are lance-shaped to linear and toothed; submerged leaves much more finely divided; primary lateral veins of the leaflets not directed towards the base of the teeth.

**Flowers:** Inflorescence of compound umbels; flowers white, small; calyx teeth minute or obsolete; involucral bractlets 6-10, narrow, reflexed.

**Fruits:** Oval to elliptic, 2-3 mm long, prominently ribbed.

**TORILIS**

1. Fruits 3-4 mm long with more or less straight spines minutely hooked at the tips .................. *T. arvensis*

1. Fruits 2-2.5 mm long with curved spines not hooked at the tips .................................. *T. japonica*

**Torilis arvensis** (Huds.) Link

**spreading hedge-parsley**

**Description:**

**General:** Annual herb from a taproot; stems erect, several, more or less hairy, branched, 20-50 cm tall.

**Leaves:** Stem leaves 2-3 times pinnately cut, 7-20 cm long, including the 2-8 cm stalks; leaflets lanceolate to egg-shaped; upper stem leaves usually 1-pinnate.

**Flowers:** Inflorescence of several compound umbels, the several spokes with a single bract; flowers white.

**Fruits:** Oblong egg-shaped, 3-4 mm long, covered with bristles, also with inconspicuous, translucent, appressed spines in lines; beaks not prominent.
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.
DESCRIPTION:
General: Annual herb from a taproot; stems erect, several, bristly, 0.3-1.2 m tall.
Leaves: Stem leaves 1-3 times pinnately cut, dissected into small, narrow ultimate segments without well-defined leaflets, upper leaf sheaths entire.
Flowers: Inflorescence of compound umbels; spokes each with 1 narrow bract; flowers white.
Fruits: Egg-shaped to oblong, 2-2.5 mm long, covered with bristles; beaks prominent.

YABEA

Yabea microcarpa [Hook & Arn.] K.-Pol. (Caulolis microcarpa Hook & Arn.)
California hedge-parsley; false carrot
Habitat/RANGE:
Moist vernal sites and streambanks in the lowland zone; rare in SW BC, known from SE Vancouver Island and the Gulf Islands; S to ID and MX.
DESCRIPTION:
General: Slender annual herb from a taproot, 10-40 cm tall, sometimes branched.
Leaves: Basal and stem leaves compound, stalked, pinnately dissected into narrow segments; leaf blades 2-6 cm long.
Flowers: Inflorescence of compound umbels; spokes 1-9, 1-8 cm long; flowers white, the petals broadening from the base; calyx with teeth; involucel bractlets well-developed, leaflike.
Fruits: Oblong, 3-7 mm long, with hooked prickles along the ribs, laterally compressed, beakless.

ZIZIA

Zizia aptera (A. Gray) Fern.
heart-leaved Alexanders
Habitat/RANGE:
Moist to wet sites in the steppe 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.
DESCRIPTION:
General: Perennial herb from a short stem-base and a cluster of fleshy-fibrous roots; stems erect, clustered, 20-60 cm tall.
Leaves: Basal leaves simple or 3-parted, long-stalked with heart-shaped, saw-toothed blades, the blades 2.5-10 cm long, 1.5-8 cm wide; stem leaves fewer, sharply toothed, shorter-stalked.
Flowers: Inflorescence of compound umbels; flowers bright yellow; involucels absent.
Fruits: Oblong to broadly elliptic, 2-4 mm long, glabrous; ribs prominent, somewhat flattened.

APOCYNACEAE

1. Flowers greenish-white to pink, 2-10 mm long; seeds with long tufts of cottony hairs .................. Apocynum
1. Flowers blue, rarely white, 3-5 cm long; seeds without long tufts of cottony hairs .......................... Vinea
**Torilis japonica**

**Yabea microcarpa**

**Zizia aptera**

*Illustrated Flora of British Columbia*
Apoxyneae

APOCYNUM

1. Corollas greenish-white to white, 2-4.5 mm long, usually less than twice as long as the calyces; leaves ascending ................................................................. A. cannabinum

1. Corollas pinkish, 3.5-10 mm long, usually more than twice as long as the calyces; leaves spreading to drooping.
   2. Calyces usually at least half as long as the corollas, lobes abruptly sharp-pointed to long-pointed ..... ................................................................. x A. floribundum

2. Calyces usually less than half as long as the corollas, lobes obtuse .................. A. androsaemifolium

Apocynum androsaemifolium L.
spreading dogbane

Habitat/Range:
Dry roadsides, fields, meadows and open forests in 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.

Description:
General: Perennial herb from a rhizome; stems erect, glabrous or hairy, often reddish, 20-70 cm tall, branching; plants with milky juice.
Leaves: Stem leaves opposite, spreading and drooping, narrow, oval to elliptic, short-stalked, 3-8 cm long, glabrous above, usually hairy beneath.
Flowers: Inflorescence of compound, flat-topped clusters; corollas pink or whitish with white veins, sweet scented, 4-10 mm long.
Fruits: Long cylindric pods, 5-12 cm long, seeds numerous with long tufts of cottony hairs (coma).
Notes: Two varieties occur in BC.

1. Corollas bell-shaped, 5-10 mm long; pods drooping .................................................. var. androsaemifolium

1. Corollas more tubular, 4-7 mm long; pods usually erect ........................................ var. punillum A. Gray

hemp; common dogbane

Habitat/Range:
Dry roadsides, ditches, pond and lake edges, fields, waste areas, shrublands and forest openings in the lowland, steppe and montane zones; frequent in BC south of 55° N; N to NT, E to NF and S to FL, TX and CA.

Description:
General: Perennial herb from a rhizome; stems erect to spreading, glabrous, 0.3-1.0 m tall, branching; plants with milky juice.
Leaves: Opposite, stalked to subsessile or sessile, obovate-egg-shaped or lanceolate, yellow-green, 5-11 cm long, except sometimes the basal leaves stalked but not heart-shaped at the base; ascending.
Flowers: Inflorescence of compound, flat-topped clusters; corollas greenish-white to white, 2-4.5 mm long, the corollas less than twice as long as calyx, lobes erect or slightly spreading.
Fruits: Long cylindric pods, usually greater than 12-18 cm long, sickle-shaped; seeds with tufts of cottony hairs (coma) 2-3 cm long.
Notes: The recognition of A. sibiricum and its segregates does not appear warranted.
x *Apocynum floribundum* Greene (*A. medium* Greene)  
western dogbane

**Habitat/Range:**
Mesic to dry roadsides, fields, shrublands and open forests in the steppe and montane zones; rare in S BC east of the Coast-Cascades Mountains; E to NF and S to VA, TN, TX and NM.

**Description:**
- **General:** Perennial herb from a rhizome; stems erect to spreading, glabrous to hairy, 20-60 cm tall, freely branched; plants with milky juice.
- **Leaves:** Stem leaves opposite, stalked, narrowly oval or oblong, cordate to rounded at the base, usually spreading.
- **Flowers:** Inflorescence of compound, flat-topped clusters; corollas pinkish, 3.5-6 mm long, usually equaling the calyx tube, lobes pointed to long-pointed, spreading.
- **Fruits:** Long cylindrical pods, 7-14 cm long; seeds with tufts of cottony hairs (coma) 2-3 cm long.

**Notes:** Apparently, this taxon is of hybrid origin through *A. androsaemifolium* and *A. cannabinum* with many plants approaching either of the parents.

**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 squared-off or somewhat heart-shaped at the base .........................................................  
   .................................................................................................................................................. *V. major*

**Vinca major** L.  
large periwinkle

**Habitat/Range:**
Roadsides and waste places in the lowland zone; infrequent in SW BC, known from SE Vancouver Island and the Gulf Islands; introduced from Europe.

**Description:**
- **General:** Trailing perennial herb, freely rooting; stems spreading, 10-60 cm long, branching.
- **Leaves:** Opposite, egg-shaped to egg-shaped-lanceolate, squared-off or somewhat heart-shaped at the base, margins fringed with small hairs (ciliate), 3-9 cm long.
- **Flowers:** Solitary, bluish-purple, usually 30-50 mm wide, up to 4 per stem, calyx lobes ciliate.
- **Fruits:** Long cylindrical pods without tufts of hair, 3-5 cm long.

**Vinca minor** L.  
common periwinkle

**Habitat/Range:**
Roadsides and waste places in the lowland zone; infrequent in SW BC, known from SE Vancouver Island, the Gulf Islands and lower mainland; introduced from Eurasia.

**Description:**
- **General:** Trailing perennial herb, freely rooting; stems spreading, 10-60 cm long, branching.
- **Leaves:** Opposite, egg-shaped to egg-shaped-lanceolate, narrowed at the base, 3-9 cm long.
- **Flowers:** Solitary, bluish-purple, usually 20-30 mm wide, 1 per stem, calyx lobes glabrous.
- **Fruits:** Long cylindrical pods without tufted hairs, 3-5 cm long.
AQIFOLIACEAE

AQUIFOLIACEAE

ILEX

Ilex aquifolium L.
English holly

Habitat/Range:
Mesorc forests and disturbed areas in the lowland zone; frequent in SW BC, known from SE Vancouver Island and the lower mainland; introduced from Europe.

Description:
General: Perennial shrub or small tree; stems erect, 2-5 m tall, branched, branchlets minute-hairy.
Leaves: Egg-shaped or oblong-egg-shaped, 2.5-6 cm long, entire to lobed, often with stiff spine-like teeth, shiny, evergreen, leathery.
Flowers: Corollas dull white, male and female often on different plants.
Fruits: Round, red berries, 7-8 mm wide, smooth, in clusters, persistent.

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 streambeds, floodplains and forest in the montane zone; frequent throughout C and S BC east of the Coast-Cascade Mountains, infrequent northward, E to NB and NS and S to TN, GA, CO and WA.

Description:
General: Perennial herb from a rhizome; stems erect, 30-70 cm tall, woody.
Leaves: Basal leaves compound, of 3 major divisions that each have 3-5 leaflets or segments, 1 per stem, 30-50 cm long; ultimate segments saw-toothed, 5-12 cm long, egg-shaped-oblong.
Flowers: Inflorescence of 3-7 globose umbels in flat-topped to paniculate clusters; flowers greenish-white.
Fruits: Dark purple berries, 2-5 seeded, 6-8 mm wide.

HEDERA

Hedera helix L.
English ivy

Habitat/Range:
Moist to mesic disturbed areas and forest floors and trees in the lowland zone; frequent in SW BC, known from SE Vancouver Island, the Gulf Islands and adjacent mainland; introduced from Eurasia.

Description:
General: Evergreen climbing shrub with short aerial roots; stems up to 30 m tall.
Leaves: Stem leaves alternate, evergreen, entire to 3-5 lobed, 4-10 cm long, leathery, glossy, with long stalks, broadly egg-shaped to triangular.
Flowers: Inflorescence of 1-several, terminal, globose umbels in a racemose arrangement; flowers greenish-yellow, globose.
Fruits: Bluish-black berries, 2-5 seeded, 6-9 mm.
Ilex aquifolium

Aralia nudicaulis

Hedera helix
**OPOLPANAX**

*Opolpanax horridus* (Smith) Miq.

**devil’s-club**

**Habitat/Range:**
Wet to moist streambanks and forests in the lowland to subalpine zones; common throughout all but NE BC; N to SW AK and YT; E to AB and S to MT and OR; disjunct in ON and MI.

**Description:**
- **General:** Tall, deciduous shrub; stems 1-3 m tall, punky, thick, strongly armed with yellow spines 5-10 mm long.
- **Leaves:** Palmately lobed, the leaf blades shallowly 7- to 9-lobed, 10-35 cm wide, heart-shaped at the base.
- **Flowers:** Inflorescence of small, headlike umbels in elongate panicles or racemes, up to 25 cm long; flowers greenish-white, short-stalked.
- **Fruits:** Bright red berries, 2-3 seeded, 5-8 mm wide.

**ARISTOLOCHIACEAE**

**ASARUM**

*Asarum caudatum* Lindl.

**wild ginger**

**Habitat/Range:**
Moist to mesic forests in the lowland and montane zones; frequent in S BC south of 55° N, absent in Queen Charlotte Islands and adjacent coast; S to ID, MT and CA.

**Description:**
- **General:** Perennial herb from extensive rhizomes, forming large mats; stems rooting freely.
- **Leaves:** Kidney-shaped, shiny, stalked, the blades 2.5-10 cm long, 5-15 cm wide; stalks and veins finely hairy.
- **Flowers:** Solitary, bell-like with 3 flaring lobes, these long-pointed; corollas purplish-brown to greenish-yellow, 2.5-8.0 cm long.
- **Fruits:** Fleshy capsules, seeds egg-like with fleshy appendages.

**ASCLEPIADACEAE**

**ASCLEPIAS**

1. Leaves egg-shaped or lanceolate, tapered at the base; pods lacking tubercles .......................... *A. ovalifolia*
1. Leaves oblong or oval, rounded or heart-shaped at the base; pods with soft tubercles .......................... *A. speciosa*
Oplopanax horridus

Asarum caudatum
**Asclepiadaceae/Asteraceae**

*Asclepias ovalifolia* Dcne.

**Oval-leaved milkweed**

**Habitat/Range:**

Dry slopes in the montane zone; rare in SE BC, known only from the Revelstoke area; introduced from E. North America.

**Description:**

**General:** Perennial herb from a rhizome; stems erect, 20-60 cm tall, glabrous to sparsely hairy; plants with milky juice.

**Leaves:** Opposite, simple, egg-shaped or lanceolate, tapered at the base, 3-10 cm long.

**Flowers:** Inflorescence in an umbrella-like cluster; flowers greenish-white.

**Fruits:** Cylindric pods lacking tubercules, 6-12 cm long, many-seeded with tufts of white, cottony hairs.

*Asclepias speciosa* Torr.

**Showy milkweed**

**Habitat/Range:**

Moist to mesic roadsides, ditches, streamsides, meadows and grasslands in the steppe and montane zones; common in SC and SE BC; E to MB and S to MO, TX and CA.

**Description:**

**General:** Perennial herb from a rhizome; stems erect, 0.4-1.2 m tall, woolly, greyish or glabrous below; plants with milky juice.

**Leaves:** Opposite, simple, 10-20 cm long, fleshy, oblong or oval, rounded or heart-shaped at the base, stalked.

**Flowers:** Inflorescence an umbrella-like cluster; flowers pink to reddish-purple; sepals greenish-tinged with red.

**Fruits:** Cylindric pods with soft tubercules, 7-11 cm long, many-seeded with tufts of white cottony hairs; seeds flattened, wrinkled.

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**Asteraceae**

1. Flowers all strap-shaped and perfect; juice milky (*Lactucae* [Cichorieae]) ........................................... Group I

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

2. Heads with ray and disk flowers.

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

3. Ray flowers yellow or orange (sometimes purplish, dark brown or reddish-brown at the base).

4. Pappus papery or of firm awns (or sometimes lacking); receptacles papery, bristly or naked ............................... Group III

4. Pappus partly or wholly of hairlike (sometimes feathery) bristles; receptacles naked ................................. Group IV

2. Heads discoid or disciform (without ray flowers).

5. Pappus partly or wholly of numerous hairlike (sometimes feathery) bristles ............................................. Group V

5. Pappus of scales, awns or very short papery bristles, or a mere crown (or sometimes lacking) ................................. Group VI

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*Keys for Asteraceae have been adapted from either Cronquist (1955), Douglas (1982, 1995) or Douglas et al. (1989).*
Group I (Flowers all strap-shaped and perfect; juice milky)

1. Achenes without a pappus ............................................................................. Lapsana

1. Achenes with a pappus.

2. Pappus double, an inner row of numerous, fragile hairlike bristles subtended by a row of short scales .................................................................................................................. Krigia

2. Pappus a single series of bristles or scales.

3. Pappus of simple (sometimes finely-barbed) hairlike bristles.

4. Stem leaves well-developed, broad, usually well over 1 cm wide.

5. Leaves simple, entire to shallowly toothed; achenes cylindric ....................... Prenanthes

5. Leaves, or at least some of them, pinnatifid; achenes more or less strongly flattened.

6. Achenes beaked (or beakless in Lactuca biennis), somewhat enlarged near summit where pappus attached; leaves not auriculate .......................................................... Lactuca

6. Achenes beakless, not enlarged near summit; leaves auriculate .................... Sonchus

4. Stem leaves narrow, usually less than 1 cm wide, reduced upwards, sometimes merely scales or plants with basal leaves only.

7. Achenes spinulose or prickly ........................................................................... Taraxacum

7. Achenes smooth or nearly so.

8. Ray flowers pink (rarely white); stem leaves reduced to mere scales.......... Lygodesmia

8. Ray flowers bright yellow to orange or red; plants with basal leaves only or with at least a few stem leaves.

9. Plants with basal leaves only or nearly so; heads solitary.

10. Achenes beaked .......................................................... Agoseris

10. Achenes beakless.

11. Outer involucral bracts less than 1/2 the length of the inner ones .......... Microseris (borealis)

11. Outer involucral bracts more than 1/2 the length of the inner ones ........ Agoseris (glauc a)

9. Plants with true stems, with at least a few stem leaves; heads few to numerous.

12. Achenes not tapered at both ends, beakless .......................... Hieracium

12. Achenes tapered at both ends, beaked.

13. Achenes tips with a ring of small scales at base of slender beak .............. Chondrilla

13. Achenes tips without ring of scales, beaked or beakless .................... Crepis

3. Pappus of feathery bristles, bristle-like scales, scales and bristles, or minute scales.

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

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

15. Ray flowers pink (occasionally white); leaves small, mainly on stems, often scalelike ...... ..... Stephanomeria

15. Ray flowers yellow, orange or purple; leaves well-developed.
16. Pappus of scales and bristles or bristlelike scales.
   17. Pappus of long, narrow, tapering bristlelike scales; leaves usually crisped or wavy
       ........................................................................................................... Nothocalais

17. Pappus of scales and bristles; leaves entire or with linear lobes.
   18. Pappus of 5 short scales alternating with as many bristles; achenes 1.5-2 mm
       long .............................................................................................................. Krigia
   18. Pappus of 5 or 15-20 narrow scales, each bearing a long bristle; achenes 3.5-13
       mm long ........................................................................................................ Microseris

16. Pappus of feathery bristles.
   19. Plume branches of the pappus interwebbed; plants with stem leaves, the leaves
       somewhat grasslike ....................................................................................... Tragopogon
   19. Plume branches of the pappus not interwebbed; plants with or without stem leaves.
       20. Receptacles papery-bracted; achenes with beaks as long or longer than the
           achenes ........................................................................................................... Hypochaeras
           20. Receptacles naked; achenes beakless or with beaks shorter than the achenes.
               .............................................................................................................. Leonodon

Group II (Heads with ray and disk flowers, ray flowers white, pink, purple, red or blue)

1. Receptacles papery or bristly throughout (or only towards the middle in Anthemis cotula); pappus of scales,
   awns or very short papery bristles, or a mere crown (or sometimes lacking).
   2. Stem leaves regularly opposite, well-developed ........................................................................... Galinsoga

2. Stem leaves all or nearly all alternate, or the plants with mostly basal leaves.
   3. Marginal disk flowers enlarged into irregular, falsely subradiate corollas; true ray flowers lacking;
      receptacles densely bristly, the bristles not individually subtending the flowers
      ............................................................................................................................ Centaurea (cyanus)
   3. Marginal disk flowers not enlarged conspicuously; ray flowers present; receptacles papery, the bracts
      individually subtending the flowers.
      4. Ray flowers large, 1.5-4.5 cm long .................................................................................... Ratibida
      4. Ray flowers small, seldom over 1 cm long.
      5. Ray flowers few, usually 3-5, short, less than 5 mm long; perennials .................................... Achillea
      5. Ray flowers more numerous, usually 10-25, larger, mostly 5-10 mm long; annuals .................
         ........................................................................................................................... Anthermis

1. Receptacles naked, or with a row of papery scales between the ray and disk flowers; pappus various.
   6. Pappus of the disk flowers composed partly or wholly of hairlike bristles.
   7. Basal leaves arrowhead-shaped, heart-shaped or palmately lobed ............................................ Petasites
   7. Basal leaves not arrowhead-shaped, heart-shaped or palmately lobed.
      8. Ray flowers numerous, filiform, short, scarcely longer than the disk flowers; involucres and
         styles approaching that of Erigeron; annuals ........................................................................... Conyza
8. Ray flowers 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 a papery base and leafy green tips; style branches lanceolate or broader, abruptly sharp-pointed to obtuse, 0.5 mm long or less, or lacking.

10. Pistillate corollas numerous, filiform, with narrow, short, erect rays, these sometimes not exceeding the disk, or the inner pistillate corollas tubular and rayless; involucres glandular and/or stiff-hairy, but not woolly long-hairy .......................... *Thimorpha*

10. Pistillate corollas few to numerous, the rays well-developed and spreading, or occasionally reduced or rarely lacking, or if otherwise then the involucres woolly long-hairy ........................................... *Erigeron*

9. Involucral bracts either subequal and the outer leafy or more commonly evidently imbricate, with papery base and evident green tip, sometimes papery throughout; style branches lanceolate or narrower, abruptly sharp-pointed to long-pointed, usually more than 0.5 mm long.

11. Plants distinctly taprooted; leaves spinulose-tipped and often spinulose-toothed ....

........................................................................................................... *Machaeranthera*

11. Plants with fibrous roots or rhizomes; leaves not spinulose .......................... *Aster*

6. Pappus of scales, awns, distinctly flattened papery bristles or a mere crown (or sometimes lacking).

12. Receptacles evidently conic or hemispheric.

13. Plants with basal leaves only; pappus lacking .................................................. *Bellis*

13. Plants leafy-stemmed; pappus a minute crown or border .............................. *Matricaria*

12. Receptacles flat or nearly so.

14. Pappus a short crown, or lacking .............................................................. *Leucanthemum*

14. Pappus of the disk flowers of about 10 or more flattened, bristlelike scales ...... *Townsendia*

**Group III (Heads with ray and disk flowers; ray flowers yellow or orange; pappus papery or of firm awns, or lacking)**

1. Receptacles papery or bristly throughout.

2. Involucral bracts in two distinct, dissimilar series; achenes subterete or strongly flattened at right angles to the radius of the head.

3. Plants aquatic; leaves filiform-dissected; achenes subterete .................................. *Megalodontia*

3. Plants subaquatic or terrestrial; leaves not filiform-dissected; achenes strongly flattened at right angles to the radius of the head.

4. Pappus of 2-6 firm, mostly retorsesly barbed awns ........................................... *Bidens*

4. Pappus of 2 minute teeth, or lacking ..................................................................... *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.

5. Receptacles merely bristly ............................................................................... *Gaillardia*

5. Receptacles papery with definite bracts, not bristly.
6. Plants with basal leaves only or nearly so, the stem leaves, if any, much reduced

Balsamorhiza

6. Plants with stem leaves.

7. Stem leaves alternate.

8. Receptacles columnar; rays yellow; achenes flattened

Ratibida

8. Receptacles hemispheric; rays orange, orange-yellow or yellow; achenes equably quadrangular

Rudbeckia

7. Stem leaves opposite, at least below.

9. Pappus persistent; disk achenes strongly flattened, thin edged; involucral bracts densely fringed

Helianthella

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

Helianthus

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

10. Ray flowers well-developed and conspicuous, mostly 5-30 mm long; receptacles naked.

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

Grindelia

11. Pappus of papery or transparent scales, or a mere crown, or lacking; involucres not resinous although sometimes glandular-hairy.

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

Eriophyllum

12. Leaves simple, toothed; ray flowers soon reflexed, prominently 3-lobed; receptacles hemispheric to rounded

Helentium

10. Ray flowers 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.

13. Leaves bipinnatifid to pinately dissected

Tanacetum

13. Leaves entire to toothed.

14. Involucres spindle-shaped, egg-shaped or urn-shaped, enfoldin the ray flowers, more or less glandular

Madia

14. Involucres only slightly convex, not enfoldin the ray flowers, not glandular.

15. Involucral bracts well graduated in several series; pappus lacking

Jaumea

15. Involucral bracts in a single series; pappus of 3-5 awns and about as many alternating, tattered, shorter scales

Lasthenia

Group IV (Heads with ray and disk flowers; ray flowers yellow or orange; pappus partly or wholly of numerous [sometimes feathery] 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. Involutural bracts in a single series, equal, narrow, commonly with a few much shorter outer ones at the base ................................................................. \textit{Senecio} (also \textit{Sino}senecio \footnote{\textit{Sino}senecio \textit{newcombei} will key here. Since it is separated from the genus \textit{Senecio} only by microcharacters (Janovec and Barkley 1996), no attempt was made to separate \textit{Sino}senecio in this \textit{Asteraceae} key. The \textit{Senecio} key in this treatment may be used to separate \textit{Sino}senecio \textit{newcombei} from other \textit{Senecio} species.})

4. Involutural 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 ...................... \textit{Erigeron} (\textit{aureus} and \textit{linearis})

6. Heads several, leaves oblong to oblong spoon-shaped, mainly stem leaves ................

................................................................. \textit{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

8. Ray flowers inconspicuous; plants of the steppe or lower montane zones ..............

........................................................................ \textit{Pyrocoma}

8. Ray flowers conspicuous; plants of the subalpine or alpine zones .......... \textit{Tonestus}

7. Heads usually several to many.

9. Plants shrubby .................................................................. \textit{Ericameria}


10. Lower leaves deeply heart-shaped ................................. \textit{Doronicum}

10. Lower leaves not heart-shaped.

11. Leaves pitted (sometimes obscurely so); heads mostly unstalked in small clusters, rays mostly 15-30 ........................................ \textit{Euthamia}

11. Leaves not pitted; heads not clustered; rays 7-13, rarely 17 ........ \textit{Solidago}

\textbf{Group V (Heads discoid or disciform; pappus partly or wholly of numerous hairlike [sometimes feathery] 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 involutural bracts leaflike with spreading, rigidly-spiny blades, these similar to the upper leaves ........................................................................ \textit{Carlhamus}

3. Outer and middle involutural bracts not at all leaflike.

4. Pappus bristles feathery .................................................................. \textit{Cirsium}

4. Pappus bristles merely finely-barbed or smooth.

5. Pappus bristles smooth; stems smooth ........................................ \textit{Silybum}

5. Pappus bristles finely-barbed; stems with conspicuous spiny-margined wings.

6. Receptacles honeycombed; stems densely woolly ................................. \textit{Onopordum}

6. Receptacles not honeycombed; stems nearly glabrous ............................... \textit{Cardus}

2. Leaves entire to toothed, not at all bristly or spiny, the plants not thistlelike.

7. Involucres with some bracts stiff-fringed, raggedly torn, spiny or irregularly wavy .......... \textit{Centaurea}
7. Involucres with all bracts entire.

8. Lower leaves linear to oblanceolate, often lobed or divided; plants of the steppe and montane zones ............................................................ \textit{Acroptilon}

8. Lower leaves lanceolate to triangle-egg-shaped, saw-toothed; plants of the subalpine or alpine zones ....................................................... \textit{Saussurea}

1. Leaves not spiny; receptacles naked, or nearly so.


10. Involucral bracts 4-6, equal ............................................................... \textit{Tetradynia}

10. Involucral bracts more numerous, graduated or at least in several series.

11. Involucral bracts aligned in more or less vertical ranks ......................... \textit{Chrysothamnus}

11. Involucral bracts not aligned in vertical ranks ................................ \textit{Brickellia}

9. Herbs (subshrubby in \textit{Luina hypholeuca}).

12. Flowers all perfect and fertile (heads discoid).

13. Leaves opposite; flowers yellow or orange ....................................... \textit{Anica}

13. Leaves alternate, or if rarely opposite or whorled, then the flowers not yellow or orange.

14. Involucral bracts in one series, equal, sometimes with a few short outer ones at the base.

15. Leaves toothed and some of them more or less pinnatifid, never palmately cleft ....

16. Leaves simple and entire or palmately cleft. .................................. \textit{Senecio} (\textit{indecorus} and \textit{pauciflorus})

15. Leaves simple and entire or palmately cleft.

16. Leaves simple and entire ................................................................. \textit{Luina}

16. Leaves palmately cleft .................................................................. \textit{Cacaliopsis}

14. Involucral bracts more or less graduated in 2-several series.

17. Pappus bristles feathery .................................................................. \textit{Saussurea}

17. Pappus bristles merely finely-barbed or smooth.

18. Leaves in whorls of three or four .................................................... \textit{Eupatorion}

18. Leaves mostly alternate.

19. Leaves mostly stem; involucres taller than wide ................................ \textit{Brickellia}

19. Leaves mostly basal; involucres wider than tall ........................... \textit{Pyrrocoma}

12. Flowers all, or at least the outer ones, female (heads disciform).

20. Basal leaves heart-shaped ................................................................ \textit{Petasites}

20. Basal leaves, if any, not heart-shaped.

21. Plants more or less white-woolly; involucral bracts mostly with dry, papery, thin, white to yellowish, brownish, or blackish green tips.

22. Receptacles papery, at least near the margin, and simulating an involucr ... \textit{Filago}

22. Receptacles naked.

23. Plants taprooted annuals or perennials; heads all with outer female and central (or functionally male) perfect flowers ................................ \textit{Gnaphalium}

23. Plants fibrous-rooted perennials, often with rhizomes or stolons; the heads on at least some of the plants with only male or female flowers.
24. Basal leaves usually conspicuous, tufted, and persistent, the stem ones mostly reduced upwards and often few or lacking .................................. *Antennaria*

24. Basal leaves soon deciduous, scarcely if at all larger than the numerous stem ones .................................................................................. *Anaphalis*

21. Plants often hairy but not white-woolly; involucral bracts not markedly papery at the tip.

25. Perennials .......................................................................................... *Trimorpha (acris)*

25. Annuals .................................................................................................. *Aster (brachypactis)*

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

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 female heads nutlike or burlike and provided with hooked prickles, tubercles and spines, those of the male heads unarmed; receptacles papery; corollas small and inconspicuous, or lacking.

3. Female involucres with hooked prickles .................................................................. *Xanthium*

3. Female 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 alike, spiny only in *Centaurea*.

4. Receptacles papery 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 tall; the disks up to about 5 mm wide ............... *Iva*

6. Heads obviously larger, involucres over 6 mm tall; the disks usually over 1 cm wide.

7. Receptacles papery; involucral bracts in two series and obviously of two types ........ *Bidens*

7. Receptacles bristly; involucral bracts not in two series.

8. Involucres with some bracts stiff-fringed, ragged, spiny or irregularly wavy margined *Centaurea*

8. Involucres with all bracts entire ........................................................................ *Acoptilon*

4. Receptacles naked or with a single row of papery bracts between the ray and disk flowers.

9. Achenes prominently spine-tipped .................................................................. *Soliva* 13


10. Lowermost leaves deltoid-egg-shaped to more or less kidney-shaped below, white-woolly beneath; involucral bracts few, usually only 4-5 ........................................... *Adenocaulon*

10. Lowermost leaves not deltoid-egg-shaped to more or less kidney-shaped; involucre bracts usually more numerous.

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13 *Soliva sessilis* Ruiz & Pavon, a South American species known previously only from WA, AZ and CA in N America, was discovered on Salt Spring Island in 1997. An attempt to eradicate this obnoxious weed is now underway and hopefully will be successful. Until it is well established it will not be treated as part of our flora.
11. Leaves regularly opposite.
   12. Involucral bracts well graduated in several series; pappus lacking .................. *Jaumea*
   12. Involucral bracts in a single series; pappus of 3-5 awns and about as many alternating, tattered, shorter scales ......................................................................................... *Laschenia*

11. Leaves alternate, or occasionally some of the lower ones opposite.
   13. Pappus of short, distinct awns or scales ........................................................................ *Chaenactis*
   13. Pappus a mere minute crown or lacking.
   14. Involucral bracts in a single series, equal, each subtending and wholly enclosing an achene, or nearly so ........................................................................................................... *Madia*

14. Involucral bracts in several series, not enclosing the achenes.
   15. Heads in an elongate inflorescence, relatively small, usually numerous ..........
       .................................................................................................................................. *Artenisia*
   15. Heads in an open, round- or flat-topped inflorescence, small to large, solitary to few, sometimes numerous.
   16. Receptacles conspicuously hemispheric or conical ....................... *Matricaria*
   16. Receptacles flat or somewhat convex.
   17. Leaves feathlike (pinnate or bipinnate) throughout; achenes sparsely glandular; pappus a minute toothed crown .......... *Tanacetum (vulgare)*
   17. Leaves toothed or lobed below, becoming entire above, somewhat succulent and sheathing at the base; achenes not glandular; pappus lacking ................................................................................................................ ....... *Cotula*
**Asteraceae**

**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*


**Habitat/Range:**  
Mesic to dry coastal bluffs, meadows, grasslands, rocky slopes and open forests in all vegetation zones; common throughout BC; N to AK, YT and NT; E to NF and S to FL, TX, CA, and MX.

**Description:**  
**General:** Perennial, aromatic herb, usually rhizomatous; stems erect, slender, 10-100 cm tall.

**Leaves:** Fern-like, alternate, stalked below and unstalked above, pinnately dissected, the divisions again dissected.

**Flowers:** Heads numerous, in a short, flat or round-topped cluster; involucral bracts dry, overlapping in several series, often dark-margined; ray flowers usually 3-8, 2-3.5 mm long, white to sometimes pink or reddish; disk flowers 15-40, cream colored.

**Fruits:** Achenes glabrous, flattened, 1-2 mm long; pappus lacking.

Notes: Taxonomically, one of our most complex species. Tyri (1980) presented a sound case for recognizing only a single variable species. I, however, have recognized four broad ecogeographical forms (sensu Nobs 1960) at the varietal level since these forms are ecologically significant in BC.

1. Leaves grey, long-hairy to woolly; plants usually in and east of the Coast-Cascade Mountains.

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

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

1. Leaves usually green, moderately long-hairy; 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* (Ryd.) G.N. Jones

*Achillea sibirica* Ledeb.  

**Siberian yarrow**  
**Habitat/Range:**  
Mesic to moist river banks, lakeshores and meadows in the montane zone; frequent in NE BC; N to AK, YT and NT and E to MB, disjunct to Gaspe Peninsula, PQ.

**Description:**  
**General:** Perennial, aromatic herb, usually rhizomatous, 30-120 cm tall; stems erect, densely hairy, simple or branched above.

**Leaves:** Alternate, linear, 2-15 cm long, incised, the divisions finely toothed, gradually reduced upwards.

**Flowers:** Heads few to many, in short, flat or round-topped clusters; involucral bracts with pale to dark margins; ray flowers usually 7-12, 1-3 mm long, white; disk flowers 15-30.

**Fruits:** Achenes glabrous, 1-2 mm long; pappus lacking.

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14 For an extensive synonymy see Kartesz (1994) and Douglas (1995).
**ASTERACEAE**

**ACROPTILON**

*Acropition repens* [L.] DC. (*Centaurea repens* L.)  
**Russian knapweed**

**Habitat/Range:**  
Dry roadways and disturbed areas in the steppe and montane zones; frequent in S BC east of the Coast-Cascade Mountains; introduced from Eurasia.

**Description:**  
**General:** Perennial herb from a rhizome; stems erect, openly branched, densely woolly-hairy, 0.2-1.0 m tall.  
**Leaves:** Basal leaves oblanceolate, irregularly pinnately-lobed to entire, 3-10 cm long, 1.0-2.5 cm wide; lower stem leaves smaller, pinnately-lobed; upper stem leaves linear to narrowly lanceolate, entire or saw-toothed.  
**Flowers:** Heads with ray and disk flowers; involucres 9-15 mm tall; involucral bracts in several unequal series, entire, more or less soft-hairy with widely papery tips; ray flowers white to blue, 12-16 mm long; receptacles bristly.  
**Fruits:** Achenes egg-shaped, 3-4 mm long, slightly compressed, glabrous; pappus of many bristles barbed below, feathery above, more or less deciduous.

**ADENOCAULON**

*Adenocaulon bicolor* Hook.  
**Pathfinder**

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

**Description:**  
**General:** Perennial herb from fibrous roots; stems slender, erect, 0.3-1.0 m tall, solitary, branched above, white-woolly on lower part, with stalked glands on upper part.

**Leaves:** Mostly basal, large and thin, 10-30 cm long, 3-15 cm wide, long-stalked, broadly triangular to heart-shaped, green and essentially glabrous above, white-woolly below; margins smooth to coarsely toothed; stem leaves similar to basal, few, alternate.

**Flowers:** Heads discoid, small, several to numerous, in a branched, nearly naked, glandular inflorescence; rays lacking; disk flowers whiteish, tubular, only the outer 3-7 fertile; involucres 2-3.5 mm tall, the bracts green, glabrous, equal in size, pointing down when mature and eventually deciduous.

**Fruits:** Club-shaped achenes, 5-8 mm long, with stalked glands on upper portion; pappus lacking.

**AGOSERIS**

1. Ray flowers pink (drying purplish) ................................................................. *A. luckscheitii*  
2. Achenes often beakless, if beaked then the beak stout and up to about half as long as the body .......  
   ........................................................................................................ *A. glauca*  
2. Achenes always beakless, the beak slender and more than half as long as the body.  
3. Beak up to 2 times as long as the body; rays usually burnt orange, rarely yellow........ *A. aurantiaca*  
3. Beak 2-4 times as long as the body; rays always yellow.  
4. Plants annual; involucres with conspicuous purple crosswalls on multicellular hairs ..........  
   ........................................................................................................ *A. heterophylla*  
4. Plants perennial; involucres without purple crosswalls on the multicellular hairs ..........  
   ........................................................................................................ *A. grandiflora*
Asteraceae

Agoseris aurantiaca (Hook.) Greene ssp. aurantiaca
orange agoseris

Habitat/Range:
Mesic to dry open forests and meadows in the upper montane to alpine zones; frequent throughout BC, N to YT and NT; E to PQ and S to NM and CA.

Description:
General: Perennial herb from a taproot and a simple or branching base; stems leafless, 1-several, exuding milky juice when broken, 10-60 cm tall.
Leaves: All basal, extremely variable, narrowly linear-lanceolate to broadly oblanceolate, entire to laciniate or few lobed, 5-35 cm long, 1-30 mm wide, rounded to long-pointed, usually glabrate with sparse hairs along the midrib below, margins usually fringed with small hairs toward the base, the stalks purplish.
Flowers: Heads with strap-shaped flowers, solitary; involucres top-shaped to narrowly bell-shaped; involucral bracts in about 3 series, slightly or not at all graduated, narrow, long-pointed, the outer series fringed with small hairs, usually glabrous or sometimes long-hairy on the surface; receptacles naked; ray flowers burnt orange, rarely yellow, commonly turning deep pink to purple in drying or with age.
Fruits: Achenes smooth, 5-9 mm long, rather abruptly narrowed to a beak, which varies from about half to slightly longer than the body; pappus of numerous hairlike bristles, 9-14 mm long, silky white or sordid.

Agoseris glauca (Pursh) Raf. var. dasycaphala (T. & G.) Jeps.
short-beaked agoseris

Habitat/Range:
Mesic to dry grasslands, shrublands, open forests, meadows and scree slopes in the steppe to alpine zones; frequent throughout BC except rare in coastal BC; N to SE AK, E to AB and S to ID, MT and WA.

Description:
General: Perennial from a long, heavy taproot; stems leafless, 1-several, exuding milky juice when broken, 10-70 cm tall.
Leaves: All basal, extremely variable, linear to broadly lanceolate, 5-35 cm long, 1-30 mm wide, entire or toothed to laciniate-pinnatifid or few lobed, glaucous or glabrous or sparsely hairy on the margins and midribs below.
Flowers: Heads with strap-shaped flowers, solitary; involucres narrowly bell-shaped, 1-3 cm tall; involucral bracts graduated or subequal, lanceolate, attenuate or sometimes obtuse, frequently purple-margined, glabrous, the outer series shorter; receptacles naked; ray flowers yellow, often drying pinkish.
Fruits: Achenes smooth, long, the body tapering gradually to a stout, grooved beak which is about half as long as the body or, as in ours, more commonly beakless; pappus of numerous hairlike bristles, 10-12 mm long, white.

Agoseris grandiflora (Nutt.) Greene
large-flowered agoseris

Habitat/Range:
Mesic to dry grassy slopes, meadows and forest openings from the lowland to the lower montane zones; infrequent in extreme S BC; S to UT, NV and CA.

Description:
General: Perennial from a branched base; stems leafless, exuding milky juice when broken, 20-70 cm tall.
Leaves: All basal, oblanceolate to lance-elliptic or broadly linear, entire to deeply pinnately cut with broad or narrow lobes which are widely spreading or pointed towards the base, 10-25 cm long, 1-3 cm wide.
Flowers: Heads with strap-shaped flowers, solitary, large; involucres broadly bell-shaped to rounded, 1.5-4 cm tall; involucral bracts in 4-5 series, the outer relatively broad and short, conspicuously fringed with small hairs; receptacles naked; flowers yellow, often turning pinkish or purplish upon drying.
Fruits: Achenes smooth, spindle-shaped, the body about 4-7 mm long, tapering to a smooth, slender beak 2-4 times as long as the body; pappus of numerous hairlike bristles, 8-14 mm long, white.
Agoseris aurantiaca ssp. aurantiaca

Agoseris glauca var. dasycephala

Agoseris grandiflora
Asteraceae

Agoseris heterophylla (Nutt.) Greene ssp. heterophylla
annual agoseris

Habitat/Range:
Dry grassy slopes, meadows and grasslands in the lowland, steppe and lower montane zones; frequent in extreme S BC; S to ID, UT, AZ and CA.

Description:
General: Annual from a fibrous root; stems leafless, solitary to more often several, exuding milky juice when broken, 3-45 cm tall.
Leaves: Mainly basal, oblanceolate to occasionally linear or lanceolate, entire to toothed or pinnatifid, 1-15 cm long, 0.1-1.5 cm wide.
Flowers: Heads with strap-shaped flowers, solitary; involucres narrowly bell-shaped to rounded, 5-22 mm tall; involucral bracts in 1-2 series, lanceolate, abruptly sharp-pointed to attenuate, more or less long-hairy with sepalate, twisted hairlike growths, some of these purplish due to purplish cross-walls in the hairs; receptacles naked; ray flowers yellow, commonly pinkish upon drying.
Fruits: Achenes several-ribbed or slightly winged, spindle-shaped, the body about 1-5 mm long, tapering to a slender beak about 2-3.5 times as long as the body; pappus of numerous hairlike bristles, 4-7 mm long, white.

Agoseris lackschewitzii Henderson & Mosely
pink agoseris

Habitat/Range:
Moist to mesic meadows in the subalpine to lower alpine zones; rare in SC and SE BC; E to SW AB and S to NW MT and N ID.

Description:
General: Perennial herb from a slender taproot and a simple or branched base; stems leafless, solitary to few, exuding milky juice when broken, 6-50 cm tall.
Leaves: Mainly basal, oblanceolate, entire to distantly toothed, the margin often long-hairy, 1-15 cm long, 0.1-1.5 cm wide.
Flowers: Heads with strap-shaped flowers, solitary; involucres bell-shaped, 11-19 mm tall; involucral bracts in 3-4 series, lanceolate, abruptly sharp-pointed, light green with a dark purple median strip and purple mottling, the outer series densely long-hairy basally; receptacle papery; ray flowers pink drying to deep pink.
Fruits: Achenes 10-ribbed, the body 6-8 mm long, gradually tapering to a slender beak which is shorter than the body; pappus double, of numerous hairlike bristles, 6-12 mm long, white.

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 stalked, mostly twice pinnatifid; involucres with short spines ................................................................................................................. A. artemisiifolia

2. Plants perennial from creeping roots; leaves short-stalked or nearly unstalked, only once pinnatifid; involucres with tubercles ............................................................................................................................... A. psilostachya

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*Agoseris heterophylla* ssp. *heterophylla*

*Agoseris lachschenwitzii*
**Ambrosia artemisiifolia** L. (A. elatior L., A. artemisiifolia var. elatior [L.] Desc.)
annual ragweed; common ragweed

**Habitat/Range:**
Dry roadsides and waste areas in the steppe and montane zones; rare in S BC; introduced from SW U.S.

**Description:**
General: Annual from fibrous roots; stems slender, stiff-hairy, branched, at least above, 0.1-1.0 cm tall.
Leaves: Alternate above, opposite below, triangular to rounded in outline, 3-10 cm long with narrowly margined stalks 1-5 cm long, the blades once to twice pinnately cut with toothed or incised divisions, stiff-hairy, uppermost leaves becoming linear and entire.
Flowers: Male (sterile) heads numerous in terminal, often panicked racemes about 2-3 mm in diameter; female (fruiting) heads clustered in upper leaf axils or at the base of male racemes; fruiting involucres short-beaked, 3-5 mm, long-hairy and glandular, bearing 1-7, abruptly sharp-pointed, short, conic spines at the apex.
Fruits: Achenes egg-shaped, 3-3.8 mm long, hairy, glandular, with short, conic tubercles around apex of body; pappus lacking.

**Ambrosia chamissonis** (Less.) Greene (Franeria chamissonis Less., F. chamissonis var. bipinnatisecta Less.)
silver burweed

**Habitat/Range:**
Moist to mesic coastal sandy or gravelly upper beaches and shorelines in the lowland zone; common in coastal BC; S to CA.

**Description:**
General: Perennial herb from long, creeping rhizomes; stems leafy, spreading-hairy, stout, branched just below the surface, forming large, lax clumps 20-160 cm tall.
Leaves: Succulent, mostly alternate, oblong to rounded in outline, about 4-14 cm long with stalks 2-7 cm long, the blades pinnately dissected or rarely simple and toothed, finely whitish- or silvery-haired.
Flowers: Male (sterile) heads nearly unstalked or short-stalked, 4-6 mm wide, in congested, leafless, terminal spikes about 8 cm long; female (fruiting) heads egg-shaped, 1-flowered; fruiting involucres 1-beaked, 6-11 mm long, glandular and finely hairy buds with 2-4 series of spines or prickles.
Fruits: Achenes enclosed within the involucral bracts; pappus lacking.
**ASTERACEAE**

western ragweed

**Habitat/Range:**
Dry roadsides and waste areas in the lowland and montane zones; rare in S BC east of the Coast-Cascades Mountains; introduced from SW U.S.

**Description:**
**General:** Perennial from creeping rhizomes; stems slender, stiff-hairy, branched, at least above, 30-100 cm tall.
**Leaves:** Alternate above, opposite below, triangular to rounded in outline, 4-10 cm long, nearly unstalked or short-stalked, usually only once-pinnately cut, often toothed, stiff-hairy, uppermost leaves narrower and less divided.
**Flowers:** Male (sterile) heads numerous in terminal, elongate, often panicked racemes; female (fruiting) heads solitary or clustered in upper leaf axils; fruiting involucres short-beaked, 3 mm long, stiff-hairy and glandular, bearing 1-6, abruptly sharp-pointed, short, conic tubercles at the apex.
**Fruits:** Achenes egg-shaped, about 3 mm long, hairy, glandular, with short, conic tubercles around apex of body; pappus lacking.

**ANAPHALIS**

*Anaphalis margaritacea* (L.) Benth. & Hook. f. ex C.B. Clarke
pearly everlasting

**Habitat/Range:**
Moist to dry meadows, open forests, logging units, fields and roadsides in the lowland, montane and subalpine zones; common throughout all but NE BC; N to AK, YT, and NT, E to NF and NS and S to NC, KY, AZ, NM and CA.

**Description:**
**General:** Perennial herbs from rhizomes; stems usually unbranched, leafy, white-woolly, 20-90 cm tall.
**Leaves:** Basal leaves few, deciduous; stem leaves alternate, narrowly lance-shaped with a conspicuous mid-vein, 2-15 cm long, 0.5-2 cm wide, greenish above, white-woolly beneath; margins often rolled under.
**Flowers:** Heads small, discoid, in dense flat-topped clusters; involucres 5-7 mm tall, woolly at the base; involucral bracts dry, pearly white, sometimes with a dark basal spot; disk flowers yellowish.
**Fruits:** Achenes small, to about 1 mm long; roughened; glabrous to sparsely hairy; pappus hairs white.
ANTENNARIA

Notes: This treatment mainly follows the recent work of Bayer (1987, 1989, 1990, 1996), Bayer and Stebbins (1993) and Stebbins and Bayer (1993). Although the latter research has shed some light on relationships within the genus, apomixis, polyploidy and hybridization still make identification of many herbaria sheets difficult. To aid in identification, collectors should make note of several features in the field. The presence/absence of well-developed stolons that root at the tips, the presence of woody stolons and the presence of both male (staminate) and female (pistillate) plants or the absence of male plants in the population is often of importance.

In addition to the 11 taxa formerly recognized by Douglas (1980, 1995), four more (A. alpina, A. flagellaris, A. howellii and A. rosea) are recognized in this treatment. A. alpina, A. howellii, and A. rosea are now separated from A. media (A. alpina var. media), A. neglecta and A. microphylla, respectively. Antennaria flagellaris was recently discovered in BC.

1. Heads solitary on the stems, rarely 2-3, terminal.

2. Leaves glabrous or glabrate and greenish above; heads on sparsely leafy stems; plants of northern BC
   A. monosephala

2. Leaves densely woolly above and below; heads on leafy stems; plants of extreme south-central BC.

3. Plants with conspicuous slender, leafless stolons ........................................... A. flagellaris

3. Plants without stolons ....................................................................................... A. dimorpha

1. Heads 2-many on the stems, rarely solitary.

4. Basal leaves distinctly less hairy and greener above than below, often sooner or later glabrate.

5. Heads usually borne in an open elongate inflorescence; stigmas equalling or surpassing the pappus;
   basal leaves with 3-7 prominent veins ......................................................... A. racemosa

5. Heads borne in a crowded or sometimes headlike inflorescence; plants chiefly apomictic; pappus
   surpassing the stigmas; basal leaves with 1-3 prominent veins.

6. Leaves glabrous above from the beginning ..................................................... A. howellii

6. Leaves thinly woolly-hairy above when young, sometimes glabrous with age ........ A. neglecta

4. Basal leaves nearly as densely hairy above as below, glabrate only in extreme age.

8. Plants mat-forming, with numerous stolons.

9. Stolons woody; terminal papery portion of the middle and outer involucral bracts light brown,
   sometimes white or streaked with pink ......................................................... A. umbrinella

9. Stolons leafy; terminal papery portion of the involucral bracts darkish green, dark brown or
   blackish throughout, or white (and greenish at the base) or combinations of white, pink, rose
   or light brown.

10. Terminal papery portion of the involucral bracts dark green, dark brown or blackish
    throughout.

11. Middle and upper stem leaves with flat, linear, papery tips; populations containing
    only female plants ...................................................................................... A. alpina

11. Middle and upper stem leaves with blunt, tapered or sharp, slender tips, populations
    containing both male and female or only female plants ................................ A. media

10. Terminal papery portion of the involucral bracts white (and greenish at the base) or
    combinations of white, pink, rose or light brown.

12. Female involucres 7-11 mm tall; the dry female corollas 5-8 mm long ...... A. parvifolia

12. Female involucres 4-8 mm tall; the dry female corollas 2.5-4.5 mm long.
13. Papery portion of the involucral bracts white to light yellow, greenish at the base; upper stems with glandular hairs ............................................. A. microphylla

13. Papery portion of the involucral bracts combinations of white, green, pale yellow, pink, rose or light brown; upper stems without glandular hairs or if glandular hairs present then the involucral bracts pink to rose and the glands with reddish crosswalls ................................................................. A. rosea

8. Plants not mat-forming, without stolons, often multiple-stemmed from a branched rhizome or stem-base.

14. Involucral bracts papery to the base, glabrous or nearly so, the outermost bracts occasionally slightly woolly at the base ................................................................. A. luzuloides

14. Involucral bracts with a densely hairy, not at all papery lower portion, the pubescence extending even to the inner bracts.

15. Plants mostly 10-20 cm 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

15. Plants mostly 20-50 cm tall; involucres whitish to blackish in aspect; plants of the steppe, montane and occasionally the subalpine zones of BC ...................... A. pulcherrima
Antennaria alpina (L.) Gaertn (A. pedunculata A.E. Porsild, A. stolonifera A.E. Porsild)

alpine pussytoes

**Habitat/Range:**
Mesic to dry meadows, rocky slopes, scree slopes and fellfields in the subalpine and alpine zones; common in N BC, infrequent southward; circumpolar, N to AK, YT, and NT; Eurasia, Greenland.

**Description:**
- **General:** Perennial herb, mat-forming with stolons 1-7 cm long; stems erect, few, branched above, densely woolly-hairy, 3-18 cm tall.
- **Leaves:** Basal leaves spoon-shaped to oblanceolate, gradually stalked, 6-25 mm long, 2-7 mm wide, grey-hairy above, densely woolly-hairy below, often 1-nerved; stem leaves similar, becoming unstalked, linear, reduced upwards with prominent papery tips, at least on the middle and upper ones.
- **Flowers:** Heads several to numerous in a compact inflorescence; involucres strictly female, 4-10 mm tall; involucral bracts lanceolate, the upper papery portion dark brown, black or olivaceous; flowers 3.5-5.0 mm long.
- **Fruits:** Achenes 1-2 mm long, sparingly papillate; pappus white with hairlike bristles, 4.5-6.0 mm long.

**Notes:** The main morphological difference between this taxon and *A. media* (A. alpina var. media) is the presence of papery tips on the middle or upper leaves (Bayer and Stebbins 1993, Bayer 1996). Until the latter research was presented, North American taxonomists were in disagreement as to the existence of *A. alpina* in North America since no constant morphological differences were readily apparent. After examination of BC collections of *A. alpina* var. media at the Royal BC Museum, it was found that almost 50% (94 sheets) could be placed within Bayer and Stebbins' (1993) broad concept of *A. alpina*. Although the latter is most common in N BC, there are many occurrences as far south as the WA boundary.

Antennaria dimorpha (Nutt.) T.& G.

low pussytoes

**Habitat/Range:**
Dry grasslands, shrublands and forest openings in the steppe and lower montane zones; frequent in SC BC, E to SK, S to NE, CO and CA.

**Description:**
- **General:** Perennial herb from a compact, much-branched woody base, forming small mats but not stoloniferous; stems ascending, several, simple, silky woolly-hairy, 1-10 cm tall.
- **Leaves:** Basal leaves linear or oblanceolate, stalked, 0.8-4 cm long including the stalks, 1.5-5 mm wide, silky woolly-hairy; stem leaves lacking.
- **Flowers:** Heads solitary, terminal; involucres of 2 types, the female ones 10-18 mm tall, inner involucral bracts lanceolate, the outer bracts broadly oblanceolate, tinged, at least in part, brown or reddish-brown, thinly woolly-hairy below, the male ones 5-9 mm tall, involucral bracts marginally or apically colorless and more or less translucent, otherwise dingy blackish-green or brownish; female flowers 8-10 mm tall, the male ones 3-5 mm tall.
- **Fruits:** Achenes elliptic, 2-3.5 mm long, finely short-hairy; pappus white with hairlike bristles, these finely-barbed upwards, 10-12 mm tall.
Antennaria alpina

Antennaria dimorpha
**Antennaria flagellaris** (A. Gray) A. Gray

**stoloniferous pussytoes**

**Habitat/Range:**
Dry grassy slopes in the lower montane zone; rare in SC BC, known only from the Princeton area; S to ID, WY and CA.

**Description:**
General: Short-lived perennial herb from a fibrous root, freely producing slender stolons up to 10 cm long, these naked except for the tips; stems erect to ascending, several, simple, silky woolly-hairy, 0.5-3.5 cm tall.

Leaves: Basal leaves linear to linear-oblanceolate, unstalked, 1-3 cm long, 0.5-2 mm wide, silky woolly-hairy, stem leaves similar, slightly reduced upwards.

Flowers: Heads solitary, terminal; involucres of 2 types, the female ones 7-13 mm tall, involucral bracts lanceolate, tinge brown or reddish-brown, thinly woolly-hairy below, the male ones 4-7 mm tall, involucral bracts translucent, brownish at the tips; female flowers 5-7 mm tall, the male ones 3-4.5 mm tall.

Fruits: Achenes elliptic, 2-3 mm long, warty; pappus white with hairlike bristles, 6-8 mm tall, slender to the tips.

**Antennaria howellii** Greene (A. canadensis Greene = ssp. canadensis, A. neglecta Greene var. howellii [Greene] Cronq. = ssp. howellii)

**Howell’s pussytoes**

**Habitat/Range:**
Mesic to dry forests in the montane zone; ssp. howellii frequent throughout most of BC, ssp. canadensis infrequent in N and E BC; N to YT and NT, E to NF and S to VA, AZ and CA.

**Description:**
General: Perennial herb with short and leafy or more elongate and nearly naked stolons; stems erect, several, branched above, thinly woolly-hairy, 15-35 cm tall.

Leaves: Basal leaves spoon-shaped to oblanceolate, 20-40 mm long, 6-12 mm wide, 1- to 3-nerved, green above, woolly-hairy below, with sharp, slender tips; stem leaves linear, 12-40 mm long, with or without papery tips.

Flowers: Heads few to many in a compact florescence; involucres of 1 type, these female, 6-10 mm tall, hairy at the base; involucral bracts narrow, abruptly sharp-pointed, light brown, white, cream or sometimes rose at the base; female flowers 4-6.5 mm long.

Fruits: Achenes elliptic, 1-2 mm long, pappilate; pappus white with hairlike bristles, 6-8 mm long.

Notes: Bayer (1989) split this species from A. neglecta based on the fact that this complex of apomicts are of hybrid polyploid origin from among many sexual progenitors and to place it with any one of these (i.e., A. neglecta) is not desirable. Two subspecies occur in BC.

1. Basal leaves 1-3 nerved, more than 9 mm wide; upper stem leaves usually without papery tips; involucral bract tips light brown to white ........................................................................................................................................... ssp. howellii

1. Basal leaves 1-nerved, less than 9 mm wide; upper stem leaves usually with papery tips; involucral bract tips white or cream or sometimes rose at the base........................................................................... ssp. canadensis (Greene) Bayer
Antennaria flagellaris

Antennaria howellii
**Asteraceae**

*Antennaria lanata* (Hook.) Greene
**woolly pussytoes**

**Habitat/Range:**
Moist to mesic snowbed sites in the subalpine and alpine zones; common in BC east of the Coast-Cascade Mountains; E to AB and S to WY and OR.

**Description:**
General: Perennial herb from a compact, branched woody base; stems erect, solitary or few, branched above, densely woolly-hairy, (1) 5-30 cm tall.

Leaves: Basal leaves linear-oblancoate to oblanceolate, gradually stalked, 2-10 cm long, 3-10 mm wide, erect, densely woolly-hairy, usually 3-nerved; stem leaves similar, becoming unstaked, linear and reduced upwards.

Flowers: Heads several in a compact inflorescence; involucres of 2 types, the female ones 5-8 mm tall, involucral bracts oblancoate, the papery portion conspicuously dark brown or greenish-black below, generally paler towards the often whitish tips, woolly-hairy towards the base, the male ones 3-6 mm tall, similar to the female; female flowers 2.5-4 mm tall, the male flowers 2-3.5 mm tall.

Fruits: Achenes elliptic, 2-3 mm long, finely hairy; pappus white with hairlike bristles; 6-8 mm tall, the male ones somewhat club-shaped at the tips.

*Antennaria luzuloides* T. & G. ssp. luzuloides (*A. microphylla* A. Gray var. Rydb.)
**woodrush pussytoes**

**Habitat/Range:**
Dry gravelly slopes, shrublands and forest openings in the steppe and lower montane zones; infrequent in BC east of the Coast-Cascade Mountains; E to AB and S to MO, WY, CO, UT and CA.

**Description:**
General: Perennial herb from a branched woody base; stems erect, few, branched above, densely woolly-hairy, 15-70 cm tall.

Leaves: Basal leaves linear-oblancoate, gradually stalked, 3-10 cm long, 2-8 mm wide, erect, densely woolly-hairy, often several-nerved; stem leaves similar, becoming unstaked, linear and reduced upwards.

Flowers: Heads discoid, several to numerous in a compact inflorescence; involucres of 2 types, the female ones 4-5 mm tall, involucral bracts oblancoate to egg-shaped, the papery portion pale greenish-brown below, the upper portion whitish, glabrous to the base, the male bracts similar to the female; female flowers 2.5-4 mm tall, the male flowers 2.5-3.5 mm tall.

Fruits: Achenes elliptic, 1-2 mm long, warty; pappus white with hairlike bristles, 2.5-4 mm tall; male pappus hairs strongly club-shaped and toothed at the tips.

*Antennaria media* Greene (*Antennaria alpina* (L.) Caern. var. media (Greene) Jeps.)
**dark pussytoes**

**Habitat/Range:**
Mesic to dry meadows, rocky slopes and fellfields in the subalpine and alpine zones; common throughout BC; N to AK, YT and NT, E to AB and S to CO and CA.

**Description:**
General: Perennial herb, mat-forming with stolons 1-4 cm long; stems erect, few, branched above, densely woolly-hairy, 5-13 cm tall.

Leaves: Basal leaves spoon-shaped to oblancoate or linear, gradually stalked, 6-20 mm long, 2-6 mm wide, grey-hairy to densely woolly-hairy, 1-nerved; stem leaves similar, becoming unstaked, linear, reduced upwards, abruptly sharp-pointed, with a sharp, slender point.

Flowers: Heads several to numerous in a compact inflorescence; involucres of 2 types, the female ones 4-8 mm tall, the male ones similar, 4-8 mm tall; involucral bracts lanceolate, the upper papery portion dark brown, black or olivaceous; female flowers 3.5-4.5 mm long, male flowers 2.5-4.5 mm long.

Fruits: Female and male achenes 0.6-1.5 mm long, glabrous or warty; pappus white with hairlike bristles, 4-4.5 mm long.

Notes: Male plants are rare or lacking in BC.
Antennaria lanata

Antennaria luzuloides ssp. luzuloides

Antennaria media
**Antennaria microphylla** Rydb. (*A. nitida* Greene)

**white pussytoes**

**Habitat/Range:**
Mesic to dry slopes and open forests from the lowland to the alpine zones; infrequent throughout BC, except absent on N Vancouver Island and the Queen Charlotte Islands; N to AK, YT and NT, E to PQ and S to NM.

**Description:**
General: Perennial herb, mat-forming with numerous leafy stolons 1-6 cm long; stems erect, several, branched above, densely woolly-hairy and glandular above, 8-40 cm tall.

Leaves: Basal leaves spoon-shaped to broadly lance-shaped, grey to white woolly-hairy above and below, 5-30 mm long, 2-8 mm wide, abruptly sharp-pointed, with a sharp, slender tip; stem leaves similar, 5-30 mm long, linear to lanceolate, abruptly sharp-pointed.

Flowers: Heads several to many in compact, rounded cluster; involucres of 2 types, the female ones 5.5-7.0 mm tall, hairy at the base, the male ones similar, 5.0-6.5 mm tall; involucral bracts lanceolate, the upper papery portion white to light yellow, often greenish at the base; female flowers 3.0-4.5 mm long, male flowers 2.5-3.0 mm long.

Fruits: Female achenes 0.6-1.2 mm long, glabrous or sparingly warty, the pappus white with hairlike bristles, 3-5 mm long, male pappus hairs club-shaped and toothed at the the tips, 3-4 mm long.

Notes: In recent years, some taxonomists (e.g., Hitchcock and Cronquist 1973; Douglas et al. 1989, 1995) merged both *A. nitida* and *A. rosea* with *A. microphylla*. Bayer and Stebbins (1993), however, have separated the latter from *A. rosea*. Upon examining hundreds of herbaria sheets of *A. microphylla* (which included those recognized by Bayer and Stebbins [1993] as *A. rosea*) at the Royal BC Museum, it appears that of all the plants which had white or yellowish-white (as stated in Bayer [1996]) involucral bracts, only a small percentage had glands on the upper stems. Therefore, *A. microphylla* as circumscribed by Bayer and Stebbins (1993) is infrequent in BC.


**one-headed pussytoes**

**Habitat/Range:**
Moist to mesic meadows and snowbed sites in the subalpine and alpine zones; common in N BC, infrequent in E BC; amphiherbingian, N to AK, YT and NT and E to NF; E Asia.

**Description:**
General: Perennial herb, mat-forming with stolons 2-4.5 cm long; stems erect, few, simple, glandular, 2-16 cm tall.

Leaves: Basal leaves spoon-shaped to oblanceolate, gradually stalked, 5-20 mm long, 2-5 mm wide, grey woolly-hairy to glabrate below, usually green glabrous or glabrescent above, 1-nerved; stem leaves similar, becoming unstalked, linear, reduced upwards with prominent papery tips.

Flowers: Heads solitary (rarely 2-3), terminal; involucres of 2 types, the female ones 4-8 mm tall with hairy bases, the male ones similar, 3.5-7 mm tall; involucral bracts lanceolate, the upper papery portion brown, dark brown, black or olivaceous; female flowers 3.5-4.0 mm long, male flowers 2.5-3.5 mm long.

Fruits: Female achenes 1-1.4 mm long, usually glabrous, the pappus white with hairlike bristles, 4-5 mm long; male pappus hairs club-shaped and toothed at the the tips, 2.5-3.5 mm long.

Notes: Two subspecies have recently been recognized for YT (Bayer 1996). Both taxa are also found in BC but often are indistinguishable in herbaria material since separation depends mainly on the presence or absence of male flowers. Female and male plants are equally common in populations of the ssp. *monocentra* while male plants are lacking in the strictly northern ssp. *angustata*. The collector should make a note of this feature in the field if the separation recognized by Bayer and Stebbins (1993) is desired. Only the ssp. *monocentra* may sometimes be verified in the herbaria.
Antennaria microphylla

Antennaria monocephala
**Asteraceae**

*Antennaria neglecta* Greene (A. neglecta var. athabascensis (Greene) Tayl. & MacBryde)

**Field pussytoes**

**Habitat/Range:**
Mesic to dry grasslands and open forests in the montane zone; infrequent in NE BC; E to NF and S to MO, RA and CO.

**Description:**
- **General:** Perennial herb with long stolons bearing reduced leaves, except those that are larger at the ends; stems erect, several, branched above, thinly woolly-hairy, 5-15 cm tall.
- **Leaves:** Basal leaves spoon-shaped to oblanceolate, 20-40 mm long, 6-12 mm wide, 1- to 3-nerved, hairy above when young, sometimes becoming glabrous when mature, woolly-hairy below with slender tips; stem leaves linear, 12-40 mm long, with the upper ones papery at the tips.
- **Flowers:** Heads few to many in a compact inflorescence; involucres of 1 type, these female, 6-10 mm tall, hairy at the base; involucral bracts narrow, abruptly sharp-pointed, light brown, white, cream or sometimes rose at the base, 4-6.5 mm long.
- **Fruits:** Achenes elliptic 1-2 mm long, warty; pappus white with hairlike bristles, 6-8 mm long.

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

**Nuttall's pussytoes**

**Habitat/Range:**
Mesic to dry meadows, grasslands, shrublands and open forests in the lowland, steppe and montane zones; frequent in S BC east of the Coast-Cascade Mountains, infrequent on Vancouver Island, the Gulf Islands, the adjacent coast and EC BC; E to W ON and S to OK, NM, AZ, MX and E. WA.

**Description:**
- **General:** Perennial herb, mat-forming with numerous leafy stolons; stems erect, several, branched above, densely woolly-hairy, 2-15 cm tall.
- **Leaves:** Basal leaves spoon-shaped or oblanceolate, 1-nerved, stalked, densely white woolly-hairy, sometimes less so above, 1.0-3.5 cm long, 2.5-10 mm wide, abruptly sharp-pointed; stem leaves linear to lanceolate, long-pointed, unstalked, reduced above.
- **Flowers:** Heads few to several in a compact, rounded cluster; involucres of 2 types, the female ones 7-11 mm tall, the involucral bracts lanceolate, the papery portion white, dull white or occasionally pinkish, blunt, woolly-hairy towards the base, the male ones similar except rounded; female flowers 5-8 mm tall, the male flowers similar.
- **Fruits:** Achenes 0.5-1.5 mm long, glandular, warty or glabrous; pappus white with hairlike bristles, the tips narrowly dilated, 3.5-7.0 mm long.

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

**Showy pussytoes**

**Habitat/Range:**
Mesic meadows, grasslands, shrublands and forest openings in the lowland, steppe and montane zones; frequent throughout BC, except rare on the coast; N to AK, YT and NT, E to NF and S to UT and NV.

**Description:**
- **General:** Perennial herb from a short, branched woody base or rhizome; stems erect, solitary or few, branched above, densely woolly-hairy, 15-60 cm tall.
- **Leaves:** Basal leaves erect to ascending, narrowly spoon-shaped to oblanceolate, stalked, 5-20 cm long, 6-20 mm wide, densely woolly-hairy, obscurely to strongly 3-5 nerved; stem leaves similar, becoming unstalked, linear and reduced upwards.
- **Flowers:** Heads several in a compact inflorescence; involucres of 2 types, the female ones 5-10 mm tall, involucral bracts lanceolate, the papery portion whitish throughout or with a small dark spot at the base or blackish and generally paler toward the often whitish tips, woolly-hairy towards the base, the male ones 5-8 mm tall, similar to the female; female flowers 4-6 mm tall, the male flowers 3.5-5.0 mm tall.
- **Fruits:** Achenes elliptic, 1.0-1.5 mm long, glabrous; female pappus white with hairlike bristles, 7-10 mm tall; the male pappus hairs club-shaped at the tips, 4-6 mm long.

**Notes:** Two varieties occur in BC. Although Bayer (1993) has recognized var. anaphaloides as a separate species, the minor differences in involucral bract color do not appear to warrant specific status.
Antennaria neglecta

Antennaria parvifolia

Antennaria pulcherrima var. anaphaloides

Antennaria pulcherrima var. pulcherrima
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 .......... 

Antennaria racemosa Hook.

racemose pussytoes

Habitat/Range:
Mesic meadows, shrublands, grasslands and forests from the lowland to the alpine zones; frequent throughout BC south of 58° N; E to AB and S to SD, WY and CA.

Description:
General: Perennial herb with stolons 3-8 cm long; stems erect, several, branched above, hairy, glandular above, 10-60 cm tall.
Leaves: Basal leaves elliptic to elliptic-egg-shaped, stalked, 2.5-10 cm long, 1.5-5 cm wide, 3-nerved, green above, woolly-hairy below with slender tips; stem leaves lanceolate, unstalked, becoming reduced above.
Flowers: Heads several in an open elongate inflorescence; involucres of 2 types, the female ones 6-8 mm tall, the involucral bracts lanceolate, graduated, thinly woolly-hairy towards the base, pale greenish below, colorless and transparent to pale brownish or reddish above, the male ones 4-5 mm tall, similar to the female; female flowers 3.5-5.5 mm long; male flowers 3.0-4.0 mm long.
Fruits: Achenes 1.0-1.5 mm long, glabrous or scarcely warty; female pappus white with hairlike bristle, 4.5-7 mm tall; male pappus hairs slightly dilated at the tips, 4-6 mm long.

Antennaria rosea Greene (A. alborosea A. E. & M.P. Porsild, A. microphylla auct. non Rydb.)

rosy pussytoes

Habitat/Range:
Mesic to dry slopes, river terraces and open forests from the lowland to the alpine zones; common throughout BC, except lacking on N Vancouver Island and the Queen Charlotte Islands; N to AK, YT and NT, E to PQ and S to AZ, NM and CA.

Description:
General: Perennial herb, mat-forming with numerous leafy stolons 1-7 cm long; stems erect, several, branched above, densely woolly-hairy, sometimes glandular above, the glands with reddish crosswalls; 5-40 cm tall.
Leaves: Basal leaves spoon-shaped, oblanceolate to broadly lanceolate, grey to white woolly-hairy above and below, sometimes green above, 6-40 mm long, 2-10 mm wide, abruptly sharp-pointed, with a sharp, slender tip; stem leaves, 5-35 mm long, linear to lanceolate, abruptly sharp-pointed.
Flowers: Heads several to many in a compact, rounded cluster; involucres usually of 1 type, these female, 4-10 mm tall, hairy at the base; involucral bracts lanceolate, the upper papery portion combinations of white, pink, rose, green, pale yellow or light brown; female flowers 2.5-4.5 mm long.
Fruits: Achenes 0.6-1.8 mm long, glabrous or warty; pappus white with hairlike bristles, 3.5-6.5 mm long.

Antennaria umbrinella Rydb.

umber pussytoes

Habitat/Range:
Mesic to dry meadows, fellfields, shrublands, grasslands and forests 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.

Description:
General: Perennial herb, mat-forming with slightly woody, ascending stolons 1-7 cm long; stems erect, few, branched above, densely woolly-hairy, 6-16 cm tall.
Leaves: Basal leaves spoon-shaped to oblanceolate, gradually stalked, 5-20 mm long, 2-6 mm wide, grey-hairy to densely grey or white woolly-hairy, 1-nerved; stem leaves similar, becoming unstalked, linear, reduced upwards, abruptly sharp-pointed, with a sharp, slender point.
Flowers: Heads few to several in a compact inflorescence; involucres of 2 types, the female ones 3-6.5 mm tall, the male ones similar, 4-6.5 mm tall; involucral bracts lanceolate, the upper portion light brown, sometimes white or streaked with pink, either abruptly sharp-pointed (female) or blunt (male); female flowers 2.5-3.5 mm long, male flowers 2.5-3.5 mm long.
Fruits: Female and male achenes 0.5-1.2 mm long, glabrous; pappus white with hairlike bristles, 3.5 mm long.
Antennaria racemosa

Antennaria rosea

Antennaria umbrinella
ANTHREMIS

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

1. Rays white.
   2. Receptacles papery throughout; achenes with smooth ribs ......................... A. arvensis
   2. Receptacles papery only above the middle; achenes with glandular-tuberculate (bumpy) ribs .......... A. cotula

Anthemis arvensis L.
common chamomile

HABITAT/RANGE:
Dry roadides and disturbed areas in the lowland and montane zones; frequent in extreme SW BC, rare in SE BC; introduced from Europe.

DESCRIPTION:
General: Annual, aromatic herb from a taproot; stems erect, leafy, simple or branched, hairy, 10-60 cm tall.
Leaves: Alternate, 2 times divided into narrow, linear segments.
Flowers: Heads solitary at ends of uppermost branches; involucres broad; involucral bracts in several rows, overlapping, firm, long-hairy, oblanceolate, with abruptly sharp-pointed tips; receptacles with papery scales throughout; ray flowers white, female and fertile, commonly 15-20, 7-13 mm long; disk flowers yellow, numerous.
Fruits: Achenes quadrangular, 8- to 10-ribbed, the ribs smooth; pappus a minute crown or lacking.

Anthemis cotula L.
stinking chamomile; mayweed

HABITAT/RANGE:
Dry roadides and disturbed sites in the lowland and montane zones; common in S BC, less frequent N of 54° N; introduced from Europe.

DESCRIPTION:
General: Annual, ill-scented herb from a taproot; stems erect, leafy, simple or branched, essentially glabrous, 10-60 cm tall.
Leaves: Alternate, 2-3 times divided into narrow, sparsely hairy, glandular dotted segments.
Flowers: Heads solitary at ends of uppermost branches; involucres broad; involucral bracts in several rows, overlapping, firm, narrow, with a thickened midrib and translucent margins; receptacles with papery scales only in the middle; ray flowers white, sterile and generally neutral, commonly 10-20, 5-10 mm long; disk flowers yellow, numerous.
Fruits: Achenes slightly flattened, 10-ribbed, glandular bumpy; pappus lacking.

Anthemis tinctoria L.
yellow chamomile

HABITAT/RANGE:
Dry roadides and disturbed areas in the lowland, steppe and montanes zones; infrequent in S BC, rare in WC BC; introduced from Eurasia.

DESCRIPTION
General: Short-lived perennial, unscented herb with fibrous roots; stems erect, leafy, simple or branched, hairy, at least above, 30-70 cm tall.
Leaves: Alternate, 2 times divided into narrow segments, hairy beneath.
Flowers: Heads solitary on long stems at ends of uppermost branches; involucres broad; involucral bracts in several rows, overlapping, firm, narrow, green with papery margins; receptacles with papery scales throughout; ray flowers yellow, commonly 20-30, 7-15 mm long; disk flowers yellow, numerous.
Fruits: Achenes compressed-quadrangular, more or less grooved and nervled; pappus a very short crown.
**Anthemis arvensis**

**Anthemis cotula**

**Anthemis tinctoria**
ASTERACEAE

ARCTIUM

1. Involutural bracts flat, straight and spreading; heads usually more than 2.5 cm wide, stalked........ A. lappa
1. Involutural bracts angled or narrowed, curved and generally ascending; heads usually less than 2.5 cm wide, short-stalked or unstalked .................................................................................. A. minus

Arctium lappa L.
great burdock
HABITAT/RANGE:
Dry roadides, disturbed areas and pastures in the lowland zone; rare in S BC; introduced from Eurasia.
DESCRIPTION:
General: Large, coarse, biennial herb; stems erect, leafy, 0.5-3.0 m tall.
Leaves: Basal leaves large, up to 50 cm long and 30 cm wide, egg- to heart-shaped, stalked (the lower stalks solid), green and nearly glabrous above, thinly white-woolly beneath; stem leaves similar, alternate, progressively reduced upwards.
Flowers: Heads numerous in a relatively scattered inflorescence; involucres globose, burlike, 2.5-3.5 cm wide, long-stalked; involutural bracts in several series, long, narrow, flattened at the base; spreading with inwardly hooked tips; ray flowers lacking; disk flowers purple, tubular.
Fruits: Achenes glabrous, oblong, 3-angled, several-ribbed; pappus of numerous short bristles.

Arctium minus L.
common burdock
HABITAT/RANGE:
Dry roadides, disturbed areas and pastures in the lowland, steppe and montane zones; frequent in coastal, WC and S BC; introduced from Eurasia.
DESCRIPTION
General: Large, coarse, biennial herb; stems erect, leafy, 0.5-1.5 m tall.
Leaves: Basal leaves large, up to 60 cm long and 40 cm wide, egg- to heart-shaped, short-stalked or unstalked (the lower stalks hollow), green and nearly glabrous above, thinly white-woolly beneath; stem leaves similar, alternate, progressively reduced upwards.
Flowers: Heads numerous in a relatively scattered, elongate inflorescence; involucres globose, burlike, 1.5-2.5, rarely 3.5 cm wide, nearly unstalked or on short stalks; involutural bracts in several series, long, narrow, angled, ascending with inwardly hooked tips; ray flowers lacking; disk flowers deep pink to purple, tubular.
Fruits: Achenes glabrous, oblong, 3-angled, several-ribbed; pappus of numerous short bristles.

ARNICA

1. Stem leaves mostly 5-12 pairs.
2. Involutural bracts blunt or abruptly pointed, bearing a conspicuous tuft of long, white hairs at or near the tips .................................................................................................................. A. chamissonis
2. Involutural bracts more or less sharply pointed, lacking a tuft of white hairs at the tips.
3. Leaves entire or nearly so .......................................................................................... A. longifolia
3. Leaves more or less toothed ...................................................................................... A. amplexicaulis

1. Stem 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 raylike ......... .................................................................................................................. A. parryi
5. Heads characteristically with ray and disk flowers, rarely rayless.

6. Pappus somewhat feathery, tawny or straw-colored.

7. Heads broad (wider than tall), subhemispheric .................................................. *A. mollis*

7. Heads narrow, more or less top-shaped (taller than wide) .................................. *A. diversifolia*

6. Pappus finely-barbed, 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 soft-hairy; leaves often heart-shaped ................................................................. *A. cordifolia*

9. Achenes glabrous below, or glabrous throughout; involucres with few or no long hairs; leaves various, stem ones seldom heart-shaped ........................................... *A. latifolia*

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 with short-stalked glands throughout; achenes usually moderately glandular and stiff-hairy above; plants of SE BC .......... *A. louisiana*

10. Achenes usually short-hairy throughout.

13. Lower stem leaves unstalked (sometimes very short-stalked); ray flowers minutely toothed or entire ....................................................... *A. rydbergii*

13. Lower stem leaves short- to long-stalked; ray flowers prominently 3-toothed.

14. Disk corollas densely stalked-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 meadows and forest openings in the lowland and montane zones; common in S BC, rare northward; N to S AK and YT and S to CA and NM.

**DESCRIPTION:**

**General:** Perennial herb from creeping rhizomes; stems leafy, erect, unbranched except in inflorescence, usually somewhat hairy and glandular at least in the upper portion, 15-80 cm tall.

**Leaves:** Basal leaves small, often deciduous by flowering time; stem leaves opposite, mostly unstalked, usually in 5-10 pairs (sometimes 4), lance-shaped to oblanceolate, toothed, 2-12 cm long, nearly glabrous to glandular-hairy.

**Flowers:** Heads with ray and disk flowers, 1-5 (sometimes up to 10), on stalks with yellowish hairs and often stalked glands; involucres 7-15 mm tall; involucral bracts lance-shaped, sharp-pointed, hairy; ray flowers pale yellow, 8-14, 1-2 cm long, conspicuously toothed at tip; disk flowers yellow.

**Fruits:** Achenes 4-6.2 mm long, sparsely stiff-hairy, sometimes glandular; pappus brownish, somewhat feathery.
Arnica amplexicaulis ssp. amplexicaulis
**Asteraceae**


**alpine arnica**

**Habitat/RANGE:**
Mesic to dry sites from the montane to alpine zones; common in BC east of the Coast-Cascade Mountains (see key below); circumboreal, N to AK and YT, E to NF and S to MN, SD and WA; Eurasia.

**Description:**
- **General:** Perennial herb, from an ascending, fibrous-rooted rhizome or stem-base; stems leafy, erect or sometimes ascending, simple or branched only in the inflorescence, sparsely to densely hairy or sometimes glandular at least in the upper portion, 10-50 cm tall.
- **Leaves:** Basal leaves lance-shaped to narrowly elliptic, hairy and often glandular, stalked, entire to toothed; stem leaves opposite, 2-4 pairs (rarely 1 or 5), reduced and becoming unstalked and entire upwards.
- **Flowers:** Heads with ray and disk flowers, solitary to 5 (rarely 7), the bases densely white-hairy; involucres 10-18 mm tall; involucral bracts lance-shaped, hairy, and usually glandular; ray flowers yellow, 10-16, toothed at the apex; disk flowers yellow.
- **Fruits:** Achenes 4-8 mm long, uniformly densely hairy and often glandular; pappus white, finely-barbed.

**Notes:** Four subspecies occur in BC.

1. Plants and involucres conspicuously white, woolly long-hairy; stems 5-20 cm tall, common in the alpine zone throughout BC east of the Coast-Cascade Mountains .................................................................

1. Plants and involucres never conspicuously white, woolly long-hairy; stems 10-50 cm tall, frequent in N and E BC.
   2. Leaves regularly toothed (at least the basal ones), lower leaves long-stalked; stems 20-45 cm tall, frequent in the montane zone of the Rocky Mountains of NE and SE BC .......... ssp. *lonchophylla* (Greene) G.W. Dougl & G. Ruyle-Dougl.

2. Leaves entire or sometimes irregularly toothed, lower leaves short-stalked; stems 10-45 cm tall, plants of the montane and lower subalpine zones of N BC.
   3. Heads solitary (rarely 3); stem leaves 2-3 pairs; stems 10-25 (rarely 30) cm tall .... ssp. *angustifolia*

3. Heads 3-5 (rarely 1 or 7), stem leaves 4-5 pairs (rarely 3 pairs); stems 15-45 cm tall ....................... ssp. *attenuata* (Greene) G.W. Dougl. & G. Ruyle-Dougl.
Arnica angustifolia ssp. tomentosa

Arnica angustifolia ssp. lonchophylla

ssp. attenuata

Arnica angustifolia ssp. angustifolia
**Asteraceae**

**Arnica chamissonis** Less. (A. chamissonis ssp. chamissonis var. interior Maguire = ssp. chamissonis, A. chamissonis ssp. foliosa [Nutt.] Maguire var. incana [A. Gray] Hult. = ssp. incana)

**meadow arnica**

**Habitat/Range:**
Wet to mesic meadows and forest openings in the montane and subalpine zones; common in BC; N to AK and YT, E to ON and S to NM, AZ and CA.

**Description**

**General:** Perennial herb from a long rhizome; stems erect, solitary, occasionally branched below the middle, sparsely to densely long-hairy, becoming glandular above, 20-100 cm tall.

**Leaves:** Basal leaves often deciduous by flowering time; stem leaves 5-10 pairs, rarely only 4 pairs, opposite, 3-30 cm long, 0.3-8 cm wide, lanceolate to oblanceolate, 3-5 veined, sparsely to densely long-hairy to silvery-hairy, stalked below, not stalked above, entire to toothed, reduced upward.

**Flowers:** Heads with ray and disk flowers, 5-15, rarely as few as 1, usually erect, the bases sparsely to densely long-hairy with white hairs, often glandular; involucres 8-15 mm tall; involucral bracts lanceolate, rounded to abruptly pointed, sparsely to densely long-hairy with a conspicuous tuft of whitish hairs at the apex; ray flowers yellow, usually 10-16, apical teeth conspicuous; disk flowers yellow.

**Fruits:** Achenes 3.8-6 mm long, cylindric, short-hairy and glandular to subglabrate; pappus tawny or whitish, finely-barbed or somewhat feathery.

Notes: Three fairly well-marked taxa may be recognized in BC.

1. Pappus somewhat feathery, tawny; involucres densely long-hairy with some unstalked glands, the basal hairs with prominent crosswalls; leaves usually toothed and unstalked or the lowermost stalked ................................................................. ssp. chamissonis

1. Pappus finely-barbed, whitish to straw-colored; involucres densely long-hairy but without unstalked glands, the basal hairs with less prominent crosswalls; leaves usually toothed and long-stalked, at least below.

2. Leaves densely silvery-hairy ................................................... ssp. incana (A. Gray) Maguire

2. Leaves less densely hairy, never silvery ........................................ ssp. foliosa (Nutt.) Maguire

**Arnica cordifolia** Hook.

**heart-leaved arnica**

**Habitat/Range:**
Mesic to dry meadows and forests in the montane to alpine zones; common throughout BC east of the Coast-Cascades Mountains, rare on the coast and on SE Vancouver Island; N to AK, YT and NT, E to SK and S to SD, NM, AZ and CA.

**Description:**

**General:** Perennial herb from a long, branching rhizome; stems solitary or occasionally a few clustered together, sparsely hairy with multicellular hairs and often glandular, 10-60 cm tall.

**Leaves:** Basal leaves heart-shaped, often produced on separate short shoots; stem leaves opposite, 2-3 (sometimes 1 or 4) pairs, larger than the basal ones, heart-shaped, becoming lance-shaped above, glandular to hairy, stalked below, unstalked above, coarsely toothed to entire.

**Flowers:** Heads with ray and disk flowers, 1-3, rarely as many as 7, erect, the bases sparsely to densely hairy with long white hairs, often glandular; ray flowers yellow, usually 9-16, with conspicuous teeth; disk flowers yellow, sparsely hairy; involucres 13-22 mm tall, the bracts lanceolate to oblanceolate, gradually to abruptly pointed, sparsely to densely hairy, often glandular, the tips often fringed.

**Fruits:** Achenes 4-8 mm long, moderately to densely stiff-hairy, often with stalked glands; pappus white, finely-barbed.

Notes: *Arnica cordifolia* appears to hybridize with *A. latifolia* throughout most of its range. These plants are intermediate, especially in leaf characters. In the alpine zone of S BC a smaller phase with narrow, more or less heart-shaped leaves and more glandular achenes has been recognized by some taxonomists as var. *pumila* (Rydb) Maguire.
Arnica chamissonis var. chamissonis

Arnica chamissonis var. incana

Arnica cordifolia var. pumila
**Asteraceae**

*Arnica diversifolia* Greene
diverse arnica

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

**Description:**
- **General:** Perennial herb, from a freely rooted rhizome; stems erect, solitary or occasionally a few clustered together, sparsely long-hairy and often glandular, 15-45 cm tall.
- **Leaves:** Basal leaves smaller than stem leaves and often deciduous by flowering time; stem leaves opposite, 2-4 (rarely 5) pairs, egg-shaped to elliptic or lance-elliptic, short-stalked below and unstalked above, uppermost ones reduced.
- **Flowers:** Heads with ray and disk flowers, usually 1-4, rarely as many as 7, the bases hairy and often glandular; involucre 9-15 mm tall; involucral bracts lanceolate, sparsely (usually) to densely long-hairy and often glandular-fringed with small hairs; ray flowers yellow, 12-15, inconspicuously toothed; disk flowers yellow.
- **Fruits:** Achenes 5-7 mm long, glabrous or sparsely hairy; pappus tawny to brownish, more or less feathery.

**Notes:** This “species” is merely a convenient name for a complex series of apparent hybrids involving either *A. mollis* or *A. amplexicaulis* and *A. cordifolia* or *A. latifolia* (Cronquist 1955). Most of the BC material examined which had been placed under this name is better placed in *A. mollis*.

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

**Habitat/Range:**
Moist bogs, meadows and rocky slopes in the subalpine and alpine zones; frequent in extreme N BC; amphiberingian, N to AK, YT, and NT, E Russia.

**Description:**
- **General:** Perennial herb from a short, branched stem-base; stems erect or ascending, solitary or occasionally a few clustered together, rarely branched above, sparsely long-hairy with multicellular hairs and sometimes glandular, 5-40 cm tall
- **Leaves:** Basal leaves lanceolate to oblanceolate, 3-5 veined, glabrous to long-hairy, short to long-stalked, 1-8 cm long; stem leaves 1-4 pairs (rarely lacking), the blades lanceolate to oblanceolate, 1.5-10 cm long, 0.4-2.8 cm wide, usually toothed, glabrous to long-hairy, unstalked or short-stalked.
- **Flowers:** Heads with ray and disk flowers, solitary (rarely 3), usually nodding, the bases long-hairy with yellow hairs; involucre 10-18 mm tall; involucral bracts lanceolate, sparsely to densely long-hairy, becoming glabrous above, scarcely glandular, the tips fringed; ray flowers yellow, 9-15, with conspicuous teeth; disk flowers yellow.
- **Fruits:** Achenes glabrous to sparsely stiff-hairy, scarcely glandular, 4-6 mm long; pappus white, finely-barbed.
Arnica diversifolia

Arnica frigida ssp. frigida
Asteraceae

Arnica fulgens Pursh (A. sororia Greene = var. sororia)
orange arnica

HABITAT/RANGE:
Dry to mesic meadows, grasslands, shrublands and open forests in the steppe and lower montane zones; var. fulgens common in SC, SE and NE BC, var. sororia common in SC and SE BC; E to AB and S to N UT and N CA.

DESCRIPTION:
General: Perennial herb from a short, freely rooted, densely scaly rhizome; stems erect, solitary, glandular and sometimes hairy, especially above, 20-60 cm tall.
Leaves: Basal leaves numerous, 5-15 cm long, 1-4 cm wide, stalked, lanceolate to oblanceolate, 3-5 veined, sparsely to densely hairy and glandular, entire to remotely toothed, often with white or brown woolly tufts at the bases, stem leaves similar, 2-4 pairs, reduced upwards.
Flowers: Heads with ray and disk flowers, solitary, sometimes 2-3, the bases moderately to densely hairy and glandular; involucres 12-20 mm tall; involucral bracts lanceolate to oblanceolate or elliptic-oblong, long-hairy, often sparsely so above, the tips fringed within; ray flowers orange-yellow, 11-23, with 3 blunt teeth; disk flowers yellow, with spreading white hairs among the stalked glandular hairs or the white hairs few or lacking.
Fruits: Achenes 4.0-5.5 mm long, densely, stiff-hairy; pappus white, finely-barbed.

Notes: Arnica sororia has always been treated as a distinct species from A. fulgens. The former, however, is so closely related to the latter that the only consistent difference is the pubescence on the disk corollas [Tayl. and MacBryde 1978, Douglas 1982]. I have thus treated the two taxa at the varietal level.

1. Disk corollas with spreading white hairs among the stalked, 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 stalked glandular hairs; old leaf bases with only a few, if any, long white hairs in the axils ......................................................... var. sororia (Greene) G.W. Dougl. & Ruye-Dougl.

Arnica gracilis Rydb. (A. latifolia Bong. var. gracilis [Rydb.] Cronq.)
tall mountain; slender arnica

HABITAT/RANGE:
Mesic to dry meadows and rocky slopes in the lowland to alpine zones; common in S BC; E to AB and S to WY and WA.

DESCRIPTION:
General: Perennial herb from a horizontal underground stem; stems erect, solitary or occasionally a few clustered together, sparsely hairy, 30-60 cm tall.
Leaves: Basal leaves smaller than the stem leaves and often deciduous by flowering time, often produced on separate short shoots; stem leaves opposite, 2-4 (sometimes 5) pairs, egg-shaped to lanceolate, 2-8 cm long, 1-2.5 cm wide, often becoming narrower and smaller above, thinly hairy and usually sparsely to densely glandular, stalked below, unstalked above, usually coarsely toothed.
Flowers: Heads with ray and disk flowers, 3-9, the bases sparsely to moderately hairy with long white or yellow hairs, often glandular; involucres 7-14 mm tall; involucral bracts lanceolate to oblanceolate, sparsely to densely hairy, often glandular, the tips fringed; ray flowers yellow, 8-12, with conspicuous teeth; disk flowers yellow.
Fruits: Achenes 4-7 mm long, usually glabrous below and sparsely hairy above or glabrous throughout; pappus white, finely-barbed.
**Asteraceae**

**Arnica latifolia** Bong.

**mountain arnica**

**Habitat/Range:**
Mesic to dry forests, meadows and rocky slopes in the lowland to alpine zones; common throughout BC; E to AB and S to WY and WA.

**Description:**
**General:** Perennial herb from a horizontal underground stem; stems erect, solitary or occasionally a few clustered together, sparsely hairy, 20-60 cm tall.

**Leaves:** Basal leaves smaller than the stem leaves and often deciduous by flowering time, often produced on separate short shoots; stem leaves opposite, 2-4 (sometimes 5) pairs, egg-shaped to lanceolate, 6-14 cm long, 1.5-8.0 cm wide, often becoming narrower and smaller above, thinly hairy and usually sparsely to densely glandular, stalked below, unstalked above, usually coarsely toothed.

**Flowers:** Heads with ray and disk flowers. 1-3, the bases sparsely to moderately hairy with long white or yellow hairs, often glandular; involucres 8-18 mm tall; involucral bracts lanceolate to oblanceolate, sparsely to densely hairy, often glandular, the tips fringed; ray flowers yellow, 8-12, with conspicuous teeth; disk flowers yellow.

**Fruits:** Achenes 4-8 mm long, usually glabrous below and sparsely hairy above or glabrous throughout; pappus white, finely-barbed.

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

**Arnica lessingii** (T. & G.) Greene

**purple arnica**

**Habitat/Range:**
Moist snowbed sites, streambanks and meadows in the alpine zone; infrequent in N BC; amphiberigian, N to AK, YT and NT, E Asia.

**Description:**
**General:** Perennial herb from a rhizome; stems solitary, sometimes branched above, 5-35 cm tall.

**Leaves:** Basal leaves smaller than the stem leaves, often deciduous by flowering time; stem leaves 3-4 (rarely 5-6) pairs, often all produced near the basal ones, lanceolate to oblanceolate or elliptic, 1.5-14.5 cm long. 0.5-2.5 cm wide, reduced above, glabrous to hairy below, hairy above, unstalked or stalked below, unstalked above, entire to toothed.

**Flowers:** Heads with ray and disk flowers, solitary, usually nodding, the bases moderately long-hairy with brown hairs; involucres 12-17 mm tall; involucral bracts lanceolate to elliptic, long-hairy, the tips fringed; ray flowers yellow, 8-14, conspicuously toothed; disk flowers yellow, anthers purple, conspicuous.

**Fruits:** Achenes 5.0-6.5 mm long, sparsely short-hairy to glabrous; pappus brownish, finely-barbed to more or less feathery.

**Arnica longifolia** D.C. Eaton

**seep-spring arnica**

**Habitat/Range:**
Moist to wet meadows and seepage slopes in subalpine and alpine zones; rare in SC BC, known only from Snowy Mountain; E to SW AB and S to CO and CA.

**Description:**
**General:** Perennial herb from a short rhizome or branched base; stems leafy, erect, numerous, sometimes branched above, glabrate below, sparsely hairy above, 30-60 cm tall.

**Leaves:** Basal leaves poorly developed, often deciduous by flowering time; stem leaves opposite, unstalked to shortly stalked, usually 5-7 (sometimes 4) pairs, linear-lanceolate to lance-elliptic, entire or sometimes inconspicuously toothed, 5-15 cm long, 1.0-3.5 cm wide, short-hairy to sparsely glandular.

**Flowers:** Heads with ray and disk flowers, 7-20 (rarely as few as 3 or as many as 35), the bases sparsely to moderate hairy and often with dense, stalked glands; involucres 7-12 mm tall; involucral bracts linear-lanceolate to oblanceolate, hairy; ray flowers yellow, 8-13, conspicuously or inconspicuously toothed; disk flowers yellow.

**Fruits:** Achenes 4.5-5.5 mm long, subglabrate or with some short-stalked glands; pappus brownish, more or less feathery.
Asteraceae

Arnica louiseana Farr
Lake Louise arnica

Habitat/Range:
Mesic to dry meadows and rocky slopes in the alpine zone; rare in SE BC, known only from Kootenay National Park; E to SW AB.

Description:
General: Perennial herb from a short, branched stem-base; stems erect or ascending, solitary or occasionally a few clustered together, rarely branched above. sparsely long-hairy with multicellular hairs and sometimes glandular, 5-25 cm tall.

Leaves: Basal leaves lanceolate to oblanceolate, 3-5 nerved, glabrous to long-hairy, short to long-stalked, 1-6 cm long; stem leaves 1-4 pairs (rarely absent), the blades lanceolate to oblanceolate, 1.5-7 cm long, 0.4-2.0 cm wide, usually toothed, glabrous to long-hairy, unstalked or short-stalked.

Flowers: Heads with ray and disk flowers, solitary (rarely 3), usually nodding, the bases long-hairy with yellow hairs; involucres 10-18 mm tall, involucral bracts lanceolate, with short-stalked glands, the tips fringed; ray flowers yellow, 9-15, with conspicuous teeth; disk flowers yellow.

Fruits: Achenes stiff-hairy and moderately glandular, 4-6 mm long; pappus white, finely-barbed.

Arnica mollis Hook.

Hairy arnica

Habitat/Range:
Moist to mesic meadows and open forests in the lowland to alpine zones; common in S BC, less frequent northward; N to AK, YT and NT, E to AB and S to CO, UT and CA.

Description:
General: Perennial herb from a freely rooted rhizome; stems solitary, sometimes branched above, sparsely to densely hairy with multicellular hairs, sometimes also glandular, 15-65 cm tall.

Leaves: Basal leaves elliptic, smaller than the stem leaves, often produced on separate shoots, often deciduous by flowering time; stem leaves 2-4 pairs, opposite, lanceolate to oblanceolate or elliptic, 2-20 cm long, 0.5-2.5 cm wide, reduced above, glabrous to glandular and hairy, stalked below, unstalked above, entire to coarsely toothed.

Flowers: Heads with ray and disk flowers, 1-5, usually erect, the bases hairy and glandular; involucres 10-18 mm tall; involucral bracts lanceolate to oblanceolate, hairy, and with stalked glands; ray flowers yellow, 14-20, short-toothed at the tips; disk flowers yellow.

Fruits: Achenes 5.0-7.5 mm long, usually moderately hairy and sometimes glandular; pappus brownish, more or less feathery.

Arnica parryi A. Gray ssp. parryi

Parry's arnica

Habitat/Range:
Mesic to dry meadows and forests in the montane and subalpine zones; common in S BC, infrequent northward, absent from coastal and NE BC; N to SE YT, E to AB and S to CO and CA.

Description:
General: Perennial herb from a freely rooted rhizome; stems erect, solitary, sometimes branched, sparsely to moderately long-hairy with multicellular hairs, often glandular, 15-60 cm tall.

Leaves: Basal leaves smaller than the stem leaves, often deciduous by flowering time; stem leaves 2-4 pairs, 3-25 cm long, 1-4 cm wide, opposite, lanceolate, sparsely to densely long hairy with short-stalked glands, the lowermost ones stalked, the middle and uppermost unstalked, entire to toothed.

Flowers: Heads discoid, 1-4, sometimes up to 12, usually erect, the bases moderately long-hairy and glandular; involucres 10-14 mm tall; involucral bracts lanceolate, sparsely hairy and glandular; ray flowers usually absent; disk flowers yellow.

Fruits: Achenes 4-6 mm long, glabrous to uniformly hairy; pappus tawny to brownish, finely-barbed to more or less feathery.
**ASTERACEAE**

*Arnica rydbergii* Greene

**Rydberg's arnica**

**Habitat/Range:**
Mesic to dry meadows and rocky slopes in the alpine zone; common in BC south of 55º N; E to AB and S to CO, UT and CA.

**Description:**

**General:** Perennial herb from a scaly, short-branched rhizome; stems solitary to clustered, erect, sometimes branched above, moderately to densely hairy, 10-30 cm tall.

**Leaves:** Basal leaves similar to the stem leaves, often produced on separate shoots, stalked; stem leaves 3-4 pairs (rarely 2 or 5 pairs), opposite, lanceolate to oblanceolate or egg-shaped, 3-10 cm long, 0.5-2.5 cm wide, reduced above, glabrate to glandular and hairy, short-stalked below, unstalked above, entire to coarsely toothed.

**Flowers:** Heads with ray and disk flowers, 1-3 (rarely 5), usually erect, the bases sparsely to densely hairy and usually with short-stalked glands; involucres 9-15 mm tall; involucral bracts linear-lanceolate to lanceolate, glandular and nearly glabrous to sparsely hairy and fringed on the margins; ray flowers yellow, usually 7-10, inconspicuously toothed or rarely entire; disk flowers yellow.

**Fruits:** Achenes 5.5-6.5 mm long, densely short-hairy throughout; pappus white, finely-barbed.

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**ARTEMISIA**

1. Flowers all perfect, shrubs.

2. Leaves deeply divided into 3-5 segments ................................................................. *A. tripartita*

2. Leaves mostly entire or merely 3-toothed at the apex.

3. Leaves mostly entire, occasionally with 1 or 2 teeth or lobes ..................................... *A. cana*

3. Leaves 3-toothed at the apex, the upper becoming entire ........................................... *A. tridentata*

1. Marginal flowers female; herbs or shrubs.

4. Receptacle covered with long hairs.

5. Plants large, usually 0.4-1.2 m tall; the larger leaves 3-8 cm long ........................... *A. absinthium*

5. Plants small, usually 0.1-0.4 m tall; the larger leaves less than 3 cm long .................. *A. frigida*


6. Annuals or biennials from a taproot; leaves essentially glabrous ................................. *A. biennis*

6. Perennials from a rhizome, stem-base, or a taproot, leaves more or less hairy.

7. Leaves mainly basal; stem leaves few and reduced upwards.

8. Leaves densely silky-hairy, the ultimate segments abruptly sharp-pointed or obtuse ...... ................................................................. *A. furcata*

8. Leaves loosely long-hairy, the ultimate segments with long-pointed or slender, tapered tips.

9. Heads relatively large, the disks 5-10 mm wide ............................................. *A. norvegica*

9. Heads smaller, the disks less than 4.5 mm wide .................................................. *A. campestris*

7. Leaves mainly on the stems.

10. Leaves usually with one or two pairs of stipule-like lobes at the base ............... *A. vulgaris*

10. Leaves without stipule-like lobes at the base.
11. Leaves entire or merely lobed or toothed.
12. Leaves essentially entire, rarely pinnately lobed.
13. Stems clustered from a woody stem-base; plants of the Peace River drainage. . . . A. longifolia
14. Leaves white-woolly below ......................................................... A. ludoviciana
15. Leaves glabrous or occasionally long-hairy below but not woolly .......... A. dracunculus
12. Leaves lobed or toothed.
15. Leaves narrow; plants somewhat shrubby at the base from a taproot or cluster of short
roots; restricted to the interior of S BC ........................................... A. lindleyana
16. Leaves broadly lanceolate to elliptic; plants herbaceous to the base, not taprooted, restricted
to coastal BC ........................................................................... A. salsedorfii
11. Leaves deeply divided or subpinnately cut to tripinnately cut.
16. Leaves bipinnately cut, often with the ultimate segments again toothed.
17. Involucres usually densely woolly-hairy ........................................ A. ludoviciana
18. Involucres sparingly woolly-hairy or glabrous ................................ A. michauxiana
16. Leaves deeply pinnately divided.
19. Involucres narrow, higher than wide .......................................... A. ludoviciana
19. Involucres relatively broad, wider than tall.
20. Herbs from a rhizome; leaves white woolly-hairy below and green to sparsely white-
woolly above ........................................................................... A. tiliasii
21. Shrubs from a woody stem-base; leaves white woolly-hairy on both sides ..............
 ........................................................................................................ A. alaskana

Artemisia absinthium L.

wormwood; common wormwood; absinthe

Habitat/Range:
Dry roadsides and disturbed areas in the lowland, steppe and montane zones; common in S BC, infrequent
northward to 57° N; introduced from Eurasia.

Description:
General: Perennial, aromatic herb, sometimes with a woody base; stems ascending to erect, clustered,
branched above, finely hairy or eventually glabrate, 4.0-1.2 m tall.
Leaves: Lower ones long-stalked and 2-3 times pinnately cut, with mostly oblong, obtuse segments mostly
1.5-4.0 mm wide, the blade rounded to egg-shaped in outline, mostly 3-8 cm long, becoming progressively
less divided, shorter-stalked and reduced upwards, the divisions more abruptly sharp-pointed,
glabrate to finely hairy.
Flowers: Heads disciform, nodding, in a branched inflorescence; involucres hemispheric, 2-3 mm tall;
involucral bracts with densely long, silky, appressed hairs, the outer ones linear, the inner broadly elliptic
with broad, thin, dry, papery margins; receptacles with numerous long white hairs between the flowers;
female flowers 9-20, fertile; disk flowers 30-50, fertile.
Fruits: Achenes glabrous.
Artemisia absinthium
**Asteraceae**

*Artemisia alaskana* Rydb.
**Alaskan sagebrush**

**Habitat/Range:**
Mesic to dry sandy or gravelly river terraces and rocky slopes in the montane zone; rare in extreme NW BC, known only from the Haines and Atlin Roads; N to AK and YT.

**Description:**
- **General:** Perennial subshrub from a stout woody base; stems prostrate or ascending, clustered, white-woolly, 15-60 cm tall.
- **Leaves:** Stem leaves woolly above and below, sometimes greenish above, stalked, once to more commonly 3-parted, the segments oblong to broadly linear, 0.6-3.0 mm wide, 2-7 mm long, becoming reduced and entire upwards.
- **Flowers:** Heads disciform, numerous in a branched or narrow inflorescence; involucres hemispheric, 3.5-5.0 mm tall; involucral bracts with matted, woolly hairs and conspicuous brownish, thin, dry, papery margins; receptacles glabrous; female flowers fertile; disk flowers fertile.
- **Fruits:** Achenes glabrous.

*Artemisia biennis* Willd.
**Biennial wormwood**

**Habitat/Range:**
Moist to mesic streambanks and disturbed areas in the lowland, steppe and montane zones; infrequent in SC BC, rare elsewhere, absent from most of coastal and N BC; N to AK, E to PQ and NS and S to CA.

**Description:**
- **General:** Annual or biennial, slightly aromatic herb, from a taproot; stems erect, grooved, glabrous, branched above, 0.3-2.0 (rarely 3.0) m tall.
- **Leaves:** Stem leaves pinnately to bipinnately cut, glabrous, stalked, the segments lanceolate and sharp-toothed, 5-15 cm long.
- **Flowers:** Heads discoid, numerous in a compact spikelike inflorescence, short-stalked; involucres hemispheric, 2-3 mm tall; involucral bracts glabrous, the outer ones narrow and green, the inner with only a green midrib and broad, thin, dry, slightly papery margins; receptacles glabrous; female flowers fertile; disk flowers fertile.
- **Fruits:** Achenes 4.5-nerved, glabrous.

*Artemisia campestris* L. [A. borealis Pall., *A. campestris* ssp. borealis (Pall.) Hall & Clem. var. pushiti [Bess.] Cronq. and *A. campestris* ssp. borealis var. wormskjoldii [Bess.] Cronq. = ssp. borealis; *A. campestris* ssp. borealis var. scoulerianna, *A. campestris* ssp. canadensis [Michx.] Scoggan pro parte and *A. pacifica* Nutt. = ssp. pacifica]

**Northern wormwood**

**Habitat/Range:**
Mesic to dry meadows, rocky slopes and open forests in all vegetation zones; common throughout BC east of the Coast-Cascade Mountains, infrequent on S Vancouver Island and adjacent mainland, absent in WC BC and the Queen Charlotte Islands; N to AK, YT and NT, E to AB and S to NM, AZ and CA.

**Description:**
- **General:** Biennial, or more often perennial, scarcely aromatic herb from a taproot; stems erect, several to numerous, glabrous to hairy, 0.1-1.0 m tall.
- **Leaves:** Mainly basal, 2-3 times pinnately cut or 3-parted, 2-12 cm long, including the stalks, the segments linear or linear-filiform, seldom more than 2 mm wide, glabrous to more often long-hairy, reduced above.
- **Flowers:** Heads disciform, numerous in a branched or narrow inflorescence; involucres hemispheric 2-4.5 mm tall; involucral bracts glabrous to densely long-hairy; receptacles glabrous; female flowers 8-20; disk flowers 10-25.
- **Fruits:** Achenes glabrous.

**Notes:** The taxonomy of this circumpolar species remains unclear, especially in North America. Many of the regional floras disagree with respect to the number of taxa that should be recognized (Douglas 1995). The two subspecies recognized for BC may be separated, although sometimes with difficulty, as follows:
1. Plants usually 10-40 cm tall; involucres 3-4.5 mm tall ....................... ssp. borealis (Pall.) Hall & Clem.
2. Plants usually 30-100 cm tall; involucres 2-3 mm tall .......................... ssp. pacifica (Nutt.) Hall & Clem.

_Artemisia cana_ Pursh ssp. cana
silvery sagebrush

Habitat/Range:
Dry shrublands in the steppe zone; rare in SC BC, known only from the Merritt area; E to SK and S to KS, UT and NM.

Description:
General: Perennial, mildly aromatic, mostly evergreen shrub; stems freely branched, twigs silvery-hairy, 0.4-1.5 m tall.

Leaves: Lower leaves linear to linear-lanceolate, 2-6 cm long, 1-7 mm wide, entire or sometimes with 1-2 irregular teeth or lobes, reduced upwards, silvery-hairy.

Flowers: Heads discoid, numerous in a branched or sometimes narrow inflorescence; involucres narrowly funnel-shaped, 3.5-5 mm tall; involucral bracts abruptly sharp-pointed or with long-pointed tips, the outer short and broadly egg-shaped with dense hairs, the inner elliptic to linear egg-shaped with a thin, dry, papery margin with dense hairs or sometimes nearly glabrous; receptacles glabrous; female flowers absent; disk flowers 8-20.

Fruits: Achenes with fine granules.

_Artemisia dracunculus_ L.
tarragon

Habitat/Range:
Dry roadsides, meadows and open forests in the lowland, steppe and montane zones; common in BC east of the Coast-Cascade Mountains and S of 57° N; circumboreal, N to AK, YT and NT, E to MB and S to MO, KS, TX, NM, AZ, CA and MX, Eurasia.

Description:
General: Perennial, slightly to strongly aromatic herb from a stout rhizome; stems erect, several, 0.5-1.5 m tall.

Leaves: Lower leaves usually soon deciduous, main stem leaves linear or sometimes lanceolate, occasionally 3-parted, entire, glabrous or sometimes long-hairy; mostly 3-8 cm long, 2-10 mm wide.

Flowers: Heads disciform, numerous in an open, branched inflorescence; involucres hemispheric, 2-3 mm tall; involucral bracts ob lanceolate to elliptic with broad, translucent or thin, dry, papery margins, glabrous; receptacles glabrous; female flowers 6-30; disk flowers 10-30.

Fruits: Achenes glabrous.

_Artemisia frigida_ Willd
prairie sagewort

Habitat/Range:
Dry southerly slopes, sandy banks, grasslands and open forests in the montane to subalpine zones; common throughout BC in and E of the Coast-Cascade Mountains; circumboreal, N to AK, YT and NT, E to MB and S to MN, WI, KS, TX, NM and AZ, Eurasia.

Description:
General: Perennial herb from a stout stem-base or woody crown, often shrubby at the base, with several short, leafy offsets; stems ascending to erect, white or tawny, woolly-hairy, 10-40 cm tall.

Leaves: Basal leaves few, soon deciduous; stem leaves silvery-silky hairy, small, short-stalked below, short-stalked above, 2-3 times divided into fine-linear segments, the segments about 1 mm wide or less, often with a pair of 3-parted, stipule-like divisions at the base.

Flowers: Heads disciform, nodding, several to many in a simple or branched inflorescence; involucres hemispheric, 2-3.5 mm tall; involucral bracts linear-lanceolate to lanceolate, loosely cottony-hairy and brown on the margins; receptacles with numerous long hairs between the flowers; female flowers 10-17; disk flowers 25-50.

Fruits: Achenes glabrous, pappus absent.
Asteraceae

Artemisia furcata Bieb. var. heterophylla (Bess.) Hult. (A. heterophylla Bess., A. trifurcata Steph.)
three-forked mugwort

Habitat/Range:
Dry slopes in the alpine zone; rare in WC and NW BC, known only from the Brooks Peninsula (NW Vancouver Island) and Haines Road area (N BC); circumpolar, N to AK, YT and NT; Eurasia.

Description:
General: Perennial herb with a stout taproot and a simple to branched woody base; stems ascending to erect, glabrate to hairy, 3-35 cm tall.
Leaves: Mainly basal, sparsely to more often densely silky-hairy, often less hairy or greenish above, leaves usually 2-3 times palmately compound, reduced and sometimes entire above.
Flowers: Heads disciform, few to numerous in a clustered or slightly branched or narrow inflorescence; involucres cup-shaped, 3-6 mm tall; involucral bracts broadly lanceolate to egg-shaped, sparsely to moderately hairy, the margins brownish, dry and somewhat papery; receptacles glabrous; female flowers 4-10; disk flowers 8-25.
Fruits: Achenes glabrous.

Artemisia lindleyana Bess.
Columbia River mugwort

Habitat/Range:
Wet to moist sandy or gravelly sites below high water level along rivers in the steppe and lower montane zones; infrequent in SC and SE BC; S to WA, ID and MT.

Description:
General: Perennial herb from a taproot, which becomes finely divided, or a cluster of short roots; stems erect, clustered, becoming shrubby at the base, 20-70 cm tall.
Leaves: Deciduous at the base, main stem leaves with dense, white-matted hairs below, green and glabrate above, linear-oblancoate, usually with a few teeth or narrow divisions towards the tip or sometimes entire, especially above, 2-5 cm long, 1-10 mm wide.
Flowers: Heads disciform, numerous in a narrow inflorescence; involucres bell-shaped, 3 mm tall; involucral bracts linear-lanceolate to lanceolate, with sparse to dense white-matted hairs; receptacles glabrous; female flowers 5-9; disk flowers 10-30.
Fruits: Achenes glabrous.

Artemisia longifolia Nutt
long-leaved mugwort

Habitat/Range:
Mesic streambanks and terraces in the montane zone; rare in NE BC, known only from the Peace River drainage near the AB border; E to SK and S to SD and CO.

Description:
General: Perennial herb from a woody base; stems erect, clustered, 20-80 cm tall.
Leaves: Stem leaves entire, sometimes the lowest ones toothed or lobed at the base, with dense, white-matted hairs below, more thinly so and often glabrate above, lance-linear, the margins inrolled.
Flowers: Heads disciform, numerous in a branched inflorescence; involucres cup-shaped, 4-5 mm tall; involucral bracts broadly lanceolate to egg-shaped, finely hairy, the margins thin, dry, papery; receptacles glabrous; female flowers 3-10; disk flowers 8-26.
Fruits: Achenes glabrous.
Artemisia furcata var. heterophylla

Artemisia lindleyana

Artemisia longifolia
Asteraceae

Artemisia ludoviciana Nutt.
   western mugwort
Habitat/Range:
   Mesic to dry slopes, gravelly river terraces and open forests in the steppe, montane and subalpine zones; vars. latiloba and ludoviciana common in S BC, rare near the coast, var. incompta rare in SE BC, known only from Nelson; E to ON and S to IL, TX, NM, AZ, CA and NW MX.
Description:
   General: Perennial aromatic herb from a rhizome; stems erect, simple with white matted hairs, 0.3-1.0 m tall.
   Leaves: Stem leaves numerous with dense, white, matted hairs on both sides or loosely woolly to green and glabrate above, lanceolate to oblanceolate or elliptic, entire to deeply lobed, the lobes sometimes again toothed or irregularly lobed, 3-9 cm long, 10-21 mm wide.
   Flowers: Heads disciform, numerous in a branched or narrow, spikelike inflorescence; involucres egg-shaped to bell-shaped, 2.5-4.5 mm tall; involucral bracts broadly lanceolate to egg-shaped with dense, white, matted hairs or sometimes glabrate; receptacles glabrous; female flowers 5-12; disk flowers 6-21.
   Fruits: Achenes glabrous.
Notes: This extremely variable species is represented in BC by three varieties. These may be separated as follows:
1. Principal leaves mostly entire, sometimes with a few lobes ........................................... var. ludoviciana
2. Principal leaves more or less deeply parted or divided.
   2. Leaves merely lobed, seldom subpinnately cut......................................................... var. latiloba Nutt.
   2. Leaves bipinnately cut with the ultimate segments again divided ............ var. incompta (Nutt.) Cronq.

Artemisia michauxiana Bess.
Michaux's mugwort
Habitat/Range:
   Moist to mesic meadows and rocky slopes in the steppe to alpine zones; common throughout BC except absent in coastal and NE BC; N to YT, E to AB and S to UT and CA.
Description:
   General: Perennial herb from a woody base and often rhizomatous; stems several to many, nearly glabrous, 20-70 cm tall.
   Leaves: Stem leaves with dense, white, matted hairs below at least when young, generally glabrous and green above, pinnately twice divided, the short, linear ultimate segments often toothed again, lower ones 2-5 cm long.
   Flowers: Heads disciform, numerous in a spikelike inflorescence; involucres bell-shaped, 3.5-4.0 mm tall; involucral bracts lanceolate to egg-shaped, glabrous or sometimes finely hairy; receptacles glabrous; female flowers 9-12; disk flowers 15-35.
   Fruits: Achenes glabrous.
Artemisia ludoviciana var. ludoviciana

Artemisia michauxiana
**Asteraceae**

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

**Mountain sagewort**

**Habitat/Range:**
Moist to mesic meadows, rocky slopes, shrubby thickets and open forests in the montane to alpine zones; common in BC in and E of the Coast-Cascade Mountains, rare in coastal BC; N to AK, YT and NT; S to CO and CA.

**Description:**
- **General:** Perennial herb from a short, branched stem-base; stems erect, solitary or sometimes several, glabrous to sparsely or densely hairy with short runners and sterile rosettes, 20-60 cm tall
- **Leaves:** Basal leaves stalked, pinnately dissected, the ultimate segments linear, glabrous to loosely and densely long-hairy; stem leaves few, unstalked and progressively reduced upwards.
- **Flowers:** Heads disciform, numerous, up to 1 cm wide, often nodding in a spikelike inflorescence; involucres hemispheric, 4-7 mm tall; involucral bracts broadly lanceolate, glabrous to moderately long-hairy, greenish with dark-margins; receptacles glabrous; female flowers 6-12; disk flowers 30-80, yellowish, often tinged with red.
- **Fruits:** Achenes glabrous.

Notes: Our subspecies is scarcely distinguishable from the Eurasian ssp. *norvegica*, which I have examined. The use of the epithet *A. arctica*, for this taxon, is unwarranted (Douglas et al. 1989, Douglas 1995).

*Artemisia subsdorfii* Piper

**Suksdorf's mugwort; coastal mugwort**

**Habitat/Range:**
Moist to mesic gravelly or rocky banks and roadsides in the lowland zone; common on Vancouver Island and the adjacent mainland; S to CA.

**Description:**
- **General:** Perennial herb from a short, stout rhizome; stems erect, stout, clustered, 0.5-1.5 m tall
- **Leaves:** Stem leaves numerous, white- to grey-woolly beneath, green and glabrous or glabrate, broadly lanceolate to oblanceolate or elliptic, entire or toothed or coarsely lobed below, 8-15 cm long, 1.5-5 cm wide, reduced upwards.
- **Flowers:** Heads disciform, numerous in a branched, elongate inflorescence; involucres obleng or nearly egg-shaped, 3-4 mm tall; involucral bracts broadly lanceolate, finely woolly-hairy or glabrate, yellowish-green and shiny; receptacles glabrous; female flowers 3-7; disk flowers 2-8.
- **Fruits:** Achenes glabrous.

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

**Aleutian mugwort**

**Habitat/Range:**
Moist to mesic meadows, streambanks, gravel bars, rocky slopes and open forests in the lowland and montane to alpine zones; common in N BC, infrequent southward; circumboreal, N to AK, YT and NT; E to ON and S to MT, ID and OR, Eurasia.

**Description:**
- **General:** Perennial herb from a rhizome; stems erect, several, 0.3-1.5 m tall.
- **Leaves:** Basal leaves soon deciduous; stem leaves linear-lanceolate to oblanceolate, egg-shaped or almost round in outline, few-toothed or lobed to deeply pinnate or subpalmately divided, some of the segments again toothed or divided, white-woolly below, green or rarely finely white-woolly above, 5-15 cm long.
- **Flowers:** Heads disciform, erect or nodding in a compact or narrow, branched inflorescence; involucres bell-shaped or top-shaped, 3-5 mm tall; involucral bracts broadly lanceolate to egg-shaped, purplish or sometimes green; receptacles glabrous; female flowers 8-12; disk flowers 20-40.
- **Fruits:** Achenes glabrous.

Notes: Only two varieties of this species are readily separated taxonomically, and to a lesser extent geographically, in our region (Douglas 1995). They may be separated as follows:

1. Inflorescence relatively short and compact, usually overtopped by the upper leaves .................. var. *tilesii*
1. Inflorescence ample and open to subcompact in a narrow, branched inflorescence, always surpassing the upper leaves .................................................................................................................................. var. *unalaschensis* (Bess.) Hult.
**Asteraceae**

**Artemisia tridentata** Nutt. (A. vasyana Rydb. = var. vasyana)
big sagebrush

**Habitat/Range:**
Dry to mesic meadows and slopes in the steppe to subalpine zones; common in SC BC, rare in SE BC; E to AB and S to ND, NM, AZ, and CA.

**Description:**
**General:** Perennial, aromatic, evergreen shrub; stems solitary or branched from the base with shredding, grey or light brown bark when older, or with a dense, grooved, white-woolly hairiness when young, 0.1-2.0 m tall.

**Leaves:** Principal leaves unstalked or short-stalked, silvery-hairy, typically wedge-shaped with 3 blunt teeth at the tips or sometimes 4-9 toothed or shallowly lobed, 1-4 (rarely 6) cm long, 2-13 mm wide.

**Flowers:** Heads discoid, numerous in a narrow to broad inflorescence; involucres narrowly bell-shaped, 3.0-3.8 mm tall; involucral bracts elliptic to obtuse, greyish-hairy; receptacles glabrous; female flowers absent; disk flowers 3-6, sometimes up to 12 at taller elevations.

**Fruits:** Achenes resinous-granular, rarely short-hairy.

**Notes:** Recently, the var. wyomingensis beetle & A. Young has been reported in BC. At the present time, however, our material has not been studied with respect to this variety thus only our two traditional varieties are recognized here. They may be distinguished as follows:

1. **Involucres narrowly bell-shaped**, about 4 mm tall and 2 mm wide; plants of arid sites in the steppe and lower montane zones ................................................................................................................................................................................................. **var. tridentata**

1. **Involucres broader**, about 5 mm tall and 4 mm wide; plants of cooler, mesic open sites in the upper montane and subalpine zones ................................................................................................................................................................................................. **var. vasyana** (Rydb.) Boivin

**Artemisia tripartita** Rydb.
threeleaf sagebrush; cutleaf sagebrush

**Habitat/Range:**
Dry slopes and shrublands in the steppe zone; locally frequent in extreme SC BC; S to CO and CA.

**Description:**
**General:** Perennial, mildly aromatic, evergreen shrub; stems solitary or branched from the base with shredding, grey or light brown bark when older or with a dense, grooved, white-woolly hairiness on the twigs, 20-80 cm tall.

**Leaves:** Principal leaves short-stalked, grey-hairy, deeply divided into 3 linear or narrowly lanceolate lobes which may sometimes be 3-cleft or some of the leaves linear and entire, 0.5-3.0 cm long.

**Flowers:** Heads discoid, numerous in a narrowly to broadly branched inflorescence; involucres bell-shaped, 3-4 mm tall; involucral bracts grey-hairy, the inner ones oblong, the outer broadly egg-shaped, sometimes with a narrow herbaceous tip; receptacles glabrous; female flowers lacking; disk flowers 4-7 (rarely more).

**Fruits:** Achenes resinous-granular.

**Artemisia vulgaris** L.
common mugwort

**Habitat/Range:**
Wet to dry intertidal river banks, road sides and waste places in the lowland and montane zones; infrequent in S BC; introduced from Europe.

**Description:**
**General:** Perennial aromatic herb from a stout rhizome; stems erect, simple or branched above, glabrous or nearly so below the inflorescence, hairy above, 0.5-1.5 m tall.

**Leaves:** Stem leaves cleft nearly to the midrib in ascending, abruptly sharp-pointed, unequal segments which are again toothed or more deeply cleft, and usually with 1-2 pairs of stipule-like lobes at the base, sometimes becoming entire above, green and glabrous above or nearly so, densely white-woolly below, mostly 5-10 cm long, 3-7 cm wide.

**Flowers:** Heads disciform, numerous in a generally ample, leafy, branched inflorescence; involucres bell-shaped, 3.5-4.5 mm tall; involucral bracts broadly lanceolate, densely wooly; receptacles glabrous; female flowers 6-12; disk flowers 8-18.

**Fruits:** Achenes glabrous.
Artemisia tridentata

Artemisia tripartita

Artemisia vulgaris
ASTER

1. Ray flowers either inconspicuous (only slightly exceeding the disk) or wanting; female flowers more numerous than the disk flowers; annuals.

2. Heads with ray and disk flowers, the ray flowers about 2 mm long, surpassing the short style ................................................................. A. frondosus

2. Heads disciform, the ray flowers essentially wanting, the corolla of the female flowers tubular, shorter than the styles ....................................................................... A. brachyactus

1. Ray flowers usually conspicuous; female flowers usually fewer than the disk flowers; annuals.

3. 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

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

4. Ray flowers few, 1-3, white, shorter than the pappus; plants of Vancouver Island and the Gulf Islands .......................................................................................... A. curtus

4. Ray flowers more numerous, 5 or more, white to pink, blue, violet or pinkish-purple, longer than the pappus; ranges various.

5. Ray flowers commonly 13, sometimes 8 or 21, white (or often pale purple in A. engelmannii); involucral bracts tending to be keeled; pappus often with a few short outer bristles.

6. Leaves large, mostly 15-35 mm wide; plants 60-150 cm tall; plants of the Cascade Ranges and eastward in S BC .................................................................................. A. engelmannii

6. Leaves smaller, 4-13 mm wide; plants 20-50 cm tall; plants of C Vancouver Island ........

................................................................................................................................. A. paucicapitatus

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

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

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

8. Involucres and their stalks glandular.

9. Leaves thick, egg-shaped to elliptic, usually sharply toothed. .............. A. conspicus

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

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

10. Leaves broader, mostly 10-40 mm wide, remotely toothed, rarely entire ....

................................................................................................................................. A. modestus

8. Involucres and their stalks without glands (or apparently so).

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

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

12. Leaves entire or with relatively few small teeth towards the tips; heads few, upper montane to alpine plants throughout BC ............................. A. sibiricus

11. 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.
13. Basal or lower stem leaves heart-shaped or somewhat heart-shaped and distinctly stalked ... *A. ciliolatus*

13. Basal or lower stem leaves not heart-shaped and usually unstalked or shortly-stalked.

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

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

15. Stems and branchlets hairy in decurrent lines from the leaf bases; inflorescence generally large and leafy .......................................................... *A. lanceolatus*

15. Stems and branchlets with uniform hairs, or if in lines, then uniform below the heads; inflorescence various.

16. Involutural bracts, at least the outer, with loose or crimped, minutely and abruptly spiny tips; ray flowers white (rarely pinkish to purplish).

17. Plants with a stout, woody base; stems glabrous or sometimes with long, spreading hairs; introduced in the lower Fraser Valley ........................................ *A. pilosus*

17. Plants with short or long rhizomes or a woody stem-base; stems densely stiff- or long-hairy; native through most of BC but not in the lower Fraser Valley.

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

18. Plants with a short rhizome or stem-base; heads numerous, usually swept to 1-side on upwards-curving branches ....................................................... *A. ericoides*

16. Involutural bracts appressed to spreading, without abrupt spiny tips (rarely obscurely so in *A. ascendens* and *A. chilensis*); ray flowers usually blue to purple (pink or white in *A. Eatonii*)

19. Involutural bracts appressed to spreading, without abrupt spiny tips; ray flowers usually blue to purple (pink or white in *A. Eatonii*).

19. Involucres strongly graduated; outer involucral bracts spoon-shaped, or slightly so, and usually obtuse, not leafy.

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

20. Heads usually numerous on leafy-bracted branches; middle stem leaves usually more than 1 cm wide and less than 7 times as long as wide, plants of SW BC. ... *A. chilensis*

19. Involucres not strongly graduated or, if so, then not spoon-shaped or obtuse; involucral bracts abruptly sharp-pointed or tapering to a slender tip, or if obtuse, then the outer bracts leafy.

21. Achenes glabrous, or nearly so.

22. Leaves glabrous, or nearly so and tending to be glaucous; stems glabrous, or nearly so, sometimes reddish ................................................................. *A. laevis*

22. Leaves subglabrous to more usually hairy; stems stiff-hairy, especially in the inflorescence, usually reddish-purple .................................. *A. puniceus*

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

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

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

23. Outer involucral bracts with inconspicuous or no papyry margins, the papyry portion, if present, usually whitish or greenish.

24. Inflorescence a long, narrow, leafy panicle with numerous heads; ray flowers usually pink or white A. eatonii

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

25. Leaves relatively narrowly lanceolate, the bases rounded but not clasping, the middle stem 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

25. Leaves broadly lanceolate to egg-shaped, the bases sometimes with ear-like flanges at the base, clasping, the middle stem 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. foliaceus

_Aster alpinus_ L. ssp. vierhapperi Onno
alpine aster

_Habitat/Range:_
Mesic to dry calcareous meadows from the montane to alpine zones; infrequent in NE BC; amphibberingian, N to AK, YT and NT, E to AB and S to CO, Russia.

_Description:_
_General:_ Perennial herb from a woody stem-base or rhizome; stems erect to ascending, shortly grey-hairy, 10-30 cm tall.

_Leaves:_ Basal leaves oblanceolate to spoon-shaped, stalked, more or less rounded at the tip, more or less 3-nerved, 1-8 cm long, 0.5-1.0 cm wide; stem leaves oblanceolate, reduced upwards.

_Flowers:_ Heads with ray and disk flowers, solitary; involucres 6-10 mm tall; involucral bracts obovate, loosely erect, subequal in several series, herbaceous throughout or slightly papyry; ray flowers white, sometimes violet or lavender, 1-1.5 cm long, or more; disk flowers yellow.

_Fruits:_ Achenes flattened, 2-nerved, hairy; pappus white to tan, with a few, more or less evident, short bristles.

_Aster ascendens_ Lindl. (A. chilensis Nees ssp. ascendens [Lindl.] Cronq.)
long-leaved aster

_Habitat/Range:_
Dry slopes and forest openings in the steppe and lower montane zones; rare in SC and SE BC; E to SK and S to NM, AZ and CA.

_Description:_
_General:_ Perennial herb from a branched, woody stem-base or rhizome; stems branched above, with straight, appressed hairs, 30-60 cm tall.

_Leaves:_ Basal leaves narrowly oblanceolate, tapering to a stalked base, usually entire, glabrous to slightly hairy, 2-10 cm long, 2-10 mm wide; stem leaves lanceolate to linear, usually entire, often slightly clasping, glabrous to slightly hairy, reduced upwards.

_Flowers:_ Heads with ray and disk flowers, few to many in an open, branched inflorescence; involucres 4-7 mm tall; involucral bracts strongly graduated, linear to linear-oblong, the outermost usually spoon-shaped, fringed, green above, pale below, glabrous to hairy on the back; ray flowers 10-40, violet or purple, 6-8 mm long; disk flowers yellow.

_Fruits:_ Achenes several-nerved, stiff-hairy; pappus white to tan.
Aster alpinus ssp. vierhapperi

Aster ascendens
**Aster borealis** (T. & G.) Prov. (A. junciformis Rydb.)
**rush aster**

**Habitat/Range:**
Marshes, bogs, fens and lakesides from the lowland to subalpine zones; common in S BC, less frequent northward; N to AK, YT and NT, E to PQ, PE and NS and S to NJ, MN, SD, CO, ID and OR

**Description:**
**General:** Perennial herb from a slender, rhizome, seldom over 2 mm thick; stems erect, simple or branched above, glabrous below becoming hairy above, 15 to 80 cm tall.

**Leaves:** Basal leaves reduced and soon deciduous; stem leaves linear, unstalked with rounded bases, glabrous, entire or inconspicuously toothed, 2-7 cm long, 2-9 mm wide, becoming reduced above.

**Flowers:** Heads with ray and disk flowers, solitary (in reduced plants) to many in a short, usually broad inflorescence; involucres 5-7 mm tall; involucral bracts more or less graduated, oblong, abruptly sharp-pointed, glabrous, often with purplish tips or margins; ray flowers 20-50, white or rarely pale bluish, 12-20 mm; disk flowers yellow.

**Fruits:** Achenes Several-nerved, hairy; pappus white.

**Aster brachyactis** Blake
**rayless alkali aster**

**Habitat/Range:**
Moist to mesic saline or alkaline sites in the steppe and lower montane zones; frequent in S BC east of the Coast-Cascade Mountains; N to YT and NT and E to MB and S to MN, MO, KS, CO and UT.

**Description:**
**General:** Annual herb from a taproot; stems erect, simple or branched above, glabrous, 10-70 cm tall.

**Leaves:** Basal leaves soon deciduous; stem leaves linear or nearly so, entire, 3-12 cm long, 1-9 mm wide.

**Flowers:** Heads disciform, several to numerous in an open, branched or spikelike inflorescence; involucres 5-11 mm tall, involucral bracts equal or more often graduated in 2-3 series, linear, the tips sharp- to long-pointed, leafy, loose, glabrous; ray flowers lacking; female flowers white or pale lavender, more numerous than the disk flowers, with tubular-threadlike corollas.

**Fruits:** Achenes appressed-hairy; pappus white, copious and soft, surpassing the corollas.

**Aster campestris** Nutt. var. campestris
**meadow aster**

**Habitat/Range:**
Dry meadows and open forests in the steppe and montane zones; frequent in S BC east of the Coast-Cascade Mountains; E to AB and S to UT, NV and CA.

**Description:**
**General:** Perennial herb from a creeping rhizome; stems ascending, simple or more often branched from the base, glandular above, subglabrous or hairy below, 10-70 cm tall.

**Leaves:** Basal and stem leaves similar, linear or narrowly oblong, unstalked and sometimes slightly clasping, entire, 2-8 cm long, 2-10 mm wide, gradually reduced upwards.

**Flowers:** Heads with ray and disk flowers, several to many in an open, somewhat branched inflorescence; involucres 5-8 mm tall; involucral bracts scarcely to evidently graduated, abruptly sharp-pointed or with long-pointed, green tips, glandular; ray flowers 15-30, light violet or purple, 5-12 mm long; disk flowers yellow.

**Fruits:** Achenes densely grey-hairy; pappus tawny.
Aster borealis

Aster brachyactis

Aster campestris var. campestris
ASTERACEAE

Aster chilensis Nees
common California aster

Habitat/Range:
Moist to mesic salt marshes, meadows, slopes and banks in the lowland zone; common in coastal SW BC; S to CA.

Description:
General: Perennial herb from a rhizome or branching woody stem-base; stems ascending to erect, hairy, at least above, 0.5-1.0 m tall.
Leaves: Lowermost leaves usually deciduous by flowering time; stem leaves usually oblanceolate and stalked below, those above linear to lanceolate and smaller, 2-10 cm long, 2-20 mm wide, usually entire, glabrous or sparsely hairy.
Flowers: Heads with ray and disk flowers, solitary to many on leafy-bracted branches; involucral bracts graduated in 2-3 series, the outer oblique and rounded, the innermost obtuse or merely abruptly sharp-pointed, conspicuously green-tipped; ray flowers 15-40, blue or violet, 5-15 mm long; disk flowers yellow.
Fruits: Achenes several-nerved, sparsely hairy; pappus tawny.

Aster ciliolatus Lindl. (A. lindleyanus T. & G.)
Lindley’s aster

Habitat/Range:
Moist to dry forests and disturbed areas in the montane zone; common throughout BC in and E of the Coast-Cascade Mountains except lacking in NW BC, rare near the coast; N to NT, E to PQ and NS and S to NY, MN, SD, WY and OR.

Description:
General: Perennial herb from a long creeping rhizome; stems erect, single or several together, usually branched, glabrous or hairy, 0.2-1.2 m tall.
Leaves: Basal and lowermost stem leaves more or less heart-shaped, stalked, sharply saw-toothed, short-hairy on the lower surfaces, 4-25 cm long, 2-6 cm wide, often deciduous; main stem leaves becoming abruptly narrowed to the broadly winged and fringed stalk, often less toothed or the uppermost unstalked and nearly entire.
Flowers: Heads with ray and disk flowers, usually numerous in an open inflorescence; involucres 5-8 mm tall; involucral bracts slightly to moderately graduated, linear-oblong, the tips sharp- to long-pointed, glabrous, the margins sometimes fringed with small hairs, with narrow, green, elongate tips; ray flowers 12-25, blue, 8-15 mm long; disk flowers yellow.
Fruits: Achenes several-nerved, glabrous or slightly hairy; pappus whitish.

Aster conspicuus Lindl.
showy aster

Habitat/Range:
Mesic to dry meadows and forest openings in the montane zone; common in BC in and E of the Coast-Cascade Mountains and S of 57° N; E to SK and S to WV, ID and OR.

Description:
General: Perennial herb from a creeping rhizome; stems erect, usually single and branched above, glandular, 0.3-1.0 m tall.
Leaves: Basal and lowermost leaves small, stalked and soon deciduous; stem leaves egg-shaped to elliptic, clasping, mostly unstalked, 6-18 cm long, 2-8 cm wide, thick, saw-toothed, with short, stiff hairs; sand-papery to touch when mature.
Flowers: Heads few to many in an open, round-topped inflorescence; involucres 9-12 mm tall; involucral bracts lanceolate, densely glandular, green at the tip, whitish at the base; ray flowers 12-35, blue to violet, 10-15 mm long; disk flowers yellow.
Fruits: Achenes several-nerved, appressed-hairy; pappus whitish.
Aster chilensis

Aster ciliolatus

Aster conspicuus
ASTERACEAE

*Aster curtus* Cronq. (*Seriocarpus rigidus* Lindl. in Hook.)

**white-top aster**

**Habitat/Range:**
Dry meadows, woodlands and rocky slopes in the lowland zone; rare on S Vancouver Island, and adjacent Hornby Island and Trial Island; S to OR.

**Description:**

**General:** Perennial herb from a slender, creeping rhizome; stems erect to ascending, glabrous, 10-30 cm tall.

**Leaves:** Basal leaves reduced and soon deciduous; stem leaves oblanceolate, tapering to an essentially unstalked base, somewhat 3-nerved, entire, often slightly stiff-hairy on the midrib below, 2.5-3.5 cm long, 5-9 mm wide, gradually reduced upwards.

**Flowers:** Heads with ray and disk flowers, several to many in a terminal cluster or rarely more branched; involucres 7-9 mm tall; involucral bracts graduated in several series, with a strong midrib or slight keel, oblong or the inner linear, obtuse to abruptly sharp-pointed, white and papery below, the light green tip often loose and spreading; ray flowers inconspicuous, 1-3 (typically 2), shorter than the pappus, white, 1-3 mm long; disk flowers few, 9-21, pale yellow with purple anthers, shorter than the pappus.

**Fruits:** Achenes smooth, densely grey-hairy; pappus white.

*Aster eatonii* (A. Gray) T.J. Howell (*A. bracteolatus auct. non Nutt.*)

**Eaton’s aster**

**Habitat/Range:**
Moist to wet marshes, streamside, lakesides and ditches in the lowland, steppe and lower montane zones; frequent in S BC; E to SK and S to NM and CA.

**Description:**

**General:** Perennial herb from a creeping rhizome; stems erect to ascending, minutely and uniformly hairy, 0.4-1.0 m tall.

**Leaves:** Basal leaves mostly deciduous by flowering time; stem leaves linear to lanceolate, unstalked, glabrous to short, rough-hairy, 5-15 cm long, 4-20 mm wide, often with shorter, linear axillary leaves.

**Flowers:** Heads with ray and disk flowers, numerous in a relatively narrow, branching inflorescence; involucres 4.5-10 mm tall; involucral bracts oblanceolate to spoon-shaped or the inner ones linear, abruptly sharp-pointed, often loose, fringed below, glabrous on the backs, the leafy tips of the outer ones longer than the pale base and spreading; ray flowers 20-40, white, pink or rarely lavender or blue, 5-12 mm long; disk flowers yellow.

**Fruits:** Achenes several-nerved, sparsely hairy; pappus white.

Notes: This species was treated as *Aster bracteolatus* by Douglas (1989, 1995) based on the examination of the type specimen by Dr. K.L. Chambers (Dean and Chambers 1983). More recently, Dr. G.A. Allen (1993, pers. comm.), retained the use of *A. eatonii* since there is still confusion as to which taxon the type specimen actually represents.
**Aster engelmannii** (D.C. Eat.) A. Gray
Engelmann's aster

**Habitat/Range:**
Mesic meadows, avalanche tracks and open forests in the montane and lower subalpine zones; frequent in S BC in and E of the Coast-Cascade Mountains; E to SW AB and S to CO, NV and CA.

**Description:**
General: Perennial herb from a fibrous-rooted rhizome or branched, woody stem-base; stems erect, branched above, glandular or sparsely long-hairy to glabrous, 0.5-1.5 m tall.
Leaves: Basal leaves reduced and scalelike below; stem leaves numerous and nearly alike, lanceolate or elliptic to egg-shaped, unstalked, entire or nearly so, closely reticulate, subglabrous or sometimes glandular or somewhat hairy below, 5-10 cm long, 1.5-3.5 cm wide.
Flowers: Heads with ray and disk flowers, few to many in a rounded inflorescence; involucres 8-12 mm tall; involucral bracts graduated with a strong midvein, tending to be keeled, linear to lanceolate, with long-pointed tips or the inner abruptly sharp-pointed, papery below, greenish above, the inner purple-margined and marginally fringed with long hairs; ray flowers commonly 13, sometimes only 8, white, often pink with age, sometimes magenta, 15-25 mm long; disk flowers yellow.
Fruits: Achenes appressed-hairy; pappus tawny with a few outer bristles.

**Aster ericoides** L. ssp. *pansus* (Blake) A. G. Jones (*A. pansus* [Blake] Cronq.)
tufted white prairie aster

**Habitat/Range:**
Mesic to dry grasslands, shrublands, alkaline flats, rocky slopes, disturbed areas and open forests in the lowland, steppe and montane zones; common in SC and SE BC, less frequent in NE BC, rare on S Vancouver Island; N to YT and NT, E to MB and S to UT, AZ and OR.

**Description:**
General: Perennial herb from a fibrous-rooted short rhizome or branched, woody stem-base; stems ascending, much branched and hairy above, 3-20 cm tall.
Leaves: Basal leaves soon deciduous; stem leaves numerous, linear, short-haired to glabrate, rough-margined, often spine-tipped, 2-7 cm long, 1-6 mm wide.
Flowers: Heads with ray and disk flowers, usually numerous in a branched open inflorescence, tending to become one-sided on the recurving branches; involucres 4-7 mm tall; involucral bracts graduated, outermost spreading and spoon-shaped, the others mostly linear, spine-tipped, with a whitish base and firm green tips, often hairy on the margins and back; ray flowers 12-30, white, 3-8 mm long; disk flowers yellow.
Fruits: Achenes appressed-hairy; pappus white to straw-colored.
Notes: *Aster ericoides* ssp. *pansus* is easily confused with *A. folacatus* which has a similar ecology and distribution. The former, however, has numerous flowers borne on the recurved-ascending branches while the latter has flowers usually borne singly on the ends of the branches.

**Aster folacatus** Lindl. ssp. *falacatus*
little grey aster

**Habitat/Range:**
Mesic to dry grasslands, rocky slopes, disturbed areas and open forests in the steppe and montane zones; frequent in SC and SE BC, rare in NE BC; N to AK, YT and NT, E to SK and S to NM, AZ and WA.

**Description:**
General: Perennial herb from a fibrous-rooted, creeping rhizome; stems erect to ascending, branched and short-hairy above, 30-60 cm tall.
Leaves: Basal leaves usually deciduous; stem leaves linear, unstalked, entire, usually stiff-hairy.
Flowers: Heads with ray and disk flowers, several to many, solitary at the end of the branchlets, in racemes on the stem or branch; involucres 5-8 mm tall; involucral bracts graduated, linear-oblong to linear or the outer spoon-shaped with a whitish base, obtuse to abruptly sharp-pointed, the tips often loose, stiff-hairy and usually hairy on the backs; ray flowers 20-35, white, rarely pale pinkish or purplish-tinted, 5-10 mm long; disk flowers yellow.
Fruits: Achenes several-nerved, hairy; pappus white.
Aster engelmannii

Aster ericoides ssp. pensus

Aster falcatus ssp. falcatus
Asteraceae

Aster foliaceus Lindl. (A. foliaceus var. apricus A. Gray, hyallii [A. Gray] Cronq. and parryi [D.C. Eat.] A. Gray)
leafy aster

Habitat/Range:
Moist to mesic meadows, streambanks, slopes and forests in all vegetation zones; common in BC south of 56° N, infrequent in NW BC; N to AK, YT and NT, E to AB and S to NM, AZ and CA.

Description:
General: Perennial herb from a fibrous-rooted rhizome or short, woody, stem-base; stems ascending to erect, branched above; 10-60 cm tall.
Leaves: Basal leaves oblanceolate to egg-shaped below, usually stalked, often soon deciduous; middle stem leaves lanceolate to egg-shaped, unstalked, and often with clasping, ear-like flanges at the base, glabrous to soft-hairy, mostly entire, 2-12 cm long, 5-40 mm wide, 3.5-7 times as long as wide; upper leaves reduced.
Flowers: Heads with ray and disk flowers, solitary to many in a rounded inflorescence; involucres 9-12 mm tall; involucral bracts graduated, the outer large and leaflike, the inner smaller, oblong, obtuse or abruptly sharp-pointed, glabrous on the back, fringed on the margins, white-margined at the base; ray flowers 15-60, rose-purple to blue or violet, 10-20 mm long; disk flowers yellow.
Fruits: Achenes faintly nerved, glabrous to grey-hairy; pappus white to tawny or sometimes reddish.
Notes: This is a highly variable species and has been treated in various ways by different taxonomists (Douglas 1995). It appears best, at least in our region, to separate A. foliaceus from the closely related A. subspicatus and to submerge all of the subspecific taxa recognized within A. foliaceus by some authors into one variable species. These subspecific taxa are mainly distinguished on stem heights and involucral bract lengths, which decrease with elevation.

Aster frondosus (Nutt.) T. & G.
short-rayed aster; alkali aster

Habitat/Range:
Moist lakeshores in the steppe zone; rare in SC BC, known recently only from Osoyoos Lake; S to UT, AZ, NM and CA.

Description:
General: Annual herb from a taproot; stems decumbent to erect, much branched, more or less glabrous, 10-60 cm tall.
Leaves: Basal leaves soon deciduous; stem leaves linear to oblanceolate, stalked below to unstalked above, 2-6 cm long, 5-10 mm wide, entire, glabrous or fringed with stiff hairs on the margins.
Flowers: Heads with ray and disk flowers, several to numerous in an open or spikelike, branched inflorescence; involucres 5-9 mm tall; involucral bracts subequal to moderately graduated, linear-lanceolate to linear spoon-shaped, the inner pale-margined, the outer leafy, the tips obtuse; ray flowers white, drying pinkish to pink-purple, 1.5-2 mm long, barely exceeding the disk flowers; disk flowers yellow.
Fruits: Achenes appressed-hairy; pappus white, surpassing the disk flowers.
Notes: Although this species was first collected in 1939 and reported by Eastham (1947) from the Okanagan Valley, it was not recollected again until 1993 along Osoyoos Lake.
Aster foliaceus

Aster frondosus
Aster laevis L. var. geyeri (A. Gray) Piper (A. geyeri [A. Gray] T.J. Howell)
smooth aster

HABITAT/RANGE:
Mesic to dry meadows and forests in the lowland and montane zones; common in S BC east of the Coast-
Cascade Mountains and S of 55°N, less frequent in NE BC and S Vancouver Island, lacking from NW BC; 
N to NT, E to ON and S to KS, MO, UT, NM and OR.

DESCRIPTION:
General: Perennial herb from a fibrous-rooted, usually short rhizome or woody stem-base; stems erect, branched above, glabrous or nearly so, 0.4-1.2 m tall.

Leaves: Basal leaves stalked and soon deciduous; stem leaves lanceolate to broadly lanceolate or egg-
shaped, unstalked and usually clasping, 8-18 cm long, 1-3.5 cm wide, entire or shallowly toothed, gla-
brous or nearly so and tending to be glaucous.

Flowers: Heads with ray and disk flowers, few to many in an open, round-topped inflorescence; involucre 
5-7 cm tall; involucral bracts graduated, linear or often awl-shaped, sharply pointed with elongate green 
tips, margins fringed with small hairs; ray flowers 15-30, blue or purple, 6-10 mm long; disk flowers 
yellow.

Fruits: Achenes 4-5 nerved, glabrous; pappus usually reddish.

Aster lanceolatus Willd. ssp. hesperius (A. Gray) Semple & Chmielewski (A. hesperius A. Gray)
westival willow aster

HABITAT/RANGE:
Moist meadows and open forests in the montane zone; rare in S BC; E to MB and S to WI, MO, TX, NM, 
AZ and CA.

DESCRIPTION:
General: Perennial herb from a creeping rhizome; stems ascending to erect, branched above, hairy in 
lines from the leaf bases, 0.5-1.5 m tall.

Leaves: Basal leaves stalked and soon deciduous below; stem leaves linear to broadly lanceolate, 5-15 cm 
long, 5-25 mm wide, unstalked, glabrous or stiff-hairy, entire or some with teeth.

Flowers: Heads with ray and disk flowers, numerous in a leafy, relatively narrow or open, branched 
inflorescence; involucres 5-8 mm tall; involucral bracts subequal or graduated, linear, glabrous, abruptly 
sharp-pointed, green-tipped, fringed with small hairs; ray flowers 20-50, usually blue or purple, rarely 
white or pink, 6-14 mm long; disk flowers yellow.

Fruits: Achenes several-nerved, hairy; pappus straw-colored.

Aster modestus Lindl. in Hook.
great northern aster

HABITAT/RANGE:
Moist to mesic meadows, streambanks, shrub thickets and forests in the lowland and montane zones; 
common throughout most of BC; N to AK, YT and NT, E to ON and S to MI, MN, MT, ID and OR.

DESCRIPTION:
General: Perennial herb from a creeping rhizome; stems erect, solitary, branched above, with spreading, 
long hairs and stalked glands, at least above, 0.3-1.0 m tall.

Leaves: Basal leaves smaller than the others, usually deciduous by flowering time; stem leaves lanceolate, 
5-15 cm long, 1-4 cm wide, unstalked, more or less clasping, glabrous above, sparsely hairy beneath, 
Margins smooth to few toothed.

Flowers: Heads with ray and disk flowers, few to many in a branched, leafy, usually short inflorescence, 
bases glandular; involucre 7-11 mm tall; involucral bracts equal or subequal, linear to linear-lanceolate, 
with long-pointed tips, densely stalked-glandular, the outer leaflike, the inner often purplish; ray flowers 
20-45, purple or violet, 8-15 mm long; disk flowers yellow.

Fruits: Achenes strongly 5-ribbed, sparsely hairy; pappus whitish to yellowish.
Aster laevis var. geyeri

Aster lanceolatus ssp. hesperius

Aster modestus
ASTERACEAE

Aster occidentalis (Nutt.) T. & G.
western mountain aster

Habitat/Range:
Mesic meadows and open forests in the lowland and montane zones; both varieties frequent in S BC east of the Coast-Cascade Mountains and S of 55° N, var. occidentalis also infrequent on S Vancouver Island and the mainland coast; N to NT, and S to CO and CA.

Description:
General: Perennial herb from a fibrous-rooted, creeping rhizome; stems ascending to erect, branched above, glabrous to slightly hairy; 0.2-1.0 m tall.
Leaves: Basal leaves soon deciduous; stem leaves oblanceolate and stalked below, linear or lanceolate and unstalked above, 3-15 cm long, 3-13 mm wide, mostly 7-10 times as long as wide, mostly glabrous, entire.
Flowers: Heads with ray and disk flowers, solitary to many in an open, round-topped inflorescence; involucres 5-7 mm tall; involucral bracts scarce to evidently graduated, linear to linear-oblong, abruptly sharp-pointed, rarely obtuse, glabrous, margins fringed with small hairs, often green to the base, infrequently minutely purple-tipped; ray flowers 20-50, blue to violet or purple, 6-15 mm long; disk flowers yellow.
Fruits: Achenes obscurely nervet, hairy; pappus whitish.
Notes: Two fairly distinct varieties occur in our region and may be separated as follows:

1. Heads solitary or several in a sparsely leafy, few-branched inflorescence; leaves linear ....... var. occidentalis

1. Heads numerous in a leafy, much-branched inflorescence; leaves lanceolate.......... var. intermedius A. Gray

Aster paucicapitatus Robins
Olympic mountain aster

Habitat/Range:
Mesic meadows and rock outcrops in the montane to subalpine zones; rare on SC Vancouver Island; S to NW WA (Olympic Mountains).

Description:
General: Perennial herb from a stout stem-base and sometimes a taproot as well; stems several, ascending to erect, few-branched above, 20-50 cm tall.
Leaves: Basal leaves reduced and scale-like; stem leaves soon deciduous below, the others uniform, elliptic to lance-elliptic or elliptic-oblong, 2-4 cm long, 4-13 mm wide, unstalked or shortly stalked, glandular-hairy, entire or nearly so.
Flowers: Heads with ray and disk flowers, solitary or few at ends of branches or stems; involucres 7-10 mm tall; involucral bracts scarcely graduated, linear-lanceolate, with long-pointed tips, glandular-hairy or obscurely glandular or sparsely hairy, greenish above the base and narrowly purple-margined, fringed with small hairs; ray flowers commonly about 13, sometimes 8 or 21, white, 8-15 mm long; disk flowers yellow.
Fruits: Achenes flattened, 4-nerved, grey-hairy; pappus white to tawny.
Aster occidentalis var. occidentalis

Aster occidentalis var. intermedius

Aster paucicapitatus

Illustrated Flora of British Columbia
Asteraceae

Aster pilosus Willd. var. pilosus
hairy aster

Habitat/Range:
Moist to dry railroad tracks, roadsides and disturbed areas in the lowland zone; rare in the lower mainland of SW BC; introduced from E North America.

Description:
General: Perennial herb from a stout, woody stem-base; stems erect, branched above, glabrous or sometimes soft-hairy, 0.1-1.5 m tall.

Leaves: Basal leaves soon deciduous; stem leaves soon deciduous below, middle ones oblanceolate, stalked, 5-10 cm long, 1-2 cm wide, upper ones linear to lance-elliptic, unstalked or nearly so, entire or slightly toothed, glabrous to hairy, becoming reduced upward and awl-shaped.

Flowers: Heads with ray and disk flowers, few to more usually numerous in an often diffuse inflorescence, sometimes one-sided on the branches; involucres 3.5-8 mm tall; involucral bracts subequal or graduated, with a loose, awl-shaped, marginally inrolled, green tip; ray flowers 16-35, white or sometimes pink or purple, 5-10 mm long; disk flowers yellow.

Fruits: Achenes about 1 mm long, hairy; pappus of numerous white, hairlike bristles.

Aster puniceus L. var. puniceus
purple-stemmed aster

Habitat/Range:
Moist streambanks and openings in the montane zone; rare in NE BC, known only from Lac La Biche; E to NF and S to AL, GA, FL, KS, IL, and SD.

Description:
General: Perennial herb from a creeping rhizome or stem-base; stems erect, stiff-hairy, at least above, simple or branched above, usually reddish-purple, 0.5-1.5 m tall.

Leaves: Basal leaves few, soon deciduous; stem leaves lanceolate to oblong, 6-16 cm long, with clasping, ear-like flanges at the base, distantly toothed or rarely entire, scabrous to glabrous above, often hairy along the midrib below.

Flowers: Heads with ray and disk flowers, few to more commonly many in a leafy inflorescence; involucres 6-12 mm tall; involucral bracts slender, loose, scarcely graduated, some of the outer sometimes leaf-like but narrow; ray flowers 30-60, blue, rarely white or rose, 7-12 mm long; disk flowers yellow.

Fruits: Achenes glabrous or nearly so; pappus white.

Aster radulinus A. Gray
rough-leaved aster

Habitat/Range:
Dry rock outcrops and open forests in the lowland zone; rare in SW BC, known only from SE Vancouver Island; S to CA.

Description:
General: Perennial herb from a slender rhizome; stems few to several, ascending to erect, sparsely to copiously short-hairy, often purple, branched above, 10-70 cm tall.

Leaves: Basal leaves soon deciduous; stem leaves largest below, broadly oblanceolate or spoon-shaped, tapering to the unstalked or stalked base, 4-13 cm long, 1-4 cm wide, the middle and uppermost more gradually reduced and broader in shape, sparsely to copiously short-hairy on the lower surfaces, mostly sharply saw-toothed or toothed except at the base.

Flowers: Heads with ray and disk flowers, few to more often numerous in a mostly short and flat-topped inflorescence; involucres 6-9 mm tall; involucral bracts graduated in several series, the outer oblong, the inner linear, usually abruptly sharp-pointed, stiff-hairy on the back with a strong midrib, evidently to obscurely green-tipped, often strongly purple-margined; ray flowers 10-15, white to pale violet, 8-12 mm long; disk flowers yellow, 7-8 mm long, the tube longer than the slender limb.

Fruits: Achenes smooth, sparsely stiff-hairy; pappus tawny.
Aster pilosus var. pilosus

Aster puniceus var. puniceus

Aster radulinus
**Asteraceae**

*Aster sibiricus* L. (A. meritus A. Nels. = ssp. meritus; A. pygmaeus Lindl. & A. sibiricus var. sibiricus auct. non L. = ssp. pygmaeus)

**arctic aster**

**Habitat/Range:**
Mesic to dry gravelly slopes from the upper montane to alpine zones; common in BC in and E of the Coast-Cascade Mountains, rare on CVancouver Island, absent along the coast and in WC BC; N to AK, YT and NT; E to SE AB and S to WY, ID, NW OR and NW WA.

**General:** Perennial herb from a slender rhizome; stems several to many, ascending to decumbent, sparsely to copiously short-hairy, simple to branched above. 3-50 cm tall.

**Leaves:** Basal leaves soon deciduous; stem leaves usually reduced below, the middle ones unstalked, oblanceolate, 1.5-10 cm long, 4-35 mm wide, sparsely to copiously short-hairy on the lower surfaces, with few to many small teeth or entire.

**Flowers:** Heads with ray and disk flowers, solitary to many in a compact inflorescence; involucres 6-16 mm tall; involucral bracts more or less graduated in several series, oblong or lance-oblong to linear, abruptly short-pointed to with long-pointed tips, fine-hairy on the back or rarely glabrous, thin, dry and papery below, evidently or obscurely green-tipped and more or less purple-margined or suffused white-purple; ray flowers 10-25, purple, 8-15 mm long; disk flowers yellow, 5.5-7.6 mm long, the tube equal or barely exceeding the slender limb.

**Fruits:** Achenes strongly about 8-ribbed, sparsely stiff-hairy; pappus deep brownish, rarely yellowish or white.

**Notes:** Recently, some taxonomists have suggested that the ssp. *sibiricus* does not occur in North America (A. Jones, pers. comm.; Kartesz 1994). Therefore, the more northern plants in BC should be recognized as ssp. *pygmaeus*. Our two subspecies are separated, sometimes with difficulty. as follows:

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

1. Involucres usually scarcely graduated, 7-16 mm tall; heads often solitary to several; plants mainly of N BC .......................................................... ssp. *pygmaeus* (Lindl.) A. & D. Love

*Aster stenomeres* A. Gray

**Rocky Mountain aster**

**Habitat/Range:**
Dry gravelly or rocky slopes in the steppe and montane zones; infrequent in SE BC; S to MT, ID and NE WA.

**Description:**

**General:** Perennial herb from a fibrous-rooted-rooted, branched, woody stem-base; stems ascending to erect, simple, long-hairy, 13-30 cm tall.

**Leaves:** Basal leaves few, soon deciduous; stem leaves reduced below, the others uniform except for the reduced uppermost ones, linear with spiny tips, 1.5-4.0 cm long, 1-4 mm wide, unstalked, short, appressed-hairy, entire.

**Flowers:** Heads with ray and disk flowers, solitary; involucres 8-13 mm tall; involucral bracts graduated, linear to lance-linear, with long-pointed tips, fine appressed-hairy with a greenish or sometimes purplish midline and more or less papery margin; ray flowers 13, sometimes more, violet, 10-20 mm long; disk flowers yellow.

**Fruits:** Achenes several-nerved, with stalked glands and fine hairs; pappus straw-colored, double, the outer bristles as much as 1 mm long.
Aster sibiricus ssp. meritus

Aster stenomeres
**Aster subspicatus** Nees var. *subspicatus* (*A. douglasii* Lindl.)

**Douglas' aster**

**Habitat/Range:**
Moist to mesic meadows, streambanks, shrub thickets and open forests in the lowland and montane zones; frequent in coastal BC, common in S BC and infrequent northward to 56°N; N to AK, E to AB and S to MT, ID and OR.

**Description:**
**General:** Perennial herb from a creeping rhizome or stem-base; stems ascending to erect, hairy above, simple or branched above, 0.1-1.0 m tall.
**Leaves:** Basal leaves few, soon deciduous; stem leaves oblanceolate below, often narrowed to a winged, stalked base, slightly if at all clasping, 7-13 cm long, 1-2 cm wide, glabrous or nearly so, saw-toothed, at least above.
Silvery, especially beneath, with fine, close, feltlike woolly hairs, green with age, entire; stem leaves several, lanceolate to spoon-shaped, greatly reduced.
**Flowers:** Heads with ray and disk flowers, solitary (rarely few), the disk 2.5 cm or more, the lateral heads, if present, smaller; involucral bracts lanceolate to oblong-lanceolate, slightly woolly, the outer ones 1-2.5 cm long and herbaceous, exceeding the inner ones; ray flowers 8-25, commonly 13 or 21 in a terminal head, yellow, 2.5-4.0 cm long, soon deciduous; disk flowers 6-8 mm long, yellow.
**Fruits:** Achenes glabrous, 7-8 mm long; pappus lacking.

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**Balsamorhiza**

1. Plants densely and softly hairy, the leaves silvery, especially below; involucres densely woolly-hairy; plants of SC and SE BC

   B. *sagittata*

1. Plants sparsely hairy, the leaves green; plants of SW BC (SE Vancouver Island)

   B. *deltoida*

**Balsamorhiza deltoidea** Nutt.

**Deltoid balsamroot**

**Habitat/Range:**
Dry grassy areas and rocky, open woodlands in the lowland zone; rare on SE Vancouver Island; S to CA.

**Description:**
**General:** Perennial herb from a deep taproot and woody stem-base; stems ascending, few to several, densely glandular and sparsely long-hairy, 0.2-1.0 m tall.
**Leaves:** Basal leaves long-stalked, the blades mostly triangular, 10-50 cm long, 10-20 cm wide, green, inconspicuously stiff-hairy and often glandular, prominently nerved, round-toothed; stem leaves few, lanceolate to linear, greatly reduced.
**Flowers:** Heads with ray and disk flowers, 1-4, the disk 2.5 cm or more, the lateral heads smaller; involucral bracts lanceolate to oblong-lanceolate, slightly woolly, the outer ones 1-4 cm long and herbaceous, exceeding the inner ones; ray flowers 13 or 21 in a terminal head, yellow, 2-3 cm long; disk flowers 5-7 mm long, yellow.
**Fruits:** Achenes glabrous, 7-8 mm long; pappus lacking.
Aster subspicatus var. subspicatus

Balsamorhiza deltoidea
ASTERACEAE

*Balsamorhiza sagittata* (Pursh) Nutt.
arrowleaf balsamroot

**Habitat/Range:**
Dry grasslands, shrublands and open forests in the steppe and montane zones; common in S BC east of the Coast-Cascade Mountains; E to AB, S to SD, CO and CA.

**Description:**
**General:** Perennial herb from a deep taproot and woody stem-base; stems ascending, few to several, minutely glandular and short-woolly, 20-80 cm tall.
**Leaves:** Basal leaves long-stalked, the blades mostly triangular, 10-50 cm long, 10-20 cm wide, silvery, especially beneath, with fine, close, felt-like woolly hairs, green with age, entire; stem leaves several, lanceolate to spoon-shaped, greatly reduced.
**Flowers:** Heads with ray and disk flowers, solitary (rarely few), the disk 2.5 cm or more, the lateral heads, if present, smaller; involucral bracts lanceolate to oblong-lanceolate, slightly woolly, the outer ones 1-2.5 cm long and herbaceous, exceeding the inner ones; ray flowers 8-25, commonly 13 or 21 in a terminal head, yellow, 2.5-4.0 cm long, soon deciduous; disk flowers 6-8 mm long, yellow.
**Fruits:** Achenes glabrous, 7-8 mm long; pappus lacking.

BELLIS

*Bellis perennis* L.
English daisy

**Habitat/Range:**
Mesic to dry lawns, roadsides and waste areas in the lowland zone; common in coastal BC, rare in SC and SE BC; introduced from Europe.

**Description:**
**General:** Perennial herb from a fibrous root; stems ascending to erect, few, simple, leafless, hairy, 2-20 cm tall.
**Leaves:** Basal leaves with short to long stalks, the blades spoon-shaped to oval or orbicular, 0.7-3.0 (rarely 4.0) cm long, 0.5-2.5 cm wide, toothed to entire, obtuse to rounded at the tips, coarse, spreading-hairy above and below; stem leaves lacking.
**Flowers:** Heads with ray and disk flowers, solitary; involucres 5-6 mm tall; involucral bracts egg-shaped to broadly oblong-lanceolate, rounded to obtuse at the tips, sparsely hairy on the backs, often suffused with purple; receptacles cone-shaped; ray flowers 8-10 mm long, white to sometimes pink or purple; disk flowers yellow.
**Fruits:** Achenes appressed-hairy, mostly 2-nerved, flattened; pappus lacking.
Balsamorhiza sagittata

Bellis perennis
**BIDENS**

1. Leaves, except sometimes the lowermost, unstalked; outer involucral bracts mostly spreading or reflexed.
   2. Leaves toothed to nearly entire; ray flowers greatly exceeding the involucres, rarely lacking .. *B. cernua*
   2. Leaves pinnately 3-parted and toothed; ray flowers barely exceeding the involucres .......... *B. amplissima*

1. Leaves stalked; outer involucral bracts ascending to erect.
   3. Leaves simple, deeply incised or 3-lobed; stalks short, with winged margins .. *B. tripartita*
   3. Leaves pinnate; stalks long, without winged margins.

   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:**
Moist to wet ditches, streambanks and pond edges in the lowland zone; infrequent in SW BC, known from Vancouver Island and the adjacent mainland; endemic to BC.

**Description:**
**General:** Annual herb from a fibrous root; stems ascending to erect, glabrous or nearly so, branched above, 0.5-1.0 m tall.

**Leaves:** Basal leaves lacking; stem leaves opposite, unstalked, or the lower shortly wing-stalked, the lower and middle deeply 3-parted, coarsely toothed or incised, glabrous, 8-20 cm long.

**Flowers:** Heads with ray and disk flowers. Few, in a terminal cluster; involucres about 2.5 cm wide; involucral bracts in 2 dissimilar series, the outer ones about 8-10, leafy, fringed with small hairs, linear-lanceolate with entire margins, up to 7.5 cm long, the inner ones narrowly egg-shaped, 8-12 mm long; ray flowers 8-11, yellow, 3.5-8 mm long; disk flowers yellow.

**Fruits:** Achenes wedge-shaped, compressed-quadrangular or nearly flat, 5-7 mm long; pappus of 2-4, retrorsely-barbed awns, 2-4 mm long.

**Notes:** This poorly understood species, along with *Limnanthes macounii*, has a range restricted to extreme SW BC. Cronquist (1955) suggested that morphologically, *Bidens amplissima* may represent a hybrid between *B. cernua* and *B. frondosa* or *B. vulgata*.

**Bidens cernua** L.

**nodding beggarticks**

**Habitat/Range:**
Wet ditches and lakeshores in the lowland, steppe and montane zones; common throughout BC east of the Coast-Cascade Mountains, less frequent on Vancouver Island and the adjacent mainland; circumboreal, E to PQ and S to NC, AR, OK, TX, NM, AZ and CA, Eurasia.

**Description:**
**General:** Annual herb from a fibrous root; stems erect, simple or branched, sparsely spreading-hairy to glabrous, 0.1-1.0 m tall.

**Leaves:** Basal leaves lacking; stem leaves simple, unstalked, opposite, linear-lanceolate to lanceolate, 1.5-20 cm long, 0.5-4.5 cm wide, sometimes joining at the stems, coarsely saw-toothed to nearly entire, glabrous.

**Flowers:** Heads with ray and disk flowers, sometimes discoid, hemispheric or nearly so, numerous when well-developed, nodding with age; involucres 12-25 mm wide; involucral bracts in 2 dissimilar series, the outer ones 5-8, green, leafy, unequal, spreading or reflexed, linear-lanceolate, usually longer than the disk, the inner ones erect, narrowly egg-shaped, mostly 6-8 mm long, greenish-brown; ray flowers 6-8, or sometimes lacking, yellow, about 1.5 cm long; disk flowers yellow.

**Fruits:** Achenes mostly 5-8 mm long, tan, narrowly wedge-shaped, compressed-quadrangular, the marginal nerves and convex summit tending to be thickened and light coloured at maturity; pappus of 3-4 retrorsely-barbed awns, 2-3 mm long.
Bidens frondosa L.
common beggarticks

Habitat/Range:
Mesic to wet ditches, streambanks, meadows and disturbed areas in the lowland, steppe and montane zones; infrequent throughout BC; introduced from E North America.

Description:
General: Annual herb from a fibrous root; stems erect, branched, sparsely spreading-hairy to glabrous, 0.2-1.2 m tall.
Leaves: Basal leaves lacking; stem leaves pinnately compound with 3-5 lanceolate, stalked, opposite, saw-toothed leaflets up to 2-10 cm long and 0.5-3 cm wide, sometimes sparsely short-hairy below.
Flowers: Heads with ray and disk flowers, sometimes discoid, bell-shaped to hemispheric, few to many in an open inflorescence; involucres 8-12 mm wide; involucral bracts in 2 dissimilar series, the outer ones 5-8, green, leafy, unequal, erect to ascending, linear-lanceolate, longer than the disk, 0.5-2 (rarely 6) cm long, the inner ones erect, oblong, mostly 5-9 mm long; ray flowers 1-5 or sometimes lacking, yellow, 8-12 mm long, shorter than the involucral bracts; disk flowers orange, about 2 mm long.
Fruits: Achenes 5-10 mm long, dark brown or blackish, narrowly wedge-shaped, compressed, strongly nerved on each face; pappus of 2 retrorsely or antrorsely barbed awns, 3-4.5 mm long.

Bidens tripartita L. (B. comosa [A. Gray] Wieg.)
three-parted beggarticks

Habitat/Range:
Moist to wet ditches and ponds in the lowland zone; rare in SW BC, known only from the lower Fraser Valley; introduced from E. North America and Europe.

Description:
General: Annual herb from a fibrous root; stems erect, simple or branched, 0.2-1.0 cm tall.
Leaves: Basal leaves lacking; stem leaves simple, or lowermost mostly lobed at the base, deeply incised or 3-lobed, saw-toothed, up to 20 cm long; stalks short, wing-margined.
Flowers: Heads usually discoid; involucres 1-3 cm tall; involucral bracts linear, spreading, outer ones 1-3 cm long, inner ones 7-8 mm long; ray flowers usually lacking; disk flowers about 3 mm long.
Fruits: Achenes wedge-shaped, outer ones 3.5-4 mm long, 2-3 angled, inner ones 5-8 mm long, 4-angled; barbs of the angles ascending below, reflexed above; pappus awns usually 4, 1-3.6 mm long.
Notes: Bidens comosa Muhl. ex Willd., native to E North America, has been collected in a cranberry bog in Richmond. It is closely related to B. tripartita.

Bidens vulgata Greene
tall beggarticks

Habitat/Range:
Moist to wet ditches, streambanks and lakeshores in the steppe and montane zones; rare in S BC east of the Coast-Cascade Mountains; E to PQ and S to TN, WY, NV and CA.

Description:
General: Annual herb from a fibrous root; stems erect, branched, more or less glabrous, 0.3-1.8 m tall.
Leaves: Basal leaves lacking; stem leaves pinnately compound with 3-5 lanceolate, stalked, opposite, saw-toothed leaflets 5-15 cm long and 1-3 cm wide, sometimes sparsely short-hairy below.
Flowers: Heads with ray and disk flowers, bell-shaped, few to many in an open inflorescence; involucres 13-25 mm wide; involucral bracts in 2 dissimilar series, the outer ones 10-16, green, leafy, densely hairy, unequal, erect to ascending, linear, longer than the disk, 1-2 cm long, the inner ones erect, narrowly egg-shaped, 7-12 mm long; ray flowers 1-5, yellow, 2.5-3.5 mm long, shorter than the involucral bracts; disk flowers pale yellow, about 3 mm long.
Fruits: Achenes 6-12 mm long, olive brown or somewhat yellowish or darker, compressed; pappus of 2 retrorsely-barbed awns, 3-6 mm long.
*Bidens frondosa*

*Bidens tripartita*

*Bidens vulgaris*
ASTERACEAE

BRICKELLA

1. Leaves lance-linear to oblong or elliptic-oblong, entire or nearly so, unstalked .................. *B. oblongifolia*

   1. Leaves lanceolate to deltoid or heart-shaped, round-toothed to toothed, stalked .................. *B. grandiflora*

*Brickellia grandiflora* (Hook.) Nutt.
large-flowered brickellia

**Habitat/Range:**

Moist to mesic meadows and open forests in the montane to lower subalpine zones; rare in SE BC, known only from Sage Creek, Flathead River valley; E to SW AB and S to NW MT and N ID.

**Description:**

**General:** Perennial herb from long, thickened roots; stems solitary to several, minutely stiff-hairy, 25-70 cm tall.

**Leaves:** Basal leaves lacking; stem leaves soon deciduous below, lower to middle ones opposite or nearly so, lanceolate to deltoid or heart-shaped, round-toothed to toothed, hairy, glandular-dotted, stalked, 2-11 cm long, 1-6 cm wide.

**Flowers:** Heads discoid, several to numerous in a short, open inflorescence; involucre 7-12 mm tall; involucral bracts graduated, the outer ones egg-shaped and tipped with a slender appendage, the inner lanceolate; discoid; disk flowers 20-38, rarely 70, greenish-yellow or cream-coloured.

**Fruits:** Achenes 10-ribbed, 4-5 mm long, the base callous; pappus of numerous white bristles.

*Brickellia obovata* Nutt. var. *oblongifolia*

narrow-leaved brickellia

**Habitat/Range:**

Dry rocky slopes, grasslands and shrublands in the steppe zone; rare in S BC east of the Coast-Cascade Mountains; S to ND, NM, AZ and CA.

**Description:**

**General:** Perennial herb or subshrub; stems numerous, branched above, glandular-hairy, 10-60 cm tall.

**Leaves:** Basal leaves lacking; stem leaves alternate, shortly stalked or unstalked, entire or nearly so, lance-linear to oblanceolate-oblong, glandular-hairy, 1-4 cm long, 0.5-1.5 cm wide.

**Flowers:** Heads discoid, solitary to many at the ends of branches or in an open inflorescence; involucres 10-20 mm tall; involucral bracts graduated, lanceolate to linear, with green and white stripes, the tips abruptly sharp-pointed to long pointed; discoid; disk flowers 35-50, white or yellowish.

**Fruits:** Achenes 10-ribbed, glandular to glandular-hairy, 4-6 mm; pappus of numerous white bristles.

CACALIOPSIS

*Cacaliopsis nardosmia* (A. Gray) A. Gray (*Luina nardosmia* [A. Gray] Cronq. var. *glabrata* [Piper] Cronq.)

silvercrown

**Habitat/Range:**

Mesic to dry rocky slopes, meadows and forest margins in the montane and subalpine zones; rare in SW BC, known only from Manning Provincial Park; S to S OR.

**Description:**

**General:** Perennial herb from a woody rhizome; stems erect, usually solitary, glabrous to sparsely hairy, 0.4-1.0 m tall.

**Leaves:** Basal leaves long, stalked, the blades 3-20 cm long, 3-25 cm wide, palmately cleft, the segments again toothed or lobed, green above, thinly hairy below; stem leaves similar, strongly reduced.

**Flowers:** Heads discoid, several in an elongate to rounded inflorescence, the stalks of the heads moderately to densely woolly-hairy; involucres 10-17 mm tall; involucral bracts lanceolate to oblanceolate, with long-pointed tips, sparsely to densely woolly-hairy; margins broadly translucent; discoid; disk flowers numerous, yellow.

**Fruits:** Achenes glabrous; pappus of white hairlike bristles.
CARDUUS

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

2. Heads smaller, 1-2.5 cm wide, ascending, often clustered; involucral bracts 1-1.5 mm wide.
   2. Involutures hemispheric, 1.5-2.5 cm wide; outer involucral bracts somewhat leafy and spreading; plants strongly spiny ...................................................... C. acanthoides
   2. Involutures egg-shaped, 1-1.3 cm wide; outer involucral bracts rigid, scarcely spreading; plants weakly spiny ................................................................. C. crispus

Carduus acanthoides L.
plumeless thistle
Habitat/Range:
Moist to dry fields, roadsides or waste places in the montane zone; rare in E BC; introduced from Europe.
Description:
General: Biennial herb; stems spiny-winged, branched above, 0.3-1.5 m tall.
Leaves: Basal leaves lacking; stem leaves narrowly elliptic or oblong in outline, deeply lobed or pinnately cut, up to 25 cm long and 8 cm wide, sparsely hairy on main veins, spiny-margined.
Flowers: Heads discoid, 1.5-2.5 mm wide, clustered or solitary and erect at the ends of branches; involucres hemispheric; involucral bracts linear-lanceolate, in 2-3 series, somewhat leafy and spreading, outer ones spine-tipped; disk flowers usually purplish, sometimes cream or white, nearly 2 cm long.
Fruits: Achenes glabrous, egg-shaped, with 15-20 dark longitudinal lines and a lighter collar at the tip; pappus whitish with minutely finely-barbed bristles.

Carduus crispus L.
curled thistle
Habitat/Range:
Dry roadides or waste places in the montane zone; rare in NE BC, known only from Dawson Creek; introduced from Eurasia.
Description:
General: Biennial herb; stems spiny-winged, branched above, 0.6-2.0 m tall.
Leaves: Basal leaves lacking; stem leaves oblanceolate below, narrowly elliptic or lanceolate in outline above; nearly entire to deeply pinnately cut, glabrous or lightly cobwebby above, woolly-hairy below, spiny-margined.
Flowers: Heads discoid, 1.0-1.3 cm wide, clustered and erect at the ends of relatively short branches; involucres egg-shaped; involucral bracts linear-lanceolate, usually progressively reduced from inner to outer, rigid, scarcely spreading, lightly to densely cobwebby, outer ones spine-tipped; disk flowers purplish.
Fruits: Achenes glabrous, egg-shaped, with about 20 thin longitudinal brown lines; pappus whitish, with minutely finely-barbed bristles.

Carduus nutans L. ssp. leiophyllus (Petricic) Stoj. & Stef.
nodding thistle; musk thistle
Habitat/Range:
Dry roadides and waste places in the montane zone; rare in WC BC (Bulkley River valley), frequent in SC BC; introduced from Eurasia and N Africa.
Description:
General: Biennial herb; stems glabrous, not spiny, 0.3-2.4 m tall.
Leaves: Basal leaves lacking; stem leaves lanceolate to oblong-lanceolate in outline, deeply lobed or pinnately cut, up to 40 cm long and 15 cm wide, nearly glabrous or glabrous, spiny-margined.
Flowers: Heads discoid, 2-8 mm wide, solitary and nodding at the ends of branches; involucres hemispheric; involucral bracts with prominent midribs, the inner lanceolate, often twisted, tips unarmed, the middle and outer egg-shaped, spreading or reflexed, glabrous, tipped with a 3-4 mm spine; disk flowers reddish-purple.
Fruits: Achenes glabrous, egg-shaped, light brown with darker longitudinal lines and a narrow, lighter rim at the tip; pappus whitish, minutely finely-barbed bristles.
Carduus acanthoides

Carduus nutans ssp. leiophyllus
ASTERACEAE

CARTHAMUS

1. Stem leaves toothed, weakly spined; corollas yellow to reddish-orange; achenes white .............. C. tinctorius
1. Stem leaves more or less deeply lobed, rigidly spined; corollas yellow; achenes brown .............. C. lanatus

Carthamus lanatus L., ssp. baeticus (Boiss. & Reut.) Nyman (C. baeticus [Boiss. & Reut.] Lara)
distaff thistle

Habitat/Range:
Mesic fields in the lowland zone; rare in SW BC, known only from Mayne Island; introduced from the Mediterranean region.

Description:
General: Annual herb from a taproot; stems erect, branched, whitish, shiny, 0.2-1.0 m tall.
Leaves: Basal leaves lacking; stem leaves oblanceolate to lanceolate, 2-7 cm long, stalked to unstalked, entire to pinnately cut, the lobes or teeth rigidly spine-tipped, sparsely hairy or nearly glabrous.
Flowers: Heads discoid, few to many, solitary at the ends of branches; involucres cylindric, 2-3 cm tall; involucral bracts glabrous, shiny, the middle and outer ones widely spreading, pinnately lobed or toothed, the tips lanceolate and rigidly spine-tipped, much longer than the flowers, the inner ones half as long as the outer, erect, entire with a short terminal spine; disk flowers yellow, many, tubular and perfect.
Fruits: Achenes 4-6 mm long, brown, the outer ones regularly wrinkly, the inner ones smooth and slightly toothed; pappus thin, dry scales of unequal length, or lacking.

Carthamus tinctorius L.
safflower

Habitat/Range:
Mesic fields and disturbed areas in the lowland zone; rare in SW BC, known only from the lower Fraser Valley; introduced from the Mediterranean region.

Description:
General: Annual herb from a taproot; stems straw-coloured, erect, branched, shiny, 0.3-1.0 m tall.
Leaves: Basal leaves lacking; stem leaves lanceolate, 2-8 cm long, unstalked, toothed, weakly spined, glabrous, shiny green.
Flowers: Heads discoid, few to many, solitary at the ends of branches; involucres cylindric, 2-4 cm tall; involucral bracts glabrous, shiny, the middle and outer ones widely spreading, entire to shallowly lobed, the tips lanceolate and bristly or softly spined, much longer than the flowers, the inner ones half as long as the outer, erect, entire with a short, terminal spine; disk flowers yellow to reddish-orange, many, tubular and perfect.
Fruits: Achenes pyramidal, 7-9 mm long, white, smooth, shiny; pappus of the inner achenes with short, narrow scales or lacking.

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 without lateral spines at the base; flowers creamy, sometimes purplish, rarely yellow ......................................................................................... C. diffusa

1. Outer involucral bracts comb-like, tattered and nearly entire to entire at the tips, not at all spiny.

3. Stem leaves pinnately divided into linear to lanceolate, entire or pinnately cut segments .... C. scabiosa
3. Stem leaves simple or at most coarsely toothed, lobed or pinnately cut below.

4. Involucral bracts bearing conspicuous flagged tips, distinctly broader than the involucral bract base.

5. Involucral bract appendages papery and tattered ........................................................................ C. jaceta
Carthamus lanatus ssp. baeticus

Carthamus tinctorius
ASTERACEAE

5. Involucral bract appendages dark and comb-like.

6. Involucres cylindric, taller than wide ........................................................................ C. nigrescens

6. Involucres round, as wide as tall.

7. Involucral bracts with enlarged, tattered or sometimes comb-like, light to dark brownish, often papery appendages at the tips, these wider than the bracts; sterile marginal flowers enlarged at the tips with 5 narrow lobes ........................................................................ C. debauxii

7. Involucral bracts with enlarged, broad, rounded, tattered to comb-like, black to dark brown appendages at the tips, these wider than the bracts; sterile marginal flowers lacking ........................................................................ C. nigra

4. Involucral bracts lacking apical appendages.

8. Involucral bracts comb-like margins.

9. Involucres oblong, 8-10 mm tall, 4-6 mm wide; heads in a panicle-like arrangement on stiff, divergent branches ........................................................................ C. paniculata

9. Involucres egg-shaped, 9-13 mm tall, 6-8 mm wide; heads in a corymb-like arrangement at the ends of branches ........................................................................ C. biebersteinii

8. Involucral bracts with tattered margins.

10. Involucres mostly 11-16 mm tall; pappus 3-4 mm long; leaves linear .................. C. cyamus

10. Involucres 20-25 mm tall; pappus 0.5 mm long; leaves broadly lanceolate to elliptic ......

........................................................................................................................................ C. montana

Centaurea biebersteinii DC. (C. maculosa auct. non Lam).

spotted knapweed

HABITAT/RANGE:
Dry roadides and fields in the steppe and montane zones; frequent in & BC east of the Coast-Cascade Mountains; introduced from Eurasia.

DESCRIPTION:

General: Biennial or sometimes perennial herb from a taproot; stems erect, ridged, laxly branched, 0.2-1.8 m tall.

Leaves: Basal leaves pinnately cut, linear, stalked; stem leaves becoming reduced and unstalked above.

Flowers: Heads discoid, few to several, in a corymb-like arrangement at the ends of ascending branches; involucres 9-13 mm tall, 6-8 mm wide; involucral bracts oblong, grooved, membranous, the middle and outer ones bearing a relatively narrow, darkened comb-like tip; disk flowers purple to pinkish-purple, rarely white, the sterile marginal ones 18-20 mm long, enlarged at the tips with 5 narrow lobes, the central perfect ones 12-16 mm long.

Fruits: Achenes dark grey to black, 2.5-3.5 mm long; pappus white, 0.5-2 mm long, rarely lacking.

Notes: This species is sometimes difficult to separate from the closely related C. paniculata. The latter, however, has much stiffer, divergent branches that are often again branched with narrower heads.
Centaurea biebersteinii
ASTERACEAE

Centaurea cyanus L.
cornflower; bachelor’s-button
Habitat/Range:
Dry roadides in the lowland and montane zones; infrequent in S BC; introduced from the Mediterranean region.
Description:
General: Annual herb from a taproot; stems erect, branched, loosely hairy, 0.2-1.2 m tall.
Leaves: Basal leaves linear to lanceolate, entire or with a few teeth and narrow lobes towards the base, white-woolly below, up to 13 cm long and 1 cm wide, soon deciduous; stem leaves similar, reduced and narrower upwards.
Flowers: Heads discoid, several to many, solitary at the ends of ascending branches; disk flowers usually blue, sometimes purple, pink or white, the sterile marginal ones about 18 mm long, enlarged apically with 5 lobes, the central ones perfect and about 15 mm long; involucres 20-25 mm tall, 12-15 mm wide; involucral bracts egg-shaped or lanceolate, grooved, with a darkened, tattered fringe at the tips, glabrous.
Fruits: Achenes compressed, with appressed, soft hairs, 3.5-4 mm long; pappus of numerous, strongly graduated brown bristles.

Centaurea debuxii Gren. & Godr. (C. x pratensis Thuill. non Salisbury)
meadow knapweed
Habitat/Range:
Mesic to dry fields and waste places in the lowland, steppe and montane zones; infrequent in S BC south of 56° N; introduced from Europe.
Description:
General: Perennial herb from a taproot; stems erect, branched, thinly hairy, 40-80 cm tall.
Leaves: Basal leaves obovate to lanceolate, simple to irregularly pinnately cut or with a wavy margin, sparsely long-hairy above, long-hairy below, soon deciduous; stem leaves similar, reduced upwards.
Flowers: Heads discoid, few to many, solitary at the ends of branches; disk flowers reddish-purple, the sterile marginal ones, if present, about 30 mm long, enlarged at the tips with 5 narrow lobes, the central ones perfect and about 20 mm long; involucres 12-18 mm tall, 10-14 mm wide; involucral bracts with enlarged, tattered or sometimes comb-like, light to dark brownish, often papery appendages at the tips, these wider than the bracts.
Fruits: Achenes 2-3 mm long; pappus lacking or of papery bristles, 4-5 mm long.

Centaurea diffusa Lam.
diffuse knapweed
Habitat/Range:
Dry roadides, disturbed areas, overgrazed grasslands and shrublands in the steppe and lower montane zones; common in S BC east of the Coast-Cascade Mountains; introduced from the E Mediterranean region.
Description:
General: Annual, biennial or short-lived perennial herb from a taproot; stems erect, branched, sparsely hairy, 10-60 cm tall.
Leaves: Basal leaves pinnately divided into linear segments, broadly lanceolate in outline, 3.5-20 cm long, 0.5-3.5 cm wide, grey-green, lightly dense-hairy, soon deciduous; stem leaves similar, reduced upwards.
Flowers: Heads discoid, numerous, solitary at the end of diffuse branches; disk flowers usually creamish, sometimes purplish or pinkish; involucres 8-10 mm tall; involucral bracts broadly lanceolate, leathery, glabrous, with weak spines on the margins, the tips with 1.5-4 mm long spines.
Fruits: Achenes glabrous; pappus lacking or of minute bristles up to 1 mm long.
Centaurea cyanus

Centaurea debauxii

Centaurea diffusa
Asteracea

Centaurea jacea L.
brown knapweed

Habitat/Range:
Mesic to dry roadsides and fields in the montane zone; rare in WC BC, known recently only from the Smithers area; introduced from Europe.

Description:
General: Perennial herb from a taproot; stems erect, branched, glabrous or somewhat woolly or cobwebby, 0.1-1.2 m tall.
Leaves: Basal leaves oblanceolate or narrowly elliptic, long-stalked, toothed or shallowly lobed to entire, hairy above and below, the blade up to 15 cm long and 3 cm wide; stem leaves reduced and becoming unstalked upward.

Flowers: Heads discoid, few to several, solitary at the ends of erect branches; disk flowers rose to purple, rarely white, the marginal ones enlarged and conspicuous; involucres 15-20 mm tall, nearly as wide; involucral bracts with enlarged, broad, rounded, papery, tattered, tan to dark brown appendages at the tips, these wider than the bracts.
Fruits: Achenes light brown with a few lighter longitudinal lines, 3-3.5 mm long; pappus lacking.

Centaurea melitensis L.
Maltese star-thistle

Habitat/Range:
Mesic disturbed areas in the lowland zone; rare in SW BC, known recently only from Samuel and Georgeson Islands in the Gulf Islands; introduced from the Mediterranean region.

Description:
General: Annual herb from a taproot; stems erect, winged, ridged, branched, 15-70 cm tall.
Leaves: Basal leaves oblanceolate, toothed to lobed, hairy; stem leaves becoming lanceolate to linear-oblong, entire and reduced.

Flowers: Heads discoid, few to numerous, solitary or 2-5 at the ends of branches; involucres 8-15 mm tall, nearly as wide; involucral bracts glabrous, the outer ones leathery, with a 5-9 mm terminal spine bearing 2-3 pairs of short, lateral spines; disk flowers bright yellow, all tubular and perfect, 8-11 mm long.
Fruits: Achenes grey, with regular narrow, longitudinal stripes, 1-3 mm long; pappus white, 2.5-3 mm long.

Centaurea montana L.
mountain bluet

Habitat/Range:
Mesic roadsides and waste places in the lowland zone; infrequent in SW BC, known from S Vancouver Island and the adjacent mainland; introduced from Europe.

Description:
General: Perennial herb from a taproot; stems erect, usually simple, narrow-winged, lightly hairy, 30-80 cm tall.
Leaves: Basal and lower to middle stem leaves broadly lanceolate, entire, the bases winged and continuous with the stems, lightly woolly below, nearly glabrous above, reduced upwards.

Flowers: Heads discoid, solitary on the stems; involucres 20-25 mm tall, 12-15 mm wide; involucral bracts egg-shaped to narrowly egg-shaped, glabrous, with dark brown or black, tattered margins towards the apex; disk flowers blue, rarely white, the sterile marginal ones 40-45 mm long, enlarged at the tips with five lobes, the central perfect ones about 16 mm long.

Fruits: Achenes light yellow, glossy, 5-6 mm long; pappus about 0.5 mm long.
Centaurea jacea

Centaurea melitensis

Centaurea montana
**Asteraceae**

*Centaurea nigra* L.
black knapweed

**Habitat/Range:**
Mesic to dry roadsides and fields in the lowland and montane zones; rare in SW BC south of 51°N; introduced from Europe.

**Description:**
- **General:** Perennial herb from a taproot; stems erect, branched, rough-hairy, 10-80 cm tall.
- **Leaves:** Basal leaves oblong-elliptic, long-stalked, toothed or shallowly lobed to entire, long-hairy above and below, the blade up to 15 cm long and 3 cm wide; stem leaves reduced and becoming unstalked upward.
- **Flowers:** Heads discoid, few to several, solitary at the ends of erect branches; disk flowers rose to purple, rarely white, the marginal ones not enlarged; involucres 12-15 mm tall, nearly as wide; involucral bracts with enlarged, broad, rounded, comb-like to tattered, black to dark brown appendages at the tips, these wider than the bracts.
- **Fruits:** Achenes compressed, light brown or light grey, sparsely hairy, 3-3.5 mm long; pappus in several series, about 1 mm long, rarely lacking.

*Centaurea nigrescens* Willd. (*C. dubia* Suter ssp. *vochinensis* [Bernh. ex Reichb.] Hayek, *C. vochinensis* Bernh. ex Reichb.)
short-fringed knotweed

**Habitat/Range:**
Mesic roadsides and fields in the lowland zone; rare in SW BC (Saanich Peninsula, Vancouver Island) and SC BC (Mara Lake area); introduced from Europe.

**Description:**
- **General:** Perennial herb from a taproot; stems erect, branched, glabrous or somewhat sparsely long-hairy, 0.4-1.0 m tall.
- **Leaves:** Basal leaves oblong-elliptic to elliptic, base tapering into the stalk, deeply to shallowly lobed or irregularly pinnately cut, glabrous or often lightly hairy below, up to 15 cm long and 3 cm wide; stem leaves lanceolate, unstalked, reduced upwards.
- **Flowers:** Heads discoid, numerous, solitary at the ends of ascending branches; disk flowers reddish-purple, the marginal ones, if present, enlarged, lobed and conspicuous; involucres 12-15 mm tall, 8-11 mm wide; involucral bracts cylindrical, taller than wide, with slightly enlarged, rounded, tattered to comb-like, darker appendages at the tips, these wider than the bracts.
- **Fruits:** Achenes grey or light brown, 3.2-3.5 mm long; pappus reduced to small scales or lacking.

*Centaurea paniculata* L.
Jersey knapweed

**Habitat/Range:**
Mesic to dry roadsides and waste places in the lowland zone; rare in SW BC, known only from the Victoria area; introduced from S Europe.

**Description:**
- **General:** Annual, biennial or perennial herb from a taproot; stems erect, ridged, stiffly branched, divergent, sometimes again branched, 25-70 cm tall.
- **Leaves:** Basal leaves pinnately cut, linear, stalked; stem leaves becoming reduced and unstalked upwards.
- **Flowers:** Heads discoid, numerous, in a panicle-like arrangement at the ends of stiff, divergent branches; involucres 8-10 mm tall, 4-6 mm wide; involucral bracts egg-shaped, ribbed, membranous, the middle and outer ones usually bearing a relatively narrow, darkened comb-like tip; disk flowers purple to pinkish-purple, rarely white, the sterile marginal ones about 20 mm long, enlarged at the tips with 5 narrow lobes, the central perfect ones 11-13 mm long.
- **Fruits:** Achenes brown or greyish-brown, 2.5-3 mm long; pappus white, 2-2.5 mm long.
ASTERACEAE

_Centaurea scabiosa_ L.
greater centaurea

**Habitat/Range:**
Mesic fields and waste places in the montane zone; rare in WC BC, known only from Burns Lake and Fraser Lake; introduced from Europe.

**Description:**
**General:** Perennial herb from a taproot; stems erect, branched, lightly cobwebby, 0.3-1.5 m tall.
**Leaves:** Basal leaves egg-shaped in outline, deeply and irregularly pinnately segmented, the segments narrowly elliptic-lanceolate; stem leaves broader, reduced upwards.
**Flowers:** Heads discoid, few to several on ascending branches; involucres 15-20 mm tall, nearly as wide; involucral bracts egg-shaped to more lanceolate with a black or dark brown fringe at the tips, these about 1 mm long and often curled; disk flowers purple, rarely white or yellow, the sterile marginal ones about 40 mm long with lobes 10 mm long.
**Fruits:** Achenes light brown, 4-5 mm long; pappus light brown, about 4 mm long.

CHAENACTIS

_Chaenactis douglasii_ (Hook.) H. & A. var. _douglasii_ (C. douglasii var. achilleifolia [H. & A.] A. Gray & var. montana M.E. Jones)
hoary false yarrow

**Habitat/Range:**
Dry sandy or rocky slopes, grasslands, shrublands, scree and talus slopes in the steppe to alpine zones; common in S BC east of the Coast-Cascade Mountains; E to MO and S to AZ, NV and CA.

**Description:**
**General:** Biennial or perennial herb from a taproot; stems ascending to erect, sparsely to densely woolly, sometimes glandular in the inflorescence, 10-60 cm tall.
**Leaves:** Basal leaves 1-3 pinnately cut, 2-12 cm long, stalked, ultimate segments contorted and curled; stem leaves reduced and becoming unstalked upwards.
**Flowers:** Heads discoid, usually several in a flat-topped inflorescence, or the lateral branches overtopping the central axis; involucres 7-17 mm tall; involucral bracts narrowly oblanceolate, glandular or glandular-hairy; disk flowers 50-70, white, sometimes pinkish.
**Fruits:** Achenes 6-8 mm long, densely stiff-hairy; pappus of 10-16 unequal scales.

Notes: A second _Chaenactis_ (C. douglasii var. _alpina_ Gray [C. _alpina_]) has previously been recognized as occurring in BC (Douglas et al. 1989). During 1995 the site of the only collection of this taxon in BC was revisited and all plants in the population were identified as _C. douglasii_ var. _douglasii_. The original collection was of an atypical plant, without stem leaves.

CHONDRIILLA

_Chondrilla juncea_ L.
skeleton-weed

**Habitat/Range:**
Dry grasslands, roadsides and waste places in the steppe zone; rare in SC BC; introduced from Eurasia.

**Description:**
**General:** Perennial herb from a taproot; stems rushlike with milky juice, much branched, spreading, stiff-hairy near the base, 0.4-1.0 m tall.
**Leaves:** Basal and lower stem leaves sharply cleft or pinnately cut, with backward pointing segments, wing-stalked, 5-13 cm long, 1.5-3.5 cm wide, soon deciduous; middle and upper stem leaves alternate, reduced, linear.
**Flowers:** Heads with strap-shaped flowers, cylindric, scattered along the branches; involucres 9-12 mm tall; involucral bracts about 8, linear-lanceolate, glabrous or sparsely woolly-hairy, in 2 series, the outer ones few and reduced; ray flowers yellow, 9-12; disk flowers lacking.
**Fruits:** Achenes multinerved, about 3 mm long with a circle of small scales at the base of the long, slender beak; pappus of numerous, white, hairlike bristles.

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CHRYSOTHAMNUS

*Chrysothamnus viscidiflorus* (Hook.) Nutt. var. *lanceolatus* (Nutt.) Greene
green rabbit-brush

**Habitat/Range:**
Dry open slopes, grasslands, shrublands and open forest in the steppe and lower montane zones; frequent in extreme SC BC; S to ND, NM and CA.

**Description:**
- **General:** Perennial shrub; stems much branched, brittle, minutely to densely appressed-hairy, 10-35 cm tall.
- **Leaves:** Linear to linear-lanceolate, 2-5 cm long, 2-7 mm wide, 3-5-nerved, glabrous or densely appressed-hairy and sticky.
- **Flowers:** Heads discoid, numerous in a compact terminal cluster; involucres 5-7 mm tall; involucral bracts about 15, strongly graduated, obtuse or abruptly sharp-pointed, mostly linear-oblong to lanceolate, glabrous, papery; disk flowers usually 5, 4.5-7 mm long, yellow.
- **Fruits:** Achenes long-hairy; pappus dull to brownish-white.

CICHLORIUM

*Cichorium intybus* L.
chicory

**Habitat/Range:**
Mesic to dry roadsides and waste places in the lowland, steppe and montane zones; frequent in S BC; introduced from Europe.

**Description:**
- **General:** Perennial herb from a deep taproot; stems much branched, glabrous to stiff-hairy, 0.3-2.0 m tall.
- **Leaves:** Basal leaves oblanceolate, stalked, toothed or more often pinnately cut, 8-25 cm long, 1-7 cm wide; stem leaves becoming reduced, unstalked, and entire or toothed upwards.
- **Flowers:** Heads with strap-shaped flowers, borne 1-3 together in upper leaf axils; involucres cylindric, 9-15 mm tall; involucral bracts in 2 series, the outer ones loose, fewer than the erect inner ones and at least half as long; ray flowers blue, rarely pink or white; disk flowers lacking.
- **Fruits:** Achenes glabrous, grooved, 5-angled, beakless, 2-3 mm long; pappus of 1-3 series of small scales.

CIRSIUM

1. Heads small; involucres 1-2 (rarely 2.5) cm tall; plants introduced.
   2. Stems distinctly spiny-winged; plants with perfect flowers ............................................. *C. palustre*
   2. Stems not conspicuously spiny-winged; plants partly of male and female flowers .............. *C. arvense*
1. Heads large; involucres more than 2 cm tall; plants native (except *C. vulgare*).
   3. Leaves bristly-spiny above, stems distinctly spiny-winged ............................................... *C. vulgare*
   3. Leaves cobwebby to loosely woolly-hairy, woolly or nearly glabrous 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 tall ................................................................................. *C. drummondii*
      5. Heads small; involucres less than 3 cm tall.
       6. Outer involucral bracts more than 2 mm wide at base, slightly if at all hairy and if so, then mainly marginal.
Chrysothamnus viscidiflorus var. lanceolatus

Cichorium intybus
Asteraceae

7. Outer involucral bracts strongly glandular; lowermost leaves deeply pinnately lobed more than 1/2 the width of the blade ........................................... C. undulatum

7. Outer involucral bracts without glands; lowermost leaves shallowly pinnately lobed to 1/2 or less the width of the blade ....................................................... C. scariosum

6. Outer involucral bracts less than 2 mm wide at base, densely cobwebby.

8. Corollas white or creamy-white, rarely pinkish; involucral bracts greenish ............
   ........................................................................................................... C. hookeri-anum

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 1/2 the width of the blade .................................... C. edule

9. Styles nearly equal to or exceeding the corollas by only 1.5 mm; achenes 4-4.5 mm long; leaves usually lobed less than 1/2 the width of the blade .......... C. brevistylium

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

Canada thistle

**Habitat/Range:**

Mesic to dry roadsides, fields and disturbed areas in the lowland, steppe and montane zones; common in W, SC and NE BC; introduced from Eurasia.

**Description:**

**General:** Perennial herb from deep, wide-spreading roots and creeping underground stems; stems erect, glabrous, branched above, 0.3-2.0 m tall.

**Leaves:** Basal leaves soon deciduous; stem leaves alternate, lance-shaped on the lower stem, becoming broader upwards, up to 20 cm long and 7 cm wide, irregularly lobed, spiny-toothed, glabrous or green above, densely white-hairy beneath.

**Flowers:** Heads discoid, unisexual (composed of either male or female flowers) numerous, small, solitary at the ends of branches in an open inflorescence; involucres 1-2 (rarely 2.5) cm tall; involucral bracts glabrous or slightly cobwebby, outer ones egg-shaped, awl-tipped, inner ones progressively longer and lanceolate, unarmcd; disk flowers pink-purple, rarely white, female ones 23-26 mm long, the male ones 12-14 mm long.

**Fruits:** Achenes 2.5-4 mm long; pappus tawny, exceeding the corollas.

**Cirsium brevistylium** Cronq.

short-styled thistle

**Habitat/Range:**

Moist meadows and open forests in the lowland and montane zones; frequent in coastal and extreme S BC; S to ID, MT and CA.

**Description:**

**General:** Short-lived perennial herb from a taproot; stems erect, crisp-cobwebby, unwinged, simple or sparsely branched above, 0.6-1.2 (3.0) m tall.

**Leaves:** Basal and lower stem leaves oblanceolate, up to 30 cm long; middle and upper stem leaves elliptic to oblong, 10-15 cm long, usually lobed 1/3 or 1/2 the width of the blade, sometimes nearly entire, margins bearing slender yellow spines up to 4 mm long, crisp-cobwebby above, often thinly woolly below.

**Flowers:** Heads discoid, 3-6, in a terminal cluster; involucres 2-4 cm tall; involucral bracts densely cobwebby, linear-lanceolate, not much graduated, outer ones tapering to a slender, 2-3 mm spine, inner ones unarmcd, sometimes irregularly-margincd and twisted; disk flowers purplish-red, rarely white, 20-25 mm long, the tubes 12-18 mm long, the lobes 2-4 mm long; styles exserted out of the tubes about 1.5 mm or included.

**Fruits:** Achenes 4-4.5 mm long; pappus 18-22 mm long, buff or light brown, subequal to the corolla.

Notes: A natural hybrid between *Cirsium brevistylium* and *C. edule* collected at several sites on S Vancouver Island has been named *C. x vancooerense* Moore & Frankton. These plants, although most similar to *C. brevistylium*, have the longer (4 mm) exserted styles and leaf lobes of *C. edule*.
Cirsium arvense var. horridum

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

**Drummond's thistle**

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

**Description:**
General: Biennial herb from a taproot; stems erect, branched, thick, fleshy, woolly-hairy, simple, 1.2-3.0 m tall.

Leaves: Basal and stem leaves narrowly oblong-lanceolate to lanceolate, lobed 1/2 or 3/4 the width of the blade; segments oblong-triangular, margins of the segments with 3-5 slender spines, the upper surface glabrous to soft-hairy, the lower surface unevenly hairy, the uppermost leaves narrower, ascending, extending beyond the compact group of heads.

Flowers: Heads discoid, 1-9, in a terminal cluster; involucres egg-shaped, 3.5 cm tall; involucral bracts glabrous, glandular, graduated, outer ones egg-shaped, tapering to a stout, 2-3 mm spine, inner ones progressively narrower with a broadly dilated, papery, irregularly-margined tip; disk flowers purplish-red, 30-44 mm long, the tubes 20-30 mm long, the lobes 5-7 mm long.

Fruits: Achenes 4.5-5.5 mm long, straw-coloured with a light apical rim; pappus whitish, becoming yellowish at maturity, shorter than the corollas by 1-8 mm.

**Cirsium edule** Nutt.

**edible thistle**

**Habitat/Range:**
Moist to mesic meadows, avalanche tracks and open forests in the upper montane to lower alpine zones; frequent throughout BC; S to N OR.

**Description:**
General: Stout biennial or perennial herb from a taproot; stems ribbed, sparsely to moderately hairy, simple to branched, 0.3-2.0 m tall.

Leaves: Basal leaves broadly lanceolate, up to 40 cm long, green to dark green above, glabrous or sparsely hairy above and below, irregularly lobed or coarsely toothed, usually more than 1/2 the width of the leaf blade, margins of the segments with 3-5 slender, yellow spines; stem leaves narrowly elliptic or oblanceol, 10-16 cm long, alternate, otherwise similar to the basal, uppermost reduced.

Flowers: Heads solitary to many in small clusters at the ends of branches, nodding when young; involucres egg-shaped, 2-4 cm tall; involucral bracts linear-lanceolate, moderately to densely cobwebby, not much graduated, outer ones tapering to a prominent 1-2 mm spine, innermost unarmmed; disk flowers purplish-pink, 12-24 mm long; styles exceeding the flowers by 3-8 mm.

Fruits: Achenes prismatic, several-nerved, glabrous, purplish-black; pappus buff or whitish, feathery bristles.

**Cirsium foliosum** (Hook.) DC.

**leafy thistle**

**Habitat/Range:**
Moist to mesic meadows and forest openings in the montane and subalpine zones; infrequent in BC east of the Coast-Cascade Mountains; N to YK and S to WY.

**Description:**
General: Biennial or short-lived perennial herb from a taproot; stems erect, thick, fleshy, ribbed, soft, spreading-hairy, simple, 0.2-1.0 m tall.

Leaves: Basal and stem leaves linear-oblong-lanceolate, shallowly to deeply pinnately cut or merely toothed, segments, when present, egg-shaped, margins of the segments with slender spines, sparsely woolly above and below, the uppermost leaves ascending, extending beyond and often obscuring the compact group of heads.

Flowers: Heads discoid, 1-5, in a terminal cluster; involucres egg-shaped, 2-4 cm tall; involucral bracts sparsely hairy, lanceolate to narrowly egg-shaped, outer ones tapering to a slender 2-3 mm spine, inner ones abruptly sharp-pointed, unarmmed, sometimes irregularly-margined at the tip; disk flowers white, sometimes pale pink, 20-25 mm long.

Fruits: Achenes 4-5.5 mm long, light brown with darker, fine parallel lines and a narrow yellowish apical rim; pappus tawny, 22-30 mm, exceeding the corollas by 1-10 mm.


**Cirsium hookerianum** Nutt.

**Hooker's thistle**

**Habitat/Range:**
Moist to mesic roadsides, meadows and forest openings in the steppe and montane zones; frequent in S BC east of the Coast-Cascade Mountains; E to AB and S to ID, NW MT and WA.

**Description:**
General: Biennial or short-lived perennial herb from a taproot; stems erect, thick, fleshy, ribbed, soft, sparsely long-hairy to short, curly-haired, 0.2-2.0 m tall.
Leaves: Mainly basal, these narrowly oblanceolate, nearly entire or pinnately lobed to 1/2 the width of the blade, the segments triangular-lanceolate; stem leaves elliptic-oblong, clasping, up to 30 cm long and 3 cm wide, usually shallowly lobed, margins with a few, weak spines up to 5 mm long, lightly hairy above, densely woolly below.
Flowers: Heads discoid, 1-6, in a terminal cluster; involucres short-bell-shaped, 2-3 cm tall; involucral bracts densely woolly, linear-lanceolate to lanceolate, not much graduated, middle and outer ones tapering to a slender 3-5 mm, yellow spine, inner ones abruptly sharp-pointed, unarmed, sometimes twisted at the tip; disk flowers white to creamy white, rarely pinkish, 20-26 mm long.
Fruits: Achenes 5-6.5 mm long, brown with lighter parallel lines; pappus light yellow, 15-20 mm long, shorter than the corollas by 3-5 mm.

**Cirsium palustre** (L.) Scop.

**marsh thistle**

**Habitat/Range:**
Moist meadows and forest openings in the lowland zone; infrequent throughout BC south of 55° N; introduced from Europe.

**Description:**
General: Biennial herb from a fibrous root; stems erect, slender, ribbed, simple or sometimes with ascending branches above, strongly spiny-winged from the winged leaf bases, 0.3-2.0 m tall.
Leaves: Basal and lower stem leaves narrowly elliptic; middle stem leaves and reduced upper ones lanceolate, pinnately cut to about 1/2 the width of the leaf, the segments narrow, spine-tipped, the bases winged, nearly glabrous to lightly soft-hairy above, lightly to densely long-hairy below.
Flowers: Heads discoid, several to many, in small, compact clusters terminating the stem or at the ends of branches; involucres egg-shaped to cylindric, 1-1.5 cm tall; involucral bracts sparsely to densely cobwebby, outer ones egg-shaped to lanceolate, often purple-tipped, sticky, usually tapering to a thick, often curved, abruptly sharp-pointed 0.5-1 mm long spine, inner ones progressively longer, unarmed, flat-tipped, pointed; disk flowers purple, 10-12 mm long.
Fruits: Achenes 2.5-3.5 mm long, straw-coloured; pappus tawny, 9.10 mm long.

**Cirsium scariosum** Nutt.

**elk thistle**

**Habitat/Range:**
Dry open forests in the montane zone; rare in SE BC, known recently only from Crowsnest Pass and Akamina Creek; E to AB and S to ID, MT, CO and AZ.

**Description:**
General: Biennial or perennial herb from a taproot; stems erect, thick, fleshy, ribbed, sparsely hairy, simple or with a few short upper branches, 0.2-1.0 m tall.
Leaves: Basal leaves egg-shaped to elliptic, entire to nearly entire, stalked; lower stem leaves narrowly egg-shaped, tapering to the base, stalked, shallowly to pinnately lobed, marginally spiny with numerous, slender, yellow spines up to 10 mm long, lobed 1/2 or less the width of the blade, segments lanceolate to deltoid, green and nearly glabrous above, woolly-hairy below; the uppermost leaves narrower, ascending, extending beyond the compact group of heads.
Flowers: Heads discoid, 5-15, in a terminal cluster or rarely at the ends of the few branches or in the leaf axils; involucres bell-shaped, 2-3 cm tall; involucral bracts without glands, essentially glabrous except for the sparse marginal hairs, outer ones egg-shaped to lanceolate, with a slender 2-4 mm long spine, inner ones unarmed, the tips membranous, often dilated, papery and irregularly-margined; disk flowers white to pink, 18-30 mm long, the tubes 9-13 mm long, the lobes 4-6 mm long.
Fruits: Achenes 5.5-6.5 mm long, light or dark brown with a narrow, yellow apical band; pappus light yellow, 2.3 cm long, shorter than the corollas by 4.5 mm.
Cirsium hookerianum

Cirsium palustre

Cirsium scariosum
Cirsium undulatum (Nutt.) Spreng.
wavy-leaved thistle
HABITAT/RANGE:
Dry open grasslands, shrublands and open forests in the steppe and montane zones; common in SC and SE BC; E to MB and S to NM and AZ.
DESCRIPTION:
General: Biennial or short-lived perennial herb from a taproot; stems erect, slender, woody, white- to grey-woolly, simple or few branched, 0.3-1.2 m tall.
Leaves: Basal leaves nearly entire or pinnately lobed, 3.0-7.0 cm long, both surfaces grey-woolly; lower stem leaves oblanceolate or linear-elliptic, tapering to the base, up to 40 cm long and 10 cm wide, lobed to 2/3 the width of the blade, marginally spiny with strong, yellow spines 1-5 mm, densely grey-woolly below, thinly woolly above; the uppermost leaves reduced, lanceolate, less deeply lobed, clasping.
Flowers: Heads discoid, solitary, terminating the stem or the few branches; involucres bell-shaped or near globose, 2-3 cm tall; involucral bracts graduated, the outer ones strongly glandular, egg-shaped to narrowly egg-shaped, with a strong, yellow, diverging 2.5 mm long spine, inner ones unarmed, the tips often crisped and minutely fringed with small hairs, or tattered, spreading or recurved above the middle, slightly if at all glandular; disk flowers purple to pinkish-purple, rarely white, 20-30 mm long, the tubes 12-21 mm long, the lobes 6-8 mm long.
Fruits: Achenes 4-8 mm long, brown; pappus white, 2-3 cm long, shorter than the corollas by 5-10 mm.

Cirsium vulgare (Savi) Tenore
bull thistle
HABITAT/RANGE:
Mesic to dry roadsides, fields, pastures and disturbed areas in the lowland, steppe and montane zone; common in S BC, infrequent in N BC; introduced from Eurasia.
DESCRIPTION:
General: Biennial herb from a fibrous root, 0.3-2.0 m tall; stems erect, branched, the branches spreading and ascending, stiff, ridged, sparsely to densely hairy, conspicuously spiny-winged at the base of the leaves.
Leaves: Basal and stem leaves broadly lanceolate, deeply lobed, 3.5-10 cm long, glabrous and strongly spiny-hairy above, nearly glabrous to sparsely white- or grey-woolly below, bases clasping, winged and descending down the stems, marginally spiny, the lobes and tips with stout spines 5-10 mm long; upper stem leaves reduced.
Flowers: Heads several to many, solitary at the end of the branches; disk flowers purple, rarely white; involucres egg-shaped to more or less rounded, 2.5-4 cm tall; involucral bracts lanceolate to linear-lanceolate, the outer and middle ones with a strong, yellow, 2-4 mm long spine, hairy on the margins, the midrib woody, the inner bracts longer, with a stiff point.
Fruits: Achenes glossy, light brown with parallel lines; pappus of white, feathery bristles.

CONYZA

Conyza canadensis (L.) Cronq. var. glabrata (A. Gray) Cronq. (Erigeron canadensis L.)
horseweed, Canadian fleabane
HABITAT/RANGE:
Mesic to dry roadsides and disturbed areas in the lowland, steppe and montane zones; frequent in S BC; introduced, native range uncertain.
DESCRIPTION:
General: Annual herb from a taproot; stems erect, usually single, more or less glabrous, 0.2-1.0 m tall.
Leaves: Basal leaves lacking; stem leaves linear to linear-lanceolate or the lowermost oblanceolate, stalked, 2-10 cm long, 2-8 mm wide, glabrous.
Flowers: Heads with ray and disk flowers, numerous in an open, leafy, branched, usually cylindric inflorescence; involucres 3-4 mm tall; involucral bracts graduated, glabrous to sparsely stiff-hairy, with a conspicuous central glandular area and narrow, more or less papery margins; ray flowers white, numerous, inconspicuous, barely exceeding the pappus; disk flowers few.
Fruits: Achenes stiff-hairy; pappus of dirty-whitish, slender hairs.
Cirsium undulatum

Cirsium vulgare

Cnouza canadensis var. glabrata
COREOPSIS

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

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

Coreopsis lanceolata L.
   garden coreopsis

Habitat/Range:
Mesic to dry roadsides and disturbed areas in the lowland zone; rare in SW BC, known only from Ft. Langley and Nanaimo; introduced from E US.

Description:
   General: Perennial herb from a woody rhizome; stems ascending to erect, glabrous, branched, 20-70 cm tall.
   Leaves: Basal leaves numerous, spoon-shaped to linear or linear-lanceolate, simple or with 1 or 2 pairs of small lateral lobes at the base, usually stiff-hairy, 10-20 cm long, up to 2 cm wide; upper leaves few, reduced, mostly entire, usually glabrous.
   Flowers: Heads with ray and disk flowers, solitary to several on long stalks; involucres 10-14 mm tall; involucral bracts markedly different, the inner 8-12 mm long, egg-shaped, brown with lighter margins; the outer reduced, lanceolate to oblong egg-shaped, obtuse, 4-8 mm long; ray flowers yellow, about 8, 1.5-3 cm long; disk flowers yellow; receptacular bracts flat and papery below.
   Fruits: Achenes black, 2.5-3 mm long, margins with incurved wings; pappus of 2 small, fringed teeth.

Coreopsis tinctoria Nutt. var. atkinsoniana (Dougl. ex Lindl.) H.M. Parker (C. atkinsoniana Dougl. ex Lindl.)
   Atkinson’s coreopsis

Habitat/Range:
Moist river banks in the steppe zone; rare in extreme SC BC; S to WA and N OR.

Description:
   General: Annual or biennial herb from a fibrous root; stems erect, glabrous, branched, 0.3-1.2 m tall.
   Leaves: Lower stem leaves opposite, pinnately cut or bipinnately cut, the ultimate segments linear or linear-elliptic, 5-16 cm long, including the stalk; the upper leaves pinnately divided into 3-5 linear segments or entire.
   Flowers: Heads with ray and disk flowers, several to numerous on long, slender stalks at the end of the branches; involucres 6-10 mm tall; involucral bracts markedly different, the inner 6-8 mm long, egg-shaped, brown with yellow margins, the outer reduced, 7-8, narrowly triangular, obtuse, 2-3 mm long; ray flowers orange-yellow, often with a purplish-brown basal spot, about 8, 1-2 cm long; disk flowers purplish-brown; receptacular bracts linear-oblong, orange-red.
   Fruits: Achenes black, 2-3 mm long, margins narrowly-winged; pappus lacking or of 2 small teeth.
Coreopsis lanceolata

Coreopsis tinctoria var. atkinsoniana
COTULA

_Cotula coronopifolia_ L.

**brass buttons**

**Habitat/Range:**
Wet tidal flats and marshes in the lowland zone; infrequent on the north coast and islands, common in SW BC, known from SE Vancouver Island and the adjacent mainland; introduced from South Africa.

**Description:**
_General:_ Perennial, somewhat succulent herb from a fibrous root; stems decumbent or spreading, branching from the base, glabrous, rooting from nodes, 5-30 cm tall.

_Leaves:_ Basal leaves linear to lanceolate or oblong, entire or with a few coarse teeth, 1-6 cm long, 1-10 mm wide; stem leaves similar to the basal, becoming reduced upwards, unstalked with a sheathing, somewhat papery base.

_Flowers:_ Heads disciform, solitary on the ends of branches, the disk about 5-11 mm wide; involucres 2-3 mm tall; involucral bracts elliptic or oblong, glabrous, in 3 subequal series; marginal flowers in a single series, corolla lacking; disk flowers bright yellow; receptacles with achene stipes persistent.

_Fruits:_ Achenes of the marginal flowers conspicuously winged, stalked; pappus lacking.

CREPIS

1. Introduced annual or biennial weeds; taproots relatively weak; leaves mainly stem.

2. Inner involucral bracts hairy 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 tall; receptacles glabrous......................... _C. capillaris_

3. Achenes 2.5-9 mm long, involucres 8-12 mm tall; receptacles fringed with small hairs.

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 coarse-hairy, but not at all woolly.

6. Rays mostly 20-50 in each head; plants mostly 20-70 cm tall ......................... _C. runcinata_

6. Rays mostly 9-12 in each head; plants 5-30 cm tall.

7. Achenes beakless or short-beaked, the ribs broad, rounded, smooth or slightly wrinkled; plants 5-10 (or rarely 20) cm tall ................................................................. _C. nana_

7. Achenes beaked, the ribs narrow, roughly stiff-hairy at least above; plants mostly 10-30 cm tall ............................................................... _C. elegans_

5. Stems and leaves more or less woolly or short-hairy, sometimes also bristly or glandular stiff-hairy.

8. Involucres and lower stems bristly but not glandular.......................... _C. madocensis_

8. Involucres and stems sparsely bristly or, if evidently bristly, then the bristles gland-tipped.

9. Leaf segments linear or narrowly lanceolate, mostly entire; achenes generally greenish ....... .................................................. _C. atrabartia_

9. Leaf segments broader, mostly lanceolate or deltoid, some of them toothed; achenes yellowish or brownish to dark brown.

10. Involucres grey, short woolly-hairy or less often more or less glabrous; plants 20-70 cm tall .............................................................................. _C. intermedia_

10. Involucres usually glandular-hairy; plants 10-30 cm tall .......................... _C. occidentalis_
Cotula coronopifolia
Asteraceae

Crepis atrabarba Heller (C. exilis Osterhout)
slender hawksbeard

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

Description:
General: Perennial herb from a taproot and woody base; stems erect, 1-2, grey-woolly or sometimes eventually becoming glabrous, 15-70 cm tall.
Leaves: Basal leaves linear to lanceolate, long-stalked, pinnately or bipinnately divided into linear or lanceolate segments or rarely entire, greyish-woolly or more often nearly glabrous, 10-35 cm long; stem leaves similar to the basal ones, becoming linear and entire upwards.
Flowers: Heads with strap-shaped flowers, 3-40 in a flat- to round-topped inflorescence; involucres 8-15 mm tall, cylindric; involucral bracts greyish-woolly to nearly glabrous or rarely glabrous, with or without black, glandless bristles on the inner and sometimes the outer bracts, the outer ones 5-10, deltoid, abruptly sharp-pointed, the longest less than 1/2 as long as the 8-10 inner ones, these lanceolate, abruptly sharp-pointed or obtuse; ray flowers yellow, 10-18 mm long.
Fruits: Achenes usually greenish or rarely brownish, 3-10 mm long, slender, weakly to strongly ribbed, mostly tapering to a slender tip at the apex; pappus white, of hairlike bristles.

Notes: Two subspecies occur in BC.

1. Plants relatively small, 15-35 cm tall; heads 3-18; involucral bracts with some glandless bristles ................

1. Plants taller, 30-70 cm tall; heads 10-40; involucral bracts nearly or completely devoid of bristles ........

Crepis capillaris (L.) Wallr.
smooth hawksbeard

Habitat/Range:
Mesic roadsides, pastures and disturbed areas in the lowland, steppe and montane zones; common in SW BC, infrequent on the Queen Charlotte Islands and S BC east of the Coast-Cascade Mountains; introduced from Europe.

Description:
General: Annual or occasionally biennial herb from a relatively short taproot; stems erect, solitary, often much branched, short-hairy near the base or throughout, 20-90 cm tall.
Leaves: Basal leaves lanceolate or oblanceolate, 3-30 cm long, 5-45 mm wide, long- to short-stalked, toothed to pinnately cut, the lobes pointing backwards, or even bipinnately parted, the blade obtuse or abruptly sharp-pointed, glabrous or short-hairy beneath on the midrib with short yellow hairs, sometimes sparsely short-hairy above and often soon deciduous; lowermost stem leaves similar to the basal; middle and upper stem leaves lanceolate, abruptly sharp-pointed, unstalked, with abruptly sharp-pointed, ear-like flanges at the base.
Flowers: Heads with strap-shaped flowers, 20-60 in a flat- or round-topped inflorescence; involucres 5-8 mm tall, cylindric to top-shaped; involucral bracts glabrous or woolly, the outer ones about 8, linear, up to 1/2 as long as the 8-16 inner ones, these woolly and often glandular-bristly with black hairs as well, glabrous within, lanceolate, abruptly sharp-pointed, becoming spongy-thickened on the back; receptacle glabrous; ray flowers yellow, 7.5-12 mm long.
Fruits: Achenes brownish-yellow to dark brown, 1.5-2.5 mm long, spindle-shaped or oblong, abruptly narrowed at both ends, about 10-ribbed; pappus white, of fine, soft, hairlike bristles.
**Asteraceae**

*Crepis elegans* Hook.

**elegant hawksbeard**

**Habitat/RANGE:**

Moist to mesic gravely or sandy river bars, terraces and open slopes in the lowland and montane zones; frequent throughout BC; N to AK, YT and NT; E to AB and SK, S to MT and WY.

**Description:**

**General:** Perennial herb from a taproot and a simple or slightly branched woody base; stems several to many, freely branched, glabrous, 8-30 cm tall.

**Leaves:** Basal leaves numerous, spoon-shaped to orbicular or egg-shaped, 3-10 cm long, 0.6-2 cm wide, entire to coarsely toothed, abruptly sharp-pointed, long-stalked, glaucous and purplish; stem leaves linear, with long-pointed tips, stalked or unstalked, somewhat reduced upwards.

**Flowers:** Heads with strap-shaped flowers, numerous in an open inflorescence; involucres 8-10 mm tall, cylindric; involucral bracts glabrous, the outer ones 7-8, very short, egg-shaped or oblong, abruptly sharp-pointed, the inner ones 8-10, 2-ranked, broadly papery-margined, abruptly sharp-pointed or obtuse, purple at the tip, becoming thickened near base; receptacles glabrous; ray flowers yellow, 6-8 mm long.

**Fruits:** Achenes golden brown, 4.5-5.5 mm long, very slender with a short, slender beak about 1 mm long, about 10-ribbed with relatively narrow ribs that tend to be roughly short-hairy above; pappus white, of very fine, soft, hairlike bristles, deciduous.

*Crepis intermedia* A. Gray

**grey hawksbeard**

**Habitat/RANGE:**

Mesic to dry slopes and open forests in the montane zone; infrequent in S BC east of the Coast-Cascade Mountains; E to AB and S to WY, CO and CA.

**Description:**

**General:** Perennial herb from a taproot; stems erect, few, branched above, sparsely to densely grey-woolly, 20-70 cm tall.

**Leaves:** Basal leaves narrowly elliptic in outline, mostly 1-4 dm long, long-stalked, pinnately cut with lanceolate, abruptly sharp-pointed, entire or toothed segments, sparsely to densely grey-woolly throughout; stem leaves similar to the basal ones, becoming reduced upwards.

**Flowers:** Heads with strap-shaped flowers, mostly 10-60 in a flat- to round-topped inflorescence; involucres 10-16 mm tall, cylindric-bell-shaped; involucral bracts grey, short woolly-hairy or less often more or less glabrous, occasionally glandular bristles near the tips of the inner ones, the outer ones deltoid, the longest less than 1/2 as long as the 7-12 inner ones, these lanceolate, obtuse; ray flowers yellow, 14-30 mm long.

**Fruits:** Achenes mostly yellowish or brownish, 5.5-9 mm long, slender, weakly to strongly ribbed, narrowed above; pappus white, of hairlike bristles.

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.
Crepis elegans

Crepis intermedia
**Asteraceae**

*Crepis modacensis* Greene
low hawksbeard

**Habitat/Range:**
Dry grasslands and shrublands in the steppe zone; rare in SC BC, known recently only from Pavilion Lake (ssp. *modacensis*) and Lac du Bois (ssp. *rostrata*); S to WY, CO and CA.

**Description:**
General: Perennial herb from a taproot and woody base; stems erect, 1-4, densely stiff-hairy near the base with whitish, crisped hairs or merely woolly-hairy, few branched, 10-30 cm tall.

Leaves: Basal leaves long-stalked, deeply pinnately cut with lanceolate, toothed lobes, these abruptly sharp-pointed or with long-pointed tips and abruptly callus-tipped teeth, mostly 7-25 cm long, the blades nearly glabrous or woolly-hairy, the midribs and usually the stalks short-hairy; stem leaves similar to the basal ones, becoming reduced upwards.

Flowers: Heads with strap-shaped flowers, 1-9 in an open inflorescence; involucres 6-17 mm tall, cylindric or bell-shaped; involucral bracts grey-woolly with stout, glandless bristles, these whitish or blackish, the outer ones lanceolate, the longest about 1/2 the length of the inner; ray flowers yellow, 14-22 mm long.

Fruits: Achenes greenish-black to yellowish-or deep reddish-brown, 7-12 mm long, weakly to strongly 10-ribbed or smooth, longer than or equal to the pappus, narrowed above; pappus of white, hairlike bristles.

Notes: Two subspecies occur in BC.

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

1. Hairs of the stem, stalks, 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.

dwarf hawksbeard

**Habitat/Range:**
Moist to mesic sandy, gravelly slopes, talus and scree in the subalpine and alpine zones; frequent throughout BC east of the Coast-Cascade Mountains; circumpolar, N to AK, E to NF and S to UT, NV and CA, Eurasia.

**Description:**
General: Perennial herb from a taproot and woody base; stems spreading, several to many, simple or more often branched, glabrous, 2-20 cm tall.

Leaves: Basal leaves numerous, spoon-shaped to orbicular or egg-shaped, long-stalked, 1-8.5 cm long, 0.2-2.5 cm wide, entire, obtuse, glabrous, often purplish; stem leaves similar to the basal, fewer, reduced.

Flowers: Heads with strap-shaped flowers, several to more often numerous, usually in a rounded, compact inflorescence; involucres 7-13 mm tall, cylindric; involucral bracts glabrous, the outer ones 5-8, lanceolate, tapering to a slender tip, less than 1/2 as long as the 8-12 inner ones, these oblong, narrowed to the obtuse tips, purplish and fringed with small hairs, becoming thickened near the base; receptacles glabrous; ray flowers yellow, 7-9 mm long.

Fruits: Achenes golden brown, mostly 4-7 mm long, suberete, columnar, scarcely to evidently narrowed or tapering to a slender tip above, or sometimes with a short beak less than 0.5 mm long, about 10- to 13-ribbed, the ribs smooth or faintly wrinkled; pappus white, of fine soft, hairlike bristles, deciduous.

Notes: Some of our material, namely taller specimens, has been designated as ssp. *ramosa* Babc. Further study is required to show that this is not merely an environmentally-induced form without taxonomic significance. Two other infraspecific taxa, var. *clivicola* Leggett and var. *hyalina* (Turcz.) Hult. also remain doubtful.
Crepis nicaeensis Balb. ex Pers.
French hawksbeard

Habitat/Range:
Mesic to dry roadsides and disturbed areas in the lowland and montane zones; infrequent in SW BC, known from SE Vancouver Island and adjacent Gulf Islands, also a collection from EC BC (W of Jasper, AB); introduced from Europe.

Description:
General: Annual or biennial herb from a taproot; stems erect, usually solitary, short-hairy below, branched, 3-1.1 m tall.

Leaves: Basal leaves oblanceolate, up to 20 cm long and 4 cm wide, toothed or pinnately cut with the lobes pointing backwards, obtuse, short-stalked, short-hairy; middle stem leaves similar to the basal ones or sometimes long-stalked, unstalked and reduced upwards, lanceolate, usually with long-pointed tips.

Flowers: Heads with strap-shaped flowers, several to numerous in a flat-topped inflorescence; involucres 8-10 mm tall, bell-shaped; involucral bracts hairy with long and short glandular or non-glandular hairs and more or less white-woolly hairs, the outer ones about 8, linear, abruptly sharp-pointed, up to about 1/2 as long as the 10-15 inner ones, these lanceolate, strongly tapering to a slender tip, fringed with small hairs at the tips, glabrous within, becoming strongly keeled in fruit; receptacles honeycombed, fringed with small hairs within; ray flowers yellow or sometimes red at the summit, up to 11 mm long.

Fruits: Achenes golden brown, 2.5-4 mm long, spindle-shaped, gradually tapering to the apex, 10-ribbed, the ribs broad, rounded, smooth or rough-hairy; pappus white, of hair-like bristles, 2-seriate, more or less united at the base, deciduous.

Crepis occidentalis Nutt.
western hawksbeard

Habitat/Range:
Dry grasslands and shrublands in the steppe zone; all subspecies frequent in SC BC, ssp. occidentalis - infrequent in SE BC; E to S AB and SD, S to NM and CA.

Description:
General: Perennial herb from a taproot and stem-base; stems erect, 1-3, densely and closely grey-short woolly-hairy, or nearly glabrous in age, often glandular-stiff-hairy above, sometimes with black glandular bristles above, 5-40 cm tall.

Leaves: Basal leaves long-stalked, toothed, with the teeth pointing backwards, or deeply pinnately cut with lanceolate or linear toothed lobes, these entire, abruptly sharp-pointed or with long-pointed tips, mostly 1-3.5 dm long, the blades grey-shorting woolly-hairy, or nearly glabrous in age; lower stem leaves similar to the basal leaves, becoming reduced, linear and entire upwards.

Flowers: Heads with strap-shaped flowers, 2-25 in a flat-topped inflorescence; involucres 11-19 mm tall, cylindric or bell-shaped; involucral bracts grey, short woolly-hairy with or without gland-tipped hairs, the longest outer ones usually less than 1/2 as long as the inner, triangular or egg-shaped, abruptly sharp-pointed, rarely linear, the inner ones lanceolate, abruptly sharp-pointed or with long-pointed tips with membranous margins; ray flowers yellow, 16-19 mm long.

Fruits: Achenes, light to dark brown, 6-10 mm long, spindle-shaped, 10- to 18-ribbed, only slightly tapering to a slender tip; pappus white to yellowish-white, of copious, soft, hair-like bristles.

Notes: Three subspecies, sometimes difficult to separate, 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.
**Asteraceae**

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

**Habitat/Range:**
Dry grasslands, shrublands and open forests in the steppe and lower montane zones; infrequent in S BC east of the Coast-Cascade Mountains; E to MB and MN, S to CA, AZ and MX.

**Description:**
*General:* Perennial herb from an enlarged, simple or forked stem-base and a fleshy root; stems erect, 1-3, glabrous or somewhat glandular coarse-hairy, 2-8 dm tall.
*Leaves:* Basal leaves oblanceolate to elliptic or egg-shaped, 3-30 cm long, long-stalked, entire to pinnately cut or toothed with the teeth pointed backwards, the blade obtuse or abruptly sharp-pointed; stem leaves much reduced, usually lanceolate or linear and bractlike.
*Flowers:* Heads with strap-shaped flowers, 1-30 in a flat-topped inflorescence; involucres 8-21 mm tall, bell-shaped or top-shaped; involucri bracts more or less glandular-hairy or coarse-hairy (in ours) or glandless, the outer ones narrowly deltoid or lanceolate, the longest less than 1/2 the length of the 10-15 inner ones, these lanceolate or linear, more or less tapering to a slender tip at the apex; ray flowers yellow, 9-18 mm long.
*Fruits:* Achenes light to dark brown, 3.5-7.5 mm long, slender, mostly 10-ribbed, tapering to a slender tip (in ours) or sometimes short-beaked above; pappus white, of hairlike bristles.

*Crepis tectorum* L.
**annual hawksbeard**

**Habitat/Range:**
Roadsides and disturbed areas in the lowland, steppe and montane zones; frequent throughout BC, except NW BC and the Queen Charlotte Islands; introduced from Europe.

**Description:**
*General:* Annual herb from a short taproot; stems erect, solitary, branched, glabrous or hairy, 0.3-1.0 m tall.
*Leaves:* Basal leaves lanceolate or oblanceolate, 2-15 cm long, 0.3-4 cm wide entire to toothed or pinnately parted, abruptly sharp-pointed, short stalked, glabrous or short-hairy, often soon deciduous; stem leaves unstalked, clasping, mostly linear or nearly so, often involute.
*Flowers:* Heads with strap-shaped flowers several to numerous, in a flat-topped inflorescence; involucres 6-9 mm tall, cylindric to bell-shaped; involucral bracts short woolly-hairy and sometimes stiff glandular-hairy, the outer ones about 12, awl-like, about a third as long as the 12-15 inner ones, these lanceolate, with long-pointed tips, becoming keeled and thickened near the base, appressed- or short-hairy within; receptacles very finely-fringed with small hairs; ray flowers yellow, up to 13 mm long.
*Fruits:* Achenes purplish-brown, 2.5-4.5 mm long, spindle-shaped, rather strongly tapering to a slender tip, scarcely beaked, 10-ribbed, ribs rough short-hairy; pappus white, of fine, hairlike bristles, deciduous.
Crepis runcinata ssp. runcinata

Crepis tectorum
Asteraceae

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

Habitat/Range:
Roadsides and disturbed areas in the lowland zone; rare in SW BC, known from SE Vancouver Island; introduced from W Europe and NW Africa.

Description:
General: Annual or biennial or rarely perennial herb from a woody, sometimes thickened taproot and a simple or divided stem-base; stems erect, solitary to several, often branched near the base as well as above, more or less purplish, grooved, more or less woolly-hairy, 30-80 cm tall.
Leaves: Basal leaves numerous, mostly narrowly oblanceolate, 10-20 cm long, 2-4 cm wide, pinnately cut or lyrate-pinnate with a large terminal lobe, the lower lobes pointing backwards, stalked, finely hairy on both sides of the blade with short, pale, glandless hairs; stem leaves few, similar, unstalked, abruptly sharp-pointed or with long-pointed tips, nearly entire to pinnately parted, the middle ones clasping.
Flowers: Heads with strap-shaped flowers, several to many in a flat-topped inflorescence; involucres 8-12 mm tall, cylindric to bell-shaped; involucral bracts woolly-hairy, often glandular-hairy and usually with black glandless bristles, the outer ones 5-12, short, lanceolate or egg-shaped, spreading, less than a third the length of the 9-13 inner ones, these lanceolate, obtuse, becoming keeled and thickened at maturity; receptacles fringed with small hairs; ray flowers yellow, 9-12 mm long.
Fruits: Achenes pale brown, 4.5-9 mm long, spindle-shaped, tapering to a slender beak as long or longer than the body of the achene, 10-ribbed; pappus white, of fine, soft, hair-like bristles, deciduous.

Crocidium multicaule Hook.
Gold star

Habitat/Range:
Mesic to dry open grassy bluffs and slopes in the lowland zone; infrequent in SW BC, known from the E coast of S Vancouver Island and the adjacent Gulf Islands; S to NE OR and CA.

Description:
General: Annual herb from a fibrous root; stems erect or ascending, several, simple, glabrous except for the white-woolly hairs in the leaf axils, 5-30 cm tall.
Leaves: Basal leaves somewhat fleshy, 0.3-2.5 cm long, 0.2-1 cm wide, spoon-shaped to oblanceolate or broader, glabrous, stalked, entire to toothed; stem leaves few and reduced, scarcely more than linear bracts, 3-15 mm long, 0.2-1 mm wide, glabrous, entire to toothed.
Flowers: Heads with ray and disk flowers, solitary, hemispheric, bases glabrous; involucres 3-7 mm tall; involucral bracts thin, membranous, oblong or narrowly egg-shaped, fused at the base, abruptly sharp-pointed to obtuse at the tip, glabrous except for the woolly-hairy tip; ray flowers yellow, 5-13.
Fruits: Achenes densely covered with short, rounded, blunt hairs; pappus of white, deciduous bristles.

Doronicum pardalianches L.
Great leopard's-bane

Habitat/Range:
Moist forest openings and disturbed areas in the lowland zone; rare in SW BC, known only from the lower Valley; introduced from Europe.

Description:
General: Perennial herb from stout, subterranean stolons with tube-like tips; stems erect, white woolly-hairy, 30-90 cm tall.
Leaves: Basal leaves heart-shaped, long-stalked, 6-14 cm long, hairy; lower stem leaves with long, winged stalks, clasping, hairy; upper leaves becoming lanceolate, unstalked, hairy.
Flowers: Heads with ray and disk flowers, 3-5; involucres 8-18 mm tall; involucral bracts triangular, awl-like, glandular-fringed; ray flowers yellow; disk flowers yellow.
Fruits: Achenes black, 10-ribbed, those of the ray flowers glabrous, those of the disk flowers hairy; pappus of the discoid, those of the disk flowers feathery.
Crepis vesicaria spp. taraxacifolia

Crocidium multicaule

Doronicum pardalianches
**ERICAMERIA**

1. Ray flowers 1-5, rarely lacking in some heads; achenes glabrous .......................................................... *E. bloomeri*

2. Discoid; achenes short-hairy .............................................................................................................. *E. nauseosus*

**Ericamia bloomeri** (A. Gray) J.F. Macbr. [*Haplopappus bloomeri* A. Gray]

**rabbitbrush goldenweed**

**Habitat/Range:**
- Dry open slopes in the montane zone; rare in SC BC, known only from Westbridge; S to CA.

**Description:**
- **General:** Low shrub; stems branching, twigs brittle, 20-60 (or rarely 90) cm tall.
- **Leaves:** Alternate, numerous, linear to narrowly oblanceolate, glandular-sticky to nearly glabrous or sometimes woolly-hairy, 2-6 cm long and 0.5-4 mm wide.
- **Flowers:** Heads with ray and disk flowers, in small terminal clusters, in well-developed plants forming an elongate cluster; involucres 7-11 mm tall; involucral bracts graduate, in 3-6 series, narrow, somewhat leafy; ray flowers yellow, 1-5 or wanting from some heads, 6-12 mm long; disk flowers yellow, 4-12, 7-12 mm long.
- **Fruits:** Achenes glabrous; pappus of whitish, hairlike bristles.

**Notes:** This species was recently ranked by the BC Conservation Data Centre as SX (extirpated) since it has not been collected in over 50 years (Douglas 1998). Collections by Hardy from Keremeos (cited by Scoggan [1979]) and Parriss from Spences Bridge (cited by Douglas [1995]) have been reidentified as *Ericamia nauseosus*.

**Ericamia nauseosus** (Pall. ex Pursh) Nesom & Baird var. *speciosa* (Nutt.) Nesom & Baird (*Chrysothamnus nauseosus* [Pall. ex Pursh] Britt. var. *albicaulis* [Nutt.] Rydb.)

**common rabbit-brush**

**Habitat/Range:**
- Dry open slopes, grasslands, shrublands and open forests in the steppe to lower montane zones; common in SC and SE BC; E to SK and S to TX, NM and CA.

**Description:**
- **General:** Perennial shrub; stems much branched, densely woolly, 0.5-1.3 (2.0) m tall.
- **Leaves:** Threadlike to linear-lanceolate, 1-7 cm long, 1-4 mm wide, 1-3-nerved, grey- to white-woolly.
- **Flowers:** Heads discoid, numerous in a compact terminal cluster; involucres 7-13 mm tall; involucral bracts 20-25, strongly graduated, obtuse or abruptly sharp-pointed, mostly linear-lanceolate to lanceolate, more or less woolly; disk flowers usually 5, 8-11 mm long, yellow.
- **Fruits:** Achenes appressed, short-hairy; pappus whitish, of numerous hairlike bristles.

**ERICA**

1. Pappus of the disk flowers composed of 2 sets of bristles, the inner longer and fragile; pappus of the discoid bristles.

2. Leaves numerous, deeply toothed; plants mostly 0.6-1.5 cm tall .......................................................... *E. annuus*

3. Leaves few, usually entire; plants mostly 30-70 cm tall .......................................................... *E. strigosus*

4. Stems leaves well-developed, gradually reduced upwards, usually lanceolate or wider; all (except *E. glabellus*) with prominently clasping leaf-bases; plants tall and erect, somewhat *Aster*-like.

5. Rays mostly 2-4 mm wide .............................................................................................................. *E. peregrinus*

6. Rays mostly 1 mm wide or less.

5. Leaves coarsely toothed, ray flowers 0.2-0.6 mm wide .......................................................... *E. philadelphicus*

6. Leaves irregularly toothed to entire, ray flowers about 1 mm wide.

7. Uppermost leaves strongly reduced, linear; the middle ones usually smaller than the mostly persistent lowermost ones; leaves never clasping ........................................................................ *E. glabellus*
_Ericameria bloomeri_

_Illustrated Flora of British Columbia_
6. Uppermost leaves gradually reduced, lanceolate; the middle ones usually as large as or larger than the mostly deciduous lowermost ones; leaves somewhat clasping.

7. Leaves and stem long-hairy ................................................................. E. subtrinervis
7. Leaves and stem glabrous to sparsely hairy ........................................ E. speciosus

3. Stem leaves usually much reduced or lacking, mostly linear or oblanceolate; plants usually low and spreading, not Aster-like.

8. Leaves dissected, or at least some of them 3-forked or toothed or lobed at the apex.

9. Leaves 2-4 times divided in 3's .................................................................. E. compositus
9. Leaves 3-forked, or at least some of them toothed or lobed at the apex.

10. Leaves 3-forked.

11. Leaf segments more than 1 mm wide, the stalks obviously wider at the apex; plants of SE BC ................................................................. E. trifidus
11. Leaf segments 1 mm wide or less, the stalks not wider at the apex.

12. Leaf lobes oblong to egg-shaped, the lobes regularly 3-forked and generally of the same size and shape; plants of Vancouver Island ...................... E. salishi
12. Leaf lobes linear to lanceolate or narrowly oblong, the lobes often irregularly 3-forked or of dissimilar size and shape on the same plant ................................................. E. compositus (var. discoides)\(^16\)

10. Leaves, or at least some of them, toothed or lobed at the apex.

13. Involucres glandular-hairy, the ray flowers 4-5 mm long ....................... E. pallens
13. Involucres moderately to densely long woolly-hairy, the ray flowers 8-11 mm long .... ................................................................. E. lanatus

8. Leaves entire or with teeth not restricted to the apical region, never 3-forked.


15. Ray flowers yellow .................................................................................... E. aureus
15. Ray flowers white, pink, blue or purple.

16. Hairs of the involucres with conspicuous, dark purplish crosswalls ........... E. humilis
16. Hairs of the involucres with clear crosswalls or rarely some of the basal ones reddish-purple.

17. Plants with at least some well-developed stem leaves.

18. Rays 60-125, 10-15 mm long, 1-2 mm wide ......................................... E. grandiflorus
18. Rays 100-200, 3-6 mm long, 0.3-0.6 mm wide .................................. E. uniflorus
17. Plants without stem leaves or with only a few, reduced ones.

19. Involucres glandular-hairy, the ray flowers 4-5 mm long ....................... E. pallens
19. Involucres moderately to densely long woolly-hairy, the ray flowers 8-11 mm long ................................................................. E. lanatus

14. Involucres variously hairy or glandular but not long woolly-hairy.

20. Ray flowers yellow .................................................................................... E. linearis

\(^16\)This taxon, at least with respect to the type specimen described by Gray (1862), has yet to be recorded for British Columbia although it has been collected at least once in both YT and WA.
20. Ray flowers white, pink, blue or purple.

21. Hairs of the stems appressed, ascending, or lacking.
   22. Plants with long, trailing, sparsely leafy stolons ............................... *E. flagellaris*
   22. Plants without stolons.
   23. Basal leaves broadly ob lanceolate ....................................................... *E. peregrinus*
   23. Basal leaves linear to threadlike.
   24. Plants 10-50 cm tall; stems densely hairy towards the base; heads few to numerous ................................................................. *E. filfolius*
   24. Plants less than 10 cm tall; stems not more densely hairy at the base than above; heads solitary to few ......................... *E. ochroleucus* var. *scribneri*

21. Hairs of the stems widely spreading.

26. Plants freely branched.
   27. Leaves long spreading-hairy, the hairs over 1 mm long; disk corollas over 3 mm long ................................................................. *E. pumilus*
   27. Leaves short spreading-hairy, the hairs well under 1 mm long; disk corollas 2-3 mm long ...................................................... *E. divergens*

26. Plants simple or sparingly branched.

   29. Basal leaves rounded or obtuse at tip; stems rarely purplish at the bases .. ................................................................. *E. caespitosus*
   29. Basal leaves abruptly sharp-pointed, stems usually purplish at the bases .. ................................................................. *E. corymbosus*

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

30. Upper stem leaves broadly ob lanceolate to egg-shaped .......... *E. leibergii*

30. Upper stem leaves linear to lanceolate.
   31. Achenes densely hairy; ray flowers 24-45 ................... *E. poliospermus*
   31. Achenes not densely hairy; ray flowers 50-175.
   32. Basal leaves numerous, ob lanceolate; rays 125-175 ..... *E. globellus*
   32. Basal leaves few, linear to lanceolate, rarely ob lanceolate; rays 50-100 ................................................................. *E. pumilus*
Asteraceae

Erigeron annuus (L.) Pers.
annual fleabane; annual daisy

Habitat/Range:
Dry roadsid es and disturbed areas in the lowland zone; infrequent in SW BC, known only from the lower Fraser Valley; ranges throughout most of North America, native status uncertain.

Description:
General: Annual or occasionally biennial herb from a fibrous root; stems erect, usually solitary, branched above, spreading, long-haired, 0.3-1.5 m tall.
Leaves: Basal leaves stiff-hairy, coarsely toothed, elliptic to broadly egg-shaped, 1-10 cm long, 0.5-7 cm wide, or sometimes larger; stem leaves numerous, broadly lanceolate or broader.
Flowers: Heads with ray and disk flowers, several to numerous in a large, leafy inflorescence, the disks 6-10 mm wide; involucres 3-5 mm tall; involucral bracts finely glandular, sparsely long-hairy, tips tapering to a slender tip; ray flowers about 80-125, white, 0.5-1 mm wide, up to 10 mm long; disk flowers 2-2.8 mm long.
Fruits: Achenes hairy, 2-nerved; pappus double, the outer of short bristly scales, the inner of 10-15 short, fragile bristles, these lacking from the ray flowers.

Erigeron aureus Greene
golden fleabane; golden daisy

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

Description:
General: Perennial herb from a branching, thickened stem-base; stems erect, several, simple, finely hairy with short, appressed or loose hairs, 1.5-15 cm tall.
Leaves: Basal leaves abruptly contracted to stalked, with broad, elliptic to egg-shaped or almost round blades, entire, 0.5-8 cm long, 4-13 mm wide, hairy like the stems; stem leaves few, reduced and narrow.
Flowers: Heads with ray and disk flowers, solitary, the disks 7-16 mm wide; involucres 5-8 mm tall; involucral bracts loose, equal, leafy and sometimes tinged with red, sparsely to densely long woolly-hairy, the hairs sometimes with purple cross-walls; ray flowers mostly 25-70, yellow, 6-9 mm long, 1.4-2.5 mm wide; disk flowers 3.5-5.0 mm long.
Fruits: Achenes hairy, 2-nerved; pappus double, inner of 10-25 bristles, outer of short bristles or narrow scales.
Notes: T. austus (Haplopappus) hyalii, a somewhat similar alpine species, is easily distinguished from Erigeron aureus by its abundance of glands.

Erigeron caespitosus Nutt.
tufted fleabane; tufted daisy

Habitat/Range:
Dry grassy river terraces or meadows in the montane to alpine zones (S Rocky Mountains); infrequent in EC and extreme SE BC; N to AK, YT and NT, E to MB, and S to NE, AZ and WA.

Description:
General: Perennial herb from a stout taproot and a thickened stem-base; stems curved or decumbent at the base, several, simple, hoary with short, dense, spreading hairs, 5-30 cm tall.
Leaves: Basal leaves triple-nerved, lanceolate or spoon-shaped, entire, apex usually rounded or obtuse, 2-14 cm long, 2-15 mm wide, hairy like the stems; stem leaves several to many, egg-shaped-oblong to linear, reduced upwards.
Flowers: Heads with ray and disk flowers, solitary to many, the disks 9-19 mm wide; involucres 4-7 mm tall; involucral bracts glandular and usually grey-hairy, strongly to slightly graduated, evidently thickened on the back, lance-oblong, tapering to a slender tip; ray flowers 30-100, blue, white, or pink, 5-15 mm long. 1-2.5 mm wide; disk flowers 3.2-4.4 mm long.
Fruits: Achenes 2-nerved, hairy; pappus double, the inner of 14-25 firm bristles, the outer evident with short bristly scales.

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ASTERACEAE

*Erigeron compositus* Pursh var. *glabratum* Macoun

**cut-leaved daisy**

**Habitat/Range:**
Dry rocky meadows, scree slopes, fellfields and gravelly river terraces from the steppe to alpine zones; common throughout BC; N to AK, YT and NT; E to NP and S to AZ and CA.

**Description:**
- **General:** Perennial herb from a taproot and stout, thickened stem-base; stems erect, simple, densely glandular and spreading-hairy to nearly glabrous, 3-25 cm tall.
- **Leaves:** Basal leaves 2-4 times divided in 3’s, hairy like the stems, 5-8 cm long (including the long stalk); stem leaves few, reduced, mostly linear and entire.
- **Flowers:** Heads with ray and disk flowers (sometimes discoid), solitary, the disks 8-20 mm wide; involucres 5-10 mm tall; involucral bracts thin, subequal and purplish, at least at the tips; ray flowers 20-60, white, pink or blue, up to 12 mm long and 2 mm wide; disk flowers 3-5 mm long.
- **Fruits:** Achenes 2-nerved, long-stiff-hairy; pappus simple, of 12-20 bristles.

Notes: The var. *discoides* A. Gray, although known from adjacent WA and YT, has yet to be collected in BC. Most BC material named such are misidentifications of *E. salishii* and *E. trifidus*.

*Erigeron corymbosus* Nutt.

**long-leaved fleabane; long-leaved daisy**

**Habitat/Range:**
Dry grassy or shrubby slopes and forest openings in the steppe and lower montane zones; frequent in SC and SE BC; S to ID, MT, WY and E OR.

**Description:**
- **General:** Perennial herb from a taproot and thickened stem-base; stems erect, simple or few-branched above; generally purplish and curved at the base, densely spreading-hairy, 10-50 cm tall.
- **Leaves:** Basal leaves triple-nerved, linear-lanceolate, entire, abruptly sharp-pointed, tapering gradually to the stalk, 2-25 cm long (including the stalk), 3-10 mm wide, hairy like the stems; stem leaves several to many, gradually reduced upwards, linear to linear-lanceolate.
- **Flowers:** Heads with ray and disk flowers, solitary to many, the disks 7-13 mm wide; involucres 5-7 mm tall; involucral bracts hoary with stiff, appressed hairs, sticky or obscurely glandular, somewhat graduated, not much thickened on the back; ray flowers 35-65, deep blue, occasionally pink, 7-13 mm long, 1.2-2 mm wide; disk flowers 3-5.3 mm long.
- **Fruits:** Achenes 2-nerved, hairy; pappus double, the inner of 20-30 firm bristles, the outer of bristles or scales.

*Erigeron divergens* T. & G. var. *divergens*

**diffuse fleabane; spreading fleabane; diffuse daisy**

**Habitat/Range:**
Dry grassy or shrubby slopes in the steppe zone; frequent in SC and SE BC; E to AB and S to AZ and CA.

**Description:**
- **General:** Annual, biennial or short-lived perennial herb from a taproot; stems erect, usually branched above, short spreading-hairy, 10-70 cm tall.
- **Leaves:** Basal leaves oblanceolate or spoon-shaped, entire, up to 1.0-7.5 cm long (including the stalk), 1-10 mm wide, deciduous, hairy like the stems; stem leaves numerous, linear to oblanceolate, mostly less than 4 cm long and 5 mm wide.
- **Flowers:** Heads with ray and disk flowers, several to many, the disks mostly 7-11 mm wide; involucres 4-5 mm tall; involucral bracts spreading-hairy and finely glandular, with broad, brown midveins, otherwise light yellowish-green; ray flowers 75-150, blue, pink or white, 5-10 mm long, 0.5-1.2 mm wide; disk flowers 2-3 mm long.
- **Fruits:** Achenes 2-4-nerved, sparsely hairy; pappus double, the inner of 5-12 fragile bristles, the outer of short, narrow scales.
Erigeron compositus var. glabratu

Erigeron corymbosus

Erigeron divergens var. divergens
**Asteraceae**

_Erigeron filifolius_ Nutt. var. filifolius

_thread-leaved fleabane; thread-leaved daisy_

**Habitat/Range:**
Dry grassy or shrubby slopes and open forests in the steppe and lower montane zones; common in SC and SE BC; S to MT, WY and CA.

**Description:**
General: Perennial herb from a taproot and branched, woody stem-base; stems ascending to erect, simple to branched above, with finely-appressed, stiff, basally-swollen hairs, densely so at the base, 10-50 cm tall.
Leaves: Basal leaves linear to threadlike, entire, 1-8 cm long, 0.3-3 mm wide, hairy like the stems; stem leaves similar, evenly distributed along the stem, gradually reduced upwards.
Flowers: Heads with ray and disk flowers, solitary or several, the disks 5-15 mm wide; involucres 4-6 mm tall; involucral bracts with closely-appressed, long, stiff, basally swollen hairs and/or finely glandular, somewhat thickened on the back, subequal; ray flowers 15-50 (70), blue, sometimes pink or white, 3-13 mm long, 1-2 mm wide; disk flowers about 2.5-4.4 mm long.
Fruits: Achenes 2-nerved, more or less hairy or glabrous; pappus simple, of 20-30 slender but firm, white bristles, rarely with inconspicuous outer scales.

_Erigeron flagellaris_ A. Gray var. flagellaris

_trailing fleabane; trailing daisy_

**Habitat/Range:**
Dry grassy or shrubby slopes in the lowland and steppe zones; frequent in SC BC, rare in SW BC (Texada Island); disjunct in BC and SW AB, S to SD, WY, TX and AZ.

**Description:**
General: Biennial or short-lived perennial herb from a taproot; stems erect, simple, slightly to moderately appressed-hairy, or basal hairs obscurely spreading-hairy, with leafy trailing stems, 5-40 cm tall.
Leaves: Basal leaves oblanceolate, entire or toothed, 1-7 cm long (including the stalk), 1.5-9 mm wide; stem leaves few, linear to linear-oblancoate, mostly 1-3 cm long, 1-4 mm wide.
Flowers: Heads with ray and disk flowers, mostly solitary, the disks 7-13 mm wide; involucres 3.5-5 mm tall; involucral bracts finely glandular, sparsely to moderately appressed stiff-hairy, outer bracts usually narrower than the inner ones; ray flowers 50-100 (125), white or occasionally pink or blue, 5-10 mm long, about 1 mm wide; disk flowers 2.5-3.5 mm long.
Fruits: Achenes 2-nerved, sparsely hairy to glabrous; pappus double, the inner of 10-15 bristles, the outer of fine, inconspicuous scales.

Notes: Except for a few collections in SW AB our plants are about 1200 km away from the northern extent of their main range in SD.

_Erigeron glabellus_ Nutt. ssp. pubescens (Hook.) Cronq.

_smooth daisy_

**Habitat/Range:**
Moist to mesic streamsides, meadows and open forests in the montane zone; frequent in SE BC, rare in NE BC (Peace River); N to AK, YT and NT, E to AB, and S to WI, ND and CO.

**Description:**
General: Biennial or perennial herb from fibrous roots; stems erect, usually branched, sparsely to densely hairy with stiff, spreading hairs, 7-70 cm tall.
Leaves: Basal leaves oblanceolate, entire to irregularly toothed, abruptly sharp-pointed to obtuse or rounded at the tip, tapering gradually to the winged stalk, 1-15 cm long (including the stalk), 2-18 mm wide, hairy like the stems; stem leaves similar to the basal, becoming linear to bractlike upwards.
Flowers: Heads with ray and disk flowers, solitary to many, usually borne on long, nearly naked stalks, the disks 10-20 mm wide; involucres 5-9 mm tall; involucral bracts subequal or slightly graduated, linear, with long-pointed tips, appressed stiff-hairy, not glandular, often with an evident brown midvein; ray flowers 125-175, blue or pink, rarely white, 8-15 mm long, about 1 mm wide; disk flowers 4.0-5.5 mm long.
Fruits: Achenes 2-nerved, hairy; pappus double, the inner of bristles, the outer of sometimes sparse scales.
Erigeron filifolius var. filifolius

Erigeron flagellaris var. flagellaris

Erigeron glabellus ssp. pubescens
ASTERACEAE

_Erigeron grandiflorus_ Hook.

*large-flowered daisy*

**Habitat/Range:**
Dry meadows and rocky slopes in the alpine zone, infrequent in E BC; N to AK and YT and E to SW AB.

**Description:**
*General:* Perennial herb from a taproot; stems erect, simple, solitary, sparsely to moderately soft-hairy, 4-25 cm tall.

*Leaves:* Basal leaves oblanceolate to linear or lanceolate, tapering to the stalk, 1-11 cm long, 4-10 mm wide, conspicuously long-hairy; stem leaves similar, reduced upwards.

*Flowers:* Heads with ray and disk flowers, solitary, the disks 10-20 mm wide; involucres 8-10 mm tall; involucral bracts densely long-hairy, the tips sometimes glandular, not graduated; ray flowers 60-125, blue, 10-15 mm long, 1-2 mm wide; disk flowers mostly 3-5 mm long.

*Fruits:* Achenes 2-nerved, densely stiff-hairy; pappus double, the inner of 10-20 bristles, the outer of a few very slender and inconspicuous scales.

_Erigeron humilis_ Grah.

*arctic daisy*

**Habitat/Range:**
Wet to moist seepage areas and meadows in the montane to alpine zones; common throughout N BC, rare in S BC; N to AK, YT and NT; E to PQ and S to MT and N WA.

**Description:**
*General:* Perennial herb from a short taproot or a short, brittle, woody stem-base and often some fibrous roots; stems generally lax, erect or ascending, more or less spreading long-hairy, the hairs, especially the upper ones, usually with some purple cross-walls, 1-25 cm tall.

*Leaves:* Basal leaves oblanceolate or occasionally spoon-shaped, 1-9 cm long, 1.5-11 mm wide; stem leaves reduced upwards, linear or linear-lanceolate, the lowermost abruptly sharp-pointed, the uppermost tapering to a slender tip.

*Flowers:* Heads with ray and disk flowers, solitary, the disks 10-20 mm wide; involucres 6-9 mm wide; involucral bracts subequal, more or less densely long woolly-hairy, the hairs with dark purple or blackish cross-walls (rarely without or with only a few purplish crosswalls) narrow, loose, tapering to a slender tip, generally heavily tinted blackish-purple, rarely more greenish; ray flowers 50-150, white to purplish, 3.5-6 mm long, 0.5-1 mm wide; disk flowers 2.4-4.8 mm long.

*Fruits:* Achenes 2-nerved, more or less hairy; pappus double, the inner of about 20-30 bristles, these exceeding the disk flowers, the outer of a few short and inconspicuous scales.

Notes: Some specimens (in or near populations of normal plants) from northern BC and YT have whitish involucral hairs that lack or have only a few purplish crosswalls (Douglas 1995). These plants are extremely difficult to separate from _Erigeron annuiflorus_ ssp. _eriocephalus_ with which they may be hybridizing.

_Erigeron lanatus_ Hook.

*woolly daisy*

**Habitat/Range:**
Dry scree and talus slopes in the alpine zone; frequent locally in E BC; E to SW AB and S to MT.

**Description:**
*General:* Perennial herb from a slender branching stem-base; stems leafless, simple, loosely woolly long-hairy, the hairs tangled, especially upwards, 2-5 cm tall.

*Leaves:* Basal leaves oblanceolate, 0.5-3 cm long, 1-5 mm wide, sometimes 3-toothed at the tips, loosely woolly long-hairy to soft-hairy, the margins often reddish; stem leaves lacking.

*Flowers:* Heads with ray and disk flowers, solitary, the disks 12-23 mm wide; involucres 9-13 mm tall; involucral bracts moderately to copiously woolly-hairy; ray flowers 30-100, white or sometimes blue to pink, 8-11 mm long, 1.4-2.0 mm wide; disk flowers 4.5-6.5 mm long.

*Fruits:* Achenes 2-nerved, nearly glabrous or finely stiff-hairy; pappus double, the inner of 15-35 slender white, often twisted bristles, the outer of a few very slender, inconspicuous scales.
**Asteraceae**

**Brigeron leibergii** Piper

_Leiberg's fleabane; Leiberg's daisy_

**Habitat/Range:**

Dry open slopes in the montane zone; rare in SC BC, known only from the Ashnola River valley; S to northcentral WA.

**Description:**

*General:* Perennial herb from a stout, branching stem-base; stems ascending to erect, simple or sometimes few-branched, sparsely stiff long-hairy, more or less glandular, 6-25 cm tall.

*Leaves:* Basal leaves broadly oblanceolate to egg-shaped or elliptic, with short to long stalks, 1-12 cm long (including the stalks), 0.5-2.0 cm wide, sometimes 3-nerved or only obscurely so with a prominent midvein, sometimes irregularly toothed on the margins, round or abruptly sharp-pointed at the tips, hairy like the stems; stem leaves numerous, unstalked, reduced upwards, egg-shaped to oblong.

*Flowers:* Heads with ray and disk flowers, solitary, rarely up to five, the disks 7-14 mm wide; involucres 5-8 mm tall; involucral bracts sparsely to moderately stiff long-hairy and densely to obscurely glandular, thin, green, loose, slender; often purplish at the tip; ray flowers 20-45, blue or pink or rarely white; disk flowers 3.0-4.3 mm long.

*Fruits:* Achenes 2-nerved, sparsely stiff-hairy; pappus simple or nearly so, of 12-16 bristles, rarely with a few small, outer scales.

**Brigeron linearis** (Hook.) Piper

#linear-leaved daisy_

**Habitat/Range:**

Dry grasslands and shrublands in the steppe zone; frequent in SC and SE BC; S to MO, OR and N NV.

**Description:**

*General:* Perennial herb from a stout root and a branched stem-base; stems erect, several, simple, with more or less straight, appressed-hairy, usually glabrous at the somewhat enlarged base, straw-coloured to sometimes purplish, 5-30 cm tall.

*Leaves:* Basal leaves sparsely to copiously appressed straight-hairy, linear to narrowly linear-lanceolate, 1-9 cm long, 0.5-3.0 mm wide; stem leaves few, similar but reduced.

*Flowers:* Heads with ray and disk flowers, solitary or occasionally 2 or 3, the disks 8-13 mm wide; involucres 4-7 mm tall; involucral bracts more or less appressed or long straight-hairy; ray flowers 20-45, bright or sometimes pale yellow, 4-11 mm long, 1.3-2.5 mm wide; disk flowers 3.5-5.3 mm long.

*Fruits:* Achenes 2-nerved, moderately short-hairy; pappus double, the inner of 10-20 firm bristles, the outer of short scales.

**Brigeron ochroleucus** Nutt. var. *scribneri* (Canby ex Rydb.) Cronq.

(buff daisy)

**Description:**

**Habitat/Range:**

Dry scree and talus slopes in the alpine zone; rare in SE BC, known only from Mount Assiniboia; B to SK and S to SD, NE and WY.

**Description:**

*General:* Perennial herb from a taproot and a crown or short-branched stem-base; stems erect, simple, usually solitary, closely stiff-hairy with appressed hairs, 1-40 cm tall.

*Leaves:* Basal leaves linear to linear-oblanceolate, more or less straight-hairy with appressed hairs, 1-12 cm long, 0.5-5 mm wide, their bases slightly or moderately enlarged and whitish or purplish; stem leaves similar, linear, reduced upwards, often bractlike.

*Flowers:* Heads with ray and disk flowers, solitary or few, the disks 6-18 mm wide; involucres 4.5-8 mm tall; involucral bracts more or less densely stiff long-hairy, also somewhat glandular, subequal, sometimes with a brown midrib, usually with purplish tips; ray flowers 20-80, blue, purple or white, 4-12 mm long, 1.2-2.4 mm wide; disk flowers 2.8-4.3 mm long.

*Fruits:* Achenes 2-nerved, stiff- or long-hairy; pappus double, the inner of 10-20 firm bristles, the outer of short, usually conspicuous scales.
Erigeron leibergii

Erigeron linearis

Erigeron ochroleucus var. scribneri
**Asteraceae**

*Erigeron pallens* Cronq. *E. purpuratus auct. non Greene*

**purple daisy**

**Habitat/Range:**
Dry scree and talus slopes in the alpine zone; frequent throughout most of BC; N to AK, YT and NT and E to AB.

**Description:**

*General:* Perennial herb from a diffuse, slenderly-branching stem-base; stems ascending, usually solitary, simple, finely glandular and more or less long-hairy, 1-10 cm tall.

*Leaves:* Basal leaves oblanceolate to spoon-shaped, sparsely to moderately long-hairy, often more or less glabrous with maturify, sometimes obscurely glandular, 0.5-3 cm long, 1-5 mm wide, some of them 3-lobed at the tips, the lobing more common in S BC; stem leaves similar, few or lacking, greatly reduced.

*Flowers:* Heads with ray and disk flowers, disks 6-15 mm wide; involucres 5-10 mm tall; involucral bracts glandular long-hairy, the multicellular hairs often with purplish crosswalls, subequal, with long-pointed tips, green, yellowish or purplish towards the tips; ray flowers 50-90, white, purplish or pinkish, 4-5 mm long, 0.5-0.9 mm wide; disk flowers 3.5-5 mm long.

*Fruits:* Achenes 2-nerved, sparsely to moderately short-hairy; pappus simple or rarely double, the inner pappus of 25-40, white or sometimes reddish-purple tinted bristles, these equal to or surpassing the disk flowers by 1 mm, the outer pappus lacking or of inconspicuous scales.

*Notes:* Douglas (1989, 1995) placed *Erigeron pallens* in synonymy under *E. purpuratus* Greene after examining large amounts of material from N BC and the YT. More recently, material from extreme N AK has been recognized as different from the more southern *E. pallens* and should be recognized as *E. purpuratus* (D.E. Murray, pers. comm.).


**subalpine daisy**

**Habitat/Range:**
Wet to moist stream banks, open forests, rocky slopes and meadows in all but the steppe zone; ssp. *peregrinus* - common in and W of the Coast-Cascade Mountains, rare E of the Coast-Cascade Mountains, ssp. *callianthemus* - common throughout BC except absent on the Queen Charlotte Islands; N to AK and YT, E to AB, and S to UT, NM and CA.

**Description:**

*General:* Perennial herb from a rhizome or short, stout stem-base; stems erect, simple, glabrous to moderately long-hairy below, usually densely long-hairy beneath the heads, 5-70 cm tall.

*Leaves:* Basal leaves linear-lanceolate to linear-oblongate or broadly oblanceolate to spoon-shaped, tapering to the stalk, glabrous, often long-fringed with small hairs on the margins or sometimes sparsely long-hairy on the main veins or over the entire surfaces, 1-20 cm long, 0.2-4.5 cm wide; lower stem leaves similar; middle and upper stem leaves linear to broadly egg-shaped, occasionally more or less clasping, up to 8 cm long and 3 cm wide, sometimes lacking in smaller forms.

*Flowers:* Heads with ray and disk flowers, mostly solitary, sometimes as many as 8, the disks 10-25 mm wide; involucres 7.5-11 mm tall; involucral bracts glandular and rarely with a few hairs (ssp. *callianthemus*) or long-hairy or sometimes sticky and fringed with small hairs (ssp. *peregrinus*), linear, tapering to a slender tip, loose, mostly rather leafy and about equal; ray flowers 30-80, reddish- to dark-purple, lavender or sometimes white, 8-25 mm long, 2-4 mm wide; disk flowers 4-6 mm long.

*Fruits:* Achenes asymmetrically 4- to 7-nerved, sparsely hairy; pappus single and of 20-30 bristles or double and the outer of a few scales.

*Notes:* Cronquist (1947) has provided the only comprehensive treatment for this extremely variable complex. Unfortunately, he was unable to observe all seven varieties he recognized in the field. In the Pacific Northwest these varieties, which were based mainly on plant size and leaf shape, often grew together and show a continuous variation reflecting the harshness of the micro-habitats. Even the two subspecies recognized here intergrade frequently where the ranges overlap in BC and WA. The two subspecies may be separated as follows:

1. Involutural bracts long-hairy or sometimes sticky and fringed with small hairs margins ...... ssp. *peregrinus*
2. Involutural bracts glandular, rarely with a few long hairs .................. ssp. *callianthemus* (Greene) Cronq.
Erigeron pallens

Erigeron peregrinus ssp. peregrinus

Erigeron peregrinus ssp. callianthemus
**Asteraceae**

*Erigeron philadelphicus* L. (*E. philadelphicus* var. *glaber* Henry)

**Philadelphia fleabane; Philadelphia daisy**

**Habitat/Range:**
Moist to mesic grasslands, shrublands and open forests in the lowland, steppe and montane zones; frequent throughout all but NW BC; N to YT and NT, E to NF and S to FL, TX and CA.

**Description:**
- **General:** Biennial or short-lived perennial herb with a short, simple stem-base, rarely annual; stems erect, usually solitary, branched above, more or less hairy with long, spreading hairs, occasionally nearly glabrous, 20-70 cm tall.
- **Leaves:** Basal leaves broadly oblanceolate to egg-shaped, coarsely round-toothed or lobed, rounded at the tips, hairy like the stems, narrowly tapering to a short stalk, 15-30 cm long, 1.5-12 cm wide; stem leaves similar, becoming reduced and unstalked upwards, clasping at the base, round- to sharp-toothed.
- **Flowers:** Heads with ray and disk flowers, 1 to many in an open inflorescence; the disks 6-15 mm wide; involucres 4-6 mm tall; involucral bracts more or less stiff-hairy with flattened hairs or sometimes nearly glabrous, tapering to a slender tip, equal, light greenish or brownish with the translucent margins occasionally purplish; ray flowers numerous, about 150, deep pink to reddish-purple or white, 5-10 mm long. 0.2-0.6 mm wide; disk flowers 2.5-3.2 mm long.
- **Fruits:** Achenes 2-nerved, sparsely hairy; pappus of 20-30 bristles, often shorter than the disk flowers.

*Erigeron poliospermus* A. Gray var. *poliospermus*

**cushion fleabane; cushion daisy**

**Habitat/Range:**
Dry rocky slopes in the steppe zone; rare in extreme SC BC; S to ID and OR.

**Description:**
- **General:** Perennial herb from a taproot and short-branched stem-base; stems erect, simple or occasionally branched in larger forms, solitary, sparsely to densely stiff-hairy, obscures to moderately glandular, 3-30 cm tall.
- **Leaves:** Basal leaves linear-oblanceolate to spoon-shaped, hairy and glandular like the stems, long-stalked, 1-8 cm long, 1-12 mm wide; stem leaves similar, few, mostly linear, somewhat reduced upwards.
- **Flowers:** Heads with ray and disk flowers, solitary or occasionally several in larger forms, the disks 9-20 mm wide; involucres 5-9 mm tall; involucral bracts sparsely to densely stiff-hairy with long, white hairs, obscurely to conspicuously glandular, more or less equal, green, sometimes with brown midveins and narrow, papery margins; ray flowers 15-45, pink or purple to deep blue or violet, 5-14 mm long, 1.3-3.6 mm wide; occasionally reduced and inconspicuous or lacking; disk flowers 4.0-6.5 mm long.
- **Fruits:** Achenes 2-nerved, densely, long, silky-hairy, these appressed or ascending and sometimes obscuring the outer pappus; pappus double, the inner of 20-30 firm bristles, the outer of well-developed short scales.

*Erigeron pumilus* Nutt. var. *intermedius* Cronq.

**shaggy fleabane; shaggy daisy**

**Habitat/Range:**
Dry grasslands or shrublands in the steppe zone; common in S BC; E to SK and KS and S to AZ, NM, and CA.

**Description:**
- **General:** Perennial herb from a taproot and a short to long, little- to much-branched stem-base; stems erect, simple to much-branched, with stiff, spreading hairs, often also finely glandular and slightly sticky, especially beneath the heads, 5-30 cm tall.
- **Leaves:** Basal leaves oblanceolate, gradually tapered to the stem-bases, stiff-hairy, sometimes sparsely so, 2-8 cm long, 1-8 mm wide, fewer and soon deciduous in larger forms; stem leaves similar or sometimes lacking, reduced upwards.
- **Flowers:** Heads with ray and disk flowers, solitary to numerous, sometimes as many as 75, the disks 7-15 mm wide; involucres 4-7 mm tall; involucral bracts sparsely to densely spreading stiff-hairy, subequal to equal, the tips long-pointed, green with brown midveins and sometimes narrow, papery margins; ray flowers 50-100 or more, usually white, sometimes pale pink or blue, 6-15 mm long, 0.7-1.5 mm wide; disk flowers 3-5 mm long.
- **Fruits:** Achenes 2-nerved, sparsely to moderately short-hairy; pappus double, the inner of 15-27 bristles, the outer of well-developed scales, sometimes intermingled with the inner bristles.
Erigeron philadelphicus

Erigeron poliospermus var. poliospermus

Erigeron pumilus var. intermedius
**Asteraceae**

*Erigeron salishii* G.W. Dougl. & Packer

**Salish daisy**

**Habitat/Range:**
- Dry scree and talus slopes in the alpine zone; rare in SW BC, known only from central Vancouver Island; S to N WA.

**Description:**
- General: Perennial herb from a compact, multibranched stem-base; stems sparsely to densely stiff-hairy with long, white, partitioned, spreading hairs and usually sparsely to densely glandular-hairy as well, often densely woolly-hairy just below the heads, these hairs sometimes with purplish crosswalls, 2-7 cm tall.
- Leaves: Basal leaves 0.3-1.6 cm long, mostly three-lobed, rarely two-lobed or entire, the basal segments 0.5-1 mm wide, the sides parallel, the lobes 2-6 mm long, oblong to egg-shaped, obtuse to abruptly sharp-pointed, coarsely fringed with small hairs, sparsely to densely stiff-hairy above and below and sometimes glandular as well, previous year's leaves persistent; stem leaves scalelike, single or often lacking.
- Flowers: Heads with ray and disk flowers, solitary; involucres 5-7 mm tall; involucral bracts densely stiff-hairy with long, white, partitioned hairs, these often with inconspicuous, purplish crosswalls, often sparsely to densely glandular-hairy as well, purplish or sometimes purple-tipped, narrowly lanceolate, tapering to a slender tip; ray flowers 15-30, white or blue to purplish-blue, 6-10 mm long, 0.5-1.5 mm wide; disk flowers 3.5-4.5 mm long.
- Fruits: Achenes nerveless, sparsely to densely hairy; pappus of 15-20 bristles.

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 open slopes and forests in the montane zone; common in S BC east of the Coast-Cascade Mountains, less frequent northward and west of the Coast-Cascade Mountains; E to SD and S to AZ and NM.

**Description:**
- General: Perennial herb from a more or less branched stem-base; stems erect, usually several, branched, glabrous or sometimes slightly hairy or glandular in the inflorescence, 15-80 cm tall.
- Leaves: Basal leaves oblong to broadly spoon-shaped, narrowed to winged stalks, 5-15 cm long (including the stalk), 0.4-2 cm wide, entire, margins fringed with small hairs, glabrous or sometimes with a few hairs along the main veins, usually withered or deciduous by flowering time; lower stem leaves similar to the basal leaves, middle stem leaves as large or larger, narrowly lanceolate to broadly egg-shaped, abruptly sharp-pointed or sometimes obtuse, unstalked, somewhat clasping, occasionally minutely glandular.
- Flowers: Heads with ray and disk flowers, 1-13, the disk 11-22 mm wide; involucres 6-9 mm tall; involucral bracts glandular, sometimes with a few long hairs, equal, narrow, with long-pointed, the tips loose; ray flowers 75-150, rarely fewer, blue or rarely white, 9-18 mm long, 0.3-1.0 mm wide; disk flowers 4.0-5.0 mm long.
- Fruits: Achenes 2- to 4-nerved, hairy; pappus double, the inner of 20-30 bristles, the outer of shorter bristles.
Erigeron salishii

Erigeron speciosus var. speciosus
ASTERACEAE

Erigeron strigosus Muhl. ex Willd. var. strigosus
rough-stemmed fleabane; rough-stemmed daisy

Habitat/Range:
Mesic to dry roadsides and disturbed areas in the lowland, steppe and montane zones; frequent in S BC, rare northward to Prince George; E to NF and S to FL and TX, native status uncertain.

Description:
General: Annual or rarely biennial herb from a fibrous root; stems erect, branched, finely-appressed straight-hairy, to moderately stiff long-hairy, sometimes almost glabrous, 30-70 cm tall.
Leaves: Basal leaves mostly oblanceolate or elliptic, tapering to the stalks, entire or toothed, 2-15 cm long, 3-25 mm wide, often deciduous, hairy like the stems; stem leaves similar, becoming reduced upwards.
Flowers: Heads with ray and disk flowers, several to numerous in an open inflorescence, the disk 5-12 mm wide; involucres 2-5 mm tall; involucral bracts finely and obscurely glandular and more or less hairy, subequal, abruptly abruptly sharp-pointed or with long-pointed tips, with brown midveins and light greenish or yellowish margins; ray flowers 50-100, white, sometimes pink or bluish, 2-6 mm long, 0.4-1.0 mm wide; disk flowers 1.5-2.6 mm long.
Fruits: Achenes 2-nerved, hairy; pappus double, the inner of 10-15 fragile bristles, these lacking from the female flowers, the outer of short bristles or scales.

Erigeron subtrinervis Rydb. var. conspicus (Rydb.) Cronq.
triple-nerved fleabane; triple-nerved daisy

Habitat/Range:
Mesic shrublands, rocky slopes, meadows and forest openings from the steppe to subalpine zones; common in S BC east of the Coast-Cascade Mountains, rare in NE BC; E to AB, and S to SD, UT, NM and NE.

Description:
General: Perennial herb from a more or less branched stem-base; stem erect, branched, sparsely hairy with long hairs, 15-90 cm tall.
Leaves: Basal leaves oblanceolate, tapering to the winged stalks, 4-13 cm long (including the stalks), 5-23 mm wide, more or less 3-nerved, entire, margins fringed with small hairs, densely hairy along the veins or more or less hairy throughout, often deciduous by flowering time; stem leaves similar, middle ones as large as those below, unstalked, somewhat clasping, 3-8 cm long, 6-27 mm wide, narrowly lanceolate to egg-shaped, rarely slightly glandular, upper ones reduced only in the inflorescence.
Flowers: Heads with ray and disk flowers, 1-21, the disks 13-20 mm wide; involucres 6-9 mm tall; involucral bracts more or less stiff-hairy and glandular; equal, narrow, with long-pointed tips, the tips loose; ray flowers 100-150, blue or rose-purple, 7-18 mm long, 0.3-1.0 mm wide; disk flowers 4-5 mm long.
Fruits: Achenes 2- to 4-nerved, hairy; pappus double, the inner of 20-30 bristles, the outer commonly bristle-like.

Erigeron trifidus Hook.
three-lobed daisy

Habitat/Range:
Dry talus and scree slopes in the upper alpine zone; rare in E BC; E to W AB.

Description:
General: Perennial herb from a compact, multibranched stem-base; stems ascending, simple, leafless, sparsely to densely glandular-hairy and stiff-hairy with long, spreading, white hairs, often densely woolly below the heads, 3-10 cm tall.
Leaves: Basal leaves 0.8-3.0 cm long, mostly three-lobed, rarely two-lobed or occasionally entire, the basal segments about 1-2 mm wide, the sides tapering to the base, the lobes 3-8 mm long, generally lanceolate to narrowly egg-shaped or oblong, the central lobes dilated at the tips, abruptly sharp-pointed, coarsely fringed with small hairs, sparsely to densely stiff-hairy above and below and sparsely glandular as well; stem leaves lacking.
Flowers: Heads with ray and disk flowers, solitary; involucres 8-12 mm tall; involucral bracts sparsely to densely glandular stiff-hairy, narrowly lanceolate, tapering to a slender tip, purple or purplish-tipped; ray flowers 20-40, white or sometimes pink, 10-15 mm long; disk flowers 3.5-4.5 mm long.
Fruits: Achenes 2-nerved, densely hairy; pappus simple, of 15-20 bristles.
Erigeron strigosus var. strigosus

Erigeron subtrinervis var. conspicuus

Erigeron trifidus

ILLUSTRATED FLORA OF BRITISH COLUMBIA
Asteraceae

Erigeron uniflorus L. ssp. eriophalus (J. Vahl) Cronq. (E. eriophalus J. Vahl.)
northern daisy

Habitat/Range:
Wet to moist meadows in the alpine and subalpine zones; rare in NW BC, known recently only from Cold Fish Lake and the Kusawak Range; circumpolar, N to AK, YT and NT.

Description:
General: Perennial herb from a simple or more or less branching stem-base and taproot; stems erect, simple or sometimes few branched, loosely long soft-hairy with more or less crinkled hairs, especially upwards, 3-35 cm tall.

Leaves: Basal leaves oblanceolate or occasionally spoon-shaped, 1.5-10 cm long, long-hairy to nearly glabrous or glabrous, entire; stem leaves few, much reduced, unstalked, narrowly lanceolate to linear or oblong.

Flowers: Heads with ray and disk flowers, solitary or sometimes several, the disks 12-30 mm wide; involucres 7-14 mm tall; involucral bracts more or less densely, long woolly-hairy with long, slender, multicellular hairs, crosswalls of the hairs clear or sometimes tinted purplish, lance-linear, tapering to a slender tip, usually dark, reddish-purple; ray flowers 100-200, white or pink to purplish, 3-6 mm long, 0.3-0.6 mm wide; disk flowers 1.5-2.2 mm long.

Fruits: Achenes 2-nerved, more or less hairy; pappus double, the inner of 20-30 bristles surpassing the disk flowers, the outer of a few small scales.

Eriophyllum lanatum (Pursh) Forbes var. lanatum
woolly eriophyllum

Habitat/Range:
Dry meadows and rocky slopes 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.

Description:
General: Perennial herb from a fibrous root; stems woolly, few- to much- branched from the base, 10-60 cm tall.

Leaves: Basal leaves few, soon deciduous; stem leaves alternate to opposite, entire to narrowly lobed, 1-8 cm long.

Flowers: Heads with ray and disk flowers, solitary on long stems; ray flowers 8-13, yellow, 1-2 cm long; involucres 9-12 mm tall; involucral bracts firm, erect, embracing the ray achenes.

Fruits: Achenes slender, 4-angled, glabrous to hairy; pappus of 6-12 translucent scales, or a toothed crown.

Eupatorium cannabinum L.
thoroughwort

Habitat/Range:
Moist ditches in the lowland zone; rare in SW BC, known only from Surrey; introduced from Europe.

Description:
General: Perennial herb from a woody stem-base; stems erect, branched above, hairy, 0.3-1.7 m tall.

Leaves: Basal leaves oblanceolate, stalked, palmately 3- to 5-pinnately cut, ultimate segments elliptic and toothed, 5-10 cm long; stem leaves lanceolate or egg-shaped, simple, hairy, more or less stalked.

Flowers: Heads discoid, in dense, terminal round-topped clusters; involucres cylindric to bell-shaped, 6-8 mm tall; involucral bracts graduated, outer ones much shorter than the inner, purple-tipped; disk flowers 5-6, reddish-mauve or whitish.

Fruits: Achenes blackish, 5-angled, glandular-dotted; pappus of numerous, hairlike bristles.
Asteraceae

Erigeron uniflorus ssp. eriocephalus

Eriophyllum lanatum var. lanatum

Eupatorium cannabinum
EUPATORIUM MACULATUM L. ssp. BRUNERI (A. Gray) G.W. DOUGL.

Joe-pye weed

HABITAT/RANGE:
Wet to moist swamp or pond margins and forest openings in the lowland zone; rare in the lower Fraser Valley; E to NF and S to UT and NM, probably introduced.

DESCRIPTION:
General: Perennial herb from a fibrous root; stems solitary, stout, branched in the inflorescence, 0.6-2.0 cm tall.

Leaves: Stem leaves opposite or whorled, mostly in 3’s or 4’s, lanceolate to lance-elliptic, narrowing abruptly to the stalk, 6-20 cm long and 2-7 cm wide, sharply saw-toothed, lower surfaces covered with spreading, curly hairs.

Flowers: Heads discoid, clustered in somewhat flat-topped clusters, rarely solitary; involucres 6.5-9 mm tall; involucral bracts graduated, often purplish; disk flowers purple, 9-22, tubular and perfect.

Fruits: Achenes 5-angled, glandular; pappus of numerous hairlike bristles.

EUTHAMIA

1. Inflorescence usually interrupted and elongate; plants glabrous and often glaucous; involucral bracts with long-pointed tips ............................................................. E. occidentalis

1. Inflorescence essentially flat-topped and compact; plants glabrous or hairy, never glaucous; involucral bracts obtuse to abruptly sharp-pointed, without long-pointed tips ........................................ E. gaminifolia

EUTHAMIA GRAMINIFOLIA (L.) NUTT. (Euthamia gaminifolia var. major [(Michx.) Mold., Solidago gaminifolia [L.] Salisb. var. major [Michx.] Fern.)

fragrant goldenrod

HABITAT/RANGE:
Moist to mesic river banks and lake shores in the steppe and montane zones; infrequent in S BC; E to NF and S to VA and NM.

DESCRIPTION:
General: Perennial herb from a creeping rhizome; stems erect, branched in the inflorescence, essentially glabrous, 0.3-1.0 m tall.

Leaves: Basal leaves lacking; stem leaves alternate, numerous, unstalked, lance-linear, 7-11 times as long as wide, up to 13 cm long and 12 mm wide, 3- to 5-nerved, glabrous or hairy, never glaucous; lower stem leaves soon deciduous.

Flowers: Heads with ray and disk flowers in a compact, flat-topped inflorescence; involucres 3-5 mm tall; involucral bracts obtuse to abruptly sharp-pointed, yellow and often green-tipped; ray flowers yellow; disk flowers yellow.

Fruits: Achenes angled or more or less cylindric, several-nerved, hairy; pappus of white, hairlike bristles.

EUTHAMIA OCCIDENTALIS NUTT. (Solidago occidentalis [Nutt.] T.& G.)

western goldenrod

HABITAT/RANGE:
Moist river banks and lakeshores in the steppe zone; frequent in SC BC; E to AB and S to NE, AZ, NM and CA.

DESCRIPTION:
General: Perennial herb from a creeping rhizome, stems erect, glabrous throughout except for the rough-hairy margins of the leaves, 0.5-2.0 m tall.

Leaves: Basal leaves lacking; stem leaves alternate, unstalked, lance-linear, 3-nerved, gland-dotted, up to 10 cm long and 1 cm wide, glabrous and sometimes glaucous; lower stem leaves soon deciduous.

Flowers: Heads with ray and disk flowers, short-stalked in an interrupted, elongated inflorescence; involucre egg shaped, 3-5 mm tall; involucral bracts with broad sharp pointed to long pointed tips, 1-nerved, straw-coloured, sometimes green-tipped; ray flowers yellow, 15-30, usually 7-22 mm long; disk flowers yellow.

Fruits: Achenes compressed, stiff-hairy; pappus of white, hairlike bristles.
Eupatorium maculatum ssp. bruneri

Euthamia graminifolia

Euthamia occidentalis
ASTERACEAE

FILAGO

1. Stems branched, these forking like ................................................................................. *F. minima*

   1. Stems branched, these appearing random and mostly alternate, not forked above.

   2. Heads in small (up to 1 cm across) clusters at the ends of branches; outer receptacular bracts woolly throughout ........................................................................................................ *F. arvensis*

   2. Heads in larger (1-2 cm across) clusters in the leaf axils as well as at the ends of branches; outer receptacular bracts woolly only at the base ........................................................................ *F. vulgaris*

Filago arvensis L.
field filago

Habitat/Range:
Dry road sides, waste areas and overgrazed grasslands and shrublands in the steppe and montane zones; frequent in extreme S BC east of the Coast-Cascade Mountains; introduced from Europe.

Description:
General: Annual herb from a fibrous root; stems erect, simple or branching, white-woolly, 3-50 cm tall.
Leaves: Basal leaves lacking; stem leaves alternate, entire, linear, abruptly sharp-pointed, 4 cm long and 5 mm wide, white-woolly.
Flowers: Heads disciform, numerous in tight clusters towards the ends of branches, egg-shaped to conic until mature, 3-5 mm tall; involucres scanty; involucral bracts few, boat-shaped, subtending outermost flowers, woolly throughout; receptacular bracts woolly, simulating an involucre; inner flowers 2-5, white, appearing perfect but often sterile, bractless; outer flowers female, bractless.
Fruits: Achenes nerveless, papillose; pappus of white, hairlike bristles.

Filago minima (Sm.) Pers.
small filago

Habitat/Range:
Moist to dry road sides, river bars and gravelly waste places in the lowland zone; rare in SW BC, known only from the Vancouver area; introduced from Europe.

Description:
General: Annual herb from a fibrous root; stems erect to ascending, several, with forking branches, greyish silky-hairy, 5-30 cm tall.
Leaves: Basal leaves lacking; stem leaves linear-lanceolate, entire, abruptly sharp-pointed, 4-10 mm long, 0.5-1.2 mm wide.
Flowers: Heads disciform, 2-7 (14), in small clusters which exceed the leaves at their base; involucres 2.3-3.5 mm tall; involucral bracts lanceolate, blunt, woolly-hairy except glabrous at the tip.
Fruits: Achenes of the outer flowers 0.8-0.9 mm long, those of the inner flowers 0.5-0.6 mm long; pappus of both flower types 2 mm long, papillose.

Filago vulgaris Lam. (*F. germanica* L.)
common filago

Habitat/Range:
Open, grassy sites and disturbed areas in the lowland zone; rare in SW BC, known only from the Gulf Islands; introduced from Europe.

Description:
General: Annual herb from a fibrous root; stems erect, branched above, greyish to green, cobwebby, 10-35 cm tall.
Leaves: Basal leaves lacking; stem leaves alternate, entire, oblanceolate, abruptly pointed at the tip, 5-10 cm long, 1.4 mm wide, greyish-green.
Flowers: Heads disciform, terminal in a dense globose cluster, additional globose clusters in the leaf axils on upper branches; involucres about 5 mm tall; involucral bracts boat-shaped, subtending outermost flowers, woolly throughout; inner flowers 2-5, appearing perfect but often sterile, bractless.
Fruits: Achenes 0.7-1 mm, ellipsoid, compressed side-to-side, finely hairy; pappus of white, hairlike bristles.
ASTERACEAE

GAILLARDIA

Gaillardia aristata Pursh
brown-eyed Susan

Habitat/Range:
Dry grasslands and shrublands in the lowland, steppe and lower montane zones, also on moist sand bars (lowland zone); common in SC and SE BC, introduced in SW BC (lower River); E to MB and S to CO, UT and N OR.

Description:
General: Perennial from a slender taproot; stems simple or slightly branched, hairy, 20-70 cm tall.
Leaves: Basal leaves (if present) entire to coarsely toothed or pinnately cut; stem leaves alternate (or lacking in dwarfed plants), entire to pinnately cut, linear-oblanceolate or the lower oblanceolate, up to 15 cm long and 2.5 cm wide, hairy.
Flowers: Heads with ray and disk flowers, solitary or few on long stalks; involucre 8-20 mm tall; involucral bracts several, overlapping, loosely hairy and spreading, with long-pointed tips; receptacles with well-developed scales which exceed the achenes; ray flowers yellow, often with purple bases, 6-16, commonly 13, 1-3.5 cm long, tips broad and 3-lobed; disk flowers brownish-purple, rarely yellow, woolly-hairy at the top.
Fruits: Achenes 3-4 mm long, faintly ribbed, densely hairy; pappus of 6-10 long-pointed, white scales.

GALINSOGA

1. Pappus scales of disk flowers tapering to a long point; pappus of ray flowers present...... G. quadriradiata
1. Pappus scales of disk flowers rounded or blunt; pappus of ray flowers minute or lacking ...... G. parviflora

Galinsoga parviflora Cav.
small-flowered galinsoga

Habitat/Range:
Mesic to dry waste places in the lowland and steppe zones; infrequent in SW and SC BC; introduced from C and S America.

Description:
General: Annual herb from a fibrous root; stems branched, appressed-hairy with some long, spreading hairs and sometimes some glandular hairs, 15-60 cm tall.
Leaves: Basal leaves lacking; stem leaves opposite, simple, stalked, narrowly egg-shaped, toothed, rarely entire, mostly glabrous, 3-5.5 cm long, 0.5-2.5 cm wide.
Flowers: Heads with ray and disk flowers, numerous in leafy-bracted clusters, the bases sparsely hairy; involucre 2-3 mm tall; involucral bracts egg-shaped; receptacles conic, covered with narrow, membranous scales; ray flowers white, about 1 mm long; disk flowers yellow, shorter than the pappus scales.
Fruits: Achenes black, those of the ray flowers compressed, sparsely short-hairy; pappus of the ray flowers minute or lacking, those of the disk flowers slightly angled, sparsely short-hairy, of 9-18 rounded or blunt, white scales with finely- or densely-fringed margins.
Gaillardia aristata

Galinsoga parviflora
Asteraceae

Galinsoga quadriradiata Ruiz & Pavon (C. ciliata [Raf.] Blake)
shaggy galinsoga

Habitat/Range:
Mesic waste places in the lowland zone; rare in SW and SC BC; Introduced from C and S America.

Description:
General: Annual herb from a fibrous root; stems branched, spreading-hairy, especially above, 20-70 cm tall.

Leaves: Basal leaves lacking; stem leaves opposite, simple, stalked, egg-shaped to narrowly egg-shaped, coarsely toothed, sparsely stiff-hairy, 3-8.5 cm long (including the stalk), 1-4 cm wide.

Flowers: Heads with ray and disk flowers, numerous in leafy-bracted clusters, the bases spreading-hairy with gland-tipped hairs; involucres 2-3 mm tall; involucral bracts egg-shaped; receptacles conic, covered with narrow, membranous scales; ray flowers white, 1-2 mm long; disk flowers yellow.

Fruits: Achenes obscurely angled, coarse-hairy, those of the disk flowers compressed; pappus of 9-14 long-pointed, white scales.

GNAPHALIUM

1. Inflorescence narrow, dense, spikelike.

2. Plants perennials; leaves linear; involucres 5-7 mm tall; involucral bracts rounded to obtuse ..................
   .............................................................................................................................................. G. sylvaticum

2. Plants annuals or biennials; leaves spoon-shaped or rounded; involucres 3-5 mm tall; involucral bracts
   abruptly sharp-pointed to long-pointed .............................................................................. G. purpureum

1. Inflorescence flat-topped to rounded, not spikelike.

3. Heads small, the involucres mostly 2-4 mm tall; heads tight-clustered, leafy-bracted; plants 15 cm tall
   (rarely up to 30 cm tall), usually much branched.

4. Leaves linear to narrowly oblanceolate, woolly hairs appressed; involucral bracts discoloured to
   the tip in mature heads ........................................................................................................ G. uliginosum

4. Leaves oblanceolate to oblong, woolly hairs notably looser; involucral bracts white to brownish
   with white tips ............................................................................................................................ G. palustre

3. Heads larger, the involucres mostly 4-7 mm tall; heads tight-clustered, not conspicuously leafy; plants
   mostly 20-90 cm tall, simple or moderately branched.

5. Plants more or less glandular-hairy, at least on the upper leaf surfaces......................... G. viscous

5. Plants more or less woolly-hairy, not at all glandular.

6. Plants perennials; leaves narrowly extending down the stem ............................................. G. microcephalum

6. Plants annuals or biennials; leaves clasping ........................................................................... G. stramineum

slender cudweed

Habitat/Range:
Dry open slopes, forest openings and recently burned forests in the lowland, steppe and montane zones; common in S BC; S to ID, MT, CO and CA.

Description:
General: Short-lived perennial herb from a woody taproot; stems several, loosely woolly, 20-70 cm tall.

Leaves: Basal and lower stem leaves, alternate, entire, more or less woolly-hairy, numerous, broadly linear,
3-10 cm long, 2-10 mm wide, narrowly extending down the stem; middle and upper stem leaves
similar, slightly reduced upward.

Flowers: Heads disciform, numerous, in tight clusters, not conspicuously leafy, in a broad, round-topped
inflorescence; involucres 4-7 mm tall; involucral bracts white to tan, woolly-hairy at the base.

Fruits: Achenes nerveless, glabrous; pappus bristles distinct, falling separately.
Galinsoga quadriradiata

Guaphalium microcephalum
Asteraceae

Gnaphalium palustre Nutt.
lowland cudweed

Habitat/Range:
Moist vernal meadows and alkaline flats in the lowland, steppe and montane zones; frequent in S BC, rare in WC BC (Bulldy River valley); E to AB and S to NM and CA.

Description:
General: Annual herb from a fibrous root; stems much branched, with irregular tufts of woolly hairs, 3-15 (30) cm tall.
Leaves: Basal leaves soon deciduous; stem leaves alternate, oblanceolate or oblong, entire, woolly-hairy, 1-3.5 cm long and 2-10 mm wide.
Flowers: Heads disciform, numerous, axillary or terminal, leafy-bracted; involucres 2-4 mm tall; involucral bracts white to brownish with white tips.
Fruits: Achenes nerveless, glabrous or with nipple-like projections; pappus bristles distinct, falling separately.

Gnaphalium purpureum L. var. purpureum
purple cudweed

Habitat/Range:
Dry waste places and open areas in the lowland zone; frequent in SW BC, rare on the Queen Charlotte Islands; introduced from more southern regions in North America.

Description:
General: Annual or biennial herb from a fibrous root; stems simple or branched, thinly woolly-hairy, 10-40 cm tall.
Leaves: Basal leaves soon deciduous; lower leaves alternate, entire, spoon-shaped, blunt or rounded, thinly woolly-hairy, 1.5-10 cm long, 0.2-2 cm wide; upper leaves similar, reduced upwards.
Flowers: Heads disciform in a narrow, dense, spikelike inflorescence; involucres 3-5 mm tall; involucral bracts graduated, the tips abruptly sharp-pointed or long-pointed, light brown, often tinged with pink or purple.
Fruits: Achenes nerveless with nipplelike projections; pappus bristles united at the base, deciduous in a ring.

Gnaphalium stramineum Kunth (C. chilense Spreng.)
cotton-battling cudweed

Habitat/Range:
Moist meadows or disturbed sites in the lowland, steppe and montane zones; infrequent in SW and SC BC; S to MT, TX and CA.

Description:
General: Annual or biennial herb from a strong taproot; stems simple or branched, loosely white-woolly, 20-90 cm tall.
Leaves: Basal and lower stem leaves oblong or lanceolate, claspings with ear-like lobes at the base, grey woolly-hairy, entire, 1.5-9.5 cm long, 1-10 mm wide; middle and upper stem leaves similar, alternate, becoming lanceolate, less clasping and reduced.
Flowers: Heads disciform, terminal, grouped into one or more dense clusters; involucres 4-6 mm tall; involucral bracts egg-shaped, straw-coloured or yellow, dry, papery, shiny, 1 mm long.
Fruits: Achenes nerveless, glabrous; pappus bristles distinct, falling separately.
**Asteraceae**

**Gnaphalium sylvaticum L.**
woodland cudweed

**Habitat/Range:**
Mesic disturbed areas in the lowland and montane zones; rare in W BC (Kitimat) and SW BC (lower Fraser Valley); introduced from E North America, Europe and Asia.

**Description:**
- **General:** Perennial herb from a fibrous root; stems erect, simple, woolly-hairy, 10-60 cm tall.
- **Leaves:** Basal leaves soon deciduous; lower leaves linear or narrowly oblanceolate, alternate, entire, woolly-hairy, 2-8 cm long, 2-10 mm wide; upper leaves similar, gradually reduced, often with smaller axillary leaves present.
- **Flowers:** Heads disciform, numerous in a narrow, spikelike inflorescence; involucres 5-7 mm tall; involucral bracts rounded to obtuse, straw-coloured, often with a conspicuous brown submarginal stripe; margins and tips paler.
- **Fruits:** Achenes nerveless, sparsely hairy; pappus bristles united at the base.

**Gnaphalium uliginosum L.**
marsh cudweed

**Habitat/Range:**
Moist to mesic streambanks, lakeshores and waste places in the lowland, steppe and montane zones; common in S BC, introduced from Europe.

**Description:**
- **General:** Annual or biennial herb from a fibrous root; stems usually much branched from near the base, glandular-hairy, 3-25 cm tall.
- **Leaves:** Basal leaves mostly lacking; stem leaves alternate, entire, linear to linear-oblanceolate, closely white or greyish woolly-hairy, unstalked, 0.8-5 cm long, 1-4 mm wide.
- **Flowers:** Heads disciform, in large, leafy-bracted, usually terminal clusters, densely woolly-hairy at the base; involucres 2-3 mm tall; involucral bracts egg-shaped to lanceolate or lance-linear; discouloured, greenish or brownish.
- **Fruits:** Achenes nerveless, glabrous or with nipple-like projections; pappus bristles distinct and falling separately.

**Gnaphalium viscosum H.B.K. (G. macounii Greene)**
sticky cudweed

**Habitat/Range:**
Mesic to dry forests in the lowland and montane zones; frequent in S BC east of the Coast-Cascade Mountains, rare in SW BC; E to PQ and S to TN, GA, and MX.

**Description:**
- **General:** Annual or biennial herb from a taproot; stems simple or branched above, conspicuously glandular-hairy becoming woolly-hairy above, 10-90 cm tall.
- **Leaves:** Basal leaves soon deciduous; stem leaves alternate, entire, lanceolate or oblanceolate or the uppermost linear-oblong, wing-margined at the base, upper surface glandular-hairy, lower surface usually woolly, sometimes glandular-hairy, 2-10 cm long, 5-20 mm wide.
- **Flowers:** Heads disciform, numerous in a flat-topped to rounded, many-headed inflorescence; involucres 5-7 mm tall; involucral bracts graduated, yellowish to whitish, abruptly sharp-pointed.
- **Fruits:** Achenes nerveless, glabrous or with nipple-like projections; pappus bristles distinct, falling separately.
**Gnaphium sylvaticum**  

**Gnaphium uliginosum**  

**Gnaphium viscosum**
ASTERACEAE

**GRINDELIA**

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

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


**Puget Sound gumweed; entire-leaved gumweed**

**Habitat/Range:**
Mesic to dry beaches, coastal bluffs, waste places and roadsides in the lowland zone; common in coastal BC; S to N CA.

**Description:**
**General:** Perennial herb from a taproot and a stout branched stem-base; stems erect or ascending, several, usually branched, nearly glabrous or with long, soft hairs, 15-80 cm tall.
**Leaves:** Basal leaves alternate, toothed or entire, lower ones oblanceolate, up to 40 cm long and 4 cm wide; stem leaves unsstalked, sometimes clasping.
**Flowers:** Inflorescence of solitary heads or a flat-topped cluster of heads; disk 1-3 cm wide; yellow rays 10-35 or more; involucral bracts slightly or moderately sticky, outer ones long slender, green-tipped, loose or spreading but not regularly reflexed.
**Fruits:** Achenes compressed, scarcely nervse; pappus of 2-feveral deciduous, firm bristles.
**Notes:** This is a highly variable species which has received various treatments. Douglas (1995) concluded that it was best to recognize only one environmentally variable species.

*Grindelia squarrosa* (Pursh) Dunal

**curly-cup gumweed**

**Habitat/Range:**
Dry roadsides and disturbed areas in the steppe and montane zones; frequent in SC and SE BC (var. *quasiperennis*), infrequent in S and NE BC (var. *serrulata* and *squarrosa*), the latter two possibly introduced; E to MN and S to TX and CA.

**Description:**
**General:** Biennial or short-lived perennial herb from a taproot and often a stout, branched stem-base; stems erect, several, branched, glabrous, 10 to 100 cm tall.
**Leaves:** Basal leaves soon deciduous; stem leaves alternate, closely and evenly toothed or entire, hairless, middle and upper mostly clasping, often sticky with resin.
**Flowers:** Heads with ray and disk flowers, solitary or in a flat-topped cluster; ray flowers yellow, 25-40, 7-15 mm long; involucres 1-9 mm tall; involucral bracts strongly resinous, regularly graduated, the green tips reflexed.
**Fruits:** Achenes nerved, usually squared off at the tip, glabrous, 2-3 mm long; pappus of several slender awns.
**Notes:** Three weakly defined varieties occur in BC and may be separated as follows:

1. Leaves entire or remotely toothed, the lower ones often irregularly toothed or somewhat pinnately cut ................................................................. var. *quasiperennis* Lunell

1. Leaves closely and evenly toothed.
   2. Upper and middle leaves 2-4 times as long as wide, mostly egg-shaped 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.
Grindelia integrifolia

Grindelia squarrosa
HELENIUM

HELENIUM autumnale L.
mountain sneezeweed

HABITAT/RANGE:
Moist to mesic streambanks, meadows and forest openings in the lowland, steppe 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.

DESCRIPTION:
General: Perennial herb from a fibrous root; stems erect, solitary or few, sometimes branched at the base, branched above, minutely hairy with upwardly-curved hairs or nearly glabrous, 0.5-1.2 m tall.

Leaves: Basal leaves soon deciduous; stem leaves alternate, numerous, glandular-dotted, usually wing-margined at the base, lanceolate, narrowing to an unstalked or almost unstalked base, shallowly toothed or nearly entire, 3-15 cm long, 5-40 mm wide.

Flowers: Heads with ray and disk flowers, several to numerous, terminal; involucres 6-8 mm tall; involuclar bracts narrow, soon deflexed; ray flowers 10-20, yellow, 3-lobed, 1-2.5 cm long, soon deflexed; disk flowers yellow.

Fruits: Achenes angled, appressed stiff-hairy on the angles; pappus of egg-shaped or lanceolate, long-pointed scales, broadened at the base, about 1/2 the length of the disk flowers.

Notes: Two varieties occur in BC.

1. Ray flowers 1-1.5 cm long; plants 15-80 cm tall ................................................... var. montanum (Nutt.) Fern.
1. Ray flowers 1.5-2.5 cm long; plants 40-120 cm tall ................................................. var. grandiflorum (Nutt.) T. & G.

HELIANTHELLE

HELIENTHELLE uniflora (Nutt.) T. & G. var. douglasii (T. & G.) W.A. Weber
Rocky Mountain helianthella; one-flowered little sunflower

HABITAT/RANGE:
Dry open slopes and forests in the steppe and lower montane zones; locally frequent in SC BC; S to MT and OR.

DESCRIPTION:
General: Perennial herb from a taproot and branching stem-base; stems erect or ascending, simple or several, harshly stiff-hairy to spreading-hairy or smooth below, 0.2-1 m tall.

Leaves: Basal leaves soon deciduous; middle and upper leaves opposite, simple, entire, roughened, lanceolate or elliptic, more or less 3-nerved, up to 15 cm long, 5 cm wide; lowermost leaves oblanceolate and smaller than those above.

Flowers: Heads with ray and disk flowers, solitary; involucral bracts lance-linear, often pointed, stiff-hairy, also with marginal hairs; ray flowers bright yellow, 13-21, 2-4.5 cm long; disk flowers yellow; involucres 12-15 mm tall.

Fruits: Achenes strongly compressed, wing-margined, finely-appressed-hairy; pappus of 2 upwardly hairy, unequal awns.

HELIANTHUS

1. Plants annuals; receptacles flat or nearly so ................................................................. H. annuus
1. Plants perennials; receptacles convex to low-conical.
2. Involucral bracts strongly overlapping; the disks purple, rarely yellow ......................... H. rigidus
2. Involucral bracts loose; the disks yellow ................................................................. H. nuttallii

276 | ILLUSTRATED FLORA OF BRITISH COLUMBIA
Helenium autumnale var. grandiflorum

Helianthella uniflora var. douglasii
Helianthus annuus L.
common sunflower

Habitat/Range:
Moist to dry waste places and disturbed areas in the steppe zone; rare in SC BC; probably introduced from the W U.S.

Description:
General: Annual herb from a fibrous root; stems erect, simple or branched above, rough stiff-hairy, 0.4-2 m tall.

Leaves: Basal leaves lacking; lower leaves opposite, often heart-shaped; middle and upper leaves alternate, stalked, toothed, egg-shaped or wider, rough stiff-hairy.

Flowers: Heads with ray and disk flowers, terminal; involucres 10-12 mm tall; involucral bracts graduated, egg-shaped to more oblong, with long-pointed tips, stiff-hairy with fringed margins; ray flowers yellow, up to 3 cm long; disk flowers numerous, reddish-purple, rarely yellow; receptacles flat, over 2 cm wide;

Fruits: Achene compressed, glabrous or obscurely hairy, over 4 mm long; pappus of 2 firm, readily deciduous bristles with enlarged, thin, papery bases.

Helianthus nuttallii T. & G. var. nuttallii
Nuttall's sunflower

Habitat/Range:
Wet to moist fields and meadows in the lowland and steppe 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.

Description:
General: Perennial herb from a rhizome and tuberous-thickened root; stems erect, simple or few, branched above, hairless below the inflorescence or with a few coarse, spreading hairs, 0.6-2 m tall.

Leaves: Basal leaves lacking; lower leaves opposite; upper leaves alternate, lanceolate to linear, short-stalked, rough-hairy, 8-16 cm long, 6-30 mm wide, entire, flat, 3-nerved at the base.

Flowers: Heads with ray and disk flowers, solitary to few, terminal; involucres 1.0-2.0 cm tall; involucral bracts lance-linear, loose, inconspicuously hairy on the margins; ray flowers 10-16, 1.5-3 cm long; disk flowers yellow; receptacles convex to low-conic.

Fruits: Achenes moderately compressed, usually glabrous; pappus of 2 readily deciduous awns with enlarged, thin, papery bases.

Helianthus rigidus (Cass.) Desf. var. subrhomboideus (Rydb.) Cronq. (H. laetiflorus Pers. var. subrhomboideus (Rydb.) Fern., H. subrhomboideus Rydb.)
rigid sunflower

Habitat/Range:
Dry meadows, slopes and waste places in the lowland and steppe zones; infrequent in S BC, probably introduced on S Vancouver Island from the U.S.

Description:
General: Perennial herb from a stout creeping rhizome; stems erect, simple to few branched, 0.5-2 m tall, rough-hairy to almost glabrous.

Leaves: Basal leaves lacking; stem leaves leaves opposite, sometimes the lowermost ones alternate, usually lanceolate, 3-nerved, tapering to short stalks, abruptly sharp-pointed, toothed or nearly entire, 5-15 cm long, 1.5-6 cm wide, rough to short-hairy above and below.

Flowers: Heads with ray and disk flowers, solitary to few, terminal; involucres 1.0-2.0 cm tall; involucral bracts broad, spirally arranged, conspicuously hairy on the margins; ray flowers 10-21, 1.5-3 (3.5) cm long; disk flowers red-purple, rarely yellow; receptacles convex to low-conic.

Fruits: Achenes moderately compressed, usually glabrous; pappus nearly always with short scales in addition to 2 longer awns.
HETEROTHECA

Heterotheca villosa (Pursh) Shinners (Chrysopsis villosa [Pursh] Nutt. ex DC.)

**golden-aster**

**Habitat/Range:**
Dry grasslands, shrublands and open forests in the steppe 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.

**Description:**
**General:** Perennial herb from a woody base and a taproot; stems ascending, several, branched, 10-50 cm tall, hairy or glandular, or both.

**Leaves:** Basal leaves lacking; lowermost stem leaves soon deciduous, middle and upper stem leaves oblong to spoon-shaped, appressed- or spreading-hairy, sometimes glandular, entire, 1-5 cm long, 0.2-1 cm wide.

**Flowers:** Heads with ray and disk flowers, several in a flat- to round-topped inflorescence; ray flowers yellow, 10-25, 6-10 mm long; involucres 5-10 mm tall; involucral bracts arranged in a regular spiral, tapering to a point, appressed- or spreading-hairy, sometimes glandular.

**Fruits:** Achenes oblong egg-shaped, long soft-hairy; pappus double, the inner of hairlike bristles, the outer of evident scales.

**Notes:** Two varieties occur in BC.

1. Leaves and involucres with spreading hairs, sometimes these partly replaced by glands................................................................. var. hispida (Hook.) Harms

1. Leaves with appressed or nearly appressed hairs, seldom at all glandular; hairs of the involucres appressed to spreading................................................................. var. villosa

HIERACIUM 17

1. Leaves brownish-purple mottled or blotched.................................................................................. H. maculatum

1. Leaves green.

2. Flower heads pale creamish to white or orange-red.

3. Flower heads pale creamish to white; stolons lacking; native species .......................... H. albiflorum

3. Flower heads orange-red; stolons present; introduced species .......................... H. aurantiacum

2. Flower heads yellow.

4. Plants with stolons; pappus hairs in a single series with a few shorter than the rest.

5. Heads solitary on unbranched stems ...................................................................................... H. pilosella

5. Heads 2 or more on at least some branched stems.

6. Heads 1-6; involucres 9-12 mm tall ...................................................................................... H. flagellare

6. Heads 7 or more; involucres 5-9 mm tall.

7. Stems and leaves glabrous or with scattered non-glandular hairs .............. H. praecatum

7. Stems and leaves with numerous non-glandular or glandular hairs ....... H. caespitosum

4. Plants without stolons; pappus hairs in 2 series.

8. Basal leaves absent or deciduous by flowering time.

9. Largest leaves more than 2 cm wide; upper leaves unstalked with a rounded or clasping base; leaf margins not rolled under ....................................................................... H. sabaudum

17 Key adapted from Guppy (1976) and Ganders (pers. comm.).
Heterotheca villosa var. hispida
9. Largest leaves less than 2 cm wide; leaves not clasping at the base; leaf margins rolled under ............................................................... H. umbellatum

8. Basal leaves present at flowering time.
10. Basal leaves not tapered into the stalks ........................................... H. murorum
10. Basal leaves tapered into the stalks.

11. Stem leaves absent or single and reduced.
12. Involucres grey-hairy (the hairs starlike), also with some long, soft blackish hairs which may be gland-tipped, generally 1-3 mm long ...................... H. gracile
12. Involucres greyish, long soft-hairy, without glandular hairs with soft, greyish hairs, these generally 3-5 mm long, without glandular hairs .................... H. triste

11. Stem leaves several.
13. Leaves entire or nearly so; native species of undisturbed habitats in SC and SE BC .......................................................... H. scouleri
13. Leaves toothed; introduced species of disturbed habitats in SW BC .... H. lachenali

Hierarchy albiplerum Hook.
white hawkweed

Habitat/Range:
Mesic to dry roadsides, fields, grasslands, shrublands and forests in the lowland, steppe and montane zones; common throughout BC; N to AK, YT and NT; E to SK and S to CO, UT and CA.

Description:
General: Perennial herb from a woody root and often an unbranched, short stem-base; stems erect, usually solitary, branched above, loosely bristly-hairy at least at the base, becoming glabrous upwards, exuding a milky juice when broken, 0.3-1.2 m tall.
Leaves: Basal leaves oblanceolate, narrowed to a stalk, 4-25 cm long, 1.2-4.5 cm wide, sparsely or moderately bristly-hairy or the upper nearly glabrous, entire or wavy-toothed, persistent and often tufted; stem leaves lacking, or if present few, unstalked and reduced.
Flowers: Heads with strap-shaped flowers, several or many on slender stalks in a round- to flat-topped inflorescence; involucres 6-11 mm tall; involucral bracts linear-lanceolate, scarcely graduated, greenish or blackish, glabrous or often sparsely glandular with pale or black hairs, sometimes with a few bristly hairs; ray flowers white.
Fruits: Achenes narrowed at the base, several-ribbed, 2.5-3 mm long; pappus of many white to brownish bristles.

Hieracium aurantiacum L.
orange-red king devil

Habitat/Range:
Mesic to dry roadsides, fields and waste places in the lowland, steppe and montane zones; frequent in BC south of 55° N; introduced from Europe.

Description:
General: Perennial herb from a short or more often elongate rhizome and commonly with short, stout stolons; stems erect, usually solitary, leafless or with 1 or 2 reduced leaves, long bristly-hairy and also with starlike hairs and glandular above, exuding a milky juice when broken, 10-60 cm tall.
Leaves: Basal leaves oblanceolate to elliptic, narrowed to a stalked base, 4-20 cm long, 1-3.5 cm wide, usually long bristly-hairy above, oblanceolate to narrowly elliptic, entire or slightly toothed; stem leaves greatly reduced.
Flowers: Heads with strap-shaped flowers, several to many in a relatively small round- to flat-topped inflorescence; involucres 5-8 mm tall; involucral bracts lanceolate, long bristly-hairy, also with blackish gland-tipped hairs; ray flowers orange-red, drying to purple.
Fruits: Achenes narrowed at the base, 1.5-2 mm long; pappus brownish, exceeding the achene.
Hieracium caespitosum Dumort. (H. pratense Tausch)
yellow king devil
HABITAT/RANGE:
Mesic to dry roadsides, disturbed areas and waste places in the lowland zone; infrequent in SC BC, known from the lower River valley; introduced from Europe.

DESCRIPTION:
General: Perennial herb from a short, stout rhizome and long, leafy stolons; stems erect, solitary, with non-glandular, glandular and starlike hairs, exuding milky juice when broken, 25-90 cm tall.
Leaves: Basal leaves well-developed, persistent, oblanceolate to spoon-shaped, entire or minutely toothed, stalked, with non-glandular hairs and sometimes starlike hairs below, 5-25 cm long, 1-3 cm wide; stem leaves 1-3, reduced upwards.
Flowers: Heads with strap-shaped flowers, dense, few to many; involucres 5-9 mm tall; involucral bracts lanceolate, not graduated, with many non-glandular and glandular and a few starlike hairs; ray flowers yellow.
Fruits: Achenes 1.5-2 mm long; pappus dirty white.

Hieracium flagellare Willd. ssp. flagellare
flagellate hawkweed
HABITAT/RANGE:
Mesic to dry roadsides and waste areas in the lowland zone; infrequent in SW BC, known from the lower mainland; introduced from Europe.

DESCRIPTION:
General: Perennial herb from a rhizome, with numerous long, thick, leafy stolons; stems erect, branched, with dense starlike, non-glandular or glandular hairs, 12-40 cm tall.
Leaves: Basal leaves oblanceolate to spoon-shaped, stalked, entire, 3-13 cm long, 0.5-2.5 cm wide, with non-glandular and starlike hairs; stem leaves 1 or lacking, reduced.
Flowers: Heads with strap-shaped flowers, 1-6 on long stalks; involucres 9-12 mm tall; involucral bracts equal in length, with many non-glandular and glandular hairs and a few starlike hairs; ray flowers yellow.
Fruits: Achenes 1.5-2.0 mm long; pappus dirty white.

Hieracium gracile Hook. (H. triste Willd. ex Spreng. var. gracile [Hook.] A. Gray)
slender hawkweed
HABITAT/RANGE:
Moist to mesic forests, meadows, streambanks and snowbeds in the upper montane to alpine zones; common throughout BC; N to AK, YT and NT and S to N CA and NM.

DESCRIPTION:
General: Perennial herb from a short, stout rhizome; stems erect, usually solitary, sparsely branched above, glabrous to hairy, the hairs starlike or short soft-hairy and sometimes glandular, especially above, exuding milky juice when broken, 3-35 cm tall.
Leaves: Basal leaves persistent, tufted, hairless or short-hairy, toothed or entire, narrowly elliptic, 1-10 cm long, 3-15 mm wide; stem leaves few, reduced, bractlike.
Flowers: Heads with strap-shaped flowers, solitary or several; involucres 6-8 mm tall; involucral bracts linear-lanceolate, subequal, grey-hairy, the hairs starlike, also with some long, soft blackish hairs which may be gland-tipped; ray flowers yellow.
Fruits: Achenes nervé, 2-3.5 mm long; pappus tawny or sometimes white.
Notes: Easily confused with H. triste which, upon close examination, lacks glandular hairs on the stalks of the heads and involucres.
Hieracium caespitosum

Hieracium flagellare

Hieracium gracile
**Asteraceae**

**Hieracium lachenalii** K.C. Gmel. (*H. vulgatum* Fries)

**European hawkweed**

**Habitat/Range:**
Mesic to dry roadsides, gravelly riverbeds, forest openings, waste areas and disturbed areas in the lowland and montane zones; frequent in WC and SW BC; introduced from Europe.

**Description:**
General: Perennial herb from a short, stout rhizome; stems erect, usually solitary, hairy, the hairs bristly or starlike, or glabrous, exuding milky juice when broken, 20-80 cm tall.
Leaves: Basal leaves well-developed, persistent, narrowly to broadly elliptic, stalked, toothed, 1.5-15 cm long, 0.3-2.0 cm wide, with non-glandular hairs, sometimes glabrous above, sometimes with starlike hairs below; stem leaves similar, 2-10, reduced upwards.
Flowers: Heads with strap-shaped flowers, few to numerous, the stalks of the heads with non-glandular or glandular and starlike hairs; involucres 8-11 mm tall; involucral bracts narrowly lanceolate, graduated, obtuse to abruptly sharp-pointed with non-glandular or glandular and starlike hairs; ray flowers yellow.
Fruits: Achenes 2.5-3.5 mm long; pappus dull white or tawny.

**Hieracium maculatum** Sm.

**Mottled hawkweed**

**Habitat/Range:**
Mesic to dry roadsides, gravelly riverbeds, forest openings, waste areas and disturbed areas in the lowland and montane zones; frequent in WC and SW BC; introduced from Europe.

**Description:**
General: Perennial herb from a short, stout rhizome; stems erect, usually solitary, hairy, the hairs bristly or starlike, or glabrous, exuding milky juice when broken, 20-80 cm tall.
Leaves: Basal leaves well-developed, persistent, narrowly to broadly elliptic, brownish-purple mottled or blotched, stalked, toothed, 1.5-15 cm long, 0.3-2.0 cm wide, with non-glandular hairs, sometimes glabrous above, sometimes with starlike hairs below; stem leaves similar, 2-4 or rarely 8, reduced upwards.
Flowers: Heads with strap-shaped flowers, several to numerous, the stalks of the heads with non-glandular or glandular and starlike hairs; involucres 8-11 mm tall; involucral bracts graduated, obtuse to abruptly sharp-pointed with non-glandular or glandular and starlike hairs; ray flowers yellow.
Fruits: Achenes 2 mm long; pappus tawny.

**Hieracium murorum** L.

**Wall hawkweed; golden lungwort**

**Habitat/Range:**
Dry roadsides and waste areas in the lowland and steppe zones; rare in SW and SC BC; introduced from Europe.

**Description:**
General: Perennial herb from a short, stout rhizome or woody stem-base; stems erect, usually solitary, sparsely hairy, the hairs bristly or starlike, exuding milky juice when broken, 0.2-1.0 m tall.
Leaves: Basal leaves well-developed, persistent, narrowly to broadly elliptic, nearly entire to shallowly to coarsely toothed, bristly-hairy on both surfaces, long soft-hairy on the stalks, 2-13 cm long, 1.5-5.5 cm wide; stem leaves lacking or 1-many and usually reduced upwards, not densely bristly-hairy beneath, egg-shaped to elliptic, often wider than 3 cm, at least some of them toothed near the base.
Flowers: Heads with strap-shaped flowers, few to numerous in a flat- or round-topped inflorescence; involucres 8-12 mm tall; involucral bracts linear to linear-lanceolate, coarsely hairy with blackish, gland-tipped and often starlike hairs; ray flowers yellow.
Fruits: Achenes ribbed, narrowed at the base, 2.5-3.5 mm long; pappus tawny or white.

Notes: The taxonomy of the "H. murorum" group, as with many European *Hieracium*, is extremely difficult due to its polyploid-apomictic nature.
Hieracium lachenalii

Hieracium maculatum

Hieracium murorum
Asteraceae

Hieracium pilosella L.
mouse-ear hawkweed

Habitat/Range:
Dry roadsides, lawns and waste places in the lowland, steppe and montane zones; rare in S BC; introduced from Europe.

Description:
General: Perennial herb from a short, stout rhizome, stolons present; stolons mat-forming; stems erect, sticky-hairy or somewhat woolly-hairy, exuding milky juice when broken, 25-40 cm tall.

Leaves: All or mostly basal, well-developed, persistent, tawny-woolly above, densely hairy beneath, the hairs starlike, 2-13 cm long, 0.6-2 cm wide; stem leaves lacking or 1-many, reduced upwards, narrowly elliptic, entire or nearly so; leaves of the stolons similar but smaller.

Flowers: Heads with strap-shaped flowers, solitary or rarely 2; involucres 7-11 mm tall; involuclar bracts linear-lanceolate, short, coarsely hairy with black, sometimes gland-tipped hairs and occasionally long, bristly hairs; ray flowers yellow, the outer ones often with a reddish tinge on the outer surface.

Fruits: Achenes ribbed, narrowed at the base, 1.5-2 mm long; pappus tawny.

Hieracium praetaltum Vill. ex Gochnat
king devil

Habitat/Range:
Mesic to dry roadsides and waste places in the lowland, steppe and montane zones; infrequent in WC and SE BC, frequent in SC BC; introduced from Europe.

Description:
General: Perennial herb from a short, stout rhizome and long, leafy stolons; stems erect, solitary, with non-glandular, glandular and starlike hairs, or glabrous, exuding milky juice when broken, 0.4-1.0 m tall.

Leaves: Basal leaves well-developed, persistent, oblanceolate to spoon-shaped or narrowly elliptic, entire or minutely toothed, stalked, glabrous or with few to many non-glandular hairs on the margins and sometimes starlike hairs below, 3-18 cm long, 0.5-2.0 cm wide; stem leaves 1-3, reduced upwards.

Flowers: Heads with strap-shaped flowers, few to many, on stalks densely covered with starlike hairs and a few to many non-glandular to glandular hairs; involucres 5-8 mm tall; involuclar bracts lanceolate, not graduated, with non-glandular, glandular and starlike hairs; ray flowers yellow.

Fruits: Achenes 1.5-2.0 mm long; pappus dirty white.

Hieracium sabaudum L.
European king devil

Habitat/Range:
Mesic to dry forest openings, roadsides and waste places in the lowland zone; locally frequent in SW BC, known from the lower River valley; introduced from Europe.

Description:
General: Perennial herb from a short, stout rhizome, without stolons; stems erect, solitary, with non-glandular and starlike hairs, exuding milky juice when broken, 0.3-1.8 m tall.

Leaves: Basal leaves absent or deciduous at flowering time; stem leaves lanceolate, oblong-lanceolate or egg-shaped, toothed, with a round or clasping base; stalked below; unstalked above, with non-glandular hairs and sometimes starlike hairs below, 2-18 cm long, 1-4 cm wide cm wide.

Flowers: Heads with strap-shaped flowers, many, on stalks covered with non-glandular and starlike hairs; involucres 10-12 mm tall; involuclar bracts lanceolate, graduated, with non-glandular and glandular hairs or more or less glabrous, very few if any starlike hairs; ray flowers yellow.

Fruits: Achenes 2.5-3.5 mm long; pappus tawny to dirty white.
Hieracium pilosella

Hieracium praevatum

Hieracium sabaudum
**Asteraceae**

*Hieracium scouleri* Hook. (*H. alberturn* Farr = var. *alberturn*, *H. cynoglossoides* Arr.-Touv. ex A. Gray = var. *griseum*)

**Scouler's hawkweed; woolly-weed** (var. *scouleri*), **hounds-terque hawkweed** (var. *griseum*), **western hawkweed** (var. *alberturn*)

**Habitat/Range:**
Mesic to dry grasslands, shrublands and forest openings in the steppe and montane zones; common in SC and SE BC; E to AB and S to U T and CA.

**Description:**

**General:** Perennial herb from a short, often stout rhizome; stems erect, simple, solitary or few, nearly glabrous, exuding milky juice when broken, 30-100 cm tall.

**Leaves:** Basal leaves persistent, lanceolate to oblanceolate, narrowed to a stalk, 8-25 cm long, 1-3 cm wide; glabrous or with long, bristly hairs and sparse starlike hairs, entire or nearly so; stem leaves few to several, lower ones similar to the basal, the upper ones reduced.

**Flowers:** Heads with strap-shaped flowers, few to many in a flat to rounded inflorescence; involucres 7-12 mm tall; involucral bracts linear to linear-lanceolate, more or less densely bristly-hairy with long, glandless black-based bristles and obscure starlike hairs, sometimes also with gland-tipped, blackish bristles; ray flowers yellow.

**Fruits:** Achenes ribbed, 3-3.5 mm long; pappus whitish to tawny.

Notes: Until recently (Douglas 1986), the three varieties treated here were recognized at the specific level, although a number of taxonomists (Cronquist 1955, Guppy 1978) had previously suggested that they were probably better treated as infraspecific taxa. The three taxa are separated mainly by the density of bristly hairs on the plants (Guppy 1978). They may be distinguished as follows:

1. Bristly hairs 5-6 mm long, abundant throughout and often obscuring the glandular and starlike hairs of the involucre .................................................. var. *alberturn* (Farr) G.W. Doug!. & G.A. Allen

1. Bristly hairs 2-3 mm long, lacking or sparse throughout and rarely obscuring the glandular and starlike hairs of the involucre.

2. Leaves and stems usually nearly glabrous, often glaucous; involucral bracts sparsely to moderately hairy with glandular and starlike hairs .................................................. var. *scouleri*

2. Leaves and stems hairy with bristles; involucral bracts conspicuously hairy with glandular and starlike hairs .................................................. var. *griseum* (Ryd.!) A. Nels.

*Hieracium triste* Willd. ex Spreng.

**woolly hawkweed**

**Habitat/Range:**
Moist to mesic meadows, streambanks and talus slopes in the subalpine to the alpine zones; widespread in BC, especially common in N BC; amphiberian, N to AK, YT and NT and E to AB.

**Description:**

**General:** Perennial herb from a short, often stout rhizome; stems erect, simple or sometimes branched, few to several, sparsely to moderately short or long soft-hairy, sometimes sparsely glandular-hairy above, exuding milky juice when broken, 3-45 cm tall.

**Leaves:** Basal leaves persistent, tufted, narrowly elliptic, 1-16 cm long, 0.4-3.0 cm wide, entire or nearly so; stem leaves few or lacking, reduced, bractlike.

**Flowers:** Heads with strap-shaped flowers, solitary or several; involucres 5-10 mm tall; involucral bracts linear-lanceolate, subequal, greyish, long soft-hairy, without glandular hairs; ray flowers yellow.

**Fruits:** Achenes nerved, 2-3 mm long; pappus tawny or sometimes white.

Notes: Easily confused with *H. gracile* which has glandular-tipped hairs on the stalks of the heads and involucres.
**ASTERACEAE**

*Hieracium umbellatum* L. *ssp. umbellatum* (*H. scabriusculum* Schwein.)

**narrow-leaved hawkweed**

**Habitat/Range:**

Moist to dry meadows, streambanks, grasslands, shrublands and forests in the lowland, steppe and montane zones; common throughout most of BC; circumpolar, N to AK, YT and NT, E to NB and S to NJ, MI, NE, ND, CO, ID and OR; Eurasia.

**Description:**

**General:** Perennial herb from a short, stout rhizome; stems erect, branched above, solitary or several, glabrous or nearly glabrous below, with starlike hairs above and often with some short, stout, subconic hairs in the inflorescence, rarely with long, spreading hairs, exuding milky juice when broken, 0.4-1.2 cm tall.

**Leaves:** Basal and lower stem leaves small, soon deciduous at flowering time; middle stem leaves lanceolate to narrowly oblong, unstalked, often narrowed to the base, 6-10 cm long, 1-2 cm wide, entire to somewhat toothed, with starlike hairs and subconic, more or less rough, stiff hairs on the margins and veins above; upper leaves reduced.

**Flowers:** Heads with strap-shaped flowers, few to many in a flat-to round-topped inflorescence; involucres 6-13 mm tall; involucral bracts lanceolate, graduated, glabrous or nearly so; ray flowers yellow.

**Fruits:** Achenes narrowly cuneate, 3.5-5.5 mm long; pappus tawny.

Notes: Of the two subspecies recognized within *Hieracium umbellatum*, only the *ssp. umbellatum* occurs in our range. The *ssp. canadense* (Michx.) Guppy (*H. canadense* Michx.) occurs east of the Rocky Mountains (Guppy 1978).

**HYPOCHAERIS**

1. Annual; leaves essentially glabrous; strap-shaped flowers broad (twice as long as wide) and equal to the involucres; involucres 0.5-1.5 cm wide .......................... *H. glabra*

1. Perennial; leaves densely rough-hairy; strap-shaped flowers narrow (4 times as long as wide) and surpassing the involucres; involucres 2-4 cm wide .......................... *H. radicata*

*Hypochaeris glabra* L.

**smooth cat's-ear**

**Habitat/Range:**

Roadsides, pastures and waste areas in the lowland zone; frequent in SW BC, known from S Vancouver Island and the Gulf Islands; introduced from Europe.

**Description:**

**General:** Annual herb from a taproot; stems erect, solitary or more often several, simple or sparingly branched, minutely bristly or glabrous, exuding milky juice when broken, 10-40 cm tall.

**Leaves:** Basal leaves well-developed, oblanceolate, entire or lobed, glabrous to fringed on the margins, 2.5-15 cm long and 7-35 mm wide; stem leaves lacking or if present then minute and bractlike.

**Flowers:** Heads with strap-shaped flowers, solitary to many in a terminal, flat-topped inflorescence; involucres 8-10 mm tall, 0.5-1.5 cm wide, increasing to 17 mm tall in fruit; involucral bracts spirally arranged, lanceolate, glabrous; ray flowers yellow.

**Fruits:** Achenes nerved with minute projections, 4-5 mm long, inner ones with a well-developed beak as long as the body; pappus double, the inner ones of feathery bristles, the outer ones shorter and usually merely finely-barbed.
Hieracium umbellatum ssp. umbellatum

Hypochaeris glabra
**Hypochaeris radicata** L.

**hairy cat’s-ear**

**Habitat/Range:**
Mesic to dry roadsides, lawns, pastures and waste places in the steppe and lowland zones; common in SW BC, known from Vancouver Island and the Gulf Islands, also on the Queen Charlotte Islands, rare in SC BC; introduced from Europe.

**Description:**
- **General:** Perennial herb from a woody stem-base or enlarged fibrous root; stems erect, simple or more often branched, several, often spreading-hairy below, exuding milky juice when broken, 15-60 cm tall.
- **Leaves:** Basal leaves oblanceolate, densely stiff-hairy, toothed or pinnately cut, 3-35 cm long, 5-70 mm wide; stem leaves mostly lacking, represented by minute bracts.
- **Flowers:** Heads with strap-shaped flowers, several in a terminal, flat-topped inflorescence; involucres 10-15 mm tall, at flowering, up to 25 mm in fruit, 2-4 cm wide; involucral bracts graduated, bristly-hairy or glabrous; ray flowers yellow.
- **Fruits:** Achenes nerved on the beak with minute projections, 4-7 mm long, inner ones with a well-developed beak shorter or longer than the body; pappus double, the inner ones of feathery bristles, the outer ones shorter and usually merely finely-barbed.

**INULA**

**Inula helenium** L.

**elecampane**

**Habitat/Range:**
Mesic waste places in the lowland zone; rare in SW BC, known only from the lower Fraser Valley; introduced from Europe.

**Description:**
- **General:** Perennial herb from a thick fleshy rhizome; stems erect, solitary, simple or sometimes branched, finely spreading-hairy, up to 2 m tall.
- **Leaves:** Basal leaves lacking; stem leaves alternate, irregularly shallowly-toothed, velvety beneath, nearly glabrous or spreading-hairy above, lower leaves stalked and elliptic, upper leaves more or less egg-shaped, unstalked or heart-shaped and clasping at the base, 25-50 cm long, 10-20 cm wide.
- **Flowers:** Heads with ray and disk flowers with a few large flat or convex receptacles on stalks; involucres 2-2.5 cm tall; outer involucral bracts broad, densely short-hairy, inner ones narrow, more or less papery; ray flowers yellow, slender, 2.5-3 cm long; disks usually 3-5 cm wide.
- **Fruits:** Achenes 4-angled, glabrous, 4.5-5 mm long; pappus of numerous hairlike bristles, longer than the achenes.

**IVA**

1. Plants annuals; leaves long-stalked, coarsely toothed; heads not subtended by leaves .......... **I. xanthifolia**

1. Plants perennials; leaves unstalked or more or less stalked, entire, heads axillary ................. **I. axillaris**

**Iva axillaris** Pursh ssp. robustior (Hook.) Bassett

**poverty-weed**

**Habitat/Range:**
Dry disturbed areas in the steppe zone; rare in SC BC; E to MB and S to OK and CA.

**Description:**
- **General:** Perennial herb from a creeping rhizome; stems erect, branched, sparsely hairy or nearly glabrous, 15-60 cm tall.
- **Leaves:** Basal leaves lacking, lower leaves opposite, upper leaves alternate, unstalked or more or less stalked, oblong to broadly linear, 1-5 cm long, entire.
- **Flowers:** Heads disciform on short, axillary stalks, nodding, greenish-white; involucre 2-4 mm tall; involucral bracts 4-6, fused at the base; female corollas tubular, 1 mm long.
- **Fruits:** Achenes with unstalked glands, compressed, 2-3 mm long; pappus lacking.
Hypocharis radicata

Inula helenium

Iva axillaris ssp. robustior

ILLUSTRATED FLORA OF BRITISH COLUMBIA
Asteraceae

Iva xanthifolia Nutt.
mash elder

Habitat/Range:
Moist to mesic roadsides and waste places in the lowland, steppe and montane zones; infrequent throughout BC; introduced from W US.

Description:
General: Annual herb from a taproot; stems erect, simple, glabrous below, fine-hairy and glandular above, up to 2 m tall.
Leaves: Basal leaves soon deciduous; stem leaves long-stalked, broadly egg-shaped or heart-shaped, 5-20 cm long, 2.5-20 cm wide, green above, whitish short-hairy below, at least when young, coarsely toothed or doubly-toothed.
Flowers: Heads disciform, numerous in a large, terminal panicle, not subtended by the leaves; involucres 1.5-3 mm tall; the 5 outer involucral bracts larger than the 5 inner membranous bracts which partly enfold the achenes; female flowers obsolete or nearly so.
Fruits: Achenes egg-shaped, sparsely fine-hairy towards the tip, minutely pimply in lines, 1.5-2 mm long; pappus lacking.

Jaumea

Jaumea cernosa (Less.) A. Gray
fleshy jaumea

Habitat/Range:
Moist tidal beaches and salt marshes in the lowland zone; rare on S Vancouver Island; S to CA.

Description:
General: Perennial herb from a rhizome; stems succulent, mostly simple, ascending or prostrate, also rooting from the nodes, 10-30 cm tall.
Leaves: Basal leaves lacking; stem leaves succulent, opposite, simple, unstalked, linear-oblong to linear-oblanceolate, 2-6 cm long, 2-6 mm wide.
Flowers: Heads with ray and disk flowers, mostly solitary on terminal stalks; receptacles conic; involucres 8-12 mm tall; involucral bracts in 3 series, broad, rounded above, becoming pinkish upwards; ray flowers yellow, 6-10, narrow, inconspicuous, barely surpassing the yellow disk flowers.
Fruits: Achenes glabrous, 10-nerved, with a cartilaginous ring at the tip to which the disk corolla is attached; pappus lacking.

Krigia

Krigia virginica (L.) Willd.
Virginia dwarf dandelion

Habitat/Range:
Mesic forest openings and waste places in the lowland zone; rare in SW BC, known from West Vancouver, Bliss Landing and Campbell River; introduced from the E U.S.

Description:
General: Annual herb from a short taproot; stems erect, several, simple, usually spreading, glandular-hairy, exuding milky juice when broken, 3-40 cm tall.
Leaves: Basal leaves linear to oblanceolate or egg-shaped, entire to pinnately cut, glabrous to loosely long stiff-hairy, the hairs sometimes glandular, 1.5-12 cm long, 1-12 mm wide.
Flowers: Heads with strap-shaped flowers, solitary; involucres 4-7 mm tall; involucral bracts lanceolate to linear-lanceolate, reflexed in age; ray flowers yellow.
Fruits: Achenes top-shaped, 5-angled; pappus of 5 short, thin scales alternating with 5 rough bristles which are several times as long.
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; fruiting involucres 15-20 mm tall; flowers blue ........................................ L. tatarica
   2. Annuals or biennials; fruiting involucres 9-15 mm tall; flowers yellow, blue or whitish.
   3. Heads 5-flowered ............................................................................................................. L. muralis
   4. Achenes with a long, threadlike beak 1-2 times as long as the body; pappus white; introduced species .................................................................................... L. serriola
   4. Achenes beardless or with a short, stout beak less than 1/2 as long as the body; pappus brownish; native species ..................................................................................... L. biennis

Lactuca biennis (Moench) Fern.
Tall blue lettuce

HABITAT/RANGE:
Moist ditches, meadows and forest openings in the lowland, steppe and montane zones; frequent throughout most of BC, E to NF and S to NC, CO and CA.

DESCRIPTION:
General: Annual or biennial herb from a taproot; stems erect, branched above, usually solitary, glabrous, exuding milky juice when broken, 0.6-2.5 m tall.
Leaves: Basal leaves lacking; stem leaves alternate, pinnately cut or toothed, 10-40 cm long, 4-20 cm wide, sometimes hairy along the main veins, the upper ones with ear-like flanges at the base, clasping.
Flowers: Heads with strap-shaped flowers, numerous in a narrow, elongate inflorescence; involucres 9-14 mm tall; involucral bracts lanceolate, graduated, often purplish at the tip, glabrous; ray flowers bluish to white, sometimes yellow, 13-34.
Fruits: Achenes thin-edged, prominently nerves, beardless or shortly stout-beaked less than 1/2 the length of the body, 4.5-5.5 mm long; pappus brownish.

Lactuca canadensis L. var. canadensis

Canadian wild lettuce

HABITAT/RANGE:
Mesic to dry roadides, fields and waste places in the lowland, steppe and montane zones; infrequent in extreme S BC; introduced from E North America.

DESCRIPTION:
General: Annual or biennial herb from a taproot; stems erect, branched above, usually solitary, glabrous or sometimes coarsely stiff-hairy, exuding milky juice when broken, 0.3-2.5 m tall.
Leaves: Basal leaves lacking; stem leaves alternate, entire or toothed to pinnate, 10-35 cm long, 1.5-12 cm wide, triangular-shaped or narrowed at the base.
Flowers: Heads with strap-shaped flowers, numerous in a narrow, elongate inflorescence; involucres 10-15 mm tall; involucral bracts lanceolate, graduated in 4-5 series, often purplish at the tip, glabrous; ray flowers yellow, 13-22.
Fruits: Achenes blackish, flat, median nerve on each face, 4.5-6.5 mm long including the slender beak which varies from 1/2 as long to as long as the body; pappus white.
Lactuca biennis

Lactuca canadensis var. canadensis
ASTERACEAE

Lactuca muralis (L.) Fresn. (Mecis muralis [L.] Dumort.)
wall lettuce
Habitat/Range:
Moist to mesic forests in the lowland and montane zones; common in S BC, also in Queen Charlotte Islands; introduced from Europe.
Description:
General: Annual or biennial herb from a fibrous root; stems erect, branched above, solitary or more usually several, glabrous, often glaucous, exuding milky juice when broken, 30-90 cm tall.
Leaves: Basal leaves lacking; stem leaves alternate; basal and lower leaves 6-18 cm long, 3-8 cm wide, pinnately cut with a broad, ivylike terminal segment, the bases with earlike and clasping flanges, glabrous, middle and upper leaves few and reduced.
Flowers: Heads with strap-shaped flowers, numerous in a rounded inflorescence; involucres 9-11 mm tall; involucral bracts in 2 series, the outer lanceolate, the inner much reduced, linear; glabrous or nearly so; ray flowers yellow, 5.
Fruits: Achenes several-nerved, approximately 4 mm long including the 1 mm long beak; pappus white.

Lactuca serriola L. (L. scariola L.)
prickly lettuce
Habitat/Range:
Dry roadides, fields and waste places in the lowland, steppe and montane zones; common throughout S BC; introduced from Europe.
Description:
General: Biennial or winter annual herb from a fibrous root; stems erect, branched above, solitary, glabrous, exuding milky juice when broken, 0.3-1.5 m tall.
Leaves: Basal leaves lacking; stem leaves alternate, prickly on the underside midrib, finely so on the margins, pinnately lobed or sometimes lobeless, twisted at the base to lie in a vertical plane, arrow-shaped, clasping, mostly 5-30 cm long, 1-10 cm wide.
Flowers: Heads with strap-shaped flowers, numerous in a rounded inflorescence; involucres 10-16 mm tall; involucral bracts linear-lanceolate, irregularly graduated in 4 series; ray flowers yellow, often drying to blue, 13-47.
Fruits: Achenes prominently nerved, grey or yellowish, 6-7 mm long with the slender beak 1-2 times as long as the body, compressed; pappus whitish.

Lactuca tatarica (L.) C.A. Mey. ssp. pulchella (Pursh) Stebb. (L. pulchella [Pursh] DC.)
blue lettuce
Habitat/Range:
Moist to mesic meadows and shrublands in the steppe and montane zones; frequent throughout all but NW and SW BC, N to AK, YT and NT, E to ON, MN and MO and S to OR and CA.
Description:
General: Perennial herb from extensive rhizomes; stems erect, branched above, solitary, glabrous or glaucous, 0.2-1.2 m tall.
Leaves: Basal leaves lacking; stem leaves alternate, linear to lanceolate or oblong, the lower ones 5-14 cm long, 6-35 mm wide, entire or more or less pinnately cut, rarely sharply toothed, stalked, the upper ones reduced, becoming entire, unstalked to somewhat clasping.
Flowers: Heads with strap-shaped flowers, several to numerous in an elongate to rounded inflorescence; involucres 15-20 mm tall; involucral bracts narrowly egg-shaped, graduated, the outer shorter, often purplish; ray flowers blue or sometimes violet to blue, 18-50.
Fruits: Achenes oblong-lanceolate, short-beaked, the beak equaling or less than 1/2 the length of the body, compressed, several-nerved on each face, glabrous, 6-7 mm long including the prominent beak, pale brown; pappus white.
Lactuca muralis

Lactuca serriola

Lactuca tatarica ssp. pulchella
ASTERACEAE

LAPSANA

Lapsana communis L.
nipplewort

Habitat/Range:
Mesic to dry roadsides, fields and waste places in the lowland, steppe and montane zones; common in S BC, especially on S Vancouver Island and the adjacent mainland; introduced from Eurasia.

Description:
General: Annual herb from a fibrous root; stems erect, branched above, solitary, exuding milky juice when broken, 0.3-1.5 m tall.
Leaves: Basal leaves lacking; stem leaves alternate, toothed or occasionally basally lobed, egg-shaped to almost round or rounded, thin, lower ones stalked, upper ones more or less unstalked, toothed, 2.5-10 cm long, 2-7 cm wide.
Flowers: Heads with strap-shaped flowers, several to many in an elongate to rounded inflorescence; involucre 4-8 mm tall; involucral bracts linear-lanceolate, the mostly 8 bracts evidently keeled at least toward the base; ray flowers yellow, usually about 13.
Fruits: Achenes nerved, oblong, curved, tips rounded, 3-5 mm long, glabrous; pappus lacking.

LASTHENIA

Lasthenia maritima (A. Gray) Vasey (Baeria maritima A. Gray, Lasthenia minor [DC.] Ornduff ssp. maritima [A. Gray] Ornduff)
hairy goldfields; maritime goldfields

Habitat/Range:
Mesic, often nitrified from guano, rocky coastal cliffs and islands in the lowland zone; rare in SW BC; S to CA.

Description:
General: Annual herb from a fibrous root; stems prostrate or decumbent, branched, glabrous with age, 10-50 cm tall.
Leaves: Basal leaves lacking; stem leaves opposite, narrow to widely strap-shaped, blunt, somewhat fleshy, entire or lobed; glabrous, 1.5-6 cm long, 2-11 mm wide.
Flowers: Heads with ray and disk flowers, terminal on branches; involucre 4-7 mm tall; involucral bracts egg-shaped, blunt; ray flowers yellow, 7-12, 1-3 mm long; disk flowers numerous, yellow; receptacles conic.
Fruits: Achenes linear to narrowly club-shaped, glabrous or stiff-hairy; pappus of 2-4 firm bristles and 2-6 fringed scales, or lacking.
Lapsana communis

Lasthenia maritima
LEONTODON

1. Stems scaly-bracted and generally several-headed; pappus of feathery bristles; leaves glabrous or stiff-hairy with simple hairs ................................................................. L. autumnalis

1. Stems usually naked and single-headed; pappus with some shorter, merely finely-barbed outer bristles or scales, some of the marginal achenes without feathery bristles; leaves stiff-hairy with short, forked hairs .. ...................................................................................... L. taraxacoides

**Leontodon autumnalis** L.

**Habitat/Range:**
Dry to mesic roadsides, pastures and disturbed sites in the lowland, steppe and montane zones; frequent in extreme S BC; introduced from Eurasia.

**Description:**
- **General:** Perennial herb from a fibrous root and a short, woody stem-base; stems erect, solitary to several, usually branched above, glabrous except sometimes woolly-hairy in the inflorescence, 10-80 cm tall.
- **Leaves:** Basal leaves oblanceolate, 4-35 cm long, 5-40 mm wide, glabrous or stiff-hairy with simple hairs, deeply and distinctly lobed to occasionally entire; stem leaves with minute, scaly bracts.
- **Flowers:** Heads with strap-shaped flowers, terminal in a several-headed inflorescence; involucres 7-13 mm tall; involucral bracts linear-lanceolate, graduated; ray flowers yellow.
- **Fruits:** Achenes spindle-shaped, not beaked, weakly-nerved, 4-7.5 mm long; pappus of feathery bristles with dry scales at the base.


**Habitat/Range:**
Dry to mesic roadsides, lawns and pastures in the lowland zone; frequent in SW BC, known from Vancouver Island, the Gulf Islands and the lower River valley, also on the Queen Charlotte Islands; introduced from Europe.

**Description:**
- **General:** Perennial herb from a fibrous root and a short, woody stem-base; stems erect, solitary to several, simple, glabrous except sometimes woolly-hairy in the inflorescence, 10-35 cm tall.
- **Leaves:** Basal leaves oblanceolate, usually shallowly lobed, stiff-hairy with short, forked hairs, 4-15 cm long, 6-25 mm wide; stem leaves lacking.
- **Flowers:** Heads with strap-shaped flowers, solitary; involucres 7-10 mm tall; involucral bracts subequal, the inner ones lanceolate, glabrous or stiff-hairy, the outer ones reduced to small bractlets; ray flowers yellow.
- **Fruits:** Achenes spindle-shaped, the outer ones smooth with a crown of short scales, the inner ones roughened; pappus of short or long, barbed bristles.

**LEUCANTHEMUM**

1. Leaves entire, mainly basal ........................................................................................................ L. integrifolium

1. Leaves palmately lobed or pinnately cut or toothed, only the uppermost entire.
   2. Leaves spoon-shaped, the uppermost usually incised; plants introduced throughout BC ...... L. vulgare
   2. Leaves mostly wedge-shaped, sometimes only toothed at the tips, the uppermost entire; plants native on the N BC Coast ........................................................................................................ L. arcticum
Leontodon autumnalis

Leontodon taraxacoides
**Asteraceae**

*Leucanthemum arcticum* (L.) A. DC. (*Chrysanthemum arcticum* L.)

**arctic daisy**

**HABITAT/RANGE:**

Wet to moist salt marshes and gravelly shores in the lowland zone; rare on the NW coast, known only from Larcom Island in Observatory Inlet; amphithermophilous, N to AK, YT and NT and E to PQ; E Asia.

**DESCRIPTION:**

**General:** Perennial herb from a creeping rhizome or woody stem-base; stems erect, ascending or decumbent, solitary to several, simple, glabrous or sparsely woolly-hairy above, 6-40 cm tall.

**Leaves:** Basal leaves palmately lobed or pinnately cut, wedge-shaped to rounded, 1.5-16 cm long, 0.4-4.5 cm wide, glaucous or green, glabrous or woolly-hairy when young, persistent at flowering time; stem leaves alternate, reduced upwards, only the uppermost entire.

**Flowers:** Heads with ray and disk flowers, solitary with woolly-hairy bases; involucre 7-13 mm tall; involucral bracts oblong to lance-oblong, the centers greenish, the broad brown margins papery, glabrous or woolly-hairy; ray flowers white, 10-25 mm long; disk flowers yellow.

**Fruits:** Achenes nearly cylindric, usually 10-ribbed; pappus lacking.

*Leucanthemum integrifolium* (Rich.) DC. (*Chrysanthemum integrifolium* Rich.)

**entire-leaved daisy**

**HABITAT/RANGE:**

Moist to mesic gravelly sites in the alpine zone; rare in NE BC; amphithermophilous, N to AK, YT and NT and E to PQ; E Asia.

**DESCRIPTION:**

**General:** Perennial herb from a creeping rhizome or with a well-developed woody stem-base; stems erect, solitary to few, simple, glabrous or soft-hairy, 5-16 cm tall.

**Leaves:** Basal leaves linear to narrowly oblong, long-hairy on the margins, entire, 0.5-3.5 cm long, 1-2 mm wide; stem leaves single or few, linear, entire, reduced, often with brownish-translucent margins near the tip.

**Flowers:** Heads with ray and disk flowers, solitary with woolly-hairy bases; involucre 4-7 mm tall; involucral bracts oblong, the centers greenish, the broad brown margins papery, glabrous or long-hairy; ray flowers white, 8-15 mm long; disk flowers yellow.

**Fruits:** Achenes nearly cylindric, usually 5-ribbed; pappus lacking.

*Leucanthemum vulgare* Lam. (*Chrysanthemum leucanthemum* L.)

**oxeye daisy**

**HABITAT/RANGE:**

Mesic to dry roadsides, pastures and waste places in the lowland, steppe and montane zones; common throughout BC S of 56° N; introduced from Eurasia.

**DESCRIPTION:**

**General:** Perennial herb from a creeping rhizome; stems erect, solitary to several, sparingly branched, usually glabrous, with a sage-like odour, 20-80 cm tall.

**Leaves:** Basal leaves alternate, egg-shaped to spoon-shaped, stalked, pinnately lobed or toothed, 4-15 cm long; stem leaves reduced and becoming unstalked and nearly entire upwards.

**Flowers:** Heads with ray and disk flowers, solitary at the ends of branches; involucre 7-11 mm tall; involucral bracts narrowly lanceolate, with a narrow, dark-brown submarginal area; ray flowers white, 12-20 mm long; disk flowers yellow.

**Fruits:** Achenes cylindric or nearly so, black, 10-ribbed; pappus lacking.
Leucanthemum arcticum

Leucanthemum integrifolium

Leontodon taraxacoides
ASTERACEAE

LUINA

Luina hypoleuca Benth.
silverback luina

Habitat/Range:
Mesic to dry rocky slopes and cliffs in the lowland, montane and subalpine zones; frequent in SW BC, known from S Vancouver Island and the adjacent mainland; S to CA.

Description:
General: Perennial herb from a stout, branched, woody stem-base which is sometimes above a taproot; stems erect to ascending, several to many, branched above, white-woolly, 15-40 cm tall.
Leaves: Basal leaves lacking; stem leaves alternate, elliptic or more or less egg-shaped, unstalked, entire, 2-6 cm long, 7-35 mm wide, white-woolly on the lower surface, green and sparsely woolly-hairy or nearly glabrous on the upper surface.
Flowers: Heads discoid in flat-topped clusters; involucres 5-7 mm tall; involucral bracts oblong-elliptic, abruptly sharp-pointed, sparsely to moderately long-hairy, margins translucent, tips with a tuft of short hairs; discoid; disk flowers dull yellowish, 10-17.
Fruits: Achenes prominently nerved, 3-4 mm long, glabrous or sparsely long-hairy above; pappus of white hair-like bristles.

LYCODESMIA

Lygosmosia juncea (Pursh) D. Don
rushlike skeleton-plant

Habitat/Range:
Dry sandy grasslands or shrublands in the steppe zone; infrequent in extreme SC and SE BC; E to MN and S to AR and AZ.

Description:
General: Perennial herb from a creeping rhizome; stems erect or ascending, branched, marked with grooves, exuding milky juice when broken, 15-60 cm tall.
Leaves: Basal leaves lacking; stem leaves alternate, linear, 0.5-4 cm long, 1-3 mm wide, upper ones reduced to minute scales.
Flowers: Heads with strap-shaped flowers, solitary at ends of branches; involucres 9-16 mm tall; involucral bracts of two types, the inner ones narrowly oblong-elliptic, 4-8 (usually 5), the outer ones reduced and bract-like; ray flowers pink or rarely white.
Fruits: Achenes spindle-shaped, several-nerved, 6-7 mm long; pappus of numerous white, hair-like bristles.

MACHAERANTHERA

Machaeranthera canescens (Pursh) A. Gray (Aster canescens Pursh)
hoary aster

Habitat/Range:
Dry grasslands, shrublands and forest openings in the steppe and lower montane zones; frequent in SC BC; E to SK and S to CO and CA.

Description:
General: Biennial or short-lived perennial herb from a taproot; stems erect, several, branched, grey-hairy, 0.1-1.0 m tall.
Leaves: Basal leaves simple, toothed, the teeth and the leaf tips spine-tipped, linear to more egg-shaped, 1.5-10 cm long, 3-15 mm wide, often deciduous; stem leaves similar, reduced, alternate.
Flowers: Heads with ray and disk flowers, usually numerous in a rounded inflorescence; involucres 6-10 mm tall; involucral bracts linear to lance-linear or lance-oblong, grey-hairy or glandular or both, graduated, overlapping, with short, green, crimped tips; ray flowers bright purple, 8-25, 5-12 mm long; disk flowers yellow.
Fruits: Achenes 2- to 4-nerved, somewhat compressed, finely silky-hairy, 2.5-4 mm long; pappus of soft white bristles.
Luina hypoleuca

Lygodesmia juncea

Machaeranthera canescens
ASTERACEAE

MADIA

1. Involucres usually less than 4.5 mm tall; rays inconspicuous.
   2. Plants branched from near the base; leaves opposite ........................................... M. minima
   2. Plants branched above; leaves alternate ................................................................. M. exigua

1. Involucres usually more than 5 mm tall; rays conspicuous.
   3. Leaves opposite; disk flowers sterile ........................................................................ M. madioides
   3. Leaves alternate; disk flowers fertile.
      4. Involucres spindle-shaped, 2-5 mm wide when pressed; ray flowers 1-5, 1.5-2 mm long .......... M. glomerata
      4. Involucres egg-shaped or broadly urn-shaped, 6-12 mm wide when pressed; ray flowers usually 8-13, 3-7 mm long.
   5. Plants with hairs and stalked glands throughout .................................................. M. sativa
   5. Plants mainly with hairs throughout and stalked glands only above the middle of the stem .................................................. M. gracilis

**Madia exigua** (J.E. Smith) A. Gray

**little tarweed**

**Habitat/Range:**
Dry grasslands, roadsides and disturbed areas in the lowland, steppe and lower montane zones; frequent in extreme S BC; S to NV, CA and MX.

**Description:**
**General:** Aromatic annual herb from a slender taproot; stems erect, simple, branched above, stiff-hairy, 5-30 cm tall.

**Leaves:** Basal leaves lacking; stem leaves alternate, simple, entire, linear, 1-4 cm long, 1-2 mm wide, glandular, stiff-hairy.

**Flowers:** Heads with ray and disk flowers, solitary at the ends of branches in an open, flat-topped inflorescence; involucres depressed-globose, 2.5-4.5 mm tall; involucral bracts linear dorsally, crescent shaped laterally, 4-8, glandular; ray flowers yellow, 5-8, 1 mm long; disk flower yellow, receptacular bracts united around the fertile disk flower.

**Fruits:** Achenes compressed, 1.8-2.8 mm long, dark brown or black; disk achenes sterile; pappus lacking.

**Madia glomerata** Hook.

**clustered tarweed**

**Habitat/Range:**
Moist to dry roadsides, meadows, open slopes and forest openings in the lowland and montane zones; infrequent, scattered throughout S BC; E to SK and S to CO, AZ and CA.

**Description:**
**General:** Aromatic annual herb from a taproot; stems erect, solitary, simple or with a few ascending branches, long- to stiff-hairy, yellow stalked-glandular above, 10-95 cm tall.

**Leaves:** Basal leaves lacking; stem leaves often with fascicles in their axis, alternate, simple, entire, linear or lance-linear, 2-9 cm long, 1-7 mm wide, glandular, stiff-hairy.

**Flowers:** Heads with ray and disk flowers, glomerate in 1-many small clusters or in a more open inflorescence; involucres spindle-shaped, 6-9 mm tall; involucral bracts broadly lanceolate, glandular; ray flowers 1-3, about 2 mm long, sometimes lacking from some heads, greenish-yellow to purplish, 1.5-2.5 mm long; disk flowers 1-10.

**Fruits:** Achenes 5-nerved, compressed, glabrous, black, 4-6 mm long; pappus lacking.
Madia exigua

Madia glomerata
**ASTERACEAE**

**Madia gracilis** (J.E. Smith) Keck & J. Clausen ex Applegate
slender tarweed

**Habitat/Range:**
Dry road sides, open slopes and forest openings in the lowland, steppe and montane zones; infrequent in extreme S BC; S to UT, NV, CA and MX, disjunct in Chile.

**Description:**
- **General:** Aromatic annual herb from a tap root; stems erect, simple, usually branched, roughly hairy becoming glandular upwards, 10-100 cm tall.
- **Leaves:** Basal leaves lacking; stem leaves alternate, linear to lance-linear, 2-11 cm long, 1-10 mm wide, stiff-hairy and often densely glandular upwards.
- **Flowers:** Heads with ray and disk flowers, numerous in an elongate inflorescence; involucres urn-shaped, 6-11 mm tall; involucral bracts linear dorsally, crescent-shaped laterally, glandular; ray flowers yellow, 3-9, 1.5-2 mm long; disk flowers 13-15, fertile, with black anthers.
- **Fruits:** Achenes flattened, hairless, often mottled, 2.8-5 mm long; pappus lacking.

**Madia madioides** (Nutt.) Greene
woodland tarweed

**Habitat/Range:**
Moist to mesic open forests and grasslands in the lowland and lower montane zones; common in SW BC, known from S Vancouver island and the adjacent Gulf Islands; S to CA.

**Description:**
- **General:** Aromatic biennial or short-lived perennial herb from a short rhizome; stems erect, simple, few branched above; stiff-hairy below, glandular above, 20-70 cm tall.
- **Leaves:** Basal leaves lacking; stem leaves alternate and reduced upwards, opposite and linear to oblong, coarsely, straight appressed-hairy, 3-10 cm long, 4-11 mm wide near the base.
- **Flowers:** Heads with ray and disk flowers, few, terminal at ends of branches in a loose inflorescence; involucres globose to urn-shaped, 4-6 mm tall; involucral bracts linear, rounded on the back, 3-5, glandular; ray flowers yellow, 8-15, 2-3 mm long; disk flowers 10-30, fertile.
- **Fruits:** Ray achenes 5-nerved, 1/2-mooned, flattened, 3-5 mm long, sometimes beaked, disk achenes undeveloped, hairy, 3-4 mm long; ray pappus lacking or vestigial, disk pappus of 5-8 more or less lanceolate, separate or somewhat united, unequal scales.

**Madia minima** (A. Gray) Keck
small-headed tarweed

**Habitat/Range:**
Dry mossy rock outcrops, disturbed areas and forest openings in the lowland and lower montane zones; infrequent in SW BC, known from SE Vancouver Island and the adjacent Gulf Islands, rare in extreme SC BC; S to CA.

**Description:**
- **General:** Annual herb from a taproot; stems ascending, widely spreading, simple, branched, soft-hairy below, glandular above, 10-20 cm tall.
- **Leaves:** Basal leaves linear to more oblong, 1-2 cm long, 1-2.5 mm wide, sometimes toothed, appressed-hairy to more stiff-hairy; stem leaves similar, opposite.
- **Flowers:** Heads with ray and disk flowers, solitary or few, terminal at ends of branches in a rounded- or flat-topped inflorescence; involucres turnip-shaped, 2-4 mm tall; involucral bracts rounded on the back, 3-5, glandular; ray flowers yellow, 8-15, 2-3 mm long; disk flowers 1 (rarely 2 or 3), fertile.
- **Fruits:** Ray achenes compressed, 1.8-2.8 mm long, incurved, often with a minute, curved beak, hairy; pappus lacking.
Asteraceae

*Madia sativa* Molina
Chilean tarweed

Habitat/Range:
Dry roadides and disturbed areas in the lowland and lower montane zones; infrequent in S BC, possibly introduced; native range from N WA to CA, disjunct in Chile.

Description:
General: Aromatic annual herb from a taproot; stems erect, simple, often branched above, glandular, 0.2-1.0 m tall.
Leaves: Basal leaves lacking; stem leaves often with clusters of smaller leaves in their axils, alternate, linear or linear-oblong, entire or slightly toothed, unstalked, glandular, 3-18 cm long, 3-12 mm wide; lower stem leaves crowded, soon deciduous.
Flowers: Heads with ray and disk flowers, numerous in an elongate inflorescence; involucres egg-shaped or broadly urn-shaped, 6-12 mm tall; involucral bracts rounded on the back, glandular; ray flowers yellow, 8-13, 3-7 mm long; disk flowers yellow, 11-14, fertile.
Fruits: Ray achenes flattened, 2.5-5 mm, glabrous, sometimes mottled, disk achenes sometimes 1-nerved; pappus lacking.

**Matricaria**

1. Heads discoid ........................................................................................................... *M. discoidea*

   1. Heads with ray and disk flowers, the ray flowers white.
      2. Receptacle conic; achenes smooth on the outer surface ............................................. *M. recutita*
      2. Receptacle hemispheric; achenes wrinkled on the outer surface ................................. *M. perforata*


*Pineapple weed*

Habitat/Range:
Dry roadides and disturbed areas in the lowland, steppe and montane zones; common throughout BC; probably introduced from elsewhere in North America.

Description:
General: Pineapple-scented annual herb from a fibrous root; stems erect, simple, branched, glabrous, 5-45 cm tall.
Leaves: Basal leaves soon deciduous; stem leaves alternate, 1-5 cm long, 10-18 mm wide, 1-3 times divided into short, very narrow segments.
Flowers: Heads discoid, several to many at the ends of branches; involucres 2.5-3 mm tall; involucral bracts broadly oblong to egg-shaped, with broad, pale margins and a central brownish to greenish area; discoid; disk flowers yellowish-green, 4-toothed, 1.2-1.5 mm long; receptacles narrowly dome-shaped to conic, hollow, 4-6 mm tall.
Fruits: Achenes with 2 marginal nerves and 1 nerve on the inner face, glabrous; pappus a short, membranous crown.
Madia sativa

Matricaria discoidea

**Scentless mayweed; false-chamomile**

**Habitat/Range:**
Dry shorelines, roadsides and disturbed areas in the lowland, steppe and montane zones; frequent throughout all but N BC; introduced from Europe.

**Description:**
- **General:** Annual, biennial or sometimes perennial scentless herb from a fibrous root; stems erect, simple, branched, glabrous, 5-60 cm tall.
- **Leaves:** Basal leaves lacking; stems leaves alternate, 1-3 times divided into short, linear-threadlike segments, 2-8 cm long, glabrous; basal leaves deciduous by flowering time.
- **Flowers:** Heads with ray and disk flowers, several to numerous, mostly terminal on the upper branches; involucres 4-5 mm tall; involucral bracts subequal, mostly oblong, obtuse at the tips, with a broad, papery margin and central, dark, greenish or brownish area; ray flowers white, 10-25, 4-13 mm long; disk flowers yellow, many, about 1 mm long, 5-toothed; receptacles hemispheric, 5-8 mm tall.
- **Fruits:** Achenes asymmetric, 1.5-2 mm long, with 3 light-coloured, rounded, callous ribs on the inner face, the intervals brown and wrinkled; pappus a minute, toothed crown.

Matricaria recutita L. (*Chamomilla recutita* [L.] Rausch., *M. chamomilla* L.)

**Wild chamomile; sweet false-chamomile; German chamomile**

**Habitat/Range:**
Dry roadsides and disturbed areas in the lowland zone; rare in SW BC, known only from the lower Fraser Valley; introduced from Europe and N. Asia.

**Description:**
- **General:** Annual aromatic herbs from a fibrous root; stems erect, simple, branched, glabrous, 8-20 cm tall.
- **Leaves:** Basal leaves soon deciduous; stems leaves alternate, 1-3 times divided into short, linear-threadlike segments, 2-6 cm long, glabrous.
- **Flowers:** Heads with ray and disk flowers, several, mostly terminal on the upper branches; involucres 2.5-3 mm tall; involucral bracts subequal, mostly oblong, obtuse or rounded at the tips, with a broad, papery margin; ray flowers white, 10-22, 4-10 mm long; disk flowers yellow, many, about 1 mm long, 5-toothed; receptacles narrowly conic, 3.5-4 mm tall.
- **Fruits:** Achenes asymmetric, 1.5-2 mm long, smooth except for 5 narrow, winglike ribs; pappus lacking or sometimes a minute, short crown.
MEGALODONTA

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

**Habitat/Range:**
Lakeshores and ponds in the lowland, steppe and montane zones; rare in SW, SC and SE BC; S to WA and OR, E to SK, MB, ON, PQ, NB and NS and S to SD, MO and NC.

**Description:**
**General:** Perennial aquatic herb from a fibrous root; stems simple or few branched above, solitary, glabrous, 0.5-2 m long.

**Leaves:** Basal leaves lacking; lower leaves submersed, short-stalked, essentially whorled, 3-parted almost to the base, the lobes many times forked into threadlike segments, glabrous, 1.5-4 mm; upper leaves emergent, few or rarely lacking, unstalked, lanceolate to egg-shaped, glabrous, sharply toothed, 1-3.5 cm long.

**Flowers:** Heads with ray and disk flowers, few, solitary and terminal at the ends of branches; involucres 12-20 mm tall; involucral bracts about 5-6, the outer ones egg-shaped, thickly leafy, the inner ones oblong-lanceolate, more or less membranous, narrowly yellow-margined; ray flowers golden yellow, usually 8, 1-2 cm long; disk flowers yellow.

**Fruits:** Achenes cylindric, somewhat compressed, fine-nerved, yellowish or greenish-brown, 10-14 mm long; pappus of 3-6 firm bristles, these longer than the achene, reverse-barbed above, smooth below.

**Notes:** Although I agree with Cronquist (1955) that there is little to be gained by recognizing this taxon as a monotypic genus, I have included it in *Megalodonta* since it appears that most future North American treatments will also recognize this genus.

MICROSERIS

1. Plants perennials; strap-shaped flowers conspicuous, well exceeding the involucre; pappus parts 6-60.

2. Pappus of 30-60 brownish hairlike bristles; stems simple and naked ........................................... *M. borealis*

2. Pappus of 15-20 white or tawny, feathery, bristle-tipped scales; stems simple, glabrous or scaly, sparingly branched and leafy towards the base ................................................................. *M. nutans*

1. Plants annuals; strap-shaped flowers inconspicuous, equalling or barely exceeding the involucre; pappus of 5 parts.

3. Pappus of 5 linear scales, each terminating in a shorter, hairlike bristle arising from a distinct notch in the scale apex; stems leafy below and branched at or near the base ........................................... *M. lindleyi*

3. Pappus of 5 lanceolate scales, each terminating in a longer, hairlike bristle arising from the pointed scale; stems naked and simple ......................................................... *M. bigelowii*

**Microseris bigelowii** (A. Gray) Schultz-Bip.

**coast microseris**

**Habitat/Range:**
Moist, open, grassy coastal bluffs in the lowland zone; rare in SW BC, known only from S Vancouver Island; S to CA.

**Description:**
**General:** Annual herb from a taproot; stems erect to ascending or decumbent, simple, solitary to several, leafless, exuding milky juice when broken, 4-35 cm tall.

**Leaves:** Basal leaves linear to oblanceolate or spoon-shaped, entire or coarsely pinnately cut with slender or broad tapering lobes or teeth, glabrous, 3-25 cm long; stem leaves lacking.

**Flowers:** Heads with strap-shaped flowers, solitary at end of stems, nodding until mature; involucres 6-15 mm tall; involucral bracts broadly lanceolate, the inner ones keeled, often reddish on the outer surface, long black-hairy within, the outer ones short and bractlike; ray flowers yellow or yellow-orange.

**Fruits:** Achenes tapered abruptly at the base, brown or bronze, sometimes darkly spotted, 2.5-6 mm long; pappus of 5 glabrous or short-hairy, lanceolate scales, each terminating in a long, hairlike bristle arising from the pointed scale.
Megalodonta beckii

Microseris bigelowii
Asteraceae

Microseris borealis (Bong.) Schultz-Bip. (Apargidium boreale [Bong.] T. & G.)

apargidium

Habitat/Range:
Wet to moist meadows and sphagnum bogs in the lowland to alpine zones; common in coastal BC; N to AK and S to N CA.

Description:
General: Perennial herb from a taproot; stems erect to ascending, simple, solitary, expanded at the base, leafless or with 1 or 2 small bracts, exuding milky juice when broken, 10-60 cm tall.
Leaves: Basal leaves linear-oblongate, entire to few-toothed, often pointed at the tip, glabrous, 5-30 cm long, 2-12 mm wide; stem leaves lacking.
Flowers: Heads with strap-shaped flowers, solitary at end of stems; involucres 10-18 mm tall; involucral bracts lanceolate, the inner ones tapering to a slender tip, the outer shorter and overlapping, glabrous or sometimes lightly black-woolly; ray flowers yellow.
Fruits: Achenes smooth, ribbed, brown, 4-8 mm long; pappus of 30-60 brownish, finely-barbed bristles only slightly thickened at the bases.

Microseris lindleyi (DC.) A. Gray (M. linearifolia [Nutt.] Schultz-Bip.)

Lindley's microseris

Habitat/Range:
Mesic grassy, rocky bluffs in the lowland zone; rare in SW BC, known only from and disjunct in the Gulf Islands; S to ID, AZ, NM and CA.

Description:
General: Annual herb from a taproot; stems erect, simple, leafy below, branched at or near the base, glabrous, exuding milky juice when broken, 10-70 cm tall.
Leaves: Basal leaves linear, long-pointed at the tip, 15-30 cm long, entire or pinnately cut with spreading, linear, swept-back lobes, tapering below into a broad, somewhat clasping and sparsely long-hairy stalk that is often fringed with small hairs; stem leaves similar, reduced.
Flowers: Heads with strap-shaped flowers, solitary, terminating the branches; involucres 15-30 mm tall; involucral bracts lanceolate, the inner ones graduated, the outer ones few, somewhat graduated; ray flowers yellow.
Fruits: Achenes slender, 7-17 mm long, blackish; pappus of 5 linear scales, each terminating in a shorter, hairlike bristle arising from a distinct bifid notch in the scale tip.

Microseris nutans (Hook.) Schultz-Bip. ssp. nutans

nodding microseris

Habitat/Range:
Moist to mesic grasslands, shrublands and forest openings in the steppe and montane zones; common in SC and SE BC; S to MT, UT, CO and CA.

Description:
General: Perennial herb from 1-several thickened fleshy roots; stems erect, simple or several, branching, leafy below or glabrous, exuding milky juice when broken, 10-70 cm tall.
Leaves: Basal leaves variable, linear to lanceolate or spoon-shaped, entire to toothed or finely pinnately cut with slender lobes, glabrous or scaly; stem leaves similar.
Flowers: Heads with strap-shaped flowers, solitary at ends of branches, nodding until mature; involucres cylindric to bell-shaped, 8-22 mm tall; involucral bracts glabrous dorsally or often scaly-hairy, the inner ones lanceolate-pointed, the outer ones unequal, shorter and graduated or nearly so, linear to egg-shaped; ray flowers yellow.
Fruits: Achenes columnar or narrowly spindle-shaped, grey to brown, glabrous or hairy, 3.5-8 mm long; pappus 5-10 mm long, of 15-30 narrow scales, each bearing a long, bright white, feathery bristle.
Microseris borealis

Microseris lindleyi

Microseris nutan ssp. nutans
ASTERACEAE

NOTHOCAILIS

Notocalais troximoides (A. Gray) Greene (Microseris troximoides A. Gray)
false-agoseris

Habitat/range:
Dry grasslands and shrublands in the steppe zone; frequent in extreme SC BC; S to MT, UT, NV and CA.

Description:
General: Perennial herb from a thick woody base and taproot; stems erect, solitary to several, simple, glabrous or white long-hairy above, exuding milky juice when broken, 5-30 cm tall.
Leaves: Basal leaves linear to linear-lanceolate, rarely over 1 cm wide, mostly 20-50 times as long as wide, rather stiff, pointed, the margins entire or distinctly wavy-margined, usually minutely fringed with small hairs; stem leaves usually lacking.
Flowers: Heads with strap-shaped flowers, solitary at ends of branches; involucres bell-shaped to hemispheric, 14-30 mm tall; involucral bracts broadly or narrowly lanceolate, pointed, glabrous, or fringed with small hairs and white long-hairy along the midrib, usually dotted or lined with purple on the midrib, the outer bracts more than 3/4 as long as the inner ones; rays flowers yellow.
Fruits: Achenes cylindrical, pale brown, 8-13 mm; pappus silvery, somewhat unequal, each gradually widening upwards to a short terminal bristle, the scalelike portion about 0.5 mm wide near the base.

ONOPORDUM

Onopordum acanthium L.
Scotch thistle

Habitat/range:
Dry roadides and disturbed areas in the lowland zone; rare in SW and SC BC; introduced from Eurasia.

Description:
General: Biennial herb from a fibrous root; stems erect, simple, branched, broadly spiny-winged, woolly-hairy, 1.5-3.0 m tall.
Leaves: Basal leaves lacking; stem leaves alternate; lower leaves elliptic to oblanceolate, toothed to deeply pinnately-lobed, 10-60 cm long, 5-10 cm wide, spiny, the spines 2-5 mm long, sparsely woolly-hairy and green above, densely white woolly-hairy below; upper leaves reduced and linear-elliptic to linear-lanceolate.
Flowers: Heads discoid, few to many at the ends of branches; involucres egg-shaped to more or less rounded, 2.5-3.5 cm tall; involucral bracts lanceolate, tapering to a stiff, spreading spine 4-5 mm long, outer ones 2 mm wide at the base, inner ones similar but more flexible, flatter, and with shorter spines; disk flowers reddish-purple; receptacles flat, fleshy, honeycombed, often with short bristles on the partitions.
Fruits: Achenes hairy, transversely wrinkled, greyish-brown, 4-5 mm long; pappus of numerous slender bristles.
Notocalais troximoides

Onopordum acanthium
ASTERACEAE

PETASITES

1. Leaves distinctly lobed, or if toothed then rarely more than 15 teeth per side ........................................... P. frigidus

1. Leaves shallowly to conspicuously coarse-toothed, 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. hyperboreus Rydb. = var. nivalis; P. palmatus [Ait.] A. Gray, P. speciosus [Nutt.] Piper = var. palmatus)
sweet coltsfoot

Habitat/Range:
Wet to moist ditches, streambanks, meadows and forests in the lowland to 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; var. palmatus – E to NF and S to MA, MI and CA; var. nivalis – E to PQ and N MN and S to N OR, and var. frigidus – circumboreal, N to AK, YT and NT, Eurasia.

Description:
General: Perennial herb from a creeping root; stems erect, branched above, numerous, more or less white woolly-hairy, with parallel-veined bracts 2.5-6 cm long, reduced upwards, 5-50 cm tall, flowering stems appear before the leaves.
Leaves: Basal leaves arising directly from the creeping root, triangular to heart-shaped on long stalks, shallowly to palmately lobed or toothed, white-woolly to nearly glabrous beneath, green and somewhat hairy above, 4-50 cm long; stem leaves alternate, reduced, represented by parallel-veined bracts 1-6 cm long, more or less white woolly-hairy.
Flowers: Heads disciform or with ray and disk flowers, several to many in a round- to flat-topped inflorescence, stalks glandular and white-woolly; involucres 6-15 mm tall; involucral bracts oblanceolate to lanceolate, pointed, hairy basally with multicellular hairs, the crosswalls often purple, margins translucent, tips fine-hairy; ray flowers few, whitish or pinkish; disk flowers whitish.
Fruits: Achenes 5-10-ribbed, glabrous, rarely sparsely long-hairy, 3-4.5 mm; pappus of numerous white, hairlike bristles.
Notes: Three varieties occur in BC.

1. Leaves merely coarsely toothed or shallowly and obscurely lobed; plants of the subalpine and alpine zones .................................................................................................................. var. frigidus

1. Leaves conspicuously lobed; plants of the lowland to alpine zones.
   2. Leaves palmately lobed and usually deeply cleft more than 1/2 way to the leaf base, usually broader than long; plants of the lowland and montane zones .................................................. var. palmatus (Ait.) Cronq.
   2. Leaves lobed, sometimes palmately, but usually not cleft more than 1/2 way to the leaf base, usually longer than broad; plants of the subalpine and alpine zones ............................................ var. nivalis (Greene) Cronq.
*Petasites frigidus* var. *palnatus*
**Asteraceae**

*Petasites japonicus* (Sieb. & Zucc.) Maxim.

**Japanese butterbur**

**Habitat/Range:**
Moist ditches and fields in the lowland zone; infrequent in SW and SC BC; introduced from Japan.

**Description:**
**General:** Perennial herb from a creeping rhizome; stems erect, branched above, numerous, sparsely long-hairy to thinly woolly-hairy, 0.2-1.0 m tall; flowering stems appear before the leaves.

**Leaves:** Basal leaves arising directly from the rhizome, thick, round to heart-shaped on long stalks, shallowly to conspicuously toothed, usually with 20 or more teeth per side, white-woolly to nearly glabrous beneath, green and somewhat hairy above, the blades 20-40 cm long, 10-60 cm wide; stem leaves reduced to parallel-veined bracts, 1-8 cm long, reduced upwards, sparsely long-hairy.

**Flowers:** Heads disciform in elongate to flat-topped clusters, stalks moderately to densely white-woolly; involucres 6-12 mm tall; involucral bracts lance-shaped with hairs at the base, green, sometimes with translucent margins; disk flowers whitish.

**Fruits:** Achenes 5- to 10-ribbed, glabrous; pappus of white, hairlike bristles.

*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.

**Description:**
**General:** Perennial herb from a creeping rhizome; stems erect, branched above, numerous, more or less white woolly-hairy, 10-50 cm tall; flowering stems appear before the leaves.

**Leaves:** Basal leaves triangular on long stalks, shallowly to conspicuously toothed, usually with 20 or more teeth per side, white-woolly to nearly glabrous beneath, green and somewhat hairy above, 5-35 cm long including the stalk, 5-25 cm wide; stem leaves reduced to parallel-veined bracts, 1-8 cm long, reduced upwards, more or less white woolly-hairy.

**Flowers:** Heads disciform or with ray and disk flowers, several to many in a round- to flat-topped inflorescence, stalks more or less white woolly-hairy; involucres 7-12 mm tall; involucral bracts ob lanceolate to lanceolate, pointed, hairy basally with multicellular glandular hairs, the crosswalls often purple, margins translucent and often ragged; ray flowers few, whitish or pinkish, 6-10 mm long; disk flowers whitish.

**Fruits:** Achenes 5-to 10-ribbed, glabrous; pappus of numerous white capillary bristles.
Asteraceae

PRENANTHES

1. Lower leaves oblanceolate to elliptic, middle ones unstalked and more or less heart-shaped and clasping at the base .................................................... P. racemosa

1. Lower leaves arrowhead-shaped or sometimes deltoid, middle ones short-stalked or unstalked and tapering to the base
   2. Inflorescence round- to flat-topped .......................................................... P. alata
   2. Inflorescence elongate ........................................................................ P. sagittata

Prenanthes alata (Hook.) D. Dietr.
western rattlesnake-root

Habitat/RANGE:
Moist forests and streambanks in the lowland and montane zones; infrequent in BC S of 56° N; N to AK, E to AB and S to OR.

DESCRIPTION:
General: Perennial herb from a slightly thickened taproot; stems erect, solitary, branched above, long-hairy, exuding milky juice when broken, 15-80 cm tall.
Leaves: Basal leaves arrowhead-shaped, long stalked, blades irregularly toothed, glabrous, 3.5-17 cm long, 0.5-11 cm wide; stem leaves similar below, middle and lower ones with winged stalks, becoming short-stalked or unstalked, reduced upwards.
Flowers: Heads with strap-shaped flowers, numerous in an open or round-topped inflorescence; involucres 10-13 mm tall; involucral bracts lance-oblong, the principle ones about 8, sparsely long-hairy; ray flowers white or sometimes pinkish.
Fruits: Achenes finely lined between the nerves, cylindric or tapering to the summit, glabrous, 4-6 mm long; pappus of brownish hairlike bristles.

Prenanthes racemosa Michx. ssp. multiflora Cronq.
purple rattlesnake-root

Habitat/RANGE:
Dry grassy slopes in the montane zone; rare in NE BC, known only from Dawson Creek and Pouce Coupe; E to PQ and ME, S to IA, WY and CO.

DESCRIPTION:
General: Perennial herb from a slightly thickened taproot; stems erect, solitary, branched above, soft-hairy above, glabrous and glaucous below, often purplish, exuding milky juice when broken, 0.5-1.2 m tall.
Leaves: Basal leaves oblanceolate to egg-shaped or elliptic, long-stalked, blades toothed to entire, glabrous, 7-40 cm long, 1.5-10 cm wide; stem leaves similar below, middle and lower ones with winged stalks, becoming short-stalked or unstalked and clasping, reduced upwards.
Flowers: Heads with strap-shaped flowers, numerous in a dense, spikelike inflorescence; involucres 9-14 mm tall; involucral bracts lance-oblong, 10-14, densely stiff-hairy, purplish to blackish; ray flowers pink or purplish.
Fruits: Achenes nerved, cylindric, glabrous; pappus of yellowish or brownish hairlike bristles.
Notes: This species was last collected in 1946 at Dawson Creek.
**ASTERACEAE**

*Prenanthes sagittata* (A. Gray) A. Nels.
arrow-leaved rattlesnake-root

**Habitat/Range:**
Moist to mesic roadsides, forests and streambanks in the montane zone; rare in SE BC, known only from Kishinena Valley and Akamina Creek; E to AB and S to N ID and MT.

**Description:**
General: Perennial herb from a slightly thickened taproot; stems erect, solitary, branched above, long-hairy, exuding milky juice when broken, 30-70 cm tall.
Leaves: Basal leaves arrowhead-shaped, long-stalked, blades irregularly toothed, glabrous, 3.5-12 cm long, 0.5-11 cm wide; stem leaves similar below, middle and lower ones with winged stalks, becoming short-stalked or unstalked, reduced upwards.
Flowers: Heads with strap-shaped flowers, numerous in a spikelike inflorescence; involucres 7-13 mm tall; involucral bracts lance-oblong, the principle ones linear, about 8, sparsely long-hairy; ray flowers white.
Fruits: Achenes finely lined between the nerves, cylindric or tapering to the summit, glabrous, 4-6 mm long; pappus of brownish hairlike bristles.

**PSILOCARPHUS**

1. Plants upright; leaves never spoon-shaped, usually oblanceolate to linear-oblong.......................... *P. elatior*

1. Plants prostrate and matted to ascending; leaves spoon-shaped, oblanceolate, lanceolate or oblong.

2. Well-developed receptacular bracts 1.3-2.5 mm long at maturity; leaves spoon-shaped or oblanceolate to oblong, not broadest near the base .......................................................... *P. tenellus*

2. Well-developed receptacular bracts 2.5-3.2 mm long at maturity; leaves lance-oblong or lance-triangular, usually broadest near the base ........................................................................... *P. brevissimus*

*Psilocarphus brevissimus* Nutt. var. brevissimus (*P. oreganus* Nutt. var. brevissimus [Nutt.] Jeps.)
dwarf woolly-heads

**Habitat/Range:**
Moist vernal meadows in the montane zone; rare in SC BC, known only from the Princeton area; S to MT, UT and MX, Chile.

**Description:**
General: Annual herb from a short taproot; stems prostrate and matted, much-branched, rarely erect and simple in dwarfed forms, woolly-hairy, 8-20 cm long.
Leaves: Basal leaves lacking; stem leaves opposite, lance-linear, lance-oblong or lance-triangular, whitish woolly-hairy, 4.5-15 mm long, 1.5 mm wide.
Flowers: Heads disciform, usually solitary in leaf axils or at tips of branches; involucres lacking; receptacular bracts hooded and balloon-like, 2.5-4.0 mm long at maturity; female flowers mostly 50-80, rarely as few as 20 in dwarfed forms.
Fruits: Achenes nerveless, more or less cylindric, glabrous, tipped with a small, offset style, 1.0-2.0 mm long; pappus lacking.
Premanche sagittata

Psilocarphus brevissimus var. brevissimus
**ASTERACEAE**

*Psilocarphus elatior* (A. Gray) A. Gray (*P. oreganus* Nutt. var. *elatior* A. Gray)

tall woolly-heads

**HABITAT/RANGE:**
Moist vernal meadows and muddy path sides in the lowland zone; rare on S Vancouver Island; E to AB and SK and S to ID and N CA.

**DESCRIPTION:**
- **General:** Annual herb from a short taproot; stems erect, moderately branched above, decumbent below, 5-15 cm tall.
- **Leaves:** Basal leaves lacking; stem leaves opposite, linear to oblong, moderately silky woolly-hairy, 0.5-3.5 cm long, 2.6 mm wide.
- **Flowers:** Heads disciform, usually solitary in leaf axils or at tips of branches; involucres lacking; receptacular bracts hooded and balloon-like, 2.5-3.8 mm long at maturity; female flowers mostly 20-80, rarely as few as 8 in dwarfed forms.
- **Fruits:** Achenes nerveless, more or less cylindric, glabrous, tipped with a small style, 1.0-1.7 mm long; pappus lacking.

*Psilocarphus tenellus* Nutt. var. *tenellus*

slender woolly-heads

**HABITAT/RANGE:**
Moist vernal path sides and roadsides in the lowland zone; rare in SW BC, known from S Vancouver Island and Salt spring Island; S to ID, OR and MX.

**DESCRIPTION:**
- **General:** Annual herb from a short taproot; stems erect at first, later prostrate and matted, much-branched, woolly-hairy, 5-30 cm long.
- **Leaves:** Basal leaves lacking; stem leaves opposite, spoon-shaped or oblanceolate to oblong, thinly whitish woolly-hairy, 4-15 mm long, 1-5 mm wide.
- **Flowers:** Heads disciform, usually solitary in leaf axils or at tips of branches; involucres lacking; receptacular bracts hooded and balloon-like, 1.3-2.5 mm long at maturity; female flowers mostly 25-46.
- **Fruits:** Achenes nerveless, swollen, broadly oblanceolate to narrowly rounded, tipped with a small style, 0.6-1.2 long; pappus lacking.

**PYRROCOMA**

*Pyrocoma carthamoides* Hook. var. *carthamoides* (*Haplopappus carthamoides* [Hook.] A. Gray ssp. *carthamoides*)

Columbian goldenweed

**HABITAT/RANGE:**
Dry grasslands in the steppe and montane zones; rare in extreme SC BC; S to MT, WY and N CA.

**DESCRIPTION:**
- **General:** Perennial herb with a taproot and sometimes a short-branched woody base; stems erect, simple or branched, several or solitary, hairy to nearly glabrous, 10-60 cm tall.
- **Leaves:** Basal leaves alternate, oblanceolate to oval, narrowly stalked, tufted, hairy to nearly glabrous, 5-40 cm long, 0.5-4.0 cm wide, spiny-toothed to entire; stem leaves similar, reduced, becoming unstalked upwards.
- **Flowers:** Heads with ray and disk flowers, solitary or sometimes several in flat-topped to rounded inflorescence; involucres 15-30 mm tall; involucral bracts broadly oblong, graduated, margins thin, dry and papery; ray flowers 0-30, inconspicuous, seldom exceeding pappus; disk flowers numerous, yellow, 10-14 mm long.
- **Fruits:** Achenes elongate, glabrous; pappus of stiff, brownish, hairlike bristles.
Psilotrichus tenellus var. tenellus

Psilotrichus elatior

Pyrocoma carthamoides var. carthamoides
**Asteraceae**

**RATIBIDA**

*Ratibida columnifera* (Nutt.) Woot. & Standl.  
prairie coneflower

**HABITAT/RANGE:**  
Dry grasslands and shrublands in the steppe zone; frequent locally in SE BC; E to MB and S to MN, MO, AR, TX and WA.

**DESCRIPTION:**

**General:** Biennial or perennial herb from a taproot and short woody stem-base; stems erect, several, branched above, 0.3-1.2 m tall, stiffly coarse-hairy.

**Leaves:** Basal leaves lacking; stem leaves alternate, pinnately cut, the segments linear or lanceolate and entire, coarsely short stiff-hairy, 10-20 cm long, 2-7 cm wide.

**Flowers:** Heads with ray and disk flowers, few to numerous, terminal at the ends of branches; disks columnar, grey to yellow, becoming purplish-brown, mostly 1.5-4.0 cm tall, 5-20 mm wide; involucral bracts 5-10 mm long, lanceolate, reflexed when mature, hairy; ray flowers yellow or rarely purplish, 1.5-4.5 cm long, reflexed, usually 3-7; disk flowers dark, columnar.

**Fruits:** Achenes flattened, fringed with small hairs and slightly winged on the inner margin and tip, grey-black, about 2 mm long; pappus an evident bristle-tooth on the inner angle of the achene, often with a shorter one on the outer angle.

**RUDBECKIA**

1. Leaves deeply pinnately cut into narrow segments; ray flowers yellow .................. *R. laciniata*

1. Leaves merely toothed or nearly entire; ray flowers orange or yellow-orange .................. *R. hirta*

*Rudbeckia hirta* L. var. *pulcherrima* Farw.  
black-eyed Susan

**HABITAT/RANGE:**  
Moist to mesic fen edges, dry roadsides and disturbed areas in the lowland, steppe and montane zones; infrequent in S BC; introduced from central U.S.

**DESCRIPTION:**

**General:** Biennial to short-lived perennial herb from a thick, woody stem-base; stems erect, solitary to several, simple or few-branched above, rough-hairy, 30-100 cm tall.

**Leaves:** Basal leaves soon deciduous; stem leaves alternate, oblanceolate to elliptic, entire to toothed, 3-15 cm long, 1-3 cm wide, long-stalked near the bases, becoming unstalked, lanceolate to egg-shaped and reduced upwards.

**Flowers:** Heads with ray and disk flowers, solitary at the ends of branches; disks hemispheric or egg-shaped, dark purple or brown, 10-20 mm wide; involucral bracts 6-10 mm, lanceolate, reflexed when mature, long-hairy; ray flowers orange, 8-20, darker at the tips, reflexed, 2-4 cm long; disk flowers purple or brown; receptacular bracts abruptly sharp-pointed, hairy near the tip.

**Fruits:** Achenes oblong, glabrous, 1.8-2 mm long; pappus lacking.
Ratibida columnifera

Rudbeckia hirta var. pulcherrima
*Asteraceae*

*Rudbeckia laciniata* L. var. *ampla* (A. Nels.) Cronq.

**tall coneflower**

**Habitat/Range:**
Moist Typha marshes in the lowland zone; rare in SW BC, known only from Lion Island in the lower River; introduced from the Rocky Mountains and C U.S.

**Description:**
General: Perennial herb from a coarse woody stem-base; stems erect, solitary, simple or few-branched above, glabrous, often glaucous, 0.3-2 m tall.
Leaves: Basal leaves lacking; stem leaves soon deciduous near the bases; middle leaves broadly triangular in outline, coarsely toothed or cleft, stalked, some or most of them pinnately cut, usually glabrous, sometimes hairy, especially beneath, 4-8 cm long, 4-8 cm wide, upper leaves reduced.
Flowers: Heads with ray and disk flowers, solitary at the ends of branches; disks hemispheric or elongate, yellow or greyish, 10-20 mm wide; involucral bracts broadly oblong, abruptly sharp-pointed, 8-12 mm long, spreading when mature, glabrous; ray flowers yellow, 6-16, drooping, 2-4 cm long; disk flowers yellow or greyish; receptacular bracts blunt, white-hairy near the tip.
Fruits: Achenes oblong, glabrous, 1.6-1.8 mm long; pappus a short crown.

**SAUSSUREA**

1. Receptacles naked; outer involucral bracts about as long as the inner .............................................. *S. nuda*
1. Receptacles papery; outer involucral bracts shorter than the inner.
   2. Stem leaves 0.2-1.2 cm wide, linear to lanceolate, entire to few toothed...................... *S. angustifolia*
   2. Stem leaves 1-7 cm wide, egg-shaped to triangular or lanceolate, strongly toothed .......... *S. americana*

*Saussurea americana* D.C. Eaton

**American sawwort**

**Habitat/Range:**
Moist lush meadows and avalanche tracks in the montane and subalpine zones; frequent, but scattered, in and W of the Coast-Cascade Mountains in W BC; N to AK and YT, E to AB and S to ID, WA and NE OR.

**Description:**
General: Perennial herb from a fibrous root; stems erect, solitary, branched above, sparsely woolly-hairy when young, 0.3-2 m tall.
Leaves: Basal leaves lacking; stem leaves alternate, egg-shaped to triangular or lanceolate, the bases squared off or wedge- or heart-shaped, stalked, the blades 5-15 cm long, 1-7 cm wide, strongly toothed, sparsely woolly-hairy when young, persistently so on the lower surfaces, upper leaves unstalked or with very short stalks.
Flowers: Heads discoid, solitary at ends of branches in a clustered inflorescence; involucres 10-14 mm tall; involucral bracts in 3-4 series, the margins and tips dark pigmented, the outer bracts egg-shaped, shorter than the inner, long-hairy; disk flowers pale purple or rarely white, 8-21 (typically 13); receptacles pappery.
Fruits: Achenes oblong, nerved, 4-6 mm, glabrous; pappus of brownish, feathery bristles.
ASTERACEAE

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 in NW BC, known only from near Atlin: amphiberingian, N to AK, YT and NT; NE Asia.

DESCRIPTION:
General: Perennial herb from a rhizome; stems erect, solitary or few, branched above, glabrous or hairy, 8-45 cm tall.
Leaves: Basal leaves lacking; stem leaves alternate, linear to lanceolate, entire to toothed, glabrous or sparsely woolly-hairy below, 5-10 cm long, 0.2-1.2 cm wide; upper leaves reduced.
Flowers: Heads discoid, solitary at ends of branches in a clustered inflorescence; involucres 10-15 mm tall; involucral bracts in 3-4 series, the outer ones egg-shaped to lanceolate, shorter than the inner, the margins and tips dark pigmented, long-hairy to woolly-hairy or glabrous; disk flowers pale purple or white; receptacles usually bristly.
Fruits: Achenes oblong, nerved, 4-6 mm, glabrous; pappus of brownish bristles.
Notes: The var. yukonensis Pors., which is common in adjacent YT, may be found in BC in the future. It differs mainly in its shorter habit and more toothed leaves. The recent treatment by Kartesz (1994), which recognizes var. yukonensis as a separate species (S. viscidula Hulten), appears to have no basis since these taxa are not markedly different, with numerous intermediate specimens where their ranges overlap. Until adequate research on the taxonomy of these taxa has been completed, I prefer to treat them within S. angustifolia.

Saussurea nuda Ledeb. ssp. densa (Hook.) G.W. Doug. (S. densa [Hook.] Rydb.)
dwarf sawwort

HABITAT/RANGE:
Dry meadows, scree and talus slopes in the alpine zone, infrequent in SE BC; E to AB and S to MT.

DESCRIPTION:
General: Perennial herb from a woody stem-base; stems erect, solitary, few-branched above, hairy; 5-20 cm tall.
Leaves: Basal leaves lacking; stem leaves alternate, lanceolate, 4-8 cm long, 0.5-2 cm wide, broadly stalked near the base, becoming unstalked upwards, entire to sharply toothed, sparsely woolly-hairy when young, becoming glabrous.
Flowers: Heads discoid, solitary at ends of branches in a clustered inflorescence; involucres 11-15 mm tall; involucral bracts in 4-5 series, lanceolate, woolly-hairy; disk flowers pale purple; receptacles naked or sparsely bristly.
Fruits: Achenes oblong, nerved, 4-6 mm, glabrous; pappus of short outer brownish bristles and longer, feathery inner ones.

SENECIO

1. Stem 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 white-woolly 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. Involutaucral bracts conspicuously black-tipped; plants of N BC .......... S. sheldonensis
Saussurea angustifolia var. angustifolia

Saussurea nudas ssp. densa
6. Involucral bracts not conspicuously black-tipped, sometimes purplish or inconspicuously black-tipped; plants of SW and SC BC ........................................... *S. elmeri*

3. Leaves (at least some of them) prominently lobed or deeply cleft to 2-3 times pinnately cut.

7. Heads discoid (rayless) ................................................................. *S. vulgaris*

7. Heads with ray and disk flowers.

8. Involucral bracts inconspicuously to conspicuously black-tipped.

9. Leaves mostly 2-3 times pinnately cut; introduced in SW BC near the coast *S. jacobaea*

9. Leaves merely lobed and deeply cleft.

10. Stalks of the heads glabrous; achenes glabrous; plants native in E BC ................................................................. *S. eremophilus*

10. Stalks of the heads sparsely to moderately long-hairy; achenes hairy; plants introduced in W BC ........................................... *S. sylvaticus*

8. Involucral bracts not black-tipped.

11. Upper stems with long (over 1 mm) yellowish (sometimes whitish) hairs; plants native on moist sites in N BC .......................................................... *S. congestus*

11. Upper stems with glandular hairs; plants introduced on disturbed sites in coastal, SW and SC BC .......................................................... *S. viscosus*

1. Stem leaves progressively reduced upwards, or sometimes lacking; basal or lower stem leaves well-developed, often tufted.

12. Plants glabrous (although sometimes woolly when young but glabrous by flowering time) except for inconspicuous woolly hairs at the base, in the leaf axils, or in the inflorescence.

13. Leaves entire to toothed, not lobed, wavy, or pinnately cut.


15. Involucres glabrous; plants glaucous ............................................ *S. hydrophilus*

15. Involucres hairy, at least at the base; plants hairy and becoming nearly glabrous but not glaucous .............................................. *S. integrerrimus*

14. Basal leaves (or at least some of them) regularly toothed.

16. Leaves relatively narrow, always less than 3 cm wide; plants common in the subalpine and alpine zones in BC east of the Coast-Cascade Mountains ........................................ *S. lugens*

16. Leaves relatively wide, at least some of them more than 4 cm wide; plants of the montane and lower subalpine zones in SE BC ........................................... *S. hydrophiloides*

13. Leaves (or at least some of them) lobed, wavy or pinnately cut.

17. Heads with ray and disk flowers (sometimes rayless forms occur but these mostly occur with the more abundant, normal plants with ray and disk flowers).

18. Heads usually several.

19. Basal leaves (or at least some of them) heart-shaped to round ........... *S. pseudoareus*


20. Basal leaves entire to wavy-marginated, rarely a few with evident teeth ...*S. macounii*


21. 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*
21. Basal leaves few, usually 6 or less, relatively thin and lax, toothed almost to the base of the blade or nearly entire; plants of moist sites .................. *S. pauperculus*

18. Heads solitary, or rarely 2.

22. Involucre bases glabrous.

23. Involucres scarcely to heavily purplish-tinged towards the tips, rarely purplish throughout; stems and leaves green; plants of extreme S BC .......... *S. cymbalarioides*

23. Involucres dark purplish throughout; stems and leaves purplish; plants of the Queen Charlotte Islands .......................................................... *S. cymbalaria*

22. Involucre bases usually hairy.

24. Basal leaves toothed, never lobed, usually purplish ...................... *S. moresbiensis*

24. Basal leaves conspicuously 5-7-lobed, green .................................................. *Sinosenecio newcombei* (formerly *Senecio newcombei*)

17. Heads discoid (sometimes forms with ray and disk flowers occur but these mostly occur with the more abundant, normal, discoid plants).

25. Disk flowers orange; involucral bracts purple throughout or in the upper 1/2; heads 1-6 or rarely 7-12 ................................................................. *S. pauciflorus*

25. Disk flowers yellow; involucral bracts green, sometimes purplish at the tip; heads 6-40 or rarely only 3-5 .............................................. *S. indecorus*

12. Plants (or at least some of them) hairy 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 tall; heads 1-6 .................... *S. megacephalus*

27. Involucres smaller, the largest less than 12 mm tall; 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 1/2; plants of C BC .... .............................. *S. platensis*

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. fuscatus*

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-woolly to felty; plants of S BC east of the Coast-Cascade Mountains ................................................................. *S. canus*
35. Leaves woolly, but never densely white-woolly.

36. Involucral bracts not conspicuously black-tipped; plants of coastal SW BC

\[\text{S. macounii}\]

36. Involucral bracts usually conspicuously black-tipped; plants of SC to SE BC

\[\text{S. integerrimus}\]

_Seneckio atropurpureus_ (Ledebr.) Fedtsch. (S. atropurpureus ssp. frigidus [Richards.] Hulten, S. kjellmanii Pors.)

purple-haired groundsel

**Habitat/Range:**

Wet to moist bogs, fens and meadows in the montane to alpine zones; rare in extreme N BC; amphiberingian, N to AK, YT and NT; NE Asia.

**Description:**

**General:** Perennial herb from a rhizome; stems erect or ascending, solitary, simple, glabrous or white woolly-hairy below becoming woolly-hairy above with purplish or brownish hairs, especially at flowering time, 3-25 cm tall.

**Leaves:** Basal leaves oblanceolate to egg-shaped, stalked, 1-11 cm long, 0.2-2 cm wide, entire or saw-toothed, rounded to obtuse at the tips, glabrous to white woolly-hairy; stem leaves similar at the base, lanceolate, entire or toothed, reduced upwards.

**Flowers:** Heads with ray and disk flowers, solitary with woolly-hairy bases, often with purplish or brownish multicellular hairs; involucres 7-12 mm tall; involucral bracts lance-oblong, abruptly sharp-pointed, green throughout or the tips purplish-tinged, margins translucent, sparingly or more often moderately to densely long-hairy with purplish or brownish multicellular hairs; bracteoles lacking; ray flowers yellow, mostly 5-17 mm long or sometimes lacking; disk flowers yellow.

**Fruits:** Achenes oblong, ribbed, glabrous; pappus of white hairlike bristles.

Notes: Douglas (1982) demonstrated that the infraspecific taxa treated by Hulten (1968) and Welsh (1974) are unworthy of recognition.

_Seneckio canus_ Hook.

woolly groundsel

**Habitat/Range:**

Mesic to dry grasslands, shrublands, rock outcrops and scree slopes in the steppe to alpine zones; common in S BC east of the Coast-Cascade Mountains; E to S SK and S to NE, CO and CA.

**Description:**

**General:** Perennial herb from a branched, woody stem-base and often a short taproot; stems erect, several, branched above, 10-40 cm tall, white woolly-hairy but less so with age.

**Leaves:** Basal and lowermost stem leaves tufted, narrowly oblanceolate to more elliptic, stalked, 1-5 cm long, 0.4-4.5 cm wide, entire to irregularly lobed, strongly white woolly-hairy; middle and upper stem leaves toothed, becoming unstalked and reduced upwards.

**Flowers:** Heads with ray and disk flowers, several in a rounded inflorescence, with woolly-hairy bases; involucres 4-8 mm tall; involucral bracts unequal, lanceolate, margins translucent, long-hairy, also with a terminal tuft of hairs; ray flowers yellow, 6-13 mm long, rarely lacking; disk flowers yellow.

**Fruits:** Achenes oblong, ribbed, glabrous; pappus of white hairlike bristles.
Senecio atropurpureus

Senecio canus
**Senecio congestus** (R. Br.) DC.
marsh fleabane

**HABITAT/RANGE:**
Wet to moist streambanks, lakeshores, ponds and marshes in the montane zone; rare in extreme N BC, known only from Mile 581 (AK Highway) and Warm Bay; circumboreal, N to AK, YT and NT and E to PQ.

**DESCRIPTION:**
**General:** Annual or biennial herb from a fibrous root; stems erect, solitary, branched above, with long (over 1 mm) yellowish (sometimes whitish) hairs, 0.5-1.2 m tall.
**Leaves:** Basal leaves oblanceolate to elliptic or narrowly oblanceolate, pinnately lobed or toothed to nearly entire, with or without stalks, 3-20 cm long, 0.5-3 cm wide; stem leaves gradually reduced upwards, lanceolate to oblanceolate, pinnately lobed to irregularly toothed.
**Flowers:** Heads with ray and disk flowers, several to many in a rounded inflorescence; involucres 3-13 mm tall; involucral bracts lance-linear, greenish to yellowish, sometimes suffused with purple, glabrous or softly long-hairy or woolly-hairy with yellowish hairs; bracteoles few, usually purplish-tipped; ray flowers yellow, mostly 3-9 mm long or lacking; disk flowers yellow.
**Fruits:** Achenes oblong, ribbed, glabrous; pappus of white hairlike bristles.

**Senecio conterminus** Greene
high alpine butterweed

**HABITAT/RANGE:**
Dry rocky slopes and ridges in the subalpine and alpine zones; locally frequent in extreme SE BC; E to SW AB and S to MT.

**DESCRIPTION:**
**General:** Perennial herb from a short to moderate taproot; stems erect or ascending, solitary, usually simple, hairy by flowering time, 4-15 cm tall.
**Leaves:** Basal leaves egg-shaped, rounded or spoon-shaped, fleshy, almost 1 mm thick, 1-6 cm long including the stalk, 0.3-1.5 cm wide, entire, rarely lobed, wavy-margined or rarely irregularly toothed, glabrous or sometimes moderately white woolly-hairy; stem leaves reduced upwards, oblong to lanceolate, white woolly-hairy in the leaf axils, round-toothed to sharply and deeply cut, uppermost reduced to entire purplish-tipped bracts.
**Flowers:** Heads with ray and disk flowers, usually solitary (rarely up to 5) on white woolly-hairy stalks; involucres 8-11 mm tall; involucral bracts linear-lanceolate with long-pointed tips, with white or yellowish hairs, purplish-tinged, especially at the tips, margins translucent; bracteoles few, usually purplish-tipped; ray flowers yellow, mostly 6-16; disk flowers yellow.
**Fruits:** Achenes oblong, ribbed, glabrous; pappus of white hairlike bristles.

Notes: For a comprehensive discussion of the history of this complex group of species, which includes *S. conterminus*, *S. cymbalariooides*, *S. cymbalaria*, *S. hyperborealis* and *S. agariculensis*, see Douglas (1982).

**Senecio cymbalariooides** Pursh (*S. resedifolius* Less.)
northern butterweed

**HABITAT/RANGE:**
Moist meadows and bogs in the lowland to alpine zones; rare on the Queen Charlotte Islands, known only from Port Canal; amphitherrian, N to AK, YT and NT; NE Asia.

**DESCRIPTION:**
**General:** Perennial herb from a fibrous-rooted short rhizome; stems erect or ascending, solitary, simple or rarely branched above, 5-25 cm tall, glabrous, purplish.
**Leaves:** Basal leaves nearly circular, rounded or kidney-shaped, long-stalked, 2-7 cm long including the stalk, 0.3-1.5 cm wide, nearly entire or coarsely toothed or sometimes lobed, glabrous, purplish; stem leaves few and reduced, spoon-shaped to lanceolate, purplish, uppermost reduced to entire, purplish-tipped bracts.
**Flowers:** Heads with ray and disk flowers, usually solitary, rarely 2; involucres 8-14 mm tall; involucral bracts linear-lanceolate with long-pointed tips, purplish, glabrous; bracteoles few, purplish-tipped; ray flowers yellow or yellow-orange, 6-12 mm tall; disk flowers orange.
**Fruits:** Achenes oblong, ribbed, glabrous; pappus of white hairlike bristles.
Senecio congestus

Senecio conterminus

Senecio cymbalaria
**Asteraceae**

*Senecio cymbalarioides* Buck non Nutt. *(S. subnudus DC.)*

**alpine meadow butterweed**

**Habitat/Range:**
Moist to mesic streambanks, seepages and meadows from the upper montane to alpine zones; locally common in SC and SE BC; E to SW AB and S to WY and CA.

**Description:**
General: Perennial herb from a fibrous-rooted short rhizome; stems erect or ascending, solitary, simple or rarely branched above, 4-30 cm tall, glabrous.

Leaves: Basal leaves nearly circular, rounded or spoon-shaped, long-stalked, 1-11 cm long including the stalk, 0.3-2 cm wide, entire to coarsely toothed or sometimes lobed, glabrous; stem leaves few and reduced, oblong-spoon-shaped to lanceolate, uppermost reduced to entire, purplish-tipped bracts.

Flowers: Heads with ray and disk flowers, usually solitary, rarely 2; involucres 5-11 mm tall; involuclar bracts linear-lanceolate with long-pointed tips, purplish-tinged towards the tips, glabrous; bracteoles few, usually purplish-tipped; ray flowers yellow, 6-12 mm long; disk flowers yellow.

Fruits: Achenes oblong, ribbed, glabrous; pappus of white hairlike bristles.

*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 SW and SC BC; S to N WA.

**Description:**
General: Perennial herb from a branching, rhizome-like woody stem-base; stems ascending, several, branched above, 9-30 cm tall, woolly-hairy at first becoming almost glabrous at flowering time.

Leaves: Basal and lower stem leaves narrowly oblanceolate to broadly elliptic or rounded, stalked, 4-20 cm long, 1-3 cm wide, toothed, woolly-hairy at first becoming almost glabrous at flowering time; stem leaves well-developed but reduced upwards, becoming unstalked.

Flowers: Heads with ray and disk flowers, several, nodding in a rounded inflorescence; involucres 7-12 mm tall; involuclar bracts lanceolate, long-hairy and often purplish or blackish at the tips; bracteoles few, usually purplish-tipped; ray flowers yellow, 8-16 mm long; disk flowers yellow.

Fruits: Achenes oblong, ribbed, glabrous; pappus of white hairlike bristles.

*Senecio eremophilus* Rich. ssp. *eremophilus*

**dryland ragwort**

**Habitat/Range:**
Mesic to dry forests in the steppe and montane zones; frequent in C and NE BC, restricted to the and Peace River drainages; E to ON and S to NE, AZ and NM.

**Description:**
General: Perennial herb from a short, poorly developed taproot; stems erect, mostly solitary, branched above, 0.3-1.2 m tall, glabrous.

Leaves: Basal leaves soon deciduous; stem leaves lanceolate to oblanceolate, stalked, 4-15 cm long including the stalk, 1-4 cm wide, coarsely deeply-toothed to deeply pinnately cut, glabrous or nearly so; stem leaves reduced and becoming unstalked upwards.

Flowers: Heads with ray and disk flowers, several to numerous in a flat-topped to rounded inflorescence; involucres 7-9 mm tall; involuclar bracts lanceolate with long-pointed tips, inconspicuously black-tipped; bracteoles few, inconspicuously black-tipped; ray flowers yellow, mostly 6-10 mm long; disk flowers yellow.

Fruits: Achenes oblong, ribbed, glabrous; pappus of white hairlike bristles.
Senecio cymbalarioiodes

Senecio elmeri

Senecio eremophilus ssp. eremophilus
Asteraceae

Senecio fremontii T. & G. ssp. fremontii
dwarf mountain butterweed

Habitat/Range:
Moist to mesic talus and scree slopes in the alpine zone; frequent in S BC in and E of the Coast-Cascade Mountains; E to SW AB and S to CO and CA.

Description:
General: Perennial herb from a taproot and a branching, woody stem-base; stems ascending to prostrate, several, branched, glabrous, 10-20 cm tall.
Leaves: Basal leaves few and soon deciduous; stem leaves thickish, somewhat succulent, egg-shaped to spoon-shaped or oblong-lanceolate, regularly to irregularly toothed, stalked, 1-4 cm long including the stalk, 0.2-2 cm wide, upper leaves slightly reduced and becoming unstalked, glabrous.
Flowers: Heads with ray and disk flowers, numerous at the ends of branches, bases crisp-hairy; involucres 7-12 mm tall; involucral bracts lanceolate, with long-pointed tips, inconspicuously soft-hairy; bracteoles few, inconspicuous; rays yellow, 6-10 mm long, disk flowers yellow.
Fruits: Achenes oblong, nerv'd, glabrous; pappus of white hairlike bristles.

Senecio fuscosus Hayek (S. lindstroemi [Ostenf.] Pors., S. tundricola auct. non Tolm.)
northern groundsel

Habitat/Range:
Dry rocky fellfields and slopes in the alpine zones; rare in extreme NW BC; N to AK, YT and NT, disjunct in MT and WY.

Description:
General: Perennial herb from a short, rhizome-like woody stem-base; stems erect, solitary or few, simple or rarely few-branched above, white woolly-hairy becoming long-hairy with whitish or yellowish multicellular hairs above, 3-30 cm tall.
Leaves: Basal leaves thickish, oblong-lanceolate to egg-shaped, stalked, 2-10 cm long including short stalks, 3-35 mm wide, often irregularly toothed, woolly-hairy or these hairs deciduous and underlain with flattened multicellular hairs; stem leaves similar, gradually reduced upwards, lanceolate to oblong, sometimes toothed, woolly as in the basal leaves, unstalked.
Flowers: Heads with ray and disk flowers, solitary or rarely 2-4 at the ends of branches on densely white-woolly stalks with yellowish multicellular hairs; involucres 6-12 mm tall; involucral bracts linear to lance-shaped, purplish throughout, woolly to hairless or hairy with yellowish multicellular hairs; bracteoles lacking; ray flowers orange-yellow, mostly 8-25 mm long.
Fruits: Achenes oblong, nerv'd, stiff-hairy; pappus of white hairlike bristles.

Notes: Although T.M. Barkley previously considered S. fuscosus as synonymous with the E Asian S. tundricola (Douglas 1982), he recently (Barkley 1994) excluded the latter from the North American flora and resurrected S. fuscosus.

Senecio hydrophilooides Rydb. (Senecio foetidus T.J. Howell, S. foetidus var. foetidus and var. hydrophilooides [Rydb.]
T.M. Barkley ex Cronq.)
sweet-marsh butterweed

Habitat/Range:
Wet to moist meadows and forest openings in the montane and lower subalpine zones; rare in SE BC; E to AB and S to ID and OR.

Description:
General: Perennial herb from a fibrous root; stems erect, solitary to several, branched above, glabrous, 0.3-1 m tall.
Leaves: Basal leaves thickish, somewhat succulent, elliptic or broadly oblong-lanceolate, stalked, sharply toothed, 12-35 cm long including the stalks, 2-7 cm wide, glabrous; stem leaves similar, progressively reduced upwards, becoming unstalked and lanceolate.
Flowers: Heads with ray and disk flowers, several in an open or clustered inflorescence; involucres 5-10 mm tall; involucral bracts lanceolate, with long-pointed, conspicuously black tips; bracteoles few, black-tipped; ray flowers yellow, 1-8 or sometimes lacking, 5-10 mm long; disk flowers yellow.
Fruits: Achenes oblong, nerv'd, glabrous; pappus of white hairlike bristles.

Notes: The two weak varieties previously recognized by Douglas (1982) and Douglas et al. (1989) and others have recently been merged by Barkley (1994). The latter treatment has been followed here.
Senecio fremontii ssp. fremontii

Senecio fuscatus

Senecio hydrophiloides
Asteraceae

Senecio hydrophilus Nutt.
alkali-marsh butterweed

Habitat/Range:
Wet, often alkaline swamps and meadows in the montane zone; rare in extreme SE BC, known only from Salmon River and Kootenay River; E to SD and S to WA and CO.

Description:
General: Perennial herb from a fibrous-rooted short crown; stems erect, usually solitary, much branched above, hollow, glaucous, glabrous, 0.4-2 m tall.
Leaves: Basal leaves thick, somewhat succulent, 20-50 cm long including the stalk, 2-5 cm wide, narrowly oblong to elliptic, entire, sometimes irregularly callous-toothed; stem leaves few, progressively reduced upwards, becoming unstalked.
Flowers: Heads with ray and disk flowers, numerous in a clustered inflorescence; involucres 5-8 mm tall; involucral bracts lanceolate, with long-pointed, usually black tips, glabrous; bracteoles few, black-tipped; ray flowers few, yellow, 4-8 mm long or rarely lacking.
Fruits: Achenes oblong, glabrous; pappus of white hairlike bristles.

Senecio indecorus Greene
rayless mountain butterweed

Habitat/Range:
Moist forests, bogs, fens and streambanks in the steppe and montane zones; common throughout BC in and E of the Coast-Cascade Mountains; N to AK, YT and NT, E to PQ and NS, and S to WY and CA.

Description:
General: Perennial herb from a fibrous-rooted, simple or slightly branched woody stem-base; stems erect, solitary or few, branched above, glabrous, 0.1-1 m tall.
Leaves: Basal leaves lanceolate to elliptic to broadly egg-shaped, stalked, 1.5-12 cm long including the stalk, 0.5-5 cm wide, toothed, glabrous or lightly woolly-hairy when young; stem leaves lanceolate, sharply incised, pinnately cut and irregularly lobed, glabrous, reduced upwards, becoming unstalked.
Flowers: Heads discoid, few to numerous in a round-topped inflorescence; involucres 7-11 mm tall; involucral bracts linear-lanceolate, purplish-tipped or purplish throughout, glabrous or sparsely woolly-hairy; bracteoles few, inconspicuous; discoid or rarely short and yellow; disk flowers yellow.
Fruits: Achenes oblong, faintly ribbed, glabrous; pappus of white hairlike bristles.

Senecio integerrimus Nutt.
western groundsel

Habitat/Range:
Moist to dry grasslands, shrublands, forest openings and meadows in the steppe to lower subalpine zones; var. integerrimus common in S BC in and E of the Coast-Cascade Mountains, var. ochroleucus rare in SC and SE BC; E to SK and MN and S to CA.

Description:
General: Perennial herb from a fibrous-rooted, short, erect woody stem-base; stems erect, solitary, branched above, sparsely to densely woolly-hairy, 20-70 cm tall.
Leaves: Basal leaves thick, somewhat succulent, narrowly oblong to elliptic or nearly round, stalked, 6-25 cm long including the stalk, 1-6 cm wide, entire or sometimes irregularly toothed, hairy when young becoming less so with age; stem leaves similar, progressively reduced upwards, becoming unstalked.
Flowers: Heads with ray and disk flowers, several to numerous in a compact inflorescence; involucres 5-10 mm tall; involucral bracts lanceolate, hairless to moderately long-hairy, usually conspicuously black-tipped; bracteoles few, black-tipped; ray flowers yellow, rarely white or creamy; disk flowers yellow.
Fruits: Achenes oblong, ribbed, glabrous or coarse-hairy; pappus of white hairlike bristles.
Notes: Two poorly-defined varieties occur in BC. The var. ochroleucus has not been collected in BC since 1897.

1. Ray flowers white .......................................................................................... var. ochroleucus (A. Gray) Cronq.
1. Ray flowers yellow .......................................................................................... var. exaltatus (Nutt.) Cronq.
Senecio hydrophilus

Senecio indecorus

Senecio integerrimus var. exaltatus
Asteraceae

Senecio jacobaea L.
tansy ragwort
HABITAT/RANGE:
Mesic to dry fields, clearcuts and pastures in the lowland zone; locally frequent on S Vancouver Island and adjacent lower mainland; introduced from Eurasia.

DESCRIPTION:
General: Biennial or short-lived perennial herb from a poorly-developed to evident taproot; stems erect, solitary or several, branched above, sparsely to densely white woolly-hairy, 0.2-1 m tall.
Leaves: Basal leaves oblanceolate, stalked, 4-20 cm long including the stalk, 2-6 cm wide, mostly 2-3 times pinnately cut, thinly woolly-hairy when young but usually glabrous by flowering time; stem leaves similar, progressively reduced upwards, becoming unstalked.
Flowers: Heads with ray and disk flowers, several to numerous in clusters; involucres 2-5 mm tall; involucral bracts oblanceolate, with long-pointed, usually black tips, hairless to sparsely woolly-hairy, margins translucent; bracteoles few, black-tipped; ray flowers yellow, 4-10 mm long; disk flowers yellow.
Fruits: Achenes oblong, nervet, those of the disk flowers minutely coarse-hairy, those of the ray flowers glabrous; pappus of white hairlike bristles.

Senecio inflatus Rich.
black-tipped groundsel
HABITAT/RANGE:
Moist to dry meadows and rocky slopes in the subalpine and alpine zones; common throughout BC in and E of the Coast-Cascade Mountains, rare on the Queen Charlotte Islands; N to AK, YT and NT/E to AB and S to WY and N WA.

DESCRIPTION:
General: Perennial herb from a fibrous-rooted, short, thick, ascending or horizontal rhizome; stems erect, solitary, branched above, glabrous or sparsely woolly-hairy, 10-80 cm tall.
Leaves: Basal leaves relatively thick, lanceolate, oblanceolate to elliptic or nearly egg-shaped, stalked, the stalks sometimes winged, 2-21 cm long including the stalk, 0.5-4.5 cm wide, at least some regularly finely to coarsely toothed, thinly woolly-hairy when young but glabrous or nearly so by flowering time; stem leaves similar, lanceolate, progressively reduced upwards, becoming unstalked.
Flowers: Heads with ray and disk flowers, few to many in a compact to open flat-topped inflorescence; involucres 5-9 mm tall; involucral bracts lanceolate, woolly-hairy below, hairy at the tips, conspicuously black-tipped; bracteoles few, black-tipped; ray flowers yellow, mostly 7-15 mm long; disk flowers yellow.
Fruits: Achenes oblong, ribbed, glabrous or coarse-hairy; pappus of white hairlike bristles.

Senecio macounii Greene
Macoun’s groundsel
HABITAT/RANGE:
Dry open forests, disturbed areas and rock outcrops or limestone quarries in the lowland zone; rare on S Vancouver Island, Texada Island and adjacent mainland; S to OR.

DESCRIPTION:
General: Perennial herb from a fibrous-rooted, short, ascending or horizontal rhizome or woody stem-base; stems erect, solitary or several, branched above, glabrous or sparsely long-hairy to densely woolly-hairy, 13-85 cm tall.
Leaves: Basal leaves thick, lanceolate to oblanceolate, stalked, 4-27 cm long including the stalk, 0.5-3 cm wide, thinly white-woolly when young becoming hairless by flowering time, entire or coarsely toothed; stem leaves similar, lanceolate to linear, thinly to densely woolly-hairy in the leaf axils, progressively reduced upwards, becoming unstalked.
Flowers: Heads with ray and disk flowers, few to many in an open, flat-topped inflorescence; involucres 5-9 mm tall; involucral bracts lanceolate, hairy at the tips, green, margins translucent; bracteoles few, inconspicuous; ray flowers yellow, mostly 6-12 mm long; disk flowers yellow.
Fruits: Achenes oblong, nervet, glabrous; pappus of white hairlike bristles.
*Senecio jacobaea*

*Senecio lugens*

*Senecio macounii*
\textbf{Asteraceae}

\textit{Senecio megacephalus} Nutt.
\textbf{large-headed groundsel}

\textbf{Habitat/Range:}
Dry rocky slopes, meadows and forest openings in the montane to lower alpine zones; locally infrequent in SE BC; E to SW AB and S to MT and ID.

\textbf{Description:}
General: Perennial herb from a stout, woody stem-base or short rhizome; stems erect, solitary, simple or rarely few-branched above, nearly glabrous to sparsely or moderately white woolly-hairy, 20-50 cm tall.

Leaves: Basal leaves thick, lanceolate, oblanceolate or narrowly elliptic, stalked, 6-20 cm long including the stalk, 0.5-3 cm wide, entire or sometimes callous-toothed, cobwebby-hairy when young but nearly glabrous at flowering time; stem leaves similar, lanceolate, progressively reduced upwards, becoming unstalked.

Flowers: Heads with ray and disk flowers, solitary or rarely 2-4 on stalks, sparsely to densely white-woolly; involucres 10-16 mm tall; involucral bracts oblanceolate to lanceolate, densely white woolly-hairy and long-hairy, margins translucent, black-tipped; bracteoles numerous, sometimes nearly as long as the involucral bracts, black tipped; ray flowers orange, mostly 15-22 mm long; disk flowers yellow.

Fruits: Achenes oblong, nerv'd, glabrous; pappus of white hairlike bristles.

\textit{Senecio moresbiensis} (Calder & Tayl.) G.W. Dougl. & G. Ruyle-Dougl. (\textit{S. cymbalarioides} Buek ssp. \textit{moresbiensis} Calder & Tayl.)

\textbf{Queen Charlotte butterweed}

\textbf{Habitat/Range:}
Moist to wet bogs and slopes in the lowland and montane zones; locally frequent on the Queen Charlotte Islands and extreme N Vancouver Island; N to SE AK.

\textbf{Description:}
General: Perennial herb from a fibrous-rooted, stout woody stem-base or short rhizome; stems erect, solitary, simple or rarely few branched, glabrous, 15-35 cm tall.

Leaves: Basal leaves egg-shaped, stalked, 1.5-6 cm long including the stalk, 0.5-2.3 cm wide, regularly toothed, glabrous, usually purplish; lower stem leaves similar, few; upper stem leaves becoming more lanceolate and unstalked upwards, often purplish, conspicuously white-woolly tufted in the leaf axils, uppermost reduced to entire, purplish-tipped bracts.

Flowers: Heads with ray and disk flowers, solitary or rarely 1-2 heads on white woolly-hairy stalks, some hairs often with prominent reddish crosswalls; involucres 7-11 mm tall; involucral bracts linear-lanceolate, purplish-tinged throughout, long soft-hairy below, rarely almost glabrous; bracteoles few, purplish-tinged; ray flowers yellow, mostly 6-14 mm long; disk flowers yellow.

Fruits: Achenes oblong, nerv'd, glabrous; pappus of white hairlike bristles.

Notes: This species was originally described as a subspecies of \textit{S. cymbalarioides} (Calder & Tayl. 1965) and recently has been submerged within that species (Barkley 1994). It would appear, however, that if \textit{S. moresbiensis} is to be treated as part of another species complex it would be with \textit{S. cymbalaria}. The latter taxa have similar chromosome numbers, purplish-pigmented leaves and slightly overlapping ranges – differences markedly separating them from \textit{S. cymbalarioides}. Recognition of \textit{S. moresbiensis} at the species level (Douglas and Ruyle-Douglas 1978; Douglas 1982, Douglas et al. 1989) is easily justified when examining species differences among our other \textit{Senecio} species.
**Senecio ogotorukensis** Packer
*Ogotoruk Creek butterweed*

**Habitat/Range:**
Dry river terraces, gravel bars and rocky slopes from the montane to alpine zones; rare in extreme NW BC; N to AK, YT and NT.

**Description:**
**General:** Perennial herb from a fibrous-rooted rhizome; stems ascending to erect, solitary to several, simple to few-branched, sparsely to densely white woolly-hairy, 2-30 cm tall.

**Leaves:** Basal leaves thick, somewhat succulent, oblong-linear, elliptic or egg-shaped, stalked, 0.6-10 cm long including the stalk, 0.2-1 cm wide, entire, wavy, coarsely toothed or pinnately cut, sparsely to densely white woolly-hairy; stem leaves similar, few, oblong-linear to more linear, reduced and unstalked upwards.

**Flowers:** Heads with ray and disk flowers, solitary to few at the tips of the branches, on white woolly-hairy stalks; involucres 4-8 mm tall; involucral bracts lanceolate, greenish to purplish throughout or more often purplish-tipped, white woolly-hairy, margins translucent; bracteoles few, purplish; ray flowers yellow, mostly 6-12 mm long; disk flowers yellow.

**Fruits:** Achenes oblong, nerved, glabrous; pappus of white hairlike bristles.

**Senecio pauciflorus** Pursh
*Rayless alpine butterweed*

**Habitat/Range:**
Wet to moist meadows in the subalpine and alpine zones; common throughout BC, lacking on the Queen Charlotte Islands; E to NF and S to WY and CA.

**Description:**
**General:** Perennial herb from a fibrous-rooted, simple or slightly branched woody stem-base; stems erect, solitary or several, simple or few-branched above, glabrous or nearly so, 10-50 cm tall.

**Leaves:** Basal leaves thick, succulent, elliptic, egg-shaped or nearly round, stalked, 1.5-10 cm long including the stalk, 1-4 cm wide, glabrous to sparsely white woolly-hairy, toothed; stem leaves similar, lanceolate, variously toothed, cleft or lobed, progressively reduced upwards, becoming unstalked.

**Flowers:** Heads discoid, solitary to several at the tips of stems or branches; involucres 6-10 mm tall; involucral bracts linear-lanceolate, reddish-purple throughout or at least above the middle, rarely green, glabrous or sparsely hairy; bracteoles few, purplish; discoid or rarely short and yellow; disk flowers orange or reddish.

**Fruits:** Achenes oblong, nerved, glabrous; pappus of white hairlike bristles.

**Senecio pauperulus** Michx.
*Canadian butterweed*

**Habitat/Range:**
Moist forests, meadows and streambanks in the lowland, steppe and montane zones; common throughout BC, except absent on the Queen Charlotte Islands; N to AK, YT, NT, E to PQ and S to GA and OR.

**Description:**
**General:** Perennial herb from a fibrous-rooted short, simple or slightly branched woody stem-base, occasionally with a few short slender stolons; stems erect, solitary or sometimes several, few-branched upwards, 10-70 cm tall.

**Leaves:** Basal leaves oblanceolate or elliptic or oblong, stalked, 2-20 cm long including the stalk, 0.4-4 cm wide, nearly entire to toothed, glabrous; stem leaves lanceolate, deeply toothed or lobed, progressively reduced upwards and becoming unstalked.

**Flowers:** Heads with ray and disk flowers, few to several in a clustered, flat-topped inflorescence; involucres 3-9 mm tall; involucral bracts lanceolate, green or purplish-tipped, glabrous to moderately woolly-hairy, margins translucent, hairy at tips; bracteoles few, inconspicuous; ray flowers yellow, mostly 5-10 mm long, rarely lacking; disk flowers yellow.

**Fruits:** Achenes oblong, ribbed, glabrous or sometimes finely hairy; pappus of white hairlike bristles.
Senecio ogotorukensis

Senecio pauciflorus

Senecio pauperculus
**Senecio plattensis** Nutt.
plains butterweed

**Habitat/Range:**
Dry open meadows and forests in the montane zone; infrequent in C BC; disjunct, E to S ON and S to LA, TX, MT and AZ.

**Description:**
**General:** Perennial herb from a fibrous-rooted, short woody stem-base; stems erect, solitary, branched above, thinly to moderately white woolly-hairy. 16-50 cm tall.
**Leaves:** Basal leaves lanceolate to oblanceolate, stalked, 2-11 cm long including the stalk, 0.3-3.7 cm wide, nearly entire or toothed, long-hairy to densely white woolly-hairy; stem leaves similar, becoming lanceolate, white woolly-hairy in the leaf axils, progressively reduced upwards, becoming unstalked.
**Flowers:** Heads with ray and disk flowers, few to several on white woolly-hairy stalks in a clustered inflorescence; involucres 5-8 mm tall; involucral bracts lanceolate, green or purplish-tipped, glabrous, densely long-hairy below, margins translucent; bracteoles few, inconspicuous; ray flowers yellow; mostly 5-10 mm long; disk flowers yellow.
**Fruits:** Achenes oblong, nerved, glabrous or rarely coarse-hairy; pappus of white hairlike bristles.

**Senecio pseudoauratus** Rydb. ssp. *pseudoauratus*
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.

**Description:**
**General:** Perennial herb from a fibrous-rooted, short, ascending or horizontal rhizome or woody stem-base; stems erect, solitary, branched above, glabrous to nearly glabrous, 20-70 cm tall.
**Leaves:** Basal leaves heart-shaped, round, elliptic to egg-shaped or oblanceolate, stalked, 2-20 cm long including the stalk, 1-6 cm wide, toothed, lightly white woolly-hairy at first, soon becoming glabrous; stem leaves few, oblanceolate, raggedly toothed, progressively reduced upwards, becoming unstalked.
**Flowers:** Heads few to many on hairy stalks in a clustered inflorescence; involucres 5-8 mm tall; involucral bracts lanceolate, sometimes purplish-tipped, glabrous to sparsely long-hairy, margins translucent; bracteoles few, inconspicuous, purplish-tipped; ray flowers yellow, mostly 6-10 mm long; disk flowers yellow.
**Fruits:** Achenes oblong, glabrous; pappus of white hairlike bristles.

**Senecio pseudoarnica** L.
beach groundsel

**Habitat/Range:**
Moist to mesic sand dunes, beaches and tidal flats in the lowland zone; rare on the N Queen Charlotte Islands; amphiberingian, N to AK, disjunct on the coasts of Labr., NF, PQ, NS and NB, NE Asia.

**Description:**
**General:** Perennial herb from an erect to ascending rhizome; stems erect or ascending, solitary, simple or branched, glabrous below, woolly-hairy above, 5-90 cm tall.
**Leaves:** Basal leaves usually smaller than the stem leaves, deciduous by flowering time; stem leaves thick, spoon-shaped to oblanceolate, egg-shaped or oblong, broadly stalked to unstalked, 2-25 cm long, 1-10 cm wide, toothed, sparsely to moderately woolly-hairy above and below or nearly glabrous above, not much reduced upwards except in the inflorescence.
**Flowers:** Heads with ray and disk flowers, up to 4.5 cm across, solitary to several on glabrous to woolly-hairy stalks in a compact inflorescence; involucres 10-25 mm tall; involucral bracts lance-oblong to more linear, green or purplish, margins translucent, sparsely to moderately woolly-hairy; bracteoles numerous, equal to or longer than the involucral bracts; ray flowers yellow, mostly 10-25 cm long; disk flowers yellow.
**Fruits:** Achenes oblong, faintly nerved, glabrous; pappus of white hairlike bristles.
**Asteraceae**

*Senecio sheldonensis* Pors.
**Mount Sheldon butterweed**

**Habitat/Range:**
Wet to moist meadows and forest openings in the montane to alpine zones; infrequent in N BC; N to YT and SW NT

**Description:**
**General:** Perennial herb from a short rhizome or woody stem-base; stems erect, solitary, branched above, glabrous, 30-70 cm tall.
**Leaves:** Basal leaves elliptic to oblanceolate, stalked, 2-15 cm long including the stalk, 0.6-3.4 cm wide, toothed, glabrous; stem leaves similar but larger, 2-21 cm long, 0.7-4.2 cm wide, egg-shaped to lanceolate, toothed, progressively reduced upwards, becoming unstalked.
**Flowers:** Heads with ray and disk flowers, few to many on glabrous to sparsely long-hairy stalks in an open flat-topped inflorescence; involucre 7-12 mm tall; involucral bracts lanceolate to more oblong, purplish or black-hairy tipped, otherwise glabrous or rarely with inconspicuous unstalked glands at the tip, margins translucent; bracteoles few, conspicuous, tipped with purplish or black hairs; ray flowers yellow, 6-14 mm long; disk flowers yellow.
**Fruits:** Achenes oblong, nerved, glabrous; pappus of white hairlike bristles.

*Senecio streptanthifolius* Greene (S. cymbalarioides [T. & G.] Nutt.)
**Rocky Mountain butterweed**

**Habitat/Range:**
Mesic to dry meadows, rocky slopes and forests from the montane to alpine zones; common throughout BC except immediate coast; N to AK, YT, and NT and S to UT and CA.

**Description:**
**General:** Perennial herb from a fibrous-rooted woody stem-base or short rhizome; stems erect, solitary, branched above, glabrous, 10-60 cm tall.
**Leaves:** Basal leaves oblanceolate to egg-shaped or rounded, toothed or shallowly lobed mostly above the middle, somewhat succulent, stalked, 2-8 cm long including the stalk, 0.4-4 cm wide, glabrous; stem leaves few, oblanceolate to more linear, toothed or cleft, sometimes woolly in the leaf axils, progressively reduced upwards, becoming unstalked.
**Flowers:** Heads with ray and disk flowers, few to many on glabrous or sparsely woolly-hairy stalks in a compact inflorescence; involucre 4-8 mm tall; involucral bracts lanceolate, sometimes purplish and hairy at the tips, glabrous, margins translucent; bracteoles few, inconspicuous; ray flowers yellow, mostly 5-12 mm long; disk flowers yellow.
**Fruits:** Achenes oblong, faintly ribbed, glabrous; pappus of white hairlike bristles.

*Senecio sylvaticus* L.
**wood groundsel**

**Habitat/Range:**
Mesic to dry roadsides, clearcuts and disturbed areas in the lowland zone; frequent in coastal and SW BC; introduced from Europe.

**Description:**
**General:** Annual herb from a more or less evident taproot; stems erect, solitary, branched, 15-80 cm tall.
**Leaves:** Basal leaves smaller than the stem leaves, usually deciduous by flowering time; stem leaves lanceolate to oblanceolate, 2-12 cm long, 0.4-4 cm wide, more or less pinnately cut, irregularly toothed, stalked near the base, becoming unstalked upwards, sparsely to densely long-hairy or sometimes nearly glabrous.
**Flowers:** Heads with ray and disk flowers, several to numerous heads on sparsely to densely long-hairy stalks in an open inflorescence; involucre 5-7 mm tall; involucral bracts lanceolate, black-tipped, sparsely long-hairy and sometimes glandular-hairy at the tips; bracteoles minute, inconspicuous or lacking; ray flowers yellow, inconspicuous, mostly 1-2 mm long; disk flowers yellow.
**Fruits:** Achenes oblong, faintly ribbed, white stiff-hairy; pappus of white hairlike bristles.
**Senecio triangularis** Hook.
*arrow-leaved groundsel; arrow-leaved ragwort*

**Habitat/Range:**
Moist to mesic meadows, streambanks, avalanche tracks and forest openings 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.

**Description:**
**General:** Perennial herb from a fibrous-rooted, woody stem-base or rhizome; stems erect, solitary or few, branched above, glabrous to sparsely short-hairy above, 0.2-1.5 m tall.

**Leaves:** Basal leaves triangular to heart-shaped, squared-off at the base; strongly toothed, stalked, 2.5-10 cm long including the stalks, 0.4-4.5 cm wide, hairless except for short hairs on the veins beneath; sometimes deciduous by flowering time; stem leaves similar, larger, 2.5-25 cm long, 0.4-8.5 cm wide, gradually reduced upwards, becoming unstalked.

**Flowers:** Heads with ray and disk flowers, few to more often numerous on sparsely hairy stalks in a short, flat-topped inflorescence; involucres 7-12 mm tall; involucral bracts lanceolate, conspicuously black-tipped, sometimes also sparsely hairy or rarely with inconspicuous unstalked glands at the tips; bracteoles conspicuous, black-tipped, hairy; ray flowers yellow, mostly 7-14 mm long; disk flowers yellow.

**Fruits:** Achenes oblong, faintly ribbed, glabrous; pappus of white hairlike bristles.

**Senecio viscosus** L.
*sticky ragwort*

**Habitat/Range:**
Dry to mesic roadsides, waste places and disturbed areas; infrequent in coastal, SW and SC BC, locally common in WC BC; introduced from Europe.

**Description:**
**General:** Annual or biennial herb from a taproot; stems erect, solitary, usually branched, sticky-glandular, 10-60 cm tall.

**Leaves:** Basal leaves smaller than the stem leaves, usually deciduous by flowering time; stem leaves lanceolate to oblanceolate, stalked to unstalked, 2.5-10 cm long, 1-6 cm wide, deeply pinnately lobed, the segments again toothed or lobed, sticky-glandular, not much reduced upwards.

**Flowers:** Heads with ray and disk flowers, few to numerous on sticky-glandular stalks in an open inflorescence; involucres 7-10 mm tall; involucral bracts lanceolate, sticky-glandular, green, margins papery, faintly black-tipped; bracteoles few, inconspicuous; ray flowers yellow, mostly 1-4 mm long; disk flowers yellow.

**Fruits:** Achenes oblong, faintly ribbed, glabrous; pappus of white hairlike bristles.
Senecio triangularis

Senecio viscosus
**Asteraceae**

*Senecio vulgaris* L.
**common groundsel**

**Habitat/Range:**
Mesic to dry roadsides, disturbed areas and gardens; common in WC and SW BC, rare elsewhere in S BC; introduced from Europe.

**Description:**
**General:** Annual or biennial herb with a more or less evident taproot; stems erect, solitary, branched, glabrous to sparingly long-hairy, 10-55 cm tall.

**Leaves:** Basal leaves oblanceolate to elliptic, stalked, 0.8-3 cm long, 0.3-1 cm wide, coarsely toothed or lobed, nearly glabrous to long-hairy, soon deciduous; stem leaves larger, 2-10 cm long, 0.5-4.5 cm wide, oblanceolate, coarsely toothed to more often pinnately cut, nearly glabrous to long-hairy, not greatly reduced upwards, with ear-like lobes, these clapping at the bases.

**Flowers:** Heads discoid, several to numerous on glabrous to long-hairy stalks in an open inflorescence; involucres 5-8 mm tall; involucral bracts lanceolate, green, black-tipped, glabrous, margins translucent, hairy at the tips; bracteoles numerous, conspicuous, black-tipped; discoid; disk flowers yellow.

**Fruits:** Achenes oblong, faintly ribbed, bristly-hairy; pappus of white hair-like bristles.

*Senecio yukonensis* Pors. (S. alaskanus Hult.)
**Yukon groundsel**

**Habitat/Range:**
Moist fellfields and snowbed sites in the alpine zone; rare in N BC; N to AK, YT and NT

**Description:**
**General:** Perennial herb from a rhizome; stems erect, solitary, few-branched above; nearly glabrous to sparingly long-hairy below, becoming densely long-hairy above, 15-35 cm tall.

**Leaves:** Basal leaves thick, oblanceolate to elliptic, stalked, 2-10 cm long including the stalk, 0.4-1.5 cm wide, sometimes toothed, glabrous to moderately or densely woolly-hairy; stem leaves similar, becoming linear, much reduced upwards, becoming unstalked.

**Flowers:** Heads with ray and disk flowers, few in a clustered inflorescence, on stalks moderately to densely woolly-hairy with yellowish multicellular hairs; involucres 6-12 mm tall; involucral bracts lance-oblong to linear, purplish throughout, moderately to densely long-hairy, margins translucent; bracteoles few, inconspicuous; ray flowers yellow, mostly 5-12 mm long, often inconspicuous or sometimes lacking; disk flowers yellow.

**Fruits:** Achenes oblong, nerved, glabrous; pappus of white hair-like bristles.
Senecio vulgaris

Senecio yukonensis
**ASTERACEAE**

**SILYBUM**

*Silybum marianum* (L.) Gaertn.

**HABITAT/RANGE:**
Mesic to dry roadsides and disturbed areas in the lowland zone; rare on SE Vancouver Island and the adjacent mainland; introduced from the Mediterranean region.

**DESCRIPTION:**
- **General:** Annual or biennial herb from a fibrous root; stems erect, solitary, simple or few-branched, ridged, glabrous to sparsely woolly-hairy, 0.5-1.5 m tall.
- **Leaves:** Basal leaves lacking; stem leaves elliptic below, becoming oblanceolate or lanceolate above, alternate, spiny-toothed, pinnately lobed, 15-80 cm long, 5-30 cm wide, veins lighter in colour thus leaves appearing white-mottled, stalked below, becoming unstalked above with conspicuous ear-like flanges, clasping at the bases.
- **Flowers:** Heads discoid, terminating the branches; involucres 2-6 cm wide; involucral bracts narrowly egg-shaped, margins spiny, tips spiny but basally expanded; ray flowers lacking; disk flowers purple.
- **Fruits:** Achenes elliptic to egg-shaped, 6-7 mm long, flattened, dark brown with a narrow, yellow, apical collar, glabrous; pappus with numerous bristles, these deciduous in a ring.

**SINOSENECIO**

*Sinoecio newcombei* (Greene) Janovec & Barkley (*Senecio newcombei* Greene)

**Newcombe’s butterweed**

**HABITAT/RANGE:**
Moist bogs, meadows, rocky slopes and forests in the lowland to alpine zones; endemic and common on the Queen Charlotte Islands.

**DESCRIPTION:**
- **General:** Perennial herb from a fibrous-rooted short, horizontal to ascending rhizome; stems erect, solitary, simple, glabrous or sparsely to moderately long-hairy with whitish multicellular hairs, 10-30 cm tall.
- **Leaves:** Basal leaves egg-shaped to rounded or kidney-shaped, long-stalked, 1.5-10 cm long including the stalk, 1-3 cm wide, glabrous to sparsely long-hairy or stiff-hairy, sometimes from short separate shoots; lower stem leaves similar, glabrous to conspicuously white woolly-hairy in the leaf axils, becoming reduced and few-lobed or entire upwards.
- **Flowers:** Heads with ray and disk flowers, solitary, with stalks glabrous or sparsely to moderately woolly-hairy with whitish multicellular hairs; involucres 5-12 mm tall; involucral bracts oblanceolate, green, margins translucent and jagged to fringed with small hairs above, hairy at the tips; bracteoles few, inconspicuous or lacking; ray flowers yellow, mostly 7-16 mm long; disk flowers yellow.
- **Fruits:** Achenes oblong, ribbed, glabrous; pappus of white hairlike bristles.

Notes: This species has recently been moved to *Sinoecio* from *Senecio*. The microcharacters separating our species of *Sinoecio* from other *Senecio* in our flora are the uniform entire stigmatic areas and the cylindric stamen filaments of the “tussalaginoid lineage” and also the thickenings in the transverse walls of the endothelial cells, i.e., the thickenings are “polarized” (Janovec & Barkley 1996). In addition, the chromosome number of this species is *n* = 24, a number not known among *Senecio*. This use of microcharacters runs counter to our overall taxonomic concept of a practical flora, but since all other North American treatments will follow this treatment we will as well.
Silybum marianum

Sinosenecio newcombei
SOLIDAGO

1. Plants with well-developed creeping rhizomes; stems more or less equally leafy, the lowest leaves not markedly different than the upper ones.

2. Stems short-hairy, at least above the middle; leaves short-hairy to nearly glabrous .......... *S. canadensis*

2. Stems glaucous or glabrous below the inflorescence; leaves glabrous or rarely nearly glabrous.

3. Stems densely and nearly uniformly leafy throughout; leaves not much reduced upwards, glaucous, 0.5-2.0 m tall, the upper leaves lanceolate, sharply saw-toothed ........................................... *S. gigantea*

3. Stems with upper leaves reduced, glabrous, not glaucous, 0.2-0.5 m tall, the upper leaves mostly linear, entire ................................................................. *S. missouriensis*

1. Plants with a mostly short, stout, woody rhizome or a branched stem-base; stems with the basal and lower stalked leaves much larger than the upper, reduced, unstalked ones.

4. Leaves densely and finely short-hairy with short, spreading hairs .................................. *S. nemoralis*

4. Leaves glabrous except for the sometimes hair-fringed margins.

5. Lowermost leaves with the stalk fringed with small hairs; heads in a flat- or round-topped inflorescence; involucral bracts not much graduated ........................................... *S. multiradiata*

5. Lowermost leaves with the stalks not fringed with small hairs; heads in an elongate inflorescence; involucral bracts evidently graduated ........................................... *S. spathulata*

*Solidago canadensis* L. (*S. leptida* DC. = var. *subserata*)

**Canada goldenrod**

**Habitat/Range:**
Moist to mesic meadows, grasslands, shrublands, ditches, fields, roadsides, and forest openings in the lowland, steppe and montane zones; common throughout BC, N to AK, YT and NT, E to NE and S to FL, TX and CA.

**Description:**
**General:** Perennial herb from a fibrous-rooted, creeping rhizome; stems erect, solitary, branched above, densely short-hairy above, 0.3-2 m tall.

**Leaves:** Basal leaves lacking or, like the lower stem leaves, reduced and soon deciduous; stem leaves lance-linear to narrowly lance-elliptic, tapering to an unstalked base, 5-15 cm long, 5-22 mm wide, alternate, simple, sharply saw-toothed or entire, 3-nerved, glabrous to densely short-hairy or rough-hairy.

**Flowers:** Heads with ray and disk flowers, numerous in a dense pyramidal inflorescence from scarcely to much exceeding the upper leaves; involucres 2-5 mm tall; involucral bracts linear-lanceolate, from somewhat to evidently overlapping, glabrous; ray flowers yellow, mostly 10-17, 1-3 mm long; disk flowers yellow.

**Fruits:** Achenes short-hairy; pappus of numerous white hairlike bristles.

Notes: Three often difficult to separate varieties occur in BC.

1. Involutural bracts not much graduated, the outer bracts more than 1/2 as long as the inner; inflorescence short and compact, not at all 1-sided, sometimes scarcely surpassing the leaves; plants mostly 40-80 cm tall; hairiness as in var. *salebrosa*, mainly coastal plants ........................................... var. *subserata* (DC.) Cronq.

1. Involutural bracts more evidently graduated; 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 1-sided; plants mostly 40-80 (120) cm tall, mainly interior plants ................................................................. var. *gilvocanescens* Rydb.

2. Leaves less densely hairy or even nearly glabrous; stem less densely hairy, often nearly glabrous below; inflorescence typically elongate and scarcely 1-sided (varying to like that of var. *gilvocanescens* or nearly like that of var. *subserata*); plants 40-200 cm tall, coastal and interior plants .................................................. var. *salebrosa* (Piper) M.E. Jones
Solidago canadensis var. subserrata
ASTERACEAE

Solidago gigantea Ait. ssp. serotina (Ait.) McNeill (S. serotina Ait. non Retz.)

smooth goldenrod; giant goldenrod

HABITAT/RANGE:
Moist meadows, streambanks and forest openings in the montane zone; rare in SE BC, known only from Trail and Golden; E to PQ and S to GA, OR and MX.

DESCRIPTION:
General: Perennial herb from a fibrous-rooted, creeping rhizome; stems erect, solitary, branched above, the branches recurved and 1-sided, glabrous below, glaucous and fine-hairy in the inflorescence, 0.5-2.0 m tall.

Leaves: Basal leaves lacking or, like the lower stem leaves, reduced and soon deciduous; stem leaves lanceolate to elliptic-oblong, 8-15 cm long, 1.2-3.5 cm wide, alternate, simple, sharply saw-toothed or entire, 3-nerved, glabrous.

Flowers: Heads with ray and disk flowers, numerous in a dense pyramidal inflorescence; involucres 2-5 mm tall; involucral bracts lanceolate, often blunt, overlapping, glabrous; ray flowers 9-16, 2-2.5 mm long; disk flowers yellow.

Fruits: Achenes short-hairy; pappus of numerous white hairlike bristles.

Solidago missouriensis Nutt. var. missouriensis

Missouri goldenrod

HABITAT/RANGE:
Drygrasslands, shrublands and open forests in the steppe and lower montane zones; infrequent in SC, SE and NE BC; E to ON and S to TN, TX and AZ.

DESCRIPTION:
General: Perennial herb from a creeping rhizome or sometimes a woody stem-base; stems erect, solitary to few, branched above, glabrous or sparingly hairy in the inflorescence, 20-90 cm tall.

Leaves: Basal leaves oblong-lanceolate, stalked, 5-30 cm long, 0.5-3 cm wide, essentially glabrous, 3-nerved, entire or remotely toothed; stem leaves similar, alternate, becoming linear, entire, unstalked and much reduced upwards.

Flowers: Heads with ray and disk flowers, numerous in a dense oblong to rounded inflorescence; involucres 3-5 mm tall; involucral bracts linear-oblong to broadly lanceolate, midvein prominent, hairy towards the tip; ray flowers 7-13; disk flowers yellow.

Fruits: Achenes short-hairy; pappus of numerous white hairlike bristles.

Solidago multiflora Ait. (S. multiflora var. scopulorum A. Gray)

northern goldenrod

HABITAT/RANGE:
Mesic to Drymeadows, fellfields, rocky slopes and forests in all vegetation zones; common throughout BC; amphiberingian, N to AK, YT, and NT, E to PQ, and S to NM, AZ, and CA.

DESCRIPTION:
General: Perennial herb from a short rhizome or branching woody stem-base; stems erect, solitary, branched above, long-hairy, at least in the inflorescence, 5-50 cm tall.

Leaves: Basal and lower stem leaves oblong-lanceolate or spoon-shaped, toothed or sometimes entire, 2-10 cm long, 5-18 mm wide, conspicuously hairy-margined, at least along the stalks, otherwise glabrous; stem leaves similar, the middle and upper ones reduced and becoming unstalked.

Flowers: Heads with ray and disk flowers, numerous in a loose to densely compacted, rounded inflorescence; involucres 4-6 mm tall; involucral bracts thin, linear to lance-linear, margins hairy, long-pointed; ray flowers yellow, about 13, 4-5.5 mm long, exceeding the disk flowers; disk flowers yellow.

Fruits: Achenes short-hairy; pappus of numerous white hairlike bristles.
Solidago gigantea ssp. serotina

Solidago missouriensis var. missouriensis

Solidago multiradiata

**field goldenrod; dyersweed goldenrod**

**Habitat/Range:**
Mesic to Drygrasslands and forest openings in the lower montane zone; infrequent in SE BC; E to NS and S to FL and TX.

**Description:**
**General:** Perennial herb from a fibrous-rooted, branching woody stem-base; stems erect, solitary to several, branched above, densely hairy with minute loosely-spreading hairs throughout, 10-60 cm tall.

**Leaves:** Basal leaves tufted and persistent, oblanceolate or broader, long-stalked, 5-25 cm long, 8-30 mm wide, toothed; weakly 3-nerved, hairy with short, fine, spreading hairs; stem leaves similar, alternate, progressively reduced upwards.

**Flowers:** Heads with ray and disk flowers, numerous in an open, often elongate inflorescence, nodding at the apex or sometimes on more evidently1-sided branches; involucres 4-6 mm tall; involucral bracts lanceolate, obtuse to rounded, glabrous, margins hairy near the tips; ray flowers yellow, about 5-9, 4.5-6 mm long; disk flowers yellow, 5-9.

**Fruits:** Achenes short-hairy; pappus of numerous white hairlike bristles.

**Solidago spathulata** DC.

**spikelike goldenrod; dune goldenrod**

**Habitat/Range:**
Mesic to DRYmeadows, rocky slopes and forests in all vegetation zones except the alpine zone; common throughout BC except the NW coast and Queen Charlotte Islands; N to AK, YT, and NT, E to PQ and NS, and S to VA, NM, AZ, and CA.

**Description:**
**General:** Perennial herb from a woody stem-base or short, stout rhizome; stems erect, solitary, branched, glabrous or sometimes rough-hairy above, usually sticky above, 5-80 cm tall.

**Leaves:** Basal leaves oblanceolate to spoon-shaped or rounded, glabrous, toothed, stalked, 1.4-15 cm long including the stalk, 0.2-3 cm wide, mostly persistent; stem leaves similar below, progressively reduced, becoming linear and unstalked upwards.

**Flowers:** Heads with ray and disk flowers, numerous in a spikelike, elongate inflorescence; involucres 4-6 mm tall; involucral bracts oblanceolate, evidently graduated, commonly blunt, glabrous; ray flowers yellow, 5-10, mostly 8, scarcely exceeding the 10-16 yellow disk flowers.

**Fruits:** Achenes densely hairy; pappus of numerous white hairlike bristles.

Notes: Three often difficult to separate varieties occur in BC.

1. Plants 10-60 cm tall, very strongly resinous and aromatic, with a spikelike, usually elongate inflorescence, and mostly spoon-shaped or egg-shaped basal leaves ......................................................... var. *spathulata*

1. Plants 5-80 cm tall, less strongly resinous and aromatic; leaves and inflorescence various.

2. Plants of the subalpine and alpine zones, 5-15 cm tall, with a short, compact inflorescence; basal leaves spoon-shaped or egg-shaped ......................................................... var. *nana* (A. Gray) Cronq.

2. Plants of the lowland and montane zones, 15-80 cm tall, with a more spikelike, elongate inflorescence; basal leaves mostly oblanceolate ......................................................... var. *neomexicana* (A. Gray) Cronq.
Solidago nemoralis ssp. longipetiolata

Solidago spathulata
SONCHUS

1. Perennial herbs from deep-seated roots; heads relatively large, mostly 3-5 cm wide ............... S. arvensis

1. Annual or sometimes biennial herbs from a short taproot; heads relatively small, mostly 1.5-2.5 cm wide.
   2. Achenes several-nerved and wrinkled at maturity .................................................. S. oleraceus
   2. Achenes merely several-ribbed, not wrinkled .................................................................. S. asper

Sonchus arvensis L. (S. uliginosus Bieber = var. glabrescens)
perennial sow-thistle

Habitat/Range:
Moist to Dry ditches, roadsides, disturbed areas and gardens in the lowland, steppe and montane zones; common in S BC; introduced from Europe.

Description:
General: Perennial herb from a long, vertical and horizontal, rhizome-like, deep-seated root; stems erect, solitary, few-branched above, glabrous below, usually glandular-bristly above, hollow, exuding milky juice when broken, 0.4-2.0 m tall.

Leaves: Basal leaves lacking; stem leaves alternate, prickly-margined, deeply lobed or pinnately cut, 6-40 cm long, 2-15 cm wide, with clasping leaf bases, upper leaves reduced.

Flowers: Heads with strap-shaped flowers, several on glandular stalks in an open, flat- or round-topped inflorescence, relatively large, commonly 3-5 cm wide in flower; involucres 14-22 mm tall; involucral bracts lanceolate, tapering to a slender tip at the apex, glabrous, obscuredly woolly-hairy or more or less copiously covered with coarse, spreading, gland-tipped hairs and often with tufts of woolly-hair as well, outer ones often becoming ridged-thickened in age; ray flowers yellow.

Fruits: Achenes 2.5-3.5 mm long, ribbed, cross-wrinkled; pappus of white hairlike bristles.

Notes: Two varieties occur in BC.

1. Involucres and stalks of the heads with coarse, spreading, gland-tipped hairs ....................... var. arvensis

Sonchus asper (L.) Hill
prickly sow-thistle

Habitat/Range:
Mesic to dry roadsides, disturbed areas and gardens in the lowland, steppe and montane zones; frequent in all but N regions of BC; introduced from Europe.

Description:
General: Annual herb from a short taproot; stems erect, solitary, few-branched above, glabrous, hollow, exuding milky juice when broken, 0.1-1 m tall.

Leaves: Basal leaves lacking; stem leaves alternate, prickly-margined, lowermost with stalks but not so clearly divided (as in S. oleraceus) into blade and stalk, more or less egg-shaped, uppermost deeply pinnately cut to egg-shaped and lobeless with rounded, clasping flanges at the base, 6-30 cm long, 1-15 cm wide.

Flowers: Heads with strap-shaped flowers, several on sometimes glandular stalks in an open, flat-topped inflorescence, relatively small, commonly 1.5-2.5 cm wide in flower; involucres 9-14 mm tall; involucral bracts lanceolate, tapering to a slender tip at the apex, glabrous except for some spreading, gland-tipped hairs; ray flowers yellow.

Fruits: Achenes 2.5-3 mm long, with 3 or rarely 4-5 conspicuous longitudinal ribs on each face, not wrinkled; pappus of white hairlike bristles.
Sonchus arvensis var. arvensis

Sonchus arvensis var. glabrescens

Sonchus asper
ASTERACEAE

Sonchus oleraceus L.

common sow-thistle; annual sow-thistle

HABITAT/RANGE:
Mesic to dry roadsides, disturbed areas and gardens in the lowland and lower montane zone; frequent on S Vancouver Island, infrequent elsewhere on the coast; introduced from Europe.

DESCRIPTION:

General: Annual herbs from a short taproot; stems erect, solitary, few-branched above, glabrous, hollow, exuding milky juice when broken, 0.1-1 m tall.

Leaves: Basal leaves lacking; stem leaves alternate, weakly or scarcely prickly-margined, lowermost stalked, backward-swept pinnately cut to occasionally merely toothed, 6-30 cm long, 1-15 cm wide, uppermost lobed with sharply pointed ear-like lobes.

Flowers: Heads with strap-shaped flowers, several on sometimes glandular stalks in an open, flat- or round-topped inflorescence, relatively small, commonly 1.5-2.3 cm wide in flower; involucres 9-14 mm tall; involucral bracts lanceolate, tapering to a slender tip at the apex, glabrous except for some spreading, gland-tipped hairs; ray flowers yellow.

Fruits: Achenes 2.5-3 mm long, with 3-5 evident to rather obscure longitudinal ribs on each face, cross-wrinkled; pappus of white hairlike bristles.

STEPHANOMERIA

Stephanomeria tenuifolia (Torr.) Hall

narrow-leaved stephanomeria; wire lettuce

HABITAT/RANGE:
Dry grasslands, shrublands and open forests in the steppe and lower montane zones; frequent in SC BC; E to MT and S to CA and TX.

DESCRIPTION:

General: Perennial herb from a stout taproot and branching, woody stem-base or deep-seated, stout, creeping roots; stems much branched throughout, glabrous, exuding milky juice when broken, 10-70 cm tall.

Leaves: Basal leaves lacking; stem leaves alternate, linear to threadlike, entire or sparsely toothed, 1.5-8 cm long, 2-3 mm wide, uppermost reduced and scalelike.

Flowers: Heads with strap-shaped flowers, numerous, terminating the open branches; involucres 7-11 mm tall; involucral bracts lanceolate with mostly 5 glabrous, principal bracts and several much-reduced outer ones; ray flowers pink or occasionally white, mostly 5.

Fruits: Achenes, 4-6 mm long, longitudinally ribbed and grooved; pappus of white featherly bristles.

TANACETUM

1. Heads disciform, numerous, usually 20-200 ....................................................... T. vulgare

1. Heads with ray and disk flowers, few to many, usually less than 20.

2. Rays flowers white; leaves once or twice pinnately divided, the relatively broad segments often overlapping ................................................................. T. parthenium

2. Rays flowers yellow; leaves twice to three times pinnately divided, the segments not at all overlapping ................................................................. T. bipinnatum

**Dune Tansy**

**Habit/RANGE:**
Moist to mesic sand dunes in the lowland zone; infrequent in coastal BC; S to N CA.

**Description:**
General: Perennial herb from a branched creeping rhizome; stems stout, erect or ascending, several, branched, moderately or more usually long-hairy with flattened hairs, sometimes reddish, 20-60 cm tall.

Leaves: Basal leaves well-developed and larger than the stem leaves or reduced or lacking, rather thick with an expanded, clasping base, 2-3 times pinnately cut, the ultimate segments with indistinctly winged axis of the inflorescence and blunt or rounded tips; stem leaves similar, smaller, alternate, 5-20 cm long, 2-5 cm wide.

Flowers: Heads with ray and disk flowers, several, terminal on the branches in a short, flat-topped inflorescence; involucres 4-6 mm tall; involucral bracts lanceolate to oblance, firm except for the papery margins and tip; ray flowers yellow, few; disk flowers yellow, 5-toothed, glandular.

Fruits: Achenes squared off at the top, 5-angled, ribbed, glandular-dotted; pappus a minute, somewhat lobed crown.

**Tanacetum parthenium** (L.) Schultz-Bip. (*Chrysanthemum parthenium* [L.] Bernh.)

**Feverfew**

**Habit/RANGE:**
Mesic to dry roadsides, disturbed areas and gardens in the lowland and montane zones; frequent in SW BC, rare in E BC; introduced from Europe.

**Description:**
General: Perennial herb from a taproot or woody stem-base; stems erect, simple or several, branched, glabrous below, fine-hairy above, 30-80 cm tall.

Leaves: Basal leaves lacking; stem leaves egg-shaped to oblong in outline, alternate, stalked, 1-2 times pinnately cut, 4-10 cm long, 1-6 cm wide, coarsely rounded or pointed at the tips, finely hairy, at least beneath.

Flowers: Heads with ray and disk flowers, several, terminal on the branches in a short, flat- to round-topped inflorescence; involucres 2-3 mm tall; involucral bracts lanceolate, in 2-3 series, keeled, leathery, sparsely hairy with a narrow translucent margin; ray flowers white, mostly 15-30, 1-2 cm long; disk flowers yellow, 2-3 mm long, somewhat glandular below.

Fruits: Achenes squared off at the top, cylindric or nearly so, 8- to 10-nerved; pappus lacking or a minute crown.

**Tanacetum vulgare** L. (*Chrysanthemum vulgare* [L.] Bernh.)

**Common Tansy**

**Habit/RANGE:**
Mesic to dry roadsides, fields, and disturbed areas in the lowland and montane zones; common in BC south of 55° N; introduced from Europe.

**Description:**
General: Perennial herb from a stout rhizome; stems erect, solitary, branched, glabrous to sparsely hairy, dotted with glands, 0.4-1.5 m tall.

Leaves: Basal leaves lacking; stem leaves alternate, 10-20 cm long, 4-8 cm wide, unstalked or short-stalked, pinnately cut, the axis of the inflorescence evidently winged, the ultimate segments again pinnately cut or deeply lobed and toothed.

Flowers: Heads disciform, numerous, terminal on the branches in a short, flat- to round-topped inflorescence; involucres 2-3 mm tall; involucral bracts lanceolate, in 2-3 series, keeled, firm except for the papery margin, hairy at the base; ray flowers lacking; marginal flowers glandular, 3-lobed; disk flowers yellow, 5-toothed into rounded lobes, sparsely glandular.

Fruits: Achenes squared off at top, 1 mm long, 5-angled, glandular-dotted; pappus a minute, narrow-toothed crown.
Tanacetum bipinnatum ssp. huronense

Tanacetum parthenium

Tanacetum vulgare
TARAXACUM

1. Native, nonaggressive, high elevation species (except rarely along roads in extreme northern British Columbia) ................................................................. T. ceratophorum

1. Introduced, aggressive 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 horned at the tips ................................................ T. laevisatum

2. Achenes olive- or straw-coloured 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 horned at the tips........................................ T. officinale


hörnede dandelion

Habitat/Range:
Moist to dry meadows, rocky slopes and fellfields in the subalpine and alpine zones, occasionally found along gravel roads and in disturbed areas in the montane zone in extreme N BC; frequent throughout BC; N to AK, YT and NT; E to NF and S to NH, ME, NM and CA.

Description:
General: Perennial herb from a simple or branched stem-base and a thick, often black, taproot; stems ascending to erect, solitary to several, simple, hollow, glabrous or sparsely long-hairy, exuding milky juice when broken, 3-60 cm tall.

Leaves: Basal leaves lanceolate to oblanceolate, 1-35 cm long, 0.3-6 cm wide, tapering basally to a more or less winged stalk, nearly entire to toothed or more often pinnately lobed to pinnately cut, the terminal lobe often wider than the others, glabrous or nearly so; stem leaves lacking.

Flowers: Heads with strap-shaped flowers, solitary; involucres 7-22 mm tall; involucral bracts in 2 series, the outer ones egg-shaped to lanceolate, appressed to ascending, glabrous or long-hairy, the inner ones lance-oblong, long-pointed, usually horned at the tips, rarely only slightly so; ray flowers yellow, sometimes purple-veined; disk flowers lacking.

Fruits: Achenes 3-7 mm long, not including the beak which is slightly shorter than to 4 times longer than the body, straw-coloured to brownish, or red to brownish-red, or black to greyish-black, ribbed and often spiny above; pappus of numerous, 5-6 mm long, white hairlike bristles.

Notes: The genus Taraxacum has received widely varying treatments in North America. This is not unexpected in a group of plants in which hybridization, polymorphy, and apomixis are active. Some taxonomists (e.g., Sherff 1920, Ferris 1960, Weber 1967, Welsh 1974, Tayl. and MacBryde 1977, Douglas et al. 1989, Richards 1994, Cody 1996) recognize six or fewer native species (e.g., T. californicum Munz. & Johnston, T. ceratophorum, T. erythophorum, T. hyratum, T. phymatocarpum and T. spectabilis Dahlst.). Others have recognized 10 or more species (e.g., Fernald 1950, Hulten 1968, Scoggan 1979, Porsild and Cody 1980). The most conservative approach for our British Columbia species was taken by Boivin (1966-1967, 1972), Hulten (1968), Packer (1983) and Douglas (1989) who included T. erythophorum and T. hyratum within T. ceratophorum. Hulten (1968), however, included 45 "microspecies" under T. ceratophorum and still recognized nine other northern Taraxacum.

I have recognized only one native Taraxacum species in British Columbia for several reasons. Of all the specimens I examined, only a small number would fit the description of the few species generally recognized. The remainder, when mature, represent an amazing array of variation that is often not repeated between sheets. In addition, most of the subalpine-alpine plants never set seed before the end of the short growing season, thus a key character, the achene, is often unavailable for determination.

The time spent by several energetic Scandinavian taxonomists (e.g., G.A.H. Dahliedre, G. Haglund, and A.E. Porsild), formally naming several hundred "microspecies", has not enlightened the taxonomy of the genus. Even in recent years some taxonomists persist in naming every variation they encounter (e.g., Richards 1970). Until some brave taxonomist undertakes and successfully completes a thorough modern biosystematic study it would appear that the recognition of more than a single entity is not feasible.
Taraxacum ceratophorum
ASTERACEAE

Taraxacum laevigatum (Willd.) DC. (T. erythrospermum Andr. ex Bess.)
red-seeded dandelion

Habitat/Range:
Mesic to dry roadsides, fields, gardens and waste places in the lowland, steppe and montane zones; frequent in S BC; introduced from Europe.

Description:
General: Perennial herb from a simple or branched stem-base and a thick, often deep taproot; stems erect, solitary to several, simple, hollow, glabrous or sometimes hairy above, exuding milky juice when broken, 10-60 cm tall.
Leaves: Basal leaves oblanceolate to lanceolate, 5-25 cm long, 1-4 cm wide, tapering basally to a more or less winged stalk, deeply pinnately cut or pinnately divided into backward-pointing, narrow, triangular-lanceolate lobes with segments tapered to a slender tip, the terminal lobe not much larger than the lateral ones, glabrous or nearly so; stem leaves lacking.
Flowers: Heads with strap-shaped flowers, solitary; involucres 10-20 mm tall; involucral bracts in 2 series, the outer ones egg-shaped to lanceolate, appressed to ascending or sometimes reflexed, glabrous or long-hairy, the inner ones lance-oblong, long-pointed, usually horned at the tips; ray flowers yellow, the outer ones often purplish on the outside; disk flowers lacking.
Fruits: Achenes 3-4 mm long, not including the slender beak which is 1 to 2, sometimes 3 times the length of the body, red or reddish-brown, sharply ribbed and conspicuously spiny above; pappus of numerous, 4-7 mm long, white to dull white hairlike bristles.

Taraxacum officinale G.H. Weber ex Wiggers
common dandelion

Habitat/Range:
Mesic to dry roadsides, pastures, gardens and disturbed areas; common in S BC, less frequent northward; introduced from Europe.

Description:
General: Perennial herb from a branched, stem-base and a thick, deep taproot; stems erect, solitary to several, simple, hollow, glabrous or sparsely long-hairy, exuding milky juice when broken, 5-60 cm tall.
Leaves: Basal leaves lanceolate to oblanceolate, 5-40 cm long, 1-10 cm wide, entire to toothed or more often pinnately lobed to pinnately cut or toothed, tapering basally to a more or less winged stalk, glabrous or slightly hairy; stem leaves lacking.
Flowers: Heads with strap-shaped flowers, solitary; involucres 15-25 mm tall; involucral bracts in 2 series, the outer ones lanceolate, reflexed, glabrous, the inner ones lanceolate, long-pointed; ray flowers yellow; disk flowers lacking.
Fruits: Achenes 3-4 mm long, not including the beak which is 2-4 times longer than the body, straw-coloured or greenish-brown to greyish, sharply ribbed and spiny above; pappus of numerous, 6-8 mm long, white hairlike bristles.

TETRADYMIØA

Tetradymia canescens DC.
grey horsebrush

Habitat/Range:
Dry grasslands and shrublands in the steppe and lower montane zones; frequent in SC BC; E to MT and S to NM and CA.

Description:
General: Evergreen shrub; stems much branched, unevenly woolly-hairy, 10-80 cm tall.
Leaves: Alternate, entire, white woolly-hairy; primary leaves linear spoon-shaped, 1-3 cm long, 1-4 mm wide; secondary leaves similar but shorter and narrower.
Flowers: Heads discoid, 3- to 8-headed clusters at the tips of branches; involucres 7-10 mm tall; involucral bracts oblong to egg-shaped or lanceolate, 4 or 5, subequal, white woolly-hairy; ray flowers lacking; disk flowers creamy to bright yellow.
Fruits: Achenes densely hairy, 3-5 mm long; pappus of numerous white to tawny bristles.
TONESTUS

Tonestus lyalli (A. Gray) A. Nels. (Haplopappus lyalli A. Gray)
Lyall's goldenweed

HABITAT/RANGE:
Mesic to dry meadows, rocky slopes and fellfields in the subalpine and alpine zones; common in SW BC and E of the Coast-Cascade Mountains, W to SW AB and S to NV and CA.

DESCRIPTION:
General: Perennial herb from a poorly-developed taproot and branching, woody stem-base, often with creeping rhizomes as well; stems erect, several, simple, 3-15 cm tall.
Leaves: Basal leaves oblanceolate to spoon-shaped or oblong, tufted, alternate, strongly glandular-hairy, 1.5-7 cm long, 4-12 mm wide; stem leaves similar, gradually reduced upwards.
Flowers: Heads with ray and disk flowers, solitary; involucre 6-12 mm tall, bell-shaped; involucral bracts lanceolate, papery, sometimes leafy, subequal, glandular-hairy; ray flowers yellow, 13-35, 6-11 mm long; disk flowers yellow, 4-7 mm long.
Fruits: Achenes elongate, 3-4 mm long, glabrous or softly-hairy; pappus of tawny hair-like bristles.

TOWNSENDIA

1. Heads usually on tall stems, the stems usually 10-35 (rarely less than 5) cm tall; involucral bracts without a tuft of tangled hairs at the tips; plants of the alpine zone ................................................. T. parryi

1. Heads unstalked or on short stems usually less than 5 cm tall; involucral bracts usually with a tuft of tangled hairs at the tips; plants of the steppe and montane zones ................................................. T. hookeri

Townsendia hookeri Beaman
Hooker's townsendia

HABITAT/RANGE:
Dry grassy slopes and meadows in the steppe and lower montane zones; rare in NE and SE BC; N to YT, E to AB and SD and S to CO, UT and CA.

DESCRIPTION:
General: Perennial herb from a taproot and few- to many-branched woody stem-base; stems sometimes inconspicuous or lacking, covered with old persistent leaf bases, 2-5 cm tall when developed.
Leaves: Basal leaves linear to lanceolate or oblanceolate, 1-4.5 cm long, 0.5-3.5 cm wide, stiff-hairy; stem leaves lacking.
Flowers: Heads with ray and disk flowers, unstalked or short-stalked amongst the leaves; involucre 9-15 mm tall, about 1.5 cm wide; involucral bracts linear, with long-pointed tips, usually fringed with hairs and terminated by a tuft of tangled hairs; ray flowers white to pinkish, 15-30, 8.5-14 mm long; disk flowers yellow, sometimes pinkish-tipped, 4-6.5 mm long.
Siliques: Achenes oblanceolate, compressed, 2-nerved, long-hairy, sometimes papillose; pappus of slender, finely-barbed bristles, those of the rays sometimes much shorter than the disk ones.
Notes: It has now been over 18 years since BC Townsendia collections were examined for the BC Asteraceae treatment (Douglas 1995). In recent years, much more material has been collected from SE BC as well as a collection from NE BC. It is now apparent that most of our plants fit T. hookeri quite well. Some collections, however, do approach the closely related T. escapa. These plants have either more narrow involucre bracts or lack the terminal tufts of hairs on the bracts but lack the relatively wide (about 1.5 cm wide) involucres typical of T. escapa.
Asteraceae

*Tonestus hyallii*

*Townsendia hookeri*
**Tounsendia parryi** D.C. Eat.

Parry's townsendia

**Habitat/Range:**
Dry rocky slopes in the alpine zone; rare in SE BC; E to AB and S to CO and OR.

**Description:**
General: Biennial or short-lived perennial from a taproot; stems erect, solitary to few, simple or rarely branched, moderately to densely stiff-hairy, 10-35 (rarely less than 5) cm tall.

Leaves: Basal leaves spoon-shaped, tufted and persistent, stalked, 1-10 cm long including the stalks, 2-13 mm wide; stem leaves similar, becoming oblongate and reduced above.

Flowers: Heads with ray and disk flowers, terminating the stem or few branches; involucres 9-18 mm tall; involucral bracts lanceolate, in 4-7 (mostly 5) series, margins transluscent and fringed, lightly-hairy, especially towards the center; ray flowers purplish to blue or rarely white or pink, often distinctly bluish when dried, 20-70, 12-25 mm long; disk flowers yellow, 4-6 mm long.

Fruits: Achenes oblanceolate to narrowly egg-shaped, compressed, 2- to 3-ribbed, densely-hairy with forked hairs, papillose; pappus of 15-40 finely-barbed bristles, slightly longer than the disk flowers.

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**TRAGOPOGON**

1. Stalks of the heads cylindric, not enlarged above; outer ray flowers yellow, equal to or exceeding the involucral bracts ............................................................ **T. pratensis**

1. Stalks of the heads enlarged above; outer ray flowers yellow or purple, shorter than the involucral bracts.
   2. Ray flowers purple; involucral bracts usually 8-9; leaves dilated and clasp ing at the base . . **T. porrifolius**
   2. Ray flowers yellow; involucral bracts usually 13; leaves generally tapering evenly from the base to the tips ................................................................. **T. dubius**

**Tragopogon dubius** Scop. (T. major Jacq.)

yellow salsify

**Habitat/Range:**
Dry roadsides, fields and waste places in the lowland, steppe and montane zones; common in S BC; introduced from Europe.

**Description:**
General: Biennial or sometimes annual herb from a taproot; stems erect, solitary, simple or sometimes branching from the base, lightly woolly-hairy when young, becoming glabrous except at leaf bases, exuding milky juice when broken, 0.3-1 m tall.

Leaves: Basal leaves lacking; stem leaves entire, grasslike, tapering uniformly from base to the apex, parallel-veined, with clasp ing bases, 20-50 cm long, 0.5-2 cm wide.

Flowers: Heads with strap-shaped flowers, solitary, on much-enlarged, hollow stalks terminating the stems or few branches; involucres 2.5-7 cm tall; involucral bracts linear-lanceolate, equal, usually about 13 or only 8 on dwarfed plants or on last-formed heads, distinctly surpassing the ray flowers; ray flowers pale yellow; disk flowers lacking.

Fruits: Achenes elongate, 5- to 10-ribbed, 2.5-3.6 cm long, tapering to the slender beak; pappus of whitish, slender-tipped, feathery bristles, the feathery branches interwebbed.
Townsendia parryi

Tragopogon dubius
ASTERACEAE

Tragopogon porrifolius L.
common salsify, oyster plant

Habitat/Range:
Dry roadsides and waste places in the lowland, steppe and montane zones; infrequent in SC BC, frequent in SW BC, known from Vancouver Island and the Gulf Islands; introduced from Europe.

Description:
General: Biennial herb from a taproot; stems erect, solitary, simple or more commonly branching from the base, glabrous, exuding milky juice when broken, 0.4-1 m tall.
Leaves: Basal leaves lacking; stem leaves entire, grasslike, tapering uniformly from base to the apex, parallel-veined with clasping bases, 5-30 cm long, 0.5-2 cm wide.
Flowers: Heads with strap-shaped flowers, solitary, on enlarged, hollow stalks terminating the stems or few branches; involucres 2.5-4 cm tall; involucral bracts lanceolate, swollen at the base, equal, 5-11 or more commonly about 8, barely to strongly surpassing the ray flowers; ray flowers purple; disk flowers lacking.
Fruits: Achenes elongate, 5- to 10-ribbed, 2.5-7 cm long, tapering to the slender beak; pappus of brownish, slender-tipped, feathery bristles, the feathery branches interwebbed.

Tragopogon pratensis L.
meadow salsify

Habitat/Range:
Dry roadsides and waste places in the lowland, steppe and montane zones; common in SC BC, rare in coastal BC; introduced from Europe.

Description:
General: Biennial herb from a taproot; stems erect, solitary, simple or more commonly branching from the base, lightly woolly-hairy when young, becoming glabrous except at leaf bases, exuding milky juice when broken, 15-80 cm tall.
Leaves: Basal leaves lacking; stem leaves entire, grasslike, becoming narrower just above the base then tapering uniformly to the apex, parallel-veined with clasping bases, 5-30 cm long, 0.5-2 cm wide.
Flowers: Heads with strap-shaped flowers, solitary, on straight, hollow stalks terminating the stems or few branches; involucres 1.2-2.4 cm tall; involucral bracts lanceolate, swollen at the base, equal, 5-11 or more commonly about 8, equalling or shorter than the ray flowers; ray flowers bright yellow; disk flowers lacking.
Fruits: Achenes elongate, 5- to 10-ribbed, 1.2-2.4 cm long, abruptly tapering to the slender beak; pappus of whitish, slender tipped, feathery bristles, the feather branches interwebbed.
Asteraceae

TRIMORPHA

1. Rayless female flowers present between the rays and disk flowers; inflorescence round-topped; stalks of the heads curved upwards, or the head solitary ......................................................... T. acris

1. Rayless female flowers lacking; inflorescence elongate or nearly so; stalks of the heads erect or nearly so, or the head solitary ................................................................. T. lonchophyllus

Trimorpha acris (L.) Newsom (Erigeron acris L., E. acris ssp. politus [Fries] Schinz & Keller = var. asteroides; E. debilis A. Gray = var. debilis; E. elatus [Hook.] Greene = var. elatus)
bitter fleabane

Habitat/RANGE:
Wetlands in the montane and subalpine zones (var. elatus), mesic meadows and forest openings in the montane zone (var. asteroides), and moist meadows in the subalpine and alpine zones (var. debilis); all frequent throughout BC; var. asteroides – circumpolar; N to AK and S to OR and UT; Eurasia; var. debilis – N to AK, YT and NT; E to AB and S to UT and CA; var. elatus – N to AK, YT and NT and E to NE

DESCRIPTION:
General: Biennial or perennial herb; stems erect, solitary to several, branched above, often spreading stiff-hairy, 20-80 cm tall.

Leaves: Basal leaves oblanceolate or spoon-shaped, stalked, usually entire, 1-15 cm long, 1-14 mm wide; stem leaves amplex or strongly reduced, egg-shaped to linear-oblong, becoming unstalked, usually entire.

Flowers: Heads with ray and disk flowers, several to numerous on nonglandular to glandular stalks in a flat- or round-topped inflorescence; involucres 5-12 mm tall; involucral bracts lanceolate, finely glandular and/or stiff-hairy, generally subequal, green or more or less purplish; ray flowers numerous, although sometimes inconspicuous, in several series, of two types, the outer with a long threadlike tube and narrow pink to purplish or white erect ray flowers; these about 2.5-4.5 mm long, the inner female flowers rayless or nearly so with a tubular corolla; disk flowers 4.2-6.2 mm long, tubular.

Fruits: Achenes sparsely hairy, 2-nerved; pappus of about 25-35 slender, remotely finely-barbed, white or more or less reddish bristles, surpassing the disk flowers.
Notes: Three varieties occur in BC.

1. Stalks of the heads and involucres glandless, or nearly so ......................... var. elatus (Hook.) Newsom

1. Stalks of the heads and involucres more or less glandular.

2. Plants usually 30-80 cm tall; heads several to numerous.... var. asteroides (Andrz. ex Bess.) Newsom

2. Plants usually 2-30 cm tall; heads several or solitary .............................. var. debilis (A. Gray) Newsom

Trimorpha lonchophyllus (Hook.) Nesom (Erigeron lonchophyllus Hook.)
spear-leaved fleabane; spear-leaved daisy

Habitat/RANGE:
Moist to mesic meadows, streambanks, fens, bogs and forest openings in the montane and subalpine zones; common in S BC east of the Coast-Cascade Mountains, less frequent northward; N to AK, YT, and NT, E to PQ, and S to NM and CA.

DESCRIPTION:
General: Biennial or short-lived perennial herb from weak fibrous roots; stems erect, solitary, simple or more usually few-branched above, sparsely to densely spreading, stiff-hairy, 2-60 cm tall.

Leaves: Basal leaves oblanceolate or sometimes spoon-shaped, stalked, 1-15 cm long including the stalks, 1-12 mm wide, sparsely to densely stiff-hairy or nearly glabrous, margins often stiff-hairy; stem leaves similar, becoming linear and reduced upwards.

Flowers: Heads with ray and disk flowers, borne on the single stem or more often nearly erect branches; involucres 4-9 mm tall; involucral bracts lanceolate, thin, light green, sparsely to moderately stiff-hairy, commonly purplish near the tips, usually graduated; ray flowers white or sometimes pinkish, numerous, 2-3 mm long, slightly surpassing the disk flowers; disk flowers 3.5-5.0 mm long.

Fruits: Achenes oblong, 2-nerved, sparsely stiff-hairy; pappus of single, or sometimes double, white hairlike bristles, evidently surpassing the disk corollas, sometimes with a few slender and inconspicuous short scales.
Trimorpha acri var. astroides

Trimorpha acri var. debilis

Trimorpha lonchophyllus
ASTERACEAE

TUSSILAGO

Tussilago farfara L.
coltsfoot

Habitat/Range:
Wet ditches and disturbed sites in the lowland zone; rare in SW BC, known from S Vancouver Island and the lower Fraser River valley; introduced from Eurasia.

Description:
General: Perennial herb from a creeping rhizome; stems erect, numerous, simple, more or less white woolly-hairy, 5-50 cm tall.

Leaves: Basal leaves arising direct from the rhizome, developing well after the flowering stems, long-stalked, heart-shaped or triangular with a deep, narrow indentation at the base, callous-toothed and shallowly lobed, 5-30 cm long, glabrous above, white-woolly beneath; stem leaves reduced to numerous alternate, parallel-nerved bracts, 0.6-1.6 cm long, entire, sparsely long-hairy and glandular, the glands purple-tipped, not much reduced upwards.

Flowers: Heads with ray and disk flowers, solitary; involucres 8-15 mm tall; involucral bracts linear-lanceolate to lanceolate or oblanceolate, nearly glabrous above, sparsely to moderately long-hairy below and also glandular (the glands purple-tipped), margins translucent with purplish cross walls, inconspicuously hairy at the tips; ray flowers yellow, narrow, 8-12 mm long.

Fruits: Achenes linear, 5- to 10-ribbed, glabrous; pappus of numerous white hair-like bristles.

XANTHIUM

Xanthium strumarium L. var. canadense (P. Mill.) T.& G.
common cocklebur

Habitat/Range:
Moist ditches and disturbed areas in the steppe zone; rare in SC BC and SW BC (lower Fraser River valley); introduced from E North America.

Description:
General: Annual herb from a taproot; stems erect, solitary, simple, stiff-hairy or nearly glabrous, 0.2-2 m tall.

Leaves: Basal leaves lacking; stem leaves broadly egg-shaped to kidney-shaped, becoming heart-shaped at the base, alternate, sometimes shallowly 3- to 6-lobed, stalked, 2-15 cm long including the stalks, stiff-hairy or nearly glabrous.

Flowers: Heads unisexual in several or many short, axillary clusters; male involucres of separate bracts, female involucres of fused bracts forming a conspicuous cylindric to egg-shaped 2-chambered bur with hooked prickles, 1-3.5 cm long; corolla lacking.

Fruits: Achenes thick, solitary in the chambers of the bur; pappus lacking.
REFERENCES

General


Macoun, J.M. 1889. Checklist of Canadian plants. Cunningham and Lindsay, Ottawa, ON.


GYMNOSPERMS

PINACEAE


**DICOTYLEDONS**

**ACERACEAE**


**AMARANTHACEAE**


**APIACEAE**


I L L U S T R A T E D  F L O R A  O F  B R I T I S H  C O L U M B I A

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**APOCYNACEAE**


**ASCLEPADIACEAE**


**ASTERACEAE**


Hiesey, W.M. 1953. Comparative growth between and within climatic races of Achillea under controlled conditions. Evolution 7:297-316.


APPENDIX I – 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.
Hydrocotyle ranunculoides L.f. This species, collected at Departure Bay, Vancouver Island in 1939, is now almost certainly extirpated. The collection reported from Coquitlam apparently came from a garden. At any rate, there is no evidence that this is part of our present day flora.
Hydrocotyle umbellata L. Listed by Taylor and MacBryde (1977), but no B.C. material seen.
Hydrocotyle verticillata Thunb. This species, collected in Coquitlam in 1933, apparently came from a garden.
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 gormani (Howell) Coult. & Rose. Listed by Taylor and MacBryde (1977), but no B.C. 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 (Sechelt Peninsula) and not persistent.
Achillea millefolium L. var. millefolium. There is no evidence that this old world taxon occurs in B.C. (Cervais 1977, Mulligan 1970).
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 been collected only at Langley in 1954 and at Wells in 1992. It probably does not persist.
Agoseris elata (Nutt.) Greene. Listed by Taylor and MacBryde but probably based on misidentifications at V.
Ambrosia trifida L. This species shows up from time to time but does not persist.
Antennaria corymbosa E. Nels. The report by Scoggan (1979) of a B.C. specimen at CAN was reidentified as A. umbrinella (Douglas et al. 1989).
Antennaria stenophylla A. Gray. The specimen reported as this species by Eastham (1947) and later by Taylor and MacBryde (1977) was reidentified as A. luteoloides (Douglas et al. 1989).
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 et al. 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 B.C. 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 et al. 1989).

Aster ladophyllus (A. Gray) A. Gray. No voucher specimens exist for this U.S. species reported by Trelawny in Clark (1976).

Aster praecox 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 misidentification of A. stenomeris (Douglas et al. 1989).


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 B.C. material available.

Calendula arvensis L. This occasional garden-escape, cited for B.C. by Taylor and MacBryde (1977), does not persist in our region.

Centaura calcitrata L. This species, collected on ballast dumps at Nanaimo (Henry 1915), no longer persists.

Centaura macrocephala Pushk. ex Willd. This species, with its attractive yellow rays, is a garden escape which does not persist in our region.

Centaura moschata L. This is probably merely a garden escape and not naturalized (Moore and Frankton 1974).

Chrysothamnus nauseosus (Pall.) Britt. var. glabratius (A. Gray) Cronq. and var. nauseosus. The above varieties belong to a highly variable species and B.C. specimens are best placed with Ericameria nauseosus ssp. speciosa (Chrysothamnus nauseosus var. albicaulis).

Chrysothamnus viscidiflorus (Hook.) Nutt. var. puberulus (Eaton.) 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 floridanum (Ryd.) Arthur. A B.C. specimen reported as this species from the U.S. Natl. Herbarium should be referred to C. undulatum (Douglas et al. 1989).

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 B.C. has been placed under var. glabratius (Douglas et al. 1989).

Coreopsis tinctoria Nutt. A single plant was reported recently from New Westminster but the plant does not persist in our region.

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. atrarbarba at CAN (Douglas et al. 1989).

Crepis biennis L. Although reported by Henry (1915) and Szczawinski and Harrison (1973), the only B.C. material is a collection from Crawford Bay in 1940. It does not persist in our region.
**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 B.C. by Cronquist (1947), the relevant collection appears to be from Alberta (Douglas et al. 1989).

**Erigeron monocephalus** Nels. This species, reported by Ulke (1935), occurs only to the south of our range.

**Erigeron radicans** Hook. First listed by Rydberg (1922) for B.C. but yet to be collected.


**Eupatorium graminifolium** (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 et al. 1989).

**Gnaphalium obtusifolium** L. This species, known only from the report of Ulke (1935), has probably not persisted.

**Grindelia colombiana** (Piper) Rydb. (G. *nana* Nutt. var. *columbiana* Piper). Although reported for B.C. by Eastham (1947) no B.C. material has been found.

**Grindelia nana** Nutt. (G. *nana* var. *integrerrima* [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*.

**Haploppappus lanceolatus** (Hook.) T. & G. First reported by Taylor and MacBryde (1977) but no B.C. 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 B.C. were originally identified as this species (Douglas et al. 1989).

**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 et al. 1989).

**Helianthus maximillanii** 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 B.C. (Long 1966).

**Helianthus petiolaris** Nutt. var. *petiolaris*. This species has been collected twice in the Vancouver area but does not persist.

**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. praealtum*.

*Hieracium piloselloides* Vill. Material identified as this species (Douglas et al. 1989) has been placed within *H. praealtum*.

*Layia glandulosa* (Hook.) H. & A. First reported for B.C. by Macoun (1886) but no material available.

*Leontodon hispidus* L. (*L. hastilis* var. *vulgaris* Koch). This species, cited by Henry (1915) and Eastham (1947), was based on misidentifications of *L. taraxacoides*.


*Madia elegans* D. Don ex Lindley. Reported for B.C. 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. pseudoaureus*, thus it was included in the flora of BC.

*Senecio crocatus* Rydb. This species, reported for B.C. by Henry (1915), occurs only to the south of our region.


*Senecio obovatus* Muhl. This species, reported from B.C. by Henry (1915), occurs only in the eastern US.

*Senecio serrai Hook. Douglas (1982, 1989) tentatively treated this species, which is known only from a single disjunct collection in EC BC, as part of our flora. Since the collection is extremely poor and represents only a portion of the plant, it is probably best not to accept it as *Senecio serrai*.

*Senecio werneriifolius* (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 Univ. B.C.

*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 and more recently from the N Okanagan but is not part of our flora.

*Townsendia escapa* (Rich.) Porter. In recent years, much more *Townsendia* material has been collected from SE B.C. as well as a collection from NE BC. It is now apparent that most of our plants fit *T. hookeri* quite well thus *T. escapa* has been excluded.

*Wyethia amplexicaulis* (Nutt.) Nutt. Although reported by several authors (i.e., Gray 1884, Henry 1915), all material examined actually represents *Balsamorhiza sagittata* (Douglas et al. 1989).

*Xanthium spinosum* L. First collected on ballast at Nanaimo (Eastham 1947), but no longer persisting.
APPENDIX II – NAME CHANGES

The following are name changes that have been made since Douglas et al. (1989).

*Antennaria alpina* var. *media* = *A. media*
*Antennaria microphylla pro parte* = *A. rosea*
*Antennaria neglecta var. athabascensis* = *A. neglecta*
*Antennaria neglecta var. attenuata* = *A. howellii ssp. neodioica*
*Antennaria neglecta var. howellii* = *A. howellii ssp. howellii*
*Apocynum sibiricum var. salignum* = *A. cannabinum*
*Aster bracteolatus* = *A. eatonii*
*Aster hesperius* = *A. lanceolatus ssp. hesperius*
*Bidens beckii var. beckii* = *Megalodonta beckii var. beckii*
*Caucalis microcarpa* = *Yabea microcarpa*
*Centaurea maculosa* = *C. biebersteinii*
*Centaurea pratensis* = *C. debauxii*
*Centaurea repens* = *Acroptilon repens*
*Chrysanthemum nauseosus* var. *albicaulis* = *Ericameria nauseosa* var. *speciosa*
*Conoselinum pacificum* = *C. gmelinii*
*Coreopsis atkinsoniana* = *C. tinctoria var. atkinsoniana*
*Erigeron acris* var. *asteroides* = *Trimorpha acris* var. *asteroides*
*Erigeron acris* var. *debritis* = *Trimorpha acris* var. *debritis*
*Erigeron acris* var. *elatus* = *Trimorpha acris* var. *elatus*
*Erigeron lonchophyllus* = *Trimorpha lonchophyllus*
*Erigeron purpureus* = *E. pallens*
*Galinsoga ciliata* = *G. quadriradiata*
*Gnaphalium chilense* = *G. stramineum*
*Haplopappus bloomeri* = *Ericameria bloomeri*
*Haplopappus carthamoides* ssp. *carthamoides* = *Pyrocoma carthamoides* ssp. *carthamoides*
*Haplopappus lyalli* = *Tonyetus lyalli*
*Heracleum lanatum* = *H. maximum*
*Osmorhiza chilensis* = *O. berteroii*
*Rhus diversiloba* = *Toxicodendron diversilobum*
*Rhus radicans var. rydbergii* = *Toxicodendron rydbergii*
*Senecio foetidus* var. *foetidus* = *S. hydrophiloides*
*Senecio foetidus* var. *hydrophiloides* = *S. hydrophiloides*
*Senecio tundricola* = *S. fuscatus*
GLOSSARY 5

Acerose — “Needle-pointed,” or with a needle-like tip.
Achene — A dry, single-seeded fruit that does not open at maturity.
Acicular — Shaped like the needle of a pine tree “needle-like”.
Acorn — A one-seeded fruit of oak trees.
Acuminate — Tapering to a narrow tip or concave point, the sides generally concavely narrowing.
Acute — Gradually tapering to a point, the sides straight (i.e., not convex).
Adaxial — On the side of a structure, turned toward the main axis.
Adnate — Fusion or attachment of unlike parts (e.g., the calyx and corolla).
Adventitious — Development of structures in unusual locations; in the case of roots, generally refers to the development of roots from the stem or leaf.
Alternate — Any arrangement of leaves or other parts not opposite or whorled; arranged singly at different heights on the stem.
Ament — A pendulous spikelike inflorescence with apetalous, unisexual flowers; a catkin.
Amphiberingian — Occurring on both sides of the Bering Straits; a phytogeographic element resulting from past migration across the Bering Land Bridge.
Amplexicaule — Clasping the stem.
Androecium — A collective term referring to male floral parts, that is, the stamens.
Androgynous — A spike bearing staminate (male) and pistillate (female) flowers where the staminate flowers are positioned above the pistillate flowers, closer to the apex of the inflorescence.
Annual — Living for only one growing season.
Anthesis — The period of time when a flower is fully open, “flowering time”.
Apex — Tip, point or end.
Aphyllopodiic — Having lower leaves that are bladeless or reduced to scales (e.g., Carex spp.).
Apical — Located at the apex.
Apomictic — Capable of reproducing asexually.
Apomixis — Any of several types of asexual reproduction.
Aquatic — Living in water.
Arachnoid — Covered with long, delicate, tangled hairs; resembling a cobweb.
Areoles — Small, clearly marked, round areas appearing on the leaves of Opuntia.
Aristate — Having an awn or a bristle at the tip, “awl-tipped”.
Armed — Possessing prickles, spines, or thorns.
Articulate — Jointed; separating at a joint, by a clean cut scar, upon maturity.
Anther — The pollen producing sac of the stamen.
Attenuate — Gradually tapering to a slender base or apex.
Auct. non — Indicates that a species name is used commonly in the literature but is incorrect and is not the name used to refer to the type specimen.
Auricle — An ear-shaped lobe or appendage.

5 Words or phrases used in lieu of technical terms in this manual appear in quotes in the glossary.
Auriculate — With auricles; often used to describe the base of a leaf blade where there is an auricle on either side of the petiole; with "earlike lobes".

Awn — A slender bristlelike appendage, usually at the apex of a structure.

Axil — The angle between a structure and the axis to which it is attached (e.g., the angle between a leaf and the stem).

Axile placentation — A pattern of placentation where the ovules are attached to the partitions of a compound pistil near the center of the ovary.

Axillary — Used in reference to structures attached in the axil or juncture of stem and leaf stalks.

Banner — The largest upper petal of a papilionaceous flower.

Barb — A short, firm, reflexed process.

Barbellate — Minutely or "finely-barbed"; bearing stiff hairs with barbs.

Basal — At, or forming, the base.

Beak — A long, slender projection on a broader structure such as a fruit or seed.

Bi — A prefix meaning two or twice.

Biennial — Living for two seasons.

Bilabiate — Two-lipped; often with reference to a zygomorphic flower.

Bipinnate — See bipinnatifid.

Bipinnatifid — Twice branched.

Biserrate — Doubly serrated.

Bisexual — Bearing both male and female reproductive structures.

Biteminate — Two groups of three.

Bloom — See glaucous.

Bract — A modified leaf, reduced in size or form, that is associated with a flower or an inflorescence; in conifers, a main appendage arising from the axis of a cone.

Bractlet — A small or secondary bract (syn. bracteole).

Bristle — A stiff, hairlike structure.

Bristly — With bristles.

Bulb — A small, stout underground stem bearing modified (scaletlike) leaves and fibrous basal roots; generally food storage organs.

Bulbiferous — Producing bulbs.

Bulbil — A small bulb produced above the ground, often on the flowering stem.

Caducous — Falling off the plant early relative to other similar structures.

Caespitose — Growing in dense, low-lying clumps, "tufted".

Calcareaous — Rich in calcium carbonate.

Callose — Bearing callosities.

Callosity — See callus.

Callus — A hard or firm thickening of a structure; in grasses, the thick, hardened basal portion of the lemma.

Calyx — A collective name referring to the sepals, the outer whorl of the perianth.

Campanulate — "Bell-shaped" to saucer-shaped.

Cane — In Rubus spp., lignified shoots that arise each year.

Canescent — Appearing white or gray due to very short, fine hairs.
Capillary — Very slender and "hairlike".
Capitate — In a "headlike" cluster.
Capsule — A dry, dehiscent fruit comprised of more than one carpel; method of splitting further classifies the capsule type (e.g., circumsissile, septicidal, etc.).
Carpel — The basic unit of a pistil, a modified seed-bearing leaf.
Caruncle — An often fleshy appendage at or near the attachment point (hilum) of some seeds.
Caryopsis — The dry, one-seeded fruit found in grasses.
Caudate — Bearing a terminal, long and slender appendage like a tail.
Caudex — The woody, thickened and persistent basal portion of a herbaceous perennial that gives rise to leaves and flowering stems each year, i.e. "stem-base".
Caulescent — Having an obvious leafy stem.
Cauline — Of, or pertaining to, the stem, i.e. "stem leaves".
Cellular — A term used in reference to the cell-shaped network of minutely raised and lignified ridges on epidermis (e.g., on the culm of some Carex spp.).
Chaffy — With thin dry scales or bracts; "papery", "papery-bracted".
Chartaceous — Having the texture of stiff paper or parchment; "firm-papery", thickly membranous.
Ciliate — Leaves fringed on the margins, with fine hairs (cilia), "fringed".
Ciliolate — Ciliate but with smaller hairs.
Cinereous — Appearing grey because of short hairs.
Circumboreal — Distributed at the top or the bottom of the world in the boreal zone.
Circumpolar — Distributed around the North or the South Pole.
Circumsissile — A capsule that dehisces transversely in a circular line, like the opening of a lid.
Clavate — "Club-shaped", the wider portion at the apex.
Claw — The narrowed, basal portion of some petals or sepals.
Cleft — Usually applied to leaf margins and sinuses cut sharply and about half-way to the midrib or base; deeply lobed.
Collar — In grasses, the band on the outside area of the leaf at the point where the leaf blade and the sheath converge.
Coma — A tuft of hair usually at the apex of structures like seeds.
Compound — With two or more parts or components.
Confluent — Structures merging into one, fusing at the bases.
Conic — Cone-shaped; "conelike".
Connate — Union or attachment of like parts (e.g., petals), "fused".
Connivent — Convergent but not fused.
Convolute — The arrangement of petals or sepals such that each petal or sepal has one edge exposed while the other is covered; in grasses, a leaf that is rolled longitudinally so that one edge is inside the other.
Cordate — Shaped like a heart, with the notch at the base; "heart-shaped".
Coriaceous — Having a thick and leathery texture.
Corm — A thickened, underground stem with papery leaves; a storage organ.
Corniculate — Bearing small horns.
Corolla — The collective term describing the petals of a flower.
Corymb — A flat-topped, indeterminant inflorescence where pedicels of florets are progressively shorter towards the center of the inflorescence; may be simple or compound.

Corymbose — A flat or convex-topped inflorescence; resembling a corymb.

Costa — A prominent rib or vein.

Cotyledon — The first functional leaf of a seedling.

Crenate — Toothed with rounded, broad teeth, "round-toothed".

Crenulate — Crenate but with smaller teeth.

Crown — The persistent basal portion of a perennial plant (e.g., grass), or the leafy portion of a tree; any appendage situated between the corolla and the stamens.

Cruciform — Having the shape of a cross, "cross-shaped".

Cuculate — Hooded or "hood-shaped."

Culm — The flowering stem of grasses, sedges and rushes.

Cuneate — Triangular or "wedge-shaped" with the acute angle at attachment point.

Cupulate — Cup-shaped; "cuplike".

Cuspidate — Bearing a short, rigid and sharp point, usually in reference to the apex of a leaf, "awl-tipped".

Cyme — An inflorescence in which all floral axes terminate in a single flower with the terminal flower at the apex of the inflorescence, blooming first.

Cymose — Bearing cymes, or cyme-like.

Deciduous — Seasonal shedding of leaves or other structures after the growth period.

Decumbent — Lying on the ground with the end curved upward.

Decurrent — A structure adnate or confluent to the stem near its insertion point, with an adnate wing or margin extending down the stem or axis below the point of insertion.

Definite — Distinct; precise.

Deflexed — Bent downward or backward.

Dehiscent — Discharge of contents by the opening of pores or slits, most often pertaining to the opening of fruit at maturity.

Deltoid — Shaped like an equilateral triangle.

Dentate — With sharp, spreading teeth, "sharp-toothed."

Dichotomous — Forked with both branches of approximately equal size.

Didymous — Occurring or developing in pairs.

Dimorphic — Having two forms.

 Dioecious — Male and female reproductive structures borne on different plants.

Disarticulate — The separation of structures at maturity.

Disciform — With the form of a disk; in the Asteraceae, with the central flowers of a head perfect (or functionally staminate) and the marginal flowers pistillate but without a ligule.

Discoid — Resembling a disk; in the Asteraceae, with the flowers of a head all tubular and perfect (or functionally staminate).

Disk corolla (disk flower) — Tubular corolla or flower of some members of the Asteraceae.

Dissected — Divided into many small, fine and often repeated parts or segments.

Dorsal — Pertaining to, or located on, the back of an organ.

Drupe — A fleshy, one-seeded or one-stoned fruit of some plants of the rose family (e.g., cherries, peaches).

Elliptic — Shaped like an ellipse, the broadest point midway between the ends, and the width about one half the length.
Emarginate — Having a shallow notch at the apex, usually with reference to a leaf or petal.
Endocarp — The innermost layer of the three layers comprising the mature ovary wall of a fruit.
Entire — A continuous margin, without teeth or divisions.
Epigaeous — Growing above ground.
Epiphytic — A plant that grows on another plant but does not receive nourishment from it.
Equitant — With alternate leaves whose basal portions overlap and are flattened lengthwise (e.g., Iris).
Erose — An irregular margin, appearing eroded or gnawed, not fringed or toothed.
Ex — With respect to plant authorities, indicates that the first author proposed the name for a plant and the second author published that name.
Exserted — Projecting beyond a surrounding structure, like stamens projecting beyond a corolla.
Extravaginal — Located outside the sheath that surrounds another organ.
Falcate — Sickle-shaped; curved sideways and tapering.
Farinose — Covered with a white mealy substance.
Fascicle — A cluster.
Ferruginous — Rust in colour.
Filament — The slender stalk of the stamen that supports the anther.
Filiform — "Threadlike", slender and cylindrical.
Fimbriate — Fringed with hairs coarser than cilia.
Fistulose — Hollow.
Flabellate — "Fan-shaped".
Flabelliform — See flabellate.
Flexuous — Bent in opposite directions; having a more-or-less zig-zag or wavy form.
Floccose — Covered with tufts of soft woolly hairs that usually rub off readily.
Floret — A small flower, particularly one in a floral cluster; pertains also to the flower of a grass spikelet which includes the lemma, palea and reproductive structures.
Foliaceous — "Leaflike".
Follicle — A dry, dehiscent fruit composed of one carpel that splits at the side upon maturing to release its seeds.
Fornix (pl. fornice) — A small, scale-like or petaloid appendage in the tube or throat of the corolla, found in many borages.
Free central placellation — A pattern of placellation where the ovules are borne on a single stalk, which is anchored at the base of a one-celled ovary.
Frond — The leaf of a fern.
Fruit — The ripened ovary and any other structures that enclose it.
Funnelform — "Funnel-shaped," usually pertaining to the corolla.
Fusiform — "Spindle-shaped," broadest at the middle and tapering to opposite ends.
Galea — The hooded portion of the perianth in some irregular or bilabiate flowers.
Gametophyte — The sexual reproductive stage of a plant that produces gametes; in ferns it is often the small inconspicuous form of the plant.
Gemma (pl. gemmae) — A young bud from which plants vegetatively reproduce.
Geniculate — Abruptly bent.
Gibbous — Swollen on one side.
Glabrate — “Nearly glabrous,” or becoming glabrous, usually with age.
Glabrescent — See glabrate.
Glabrous — Smooth, without hairs of any type.
Gland — A spot or structure that produces a sticky or greasy substance.
Glandular — Having glands.
Glandular-pubescent — With gland-tipped hairs, “glandular-tipped”.
Glaucous — Covered with a whitish or bluish waxy powder that readily rubs off.
Globose — Spherical.
Glochidial — Retrorsely barbed hairs.
Glomerate — Aggregated or condensed into heads.
Glomerule — A dense cluster, usually of flowers.
Glumes — The two small bracts located at the base of a grass spikelet; they do not subtend flowers.
Glutinous — Covered with a sticky, glue-like resin.
Gynaeandrous — A spike bearing staminate (male) and pistillate (female) flowers where the staminate flowers are positioned below the pistillate flowers, thus the pistillate flowers are closest to the spike apex.
Hastate — Shaped like the head of an arrow with the basal lobes flaring outward, “arrowhead-shaped”.
Head — A dense indeterminant inflorescence of sessile (or nearly sessile) flowers, situated on an axis that is much compressed vertically and sometimes flattened or saucer-shaped.
Hemispheric — In reference to a head, with a half-sphere shape.
Herb — Plant with stem that dies back to the ground after flowering or at the end of the growing season.
Herbaceous — A non-woody plant.
Heterophyllus — Having two types of leaves.
Heterosporous — Production of two different types of spores, generally differing in size.
Hirsute — Covered with long, stiff and coarse hairs, “stiff-hairy”.
Hirtellous — Minute hirsute.
Hispid — Bearing long, rigid and very sharp bristles or “bristlelike” hairs.
Hispidulous — Slightly hispid.
Hoary — Covered with short and fine white or gray hairs.
Homophyllous — With leaves that are all identical or very similar in form.
Homosporous — Production of one type of spore.
Hyaline — Thin, almost completely transparent tissue, translucent, “wax papery”.
Hybrid — A cross between two taxa, usually a cross between two species of the same genus.
Hypanthium — A cup-like structure surrounding the ovary, formed by the fusion of the basal portions of the perianth, calyx, corolla and androecium.
Imbricate — Partly overlapping in a spiral manner, shingle-like, “graduated”.
Imperfect — Flowers lacking either female or male reproductive structures, a unisexual flower.
In — With respect to plant authorities, indicates that the first author described the plant in an article edited or published by the second author.
Incised — Cut sharply, deeply and irregularly, as in leaf margins.
Indument — Appendages or outgrowths from the epidermis of a plant.
Indurate — Hard or stiff.

Indusium (pl. indusia) — A scale-like outgrowth that covers and protects the cluster of sporangia located on the underside of a fern frond.

Inferior (ovary) — When the perianth and androecium are fused at the top of the ovary wall, the ovary position is described as inferior.

Inflorescence — The flowering cluster, categorized by the arrangement of flowers on the floral axis.

Intergradents — Taxa that interbreed and consequently share many characteristics making it difficult to separate them taxonomically.

Internode — The section of a stem or another structure between two nodes.

Interrupted — Discontinuous.

Involucre — A rosette of bracts subtending an inflorescence or head.

Involute — Margins longitudinally rolled in, on the upper side, toward the center.

Irregular — Pertaining to a flower in which similar parts (e.g., petals) are unequal in shape and size (syn. zygomorphic).

Keel — In a papilionaceous flower, the two lowermost connate petals; resembles the keel of a boat; in grasses, the sharp crease or ridge of the leaf blades, the lemma or the glume.

Lacerate — With an irregular or jagged margin, as if torn.

Laciniate — Cut into narrow, often pointed, lobes.

Lamina — The flattened portion (i.e., the blade) of a leaf or petal.

Lanate — Woolly, with long intertwined, curly hairs.

Lanceolate — “Lance-shaped”; longer than broad, widening above the base and tapering to the apex.

Leaflet — One of the segments or divisions of a compound leaf.

Lemma — The outermost of the two bracts that subtend the grass floret (See palea).

Lenticular — Biconvex in shape.

Ligulate — With a ligule.

Ligule — Flattened part of the ray corolla in the Asteraceae; in many grasses and some sedges and rushes, a membranous (or hair-like) appendage on the inner side of the leaf at the junction of the leaf blade and the sheath.

Linear — Long and narrow, with parallel margins.

Locule — A compartment in the ovule or anther.

Lustrous — Shiny.

Lyrate — Pinnatifid with the end lobe enlarged and rounded.

Malpighiaceous — Hairs attached to a surface by their centres.

Maritime — Near to, or influenced by, the sea.

Megasporangia — The sporangia of a heterosporous plant that produces megaspores.

Megaspore — On a heterosporous plant, the larger of two spore sizes produced; a spore involved in development of female reproductive organs.

Mericarp — One portion of the fruit (e.g., a schizocarp) that splits into two halves at maturity, found in members of the Apiaceae.

Merous — A suffix referring to the division of floral parts, e.g., a 3-merous flower would have 3 petals, 3 sepals, 3 stamens, and a pistil with 3 carpels.

Mesic — Relating to habitats with a moderate or average amount of moisture.
Microsporangia — The sporangia of a heterosporous plant that produces microspores.

Microspores — On a heterosporous plant, the smaller of two spore sizes produced; a spore involved in the development of male reproductive organs.

Monoecious — Male and female reproductive structures borne on the same plant.

Mottled — Marked with spots.

Mucro — A small, short and abrupt point.

Mucronate — Having mucro.

Muricate — Roughened with short, firm and sharp projections.

Naked — Lacking various organs, hairs or appendages.

Naturalized — A well established plant originating from another area.

Neutral — In reference to a flower lacking functional stamens and pistils.

Nodding — Curving to one side; minutely pendulous.

Node — The location on a stem where stems or leaves usually originate, generally a swollen area, other structures like tendrils and flowers may also originate here.

Nom. superfl. — A plant name that has been superceded by a valid name; a superfluous name.

Nut — A hard, indehiscent fruit, with one seed.

Nutlet — A small nut; also used when referring to each lobe of the 4-lobed nuts found in borages.

Ob — A prefix meaning in the reverse of the typical direction.

Obconical — Conical in shape with attachment point at the narrow end of the cone.

Obcordate — Having an inverted heart shape, “heart-shaped”.

Oblanceolate — Reverse of lanceolate, widest above the middle and tapering to the base.

Oblong — Much longer than wide with parallel or nearly parallel sides.

Obovate — The reverse of ovate; attached at the narrow end, “egg-shaped”.

Obpyramidal — Having the shape of an inverted pyramid.

Obsolete — Reduced to the point of being entirely, or almost, undetectable.

Obtuse — Blunt, rounded.

Ochroleucous — Yellowish-white.

Olivaceous — Olive-like in colour.

Orbicular — Having a circular outline.

Ovary — The enlarged base of the pistil that contains the developing seeds, matures into the fruit.

Ovate — Shaped like a hen’s egg, attached at the broader end, “egg-shaped”.

Palea — The innermost of the two bracts that subtend the floret in grasses (See lemma).

Palmate — Lobed or divided in a palm- or hand-like fashion, digitate.

Panicle — A branching inflorescence on which younger flowers are borne at the apex.

Paniculiform — Resembling a panicle.

Papillate — Covered with minute rounded protuberances (papillae, “pimples”).

Papilionaceous flower — A strongly irregular flower with five petals, the lowermost two petals are connate and form the keel, as in Fabaceae.

Pappus — The modified outer perianth series crowning the ovary and achene in the Asteraceae; usually plumose, bristle-like, or of scales.
Parietal placentation — A pattern of placentation, in compound pistils only, where ovules are attached to the outer wall of the carpel.

Pectinate — "Comb-like", pinnately lobed with narrow segments arranged like the teeth of a comb.

Pedicel — The "stalk" of a single flower in an inflorescence, or of a spikelet in grasses.

Pedicellate — Having a pedicel, a "stalk".

Peduncle — The single supporting stalk of a flower or inflorescence.

Peltate — An umbrella-shaped leaf whose attachment point is on the underside of the leaf rather than at the base or margin, "umbrella-like".

Pendulous — Hanging; resembling a pendulum.

Perennial — Growing for more than two seasons.

Perfect — A flower that has functional stamens and pistils.

Perfoliate — Bearing opposite leaves whose bases are wrapped around the stem and connate, giving the appearance that the stem passes through the leaf.

Perianth — A collective term for the calyx and corolla.

Perigynium — A "pouched" bract surrounding the pistil or achene in Carex spp.

Persistent — Remaining attached.

Petiole — Leaf stalk.

Phenotypic plasticity — Ability to adapt, morphologically, to changing environmental conditions.

Phyllode — A somewhat expanded but bladeless petiole taking on the function of a leaf.

Phyllopic — Having well developed lower leaves instead of scales.

Piliform — Having the shape of a long, sometimes wavy, hair.

Pilose — Shaggy with soft hairs, "soft hairy".

Pinna (pl. pinnae) — One of the primary divisions of a pinnately compound leaf or frond.

Pinnate — Compound leaf with the leaflets on both sides of an elongated axis.

Pinnatifid — Pinnately lobed.

Pinnule — A secondary leaflet in a bipinnately compound leaf.

Pistillate — Flowers possessing pistils, but no functional stamens (i.e., a female flower).

Pith — The spongy tissue in the center of a root or stem that surrounds vascular bundles.

Placentation — The pattern of attachment of ovules in the ovary. See axile, parietal or free central placentation.

Plumose — "Feather-like".

Pod — Any type of dry, dehiscent fruit.

Pollen — A general term pertaining to the haploid (n) microspores produced in the anther.

Polypetalous — Flowers with all petals distinct, not united.

Polyploidy — Two or more sets of chromosomes (e.g., 3n, 4n, 8n).

Prehensile — Grasping.

Prickle — Small, sharp outgrowth from epidermis, contains no vascular tissue.

Prismatic — Prism-shaped.

Procumbent — Prostrate or trailing stem, does not usually root at nodes.

Propagule — Any part of a plant capable of growing into a new organism; e.g., seed, spore, gemma, cutting.

Pro parte — In part.
Pro parte sed non typus — Resembles, in part, but not completely the type specimen; possessing some but not all characteristics of the type specimen.

Prostrate — Lying flat on the ground, may root at the nodes.

Pruinose — See glaucous.

Puberulent — Bearing very short, erect hairs, scarcely visible to the unaided eye, minutely pubescent, "short-hairy".

Pubescent — "Hairy".

Pulverulent — Dusty, powdery.

Pulvinus — Swollen tissue at the insertion point of the leaf petiole, or sometimes at a joint.

Punctate — Marked with pits or dots formed by glands or waxy spots.

Puncticulate — Minutely punctate.

Pyriform — Pear-shaped.

Raceme — An indeterminant, elongated inflorescence where single flowers are borne on pedicels arranged on a single axis; the youngest flowers are at the apex.

Racemiform — Possessing the form of a raceme.

Rachilla — The axis of a spikelet in grasses, refers to a secondary axis in sedges.

Rachis — The main stalk of an inflorescence or compound leaf, the "axis of inflorescence".

Radiate — In the Asteraceae, "heads with ray and disk flowers".

Ray (flower) — Strap-shaped corolla (ligule), as in the Asteraceae.

Receptacle — The expanded end of the stem on which floral parts are borne.

Reclining — Lying on the ground or one plant pressed on another.

Reflexed — Bent sharply downward or backward.

Regular (flowers) — A flower with radial symmetry; petals and sepals that are similar in shape, size, colour and orientation.

Reniform — "Kidney-shaped".

Resinous — Covered with a resin.

Reticulate — Forming a network, netted like the veins of a leaf, "net-veined".

Retorse — Directed backward or downward.

Retuse — See emarginate.

Revolute — Leaf margins rolled toward the underside of the leaf.

Rhizome — A creeping, underground stem or rootstalk that roots at the nodes.

Rhombic — "Diamond-shaped".

Rib — A prominent vein, usually on a leaf.

Root — The descending axis of a plant that anchors and absorbs moisture from the ground, lacks nodes and internodes.

Rootstock — Used loosely to mean a main root or an underground root-like stem or branch.

Rosette — A dense cluster of flowers or leaves radiating around a central axis, usually basal in the case of leaves.

Rosulate — In the form of a rosette.

Rotate — A saucer-shaped corolla where the corolla tube is short and petals are generally reflexed.

Rotund — Rounded.

Rudimentary — Usually a small, imperfectly developed structure, generally reminiscent of an earlier evolutionary stage.
Rufous — “Reddish-brown”.
Rugose — Possessing a “wrinkled” surface.
Rugulose — Slightly rugose.
Saccate — Shaped like a sac or pouch.
Sagittate — Shaped like the head of an arrow, triangular with the basal lobes pointing backward, “arrowhead-shaped”.
Salverform — A corolla having a long slender tube that flares abruptly at the end.
Samara — A winged, indehiscent fruit.
Samaroid — Resembling a samara.
Saprophytic — A plant that derives its nutrients from dead organic matter and lacks the chlorophyll that gives most plants their green color.
Scaberulous — Slightly scabrous.
Scabrid — See scabrous.
Scabridulous — See scaberulous.
Scabrous — Having a roughened surface caused by very short stiff hairs or short sharp projections, “rough short-hairy”.
Scabrue — A stiff pointed projection or a short stiff hair.
Scale — A small, flat structure resembling the scale of a fish.
Scape — A flowering stem without leaves.
Scapose — Bearing a scape.
Scarious — Having chaffy, membranous, brown or “wax-papery” edges.
Scrambling — Slightly reclining.
Scree — Relatively small broken rock material characteristic of alpine areas, usually a result of freeze-thaw cycles.
Secund — Having all flowers or branches borne on one side of the axis.
Semi-aquatic — A plant that may tolerate partial submersion in water or a plant that roots in the soil but produces aquatic leaves.
Sensus lato — In the broad sense.
Sepals — The outermost whorl of floral leaves, also called the calyx and is usually green in color.
Seriate — In a series of rows.
Sericeous — A surface with long, soft, appressed hairs, giving a silky appearance and texture, “silky-hairy”.
Serrulate — A leaf margin with small serrated teeth.
Sessile — Without a stalk, “unstalked”.
Seta (pl. setae) — A bristle.
Setose — Bearing setae.
Sheath — An thin tubular organ that partially or wholly surrounds another organ; in grasses, the basal portion of the leaf blade that wraps around the stem.
Shrub — A woody perennial plant, less than 10 m tall, with several basal stems.
Silicle — A dry fruit of plants in the Brassicaceae generally not more than two times longer than wide which opens along the edges leaving the seeds attached to a central partition.
Silique — A long slender fruit of the Brassicaceae family which splits open along the edges leaving seed attached to a central partition.
Simple — A leaf not compounded into leaflets, or an unbranched inflorescence.

Sinuate — A pronouncedly waved leaf margin, “wavy”.

Sinus — “Notch”, a cavity or a depression between two adjacent structures (e.g., the space between two lobes of a leaf).

Sordid — “Dirty tinged”.

Sorus (pl. sort) — A cluster of spore producing structures (sporangia) on the underside of a fern frond.

Spadix — A spike with small, densely crowded, unisexual flowers on a thick and fleshy axis, the inflorescence is subtended by a spathe.

Spathe — A large bract surrounding a spadix.

Spatulate — Broad and rounded at the apex; narrowing to the base, “spoon-shaped”.

Spiciform — An inflorescence resembling a spike, “spike-like”.

Spike — An unbranched inflorescence; flowers are sessile.

Spikelet — A small spike; in grasses, the primary inflorescence composed of two glumes and one or more florets.

Sporangia — Spore producing structures.

Sporangium — Reproductive structure of ferns that produces spores.

Spore — A haploid (n) reproductive cell.

Sporocarp — The structure that contains the sporangia in ferns.

Sporophore — A leaf bearing reproductive structures; generally used in reference to the spore bearing leaves of ferns.

Sporophyll — A modified leaf bearing sporangia.

Sporophyte — The generation in the reproductive cycle of plants that produces spores; in ferns generally refers to the conspicuous form of the plant (See gametophyte).

Spur — A slender and hollow floral appendage, generally nectariferous.

Squamiform — “Scalelike”.

Squarrose — Having parts, generally at the tip of a structure, that are abruptly curving and spreading.

Stamen — The male sex organ of a plant constructed of an anther and a filament, the anther produces pollen.

Staminate — Flowers bearing stamens but no functional pistils; a male flower.

Staminode (pl. staminodia) — A sterile, sometimes modified stamen (syn. staminodium).

Stellae — Star-shaped structures.

Stellite — “Star-shaped”; having many rays radiating out from a common center.

Steppe — An extensive area of dry, arid grassland.

Sterile — Infertile flowers.

Stigma — The generally expanded, apical portion of the pistil which is receptive to pollen.

Stipe — A stalk supporting the pistil; also the petiole of the frond of a fern.

Stipitate — Born on a stipe or short stalk.

Stipule — An appendage on each side of the base of a leaf or petiole at its insertion point on the stem.

Stolon — A reclining above-ground horizontal stem that roots at the nodes or at the tips.

Stramineous — Having the color of straw, “straw-colored”.

Strigillose — Like strigose but with shorter hairs, “short appressed hairy”.

Strigose — A surface having sharp, appressed and straight hairs that are stiff and often basally swollen, “appressed hairy”.

ILLUSTRATED FLORA OF BRITISH COLUMBIA
Style — A generally elongated stalk connecting the ovary and the stigma through which the pollen tube grows.
Styliform — Resembling a long slender stalk, like a style.
Stylopodium — A disk-like enlargement at the base of the style.
Sub — A prefix signifying below, somewhat, slightly or rather.
Subspecies (ssp.) — A category of biological classification ranking immediately below the species level.
Subtend — To be positioned directly or closely beneath something.
Subulate — Narrowly triangular and tapering to a small point like an awl, “awl-like”.
Succulent — Fleshy, having a soft and thickened texture.
Sulcate — Longitudinally grooved or furrowed.
Sympatric — Occurring in the same area.
Sympodial — Having an apparent main or central axis that is actually comprised of several short overlapping branches.
Synonym — An equivalent superseded name, a second name to a given taxon.
Talus — An accumulation of rock material on or at the base of a slope, larger material than scree.
Taproot — An underground tapering root from which smaller lateral roots may form (may be thick or thin).
Tendril — A long, slender, generally twisting structure from which a climbing plant acquires its support.
Tepals — A collective term applied to petals and sepals when they are morphologically identical.
Terete — A structure that is circular in cross section but imperfectly cylindrical since the object may taper one or both ways.
Ternate — Arranged in groups of three.
Tetrad — In groups of four.
Tetraploid — Four sets of chromosomes (4n).
Thyrse — An elongated and densely flowered panicle, often contracted and pyramidal in shape.
Thysroid — Resembling a thyrs.
Tomentose — Densely pubescent with soft, matted wool-like hairs, “woolly-hairy”, “woolly”.
Tomentulose — Slightly tomentose or “slightly woolly”.
Toothed — Bearing teeth-like protrusions.
Torose — Having successive swellings and contractions, “constricted between the seeds”.
Torulose — Slightly torose.
Tri — A prefix meaning three or three times.
Tricuspidate — See cuspidate.
Trifid — Separation into three parts.
Trifoliate — A compound leaf with three leaflets.
Trigonoous — Having three angles.
Tripinnate — Branched three times.
Triquetrous — With three sharp angles, like a triangle with concave sides.
Trophophore — A vegetative leaf or frond, one that does not have reproductive structures attached.
Truncate — Cut-off at the end; having a squared shape at the apex or base.
Tuber — A thickened, modified underground stem having many buds (e.g., a potato).
Tubercle — A small, rounded swelling.
Tuberculate — Bearing tubercles.
Tuberous — Thickened; producing tubers.
Turbinate — Inversely conical, "top-shaped".
Turgid — Swollen.
Turion — A small, scaly bud-like offset on an underground stem.
Type specimen — A specimen identified by the author of a species that, morphologically, represents the best example of this species (syn. holotype).
Umbel — An inflorescence in which all flowers arise from a common point, younger flowers are in the center, may be simple or compound.
Umbellate — Arranged in umbels, "umbel-like".
Umbellet — A secondary umbel in a compound umbel.
Undulate — A slightly wavy margin.
Uniseriate — Arranged in a row or series.
Valve — One of the segments into which a dehiscent fruit splits at maturity.
Variety (var.) — A category of biological classification ranking immediately below the species or subspecies level.
Veins — Thin threads of vascular tissue, as in a leaf.
Velutinous — Having a velvety texture.
Vernal — Pertaining to, or appearing in, spring.
Verrucose — Covered with wart-like protrusions, "wartlike".
Verticillate — See whorled.
Verticils — See whorl.
Vestige — The reduction of a structure whose functional importance has decreased with evolutionary time.
Villous — With long and soft, unmatted hairs, "long-hairy".
Viscid — Glutinous or greasy.
Wanting — Lacking.
Whorl — Three or more structures arranged in a circular manner around a common insertion point.
Whorled — Having whorls.
Wing — A thin membranous outgrowth.
Winged — Bearing wings.
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