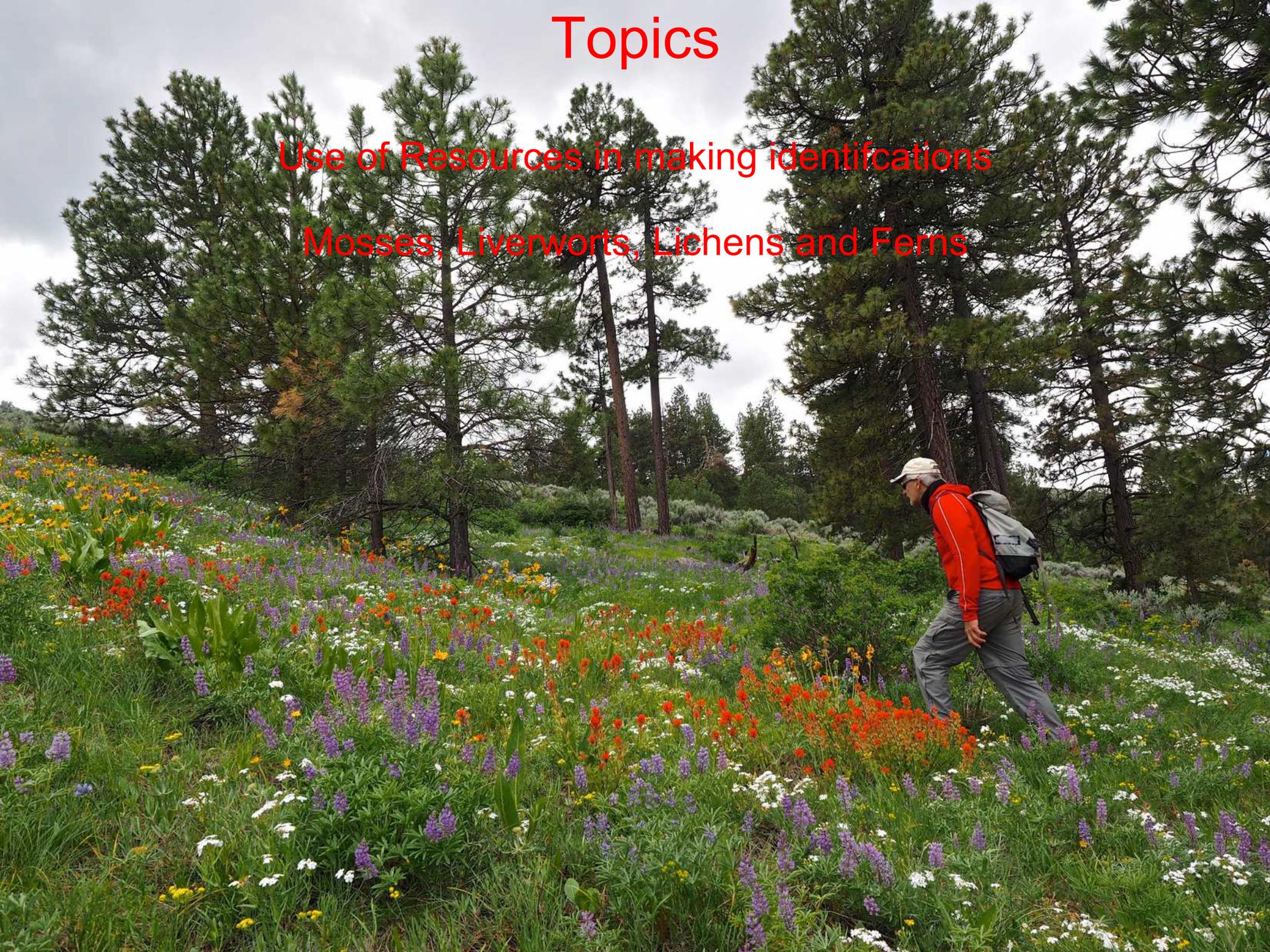


Topics

Use of Resources in making identifications

Mosses, Liverworts, Lichens and Ferns



My methodology

Taking images of some plants on hikes

Details occasionally necessary

Process of editing, identifying enhances learning

Record of plants, time of year, which hike



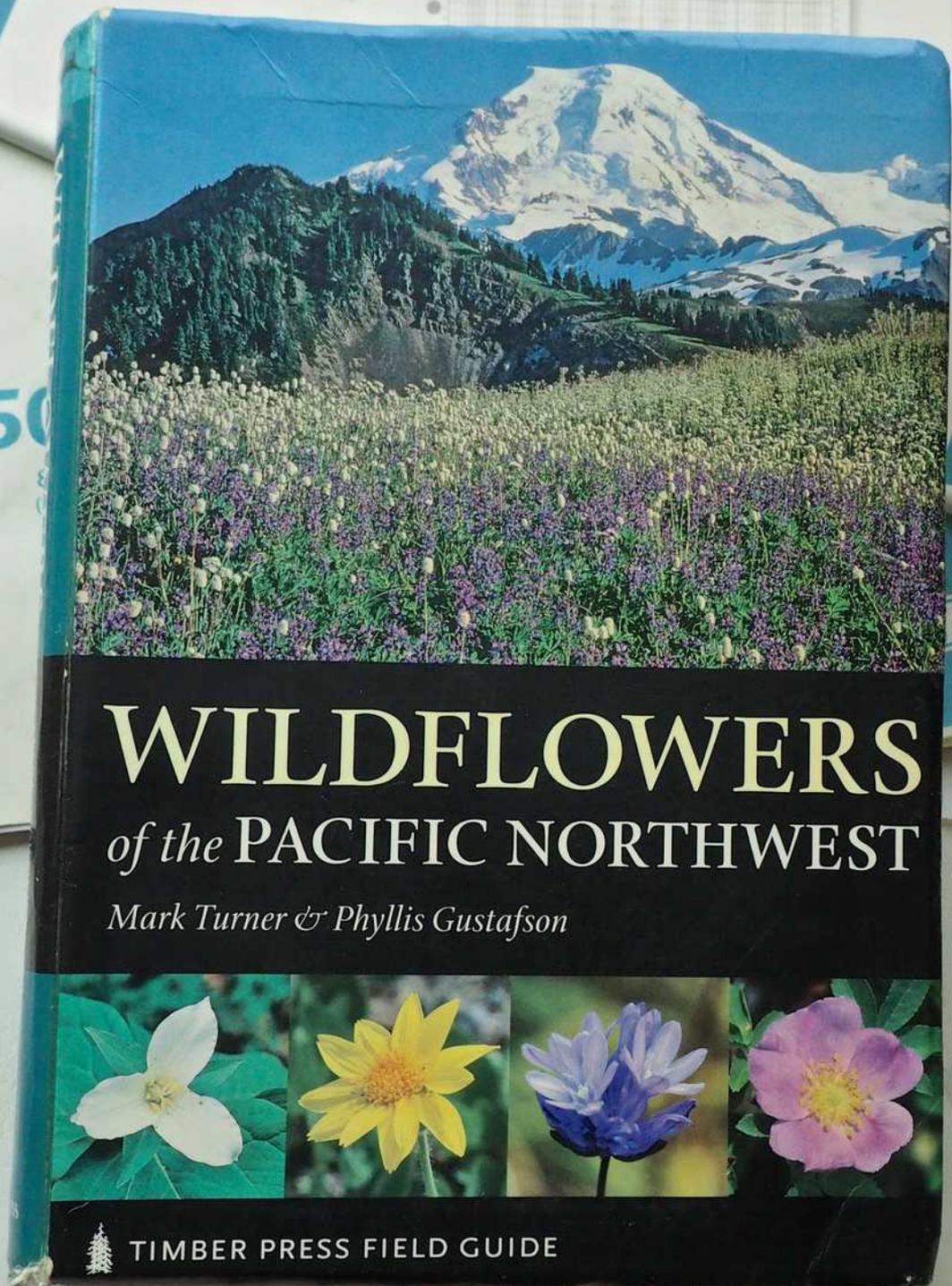
Key points in red/cyan

A “pusseytoe”

Its small

In the Alpine





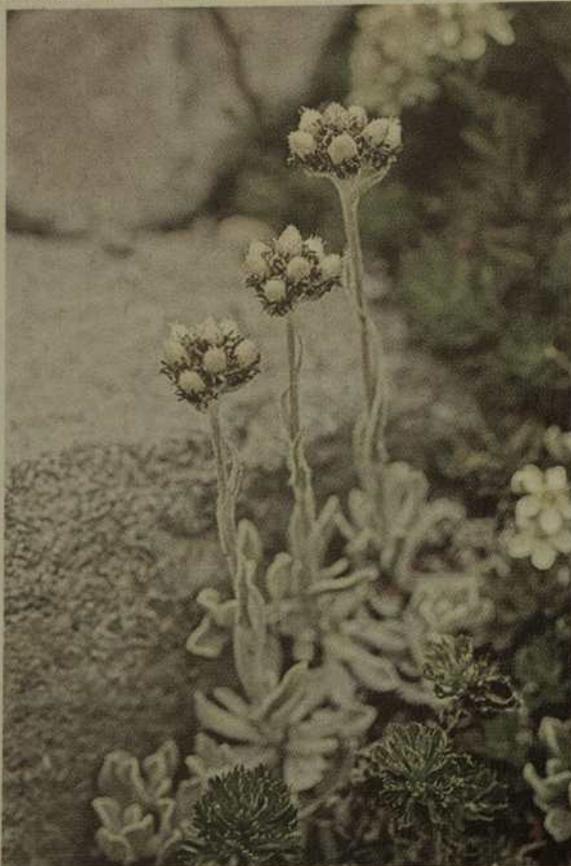
WILDFLOWERS of the PACIFIC NORTHWEST

Mark Turner & Phyllis Gustafson



 TIMBER PRESS FIELD GUIDE





heads of 8–30 flowers. Male and female flowers occur separately in cups of straw-colored to white, sharply pointed bracts. Grows in dry open slopes, prairies, at mid elevations. Native

NOCA

Turner identifies as “Alpine pussytoes”

Antennaria media (*Antennaria alpina* var. *media*)

ASTERACEAE (everlasting tribe)

Alpine pussytoes

Locally common, all summer, perennial, 2–5 in. Alpine, subalpine

Stems erect. Dense mats, with stoloniferous roots forming many rosettes. Basal leaves white to gray, densely woolly, less than 1/2 in. long, linear to spoon-shaped; stem leaves sparse, narrow, often brown-tipped. Flowers in 2–7 heads tightly grouped at stem top. Cup formed by very dark blackish green or brown bracts, woolly at bottom. Grows on exposed ridges, high meadows, snow basins, at high elevations. Native

OLYM, MORA, NOCA, CRLA



Books are space limited for:
photos and descriptions, and don't include all species. Websites, apps, and your photo library are not space limited

WTU Herbarium Image Collection - Burke Museum

biology.burke.washington.edu/herbarium/imagecollection.php

BURKE MUSEUM OF NATURAL HISTORY AND CULTURE

General Information:
Introduction
Site Contents
How to Link
Contribute Images or Text
Contact Us
Funding & Credits
WTU Herbarium

Browse Plants:
Plant Families
Plant Genera
Plant Scientific Names
Plant Common Names

Browse Lichens:
Lichen Genera
Lichen Scientific Names

Search:
Name Search
Image Search

Identification Keys:
Plant Identification Key
Winter Tree & Shrub Key

Quick Tips:
Use the menu to learn more about the image library, or return to the herbarium's main page.
Browse species lists organized by family, genus, scientific name, or common name.
Use the basic identification key to query for species based on characteristics such as flower color and leaf arrangement.
Search directly for a species by name.

**WTU Image Collection: Plants of Washington
Lichens of Washington**

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Site Statistics:
55,272 photographs
266 photographs
2,862 vascular plant species
143 lichen species

Washington Wildflowers App | Idaho Wildflowers App
The University of Washington Herbarium and its partners have released plant identification apps for the wildflowers of Washington (1026 species) and Idaho (810 species). The apps run on Apple, Android, and Amazon Kindle mobile devices (both phone and tablets).
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» Visit [High Country Apps](#) for more information.
» Download the Washington App ([Apple](#), [Google Play](#), [Amazon](#)) or the Idaho App ([Apple](#), [Google Play](#), [Amazon](#)).

Featured Content:

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Burke Museum WTU Image Collection

Advantage of using scientific name is for cross referencing

WTU Herbarium Image Collection - Burke Museum

biology.burke.washington.edu/herbarium/imagecollection.php

Jepson eFlora Vern DeWitt Routes BBS > BBS FI...es accounts California M...ora genera E-Flora BC: ...pecies Page David and K...Hiking Page Nightscape...kvision.com ArcGIS - Nor...ractive Map SwedishMyC...Login Page Northwest L...e Fire Maps Chelan Coun... Facebook Day hikes L...ge, Montana Smoke# Forec...reSmoke.ca

BURKE MUSEUM OF NATURAL HISTORY AND CULTURE

✓ A. arvensis
Anaphalis
✓ A. margaritacea
Anchusa
✓ A. arvensis
✓ A. azurea
✓ A. officinalis
Andromeda
✓ A. polifolia
Androsace
A. filiformis
✓ A. septentrionalis
Anemone
✓ A. deltoidea
✓ A. drummondii
✓ A. lyallii
✓ A. multifida
✓ A. occidentalis
✓ A. oregana
✓ A. parviflora
✓ A. patens
✓ A. piperi
Angelica
✓ A. arguta
✓ A. genulexa
✓ A. hendersonii
✓ A. lucida
Anisocarpus
✓ A. madioides
Antennaria Here
✓ A. alpina
✓ A. anaphaloides
✓ A. dimorpha
✓ A. flagellaris
✓ A. howellii
✓ A. lanata
✓ A. luzuloides
✓ A. media
✓ A. microphylla
✓ A. parvifolia
✓ A. racemosa
✓ A. rosea
✓ A. stenophylla
✓ A. umbrinella
Anthemis
✓ A. arvensis
✓ A. cotula
Anthoxanthum
✓ A. aristatum
✓ A. hirtum
A. nitens
✓ A. odoratum
Anthriscus
✓ A. caucalis
✓ A. sylvestris
Anticlea
✓ A. elegans
✓ A. occidentalis
Antirrhinum
✓ A. majus
✓ A. orontium
Apera
✓ A. interrupta
Aphanes
✓ A. arvensis
✓ A. australis
Apium
✓ A. graveolens
Apocynum
✓ A. androsaemifolium
✓ A. xfloribundum
✓ A. cannabinum
✓ A. sibiricum
Aquilegia
✓ A. flavescens

Vascular Plants - Asteraceae - Antennaria: [Log In](#)

Antennaria alpina Page Authors: Don Knobe, David Giblin
alpine pussytoes



Image © Jim Riley



Image © Bud Kovalchik

Blooms: July-August
Habit: herb
Duration: perennial
Origin: Native
Distribution: Chiefly in the Cascades and Olympic Mountains of Washington; Circumboreal, extending south in the high mountains to California and Colorado.
Habitat: Alpine meadows.

Species Description:
General: Mat-forming, stoloniferous perennials seldom over 1 dm. tall
Leaves: Basal leaves oblanceolate, up to 2.5 cm. long and 7 mm. wide, densely white-woolly on both sides; cauline leaves small and linear.
Flowers: Heads several in a sub-capitate inflorescence; pistillate involucre 4-7 mm. high, woolly below, the scarious tips of the bracts dirty blackish-green, at least the inner slender and pointed; scarious portion of the bracts in staminate flowers often with white tips.
Fruits: Achene

Distinguishing Characteristics: The small leaves and narrow, pointed involucre bracts blackish-green or brown in color should separate this species from others that might be found at high elevations.

Accepted Name:
Antennaria alpina (L.) Gaertner
Synonyms:
Antennaria alpina (L.) Gaertner var. *canescens* (Lange) Chmielewski
Gnaphalium alpinum L.

Treated in Flora of the PNW as:

Additional Resources:
PNW Herbaria Specimens: View list of *Antennaria alpina* specimens in the Consortium of Pacific Northwest Herbaria database.
WTU Herbarium Specimens: View list of *Antennaria alpina* specimens in the WTU Herbarium database.
Washington Flora Checklist: *Antennaria alpina* treatment.
E-Flora BC: *Antennaria alpina* atlas page.
CalPhotos: *Antennaria alpina* images.
USDA Plants Database: *Antennaria alpina*

Let's try a different resource: EfloraBC. Type *Antennaria alpina*

E-Flora BC: Electronic Atlas of the Plants of British Columbia

ibis.geog.ubc.ca/biodiversity/eflora/

Jepson eFlora Vern DeWitt Routes BBS > BBS Files accounts California M...ora genera E-Flora BC...pecies Page David and K...Hiking Page Nightscape...vision.com ArcGIS --Nor...ractive Map SwedishMyC...Login Page Northwest I...e Fire Maps Chelan Coun... Facebook Day hikes I...ge, Montana Smoke Forec...reSmoke.ca

E-Flora BC

Electronic Atlas of the Flora of British Columbia

[Our Blog](#) [Advanced Search](#) [Enter the Photo Gallery](#) [E-Fauna BC](#) [Biodiversity of BC](#) [Biodiversity Education](#) [Support E-Flora BC](#)

Botanical Information



Use the menu below to access our introductory pages on the botany of BC. Learn about the plant geography of BC, invasive species, and the vegetation and flora of the province.

- Introduction to E-Flora BC
- Species Groups Covered
- Biogeography & Ecology
- Invasive Species
- Rare Species
- Species Identification
- Regional Lists
- Wildflower Genetics
- Nature Notes
- Reference Pages

Search for Species Pages

E-Flora BC is a biogeographic atlas of the vascular plants, bryophytes, lichens, algae, fungi and slime molds of British Columbia. Use the search features below to access our species pages. [View a sample page.](#)

QUICK SEARCH

(Search by family, genus or species, including common names.)

Atlas Page Search:

Photo Gallery Search:

Search for incoming/non-established vascular species.

BROWSE

Browse a scrolling list of species, genera, families.

[Red-listed species](#) [Blue-listed species](#)

[Invasive, noxious and problem vascular plants of BC](#)

[Access the complete list of non-established species of BC](#)

[Species excluded from the BC vascular flora \(PDF\)](#)

[Advanced Search](#)

Use [Advanced Search](#) to call up sub groups of species such as alien species, fungi, lichens, carnivorous plants, orchids, or trees of BC.

Photo Information



Visit our photo gallery to browse through more than 26,000 photos of vascular plants, fungi, mosses and more.

[Enter the Photo Gallery](#)

Visit our [photography page](#) and learn about photos on E-Flora BC. Read our [FAQs on photo use and photo submissions](#).

Would you like to contribute photos to E-Flora BC? If so, please use the link below to register with us. A password for uploading photos will be provided once you have registered.

[Register Here](#)

[Upload Photos](#)

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Mapping Species Distributions in BC

- Mapping on E-Flora BC
- Reporting map errors on E-Flora BC
- Citizen Science: Mapping your photo records
- Using the interactive maps
- Map accuracy and limitations



Section Editors

Michael Beug: Ian Gibson: Fungi
Jamie Fenneman: Vascular Plants
Michael Hawkes: Algae
Steven Joya: Bryophytes

Photo Use

Contact the photographers directly for permissions for photo use. Use the little envelope located below each photo to email them directly.

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[Donate online to E-Flora in a few easy steps.](#)

New Search Feature and Vascular Plant Species ID Tool

Use our [search and ID tool](#) to find species by landform type, moisture regime,

Web Sites to Visit

- [BC Species and Ecosystems Explorer](#)
- [Committee on the Status of Endangered Wildlife in Canada](#)
- [Botanical Electronic News Archives](#)
- [Flora North America](#)
- [Illustrated Flora of British Columbia](#)



E-Flora BC

Electronic Atlas of the Flora of British Columbia

[Home Page](#)

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2 records--presented below--match your search criteria: *Antennaria alpina*

To learn about the species lists used on E-Flora BC, click [here](#). To sort columns, click on the column heading.

[Do Not Show ThumbNails](#)

Click on Thumbnails to Enlarge	Scientific Name	Family	English Common Name	Atlas Page
	<i>Antennaria alpina</i>	Asteraceae	alpine pussytoes	View Atlas Page
	<i>Antennaria media</i>	Asteraceae	dark pussytoes	View Atlas Page

Metadata: Detailed information on the data used to construct the E-Flora atlas pages is available [here](#).

[Send a Comment to E-Flora BC](#)

Antennaria alpina Atlas Page

Home New Search Comment Mobile Page Desktop Page



© Judith Holm (Photo ID #52389)

[Click to enlarge and view the photo details](#)

[View all photos for this taxon](#)



Distribution of *Antennaria alpina*
[Click here to view the full interactive map and legend](#)
Details about map content are available [here](#)
New! [Click on the map dots to view record details.](#)

[Open All Headings](#) [Close All Headings](#)

SPECIES INFORMATION

Click on the image below to view an expanded illustration for this species.



Antennaria alpina

Illustration Source: [The Illustrated Flora of British Columbia](#)

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 cyme; involucre involucre finely hairy, 1-2 mm long; 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:

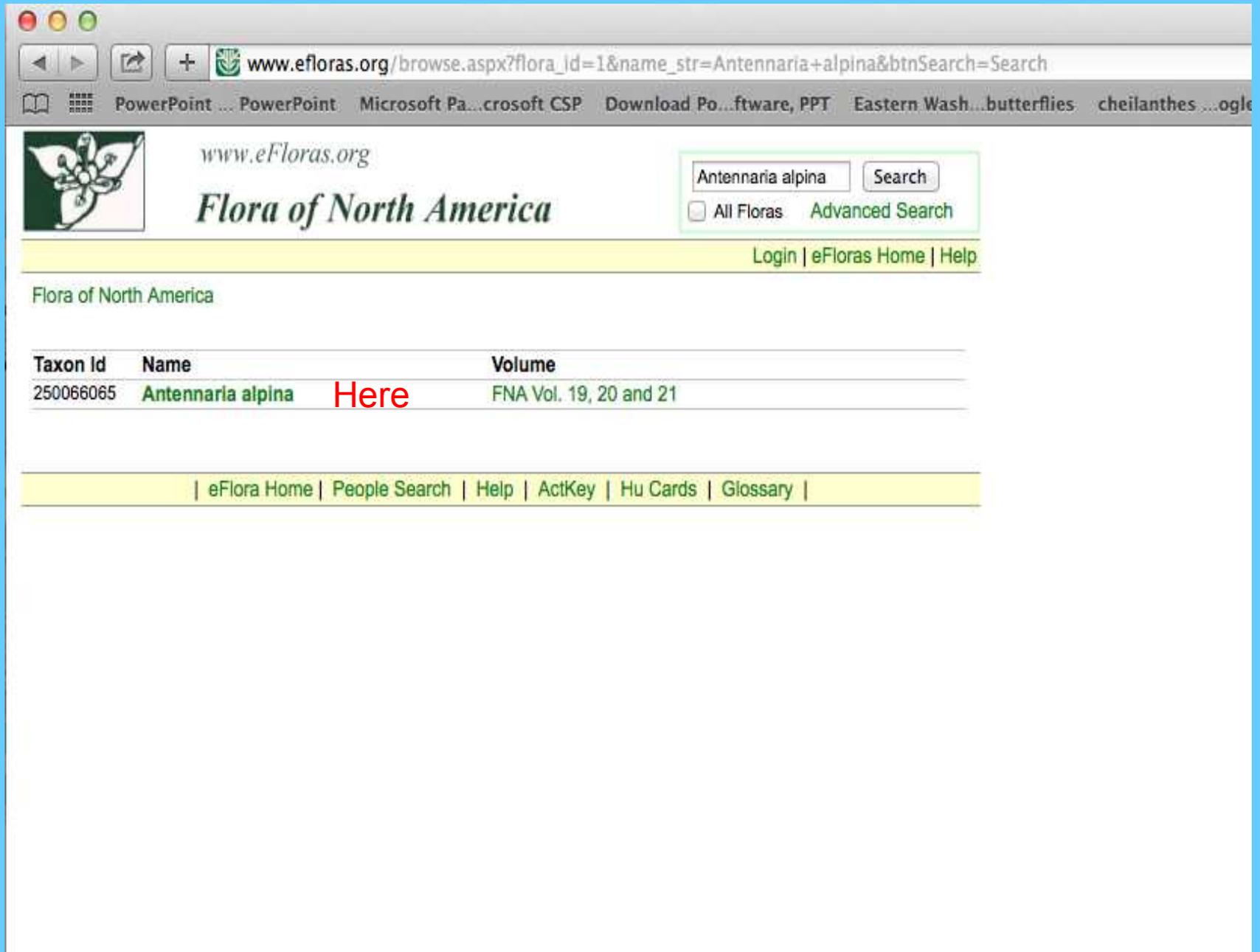
The main morphological difference between this taxon and *A. media* (*A. alpina* var. *media*) is the presence of papery tips on the middle or upper leaves (Bayer and Stebbins 1993, Bayer 1996). Until the latter research was presented, North American taxonomists were in disagreement as to the existence 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% (34 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.

Source: [The Illustrated Flora of British Columbia](#)

“Papery tips on leaves of *A. alpina* but not *A. media*”

Photos
Map
Species Information open

Another resource for descriptions: eFloras.org



The screenshot shows a web browser window with the URL www.efloras.org/browse.aspx?flora_id=1&name_str=Antennaria+alpina&btnSearch=Search. The browser's taskbar shows several open applications: PowerPoint, Microsoft PowerPoint CSP, Download PowerPoint, PPT, Eastern Wash...butterflies, and cheilanthes ...ogle.

The website header includes the logo for *Flora of North America* and the URL www.efloras.org. A search box contains the text "Antennaria alpina" and a "Search" button. Below the search box are links for "All Floras" and "Advanced Search". A navigation bar at the top right contains links for "Login", "eFloras Home", and "Help".

The main content area displays the text "Flora of North America" and a table with the following data:

Taxon Id	Name	Volume
250066065	Antennaria alpina Here	FNA Vol. 19, 20 and 21

A navigation bar at the bottom of the page contains links for "eFlora Home", "People Search", "Help", "ActKey", "Hu Cards", and "Glossary".



Alpine pussytoes

Gnaphalium alpinum Linnaeus, Sp. Pl. 2: 856. 1753; *Antennaria alpina* subsp. *canescens* (Lange) Chmielewski; *A. alpina* subsp. *porcildii* (E. Ekman) Chmielewski; *A. alpina* var. *cana* Fernald & Wiegand; *A. alpina* var. *canescens* Lange; *A. alpina* var. *compacta* (Malte) S. L. Welsh; *A. alpina* var. *glabrata* J. Vahl; *A. alpina* var. *intermedia* (Rosenvinge) *A. alpina* var. *porcildii* (E. Ekman) T. J. Sørensen; *A. alpina* var. *stolonifera* (A. E. Porsild) S. L. Welsh; *A. alpina* var. *ungavensis* Fernald; *A. arvensis* Malte; *A. atriceps* Fernald ex Raup; *A. bayardi* Fernald; *A. booscheriana* A. E. Porsild; *A. brevistylis* Fernald; *A. brunnescens* Fernald; *A. cana* Fernald & Wiegand (Fernald); *A. canescens* (Lange) Malte; *A. canescens* subsp. *porcildii* (E. Ekman) Å. Löve & D. Löve; *A. canescens* var. *pseudoporcildii* Böcher; *A. columnaris* Fernald; *A. compacta* Malte; *A. confusa* Fernald; *A. cymophila* A. E. Porsild; *A. foggii* Fernald; *A. friesiana* (Trautvetter) E. Ekman subsp. *compacta* (Malte) Hultén; *A. glabrata* (J. Vahl) Greene; *A. intermedia* (Rosenvinge) Porsild; *A. labradorica* Nuttall; *A. longii* Fernald; *A. media* Greene subsp. *compacta* (Malte) Chmielewski; *A. pallida* E. E. Nelson; *A. pedunculata* A. E. Porsild; *A. porcildii* E. Ekman; *A. somborgeri* Fernald; *A. stolonifera* A. E. Porsild; *A. subcanescens* Ostenfeld ex Malte; *A. ungavensis* (Fernald) Malte; *A. vexillifera* Fernald; *A. wiegandi* Fernald

Gynoecious (staminate plants uncommon). Plants 3–18 cm. **Stolons** 1–7 cm. **Basal leaves**: 1-nerved, spatulate to oblanceolate, 6–25 × 2–7 mm, tips mucronate, abaxial faces tomentose, adaxial green-glabrescent to gray-pubescent. **Cauline leaves** linear, 5–20 mm, at least mid and distal flagged. **Heads** 2–5 in corymbiform arrays. **Involucres**: staminate 5–6.5 mm; pistillate 4–7(–10) mm. **Phyllaries** distally dark brown, black, or olivaceous. **Corolla**: staminate 3–3.5 mm; pistillate 3.5–5 mm. **Cypselae** 1–1.8 mm, sparingly papillate; **pappi**: staminate 3.5–4 mm; pistillate 4.5–6 mm. **2n** = 56, 84, 96, 112.

Flowering mid-late summer. Dry to moist alpine tundra; 100–2400 m; Greenland; Alta., B.C., Nfld. and Labr., N.W.T., Nunavut, Ont., Que., Yukon; Alaska, Mont., Wyo.; Eurasia.

Excluded names:

Some *Antennaria* names are based on early-generation interspecific hybrids, including:

Antennaria xerigeroides Greene = *A. corymbosa* × *A. racemosa*

A. xfoliacea Greene = *A. microphylla* × *A. racemosa*

A. xmacounii Greene = *A. media* × *A. umbrinella*

A. xobiancifolia E. E. Nelson = *A. racemosa* × *A. umbrinella*

A. xrousseaui A. E. Porsild = ? *A. alpina* × *A. rosea*

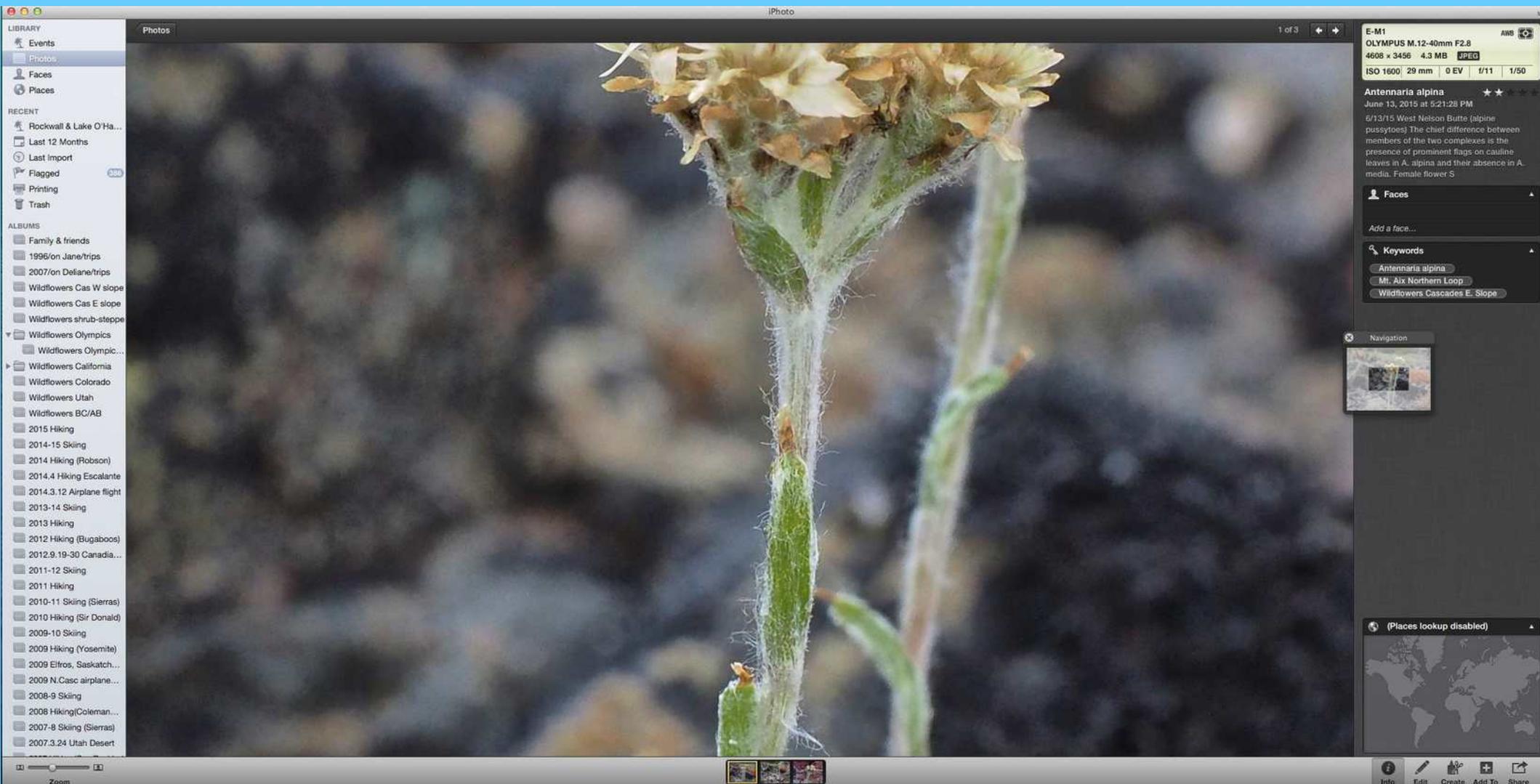
Antennaria alpina is one of the more morphologically variable agamic complexes in the genus. Some taxonomists have argued that true *Antennaria alpina* does not occur in North America, because none of the North American material exactly matches the type of *A. alpina*, which is from Lapland (M. O. Malte 1934; A. E. Porsild 1965). If one uses a strict typological species concept, then this is true; I recognize that this species complex is composed of innumerable apomictic clones and am circumscribing a broad species concept for *A. alpina*. The potential morphologic overlap between the *A. media* and *A. alpina* complexes is a major taxonomic problem. The chief difference between members of the two complexes is the presence of prominent flags on cauline leaves in *A. alpina* and their absence in *A. media*. *Antennaria alpina* of North America is gynoecious and characterized by its dark green to black phyllaries and conspicuous flags on the distal cauline leaves. The basal leaves vary from glabrous, as in the type material, to pubescent. The primary progenitors of the *A. alpina* complex include *A. aromatica*, *A. densifolia*, *A. friesiana* subsp. *alaskana*, *A. friesiana* subsp. *neovalaskana*, *A. monocephala* subsp. *monocephala*, and *A. pulchella*.

Descriptions are more technical
Same reference to papery tips

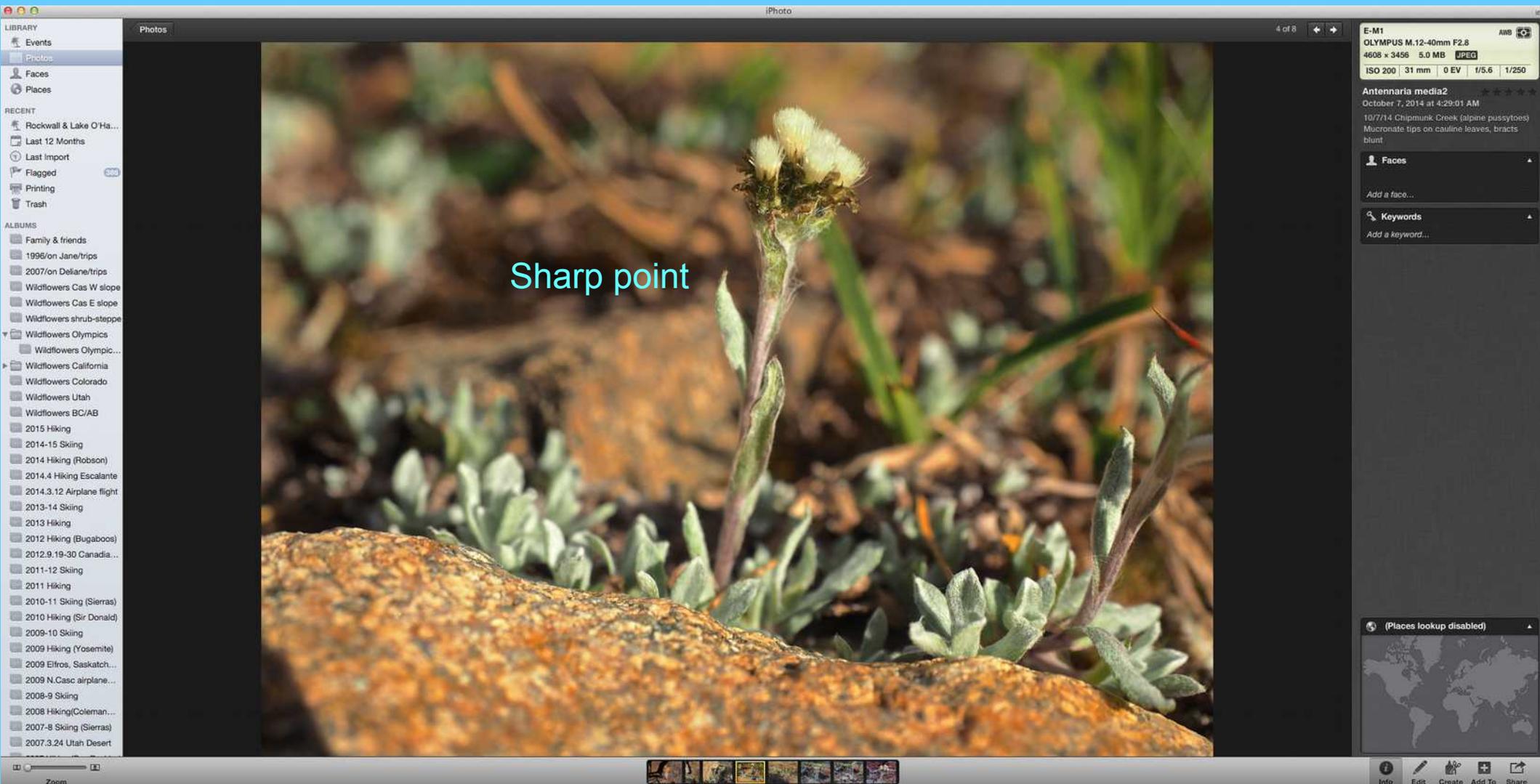
Related Objects	
• Distribution Map	Map

Related Links (opens in a new window)	
Other Databases	
• W ³ TROPICOS	
• IPNI	

Close-up image showing “Papery tips”
Note that in my images I type in key tips (upper right)



There were two species *A. alpina* and *A. media*
Note: No papery tips on this original image



A rockcress with 4 petals



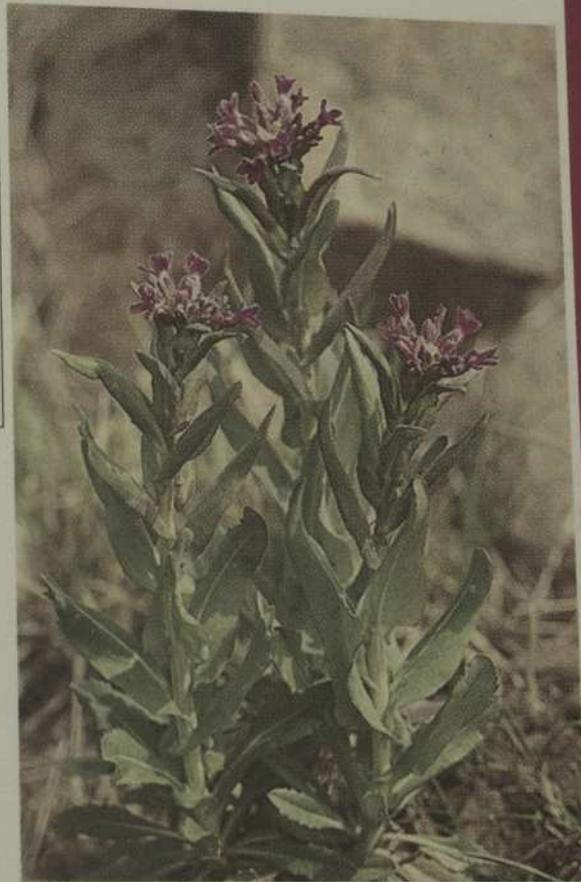
I really can't differentiate this plant on the basis of the photos/descriptions

Arabis sparsiflora BRASSICACEAE
Sicklepod rockcress

Locally common, midspring, biennial or perennial, 6–24 in. Dry rocky sites

Clump with mostly basal leaves, 1 to few stems. Stems straight or branched near top. Leaves 1–4 in., lance-shaped, with sharply pointed tip, entire or toothed, hairy; many stem leaves similar with lobed base, clasping stem.

Flower petals spoon-shaped, pink or purple. Seedpods 2–5 in., recurved, held outward from stem, hairless. Grows in rocky places at all elevations. Native NOCA



4 petals

Cakile edentula BRASSICACEAE
American searocket, oval searocket

Common, all summer–autumn, annual or biennial or perennial, 6–18 in. Coastal

Erect to prostrate, branched. Leaves fleshy, egg- to spoon-shaped, with petioles wide or sessile, edges wavy to toothed or entire. Flowers in elongating cluster at stem tops; petals pale pur-



Burke: Doesn't have Arabis sparsiflora but does have Boecheera sparsiflora

biology.burke.washington.edu/herbarium/imagecollection.php

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» Visit [High Country Apps](#) for more information.
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Featured Content:

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Here



Name change shown below (note: that there is no common name shown on this page)

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BURKE MUSEUM OF NATURAL HISTORY AND CULTURE

Vascular Plants - **Brassicaceae** - **Boechera**: [Log In](#)

Boechera sparsiflora Page Author: [David Giblin](#)

Blooms: May-July
Habit: herb
Duration: perennial
Origin: Native
Conservation Status: Abundant; of no concern.

Distribution: Occurring east of the Cascades crest in Washington; British Columbia south to California, east to Idaho, Nevada, and Utah.
Habitat: From sagebrush plains to forest openings and meadows at moderate elevations.

Accepted Name:
Boechera sparsiflora (Nutt.) Dorn
Synonyms:
Arabis arcoidea A. Nelson
Arabis peramoena Greene
Arabis polytricha Greene
Arabis sparsiflora Nutt. var. *peramoena* (Greene) Rollins

Treated in Flora of the PNW as:

Additional Resources:
PNW Herbaria Specimens: View list of *Boechera sparsiflora* specimens in the Consortium of Pacific Northwest Herbaria database.
WTU Herbarium Specimens: View list of *Boechera sparsiflora* specimens in the WTU Herbarium database.
Washington Flora Checklist: *Boechera sparsiflora* treatment.
E-Flora BC: *Boechera sparsiflora* atlas page.
CalPhotos: *Boechera sparsiflora* images.
USDA Plants Database: *Boechera sparsiflora*.

Additional photographs of *Boechera sparsiflora*:
(click on a thumbnail to view larger photo)



- ✓ *B. repens*
- ✓ *B. thunbergii*
- ✓ *B. vulgaris*
- Bergia**
- ✓ *B. texana*
- Berteroa**
- ✓ *B. incana*
- Berula**
- ✓ *B. erecta*
- Besseya**
- ✓ *B. rubra*
- Betula**
- ✓ *B. xutahensis*
- ✓ *B. glandulosa*
- ✓ *B. occidentalis*
- ✓ *B. papyrifera*
- ✓ *B. pendula*
- ✓ *B. pumila*
- Bidens**
- ✓ *B. amplissima*
- ✓ *B. beckii*
- ✓ *B. cernua*
- ✓ *B. frondosa*
- ✓ *B. tripartita*
- ✓ *B. vulgata*
- Bistorta**
- ✓ *B. bistortoides*
- ✓ *B. vivipara*
- Blechnum**
- ✓ *B. spicant*
- Blepharipappus**
- ✓ *B. scaber*
- Boechera**
- ✓ *B. atrorubens*
- ✓ *B. cusickii*
- ✓ *B. divaricarpa*
- ✓ *B. lemmonii*
- ✓ *B. lyallii*
- ✓ *B. microphylla*
- ✓ *B. paddoensis*
- ✓ *B. pauciflora*
- ✓ *B. pendulocarpa*
- ✓ *B. retrofracta*
- ✓ *B. sparsiflora*
- ✓ *B. stricta*
- ✓ *B. suffrutescens*
- Bolandra**
- ✓ *B. oregana*
- Bolboschoenus**
- ✓ *B. fluviatilis*
- ✓ *B. maritimus*
- Borago**
- ✓ *B. officinalis*
- Botrychium**
- ✓ *B. ascendens*
- ✓ *B. crenulatum*
- ✓ *B. hesperium*
- ✓ *B. lanceolatum*
- ✓ *B. lineare*
- ✓ *B. lunaria*
- ✓ *B. michiganense*
- ✓ *B. minganense*
- ✓ *B. montanum*
- ✓ *B. paradoxum*
- ✓ *B. pedunculatum*
- ✓ *B. pinnatum*
- ✓ *B. simplex*
- ✓ *B. virginianum*
- Boykinia**
- ✓ *B. intermedia*
- ✓ *B. occidentalis*
- Brachypodium**
- ✓ *B. sylvaticum*
- Brasenia**
- ✓ *B. schreberi*

Note: The link that is highlighted

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✓ B. texana
Berteroa
✓ B. incana
Berula
✓ B. erecta
Besseyia
✓ B. rubra
Betula
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✓ B. glandulosa
✓ B. occidentalis
✓ B. papyrifera
✓ B. pendula
B. pumila
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Bistorta
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✓ B. vivipara
Blechnum
✓ B. spicant
Blepharipappus
✓ B. scaber
Boechea
✓ B. atrorubens
✓ B. cusickii
✓ B. divaricarpa
✓ B. lemmonii
✓ B. lyallii
✓ B. microphylla
B. padoensis
✓ B. pauciflora
✓ B. pendulocarpa
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B. paradoxum
B. pedunculosum
✓ B. pinnatum
B. simplex
B. virginianum
Boykinia
✓ B. intermedia
✓ B. occidentalis
Brachypodium
✓ B. sylvaticum
Brasenia
✓ B. schreberi
Brassica
✓ B. juncea
✓ B. napus
✓ B. nigra

Vascular Plants - **Brassicaceae** - **Boechea** [Log in](#)

Boechea sparsiflora Page Author: David Giblin



Image © 2010, Ron Bockelman

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USDA Plants Database: [Boechea sparsiflora](#).



Image © 2010, Ron Bockelman

Additional photographs of Boechea sparsiflora:
(click on a thumbnail to view larger photo)



Link

USDA website shows history of name changes (also distribution map, some photos)

Name Search Results | USDA PLANTS

plants.usda.gov/java/nameSearch?keywordquery=Boecheera%20sparsiflora&mode=sciname

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Results for Scientific Name = *Boecheera sparsiflora*
4 records returned

Click on an accepted name below to view its PLANTS Profile with all synonyms, distribution map, more information, and Web links if available. Please use the State Search to generate fully synonymized plant lists. Synonyms are indented beneath accepted counterparts.

Symbol	Scientific Name	Common Name	Photos
ARSPS2	<i>Arabis sparsiflora</i> Nutt. var. <i>sparsiflora</i>	sicklepod rockcress	
BOSP7	<i>Boecheera sparsiflora</i> (Nutt.) Dorn		
ARSPS	<i>Arabis sparsiflora</i> Nutt. var. <i>subvillosa</i> (S. Watson) Rollins		
BOSPS	<i>Boecheera sparsiflora</i> (Nutt.) Dorn var. <i>subvillosa</i> (S. Watson) Dorn	hairystem rockcress	 (1)

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Paul Schlichter: Flora and Fauna Northwest

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White Mule's Ears (*Wyethia helleanthoides*) and Casick's Camas (*Camassia cusickii*) as seen along the western rim of Hells Canyon in eastern Oregon.....June 28, 2008.

[Books about Columbia and Great Basin Plants]
[Current Wildflower Bloom in Central & Eastern Oregon]
[Current Wildflower Bloom in Central & Eastern Washington]

Updated: January 1, 2014

- [Fungi](#)
- [Lichens](#)
- [Lesser Clubmosses and Spikemosses \(The Genus *Selaginella*\)](#)
- [Clubmosses](#)
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- [Rushes.](#)
- [Plants with tiny flowers.](#)
- [Mistletoe](#)
- [Aquatic Plants](#)
- [Larger flowers having petals in multiples of three \(3, 6, 9\).](#)
- [Larger flowers having 4 petals.](#)
- [Larger flowers having 5 petals.](#)
- [Larger flowers having numerous petals. An example is cacti. No small flowers are found in a central disk as in the sunflower family below.](#)
- [Flowers like sunflowers, daisies, or dandelions.](#)
- [Shrubs and Trees Found East of the Cascade Mts.](#)
- [Animals Found East of the Cascade Mts.](#)

Paul Schlichter E-Mail

Wildflowers east of the Cascade crest

Schlichter organizes by family. Stewart's method helps here

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[Wildflowers East of the Cascade Mts: Simple Flower ID Key]

Identification of Wildflowers Having 4 Petals

East of the Cascade Mts.



Bedstraw or Madder Family: Herbaceous plants with square stems, often with tiny clingy hairs. Leaves whorled (The many leaves arise from the same spot on the stem, but on all sides of the stem.) The white flowers are usually very small, with the 4 petals shaped as a cross.

Bleeding Heart Family: Herbaceous plants. The 4 petals are irregularly shaped and sized, either to look like hearts or spurred sacs. The leaves are parsley-like, but with rounded edges and a blue-green tinge.

Caper Family: Herbaceous plants. Flowers mustard-like. Four yellow petals. Ovary is banana-shaped. Leaves mostly compound palmate.

Dogwood Family: Small to large woody shrubs. 4 large white showy bracts which may be mistaken as petals. These white bracts surround a tiny yellow cluster of flowers. Leaves opposite. Dogwoods may be trees or small ground covers.

Evening-primrose Family: Herbaceous plants. There are 4 of each of the petals, sepals, and stamens. The style (long projection from the central ovary has a 4-part cross (X) at its end, or is bulb-like.

Gentian Family: Annual or perennial herbs with glabrous herbage and simple, opposite or whorled leaves. Flowers showy and tubular or funnel-shaped with 4-5 lobes.

Hydrangea Family: Trees, shrubs or vines with simple opposite leaves without stipules. Flowers perfect and regular with 4, 6 or 10 petals. The ovary is inferior.

Loosestrife Family:

Mustard Family: Herbaceous plants. Urn-like flowers with 4 petals shaped as an cross or an X when viewed from above. The flowers have 6 stamens (4 above, 2 below).

Oleaster Family: Deciduous shrubs or trees with opposite to alternate leaves and small, inconspicuous flowers either solitary or clustered at the nodes. The flowers may either be perfect or unisexual. If the latter, the sexes are on separate plants.

Plantain Family: Herbaceous plants. Small brown or green flowers on erect leafless stalk. The leaves are basal and appear to have parallel leaf veins.

Poppy Family: Herbaceous plants. Four large, colorful, showy petals. Poppies have many stamens surrounding a swollen central ovary. The sepals fall off the flower as it opens.

Staff Tree Family: Woody shrubs with opposite leaves and minute deciduous stipules. Flowers perfect, small and inconspicuous.

Teasel Family: Herbaceous, weedy biennials or perennials. flowers in compact flower heads. Corollas irregular with 4 lobes. 4 stamens.

Paul Schlichter [E-mail](#)

Mustard: Small flower with 4 petals

Recognize “Rockcresses” alphabetized under Genus “*Arabis*”

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Mt. Adams Wildflowers
Wildflowers East of the Cascade Mts.
Wildflowers of Denali National Park
Wildflowers of the Desert Southwest

[Wildflowers with Four Petals East of the Cascade Mts. of Oregon and Washington]

The Mustard Family East of the Cascade Mountains of Oregon and Washington

Brassicaceae



Draba cusickii

Mustard Family Members Found East of the Cascade Mountains of Oregon and Washington:

- [The Alyssum: The Genus *Alyssum*](#) -
- [Rockcresses: The Genus *Arabis*](#) - **Here**
- [Athyasus: *Athyasus pusillus*](#)
- [The Wintercress: The Genus *Barbarea*](#) -
- [The Mustards: The Genus *Brassica*](#) -
- [Falseflax: The Genus *Camelina*](#) -
- [Shepherd's Purse: *Capsella bursa-pastoris*](#) -
- [The Bitter Cress: The Genus *Cardamine*](#) -
- [The Hoarycress: The Genus *Cardaria*](#) -
- [Wild Cabbage or Caulanthus: The Genus *Caulanthus*](#) -
- [Spearhead: *Chlorocrambe hastata*](#) -
- [Blue Mustard *Chorispora tenella*](#) -
- [Hare's Ear: *Conringia orientalis*](#) -
- [The Tansy Mustards: The Genus *Descurainia*](#) -
- [The Draba or Whitlow-grass: The Genus *Draba*](#) -

Scroll to Arabis sparsiflora and click link

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Wildflowers East of the Cascade Mts.
Wildflowers of Denali National Park
Wildflowers of the Desert Southwest

Cobre Rockcress, Masonic Rockcress: *Arabis cobrensis* (Synonyms: *Arabis cobrensis* var. *cobrensis*, *Boechea cobrensis*) - Fruits recurved. Flowers white or pink, the petals 4-5 mm long. Plants less than 30 cm high.

Cross-haired Rockcress, Wetsoil Rockcress: *Arabis crucisetosa* - Fruits erect to ascending. Flowers white with petals from 6-8 mm long. Plants 10-40 cm tall.

[Cusick's Rockcress](#), [Red Rockcress](#): *Arabis cusickii* - Basal and stem leaves strongly ciliate. The arched fruits are spreading. Flowers white to bright purple, the petals 7-9 mm long.

Davidson's Rockcress: *Arabis davidsonii* (Synonym: *Arabis davidsonii* var. *davidsonii*) -

[Spreading Rockcress](#), [Spreadingpod Rockcress](#), [Spreading Pod Rockcress](#): *Arabis* x *divaricarpa* (Synonyms: *Arabis acutina*, *Arabis divaricarpa*, *Arabis xdivaricarpa* var. *divaricarpa*, *Arabis xdivaricarpa* var. *interposita*, *Arabis drummondii* x *holboellii*, *Arabis interposita*) - Curved fruits are erect to ascending lower on the racemes and spreading high on the racemes. Flowers white or pinkish, the petals are 4-8 mm long. Plants are 30-80 cm tall.

[Canadian Rockcress](#), [Drummond's Rockcress](#): *Arabis drummondii* (Synonyms: *Arabis albertina*, *Arabis brachycarpa*, *Arabis confinis*, *Arabis connexa*, *Arabis drummondii* var. *connexa*, *Arabis drummondii* var. *oxyphylla*, *Arabis oxyphylla*, *Boechea angustifolia*, *Boechea brachycarpa*, *Boechea drummondii*, *Erysimum drummondii*, *Turritis drummondii*) - Fruits erect. Flowers pink, the petals 7-12 mm long. Plants 30-80 cm tall.

[Forkhaired Rockcress](#), [Fork-haired Rockcress](#): *Arabis furcata* (Synonym: *Arabis furcata* var. *furcata*) - Fruits erect to ascending. Flowers white with petals from 5-10 mm long. Plants 20-40 cm tall.

[Tower Mustard](#), [Tower Rockcress](#): *Arabis glabra* (Synonyms: *Arabis glabra* var. *furcatipilis*, *Arabis glabra* var. *glabra*, *Turritis glabra*) - Fruits erect and glabrous. Flowers yellowish-white or cream, the petals 3-6 mm long. Plants 30-150 cm tall.

Hells Canyon Rockcress: *Arabis hastatula* -

[Eschscholtz's Hairy Rockcress](#), [Hairy Rockcress](#), [Pacific Coast Rockcress](#): *Arabis hirsuta* var. *escholtziana* (Synonym: *Arabis eschscholtziana*) - Fruits flattened and ascending or spreading. Flowers greenish white, cream or pinkish, the petals 4-5 mm long. Plants 15-100 cm tall.

[Hairy Rockcress](#), [Mountain Rockcress](#): *Arabis hirsuta* var. *glabrata* - Fruits flattened and ascending or spreading. Flowers greenish white, cream or pinkish, the petals 4-5 mm long. Plants 15-100 cm tall.

Creamflower Rockcress: *Arabis hirsuta* var. *pyncocarpa* -

[Holboell's Rockcress](#): *Arabis holboellii* - Pedicels in fruit recurved or reflexed. Straight to slightly curved fruits pendulous and often pressed tightly against the stem. Flowers white to pinkish-purple, the petals 5-10 mm long. Plants 10-100 cm tall.

[Dropseed Rockcress](#): *Arabis holboellii* var. *pendulocarpa* (Synonyms: *Arabis exilis*, *Arabis holboellii*, *Arabis pendulocarpa*, *Boechea exilis*, *Boechea pendulocarpa*) -

[Holboell's Rockcress](#): *Arabis holboellii* var. *pinetorum* (Synonyms: *Arabis holboellii*, *Arabis pinetorum*, *Boechea holboellii* var. *pinetorum*, *Boechea pinetorum*) -

[Holboell's Rockcress](#), [Second Rockcress](#), [Secund Rockcress](#): *Arabis holboellii* var. *retrofracta* (Synonyms: *Arabis arcuata*, *Arabis caduca*, *Arabis consanguinea*, *Arabis dactotica*, *Arabis exilis*, *Arabis holboellii*, *Arabis holboellii* var. *collinsii*, *Arabis holbellii* var. *consanguinea*, *Arabis holboellii* var. *secunda*, *Arabis holbellii* var. *tenuis*, *Arabis kochii*, *Arabis lignipes*, *Arabis mcdougallii*, *Arabis polyantha*, *Arabis retrofracta*, *Arabis retrofracta* var. *multicaulis*, *Arabis rhodanthus*, *Arabis secunda*, *Arabis tenuis*, *Boechea exilis*, *Boechea holbellii* var. *retrofracta*, *Boechea hoboellii* var. *secunda*, *Boechea retrofracta*, *Boechea tenuis*) -

[Lemmon's Rockcress](#): *Arabis lemmonii* (Synonyms: *Arabis lemmonii* var. *lemmonii*, *Arabis lemmonii* var. *typica*, *Boechea lemmonii*) - Fruits widely spreading to curved downward. Petals rose-purple. Plants 10-20 cm tall. Plants of high elevation.

[Lyll's Rockcress](#), [Lyll's Slender Rockcress](#): *Arabis lyallii* (Synonyms: *Arabis lyallii* var. *lyallii*, *Arabis lyallii* var. *nubigena*, *Boechea lyallii*) - Fruits straight and nearly erect. Flowers purple, the petals 6-8 mm long. Plants 10-25 cm tall.

[Small-leaved Rockcress](#): *Arabis microphylla* - Fruits straight to mostly curved, ascending to spreading. Flowers pale pink to purple, the petals 5-8 mm long. Plants 10-30 cm tall. Found at lower elevations.

Nuttall's Rockcress: *Arabis nuttallii* - Fruits erect-ascending. Flowers white or pale lilac, the petals 6-8 mm long. Plants 8-35 cm tall.

Howell's Flatseed Rockcress: *Arabis platysperma* var. *howellii* (Synonym: *Arabis howellii*) -

Pioneer Rockcress, Broad-seeded Rockcress: *Arabis platysperma* var. *platysperma* -

[Sicklepod Rockcress](#), [Black-flowered Rockcress](#), [Elegant Rockcress](#): *Arabis sparsiflora* - Pedicels in fruit spreading. Fruits ascending to spreading. Flowers pink to purplish, the petals 8-15 mm long. Plants 30-100 cm tall.

Woody Rockcress: *Arabis suffrutescens* var. *suffrutescens* - Fruits over 3.5 mm wide and pendulous. Flowers pruplish, the petals 5-9 mm long. Plants 15-50 cm tall. Plants of high elevations.

[Hoary Rockcress](#): *Boechea puberula* (Synonym: *Arabis puberula*) - Fruits reflexed and pendant. Flowers rose-colored to purplish. Plants 15-50 cm tall.

Paul Slichter E-Mail

Usually very good and demonstrative photos

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[The Genus *Arabis* East of the Cascade Mts. of Oregon and Washington]

Sicklepod Rockcress

Arabis sparsiflora



Photo above of *Arabis sparsiflora* var. *atrorubens* from the Little Spokane River Natural Area.....May 6, 2012.

Photo credit: Slichter 2012

Characteristics:

Sicklepod rockcress is a biennial or short-lived perennial with one to several upright, simple to branched stems arising 40-80 cm from a mass of basal leaves. Plants are densely hairy below with simple to branched, star-shaped hairs. The numerous basal leaves are oblanceolate in shape, 2 to 9 cm in length and 2 to 8 mm wide. The margins are entire to several-toothed and the blades are finely to coarsely haired. The basal leaves narrow to a slender petiole. There are also numerous stem leaves, reduced in size up the stem. The lower leaves are petiolate, but the upper ones become somewhat clasping or auriculate and somewhat glabrous in texture. The stem leaves are linear-lanceolate to oblanceolate in shape, with mostly entire margins.

The inflorescence is a long, loose raceme of many flowers. The 4 petals may be white to deep purple and measure 6-14 mm in length. The pedicels are glabrous to sparsely covered with branched, radiate hairs. **The sepals are often purplish, covered with branched, radiate hairs, and measure 4-6 mm long.** The seed capsules are siliques, long and thin, somewhat flattened, usually arched in outline, and either ascending to spreading-drooping. The capsules are glabrous and measure from 6-10 cm long and 1.75-2.5 mm wide.

Pacific Northwest Varieties:

var. *atrorubens*: Petals a deep purple color. Siliques ascend. Basal leaves toothed. Pedicels of the flowers and siliques typically not haired. Found east of the Washington Cascades from Chelan County to Klickitat County in the south.

var. *sparsiflora*: Petals white, pink, or light purplish, but lighter than variety *atrorubens*. Basal leaves entire margined. Pedicels of the flowers and siliques usually ascending, smooth, and hairless. Found in the eastern part of the species' range from Idaho to Utah, west to southeast Oregon, and south to northeastern California.

var. *subvillosa*: Petals white, pink, or light purplish, but lighter than variety *atrorubens*. Siliques usually spreading to descending. Basal leaves toothed. Pedicels of the flowers and siliques usually noticeably lightly haired and spreading. Found from central Washington south to California along the east base of the Cascade Range, and east to Montana and Wyoming.

Habitat:

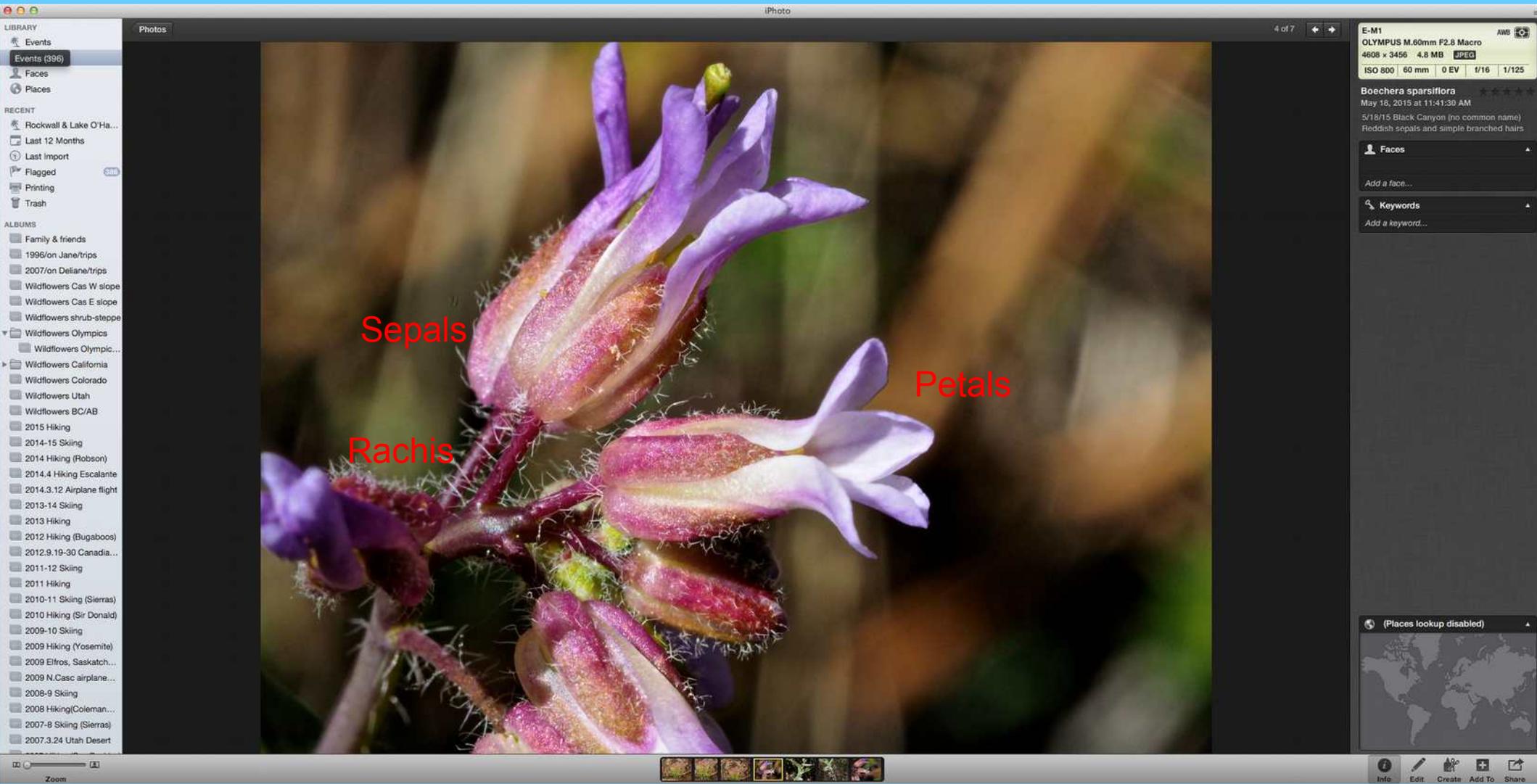
Sicklepod rockcress is found in arid, sagebrush and ponderosa pine habitats.

Range:

Sicklepod rockcress is found from British Columbia south along the eastern edge of the Cascade Range to California, and eastward to Alberta, and south through Montana, Wyoming and into Utah.

Paul Slichter

And so they are. Macro images of small things can be helpful.
It would take a loupe to get this detail....and you would have no record.



Leaves are also important, both basal and stem on some genera



The screenshot shows a photo viewer interface with a central image of a plant stem and leaves. The leaves are green and have fine, white, hair-like structures (trichomes) along their edges. The stem is purple. The background is blurred green foliage.

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- 2010 Hiking (Sir Donald)
- 2009-10 Skiing
- 2009 Hiking (Yosemite)
- 2009 Eftros, Saskatch...
- 2009 N.Casc airplane...
- 2008-9 Skiing
- 2008 Hiking(Coleman...
- 2007-8 Skiing (Sierras)
- 2007.3.24 Utah Desert

Photos 5 of 7

E-M1
OLYMPUS M.60mm F2.8 Macro
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ISO 1000 | 60 mm | -0.3 EV | 1/16 | 1/125

Boecheera sparsiflora ★ ★
May 18, 2015 at 11:43:51 AM
5/18/15 Black Canyon (no common name)
Leaves become smaller the stem glabrous above. Leaf adaxially covered with trichomes.

Faces
Add a face...

Keywords
Black Canyon
Boecheera sparsiflora
Wildflowers Cascades E. Slope

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Dec. 8, 2015: **New eFlora taxon pages are now available**, featuring illustrations, more photographs, and neater display and navigation.

Sept. 21, 2015: [Geographic Subdivisions Map](#) updated to reflect Klamath Ranges geology.

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Treatments and keys in the *Jepson eFlora* were initially derived from *The Jepson Manual: Vascular Plants of California, Second Edition* (TJM2), available from [University of California Press](#).

The eFlora expands on the content of TJM2, including descriptions of taxa not included in the print book (e.g. waifs, agricultural weeds), substantive revisions of scientific content for some taxa, and many errata and other small changes made relative to the print book.

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All of the California area species of Boechera appear

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Scientific Name Submit Name

You searched for: "Boechera"

Scientific Name	Common Name	
Boechera ↳ Key to Boechera	ROCKCRESS	
<i>Boechera acutina</i>	POINTED ROCKCRESS	Native
<i>Boechera arcuata</i>	ARCHING ROCKCRESS	Native
<i>Boechera bodienseis</i>	BODIE HILLS ROCKCRESS	Native
<i>Boechera breweri</i>		Native
<i>Boechera breweri</i> subsp. <i>breweri</i>	BREWER'S ROCKCRESS	Native
<i>Boechera breweri</i> subsp. <i>shastaensis</i>	SHASTA ROCKCRESS	Native
<i>Boechera calderi</i>	CALDER'S ROCKCRESS	Native
<i>Boechera californica</i>	CALIFORNIA ROCKCRESS	Native
<i>Boechera cobrensis</i>	MASONIC ROCKCRESS	Native
<i>Boechera constancei</i>	CONSTANCE'S ROCKCRESS	Native
<i>Boechera covillei</i>	COVILLE'S ROCKCRESS	Native
<i>Boechera davidsonii</i>	DAVIDSON'S ROCKCRESS	Native
<i>Boechera demissa</i> var. <i>pendulina</i> (Under <i>Boechera pendulina</i>)		Synonym
<i>Boechera depauperata</i>	SOLDIER ROCKCRESS	Native
<i>Boechera dispar</i>	PINYON ROCKCRESS	Native
<i>Boechera divaricarpa</i>	SPREADINGPOD ROCKCRESS	Native
<i>Boechera elkoensis</i>	ELKO ROCKCRESS	Native
<i>Boechera evadens</i>	HIDDEN ROCKCRESS	Native
<i>Boechera glaucovalvula</i>	BLUEPOD ROCKCRESS	Native
<i>Boechera hirschbergiae</i> (Under <i>Boechera johnstonii</i>)		Synonym
<i>Boechera hoffmannii</i>	HOFFMANN'S ROCKCRESS	Native
<i>Boechera holboellii</i> var. <i>pendulocarpa</i> (Under <i>Boechera pendulocarpa</i>)		Synonym
<i>Boechera horizontalis</i> (Under <i>Boechera</i>)		Mentioned in a note
<i>Boechera howellii</i>	HOWELL'S ROCKCRESS	Native
<i>Boechera inyoensis</i>	INYO ROCKCRESS	Native
<i>Boechera johnstonii</i>	JOHNSTON'S ROCKCRESS	Native
<i>Boechera koehleri</i>	KOEHLER'S ROCKCRESS	Native
<i>Boechera lemmonii</i>	LEMMON'S ROCKCRESS	Native
<i>Boechera lincolnensis</i>	LINCOLN ROCKCRESS	Native

Scroll to Boechera sparsiflora

Jepson Herbarium: Jepson Flora Project: Jepson eFlora Search

ucjeps.berkeley.edu/eflora/search_eflora.php

Boechera parishii	PARISH'S ROCKCRESS	Native
Boechera pauciflora	HAIRY STEM ROCKCRESS	Native
Boechera paupercula	SMALL-FLOWERED ROCKCRESS	Native
Boechera peirsonii	PEIRSON'S ROCKCRESS	Native
Boechera pendulina	RABBIT-EAR ROCKCRESS	Native
Boechera pendulocarpa	DROPSEED ROCKCRESS	Native
Boechera perennans	PERENNIAL ROCKCRESS	Native
Boechera pinetorum	WOODLAND ROCKCRESS	Native
Boechera pinzliae	PINZL'S ROCKCRESS	Native
Boechera platysperma	PIONEER ROCKCRESS	Native
Boechera pratensis	MEADOW ROCKCRESS	Native
Boechera puberula	SILVER ROCKCRESS	Native
Boechera pulchra	BEAUTIFUL ROCKCRESS	Native
Boechera pygmaea	TULARE COUNTY ROCKCRESS	Native
Boechera rectissima	BRISTLY LEAF ROCKCRESS	Native
Boechera repanda	YOSEMITE ROCKCRESS	Native
Boechera repanda var. greenii (Under Boechera repanda)		Synonym
Boechera retrofracta	REFLEXED ROCKCRESS	Native
Boechera rigidissima	TRINITY MOUNTAIN ROCKCRESS	Native
Boechera rollei	ROLLE'S ROCKCRESS	Native
Boechera rubicundula	MOUNT DAY ROCKCRESS	Native
Boechera selbyi var. inyoensis (Under Boechera inyoensis)		Synonym
Boechera serpicicola	SERPENTINE ROCKCRESS	Native
Boechera shevockii	SHEVOCK'S ROCKCRESS	Native
Boechera shockleyi	SHOCKLEY'S ROCKCRESS	Native
Boechera sparsiflora	SICKLEPOD ROCKCRESS	Native
Boechera stricta	DRUMMOND'S ROCKCRESS	Native
Boechera subpinnatifida	KLAMATH ROCKCRESS	Native
Boechera suffrutescens	WOODY ROCKCRESS	Native
Boechera tiehmii	TIEHM'S ROCKCRESS	Native
Boechera tularensis	TULARE ROCKCRESS	Native
Boechera ultra-alsa (Under Boechera ultraalsa)		Synonym
Boechera ultraalsa	SNOW MOUNTAIN ROCKCRESS	Native
Boechera xylopoda	BIGFOOT HYBRID ROCKCRESS	Native
Boechera yorkii	LAST CHANCE ROCKCRESS	Native

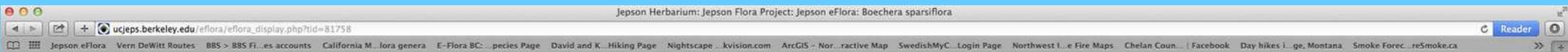
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Detailed description. The line drawing below is very good



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Boechera sparsiflora SICKLEPOD ROCKCRESS

Click on "Dichotomous Key"

Higher Taxonomy		
Family: Brassicaceae (Cruciferae)	View Description	Dichotomous Key
Genus: Boechera	View Description	Dichotomous Key

Boechera sparsiflora (Nutt.) Dorn

NATIVE

Habit: Short-lived perennial herb to biennial; caudex generally not woody. **Stem:** generally 1 per caudex branch, from center of basal rosette at +- ground surface; 3--8 dm, proximally with simple and short-stalked, 2-rayed hairs 0.4--1.5 mm. **Leaf:** basal 3--12 mm wide, entire (dentate); hairs short-stalked, 2--5-rayed, 0.3--0.8 mm; cauline generally 15--35, distal glabrous (ciliate), basal lobes 3--10 mm. **Inflorescence:** 12--50-flowered, not 1-sided in fruit; fruit pedicel ascending, straight or +- recurved, 3--18 mm, +- hairs spreading, generally simple, or glabrous. **Flower:** sepals hairy; petals 7--13 mm, 2--5 mm wide, lavender to purple; pollen ellipsoid. **Fruit:** spreading-ascending (horizontal), not appressed, 5--13 cm, 1.7--2 mm wide, glabrous; style 0.05--0.3 mm; ovules 90--170. **Seed:** in 1 row, 1.5--2 mm; wing 0.1--0.2 mm wide.

Chromosomes: 2n=14.

Ecology: Rocky slopes, sandy soil, in sagebrush steppe, open conifer communities; **Elevation:** 200--2800 m. **Bioregional Distribution:** KR, NCoRH, CaR, n SNF, GB; **Distribution Outside California:** to British Columbia, Idaho, Utah. **Flowering Time:** Apr--Jun

Synonyms: *Arabis sparsiflora* Nutt.; *Arabis sparsiflora* var. *sparsiflora*

eFlora Treatment Author: Michael D. Windham & Ihsan A. Al-Shehbaz

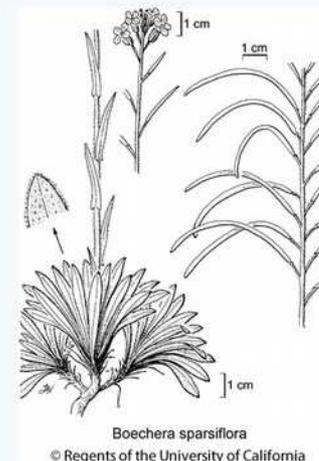
Jepson Online Interchange

List of species

Previous taxon: *Boechera shockleyi*

Next taxon: *Boechera stricta*

Name Search



"Sicklepod"

Boechera sparsiflora
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Contact/Feedback

Citation for this treatment: Michael D. Windham & Ihsan A. Al-Shehbaz 2016. *Boechera sparsiflora*, in Jepson Flora Project (eds.) *Jepson eFlora*, http://ucjeps.berkeley.edu/cgi-bin/get_IJM.pl?tid=81758, accessed on May 27, 2016.

Citation for the whole project: Jepson Flora Project (eds.) 2016. *Jepson eFlora*, <http://ucjeps.berkeley.edu/IJM.html>, accessed on May 27, 2016.



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Key used by botanists. For mosses can be helpful



Jepson eFlora

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Key to Boechera

List of species in Boechera

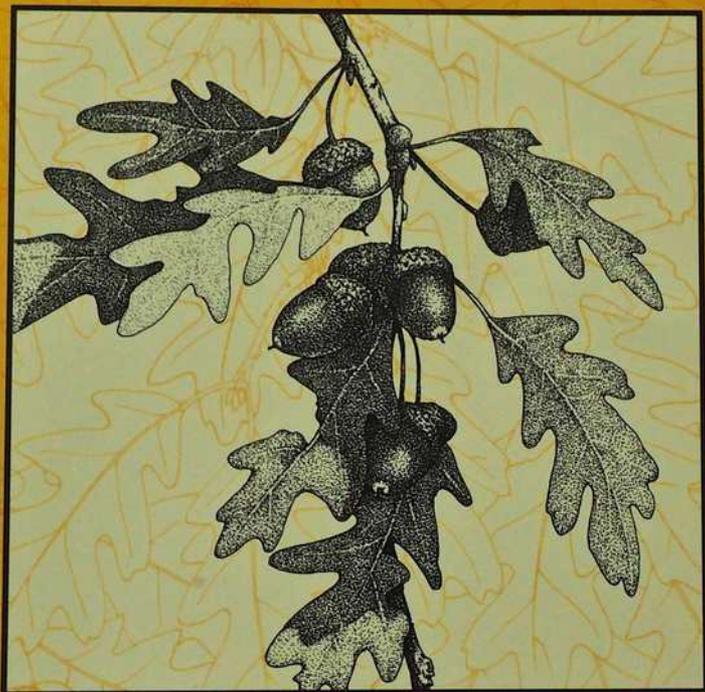
View taxon page for Boechera

1. Fruit, generally ovary hairy
2. Fruit pedicel < 2.5 mm; petals ± yellow to brick-red *B. yorckii*
- 2' Fruit pedicel > 2.5 mm; petals purple, lavender, or white
3. Fruit pedicel base generally abruptly recurved; fruit generally appressed to inflorescence axis
4. Stems elevated above ground surface on woody base; petals 9–16 mm; fruit 2.5–4 mm wide; seeds 1.7–2.8 mm *B. pulchra*
- 4' Stems from ± ground surface, from non-woody caudex; petals 4–8 mm; fruit 0.9–1.8 mm wide; seeds 1–1.4 mm *B. retrofracta* (3)
- 3' Fruit pedicel base not abruptly recurved; fruit generally not appressed to inflorescence axis
5. Proximal stems with simple and 2-rayed hairs only
6. Fruit pedicel with branched hairs only *B. arcuata* (2)
- 6' Fruit pedicel with generally simple hairs *B. breweri* subsp. *breweri* (2)
- 5' Proximal stems with at least some 3–12-rayed hairs
7. Petals generally < 9 mm
8. Stem proximally with 7–12-rayed hairs; seeds 1–1.3 mm, generally in 2 rows *B. shockleyi* (2)
- 8' Stem proximally with generally 3–7-rayed hairs; seeds 1.4–6 mm, in 1 row
9. Basal leaves > 6 mm wide; fruit erect to ascending; seeds 2.5–6 mm, wing 0.7–1.8 mm wide *B. repanda* (2)
- 9' Basal leaves < 6 mm wide; fruit horizontal to pendent (appressed); seeds 1.4–2.5 mm, wing 0.05–0.3 mm wide
10. Style < 0.2 mm; basal leaves generally dentate; fruit 1.9–2.2 mm wide; seeds 1.4–1.8 mm *B. puberula*
- 10' Style 1.5–2 mm; basal leaves entire; fruit 2.5–3 mm wide; seeds 2–2.5 mm *B. serpenticola* (2)
- 7' Petals generally > 9 mm
11. At least some basal leaves prominently dentate to ± pinnately lobed; style 0.5–1 mm; ovules < 60 *B. subpinnatifida*
- 11' Basal leaves generally entire; style generally < 0.5 mm; ovules > 60
12. Basal leaves 1–2 mm wide; inflorescence 7–15-flowered; fruit pedicel generally ascending near base, recurved near tip *B. lincolniensis*
- 12' Basal leaves 3–13 mm wide; inflorescence > 15-flowered; fruit pedicel descending or horizontal near base
13. Fruit generally > 7 cm, sparsely hairy throughout; seeds 1.7–2 mm, generally in 1 row *B. californica* (2)
- 13' Fruit generally < 7 cm, hairy on distal 2/3, glabrous near base; seeds 2–2.5 mm, generally irregularly in 2 rows *B. xylopoda*
- 1' Fruit, ovary glabrous
14. Cauline leaf base not lobed
15. Style > 2.2 mm
16. Petals ± white, 6–8 mm; fruit pendent, 4–7.5 cm *B. constancei*
- 16' Petals lavender to purple, 8–13 mm; fruit ascending, 1.5–2.5 cm *B. parishii*
- 15' Style < 2.2 mm
17. Basal leaves glabrous or hairs simple only
18. Leaf margins with minute simple hairs; petals 4–5 mm *B. shevockii*
- 18' Leaves glabrous; petals 6–10 mm
19. Caudex with crowded, persistent leaf bases; fruit ascending, not appressed to inflorescence axis; seeds in 1 row *B. davidsonii*
- 19' Caudex without crowded, persistent leaf bases; fruit erect, appressed to inflorescence axis; seeds generally in 2 rows *B. lyallii* (3)
- 17' Basal leaves with at least some branched hairs
20. Plant generally glabrous throughout except margins of basal leaves
21. Fruit generally > 3 mm wide; seeds 3–6 mm
22. Margins of basal leaves with some 3–4-rayed hairs; ovules 18–30; pollen spheric *B. covillei* (3)
- 22' Margins of basal leaves with simple and 2-rayed hairs; ovules 10–20; pollen ellipsoid *B. howellii* (2)
- 21' Fruit generally < 3 mm wide; seeds 1.5–2.2 mm
23. Petals 6–8.5 mm; fruit pedicel erect; seeds generally in 2 rows *B. lyallii* (3)
- 23' Petals 4–5 mm; fruit pedicel ascending; seeds in 1 row *B. tiehmii* (2)
- 20' Plant at least hairy on surfaces of basal leaves, generally throughout pl
24. Fruit pendent or descending
25. Fruit 5–8 mm wide; seeds 5–6 mm *B. glaucovalvula*
- 25' Fruit < 3 mm wide; seeds < 2 mm
26. Fruit pedicel base generally abruptly recurved; fruit reflexed, generally appressed to inflorescence axis; cauline leaves 15–40; inflorescence generally > 15-flowered *B. retrofracta* (3)
- 26' Fruit pedicel base not abruptly recurved; fruit wide-pendent, not appressed to inflorescence axis; cauline leaves 2–17; inflorescence < 15-flowered
27. Surfaces of basal leaves with simple and 2-rayed hairs *B. pendulina* (2)
- 27' Surfaces of basal leaves with 4–8-rayed hairs *B. pendulocarpa*
- 24' Fruit erect, ascending, or horizontal
28. Inflorescence 1-sided in fruit *B. lemmonii* (3)

Decisionmaking tree

PLANT IDENTIFICATION
TERMINOLOGY

An Illustrated Glossary

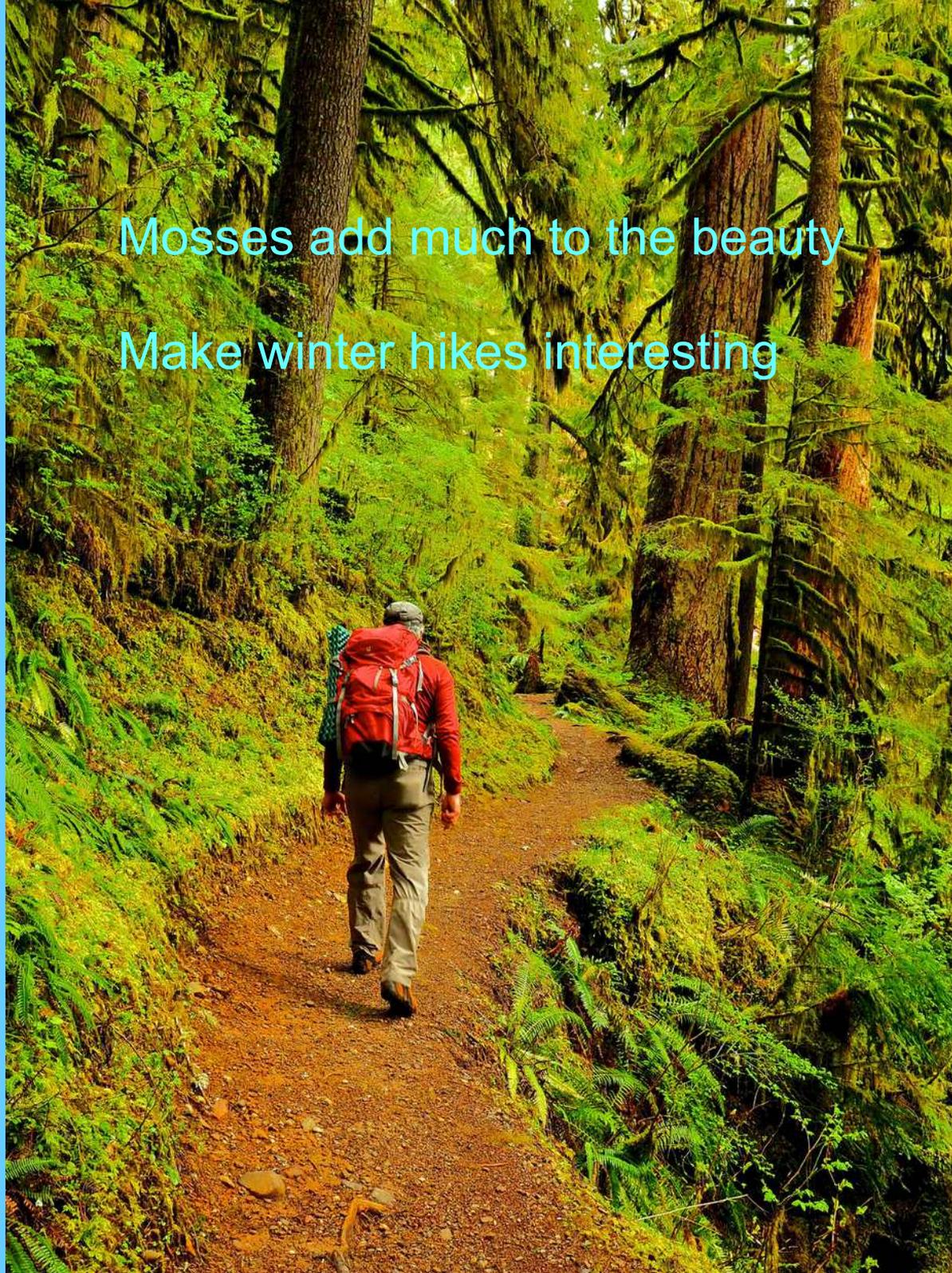


James G. Harris
Melinda Woolf Harris

Second Edition

Mosses add much to the beauty

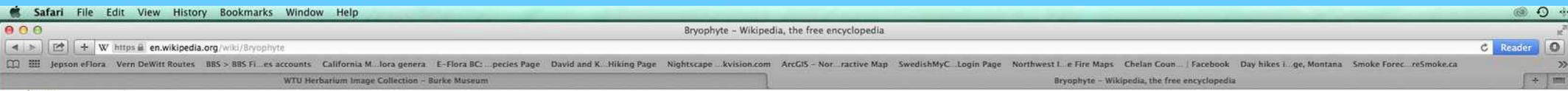
Make winter hikes interesting



More beautiful up close. Details are very minute



Bryophytes: Mosses, Liverworts, and Hornworts

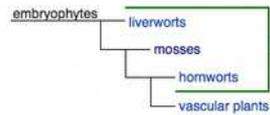


Classification and phylogeny [edit]

Traditionally, all living land plants without vascular tissues were classified in a single taxonomic group, often a *division* (or phylum). More recently, *phylogenetic* research has questioned whether the bryophytes form a *monophyletic group* and thus whether they should form a single taxon. Although a 2005 study supported the traditional view that the bryophytes form a monophyletic group,^[7] by 2010 a broad consensus had emerged among systematists that bryophytes as a whole are not a natural group (i.e., are paraphyletic), although each of the three extant (living) groups is monophyletic.^{[8][9][10]}

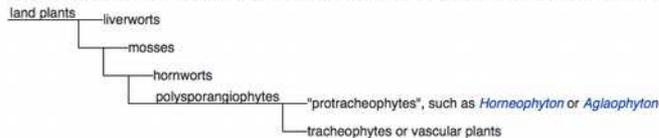
The three lineages are Marchantiophyta (liverworts), Bryophyta (mosses) and Anthocerotophyta (hornworts).^[11] The vascular plants or tracheophytes are the fourth lineage of living land plants. In this analysis, hornworts are sister to vascular plants and liverworts are sister to all other land plants.^{[10][12]} Phylogenetic studies continue to produce different results, in particular those based on gene sequences suggest the bryophytes are paraphyletic, whereas those based on the amino acid translations of the same genes suggest they are monophyletic. A 2014 study concluded that composition biases were responsible for the conflicting results and that the bryophytes are monophyletic.^[13] The issue remains unresolved.

Paraphyletic view [edit]



Bryophytes

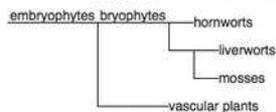
When extinct plants are taken into account, the picture is slightly altered. Some extinct land plants, such as the *horneophytes*, are not bryophytes, but also are not vascular plants because, like bryophytes, they do not have true vascular tissue. A different distinction is needed. In bryophytes, the sporophyte is a simple unbranched structure with a single spore-forming organ (sporangium). In all other land plants, the *polysporangiophytes*, the sporophyte is branched and carries many sporangia.^{[14][15]} It has been argued that this contrast between bryophytes and other land plants is less misleading than the traditional one of non-vascular versus vascular plant, since many mosses have well-developed water-conducting vessels.^[16] The contrast is shown in a slightly different cladogram:^[17]



The term "bryophyte" thus refers to a grade of lineages defined primarily by what they lack: compared to other living land plants, they lack vascular tissue containing lignin; compared to all other land plants, they lack branched sporophytes bearing multiple sporangia. The prominence of the gametophyte in the life cycle is also a shared feature of the three bryophyte lineages (extant vascular plants are all sporophyte dominant).

Other views [edit]

An alternative phylogeny, based on amino acids rather than genes, shows bryophytes as a monophyletic group:^[18]



If this phylogeny proves correct, then the complex sporophyte of living vascular plants might have evolved independently of the simpler unbranched sporophyte present in bryophytes.^[19] Other studies suggest a monophyletic group comprising liverworts and mosses, with hornworts being sister to vascular plants.^[19]

Evolution [edit]

Bryophytes are the oldest of all lineages of land plants and are believed to be a vital link in the migration of plants from aquatic environments onto land. A number of physical features link bryophytes to both land plants and aquatic plants. Two distinct adaptations have helped to make the move from water to land possible and forged the way for plants to colonize the Earth's terrestrial environments. A waxy cuticle covering the soft tissue of the plant provides protection and prevents desiccation of the plant's tissues. The development of gametangia provided further protection specifically for gametes.^[20]

They also have embryonic development which is a significant adaptation seen in land plants and not green algae. Connections to their aquatic ancestry are also evident through their dependence on water for reproduction and survival. A thin layer of water is required on the surface of the plant to enable the movement of sperm between gametophytes and the fertilization of an egg.^[21]

Comparison [edit]

Summary of the differential characteristics of the *gametophytes* of the three groups of bryophytes:

	Liverworts	Mosses	Hornworts
Structure	Thalloid or Foliose	Foliose	Thalloid
Symmetry	Dorsiventral or radial	Radial	Dorsiventral
Rhizoids	Unicellular	Pluricellular	Unicellular
Chloroplasts/cell	Many	Many	One



Hornworts include those bryophytes that are believed to be the closest living relatives of the vascular plants.



Mosses are one group of bryophytes.

Unlike flowers/trees, etc., Bryophytes have no vascular system

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bryophytes - Google Search

https://www.google.com/search?q=bryophytes

WTU Herbarium Image Collection - Burke Museum

bryophytes - Google Search

Search tools

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Bryophyte - Wikipedia, the free encyclopedia
<https://en.wikipedia.org/wiki/Bryophyte> - Wikipedia
Bryophyte is a traditional name used to refer to all embryophytes (land plants) that do not have true vascular tissue and are therefore called "non-vascular plants". Some bryophytes do have specialized tissues for the transport of water.
Moss - Vascular tissue - Embryophyte - Category:Bryophytes

What are Bryophytes - Southern Illinois University
bryophytes.plant.siu.edu/bryojustified.html
Plant scientists recognize two kinds of land plants, namely, bryophytes, or nonvascular land plants and tracheophytes, or vascular land plants. Bryophytes are ...

Bryophytes
bryophytes.plant.siu.edu/
"Bryophytes" is a resource devoted to Bryology, the branch of plant science concerned with the study of mosses, liverworts and hornworts.

Bryophytes (Mosses and liverworts) — The Plant List
www.theplantlist.org/browse/B/
Bryophytes are small, non-vascular plants, such as mosses, liverworts and hornworts. They play a vital role in regulating ecosystems because they provide an ...

bryophyte | plant | Britannica.com
www.britannica.com/plant/bryophyte - Encyclopædia Britannica
Bryophyta any green, seedless plant that is one of the mosses, hornworts, or liverworts. Bryophytes are among the simplest of the terrestrial plants.

General Bryophyte Information
sciweb.nybg.org/science2/hcol/bryo/bryogen.html - New York Botanical Garden
What is a bryophyte anyway? By Shawn Kroenick and Kevin E. Indoe. The word bryophyte refers to a group of plants comprising the mosses, liverworts, and ...

Consortium of North American Bryophyte Herbaria Home
bryophyteportal.org/
The Consortium of North American Bryophyte Herbaria (CNABH) was created to serve as a gateway to distributed data resources of interest to the taxonomic ...

SparkNotes: Plant Classification: Bryophytes
www.sparknotes.com > ... > Biology Study Guides > Plant Classification > SparkNotes
A summary of Bryophytes in 's Plant Classification. Learn exactly what happened in this chapter, scene, or section of Plant Classification and what it means.

Bryophytes - Boundless
www.boundless.com > ... > Boundless Biology > Seedless Plants > Bryophytes
Bryophytes (liverworts, mosses, and hornworts) are non-vascular plants that appeared on earth over 450 million years ago.

Bryophyte | Define Bryophyte at Dictionary.com
www.dictionary.com/browse/bryophyte
Bryophyte definition, any of the Bryophyta, a phylum of nonvascular plants comprising the true mosses and liverworts. See more.

Searches related to bryophytes

[seedless vascular plants](#) [bryophytes reproduction](#)

Moss
Plant

Mosses are small flowerless plants that typically grow in dense green clumps or mats, often in damp or shady locations. [Wikipedia](#)

Scientific name: Bryophyta
Higher classification: Embryophyte
Rank: Phylum

Lower classifications [View 1+ more](#)

[Bryopsida](#) [Sphagnales](#) [Andreaeo...](#) [Hepaticop...](#) [Polytricho...](#)

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[Bryophyte \(Plant\)](#)
Representative species: Horn calcareous moss, Java moss

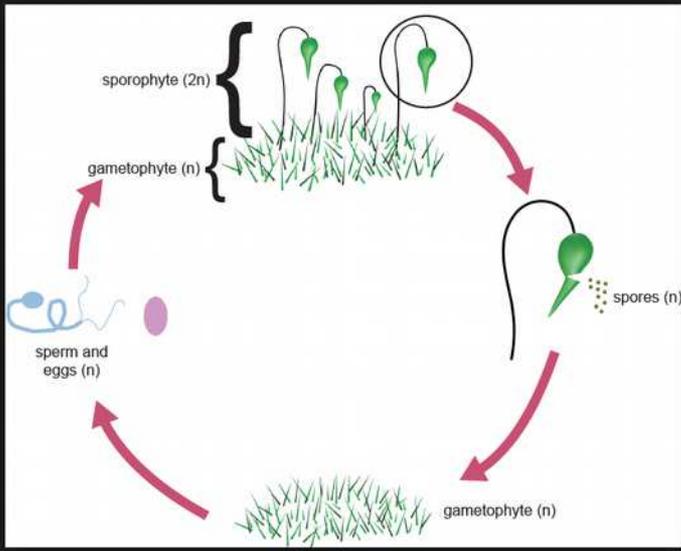
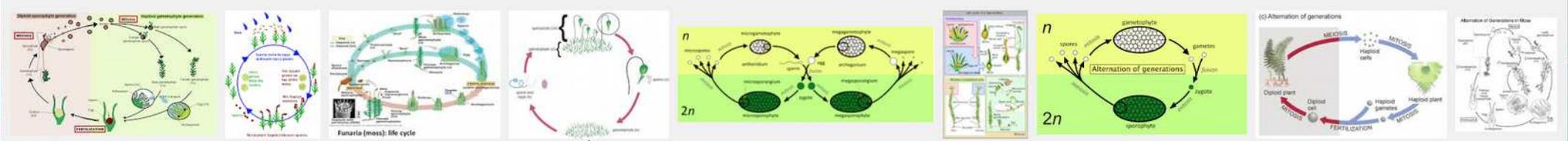


Rain and atmospheric moisture

Can spring to life in minutes



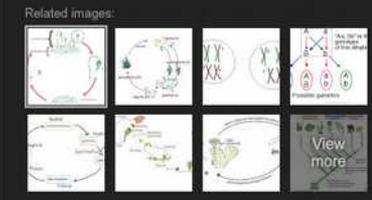
Gametophytes > Male and Female plants > Sporophytes > Gametophytes



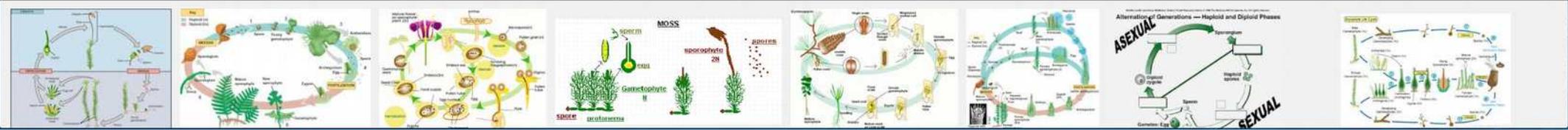
Alternation of Generations - Shmoop Biology

www.shmoop.com - 705 x 565 - Search by image
... gametophytes and gametes take on vary depending on the type of plant. In bryophytes (mosses and their ilk), the gametophytes are the bigger generation ...

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“Leafy moss”

Sporophyte

Habitat, Boulder, Rain Forest





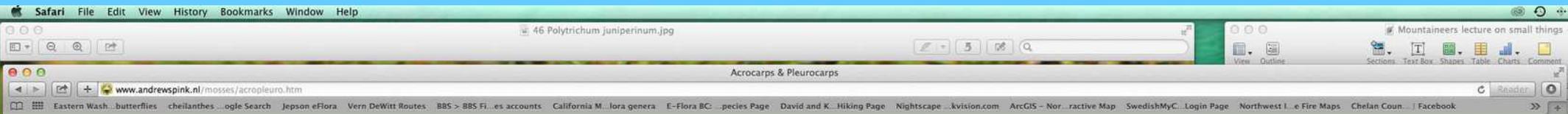
Habit (morphology or form)

Polytrichum juniperum (Juniper haircap moss)

Red hairpoints

Different habit

Acrocarps are upright/Pleurocarps spread out



Note on the difference between acrocarps and pleurocarps

1. General habit and mode of branching.

Acrocarpus mosses are usually unbranched or almost so, and have an erect habit, like small trees. They are never regularly pinnately (fern-like) branched but have a central stem and leaves coming off that stem. Almost all pleurocarpus mosses are freely branched, often either pinnate or chaotic. They frequently form dense intricate mats of elaborately branched stems.



Typical acrocarp, *Polytrichum*



Typical pleurocarp, *Eurynchium*

2. Cell structure and nerves.

If in doubt, look at a leaf with a compound microscope. Very few acrocarpus mosses have long narrow cells throughout the leaf, unlike pleurocarps. Few pleurocarpus mosses have short (isodiametric - as long as broad) cells in the upper part of the leaf and elongated rectangular cells in the leaf base; but in many acrocarpus families this is the usual type of cell structure. A further useful point: nerveless leaves are very rare among acrocarps; leaves with excurrent (sticking-out) nerves are almost equally rare in the pleurocarpus mosses.

3. Position of archegonia and capsules.

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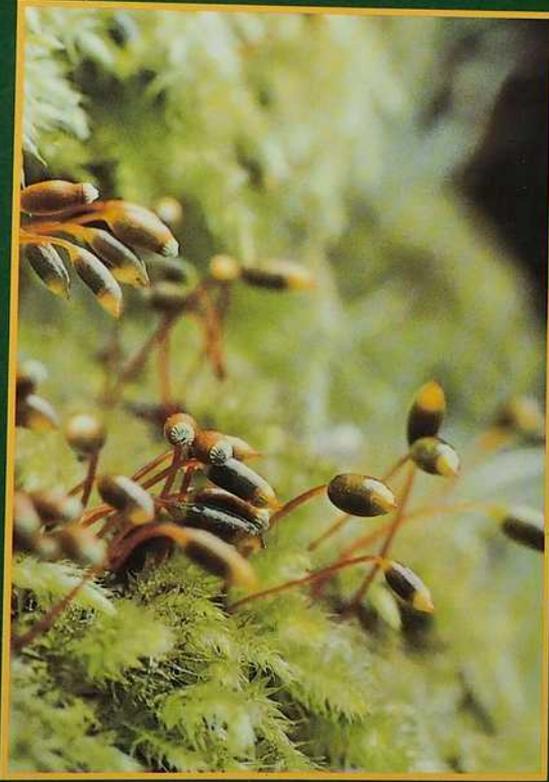
7 35854 16
Item #407

How to start, mosses very challenging
Probably easiest to review some pictures



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HANDBOOK

SOME COMMON
MOSSSES
OF BRITISH COLUMBIA



W.B. SCHOFIELD

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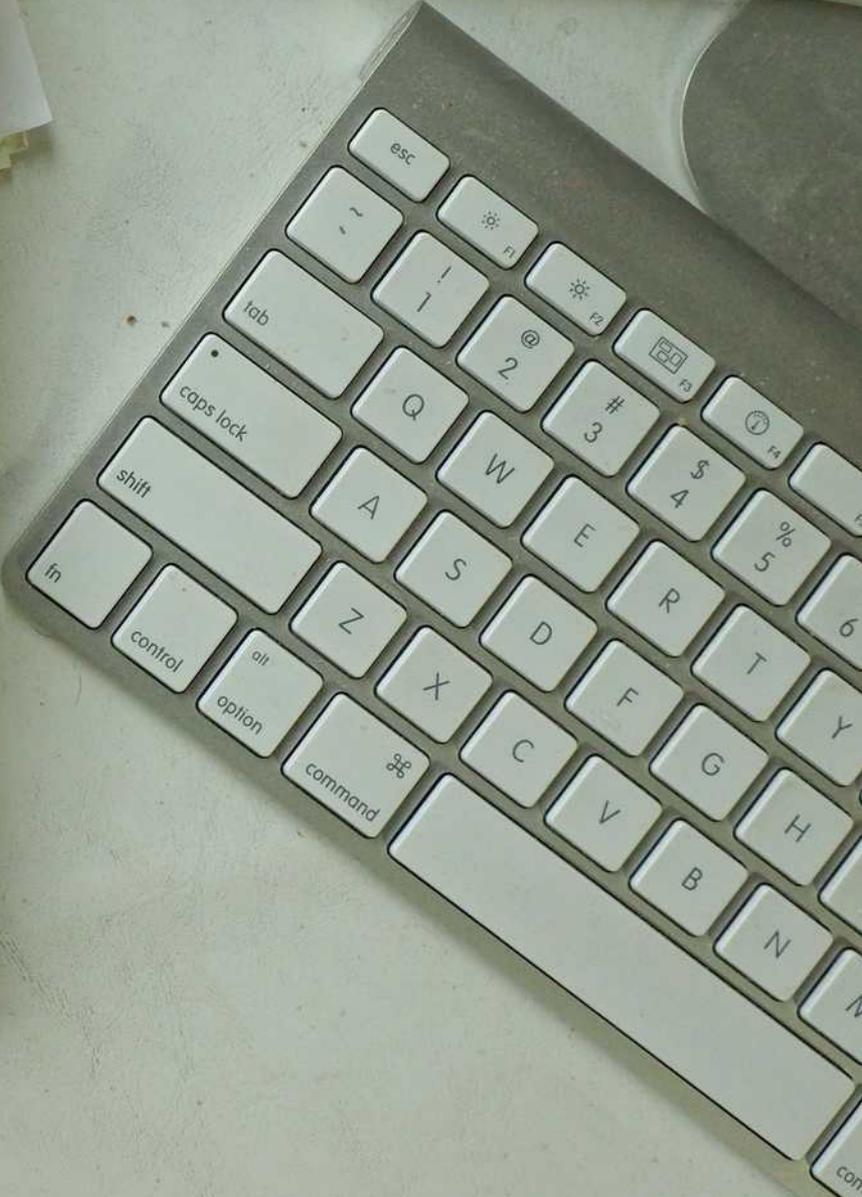
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(21.6 cm x 27.9 cm)



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Experts Today!

0047



EfloraBC mosses. Good photos are hard to come by. Alphabetized by scientific name. Common names listed, 700 mosses.

E-Flora BC

Electronic Atlas of the Flora of British Columbia

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727 records--presented below--match your search criteria: Mosses

To learn about the species lists used on E-Flora BC, click [here](#). To sort columns, click on the column heading.

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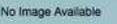
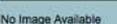
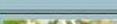
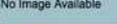
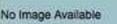
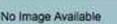
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	<i>Aloina rigida</i>	Pottiaceae	rigid aloe-moss	View Atlas Page
	<i>Alsia californica</i>	Leucodontaceae	California alsia moss	View Atlas Page
No Image Available	<i>Amblyodon dealbatus</i>	Meseliaceae	short-tooth hump-moss	View Atlas Page
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	<i>Amphidium californicum</i>	Orthotrichaceae	California yoke-moss	View Atlas Page
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No Image Available	<i>Amphidium muscivorum</i>	Orthotrichaceae	Muscinetia moss	View Atlas Page

Scroll to *Polytrichum juniperum* and select "Atlas Page"

E-Flora BC: Species Search Page

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	No Image Available	<i>Polytrichum formosum</i>	Polytrichaceae	polytrichum moss	View Atlas Page
		<i>Polytrichum juniperum</i>	Polytrichaceae	juniper haircap moss	View Atlas Page
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		<i>Polytrichum piliferum</i>	Polytrichaceae	awned haircap moss	View Atlas Page
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	No Image Available	<i>Polytrichum sphaerothecium</i>	Polytrichaceae	polytrichum moss	View Atlas Page
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		<i>Porotrichum bigelovii</i>	Thamnobryaceae	Bigelow's porotrichum moss	View Atlas Page
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Atlas page. Open "Species Information"

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E-Flora BC Atlas Page

juniper haircap moss (*Juniper polytrichum* moss)
Polytrichaceae

Species Account Author: Wilf Schofield
Extracted from *Some Common Mosses of British Columbia*

Introduction to the Bryophytes of BC

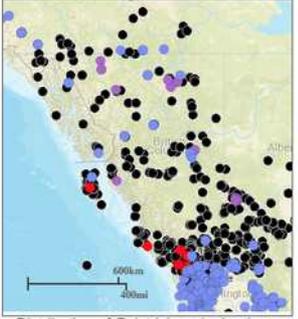
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Distribution of *Polytrichum juniperinum*
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- SPECIES INFORMATION **Here**
- HABITAT / RANGE
- STATUS INFORMATION
- SYNONYMS AND ALTERNATE NAMES
- TAXONOMIC AND NOMENCLATURAL LINKS
- ADDITIONAL RANGE AND STATUS INFORMATION LINKS
- ADDITIONAL PHOTO SOURCES
- RELATED DATABASES
- GENERAL REFERENCES

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Species information/drawings come from Schofield

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E-Flora BC Atlas Page

Introduction to the Bryophytes of BC

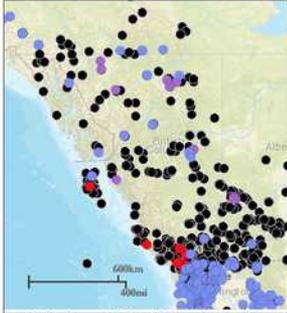
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Distribution of *Polytrichum juniperum*

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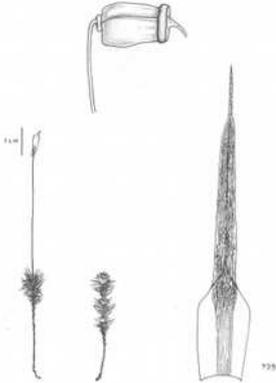
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SPECIES INFORMATION

[Click on the image below to view an expanded illustration for this species.](#)



Species description:
Species name probably denoting the resemblance of the plants to juniper seedlings.

Reproduction:
Sporophytes frequent, the seta wine-red and glossy and the sporangium dull red-brown when mature in summer, erect when young, inclined when ripe

Distinguishing characteristics:
The most useful features are the red, gradually tapering hair points of the leaves and the incurved, clear leaf blade that overlaps the lamellae on the upper surface of the leaves; this gives the leaves a powdery, bluish-green colour.

Habit:
Forming short to tall turfs 10'-100 mm tall, of dusty blue-green unbranched shoots with leaves strongly divergent when dry and with reddish points.

Similar Species:
P. piliferum resembles *P. juniperum* in many respects. In *P. piliferum*, the white hair points are usually much longer (about 1/8 the length of the leaf) and taper abruptly from the body of the leaf; those of *P. juniperum* are red, usually less than 1/8 of the leaf length and taper gradually from the body of the leaf. *P. strictum* is a miniature version of *P. juniperum*, differing from it in its abundant felting of rhizoids along much of the stem length, its leaves that are generally half the size of those of *P. juniperum* and in its usually boggy habitat.

Polytrichum juniperum
"Red hairpoints" distinguishes

Leaves which can only be seen by a loupe or macro photography are key

“The family Hypnaceae is easily recognized in the field by the combination of strongly *curved* leaves”

The image is a composite of several elements. At the top, a screenshot of an iPhone photo gallery shows a close-up of moss. Below this, a browser window displays a website with a distribution map of the United Kingdom and Ireland, marked with black dots indicating moss locations. To the left of the map is a diagram of a moss leaf, showing its curved shape and a section labeled 'Inflated cells' with a 1 mm scale bar. On the right, a macro photograph of moss leaves is shown, with a white box and lines pointing to the leaves, labeled 'Slightly curved leaves'. A 1 cm scale bar is visible at the bottom left of this macro photo.

Many mosses can't be identified in the field.....microscope required

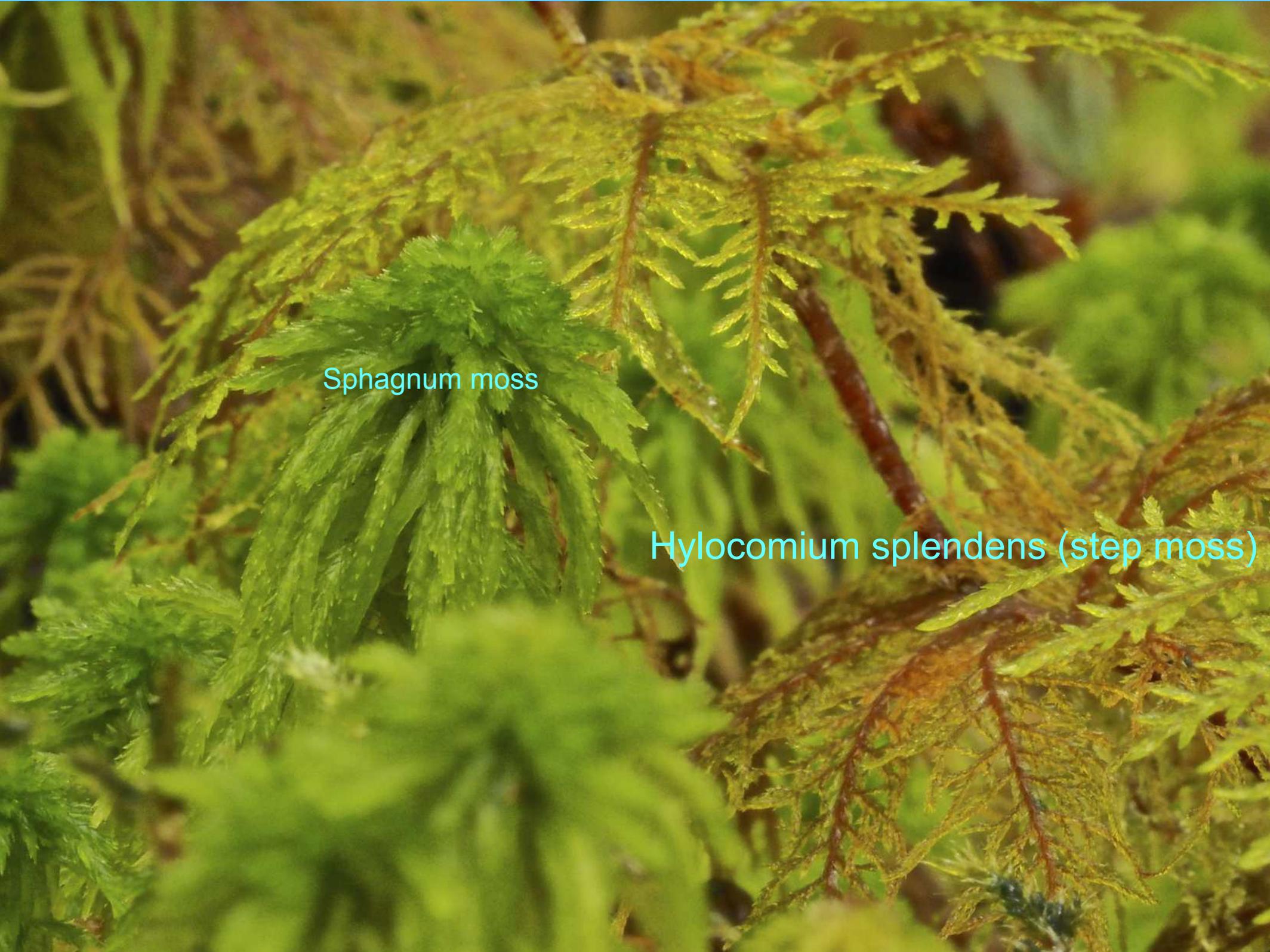


Kindbergia oregana
Oregon-beaked moss
Forest floor

Sporophyte

A photograph of a rainforest floor. The foreground is dominated by a thick, vibrant green carpet of moss, identified as *Hylocomium splendens* (step moss). In the mid-ground, several large, feathery ferns, identified as Pleurocarp, are scattered across the moss. The background shows a dense forest of tall, thin trees with moss hanging from their branches, creating a misty and humid atmosphere. The overall scene is a rich, green ecosystem.

Large moss
Pleurocarp
Rain forest floor
Hylocomium splendens (step moss)

A close-up photograph of mosses. The image shows several distinct moss plants. On the left, there is a dense, bright green moss with a feathery, upright growth habit. To the right, there is a more sprawling moss with a yellowish-green hue and a more delicate, branching structure. The background is filled with other mosses, creating a lush, textured environment.

Sphagnum moss

Hylocomium splendens (step moss)

Great bryophyte resource: BBS website



BBS Field Guide online pages

Details about how to purchase the field guide can be found [here](#).

The original Field Guide site that was running during the construction of the Field Guide is no longer online, but links to the species accounts and some of the keys, kindly made available by Alan Hale and Charlie Campbell appear below.

- [Introductory text](#)
- [Galleries](#)
- [Field Key](#)
- [Sphagnum Field Key](#)
- [Habitats and Index](#)

Hornworts	Thaloid Liverworts	Leafy Liverworts	Sphagnum	Acrocarpus Mosses	Pleurocarpus Mosses
Anthoceros punctatus	Apometzgeria pubescens	Adelanthus decipiens	Sphagnum angustifolium	Acaulon muticum	Amblystegium confervoides
Phaeoceros carolinianus	Athalamia hyalina	Adelanthus lindenbergianus	Sphagnum austini	Acaulon triquetrum	Amblystegium fluviatile
Phaeoceros laevis	Blasia pusilla	Anastrepta orcadensis	Sphagnum balticum	Achrophyllum dentatum - not in Field guide	Amblystegium humile
		Conocephalum conicum	Anastrophyllum alpinum	Sphagnum capillifolium	Aloina aloides
		Conocephalum salebrosum	Anastrophyllum donnianum	Sphagnum compactum	Aloina ambigua
		Cryptothallus mirabilis	Anastrophyllum hellerianum	Sphagnum contortum	Aloina brevirostris
		Dumortiera hirsuta	Anastrophyllum joergensenii	Sphagnum cuspidatum	Aloina rigida
		Fossombronia angulosa	Anastrophyllum minutum	Sphagnum denticulatum	Amblyodon dealbatus
		Fossombronia caespitiformis	Anastrophyllum saxicola	Sphagnum fallax	Amphidium japonicum
		Fossombronia crozalsii	Anthelia julacea	Sphagnum fimbriatum	Amphidium mougeotii
		Fossombronia fimbriata	Anthelia juratzkana	Sphagnum flexuosum	Andreaea alpestris
	Fossombronia	Aphanolejeunea	Sphagnum fuscum	Andreaea alpina	Brachytheciastrum
					Amblystegium radicale
					Amblystegium serpens
					Amblystegium tenax
					Amblystegium varium
					Anomodon attenuatus
					Anomodon longifolius
					Anomodon viticulosus
					Antitrichia curtipendula

I've highlighted bryophyte types

Scroll to *Hylocomium splendens* under "Pleurocarps"

BBS > BBS Field Guide species accounts

rbg-web2.rbge.org.uk/bbs/Activities/BBSFGspac.htm

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		<i>obtusum</i>		<i>pseudotriquetrum</i>	<i>trichomanoides</i>
		<i>Harpalejeunea molleri</i>		<i>Bryum radiculosum</i>	<i>Homalothecium lutescens</i>
		<i>Harpanthus flotovianus</i>		<i>Bryum riparium</i>	<i>Homalothecium sericeum</i>
		<i>Harpanthus scutatus</i>		<i>Bryum rubens</i>	<i>Homomallium incurvatum</i>
		<i>Herbertus aduncus</i>		<i>Bryum ruderale</i>	<i>Hygroamblystegium fluviatile</i>
		<i>Herbertus borealis</i>		<i>Bryum salinum</i>	<i>Hygroamblystegium humile</i>
		<i>Herbertus delavayi</i>		<i>Bryum sauteri</i>	<i>Hygroamblystegium tenax</i>
		<i>Herbertus stramineus</i>		<i>Bryum schleicheri</i>	<i>Hygroamblystegium varium</i>
		<i>Heteroscyphus fissistipus</i> - not in Field guide		<i>Bryum subapiculatum</i>	<i>Hygrohypnum duriusculum</i>
		<i>Hygrobiella laxifolia</i>		<i>Bryum subelegans</i>	<i>Hygrohypnum eugyrium</i>
		<i>Jamesoniella autumnalis</i>		<i>Bryum tenuisetum</i>	<i>Hygrohypnum luridum</i>
		<i>Jamesoniella undulifolia</i>		<i>Bryum torquescens</i>	<i>Hygrohypnum molle</i>
		<i>Jubula hutchinsiae</i>		<i>Bryum turbinatum</i>	<i>Hygrohypnum ochraceum</i>
		<i>Jungermannia atrovirens</i>		<i>Bryum uliginosum</i>	<i>Hygrohypnum polare</i>
		<i>Jungermannia borealis</i>		<i>Bryum valparaisense</i> - not in Field guide	<i>Hygrohypnum smithii</i>
		<i>Jungermannia caespiticia</i>		<i>Bryum violaceum</i>	<i>Hygrohypnum styriacum</i>
		<i>Jungermannia confertissima</i>		<i>Bryum warneum</i>	<i>Hylocomiastrum pyrenaicum</i>
		<i>Jungermannia exsertifolia</i>		<i>Bryum weigellii</i>	<i>Hylocomiastrum umbratum</i>
		<i>Jungermannia gracillima</i>		<i>Buxbaumia aphylla</i>	<i>Hylocomium brevirostre</i>
		<i>Jungermannia hyalina</i>		<i>Buxbaumia viridis</i>	<i>Hylocomium pyrenaicum</i>
		<i>Jungermannia leiantha</i>		<i>Calomnion complanatum</i> - not in Field guide	<i>Hylocomium splendens</i>
		<i>Jungermannia obovata</i>		<i>Calyptrochaeta apiculata</i>	<i>Hylocomium umbratum</i>
		<i>Jungermannia parvica</i>		<i>Campylopus atrovirens</i>	<i>Hylocomium armericum</i>
		<i>Jungermannia polaris</i>		<i>Campylopus brevipilus</i>	<i>Hypnum andoi</i>
		<i>Jungermannia pumila</i>		<i>Campylopus flexuosus</i>	<i>Hypnum bambergeri</i>
		<i>Jungermannia sphaerocarpa</i>		<i>Campylopus fragilis</i>	<i>Hypnum callichroum</i>
		<i>Jungermannia subciliata</i>		<i>Campylopus gracilis</i>	<i>Hypnum</i>

Here

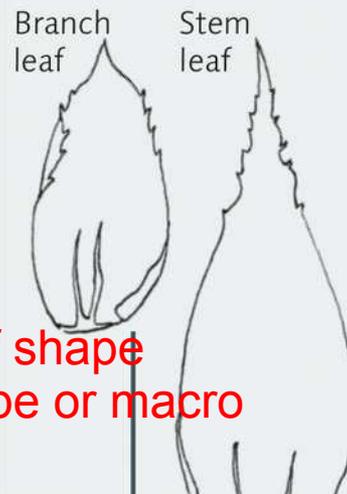
Generally excellent images

www.bbsfieldguide.org.uk/sites/default/files/pdfs/mosses/Hylocomium_splendens.pdf

Hylocomium splendens

Glittering Wood-moss **Note: Common name is different**

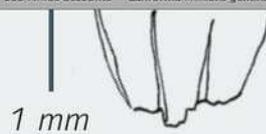
Key 336



Leaf shape
Loupe or macro



Organized like Schofield/EfloraBC



Identification

This glossy, bright green, robust moss has regularly arranged, branched branches (bipinnate) and a red stem. Shoots are several to 10 or even 20 cm long. A 'flight of steps' appearance to the shoots is a consequence of varying rates of growth during successive seasons from a bud behind the shoot tip. Stem leaves are quite large, 2.5–3 mm long, and oval with a long, tapering tip. Branch leaves are smaller (1 mm long), more concave and have a shorter tip. Both types of leaf have a short, double nerve (or may lack a nerve) and sharply toothed margins in the upper half. Under a hand lens, the stems and branches appear furry owing to the presence of branched filaments. Capsules are generally uncommon, but occasional in parts of south Wales and may be overlooked.

Similar species

Thuidium tamariscinum (p. 696) is also bipinnate and may grow in similar habitats, but has a green (rather than red) stem, which becomes black on older stems. Also, stem leaves of *T. tamariscinum* are a different shape, having a shorter point, and they have a prominent single nerve. *Pleurozium schreberi* (p. 815) also has a red stem, and is loosely pinnate, but its leaves are bluntly pointed.

Habitat

H. splendens is common and may be abundant amongst grass and heather on heaths and moorlands and in acidic woodlands. Whilst usually occurring in acidic habitats, it may sometimes be found in well-leached chalk grassland.

Liverworts can be thallic (planar) or leafy, with leaves in “ranks” on a flat stem

About liverworts - Google Search

https:// About liverworts

Jepson eFlora Vern DeWitt Routes BBS > BBS Files accounts California M...ora genera E-Flora BC: Species Page David and K...Hiking Page Nightscape ...kvision.com ArcGIS - Nor...ractive Map SwedishMyC...Login Page Northwest Fire Maps Chelan Coun... Facebook Day hikes i...ge, Montana Smoke Forec...reSmoke.ca

Search tools

About 308,000 results (0.46 seconds)

What is a liverwort? - bryophyte - Australian National Botanic...
<https://www.anbg.gov.au/.../what-is-l...> Australian National Botanic Gardens
Apr 15, 2008 - A liverwort is a flowerless, spore-producing plant - with the spores produced in small capsules. The introductory WHAT IS A BRYOPHYTE?

Liverworts - Backyard Nature
www.backyardnature.net/liverwort.htm
In the traditional scheme of plant classification, mosses and liverworts, along with hornworts (a kind of plant even less known than liverworts), were known collectively as bryophytes.

liverwort Facts, information, pictures | Encyclopedia.com articl...
www.encyclopedia.com/topic/liverwort.aspx
In contrast to mosses, most liverworts grow prostrate and consist of a flattened, branching (but undifferentiated) green structure, the thallus; other liverworts produce leafy stems, which are flattened and usually prostrate. The ancients believed that liverworts could cure diseases of the liver, hence the name.

Marchantiophyta - Wikipedia, the free encyclopedia
<https://en.wikipedia.org/wiki/Marchantiophyta> - Wikipedia
The Marchantiophyta Listen/ˈmɑːr kənti ˈɒfɪtə/ are a division of non-vascular bryophyte land plants commonly referred to as hepatics or liverworts. Like other ...
Physical characteristics - Ecology - Classification - Economic importance

Liverwort - Simple English Wikipedia, the free encyclopedia
<https://simple.wikipedia.org/wiki/Liverwort> - Simple English Wikipedia
The liverworts are a group of simple plants. Molecular evidence based on mitochondrial DNA suggests strongly that they are the stem group from which mosses, ...

Liverwort - General Characteristics, Life Cycle, Spore Dispers...
science.jrank.org/pages/3970/Liverwort.html
The liverworts are one of three classes in the plant phylum Bryophyta. The other two classes are mosses and hornworts. Liverworts are small, green, terrestrial ...

liverwort | plant | Britannica.com
www.britannica.com/plant/liverwort - Encyclopædia Britannica
Mar 14, 2016 - ... species of small nonvascular spore-producing plants. Liverworts are distributed worldwide, though most commonly in the tropics. Thallose...

Mosses and Liverworts - Animals and Plants - Find Fun Facts
findfunfacts.appspot.com/animals_plants/moss.html
There are two groups of bryophyta, one of them is Mosses which represent an evolutionary step up from Algae. The other group of bryophyta are Liverworts.

Biology4Kids.com: Plants: Mosses and Liverworts
www.biology4kids.com/files/plants_moss.html - Rader's Biology4Kids.com
The most important feature of mosses and liverworts is that they have no vascular system. A vascular system in plants is a series of tubes that can transport water ...

What is a liverwort? | New Zealand Plant Conservation Network
www.nzpcn.org.nz/page.aspx?flora_non_vascular_liverworts
Nov 6, 2012 - Liverworts, together with mosses and hornworts are commonly referred to as bryophytes, which constitute the second largest group of land ...

Searches related to About liverworts



More images

Liverworts

Plant

The Marchantiophyta /ˈmɑːr kənti ˈɒfɪtə/ are a division of non-vascular bryophyte land plants commonly referred to as hepatics or liverworts.
Wikipedia

Scientific name: Marchantiophyta
Higher classification: Embryophyta
Rank: Division

Lower classifications



Jungerma... Complex thalloids

More about Liverworts

Feedback



Mosses

Female
Thallus
"Marchantia"

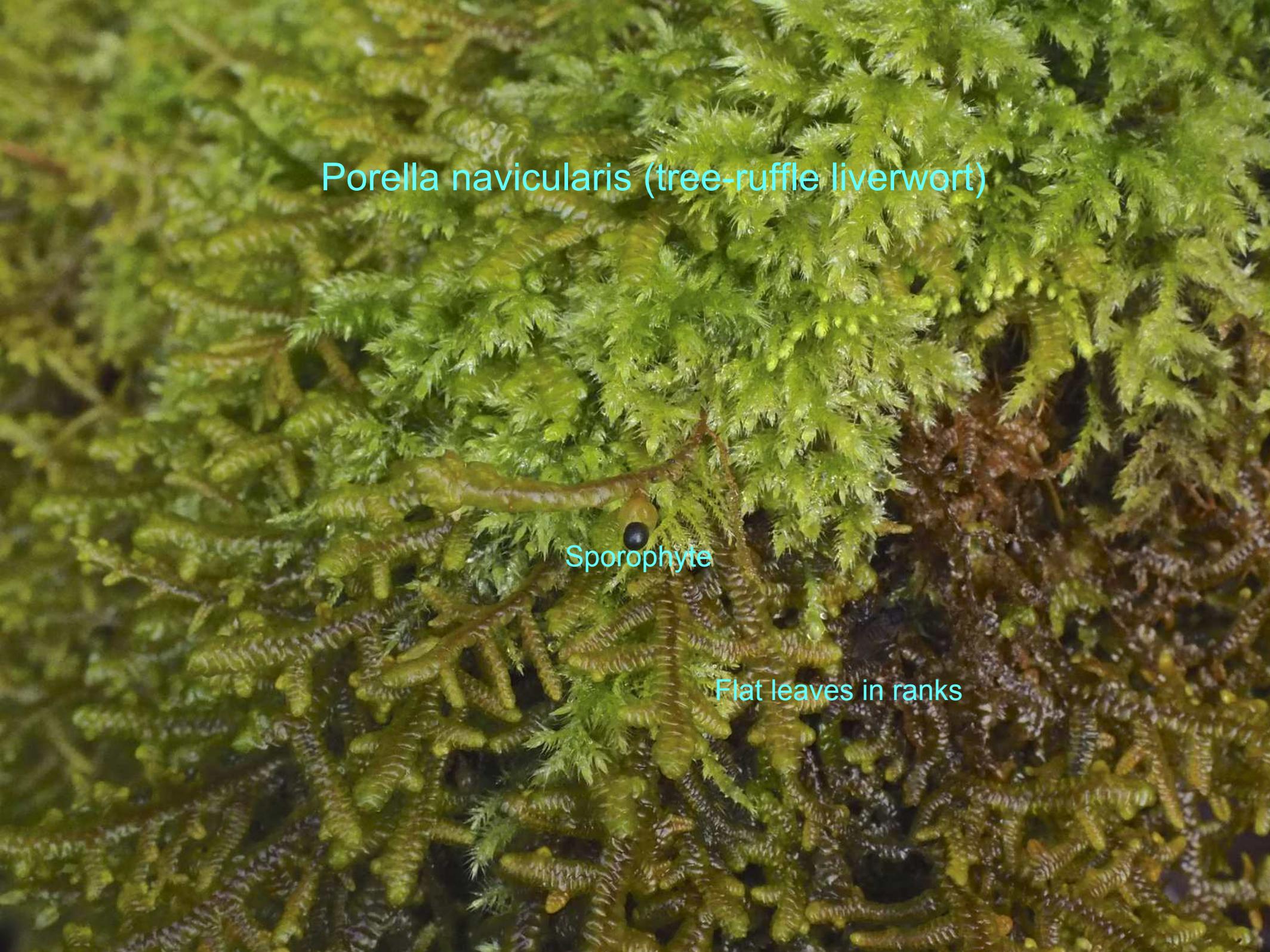
Male reproductive organ

Hornworts

Porella navicularis (tree-ruffle liverwort)

Sporophyte

Flat leaves in ranks



Lichens can be found on the Burke website

WTU Herbarium Image Collection - Burke Museum

biology.burke.washington.edu/herbarium/imagecollection.php

Jepson eFlora Vern DeWitt Routes BBS - BBS Files accounts California M...ora genera E-Flora BC: Species Page David and K...Hiking Page Nightscape...kvision.com ArcGIS - Nor...ractive Map SwedishMyC...Login Page Northwest L...e Fire Maps Chelan Coun... Facebook Day hikes L...ge, Montana Smoke Forec...reSmoke.ca

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Plant Common Names

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Lichen Scientific Names

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Identification Keys:
Plant Identification Key
Winter Tree & Shrub Key

Quick Tips:
Use the menu to learn more about the image library, or return to the herbarium's main page.
Browse species lists organized by family, genus, scientific name, or common name.
Use the basic identification key to query for species based on characteristics such as flower color and leaf arrangement.
Search directly for a species by name.

WTU Image Collection: Plants of Washington
Lichens of Washington

The WTU Image Collection contains the most comprehensive online collection of photographs and information for the plants and lichens of Washington state. Developed and maintained by the [University of Washington Herbarium](#) (WTU), this site brings together the photographs from numerous photographers and botanists from around the state. Photographs are accompanied by distribution maps, species descriptions, synonymy, and links to additional resources.

Use this site to learn about the plants and lichens found across Washington State's diverse array of landscapes including lush coastal rainforests, dry sagebrush plains, high alpine meadows and much more in between. Washington contains over 3,600 species of vascular plants and over 900 species of lichens.

Site Statistics:
55,283 photographs
266 photographers
2,862 vascular plant species
143 lichen species

Washington Wildflowers App | Idaho Wildflowers App
The University of Washington Herbarium and its partners have released plant identification apps for the wildflowers of Washington (1026 species) and Idaho (810 species). The apps run on Apple, Android, and Amazon Kindle mobile devices (both phone and tablets).
» View a short YouTube video for the [Washington](#) or [Idaho](#) app.
» Visit [High Country Apps](#) for more information.
» Download the Washington App ([Apple](#), [Google Play](#), [Amazon](#)) or the Idaho App ([Apple](#), [Google Play](#), [Amazon](#)).

Featured Content:

- Identify unknown plants using our simple [Random Access Identification Key](#).
- Use the [Winter Tree & Shrub Key](#) to identify trees & shrubs in winter using twig and bud characters.
- Use the [Image Search](#) feature to directly search for photographs.
- View a [list of species](#) for which we lack photos.

Navigating the Image Collection website:

The navigation window on the left side of the screen provides access to all the contents of the Image Collection website. Use the main menu to learn more about the image collection or to return to the herbarium's main page. Access to species' photographs, distribution maps, and descriptions is provided in several ways:

- Browse species lists organized by family, genus, scientific name, or common name.
- Try the basic identification key to search for species based on characteristics such as flower color and leaf arrangement.
- Search directly for a species by name.

Learn more about the [contents](#) of the Image Collection web site.

Contributing to the Image Collection website:

The WTU Image Collection provides a great resource to learn more about our states flora. Yet, you can do even more by contributing your own photos or sharing your botanical knowledge with others through this site. There are a variety of ways to help out.

Contributing photographs:

We welcome contributions of good quality photographs for any plants that grow wild in Washington. As the photographer you will retain the full copyright to all photos you contribute. Although digital images are preferred, we can also scan slides or prints



Lichens are a symbiosis of fungus and an algae

Browser tabs: Japson eFlora, Vern DeWitt Routes, BBS > BBS Fl...es accounts, California M...ora genera, E-Flora BC...pecies Page, David and K...Hiking Page, Nightscape...kvision.com, ArcGIS - Nor...ractive Map, SwedishMyC...Login Page, Northwest L...e Fire Maps, Chelan Coun... Facebook, Day hikes L...ge, Montana, Smoke Forec...reSmoke.ca

Search: About lichens

Results: About 621,000 results (0.48 seconds)

A lichen is not a single organism. Rather, it is a symbiosis between different organisms - a fungus and an alga or cyanobacterium. Cyanobacteria are sometimes still referred to as 'blue-green algae', though they are quite distinct from the algae. Mar 7, 2011



What is a lichen? - Lichen website - Australian National Botanic Gardens
<https://www.anbg.gov.au/lichen/what-is-lichen.html> Australian National Botanic Gardens

About this result • Feedback

Lichen - Wikipedia, the free encyclopedia
<https://en.wikipedia.org/wiki/Lichen> • Wikipedia

A lichen is a composite organism that arises from algae or cyanobacteria (or both) living among filaments of a fungus in a symbiotic relationship. The combined life form has properties that are very different from the properties of its component organisms. Lichens come in many colors, sizes, and forms.

Ethnolichenology • Lichenometry • Lichenothelaceae • Lichenology

lichen Facts, information, pictures | Encyclopedia.com articles about ...
www.encyclopedia.com/topic/lichen.aspx

Lichens are an intimate symbiosis, in which two species live together as a type of composite organism. Lichens are an obligate mutualism between a fungus mycobiont and an alga or blue-green bacterium phycobiont. ... Some species grow directly on rocks, some on bare soil, and others on ...

Introduction to Lichens
www.ucmp.berkeley.edu/.../Lichens/ • University of California Museum of Paleontology

Information about lichens including fossil record, life history, ecology, morphology and systematics.

Lichens - US Forest Service
www.fs.fed.us/Wildflowers/Beauty • United States Forest Service

There are approximately 3,600 species of lichens in North America and those are just the ones we know about! New discoveries are being made every year.

What is a lichen? - Lichen website - Australian National Botanic Gardens
<https://www.anbg.gov.au/lichen/what-is-lichen.html> • Australian National Botanic Gardens

Mar 7, 2011 - A lichen is not a single organism. Rather, it is a symbiosis between different organisms - a fungus and an alga or cyanobacterium. Cyanobacteria are sometimes still referred to as 'blue-green algae', though they are quite distinct from the algae.

Lichens - Backyard Nature
www.backyardnature.net/lichens.htm

An illustrated introduction to the lichens with information on their ecology and reproduction.

Lichens of North America
www.lichen.com/

Information about lichen biology, lichens and wildlife, lichens and people, and the book of the same title, which was published in 2001.

Lichens
herbarium.usu.edu • Home • Catalog

Nov 23, 1998 - The plant-like appearance of lichens hides their true identity. A lichen is not a single organism, but the result of a partnership (mutualistic ...

Lichen



A lichen is a composite organism that arises from algae or cyanobacteria living among filaments of a fungus in a symbiotic relationship. The combined life form has properties that are very different from the properties of its component organisms. [Wikipedia](#)

People also search for View 10+ more

-  Moss
-  Sac fungi
-  Cladonia
-  Blue-green bacteria
-  Usnea

[More about Lichen](#) Feedback

Types of lichens

Types of Lichens

Lichen Growth Forms



Crustose

Crustose (crusty)

- edges flat, unlobed and closely attached to substrate
- hard to remove without damaging substrate or lichen
- algae usually dispersed
- edges unlobed (leprose and squamulose included here)



Foliose

Foliose (leafy)

- A sandwich of fungal layer with algal mat in middle
- circular growth, lobes
- small rootlets called rhizines attach it to substrate
- top and bottom layers different



Fruticose

Fruticose (shrubby)

- round branches with its fungal layer outside, its algal layer within
- no rhizines
- vertical growth pattern
- odd-shaped structures such as globets; threads



Liverwort

Crustose

Fruticose

Foliose

Moss



Ferns

To find ferns on the Burke type "fern" in "Name search"

WTU Herbarium Image Collection - Burke Museum

biology.burke.washington.edu/herbarium/imagecollection.php

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Genus:

Species:

ssp./var.:

Include synonyms of this name in search results

Common Name: Here

Matches By:
Fern Scientific Name:

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 WA Native Plant Society

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Burke fern pages

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biology.burke.washington.edu/herbarium/imagecollection.php

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Genus:

Species:

ssp./var.:

Include synonyms of this name in search results

Common Name:

fern

Sort Matches By:

Scientific Name

Search

Log in

CommonNames = fern,

Displaying matches 1 - 42 of 42.



Aspidotis densa (Indian's dream, Oregon cliff brake, podfern) ✓
(= *Aspidotis densa* in Flora of the Pacific Northwest)
Distribution: British Columbia to California, east to Idaho and Montana
Habitat: Cliff crevices and moist, rocky slopes, foothills to near timberline, often on serpentine
Origin: Native



Athyrium alpestre (American alpine lady fern) ✓
Distribution: Alaska south to California, east to Newfoundland and Colorado.
Habitat: Open, rocky slopes and along streams at mid- to high elevations in the mountains.
Origin: Native



Athyrium filix-femina (common ladyfern, northwestern lady fern) ✓
(= *Athyrium filix-femina* in Flora of the Pacific Northwest)
Distribution: Circumboreal; throughout the Pacific Northwest
Habitat: Common in moist woods and meadows, low to mid-elevations
Origin: Native



Azolla filiculoides (Pacific mosquito-fern, duckweed fern, large mosquito-fern) ✓
(= *Azolla filiculoides* in Flora of the Pacific Northwest)
Distribution: Occurring on both sides of the Cascades in Washington; British Columbia south to California, east to Arizona.
Habitat: Ponds, backwaters, slow-moving streams
Origin: Native



Azolla mexicana (Mexican mosquito-fern, Mexican water-fern) ✓
(= *Azolla mexicana* in Flora of the Pacific Northwest)
Distribution: Occurring on both sides of the Cascades crest in Washington; British Columbia south to California, east to New Mexico and Colorado; disjunct populations in central U.S.
Habitat: Ponds and backwaters, mostly at low elevations.
Origin: Native



Blechnum spicant (deer fern) ✓
(= *Blechnum spicant* in Flora of the Pacific Northwest)
Distribution: British Columbia to California, chiefly west of the Cascades, occasionally to northern Idaho
Habitat: Wet areas in shade, sea level to mid-elevations
Origin: Native



Botrychium lanceolatum (lanceleaf moonwort, lanceleaf grapefern) ✓
(= *Botrychium lanceolatum* in Flora of the Pacific Northwest)
Distribution: Circumboreal, extending south to southern Washington and Pennsylvania
Habitat: Moist or wet places in the mountains, occasionally to high elevations
Origin: Native



Botrychium lineare (slender moonwort, narrowleaf grapefern)
(taxon is not treated in Flora of the Pacific Northwest)
Origin: Native



Botrychium virginianum (rattlesnake grapefern, common or virginia grapefern) ✓
(= *Botrychium virginianum* in Flora of the Pacific Northwest)
Distribution: Throughout the United States and Canada; chiefly in southern British Columbia and northern Idaho in the Pacific Northwest
Habitat: Moist woods and thickets, seldom in meadows, valleys to mid-elevations in the mountains
Origin: Native



Cheilanthes feei (slender lipfern, Fee's lip fern)
(= *Cheilanthes feei* in Flora of the Pacific Northwest)
Origin: Native

EfloraBC "Advanced Search"

E-Flora BC

Electronic Atlas of the Flora of British Columbia

[Our Blog](#) [Advanced Search](#) [Enter the Photo Gallery](#) [E-Fauna BC](#) [Biodiversity of BC](#) [Support E-Flora BC](#)

Botanical Information



Use the menu below to access our introductory pages on the botany of BC. Learn about the plant geography of BC, invasive species, and the vegetation and flora of the province.

- [Introduction to E-Flora BC](#)
- [Species Groups Covered](#)
- [Biogeography & Ecology](#)
- [Invasive Species](#)
- [Rare Species](#)
- [Species Identification](#)
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- [Wildflower Genetics](#)
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Mapping Species Distributions in BC

- [Mapping on E-Flora BC](#)
- [Reporting map errors on E-Flora BC](#)
- [Citizen Science: Mapping your photo records](#)
- [Using the interactive maps](#)
- [Map accuracy and limitations](#)

Search for Species Pages

E-Flora BC is a biogeographic atlas of the vascular plants, bryophytes, lichens, algae, fungi and slime molds of British Columbia. Use the search features below to access our species pages. [View a sample page.](#)

QUICK SEARCH

(Search by family, genus or species, including common names.)

Atlas Page Search:

Photo Gallery Search:

Search for incoming/non-established vascular species.

BROWSE

- [Browse a scrolling list of species, genera, families.](#)
- [Red-listed species](#) [Blue-listed species](#)
- [Invasive, noxious and problem vascular plants of BC](#)
- [Access the complete list of non-established species of BC](#)
- [Species excluded from the BC vascular flora \(PDF\)](#)

Here [Advanced Search](#)

Use Advanced Search to call up sub groups of species such as alien species, fungi, lichens, carnivorous plants, orchids, or trees of BC.

Photo Information



Visit our photo gallery to browse through more than 26,000 photos of vascular plants, fungi, mosses and more.

[Enter the Photo Gallery](#)

Visit our [photography page](#) and learn about photos on E-Flora BC. Read our [FAQs on photo use](#) and [photo submissions](#).

Would you like to contribute photos to E-Flora BC? If so, please use the link below to register with us. A password for uploading photos will be provided once you have registered.

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[BC Species and Ecosystems Explorer](#)

[Committee on the Status of Endangered Wildlife in Canada](#)

[Botanical Electronic News Archives](#)

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[Illustrated Flora of British Columbia](#)



Advanced search page, select ferns....or

E-Flora BC: Species Search Page

linnet.geog.ubc.ca/DB_Query/QueryForm.aspx

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Search Boxes

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Species:

Subspecies:

Variety:

Common Name:

Exact match only

Include thumbnails
 Include non-established species

Species Groups

<input type="radio"/> Invasive / noxious / problem species	<input type="radio"/> All alien species	
<input type="radio"/> Trees	<input type="radio"/> Shrubs	
<input checked="" type="radio"/> Ferns and fern-allies	<input type="radio"/> Orchids	
<input type="radio"/> Carnivorous plants	<input type="radio"/> All Species	
<input checked="" type="radio"/> All species	<input type="radio"/> BC Red-listed	
<input type="radio"/> BC Blue-listed	<input type="radio"/> Federal COSEWIC	
<input type="radio"/> Federal Species-at-risk (SARA)		
<input type="radio"/> Algae	<input type="radio"/> Fungi	<input type="radio"/> Lichens
<input type="radio"/> Liverworts and Hornworts	<input type="radio"/> Mosses	<input type="radio"/> Slime Mold
<input type="radio"/> Vascular plants	<input checked="" type="radio"/> All species	

In addition to simple species searches, you can conduct more complex searches on E-Flora BC. Use the search boxes above to call up all species in a family or genus, or use the radio buttons within the Species Groups box to call up special groups of species, such as red-listed species. You can select combinations of groups, such as only 'blue-listed' 'vascular plants' (click on blue-listed + vascular). Searches in these categories will produce a list of species and associated atlas pages.

Before beginning a new search, reset the radio buttons in each group to 'all'.

If you wish to print a list of all of the plant species for BC (vascular plants, bryophytes), download the official list of plants from the [BC Ministry of Forests and Range](#).

Metadata: Detailed information on the data used to construct the E-Flora atlas pages is available [here](#).

Ferns and “Fern allies”

E-Flora BC

Electronic Atlas of the Flora of British Columbia

[Home Page](#) [Search for an Atlas Page](#) [View our Photo Gallery](#) [Donate to E-Flora BC](#)

118 records--presented below--match your search criteria: Ferns and fern-allies.

To learn about the species lists used on E-Flora BC, click [here](#). To sort columns, click on the column heading.

Do Not Show Thumbnails

Click on Thumbnails to Enlarge	Scientific Name	Family	English Common Name	Atlas Page
	<i>Adiantum aleuticum</i>	Pteridaceae	northern maiden-hair	View Atlas Page
	<i>Adiantum capillus-veneris</i>	Pteridaceae	southern maiden-hair	View Atlas Page
	<i>Aspidotis densa</i>	Pteridaceae	Indian's-dream	View Atlas Page
	<i>Asplenium adullerinum</i>	Aspleniaceae	corrupt spleenwort	View Atlas Page
	<i>Asplenium trichomanes</i>	Aspleniaceae	maidenhair spleenwort	View Atlas Page
	<i>Asplenium viride</i>	Aspleniaceae	green spleenwort	View Atlas Page

Flora of the Pacific Northwest

Hitchcock and Cronquist will be revised this year by the Burke staff

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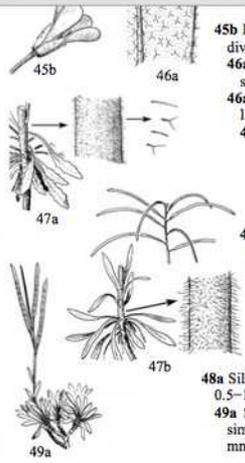
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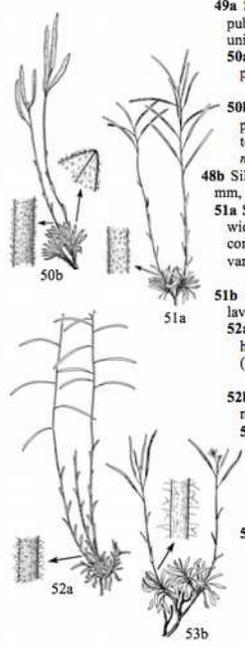
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20 **B. pauciflora** (Nutt.) Windham & Al-Shehbaz
 45b Peds glab or pubescent with simple and occ 2-rayed hairs; siliques ascending to divaricate-ascending, occ horizontal
 46a Basal lvs with short-stalked hairs (stalk much < rays), rays = parallel to lf surface (see lead 43a) 28 **B. divaricarpa** (A. Nelson) A. Löve & D. Löve
 46a Basal lvs with long-stalked hairs (stalk nearly = rays), rays spreading out from lf surface
 47a St bases sparsely and finely pubescent with simple and 2-rayed hairs 0.1–0.2 mm; basal lvs dentate (entire), surfaces with hairs 0.1–0.2 mm, petioles gen not ciliate; petals deep reddish-purple (drying indigo), 7–9 × 1.5–2 mm; siliques strongly ascending; sagebr slopes to rocky summits; rare, endemic to e base Cas, Kittitas to Klickitat cos, WA, and Wasco Co, OR (*A. sparsiflora* var. *a.*) 30 **B. atrorubens** (Greene) Windham & Al-Shehbaz
 47b St bases densely hirsute with simple and 2-rayed hairs 0.4–1.5 mm; basal lvs entire (dentate), surfaces with hairs 0.3–0.8 mm, petioles ciliate with gen simple hairs to 1 mm; petals lavender to reddish-purple (white); 7–13 × 2–5 mm; siliques ascending to spreading; grass and sagebr slopes to open conif for, low to mont; c BC s, e Cas in WA and OR, to CA, e to ID, w MT, and UT; elegant r., sicklepod r. (*A. s.* var. *s.*) 31 **B. sparsiflora** (Nutt.) Dorn
Group 3c
 48a Siliques erect, gen appressed to rachis; seeds 1.5–2 mm, wing 0.3–1 mm wide; sts 0.5–1.5 (2) dm
 49a St bases glab; basal lvs with the hairs confined to lf margins (where mostly simple or 2-rayed) or surfaces of young lvs on sterile shoots; petals 6–9 × 1.5–3 mm; siliques 1.5–2.5 mm wide; seeds biseriate to sub-biseriate (see lead 32a) 22 **B. lyallii** (S. Watson) Dorn

Hitchcock: dichotomous keys to all NW genera



49a St bases pubescent with simple and 2–4-rayed hairs; basal lvs all uniformly pubescent; petals 4–6 (7) × 1–2 mm; siliques 1.2–1.7 (2) mm wide; seeds uniseriate (sub-biseriate)
 50a Seeds 1.1–1.3 mm, with wing ≤ 0.1 mm wide; ovules 58–80 per ovary; fr peds ascending, the siliques gen not appressed to rachis (see lead 53a) 34 **B. cascadenis** Windham & Al-Shehbaz
 50b Seeds 1.5–2 (2.5) mm, with wing 0.3–1 mm wide; ovules 24–40 per ovary; fr peds erect, the siliques gen appressed to rachis; rocky slopes and talus, subalp to alp; rare in our area, WA to CA, e to ID and WY (*A. lyallii* var. *nubigena*, *A. microphylla* var. *n.*) 32 **B. paupercula** (S. Watson) Windham & Al-Shehbaz
 48b Siliques ascending to divaricate-ascending, not appressed to rachis; seeds 1–1.5 mm, wing 0.05–0.15 mm wide; sts 0.5–3 (3.5) dm
 51a St bases pubescent with short-stalked 2–6-rayed hairs only; petals 0.5–0.8 mm wide, lavender; caudex simple or few-br; rocky areas among sagebr and open conif for, mont to alp; c ID e to Beartooth Mts, MT, and n WY (*A. microphylla* var. *s.*); apomictic hybrid, parents unknown 33 **B. saximontana** (Rollins) Windham & Al-Shehbaz
 51b St bases pubescent with simple and 2–3-rayed hairs, or nearly glab; petals lavender to purple
 52a Petals 0.5–0.8 mm wide; sepals pubescent; peds pubescent (glab) with br hairs; siliques 0.8–1.2 mm wide, ascending to descending; sts 2–3.5 dm, with (5) 9–16 st lvs; RM from se BC to nw WY (see lead 28a) 19 **B. macounii** (S. Watson) Windham & Al-Shehbaz
 52b Petals 1–2 (3) mm wide; sepals glab or pubescent; peds glab; siliques 1–1.5 mm wide; sts 0.5–3 (3.5) dm, with 2–6 st lvs
 53a St bases with 2–3-rayed and few simple hairs 0.1–0.2 mm; basal lvs 0.7–2 mm wide, surfaces with 2–6-rayed hairs to 0.2 (0.3) mm; seeds with continuous wing; basal cliffs and slopes, subalp; rare, known only from type locality in Kittitas Co, WA, and from Baker Co, ne OR (*A. microphylla* var. *thompsonii*); apomictic hybrid apparently derived from *B. microphylla* and *B. paupercula* 34 **B. cascadenis** Windham & Al-Shehbaz
 53b St bases with simple and a few 2-rayed hairs 0.3–0.6 mm, or occ subglab; basal lvs 1–4 (6) mm wide, surfaces with 4–8-rayed hairs to 0.1 mm; seeds with terminal wing; cliffs and rocky slopes, low mont to subalp; BC to nc and e OR, e to MT, WY, and UT; littelfr. (*A. m.*) 35 **B. microphylla** (Nutt.) Dorn

Brassica L. Mustard; Cabbage

Racemes corymbose, ebracteate; petals pale to bright yellow (ours), occ white; siliques linear, subterete or +

Boechera sparsiflora (sicklepod rockcress): From sagebrush plains to forest openings and meadows at moderate elevations.



Photo: Snow Mountain Ranch Rocky Top TH

General and stem: (Schlichter): Sicklepod rockcress has one to several upright, simple to branched stems arising 30–100 cm from a rosette of basal leaves. **Densely pubescent below with simple to branched, star-shaped hairs. Glabrous or sparsely pubescent distally.**

Basal leaves: The numerous basal leaves are oblanceolate in shape, 2 to 9 cm in length and 2 to 8 mm wide. The margins are usually entire to several-toothed (Basal leaves entire Schlichter) and the blades are finely to coarsely haired and ciliate on the petioles. The basal leaves narrow to a slender petiole.



Moss Flora of the Pacific NW by Elva Lawton

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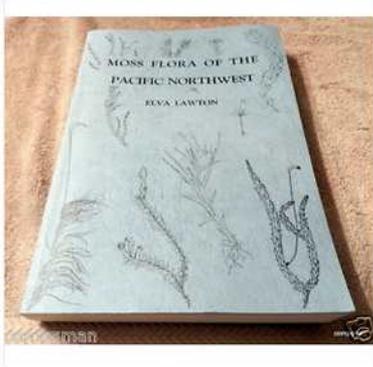
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