SCCP Species Profile – 2010 Version

BC's Coast Region: Species & Ecosystems of Conservation Concern
Poor Pocket Moss (*Fissidens pauperculus*)

Global: G3? Provincial: S1 COSEWIC: E, BC List: Red

Note on *Fissidens pauperculus*: A member of the family Fissidentaceaea, the only genus is *Fissidens*. Referred to by the generic common name "fissidens moss" *F. pauperculus*, is one of eight mosses in this genus in BC. More common in California and Oregon, overall it is uncommon across its global range.

Description

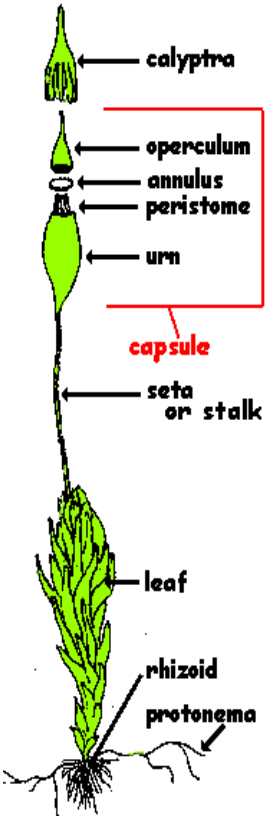
A somewhat diminutive moss, male and female reproductive parts occur on the same plant. The 6-10 leaves, arranged in 3-5 pairs are 1.5-2.5 cm long and 0.3-0.4 mm wide. Leaves are similar in appearance whether wet or dry and partly folded to the base (another distinctive characteristic of this genus). These folded portions average one-half to two-thirds the length of the leaf. The leaf mid-rib ends 6–15 cells below the apex (most other moss species have longer mid-ribs). The spore capsules are at the end of a 2-3 mm stalk which is yellow when young, becoming reddish with age. Capsules are ovoid to oblong-ovoid and inclined to slightly bent.

Look's Like?

All members of the genus *Fissidens* are easily distinguished from other mosses by the paired leaves flattened in one plane along the stem, somewhat reminiscent of fern fronds. Other species of *Fissidens* such as *F. aphelotaxifolius* have been confused with *F. pauperculus*, but size, habitat, and presence of a distinct leaf margin differentiate the two species. The closely related "bryoides fissidens moss" resembles *F. pauperculus* in size and may occur in similar habitat, but its leaves are curled or crisped when dry, and have distinct borders which are absent in poor pocket moss.

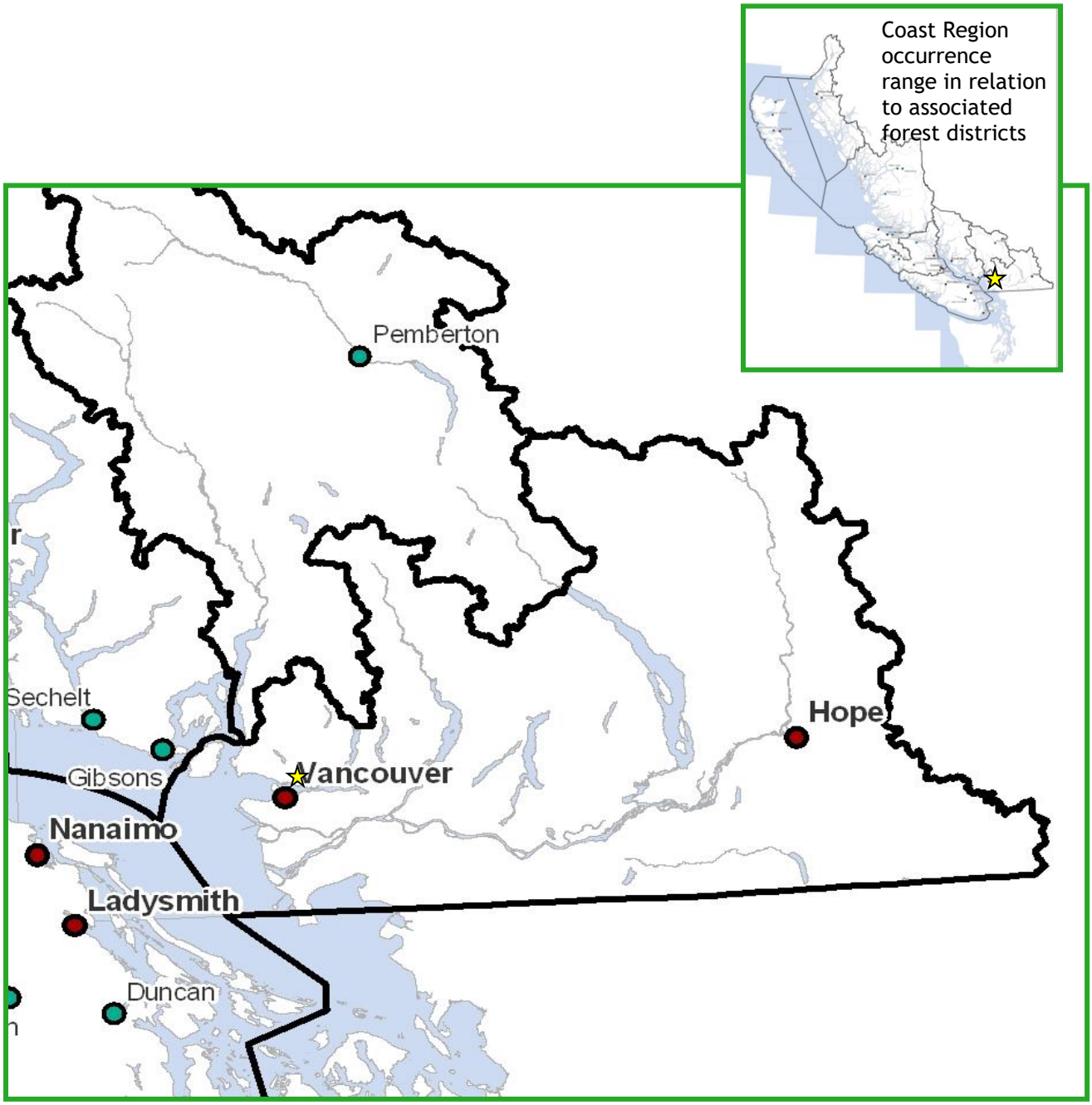
Bryoides fissidens moss

Moss anatomy



Distribution

Elevation: ~320 m Found in California, Oregon, Washington and BC, populations of poor pocket moss (6 in total) have only been identified in one location - a Douglas-fir/western hemlock stand in Lynn Canyon Park, North Vancouver.



Poor Pocket Moss (*Fissidens pauperculus*), known population occurrence (yellow star) for the Coast Region

Habitat Preferences

In Canada this species is only known from seasonally moist, hard-packed silt-rich soils on steep faces, gullies or cut-banks in association with a dense coniferous forest canopy.

Critical Features

Very little is known about the habitat of this moss due to its extreme rarity however bare soil is a known factor required for colonization. Where it occurs in BC it is restricted to an exposed, compact fluvial seepage zone on a seasonally eroded streambank subject to high water events.

The bare, compact fluvial silt found in streamside seepage zones like the one above from Lynn Canyon Regional Park is typical of the sites that support Poor Pocket Moss.

Seasonal Life Cycle

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Spores produced regularly through summer and fall, germinate fall and winter (likely dispersed by water). Asexual reproduction while not documented may occur through spread of plant fragments											

Threats

- The preferred ecological associations of this species are geographically limited and poorly understood.
- Disturbance and trampling from outdoor recreation activities.
- Competition from other mosses and possibly vascular plants.
- Woody debris management and maintenance activities in active use recreational areas where this species occurs.

Conservation & Management Objectives

- Apply conservation and management objectives for this species as set out in the "Recovery Strategy for Poor Pocket Moss (*Fissidens pauperculus* M. Howe) in Canada.
- Collection activities should be limited and apply practices identified in the Province's "Voucher Specimen Collection, Preparation, Identification and Storage Protocol: Plants & Fungi." Inventory activities should consider approaches and references identified in E-Flora's "Protocols For Rare Vascular Plant Surveys." Integrate inventory recommendations and approaches developed in "Bryophytes of British Columbia: rare species and priorities for inventory".

Specific activities should include:

- Assess actual level and extent of threats to existing populations.
- Data are needed to fully describe critical habitat attributes. A targeted inventory is needed to determine if undiscovered populations exist elsewhere within the Coast Region.
- Conduct outreach to raise awareness of this species and how to identify it to improve distribution knowledge
- Monitor existing populations on an ongoing basis to assess viability and reduce potential disturbance from land use activities.
- Implement habitat protection for existing populations through stewardship activities and other mechanisms and protection for any newly discovered populations as soon as possible
- Where suitable habitat occurs, work with land managers and land owners to ensure development or recreational activities do not disturb or encroach on sensitive areas.
- Determine the level of real and potential threats, more detailed information needs to be gathered about threats to this species, especially with respect to invasive plants. When controlling invasive plants, take precautions to minimize disturbance to poor pocket moss populations.

This species is listed under the Federal Species at Risk Act (SARA) and may be subject to protections and prohibitions under the BC Wildlife Act. Habitat for this species may also be governed under provincial and federal regulations including the Fish Protection Act and Federal Fisheries Act as well as Regional and local municipal bylaws.

Content for this Factsheet has been derived from the following sources

B.C. Conservation Data Centre. 2010. [Internet] Species Summary: *Fissidens pauperculus*. B.C. MoE.
E-Flora. 2010. [Internet] Electronic Atlas of the Plants of British Columbia
Environment Canada. 2010. Recovery Strategy for the Poor Pocket Moss (*Fissidens pauperculus*) in Canada. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa. 5 pp. + Appendices.
Fairbarns, Matt. 2010. Aruncus Consulting [Pers. Communication]
Ministry of Environment, Lands and Parks Resources Inventory Branch. 1999. [Internet] Voucher Specimen Collection, Preparation, Identification and Storage Protocol: Plants & Fungi. Standards for Components of British Columbia's Biodiversity No. 4b
Polster, D. et al. 2006.[Internet] Develop with Care: Environmental Guidelines for Urban and Rural Land Development in British Columbia. Prepared for the BC Ministry of Environment. Victoria (BC).
Proulx, Gilbert et al. 2003. A Field Guide to Species at Risk in the Coast Forest Region of British Columbia. Published by International Forest Products and BC Ministry of Environment. Victoria (BC).
Ryan, M.W. 1996. [Internet] Bryophytes of British Columbia: rare species and priorities for inventory. Res. Br., B.C. Min. For., and Wildl. Br., B.C. Min. Environ, Lands and Parks. Victoria, B.C. Work. Pap. 12/1996.

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Every effort has been made to ensure content accuracy. Comments or corrections should be directed to the South Coast Conservation Program: info@sccp.ca. **Content updated August 2010.**

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