

BC's Coast Region: Species & Ecosystems of Conservation Concern

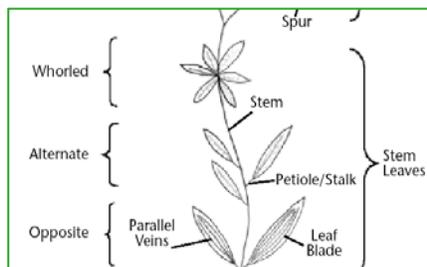
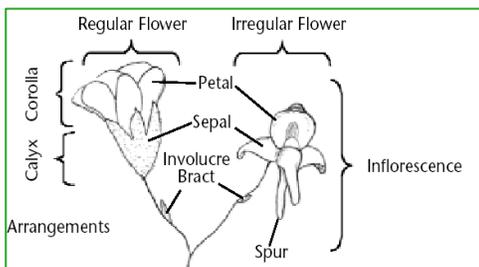
Golden Paintbrush (*Castilleja levisecta*)

Global: G1, Provincial: S1, COSEWIC: E, BC List: Red



Notes on *Castilleja levisecta*: A member of the family Orobanchaceae (“broomrape”), the genus *Castilleja* was formerly included in the family Scrophulariaceae (“figworts”). Broomrape species are either “holoparasitic” (fully parasitic) or like paintbrush “hemiparasitic” (partially parasitic) on the roots of other plants. This species, also referred to as “golden Indian paintbrush” is at the northern end of its range in BC.

Plant Anatomy

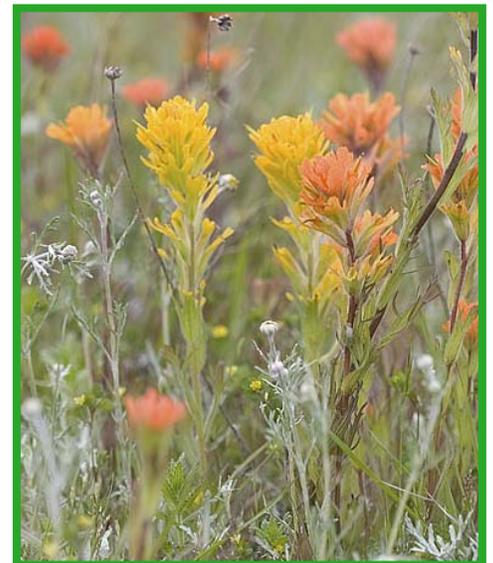


Description

Height 10-50 cm. Golden paintbrush is a perennial herb, branching from a woody stem base into 5-15 semi-erect, clustered or sometimes creeping stems. The entire plant above ground is covered with dense hairs. Leaves of the plant grow alternately and are sticky, especially on the upper surface. Near the upper stem leaves are narrow at the base widening to a broad, egg-shape. Leaves on the lower stems are long, pointy and tapered at each end. Flowers are pale green and inconspicuous, hidden by whorls of bright golden-yellow bracts (modified leaves). Each bract, the same width as the upper stem leaves have 3-5 narrow lobes covered with short, sticky, soft hairs.

Look's Like?

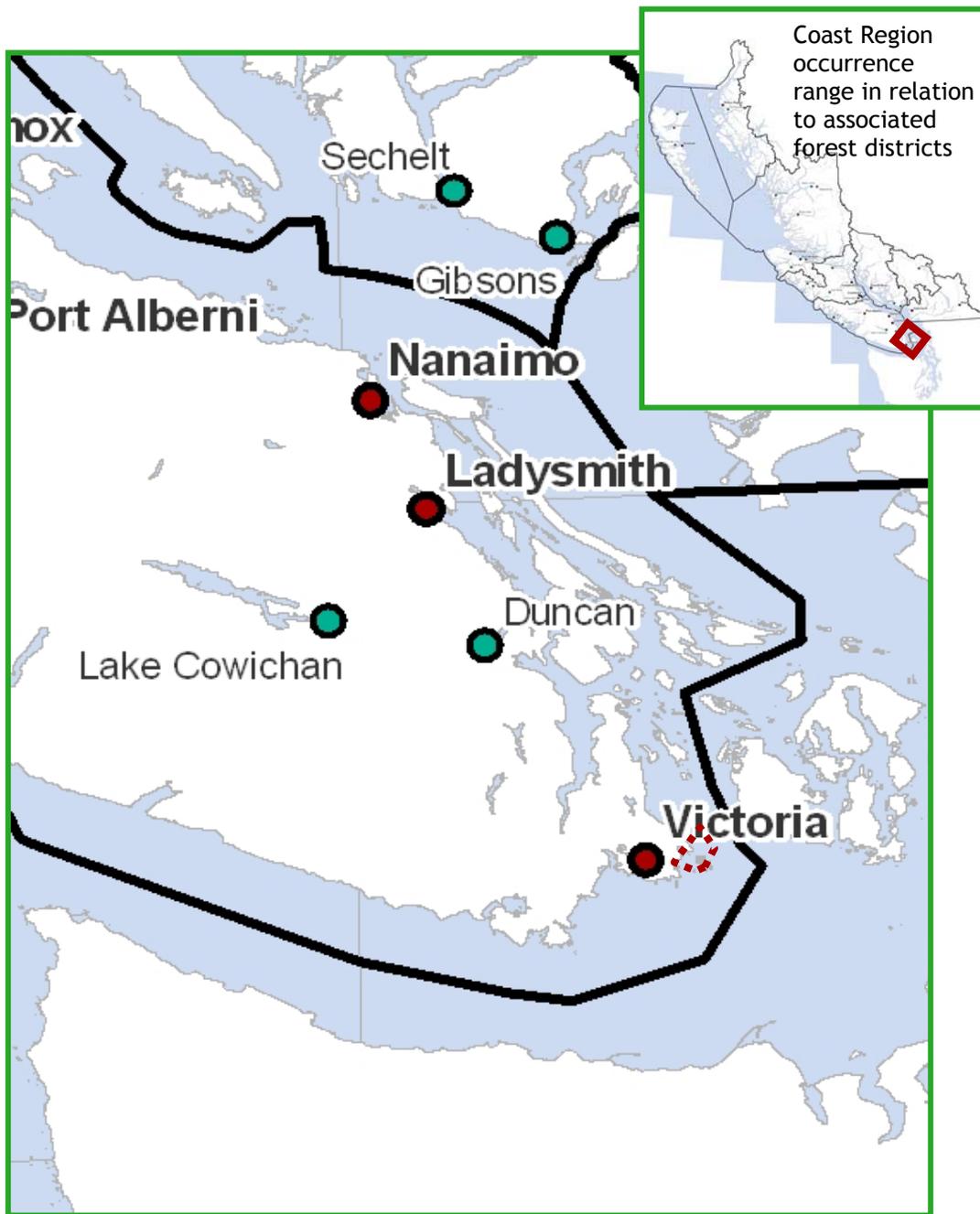
Harsh Indian paintbrush, a species that has an overlapping range sometimes has yellow bracts and may be confused with golden paintbrush. Golden paintbrush is distinguished by brighter yellow floral bracts that do not flare into spikes and abundant sticky.



Harsh Indian Paintbrush

Distribution

Elevations <25 m. Restricted to southeast Vancouver Island and its offshore islands. Golden paintbrush had a historically wider range than present-day, occurring from southeastern BC down through the Willamette Valley in Oregon. The Oregon populations are extirpated as are at least 5 populations reported from BC (Beacon Hill, Mount Douglas, Blenkinsop Lake, Sidney, and Wellington). The two remaining extant (locally occurring) populations occur on Alpha Islet and Trial Island.



Golden Paintbrush (*Castilleja levisecta*), known range of population occurrences (red-dotted line) for the Coast Region

Habitat Preferences

Associated species include a range of grasses, common camas, wild strawberry and other drought tolerant native and introduced species. Though preferring open sunny environments, golden paintbrush may tolerate some light shade from associated meadowland shrubs such as common snowberry.



Critical Features

This species has a narrow habitat range requiring droughty, gravelly to loamy soil in open grasslands, conditions that may limit competition from other species. Historically these sites would have been maintained through periodic low intensity fires.

This species occupies grass-dominated maritime meadows and openings with dry to moderately dry conditions and deep soils.

Seasonal Life Cycle

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
			Flowering peaks April – May (can continue into July under favourable conditions). Seeds mature and dispersed late August-September – potentially until december									
Shoots continue to grow through March								Shoots develop September, fully out of dormancy by January				

Cross-pollination is the only known means of reproduction and seed production. Fruits are small capsules containing more than 100 seeds, persisting on the plant long after the end of the growing season

Threats

- ◆ The preferred ecological associations of this species are geographically limited and subject to loss of natural or historic maintenance regimes (e.g. browsing of shrubs by deer, use of fire by First Nations). Suppression or removal of these mechanisms has contributed to spread and encroachment of invasive and competitive vascular plant species which can also contribute to changes in soil moisture and chemistry.
- ◆ Habitat loss, encroachment and fragmentation may contribute to local extirpation events from genetic isolation and increased vulnerability to disease.
- ◆ Impacts from land management practices (e.g. mowing or pesticide application) and outdoor recreation activities (e.g. trampling).
- ◆ Competition from other plant species (native and introduced) through succession, especially tall grasses and shrub species.

Conservation & Management Objectives

- ◆ Apply conservation and management objectives for this species as set out in the “Recovery Strategy for Multi-species at Risk in Maritime Meadows Associated with Garry Oak Ecosystems in Canada” as well as actions to manage threats as identified in the COSEWIC assessment and update status report on this species.
- ◆ 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.

Specific activities should include:

- ◆ Assess actual level and extent of threats to existing populations.
- ◆ 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.
- ◆ 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.
- ◆ Reintroduce populations into former habitat that is protected and properly managed to ensure viability. Local seed source from the two islands can be used to produce planting stock for reintroduction. Washington has a reintroduction plan for *Castilleja levisecta* and similar work has begun in B.C.
- ◆ A better understanding of the species' reproductive capability is required including the extent to which it relies on cross-pollination to produce viable seed. Response to fire also needs to be studied.
- ◆ Effective long-term control and reduction in competition from invasive or aggressively spreading vascular plants (e.g. invasive grasses, Scotch broom) must form part of strategies to protect and recover populations. Disturbance to rare plant species and communities must be minimized during control activities.

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

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- 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).
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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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