

Annual Paintbrush (*Castilleja minor* ssp. *minor*)

Orobanchaceae (Broom-rape Family)

RANGE

- In North America, found from south-central British Columbia to New Mexico and east to Texas (USA)
- In B.C., verified recently at six locations in the extreme southern portions of the Okanagan Valley
- One population near Hayne's Point along the west shore of Osoyoos Lake may have been extirpated



Figure 1 B.C. distribution of *Castilleja minor* ssp. *minor* (BC CDC 2013)

HABITAT

- Seasonally moist, sand-rich soils, usually with other tall plants in saline marshes and wet meadows near ponds and lakes in the Ponderosa Pine and Bunchgrass Biogeoclimatic Zones
- Associates include bulrushes (*Schoenoplectus* spp.), alkali saltgrass (*Distichlis spicata*) and spike-rushes (*Eleocharis* spp.)



Figure 2 New population discovered in 2013 in wet meadow adjacent to Rattlesnake Lake near Oliver, B.C.



Figure 3 Saline wet meadow habitat near Mahoney Lake, B.C.

LIFE HISTORY

- Annual species that grows each year from seed, blooming from late June into autumn
- Plants die at the end of the growing season and seeds are released into seed bank
- Does not reproduce vegetatively, so population survival depends on seeds and seed bank
- Seed dispersal by water, waterfowl or small mammals
- May be subject to large annual population fluctuations due to varying environmental conditions

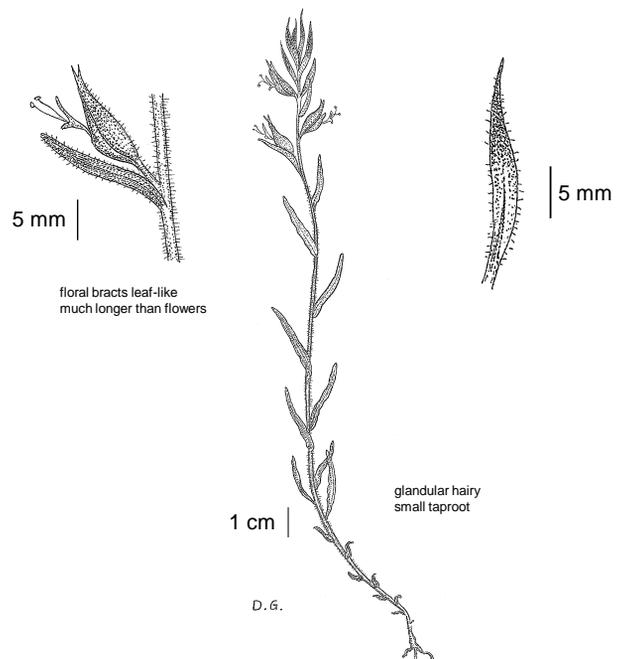


Figure 4 Illustration of *Castilleja minor* ssp. *minor* (Douglas et al. 2000)

Castilleja minor ssp. minor (continued)

DESCRIPTION

General

- Tall and narrow, glandular-hairy, annual plant
- Grows from small taproot to over 100 cm tall

Leaves

- Leaves arranged alternately along a mostly unbranched stem
- Leaves narrow and lance-shaped, 3 to 8 cm long, with tapering tips and smooth edges

Flowers

- Stalkless flowers arise at top of stem from axils of bracts (specialized leaves) forming a spike-like inflorescence; upper bracts much longer than flowers and with red or scarlet tips
- Flower corolla (petals) tubular and yellowish, 15 to 25 mm in length, with 2 lips: top lip 5 to 7 mm long and blunt, overarching the 1 to 3 mm lower lip
- Calyx (sepals) green, 15 to 20 mm long, and divided into 2 lobes, which are further divided into 2 sharp segments

Fruits

- 10 to 18 mm long capsules are produced each containing many tiny seeds
- Seed-coats loose and net-veined



Figure 5 Close up of red-tipped bracts at tops of tall, narrow plants

IDENTIFICATION TIPS

- Characterized by its height and thin stature, bright red bracts, and glandular-hairy stems and leaves
- Its flower structure is characteristic of genus *Castilleja*; however, no other wetland plant resembles this species
- Due to its narrow stature, it is often hidden amongst taller vegetation and may be difficult to locate in dense stands of associated plants



Figure 6 Red-tipped bracts are visible in dense tall vegetation

GENERAL THREATS AND GUIDANCE

- **Avoid development in areas with known occurrences of *Castilleja minor ssp. minor* through project relocation or redesign**
- Protect saline marshes and wet meadows near ponds/lakes from disturbance and development, including exclusion of livestock and ATVs through fencing, and consider restoration including invasive plant removal following professional advice
- Ensure roadside maintenance activities do not disturb this species and its habitat
- Follow provincial methods for when and how to conduct plant species at risk surveys
- Follow provincial policy and guidance on how to avoid, minimize, restore and offset impacts to plant species at risk and their habitats
- Report any sightings to the B.C. Conservation Data Centre (cdccdata@gov.bc.ca) and FLNR Ecosystems Section (josie.symonds@gov.bc.ca)

REFERENCES

- B.C. Conservation Data Centre. 2013. <http://a100.gov.bc.ca/pub/eswp/>
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