

Castilleja hispida Benth. (*Scrophulariaceae*) harsh Indian paintbrush



Castilleja hispida in its two very different color forms (it also occurs in various shades in between). Photo on left taken by Rod Gilbert 2003. Photo on right taken by Ben Legler 2004 at Deception Pass State Park, Skagit County. (Burke Herbarium)

Climate, elevation

Low to mid elevations

Range/ Local occurrence

From SW Alberta/ NW Montana west to Vancouver Island and south to Oregon and Idaho.

In Washington State, this species grows on both sides of the Cascades.

Note: there are two sub species of *C. hispida*.

Habitat preferences

C. hispida prefers sunny locations such as meadows, forest openings and edges, and grassy slopes.

Plant strategy type

Perennial. Like other members of the genus *Castilleja*, this plant is hemi-parasitic. Though it may not be necessary, it will likely grow better with a host plant such as Roemer's fescue.

Associated species

Festuca idahoensis var. *rhoemerii* (Rhoemer's fescue)

May be collected as:

Seeds or cuttings. Do not try to transplant *Castilleja* species.

Seed germination

There is conflicting information concerning the propagation of *C. hispida*. While some claim that it is extremely difficult, others have had good success. It has been observed that, though the seeds may be easily germinated, the seedlings often do not survive. This may be explained by summer drought, herbivory, or lack of a host plant.

Beth Lawrence explains in detail how to propagate another *Castilleja* species, *C. levisecta*, in her thesis entitled, "[Studies to Facilitate Reintroduction of Golden Paintbrush \(*Castilleja levisecta*\) to the Willamette Valley, Oregon.](#)" It is quite likely (though not certain) that these methods would be appropriate for *C. hispida*. The following guidelines for seed germination and propagation from seed are taken from her work.

Germination requirements may vary depending on the source of the seed. In general, seeds must be stratified for 6-8 weeks. Set seeds on a moist paper towel or germination paper in a dark place at 5° C for 6-8 weeks. Follow this by a post-chill incubation: set seeds in a warm, well-lit place for two weeks (checking for germination during this period). Keep moist.

Seed life

Seed life, as with viability, may vary depending on population source. It is best to use seeds within 1-2 years.

Recommended seed storage conditions

Store at a low-temperature (5° C) in a dry, dark place.

Propagation recommendations

Seed: Once the seeds have germinated and have their first root (radicle), carefully put the seeds in soil. After 4-6 weeks, seedlings may be transplanted into a container with a host plant such as *Eriophyllum lanatum* or *Festuca roemerii*. Outplant after at least 3 months. Make sure that the host plant is not out-competing the golden paintbrush seedling

Vegetative cutting: David Schmidt conducted research on the propagation of this species from vegetative cuttings. He had the best results when cuttings were made early in the season (March) and applied with root hormone before setting in soil. This may be one good option for propagation, but the timing of the cutting (firmness of the stalk) is tricky and vegetative propagation alone does not offer the genetic variability that propagating from seed does.

Soil or medium requirements

Plant in well-drained soil. Some fertilization every two weeks may help increase the success of the seedlings.

Installation form

Plant seedlings with a host plant in an open area.

Care requirements after installed

Make sure that the host plant does not out-compete the paintbrush. Watering during dry months may also increase survival rates.

Sources cited

Lawrence, Beth. 2005. Master's Thesis: Studies to Facilitate Reintroduction of Golden Paintbrush (*Castilleja levisecta*) to the Willamette Valley, Oregon. Department of Biology and Plant Pathology. Oregon State University. Corvallis, OR.

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Data compiled by Samantha Martin Sprenger June, 2006.