White rock larkspur (*Delphinium leucophaeum*)

ENDANGERED

Flower (left), habit (center), and habitat (right) of white rock larkspur. Photos by Melissa Carr. If downloading images from this website, please credit the photographer.

Family
Ranunculaceae

Taxonomic notes
Synonyms: *Delphinium nuttallii* ssp. *ochroleucum**

*This is the name recognized in *Flora of North America North of Mexico*. However, this taxon is more appropriately maintained as a distinct species (*D. leucophaeum*) in keeping with the Oregon Flora Project treatment of white rock larkspur, based on its unique morphology and fertile, self-sustaining populations.

White rock larkspur has been reported to produce viable hybrid seeds when crossed with *Delphinium pavonaceum* and *D. nuttallii*.

Plant description
White rock larkspur is a slender perennial species 20-60 cm tall that grows from a cluster of tubers. Leaves are numerous and evenly distributed on the stem, with long petioles and lobed blades. The inflorescence is a narrow raceme bearing 6-30 non-glandular flowers. The sepals are white to cream, sometimes slightly greenish blue on the back and greenish at the tip, and cupped forward or spread laterally. The lower petals are white or faintly bluish tinged and long-hairy over the entire surface, the upper petals bluish to lavender-tipped. The follicles are 0.8-1.2 cm long, puberulent, and non-glandular.

Distinguishing characteristics
White rock larkspur is distinguished from *Delphinium pavonaceum*, the only other white-flowered larkspur west of the Cascades, by its shorter habit (20-60 cm versus 30-90 cm in *D. pavonaceum*), its smaller flower parts (lateral sepals 9-14 mm long versus 12-18 mm in *D. pavonaceum*, spur 10-14 mm long versus 14-20 mm), its forward-cupped sepals (versus reflexed in *D. pavonaceum*), narrow raceme (versus pyramidal), and lower petals that are non-glandular and long-hairy over the entire

surface (versus glandular with a hairy tuft at the base of the blade). White rock larkspur is also very similar to *D. nuttallii*, but the white sepals of the former species readily distinguish it from its blue-sepaled congener.

When to survey
Surveys for white rock larkspur should be completed from May through June when the species is flowering and is distinguishable from other delphiniums.

Habitat
White rock larkspur is found on the edges of oak woodlands, in dry roadside ditches, on basalt cliffs, along river banks and bluffs, on moist rocky slopes, and in moist lowland meadows. It inhabits loose, shallow soils typically 5-7 cm deep with a high organic matter content and high level of sand relative to the soils in which other Pacific Northwest delphiniums occur. It grows on slopes ranging from horizontal plateaus to vertical cliffs in open exposed areas to fairly deeply shaded spots at 40-150 m (125-500 ft) in elevation.

Associated species include *Anthoxanthum odoratum*, *Arbutus menziesii*, *Aquilegia formosa*, *Bromus* sp., *Collinsia parviflora*, *Comandra umbellata*, *Camassia quamash*, *Cynosurus echinatus*, *Cytisus scoparius*, *Danthonia californica*, *Elymus glaucus*, *Eriogonum* sp., *Festuca rubra*, *Galium* sp., *Holcus lanatus*, *Holodiscus discolor*, *Hypericum perforatum, Plectritis congesta, Polypodium glycyrrhiza*, *Quercus garryana*, *Rosa* sp., *Rubus* sp., *Sedum* sp., *Symphoricarpos albus*, and *Toxicodendron diversilobum*.

Range
White rock larkspur is restricted to the northern Willamette Valley in Oregon, where it is found at fewer than 20 sites, and one occurrence in Lewis County, Washington.

Oregon counties
Clackamas, Marion, Multnomah, Washington, Yamhill

Federal status
Species of Concern

Threats
Threats to the species include habitat loss due to urban and agricultural development, as well as invasive species, roadside maintenance, and small population sizes. Hybridization may threaten the genetic integrity of the species.

Conservation planning
A U.S. Fish and Wildlife Service Recovery Plan for prairie species of western Oregon and southwestern Washington (pdf document, 9.63 MB) was released in 2010 and addresses conservation needs of white rock larkspur.

Did you know?
Scientists have hypothesized that white rock larkspur evolved in the wake of the Pleistocene epoch floods of the Columbia River (the Bretz Floods) that occurred between 12,800 and 15,000 years ago. These floods scoured the north end of the Willamette Valley and created a temporary lake that extended south to the present-day city of Eugene. The lake repeatedly filled and drained, creating massive habitat disturbance and laying new deposits of silt and gravel in the valley. New forms of *Delphinium* were likely produced through hybridization and/or mutation in these

disturbed areas and evolved into our localized Willamette Valley larkspur endemic species. White rock larkspur appears to have derived from *D. nuttallii*.

Current/Recent ODA projects
Developing population density estimates for nine rare Willamette Valley prairie species

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