

## *Lupinus argenteus* Silvery Lupine

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**S**ilvery lupine, or *Lupinus argenteus*, is one of seven plants that were collected on July 7, 1806 by Meriwether Lewis, making this the most productive day for plant collecting in Montana. We know that at least seven species were collected because the specimens still exist and are housed in the Lewis & Clark Herbarium at the Academy of Natural Sciences in Philadelphia. On July 7th, Lewis and his small band of men were traveling along the Cokahlaishkit River, today called the Blackfoot River, in Lewis & Clark County. On that day Lewis and his party traveled from their camp on Beaver Creek, along the Blackfoot River and over the Continental Divide at present-day Lewis & Clark Pass to their camp for the night about three miles east of Table Mountain. Lewis and his men traveled 32 miles that day. Despite the ascent of Lewis & Clark Pass and the long miles traveled, Lewis still managed to collect plant specimens and write in his journal. What a hardy and trail-toughened group of men they were!

Lewis and his group of men were traveling by horseback to their cache left at White Bear Island the previous summer. Lewis and a few companions then planned to explore the Marias River drainage while the remainder of Lewis's men would portage around the Great Falls with the baggage and canoes and meet Lewis at the confluence of the Marias and Missouri Rivers. Lewis says in his journal on July 1, 1806, "...from this place [Traveler's Rest] I determined to go with a small party by the most direct route to the falls of the Missouri, there to leave Thompson McNeal and Goodrich to prepare carriages and gear for the purpose of transporting the canoes and baggage over the portage, and myself and six volunteers to ascend Maria's river with a view to explore the country and ascertain whether any branch of that river lies as far north as Latd. 50..."

The silvery lupine specimen in the Lewis & Clark



Photo: Wayne Phillips

*Lupinus argenteus* (Silvery Lupine)

Herbarium has a label written by Frederick Pursh, the botanist who was retained to look at the expedition's plant collection, that reads, "On the Cokahlaishkit. Jul. 7th 1806. Flowers yellowish white." This specimen is one that was found tucked away at the American Philosophical Society and was believed lost. There is another specimen of silvery lupine at the Herbarium, Royal Botanic Gardens in Kew, Surrey, England. Modern day Lewis and Clark botanical scholars believe this specimen was probably collected in Idaho in June 1806, even though the label says July 1806. Indeed, in his journal on June 5, 1806 Lewis mentions observing "several of the pea blume flowering plants" and it is possible one may have been this species, although other members of the bean (pea) family, or Fabaceae, were observed and collected as well.

As do all lupines, silvery lupine has palmately compound leaves with six to nine leaflets that join together at a common point. The silky-haired leaves are opposite on the stem and at times have a silvery

sheen that may explain the origin of the common name. In fact, *argenteus* is from a Greek word for silver. The plants are from six to 24 inches high with one to several stems that are often branched. The flowers have the typical look of pea flowers, with a banner, two wings and a keel. The banner petal usually has a white spot on it that serves as a signal for pollinators, often bees. As the flower ages the spot turns a reddish color and bees have learned to skip these flowers as the nectar reward will be limited. This helps the bees by directing them to flowers with fresh and ample nectar, and helps the plant by keeping old pollen out of circulation. The flower racemes are usually four to six inches high with numerous individual flowers around the flowering stem. The flowers can be white or nearly white with a bluish tinge, to light or dark blue. Lewis evidently collected a whitish colored individual. The pods that form after flowering is complete hold two to five pinkish-gray to light brown seeds.

Silvery lupine is found in grasslands, ponderosa pine woodlands, on rocky prairie hillsides and on subalpine ridges. The species is distributed from east-central Oregon to northern California and east to South Dakota and the Rocky Mountain states to New Mexico. It is common in the Great Basin and Great Plains but is rare in Saskatchewan and Kansas. It can be found today on Lewis & Clark Pass where Lewis collected it in 1806.

*Lupinus* is derived from the Latin word *lupus*, meaning wolf. The connection is not clear but several theories have been advanced. A she-wolf was regarded as the wetnurse of Rome, so it may be a term of fond affection. Or, more commonly promoted is the theory of lupines as sheep-killers, as were wolves. Lupines, including silvery lupine, are considered poisonous to livestock, especially sheep. The seeds contain the most concentrated toxic principle, but the toxin is not cumulative. A great quantity has to be eaten at one time for toxic effects to be exhibited. Poisoned sheep may froth at the mouth, have labored breathing and convulsions. Lupines can be valuable forage if proper grazing techniques are employed and plenty of other forage is available. They are considered to increase under grazing pressure.

Silvery lupine, as are all members of the bean family, is an important nitrogen fixer and makes that nutrient available for other plants. Since they often grow in areas with poor soil development, their presence helps increase soil fertility to the benefit of

plant diversity.

The native inhabitants that Lewis and Clark encountered on their journey had uses for numerous native plants, and lupine was no exception. The Blackfoot used an infusion of lupine, which species is not clear, to relieve indigestion and gas, and to quell hiccups. Sacagawea's people, the Shoshone, used lupine as a diuretic. Various Indian tribes used lupine as animal fodder and some used the roots, leaves or young plants as food for themselves. Lupine was used as incense in the Ghost Dance and male Blackfoot warriors chewed the leaves ceremonially before beginning face painting.

Today we enjoy silvery lupine as it dots the hillsides with blue, and as an easy-to-care-for native plant in gardens and landscape plantings. Varieties of domesticated lupine have been developed for garden use, but our native species is attractive and adapted to our environment.

When you see silvery lupine remember the role it played in Montana history and the importance of preserving its prairie and ridgetop habitats, many of which may be threatened by weed invasions and off-road vehicle travel.