

ARIZONA GAME AND FISH DEPARTMENT  
HERITAGE DATA MANAGEMENT SYSTEM

Plant Abstract

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**CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE**

**NAME:** *Lupinus latifolius* ssp. *leucanthus* (Rydb.) Kenney & D. Dunn  
**COMMON NAME:** Broadleaf lupine, Springdale lupine  
**SYNONYMS:** *Lupinus leucanthus* Rydb., *Lupinus latifolius* var. *parishii* auct. Non C.P. Sm., *L. l.* var. *columbianus*  
**FAMILY:** Fabaceae

**AUTHOR, PLACE OF PUBLICATION:** *Lupinus latifolius* ssp. *leucanthus* (Rydb.) Kenney & D. Dunn, Trans. Missouri Acad. Sci. 10-11: 100. 1977. *Lupinus leucanthus* Rydberg, Bull. Torrey Bot. Club 30(4): 259. 1903.

**TYPE LOCALITY:** United States of America: Utah: Springdale, alt. 4000 ft.

**TYPE SPECIMEN:** HT: US-326569. M.E. Jones 5249e, 16 May 1894. IT: MO, NY.

**TAXONOMIC UNIQUENESS:** *Lupinus* in a very large genus in the pea family (Fabaceae) with some 200 species. *Lupinus latifolius* has eight subspecies and varieties, and *L.l. leucanthus* is the only one that occurs in Arizona. According to Isely (1998) and Kartesz (1999), the ssp. *leucanthus* includes plants called "*L. parishii*" in Kearney and Peebles (1951), and "*L. latifolius* var. *columbianus*" in Welsh et al. (1993). (NatureServe 2001, 2005, 2019). Kearney and Peebles (1951), state that the taxonomy of this genus is difficult, and authorities differ greatly in their interpretations, especially of the perennial species.

**DESCRIPTION:** Herbaceous perennial from a branch caudex, with stout stems that are glabrous or nearly so, up to 2 m (6.6 ft) tall (3-12 dm (1-4 ft) tall in Welsh et al., 1993). Pubescence appressed strigose or almost lacking. Leaves mainly cauline; petioles 5 - 20 cm (2-8 in) long. Leaflets 5-11 (usually 7-9), and are 3 - 8 cm (1.2-3 in) long, 5 - 20 mm wide, and are oblong to elliptic or oblanceolate, flat, glabrous above, thinly appressed-strigose beneath. Ten to 35 loosely flowered racemes are 8-25 cm (3-10 in) long at anthesis, and 10 - 45 cm (4-18 in) long in fruit. Flowers are 10 - 14 mm long, with the upper lip of the calyx notched, and the lower lip entire. The keel of the whitish to ochroleucous corolla is ciliate on the upper margins from the middle downward; banner with a central yellowish spot. Ovules are 7-10. The pods are about 3 cm (1.2 in) long, hairy with brown hairs.

Kenney and Dunn (1977), indicated that most of the Arizona specimens have a whitish or ochroleucous corolla, whereas those described as *L. parishii* (now included under ssp. *leucanthus* per Kartesz 1999) from the California specimens, have violet corollas. (NatureServe, 2001).

**AIDS TO IDENTIFICATION:****ILLUSTRATIONS:**

Photos and Herbarium Mounts: <http://swbiodiversity.org/seinet/taxa/index.php?tid=34026>.

**TOTAL RANGE:** From southwestern Utah (Zion National Park only) and central to northwestern Arizona, and perhaps disjunctly in New Mexico. Possibly in Nevada and California. If *L. parishii* and *L.l. var. columbianus* are included in *L.l. ssp. leucanthus*, as Kartesz (1999) and Isely (1998) state, than the distribution would extend to the Pacific states down to northern Baja California. Reports from New Mexico, Nevada and California need resolution (NatureServe 2019).

**RANGE WITHIN ARIZONA:** Mohave County: Hualapai Mountains. Yavapai County: Bradshaw, Santa Maria, and southern Weaver Mountains; Cottonwood Creek. McDougall (1973) reported near Williams in Coconino County, and near Prescott and Crown King in Yavapai County. Also two collections in Gila County east of Tonto Basin.

**SPECIES BIOLOGY AND POPULATION TRENDS**

**GROWTH FORM:** Herbaceous perennial.

**PHENOLOGY:** May to July.

**BIOLOGY:** *Lupinus latifolius* and several other species of lupine contain the alkaloid anagryne. If these lupines are consumed by a pregnant cow between 40 and 70 days gestation, "Crooked calf disease" can occur.

**HABITAT:** Occurs along streams and moist soil of dry stream beds, in oak-cottonwood, mixed shrub, and ponderosa pine forest communities. In Yavapai County (NW of Prescott), Arizona, collected among rocks and boulders of canyon bottom (SEINet accessed 2005). Also stream terrace sands and gravels (NatureServe 2019).

**ELEVATION:** 4,800 – 7,000 ft (1464-2135 m) in Arizona; 4,000-4,508 ft (1220-1375 m) in Utah.

**EXPOSURE:** Not specified. Partial shade noted in one collection.

**SUBSTRATE:** Red Sand. Granitic hills in Mohave County, and among rocks and boulders in Yavapai County, Arizona.

**PLANT COMMUNITY:** Oak-cottonwood, mixed shrub, and ponderosa pine forest and chaparral-ponderosa pine forest communities. Associated species include: *Acer negundo* (box-elder), *Amelanchier utahensis* (Utah serviceberry), *Amorpha californica* (California indigo-bush), *Apocynum* (dogbane), *Aquilegia chrysantha* (golden columbine), *Arctostaphylos pungens* (Mexican manzanita), *Asclepias asperula* (spider milkweed), *Baccharis salicifolia* (willow-leaf false-willow), *B. sergiloides* (squaw false-willow), *Celtis reticulata* (= *C. laevigata* var. *reticulata*, netleaf hackberry), *Cercocarpus montanus* (Colorado birch-leaved mountain-mahogany), *Erigeron macranthus* (= *E. speciosus* var. *macranthus*, aspen fleabane), *Forestiera pubescens* (dwarf swamp-pivet), *Fraxinus velutina* (velvet ash), *Juglans major* (Arizona black walnut), *Juniperus* (juniper), *Lotus utahensis* (Utah bird's-foot-trefoil), *Pinus ponderosa* (ponderosa pine), *Populus* (cottonwood), *Quercus emoryi* (Emory's oak), *Q. gambelii* (Gambel oak), and *Salix* (willow). (SEINet, accessed 2005).

**POPULATION HISTORY AND TRENDS:** Unknown. Reported as locally common at some collection sites. There are 20 known occurrences in Arizona, although many of these sites are now historic. NatureServe ranks this subspecies as critically imperiled.

## **SPECIES PROTECTION AND CONSERVATION**

**ENDANGERED SPECIES ACT STATUS:** None  
**STATE STATUS:** None  
**OTHER STATUS:** Forest Service Sensitive (USDA, FS Region 3 2013)  
 [Forest Service Sensitive USDA, FS Region 3 1999]

**MANAGEMENT FACTORS:** None specified.

**PROTECTIVE MEASURES TAKEN:** Listed as a Forest Service Sensitive species since 1999.

**SUGGESTED PROJECTS:** Additional data is needed on the distribution and status in Arizona, along with taxonomy and relationships of ssp. *leucanthus*. Older collections sites should be revisited to determine if the subspecies is still extant.

**LAND MANAGEMENT/OWNERSHIP:** BLM – Kingman, Arizona Strip and Phoenix Field Offices; USFS – Prescott and Tonto National Forests, and one private land holding.

**SOURCES OF FURTHER INFORMATION****REFERENCES:**

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**MAJOR KNOWLEDGEABLE INDIVIDUALS:**

**ADDITIONAL INFORMATION:** This species may have horticultural potential due to its splendid display of long racemes with large flowers.

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