

**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: Species *latifolius* is 1 of 156 in the genus *Lupinus*, while subspecies *leucanthus* is 1 of 6 in the species *L. latifolius*. 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).

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: Color photos of species (Lee Dittmann 1997, in http://www.mindbird.com/lupinus_latifolius_coe.htm).
Color photos of species (Lee Dittmann 1978 and 1979, in http://www.mindbird.com/lupinus_latifolius.htm)
Color photo of species (Flora Skelly 2000, in Washington Native Plant Society 2002, http://www.wnps.org/plants/lupinus_latifolius.html).
Color photo of species (<http://www.calflora.net/>)
B&W line drawing of species (Cronquist et al., 1989: p. 245)
Color photos of Isotypes (Jones 1894, in MBG at http://mobot.mobot.org/cgi-bin/search_vast)
Color photo of type fragment (NY-15933, in <http://207.156.243.8/emu/vh/specimen.php?irn=452287>)
Color photo of Isotype (NY-15932, in <http://207.156.243.8/emu/vh/specimen.php?irn=452286>)
Color photo of Holotype (US-326569, in <http://ravenel.si.edu/botany/types//fullRecords.cfm?myFamily=>)
Color photo of species (Delphino Cornali, in <http://www.hiddenvilla.org/Assets/Gallery/Wildflowers/Lupin.htm>)
Color photos of species (in CalPhotos at http://dlp.cs.berkeley.edu/cgi/img_query/)

TOTAL RANGE: From southwestern Utah (Zion National Park) 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, then the distribution would extend to the Pacific states down to northern Baja California.

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.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Perennial forb/herb.

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).

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

EXPOSURE:

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 swamppivet), *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. Locally common.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None

STATE STATUS: None

OTHER STATUS: Forest Service Sensitive (USDA, FS Region 3 1999)

MANAGEMENT FACTORS: This species may have horticultural potential due to their splendid display of long racemes of large flowers.

PROTECTIVE MEASURES TAKEN:

SUGGESTED PROJECTS: Additional data is needed on the distribution and status in Arizona, along with taxonomy and relationships of ssp. *leucanthus*.

LAND MANAGEMENT/OWNERSHIP: BLM – Kingman Field Office; USFS – Prescott National Forest.

SOURCES OF FURTHER INFORMATION

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MAJOR KNOWLEDGEABLE INDIVIDUALS:**ADDITIONAL INFORMATION:**

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