

**ARIZONA GAME AND FISH DEPARTMENT**  
**HERITAGE DATA MANAGEMENT SYSTEM**

**Plant Abstract**

**Element Code:** PDFAB2A020

**Data Sensitivity:** No

**CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE**

**NAME:** *Lotus alamosanus* (Rose) Gentry  
**COMMON NAME:** Alamos Deer Vetch, Sonoran Birdsfoot Trefoil  
**SYNONYMS:** *Hosackia alamosana* Rose  
**FAMILY:** Fabaceae (Leguminosae)

**AUTHOR, PLACE OF PUBLICATION:** Gentry, Howard Scott. 1942. Publ. Carnegie Inst. Wash. 527:135. (*Hosackia alamosana*: Rose. 1891. Contr. U.S. Natl. Herb. 1(4):96).

**TYPE LOCALITY:** Sierra de los Alamos, Mexico.

**TYPE SPECIMEN:** *Hosackia alamosana*: NYBG #15488. E. Palmer #400. 1890.

**TAXONOMIC UNIQUENESS:** The genus *Lotus* contains approximately 100 species (Barneby 1989), and is divided into five major groups. Thirteen species of *Lotus* were recognized by Lehr (1978) as occurring in Arizona. NatureServe (2019) lists 45 species in the U.S. and Canada, with an additional 39 varieties. Fourteen of these species occur in Arizona. *Lotus alamosanus* occurs in only in Arizona and Mexico, while *L. mearnsii* is endemic to the State.

**DESCRIPTION:** Perennial herb, procumbent, forming mats or clumps. Stems slender and numerous, somewhat sprawling, to a foot high. Leaves divided into 3-5 obovate (egg-shaped, widest at the tip) leaflets, these 6-8 mm long. The banner (upper petal) is white, fading to pink. Flowers yellow and red; corolla yellow and white. Pods small, 1-1.5 mm wide. Stems sometimes root at the nodes.

**AIDS TO IDENTIFICATION:** Similar to *Simpeteria*, except the stipules are reduced to glands in *Simpeteria*, whereas in *Lotus*, the stipules are membranous (Isely 1981). Differs from *Lotus oblongifolius*, in that *L. oblongifolius* has 7-11 leaflets, 1-3 cm long and pods about 2 mm wide (Kearney et al 1960). *Lotus alamosanus* differs from *Hosackia repens* and *Hosackia angustifolia* in that *H. repens* and *H. angustifolia* have fewer leaflets, the flowers and bracts are smaller in *H. angustifolia*, and the heads are fewer flowered and the calyx glabrous in *H. repens* (Rose 1891).

**ILLUSTRATIONS:**

Herbarium Mounts: <http://swbiodiversity.org/seinet/taxa/index.php?tid=1653>.

**TOTAL RANGE:** Southern Arizona, and Sonora, Chihuahua south to Durango and Sinaloa, Mexico. The southern extent is near Mazatlan. The Arizona occurrences are the northern-most extent of the range.

**RANGE WITHIN ARIZONA:** Extreme southern Santa Cruz County: Sycamore and Pena Blanca Canyons in the Pajarito Mountains, and one collection in the Patagonia Mountains.

### **SPECIES BIOLOGY AND POPULATION TRENDS**

**GROWTH FORM:** Herbaceous perennial.

**PHENOLOGY:** April and May. In Sonora February to June.

**BIOLOGY:** Semi-aquatic, forming carpets along streams of canyons or meadows, oak woodlands; said to be locally abundant (Isley, 1981).

**HABITAT:** Restricted to stream banks in canyons. Wetland obligate.

**ELEVATION:** 3,500 - 5,580 feet (1068 - 1700 meters), based on Arizona occurrence records.

**EXPOSURE:** Open and in partial shade.

**SUBSTRATE:** Mud, damp to wet soil or sand; in springs, seeps, or streams.

**PLANT COMMUNITY:** Oak woodland in Sycamore Canyon; Pine-oak forest in Sierra Madre Occidental in eastern Sonora.

In Arizona, species associated with *Lotus alamosanus* include *Mimulus guttatus*, *Salix gooddingii*, *Salix bonplandiana*, *Populus fremontii*, *Juncus*, *Polypogon monspeliensis*, *Eleocharis*, *Vitis arizonica*, *Toxicodendron radicans*, *Scutellaria potosina*, *Amsonia grandiflora*, *Juglans major*, *Fraxinus velutina*, *Asclepias angustifolia*, *Aquilegia chrysantha*, *Baccharis salicifolia*, *Veronica anagallis-aquatica*, *Quercus emoryi*, *Quercus arizonicus*, and *Platanus wrightii* (NatureServe 2019, from SEINet records).

**POPULATION TRENDS:** Unknown. There are only three known occurrences in Arizona, defining the northern-most extent of the species' range. *L. almosanus* is much more widely distributed in Mexico. One of the sites in Arizona, Sycamore Canyon, has been collected multiple times between 1938 and 2015. Some of the collections note the plant as common or even abundant. Although actual population estimates are not available, the species has persisted in the canyon for over 75 years. The other two sites are known from single collections in 1935 and 2014. NatureServe (2019) notes that about 10% of the total

collections report the species to be common or abundant, but trends cannot be ascertained due to lack of monitoring data.

## **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:** Overgrazing can be a threat. Extreme weather events (resulting in either severe flooding or droughts) can also be a threat (NatureServe 2019).

**PROTECTIVE MEASURES TAKEN:** None, other than the listing as a Sensitive species by the Forest Service.

**SUGGESTED PROJECTS:** The two sites (Pena Blanca Canyon and the Patagonia Mountains) that have only been collected once should be re-visited to determine if the plant is still extant. If possible other riparian canyons and springs sites in the general locality should also be searched. Additional occurrences could improve the ranking status of *L. alamosanus* in the United States. It would also be beneficial to devise some type of monitoring program for the species in Sycamore Canyon (perhaps something as simple as matched photo plots taken every five years). This would help define the trend of *L. alamosanus* within Arizona.

**LAND MANAGEMENT/OWNERSHIP:** USDA Forest Service - Coronado National Forest.

## **SOURCES OF FURTHER INFORMATION**

### **LITERATURE CITATIONS:**

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- USDA, Forest Service Region 3. 1999. Regional Forester's Sensitive Species List.
- USDA, Forest Service Region 3. 2013. Regional Forester's Sensitive Species List.

#### MAJOR KNOWLEDGEABLE INDIVIDUALS:

#### ADDITIONAL INFORMATION:

Isely (1981) presumes that "*Lotus alamosanus* is related to the Mexican *L. chihuahuanus* (Wats.) Greene".

If *Lotus* subgenus *Hosackia* is recognized as a separate genus, the name *Hosackia alamosana* Rose is applied to the plants here called *Lotus alamosanus* (Rose) Gentry (Brouillet 2008).

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