

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

Plant Abstract

Element Code: PDFAB2C040

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Lysiloma watsonii* Rose

COMMON NAME: Littleleaf false tamarind, lysiloma, desert fern

SYNONYMS: *Lysiloma microphylla* Benth. var. *thornberi* (Britt. & Rose) Isely, *L. microphyllum* Benth. var. *thornberi* (Britton & Rose) Isely, *L. thornberi* Britt. & Rose, *L. watsonii* Rose subsp. *thornberi* (Britton & Rose) Felger & Lowe, *L. acapulcense* (Kunth) Benth. var. *brevispicata* Rose, *L. brevispicata* (Rose) Britton & Rose

FAMILY: Fabaceae

AUTHOR, PLACE OF PUBLICATION: *Lysiloma watsonii* Rose, Contr. U.S. Natl. Herb. 1(4): 99. 1891.

TYPE LOCALITY: Alamos, Sonora, Mexico

TYPE SPECIMEN: HT: US-498898. E. Palmer 664, 16 Sep 1890 to 30 Sep 1890.

TAXONOMIC UNIQUENESS: The species *watsonii* is 1 of 3 in the genus *Lysiloma*, and the only species of this genus that occurs in Arizona.

DESCRIPTION: Evergreen to semi evergreen, spreading, unarmed shrub or small tree that grows up to 15(-20) ft (4.6[-6] m) tall, with a wide-spreading crown; trunks are up to 5 in (13 cm) in diameter; will produce root and trunk suckers profusely at its base. Benson and Darrow (1981), reports heights of 1-3 meters in Arizona. The wood is hard, and the bark is reddish brown to gray, fissured, developing scaly, loose patches. The thornless, slender twigs are reddish brown, speckled with lighter lenticels, and zig zag. Leaves are bright green, bipinnately compound, alternate, up to 7 x 4 in (18 x 10.2 cm); leaves turn golden yellow and fall off in spring when new growth emerges. Primary leaflets in 4-9 pairs, secondary leaflets in 20-35 pairs. Leaflets are oval, 4-5 x 1.5-2 mm, with only a few appressed marginal hairs. Green stipules are asymmetrically ovate-lanceolate, 5 x 2 mm, falling away when the leaf is mature. Flowers are creamy to white, and tipped with green, in a dense ball to 0.5 inches in diameter; stamens about 25-30, the filaments white, about 8 mm long, the anthers yellow-green. The fruit is a 4-8 x 0.5-1 in (10-20 x 1.3-2.5 cm) flat legume, that is dark reddish brown to nearly black, with flattened seeds inside.

AIDS TO IDENTIFICATION:

ILLUSTRATIONS: Color photos (<http://www.plantadviser.com/plants/lysithor.shtml>)
Color photo (Hoticopia, Inc., 2001: <http://www.hortpix.com/pc2644.htm>)
Color photos (Philippe Faucon, 1998-2000: <http://www.desert-tropicals.com>)
Color photo (L.E. Epple in A.O. Epple, 1995: plate 86)
B&W line drawing (Benson and Darrow, 1945: plate XLV)
Color photo of Type specimen (US-498898, in <http://ravenel.si.edu/botany/types/fullRecords.cfm?myFamily=>)
Color photos (Virginia Tech Forestry Dept. 2005-2006, in <http://www.cnr.vt.edu/dendro/dendrology/syllabus2/factsheet.cfm?ID=887>)
Color photos (in <http://www.friendsofsaguaro.org/feathertree.html>)
Color photo (in <http://www.azarboretum.org/plantlist/desertfern.htm>)
Color photos of specimens (ASU-216804 and ASU-227478, in <http://seinet.asu.edu/collections/TaxaDetails.jsp?>)

TOTAL RANGE: Pima County in southern Arizona, and Chihuahua, Sonora, and northern Sinaloa, Mexico. Reported in cultivation in California.

RANGE WITHIN ARIZONA: A very localized species in Arizona, in the Rincon Mountains of Pima County.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Evergreen – semi evergreen (drought and cold deciduous) shrub or tree, with a moderate to fast growth rate. Cultivated as an ornamental.

PHENOLOGY: Flowers in spring from May-June (April-July). Per Isely (1973 in Mazonni et al., 1982), “flowers and sets seed from May through June.” Legumes ripen in the fall.

BIOLOGY: This species is tolerant of cold. It may lose its leaves in extreme cold snaps, but will recover in warm weather.

HABITAT: Rocky hillsides and slopes of creeks and tributaries in the upper Arizona Desert and the Desert Grassland. They prefer moist soil, and partial shade or partial sun to full sun. In Mexico, collected on a rhyolite mountain with desert-subtropical scrub ecotone (SEINet accessed 2005).

ELEVATION: Grows between 2,800 and 4,750 ft (854-1449 m) in Arizona. In Sonora Mexico, collected at 300 and 600 m (984 and 1,967 ft) (SEINet accessed 2005).

EXPOSURE: Generally west to sw aspects on 30-40% slopes, in partial shade to full sun.

SUBSTRATE: Granitic slopes. Sandy to humus soil textures

PLANT COMMUNITY: Arizona Upland Subdivision of the Sonoran Desertscrub, and Semidesert Grassland (Brown and Lowe 1980, in Mazzoni et al., 1982). Vegetation is of the Creosote-bursage shrub (*Larrea-Franseria*) and grama-tobosa shrubsteppe (*Bouteloua-Hilaria-Larrea*). Associated species include: *Acacia*, *Agave schottii* (Schott agave), *Baccharis* (false-willow), *Calliandra eriophylla* (fairy duster), *Carnegiea gigantea* (Saguaro cactus), *Celtis pallida* (spiny hackberry), *Dasyllirion wheeleri* (spoonflower), *Ferocactus wislizenii* (fishhook barrel cactus), *Fouquieria splendens* (ocotillo), *Juniperus* (juniper), *Opuntia laevis* (= *O. phaeacantha* var. *laevis*, smooth pricklypear cactus), *O. versicolor* (stag-horn cholla), *Parkinsonia microphylla* (little-leaf paloverde), *Prosopis* (mesquite), *P. velutina* (velvet mesquite), *Quercus* (oak), and *Vauquelinia californica* (Torrey's vauquelinia). (Mazzoni et al., 1982; SEINet accessed 2005).

POPULATION HISTORY AND TRENDS: In 1980, populations were healthy with hundreds of individuals and good reproduction. Rare in Arizona according to NatureServe (2005).

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None (USDI, FWS 1990)
[3C USDI, FWS 1985]
[3C USDI, FWS 1983]
[C1 USDI, FWS 1980]

STATE STATUS: Salvage Restricted (ARS, ANPL 1999)

OTHER STATUS: None

MANAGEMENT FACTORS: Fire may be a threat to the populations, because plants grow in heavily vegetated areas.

PROTECTIVE MEASURES TAKEN: Populations are protected in the Saguaro National Park, and by its occurrence on very steep slopes in the Coronado National Forest.

SUGGESTED PROJECTS:

LAND MANAGEMENT/OWNERSHIP: NPS – Saguaro National Park; USFS – Coronado National Forest.

SOURCES OF FURTHER INFORMATION

REFERENCES:

Arizona Revised Statutes. 1999. Arizona Native Plant Law, Appendix A.

- Benson, L. and R.A. Darrow. 1945. A manual of southwestern desert trees and shrubs. University of Arizona Bulletin, Biological Science Bulletin No. 6, Vol. XV, No. 2. University of Arizona, Tucson, Arizona. Pp. 1154-156.
- Benson, L. and R.A. Darrow. 1981. Trees and shrubs of the southwestern deserts. Third Edition, Revised and Expanded. The University of Arizona Press. Tucson, Arizona. Pp. 229-230.
- Epple, A.O. 1995. A field guide to the Plants of Arizona. Falcon. Helena, Montana. Pp. 115-116.
- Harvard University Herbaria, Index of Botanical Specimens. 2001. <http://cms.huh.harvard.edu/>. Accessed: 10/30/2002.
- Harvard University Herbaria. Index of Botanical Specimens. <http://brimsa.huh.harvard.edu/>. (Accessed: 5/17/2005).
- http://www.desert-tropicals.com/Plants/Fabaceae/Lysiloma_thornberi.html.
- <http://www.friendsofsaguaro.org/feathertree.html>.
- <http://www.ildis.org/LegumeWeb/6.00/taxa/10153.shtml>.
- <http://www.public.as.edu/~camartin/plants/Plant%20html%20files/lysilomawatsonii.html>.
- Integrated Taxonomic Information System (ITIS). ITIS Standard Report. Retrieved 10/30/2002, fm ITIS (<http://www.itis.usda.gov>).
- Integrated Taxonomic Information System (ITIS). Retrieved 5/17/2005 from ITIS, <http://www.itis.usda.gov>.
- Isely, D. 1970. Legumes of the United States V. *Albizia*, *Lysiloma*, *Leucaena*, *Adenathera*; and Rejected Genera of Mimosoideae. Reprinted from *Castanea* 35: 244-260.
- Isely, D. 1973. Leguminosae of the United States: I. Subfamily Mimosoideae. *Memoirs of The New York Botanical Garden*, 25(1): 1-152.
- Kartesz, J.T. 1994. A synonymized checklist of the vascular flora of the U.S., Canada, and Greenland. 2nd edition. 2 vols. Timber Press. Portland, Oregon.
- Kartesz, J.T. 1996. Species distribution data at state and province level for vascular plant taxa of the United States, Canada, and Greenland (accepted records), from unpublished data files at the North Carolina Botanical Garden, December, 1996.
- Kearney, T.H., R.H. Peebles, and collaborators. 1951. *Arizona Flora*. University of California Press, Berkeley, California. P. 397.
- Little, Jr., E.L. 1950. *Southwestern Trees, A Guide to the Native Species of New Mexico and Arizona*. Forest Service, U.S. Department of Agriculture, Agriculture Handbook No. 9. U.S. Government Printing Office, Washington, D.C.
- Martin, P.S., D. Yetman, M. Fishbein, P. Jenkins, T.R. Van Devender, and R.K. Wilson. 1993. *Gentry's Rio Mayo Plants, the tropical deciduous forest & environs of northwest Mexico*. The Southwest Center Series, The University of Arizona Press. Tucson, Arizona. Pp. 331-332.
- Mazzoni, J., L.T. Green, III, B.G. Phillips, and N. Brian. 1982. Status Report, *Lysiloma microphylla* var. *thornberi*. Museum of Northern Arizona, submitted to the Office of Endangered Species, Fish and Wildlife Service, U.S. Department of the Interior, Albuquerque, New Mexico. 11 pp.
- Missouri Botanical Garden – TROPICOS, Nomenclatural Data Base. *Lysiloma microphyllum* var. *thornberi* (Britton & Rose) Isely. <http://mobot.mobot.org/>. Accessed: 10/30/2002.

- Missouri Botanical Garden - TROPICOS, Nomenclatural Data Base. *Lysiloma watsonii* Rose. http://mobot.mobot.org/cgi-bin/search_vast. (Accessed: 17 May 2005).
- NatureServe Explorer: An online encyclopedia of life [web application]. 2001. Version 1.6. Arlington, Virginia, USA: NatureServe. Available: <http://www.natureserve.org/explorer>. (Accessed: October 30, 2002).
- NatureServe. 2005. NatureServe Explorer: An online encyclopedia of life [web application]. Version 4.2. NatureServe, Arlington, Virginia. Available: <http://www.natureserve.org/explorer>. (Accessed: May 17, 2005).
- Sacamano, C.M. and W.D. Jones. 1975. Native Trees and Shrubs for Landscape Use in the Desert Southwest. College of Agriculture, Cooperative Extension Service, The University of Arizona, Tucson, Arizona 85721. Bulletin A 82. 40pp.
- SEINet. Collections Search Result. Accessed 5/17/2005 at <http://seinet.asu.edu/collections/list.jsp>.
- Shreve, F. and I.L. Wiggins. 1964. Vegetation and Flora of the Sonoran Desert. Volume One. Stanford University Press. Stanford, California. 840pp.
- The New York Botanical Garden. NYBG Specimens Detailed Results. <http://scisun.nybg.org:8890/>. Accessed: 10/30/2002.
- The New York Botanical Garden. NYBG Specimens Detailed Results. <http://207.156.243.8/emu/vh/specimen.php?irn=103106>. (Accessed: 11/1/2005).
- U.S. National Herbarium Type Specimen Register (US). <http://rathbun.si.edu/botany/types/>. Accessed: 10/30/2002.
- U.S. National Herbarium Type Specimen Register (US). <http://ravenel.si.edu/>. (Accessed: 11/1/2005).
- USDA, NRCS. 2002. The PLANTS Database, Version 3.5 (<http://plants.usda.gov>). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.
- USDA, NRCS. 2004. The PLANTS Database, Version 3.5 (<http://plants.usda.gov>). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.
- USDI, Fish and Wildlife Service. 1980. Endangered and Threatened Wildlife and Plants; Review of Plant Taxa for Listing as Endangered or Threatened Species; Notice of Review. Federal Register 45(242):82521.
- USDI, Fish and Wildlife Service. 1983. Endangered and Threatened Wildlife and Plants; Supplement to Review of Plant Taxa for Listing as Endangered or Threatened Species; Notice of Review; Proposed Rule. Federal Register 48(229):53667.
- USDI, Fish and Wildlife Service. 1985. Endangered and Threatened Wildlife and Plants; Review of Plant Taxa for Listing as Endangered or Threatened Species; Notice of Review. Federal Register 50(188):35.
- USDI, Fish and Wildlife Service. 1990. Endangered and Threatened Wildlife and Plants; Review of Plant Taxa for Listing as Endangered or Threatened Species; Notice of Review. Federal Register 55(35):6184-6229.
- Virginia Tech Forestry Department. 2005-2006. *Lysiloma watsonii* Fact Sheet. Accessed 5/17/2005. <http://www.cnr.vt.edu/dendro/dendrology/syllabus2/factsheet.cfm?ID=887>.

MAJOR KNOWLEDGEABLE INDIVIDUALS:

ADDITIONAL INFORMATION:

A good informal background shrub, and patio tree. It is used in transitional garden-desert planting.

In Mexico, the rich reddish brown and dense wood, is used in woodwork and in making sugarcane juice. “The bark is chewed for hardening the gums and for general ailments of the teeth. A strong, bitter decoction is also made by boiling the bark in water, and is used as a mouth rinse. The bark is brewed for stomach problems. It is believed to have power to help woman conceive.” (Martin et al., 1998).

Revised: 2002-11-14 (SMS)
2005-05-26 (SMS)

To the user of this abstract: you may use the entire abstract or any part of it. We do request, however, that if you make use of this abstract in plans, reports, publications, etc. that you credit the Arizona Game and Fish Department. Please use the following citation:

Arizona Game and Fish Department. 20XX (= **year of last revision as indicated at end of abstract**). X...X (= **taxon of animal or plant**). Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ. X pp.