

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

Plant Abstract

Element Code: PDFAB020D0

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Acacia farnesiana* (L.) Willd.

COMMON NAME: Sweet acacia, desert sweet acacia, dwarf sweet acacia, huisache, Texas huisache, aroma, Ellington curse, kandaroma, klu, Klu bush, popinac

SYNONYMS: *Mimosa farnesiana* L., *Acacia minuta* (M.E. Jones) Beauchamp, *A. m.* ssp. *densiflora* (Alexander ex Small) Beauchamp, *A. smallii* D. Isely, *Pithecellobium minutum* M.E. Jones, *Vachellia densiflora* Alexander ex Small, *V. farnesiana* (L.) Wight & Arn.

FAMILY: Fabaceae (=Leguminosae)

AUTHOR, PLACE OF PUBLICATION: *Acacia farnesiana* (L.) Willd., Species Plantarum. Editio Quarta 4(2): 1083-1084. 1806. *Mimosa farnesiana* L., Species Plantarum 1: 521. 1753.

TYPE LOCALITY: *Mimosa farnesiana*: "Habitat in Domingo."

TYPE SPECIMEN: *M. farnesiana* LT: Aldinus, Exact. Descr. Rar. Pl. Rom. T. (1625), LT designated by Ross, Bothalia 11: 471-472 (1975).

TAXONOMIC UNIQUENESS: Species *farnesiana* is 1 of 60 in the genus *Acacia* (USDA, NRCS 2004), although some taxonomists put the number of species worldwide at 1000. Some taxonomists refer *A. smallii* for those plants occurring from California to westernmost Florida, and *A. farnesiana* for plants occurring in southern Florida and the Caribbean region. Others consider this entire range as *A. farnesiana*. (Benson and Darrow 1981). Isley (1969) interpreted the species *A. farnesiana* to be mostly in cultivation, while plants in Texas and through the west is the more xeric *A. smallii* Isely. Epple (1995) reports six species of *Acacia* (ah-Kay-shah) in Arizona.

DESCRIPTION: Small, wide-spreading tree or large shrub having delicate lace-like foliage and spiny twigs, up to 15–20 ft (4.6-6.0 m) tall. Hickson (1993) reports plants as shrubs <3 m tall, while Faucon (1998-2003) reports plants up to 30 ft (9 m) tall and up to 15 ft (4.5 m) spread. The bark is initially smooth and olive green, turning brown to gray-brown and becoming furrowed and scaly. The branches have white, paired, inch-long thorns at the base of each leaf. Bright green leaves are small and feathery, about 2 inches (5 cm) long, and bi-pinnately compound or twice divided into 8-16 pairs of very tiny oval leaflets, alternate and clustered from spurs with peduncles. Petiole usually exceeding 5 mm, bearing a small circular gland which is often depressed in channel and below the first pair of leaflets; pinnae 2-5(6) pairs. Leaflets are divided into 10-20 pairs of sub-leaflets, asymmetric-oblong. The flower is monoecious; many small, fragrant, yellow to orange, in a tight cluster (balls), 1-1.3 cm in diameter (primarily composed of stamens), on a 2 to 3 inch long stalk. Fruit are bean-like pods,

rounded in cross section, 2-3 inches long, dark brown to nearly black, with flattened seeds inside.

AIDS TO IDENTIFICATION: Sweet acacia closely resembles those of whitethorn acacia (*Acacia constricta*) in leaf, twig, and flower characteristics. Plants are much larger than *A. constricta*, a large shrub or small tree; and the pods are nearly cylindroid, woody, 2-2.5 inches long, about 0.25 to 0.375 inch in diameter (Benson and Darrow 1981). It is quite similar to twisted acacia (*A. schaffneri*), but can be distinguished by the position of the glands on the leaf stem. Sweet acacia has glands that are below the first pair of leaflets while twisted acacia has glands above the first pair of leaflets. (Texas A&M University System 2000). In addition, twisted acacia is deciduous, has lighter yellow catkin flowers, and has closely set leaves that make the branches look like bottle brushes (MSWN 2002).

ILLUSTRATIONS: Line drawing (Vines 1960: p. 497)
Line drawings (Gilman and Watson 1993: fig. 1, 3)
Photo of entire tree (Sacamano and Jones 19(82): p.10).
Color photo (Larry Allain, in USGS NWRC at http://plants.usda.gov/cgi_bin/plant_search.cgi)
Color photo (in http://www.azarboretum.org/plantlist/acac_frn.htm)
Color photo of specimen (ASU 188122, in <http://seinet.asu.edu/collections/TaxaDetails.jsp>)
Color photos (Virginia Tech Forestry Dept. 2005-2006, <http://www.cnr.vt.edu/dendro/dendrology/Syllabus2/factsheet.cfm?ID=615>)
Color photo (Arizona State University, http://www.fm.asu.edu/acac_sml.htm)
Color photo (Toni Moore 2001-2002, in http://ag.arizona.edu/pima/gardening/aridplants/Acacia_smallii.html)
Color photo of branch and blooms (Epple 1995: Pl. 85)
Color drawing (Petrides and Petrides 1992: Pl. 19)
Color photo of branch and leaves (Faucon 1998-2003, in http://www.desert-tropicals.com/Plants/Fabaceae/Acacia_smallii.html)
Color photo (Texas A&M University System 2000, <http://uvalde.tamu.edu/herbarium.acsm.htm>)
Color photos of tree and parts (J.R. Manhart, in <http://botany.cs.tamu.edu/FLORA/>)

TOTAL RANGE: Widely distributed in tropical America and spread by cultivation and naturalization. In Puerto Rico, found in thickets and forests, in the dry coastal and dry limestone regions. In mainland U.S., the range given is, California east through Arizona, New Mexico, Texas, along the south coast states to Florida; also found in Chihuahua and Sonora, Mexico. Introduced into the Old World tropics.

RANGE WITHIN ARIZONA: Pima County: Baboquivari and Saucedo mountains, and Tucson Mountain Park; Santa Cruz County: Atascosa Mountains.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Semi-deciduous (may retain leaves in warm winters) perennial tree or shrub.

PHENOLOGY: Flowers from April - November (Kearney & Peebles 1951); (January) March - May (Isely 1973); November - May (Epple 1995); late January through March [occasionally earlier] (Martin et al. 1998). Flowering varies slightly year to year depending on winter cold. Propagation by seed (self sows), and cuttings of half-ripe wood with a heel.

BIOLOGY: A fragrant, fast growing species that does well in full sun, is drought resistant (little water needed when established), and is hardy in moist soils. Very few pests or diseases plague these trees. Only occasional problems with acacia beetles and inchworms may be encountered in certain areas of the southwest, but these normally do not present a major problem. Generally frost sensitive below temperatures of 20° F; hardy to 10° F (Faucon 1998-2005). In cultivation, it can be used as bank cover, small patio tree or large shrub. In southern Europe, it is cultivated for the flower oil, which is used in perfumes. In Mexico, ““The masses of yellow ‘buttons’ emit a strong, far-carrying aromatic odor and are reported to be used in making a dye. The Guarijíos pulverize and mix the flowers with grease, which they rub on bruises, and on heads to relieve headaches.” The sugary seedpods are attractive to livestock. The root is chewed as an antivenin for scorpion stings.” (Martin et al. 1998).

HABITAT: Lower slopes in canyons with *Prosopis*, and *Acacia* spp. Also found along arroyos, and on plains and hillsides. According to Benson and Darrow (1981), their habitat includes hillsides and canyons of the Desert Grassland and other grasslands and the lower Southwestern Oak Woodland at 3,500 to 5,000 feet elevation. Martin et al. (1998), reports sandy beaches, arroyo margins, disturbed areas, to 1800 m.

ELEVATION: 2,500 - 5,000 feet (763-1525 m). Based on collections in SEINet (accessed 2005), elevation in Arizona ranges between 2,390 – 4,500 ft (729-1373 m).

EXPOSURE: Full Sun

SUBSTRATE: Tolerant of alkalinity. Easy to grow in acid or alkaline soil, including clay (Gilman and Watson, 1993).

PLANT COMMUNITY: Canyon riparian communities of the Desert Grassland. Additionally, other grasslands and the lower Southwestern Oak Woodland.

POPULATION TRENDS: Unknown.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None

STATE STATUS: None

OTHER STATUS:

Forest Service Sensitive (USDA, FS Region
3 1999)

MANAGEMENT FACTORS:**CONSERVATION MEASURES TAKEN:****SUGGESTED PROJECTS:**

LAND MANAGEMENT/OWNERSHIP: BIA – Tohono O’odham Nation; USFS – Coronado National Forest; State Land Department.

SOURCES OF FURTHER INFORMATION**REFERENCES:**

- Arizona National Heritage Program. 1982. *Acacia smallii*. USFS contract report.
- Arizona State University, Facilities Management. 2000. *Acacia smallii* (*Acacia minuta*).
http://www.fm.asu.edu/acac_sml.htm.
- Benson, L. and R.A. Darrow. 1944. A manual of southwestern desert trees and shrubs. University of Arizona Bulletin, Biological Science Bulletin No. 6. University of Arizona Press. Tucson, Arizona. Pp. 154-155.
- 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. 228-229.
- Correll, D.S. and M.C. Johnston, and collaborators. 1970. Manual of the vascular plants of Texas. Texas Research Foundation. Renner, Texas. P. 772.
- Elias, T.S. 1980. Trees of North America, field guide and natural history. Van Nostrand Reinhold Company. New York. Pp. 624-629.
- Eppler, A.O. 1995. A field guide to the plants of Arizona. Falcon. Helena, Montana. P. 104.
- Faucon, P. 1998-2005. Sweet Acacia (*Acacia farnesiana*). http://www.desert-tropicals.com/Plants/Fabaceae/Acacia_smallii.html. Accessed: 7 Nov 2005.
- Gilman, E.F., and D.G. Watson. Nov 1993. *Acacia farnesiana*, Sweet Acacia. Forest Service, Department of Agriculture, Fact Sheet ST-5.
- Hastings, J.R., R.M. Turner, and D.K. Warren. 1972. An atlas of some plant distributions in the Sonoran Desert. The University of Arizona Institute of Atmospheric Physics. Tucson, Arizona. P. 8.
- Hickman, J.C., ed. 1993. The Jepson Manual, higher plants of California. University of California Press. Berkeley, California. P. 582.
[Http://museum.utep.edu/chih/gardens/plants/acaciafarn.htm](http://museum.utep.edu/chih/gardens/plants/acaciafarn.htm).
[Http://www.azarboretum.org/plantlist/acac_frn.htm](http://www.azarboretum.org/plantlist/acac_frn.htm).
[Http://www.calflora.net/bloomingplants/sweetacacia.html](http://www.calflora.net/bloomingplants/sweetacacia.html).
[Http://www.ibiblio.org/pfaf/cgi_bin/arr_html?Acacia+farnesiana&PRINT](http://www.ibiblio.org/pfaf/cgi_bin/arr_html?Acacia+farnesiana&PRINT).
[Http://www.issg.org/database/species/ecology.asp?si=49&fr=1&sts=](http://www.issg.org/database/species/ecology.asp?si=49&fr=1&sts=).
- Isely, D. 1973. Leguminosae of the United States: I. Subfamily Mimosoideae. Memoirs of the New York Botanical Garden 25(1):1-152.

- Integrated Taxonomic Information System (ITIS). Retrieved 11/7/2005 from ITIS, <http://www.itis.usda.gov>.
- Kearney, T.H., R.H. Peebles, with collaborators. 1951. Arizona flora. Second edition with supplement by J.T. Howell, E. McClintock and collaborators. 1960. University of California Press. Berkeley, California. p. 399.
- Lehr, J.H. 1978. A catalogue of the flora of Arizona. Desert Botanical Garden. Phoenix, Arizona. P. 71.
- Martin, P.S. et al. Eds. 1998. Gentry's Rio Maya Plants, the tropical deciduous forest & environs of Northwest Mexico. Revised. The Southwest Center Series, The University of Arizona Press. Tucson, Arizona. P. 328.
- Missouri Botanical Garden – TROPICOS, Nomenclatural Data Base. *Acacia farnesiana* (L.) Willd. http://mobot.mobot.org/cgi-bin/search_vast. Accessed: 7 Nov 2005.
- Mountain States Wholesale Nursery (MSWN). 2002. *Acacia farnesiana* – Sweet Acacia. <http://www.mswn.com/IS-Acacia%20farnesiana-1.htm>. Accessed: 4/23/2003.
- Munz, P.A. 1974. A flora of southern California. University of California Press. Berkeley, California. P. 421.
- NatureServe. 2005. NatureServe Explorer: An online encyclopedia of life [web application]. Version 4.6. NatureServe, Arlington, Virginia. Available: <http://www.natureserve.org/explorer>. (Accessed: November 7, 2005).
- Sacamano, C.M. and W.D. Jones. 19(82?). Native trees and shrubs for landscape use in the desert southwest. College of Agriculture, The University of Arizona. Tucson, Arizona. P. 10.
- SEINet. Collections Search Result. Accessed 11/7/2005 <http://seinet.asu.edu/collections/list.jsp>.
- Shreve, F. and I.L. Wiggins. 1964. Vegetation and flora of the Sonoran Desert. Volume Two. Stanford University Press. Stanford, California. P. 599.
- Texas A&M University System. 2000. Research & Extension Center Virtual Herbarium – Sweet acacia (*Acacia smallii*). <http://uvalde.tamu.edu/herbarium/acsm.htm>. Accessed: 4/23/2003.
- UNLV Facilities Management and Planning. 2003. Landscape, Grounds, and Arboretum: Sweet acacia – *Acacia smallii*. Accessed 4/23/2003. http://www.unlv.edu/facilities/landscape/archive/sweet_acacia.html.
- USDA, Forest Service Region 3. 1999. Regional Forester's Sensitive Species List.
- 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.
- Vines, R.A. 1960 (eighth print 1994). Trees, shrubs and woody vines of the southwest. University of Texas Press. Austin, Texas. Pp. 496-497.
- Virginia Tech Forestry Department. 2005-2006. *Acacia farnesiana* Fact Sheet. Accessed: 11/7/2005 at <http://www.cnr.vt.edu/dendro/dendrology/Syllabus2/factsheet.cfm?ID=615>.

MAJOR KNOWLEDGEABLE INDIVIDUALS:

- D. Isely - Department of Botany, University of Iowa, Ames.
- C.T. Mason - University of Arizona, Tucson.
- J. Kaiser - USDA. Nogales, Arizona.
- L.J. Toolin - University of Arizona, Tucson.

ADDITIONAL INFORMATION:

R.M. Turner: Widely introduced; common ornamental shrub.

Isely: *A. smallii* was described on the specimens of *A. farnesiana* from Texas, Arizona and New Mexico. *A. farnesiana* restricted to Florida and the West Indies.

Mason: plant cultivated by perfume industry for many years. Old record in Arizona Flora for near Tucson probably represents an introduced plant.

“Acacias have many economic uses besides horticultural ones. They are the source of valuable dyes, gums, and tannins. Their wood goes into everything from fine furniture to fence posts to tobacco pipes. The shrubs and trees are important in erosion control. Besides, acacias provide food and shelter for many species of wildlife. Deer, horses, and cattle eat the bark, leaves, and fruits.” (Elias 1980).

Native Americans dried and powdered acacia leaves to use on diaper rash and saddle sores (http://www.azarboretum.org/plantlist/acac_frn.htm).

The genus name, *Acacia*, refers to the hard sharp spinescent stipules of some species. The species name *farnesiana*, honors Cardinal Odoardo Farnese (1573-1626) of Rome. This species was the first introduced to his gardens in 1611. In France, it is cultivated under the name Cassie. (Vines 1960, eighth print 1994).

Revised: 1992-12-04 (DBI)
1992-12-07 (DBI)
1992-12-10 (DBI)
2003-05-01 (SMS)
2006-03-23 (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.