

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

Plant Abstract

Element Code: PDAST6T012

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Palafoxia arida* var. *gigantea*

COMMON NAME: Giant Spanishneedle, giant Spanish needle, desert palafox

SYNONYMS: *Palafoxia linearis* var. *gigantea* M.E. Jones

FAMILY: Asteraceae

AUTHOR, PLACE OF PUBLICATION: (M.E. Jones) B.L. Turner & Morris, Madroño 23(2): 80. 1975.

TYPE LOCALITY: Algodones Dunes (Imperial Sand Hills) of southeast Imperial County, California, United States of America.

TYPE SPECIMEN: HT: POM. M.E. Jones 28599, 24 Sep 1931. IT: MO, UC.

TAXONOMIC UNIQUENESS: Variety *gigantea* is 1 of 2 varieties in *Palafoxia arida*, while species *arida* is 1 of 10 in the genus *Palafoxia*.

DESCRIPTION: An herbaceous annual (or short-lived perennial) from a taproot, with glabrous stems that are generally 9-20 dm (3.0-6.6 ft.) tall; the axis and branches are generally 5-10 mm in diameter, glabrous. Grayish green, lanceolate, three-nerved leaves are 6-12 cm (2-5 in) long, alternate and entire. Inflorescence consists of 10-20 heads, 2.8-3.5 cm long; involucre is obconic, 1-2 cm in diameter; phyllaries 1.6-2.5 cm long. Flowering heads consist of 18-40 whitish flowers; corollas are 1.0-1.3 (2.0) cm, radial. Achenes are 1.2-1.6 (2.0) long, with a pappus of 4 long and 4 short palea.

AIDS TO IDENTIFICATION: *Palafoxia arida* var. *gigantea* differs from *P.a.* var. *arida* in its larger size, both vegetatively, and in flowers and achenes. Flower heads are often arranged in more crowded clusters at the tops of stems rather than the more open arrangement seen in var. *arida*. The foliage also tends to be more crowded and with wider leaf blades, commonly more than 1 cm wide. (Warren 1987).

ILLUSTRATIONS: Line drawing of species (Jeager, 1969: Pl. 704, P. 292)

Line drawing (Munz 1974: Fig. 299)

Line drawing of species (B. Wignall, in J.E. Bowers, 1999)

Color photo of species (L.E. Epple, in A.O. Epple 1995: Pl. 647)

Line drawing (Hickman, 1993: P. 325)

TOTAL RANGE: In the United States, this plant is found in active dunes in Imperial County, California. It is also from the Gran Desierto of northwestern Sonora, Mexico. Possibly from southwestern Arizona; See "Range within Arizona" below.

RANGE WITHIN ARIZONA: Possibly in Parker area, La Paz County. Hickman (1993), reports southwestern Arizona as included in its range.

According to Warren (1987), "Specimens clearly attributable to this variety have not been collected in Arizona. However, there appears to be some gradation between this and var. *arida* (Felger 1980), and an intermediate specimen has been collected in Parker. Kearney and Peebles indicate that *P. arida* var. *arida* is migrating east into Arizona, and if this is the case, it seems probable that var. *gigantea* may also be capable of relatively rapid range extension."

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Annual (or short lived Perennial ?) Herb

PHENOLOGY: Flowers from early May through mid-May, following winter rains.

BIOLOGY: The giant Spanish needle appears to tolerate partial burial by sand fairly well. It is a vigorous and robust plant that is able to grow rapidly to keep ahead of accumulating sand. (Phillips, Kennedy and Cross, 2001).

HABITAT: Desert sand dunes, both actively moving and stable. It prefers the floor of basins just beyond the slipface.

ELEVATION: Less than 100 m (328 ft).

EXPOSURE:

SUBSTRATE: Sand

PLANT COMMUNITY: Sonoran Desert. Frequently occurs with milkvetch and croton. Besides *P.a.* var. *gigantea*, dominant plants in the central, active portion of the Algodones dune field includes: *Helianthus niveus* ssp. *tephrodes* (Dune sunflower), *Eriogonum deserticola* (Desert buckwheat), *Panicum urvilleanum* (D'Urville's panic grass), *Croton wigginsii* (Wiggins' croton), and *Astragalus magdalenae* var. *peirsonii* (Peirson's milkvetch). (Phillips, Kennedy and Cross, 2001). Other plants that may be associated with *P.a.* var. *gigantea* on the Algodones Dune field include: *Asclepias subulata* (Reed-stem milkweed), *Astragalus lentiginosus* var. *borreganus* (Borrego milkvetch), *Dicoria canescens* (Desert dicoria), *Ephedra trifurca* (Long-leaves joint-fir), *Hilaria rigida* (Big galleta), *Petalonyx*

thurberi (Sandpaper plant), *Pholisma sonora* (Sand food), and *Tiquilia plicata* (Pleated crinklemat).

POPULATION TRENDS: During the spring 2001 survey, 47 sites were found in the Algodones Dunes with a total count of 4,191 individuals. Most occurrences were south of the large enclosure and south of I-8. (Phillips, Kennedy and Cross, 2001).

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None (USDI, FWS 1996)
 [Category 2 (USDI, FWS 1993)]
 [Category 3C (USDI, FWS 1990)]
 [Category 2 (USDI, FWS 1983)]

STATE STATUS: None

OTHER STATUS: None (USDA, FS Region 3 1999)
 [Sensitive (USDA, FS Region 3 1990)]

MANAGEMENT FACTORS:

PROTECTIVE MEASURES TAKEN:

SUGGESTED PROJECTS: Extensive surveys are needed on sand dunes and sandy areas, in southwestern Arizona, to determine if this variety has migrated into the state.

LAND MANAGEMENT/OWNERSHIP:

SOURCES OF FURTHER INFORMATION

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MAJOR KNOWLEDGEABLE INDIVIDUALS:**ADDITIONAL INFORMATION:**

Spanish needles gets its name from the one-seeded fruits, or achenes, which are half-inch-long, four-angled "needles" (Bowers, 1999).

Revised: 1995-06-13 (DBI)
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