

ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Plant Abstract

Element Code: PMLIL22010

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Triteliopsis palmeri*

COMMON NAME: Blue Sand Lily

SYNONYMS: *Brodiaea palmeri* S. Wats., *Triteleia palmeri* Greene

FAMILY: Liliaceae

AUTHOR, PLACE OF PUBLICATION: (S. Wats.) Hoover, American Midland Naturalist 25:99, 1941.

TYPE LOCALITY: Los Angeles Bay, Baja California, Mexico. (E. Palmer in 1887).

TYPE SPECIMEN: None

TAXONOMIC UNIQUENESS: This is a monospecific genus.

DESCRIPTION: *Triteliopsis palmeri* is a perennial herbaceous lily without an alliaceous odor. The corm is small with a straw-colored fibrous coat. At flowering, the corm divides into several cormlets which are clustered around the base of the stem and enclosed in the coat of the old corm. The stems are leafy from the base and the 3-8 alternate, crowded leaves bear cormlets in the axils. The inflorescence is a many-flowered umbel with a purplish-blue funnellform perianth. The perianth segments alternate with transverse scale-like appendages with no connection with the stamens. The filaments of the latter are inserted in the upper part of the perianth tube and the anthers are basifixed. The small stigma is not obviously lobed and the ovary is stalked. Immature seeds are black, thin and flat.

AIDS TO IDENTIFICATION: *Triteliopsis palmeri* grows in loose sandy soil. The leaves do not have curled or wavy edges like *Hesperocallis undulata* with which it may be confused in the vegetative state. *Dichelostemma pulchellum* is also similar but has dimorphic stamens, three-lobed stigma, sessile (or nearly so) ovary, few leaves arising directly from the bulb, and lacks internal perianth scales.

ILLUSTRATIONS:

Photograph. Phillips, A.M. 1983.

Line drawing. Wiggins and Shreve. 1964.

TOTAL RANGE: Southwestern Arizona, Sonora and Baja California.

RANGE WITHIN ARIZONA: Pima County: Agua Dulce Mountains; Yuma County: Gila Mountains, Pinta Sands, and Tule Desert.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Herbaceous perennial.

PHENOLOGY: February - May

BIOLOGY: This species "reproduces vegetatively by bulblets and does not seem to produce fruit or seeds" (Felger 1980). Hoover (1941) states that "each corm retains its identity for only one year, the plants flowering each year from the cormlets formed during the previous season within the old corm coats and in the axils of the leaves. Seeds and fruit are known to exist and have been described (Phillips et al 1982). *T. palmeri* is not known to hybridize with any other members of the liliaceous genera. The plant is able to survive drought by remaining dormant, its bulbs buried deep in the sand. This very hardy plant has even been reported to grow after being uprooted and pressed in a plant press.

HABITAT: Sandy areas (dunes) in low desert. Averages from Yuma population: Annual precipitation; 2.99 cm, frost free days; 356, soil pH; 7.5.

ELEVATION: 250 -1,660 feet (76 - 506 m).

EXPOSURE: Open

SUBSTRATE: Sand

PLANT COMMUNITY: Creosotebush desertscrub. Associated species include: *Larrea tridentata*, *Hesperocallis undulata*, *Oenothera deltoides*.

POPULATION TRENDS: Apparently stable although population studies are difficult because of the specific conditions needed for sprouting.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None (USDI, FWS 1996)
[3C USDI, FWS 1985]

STATE STATUS: Salvage Restricted (ARS, ANPL 2000)
[Salvage Restricted ARS, ANPL 1993]

OTHER STATUS: Bureau of Land Management Sensitive
(USDI, BLM AZ 2000, 2005, 2008, 2010)

MANAGEMENT FACTORS: Off road vehicles, urbanization, and agriculture have destroyed the habitat needed by this plant.

CONSERVATION MEASURES TAKEN: This species is listed as "Salvage Restricted" under the 1993 Arizona Native Plant Law.

SUGGESTED PROJECTS: Population surveys are needed, along with studies on reproductive biology, and the environmental conditions necessary for sprouting.

LAND MANAGEMENT/OWNERSHIP: BLM – Yuma Field Office; FWS – Cabeza Prieta National Wildlife Refuge; State Land Department; Private.

SOURCES OF FURTHER INFORMATION

REFERENCES:

- Arizona Revised Statutes, Chapter 7. 1993. Arizona Native Plant Law. Appendix A.
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ADDITIONAL INFORMATION:

Phillips et al. 1982: recommended removal from consideration for listing by the U.S. Fish and Wildlife Service because it is common in Baja California and there are few apparent threats in Arizona.

Revised: 1992-12-07 (JSP)
1998-01-09 (SSS)
1999-06-18 (DJG)

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