

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

Plant Abstract

Element Code: PDCAC0V020

Data Sensitivity: Yes

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Peniocereus striatus* (Brandegge) Buxbaum

COMMON NAME: Dahlia rooted cereus, Dahlia rooted-cactus, gear-stem cactus, gearstem Cactus, Jacamatraca, cardoncillo

SYNONYMS: *Cereus striatus* Brandegge, *C. diguetii* A. Weber, *Neoevansia diguetii* (F.A.C. Weber) W.T. Marshall, *N. striata* (Brandegge) Sanchez-Mejorada, *Peniocereus diguetii* (F.A.C. Weber) Backeberg, *Wilcoxia diguetii* (F.A.C. Weber) Diguet & Guillaumin, *W. striata* (Brandegge) Britton & Rose

FAMILY: Cactaceae

AUTHOR, PLACE OF PUBLICATION: *Peniocereus striatus* (Brandegge) Buxbaum, *Kakteen* 62: CIIa. 1975. *Cereus striatus* Brandegge, *Zoë* 2(1): 19-20. 1891.

TYPE LOCALITY: San José del Cabo, Baja California Sur, Mexico.

TYPE SPECIMEN: HT: GH. T.S. Brandegge 243, 29 Sep 1890. IT: UC-108249. Isosytype: US.

TAXONOMIC UNIQUENESS: Species *striatus* is 1 of 2 in the genus *Peniocereus*.

DESCRIPTION: This is a pencil-thin-stemmed cactus, found in thickets of other shrubs and closely resembling their leafless, woody branches. The root system bears numerous succulent swellings, shaped like potato tubers. (Martin et al, 1998). Specifically, this is an inconspicuous suberect to sprawling slender plant with 12 or more roots ending in sweet potato-like swellings, 10-15 x 4-7 cm (4-6 x 1.6-2.8 in). Benson (1981,1982) reports tuber length sometimes 30-40 cm (12-16 in) long. Slender stems greenish brown to brown, branched, erect or suberect, 25-75(-100) cm (10-30[-39.4] in), distally and at midlength about 6 mm in diameter, gradually enlarged upward from very slender bases; larger terminal joints green, elongate and slender; wood hollow, solid-surface cylinders, proximally 3-7 mm diameter. Ribs 6-9, flat-topped to 2 mm broad, narrowing toward sinus, 0.5 mm deep, the intervening grooves narrow. Areoles are typically 6-15 mm apart along the ribs (FNA [1993+] reports 5-20 mm apart), circular, 1 mm diameter, with numerous small appressed spines. Each areole has 5-12 white spines, 1.5-4 mm, yellowish white, some with black tips, nearly acicular, weak and easily broken off; radial spines encircling central spines, abaxial 3 longest, appressed, scurfy when young; central spines 2-3 porrect. Flowers are nocturnal, 7-15 x 5.5 -7.5 cm (2.8-6 x 2-3 in). Benson (1981,1982) reports flowers nocturnal or diurnal. The scales of the flower tubes are green-purple to reddish; outer tepals reddish to green-purple; inner tepals white to lightly tinted rose, lanceolate to oblanceolate, 2 cm, attenuate to apiculate. Filaments are also white to pink or purple, to 75 mm long. **The stamens are 1 cm;

the anthers are a pale lemon yellow, 1.5-2 mm long; the style is yellowish-white, 6 cm long; the stigma lobes 9, yellowish white, 3 mm long. The ovary in anthesis is about 12 mm long, and broadly ellipsoid. Mature fruits (about 4 cm long) are scarlet and fleshy, with red pulp, pyriform, 40-50 x 25 mm, with bristlelike deciduous spines. Black seeds 1 x 0.8 mm; testa pitted near hilum. (Benson, 1981 and 1982; FNA 1993+).

AIDS TO IDENTIFICATION:

ILLUSTRATIONS: Line drawing (Benson, 1982: fig. 637)
Color photos of plant and habitat (Benson, 1982: fig. 634-636)
Line drawing (Wiggins, 1980: fig. 582. *Wilcoxia striata*)
Color photo of specimen (ASU-155593, in SEINet at <http://seinet.asu.edu/collections/>)
Line Drawing (FNA 1993+, in http://www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=242415236)

TOTAL RANGE: Southern Arizona, south into Baja California, Mexico (Baja California, Sinaloa, and Sonora). NatureServe (2005), states that this species is “Widely distributed in AZ, Baja California and Sonora, Mexico.”

RANGE WITHIN ARIZONA: In Pima County: vicinity of San Miguel in Baboquivari Valley, north of Ali Chuk northwest of Menagers Lake, in the vicinity of Blakenship west of Sonoyta Valley, Organ Pipe Cactus NM. Benson (1981 and 1982) reports the Arizona range as Pima and Yuma counties.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Slender perennial succulent vine-like shrub/subshrub, commonly looking more like a collection of dead stems.

PHENOLOGY: Flowers in July, with fruit maturing in August. May flower and fruit earlier, depending upon the onset of summer rains.

BIOLOGY: The roots are fleshy, light-tan tubers, resembling sweet potatoes. Large plants may produce 2 or 3 dozen tubers. As with the desert night-blooming cereus (*Cereus greggii*), nearly all the seeds are consumed by birds. Similarly, the distribution of *P. striatus* is determined partly by the roosting places of the birds in shrubs or in small trees like the mesquites (*Prosopis* spp.).

HABITAT: Flats and small hills in the Sonoran Desert. Occurs beneath trees and shrubs in alluvial bottoms and on volcanic hills.

ELEVATION: Elevation for the full range is 0-2,500 ft (0-763 m). In Arizona, elevation ranges between 1,400-2,465 ft (427-752 m) based on unpublished data in the HDMS (AGFD, accessed 2002).

EXPOSURE: Collected on south and west-facing exposures.

SUBSTRATE: Sandy soils of plains and washes; alluvial soil.

PLANT COMMUNITY: Sonoran Desert along the Mexican boundary. Found in paloverde-saguaro community. Commonly found with shrubs such as creosote bush (*Larrea tridentata*), which it depends upon for support. Associated species include: *Ambrosia deltoidea* (Triangle bursage), *Carnegia gigantea* (Saguaro cactus), *Larrea tridentata*, *Lycium andersonii* (Red-berried Desert-thorn), *Opuntia acanthocarpa* (Stag-horn cholla), and *Stenocereus thurberi* (Organ Pipe cactus).

POPULATION HISTORY AND TRENDS: The small populations in Arizona, represent the northern limits of this species in North America. About 60 plants have been found on the Organ Pipe Cactus National Monument; these are concentrated on or near 2 low, rocky hills close to the International Boundary with Mexico. The habitat is immediately adjacent to agricultural fields, which are subject to aerial spraying of pesticides and commonly occupied by livestock such as goats and cattle. (OPCNM, 1998).

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None
STATE STATUS: Salvage Restricted (ARS, ANPL 1999)
OTHER STATUS: None

MANAGEMENT FACTORS: Threats include livestock grazing, and pesticide use for agricultural purposes (OPCNM, 1998).

PROTECTIVE MEASURES TAKEN:

SUGGESTED PROJECTS:

LAND MANAGEMENT/OWNERSHIP: BIA – Tohono O’Odham Nation; NPS – Organ Pipe Cactus National Monument.

SOURCES OF FURTHER INFORMATION

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MAJOR KNOWLEDGEABLE INDIVIDUALS:**ADDITIONAL INFORMATION:**

Per the Harvard University Herbaria (2001), "Date collection for type is 30 Sep 1890; Perhaps a clerical error. Remains as an apparent Isotype. Annotation by D.J. Pinkava, 1992."

This species is so difficult to find when not in flower, that the range may be considerably more extensive than the areas of its known occurrence (Benson, 1981).

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