



ARIZONA GAME AND FISH DEPARTMENT  
HERITAGE DATA MANAGEMENT SYSTEM

Plant Abstract

Element Code: PDCAC0E051

Data Sensitivity: Yes

**CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE**

**NAME:** *Pediocactus peeblesianus* var. *fickeiseniae*

**COMMON NAME:** Fickeisen Pincushion Cactus; Fickeisen Navajo Cactus; Fickeisen Plains Cactus, Fickeisen Indian Cactus

**SYNONYMS:** *Navajoa fickeisenii* Backeberg, *Pediocactus peeblesianus* var. *fickeisenii*, *Toumeyia fickeisenii* Kladiwa, *Pediocactus fickeisenii* Benson ex Earle

**FAMILY:** Cactaceae

**AUTHOR, PLACE OF PUBLICATION:** L. Benson, The cacti of Arizona 24, 186-187, f. 8.3-8.4. Third Edition, 1969.

**TYPE LOCALITY:** Watershed of the Little Colorado River west of Cameron, Coconino County, Arizona.

**TYPE SPECIMEN:** HT: POM 285,856. L. and R.L. Benson (15,745), 29 June 1957.

**TAXONOMIC UNIQUENESS:** Seven species of *Pediocactus* occur from the Columbia River Basin, Great Basin, Rocky Mountains and Colorado Plateau. Six of these species, including *P. peeblesianus*, are restricted endemics. There are two recognized varieties of *P. peeblesianus* to include var. *fickeiseniae*, and var. *peeblesianus*.

**DESCRIPTION:** Succulent, globose cactus that is solitary or clustered. Plants are 6 cm (2.4 in) tall and to 5.5 cm (2.2 in) in diameter; tubercles 3-7 mm long and 4-6 mm broad. Areoles are circular, with spongy spines not obscuring the stem. The central spine is 5-18 mm long, mostly 1.0 mm wide at the base, white to pale gray and ascending. Radial spines number 3 to 7, 2-9 mm long, white to pale gray, and recurving. Flowers to 2.5 cm (1.0 in) in diameter, with petaloid perianth parts cream, yellow or yellowish-green in color. The outer perianth parts have a pink or green midstripe. The stamens and stigma are yellow. The fruit is top-shaped, and green in color turning reddish-brown as it dries. Fruit dehiscent by a vertical slit along the ovary wall; seeds dark brown to black.

**AIDS TO IDENTIFICATION:** *P. peeblesianus* var. *fickeiseniae* has corky/spongy spines and a central spine, which *P. p.* var. *peeblesianus* lacks. Var. *fickeiseniae* also has 3-7 radial spines versus 4-5 in var. *peeblesianus* has 4-5, and it is larger in size than var. *peeblesianus*.

**ILLUSTRATIONS:** Black & white photos (Benson 1969: p. 185).  
Line drawing (USFWS).  
Color photos (Hughes 1996).

Color photo

([http://www.kaktusy.nets.pl/pediocactus/pediocactus\\_peeblesianus](http://www.kaktusy.nets.pl/pediocactus/pediocactus_peeblesianus))

Color photo (In <http://www.tribecactactaeirt.com/nfickeisenii.html>)

Line drawing and Color photo (Falk et. al 2001)

**TOTAL RANGE:** Northern Arizona in Coconino, Mohave and Navajo counties. In Coconino County, populations are widely scattered from House Rock Valley and the area of Gray Mountain, along canyon rims of the Little Colorado and Colorado rivers. In Mohave County, it is found in Hurricane Valley and Main Street Valley, and near Clayhole Ridge and Sunshine Ridge.

**RANGE WITHIN ARIZONA:** See "Total Range."

## **SPECIES BIOLOGY AND POPULATION TRENDS**

**GROWTH FORM:** Globose succulent perennial.

**PHENOLOGY:** Flowers late April; fruits May-June.

**BIOLOGY:** This small cactus retracts into the soil during periods of drought. There are often four to five fruits per plant. The fruits are turgid; when dry the cap breaks off and the capsule splits on the side. Each local population is rather small. Predation by rodents is especially severe in drought periods.

**HABITAT:** Flatter ridge-tops and benches with slight to moderate slope in gravelly limestone/gravelly loam soils. Also observed in grasslands at the foot of cliffs.

**ELEVATION:** 3,985 - 5,940 ft. (1215 - 1812 m).

**EXPOSURE:** All. Observed on slopes of 5-20+/-%

**SUBSTRATE:** Gravelly limestone/gravelly loam derived from Kaibab limestone, and Moenkopi formation. Also observed on limestone overlaying chert pavement, and on slopes above steep limestone outcrops. In Navajo County, observed on lag gravels of Shinaromp Conglomerate (ASU 186503).

**PLANT COMMUNITY:** Great Basin Desertscrub; Great Basin Grassland; Plains Grassland. Associated species include: *Artemisia tridentata* (big sagebrush), *Atriplex canescens* (four-wing saltbush), *Bouteloua eriopoda* (black gramma), *B. gracilis* (blue gramma), *Bromus* sp. (brome), *Chrysothamnus* sp. (rabbit-bush), *Coryphantha vivipara* var. *rosea* (Viviparous foxtail cactus), *Cryptantha* sp. (cat's-eye), *Gutierrezia sarothrae* (broom snakeweed), *Hilaria* (= *Pleuraphis*) *jamesii* (James's Galleta), *Lycium* sp. (desert-thorn), *Phlox* sp., *Sphaeralcea* sp. (globe-mallow), and *Stipa* sp. (needlegrass). (Hughes 1996).

**POPULATION TRENDS:** Since 1986, five populations have been monitored as plots or transects. Four are located on the Arizona Strip and are being monitored by the Arizona Strip Field Office of the Bureau of Land Management. These are the North Canyon, Dutchman (Mainstreet Valley), Clayhole, and Sunshine populations. Hughes (1996) stated that, at these monitoring sites, populations show stability with years of increase and decrease. In 1989, the monitoring plot at North Canyon had not shown much recruitment, though the preceding years had poor precipitation (B. Phillips--North Kaibab Plant Workshop, June 1992). The North Canyon monitoring plot (BLM) has been heavily vandalized in the past. In 2003, the Dutchman plot showed an increase and it is at its highest level of emerged cactus since 1997. The Clayhole plot and North Canyon plot were down by a small amount in 2003.

## **SPECIES PROTECTION AND CONSERVATION**

**ENDANGERED SPECIES ACT STATUS:** C (USDI, FWS 1996)  
[C1 USDI, FWS 1980]  
[PTN-T USDI, FWS 1975]

**STATE STATUS:** Highly Safeguarded (ARS, ANPL 1999)  
[Highly Safeguarded (ARS, ANPL 1993)]

**OTHER STATUS:** Forest Service Sensitive (USDA, FS Region 3 1999)  
[Forest Service Sensitive (USDA, FS Region 3 1999)]  
Group 3 (NNDFW, NESL 2005)  
[Group 3 (NNDFW, NESL 1994, 2001)]  
Bureau of Land Management Sensitive (USDI, BLM AZ 2000)

**MANAGEMENT FACTORS:** Threats include: collection, trampling by livestock and buffalo (especially in wet soils), off-highway vehicle use, insect and rodent predation, road construction and maintenance, and Uranium exploration.

**CONSERVATION MEASURES TAKEN:** Protected from collection under Arizona Native Plant Law. BLM Arizona Strip Field Office established 6 monitoring plots (Dutchman, Toquer Tank, Clayhole, Sunshine, Soap Creek, and North Canyon). The USFWS funded monitoring plot at South Canyon, but has not funded this plot since 1989.

**SUGGESTED PROJECTS:** Studies are needed to determine distribution, habitat and ecological factors. Surveys on the Kaibab National Forest, especially in the vicinity of South Canyon, House Rock Valley.

**LAND MANAGEMENT/OWNERSHIP:** BIA - Kaibab Paiute Reservation, and Navajo Nation; BLM - Arizona Strip and Phoenix Field Offices; NPS - Grand Canyon National Park,

and Glen Canyon National Recreation Area; USFS - Kaibab National Forest; Arizona State Land Department; Arizona Department of Transportation.

## SOURCES OF FURTHER INFORMATION

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**ADDITIONAL INFORMATION:**

Phillips et al. (1982) recommended for Threatened status under the Endangered Species Act.

Need to re-verify the source of the Willow Point occurrence record.

**Revised:** 1991-12-11 (DBI)  
 1992-05-28 (BGP)  
 1992-09-14 (BKP)  
 1997-11-12 (SMS)  
 1998-11-24 (DJG)  
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