

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

**Plant Abstract**

**Element Code:** PDCAC060L0

**Data Sensitivity:** Yes

**CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE**

**NAME:** *Echinocereus nicholii*  
**COMMON NAME:** Nichol's Hedgehog Cactus, Golden Hedgehog  
**SYNONYMS:** *Echinocereus engelmannii* var. *nicholii*  
**FAMILY:** Cactaceae

**AUTHOR, PLACE OF PUBLICATION:** Parfitt, Bruce D. *Phytologia* 63(3): 157. 1987.

**TYPE LOCALITY:** Arizona: Pima County: Silver Bell, elevation 2700 feet (Type specimen RSA 8861). Locality not recorded on holotype specimen.

**TYPE SPECIMEN:** ARIZ 5834 (Holotype *Echinocereus engelmannii* var. *nicholii*). L Benson, #10720. April 28, 1941.

**TAXONOMIC UNIQUENESS:** NatureServe (2015) lists 23 species, another 43 subspecies or varieties, and one named hybrid of *Echinocereus*. Twelve species are found in Arizona, as are 17 of the varieties or subspecies (one). Three of the species are only found within the State, and *E. nicholii* is one of these.

**DESCRIPTION:** **Plants** 16-30-branched, forming clumps. **Stems** erect to ascending, cylindrical or somewhat tapering distally, 20-30(-70) × (4-)6-9 cm; ribs 10-13, crests slightly undulate; areoles 15-25 mm apart. **Spines** 13-16 per areole, usually straight, divergent-porrect, pale translucent yellow; radial spines 8-12 per areole, 5-25 mm; central spines 4-6(-8) per areole, 30-72 mm, abaxial central spine usually descending, paler than other central spines, often fading whitish, somewhat flattened. **Flowers** 4-6 × 5-7 cm; flower tube 18-25 × 12-30 mm; flower tube hairs 1 mm; inner tepals usually pale pink with midstripes slightly darker, proximal 1/3 greenish, 30-40 × 5-10 mm, tips relatively thin and delicate; anthers yellow; nectar chamber to 7 mm. Fruits green, becoming bronze where exposed to sun, 23-34 mm, pulp white. 2n = 22. (Flora of North America 2015).

**AIDS TO IDENTIFICATION:** Benson (1981) notes the following distinguishing characteristics for the originally described variety: *Echinocereus engelmannii* var. *nicholii*:

Stems: mostly 20-30, erect, not crowded, 12-24 inches long, 2-3 inches in diameter,

Spine Color: All clear yellow or sometimes straw or nearly white, becoming black or gray in age.

Lower deflexed and flattened central spine: 2 – 2-1/2 inches long, basally 1/20 to 1/16 inch broad, stiff, straight.

Petaloid perianth segments: Lavender, much paler than the other varieties (which are purplish to magenta).

Distribution: Arizona desert. SE Yuma County and W Pima County; Sonora Mexico.

**ILLUSTRATIONS:**

Photos: <http://swbiodiversity.org/seinet/taxa/index.php?taxon=Echinocereus%20nicholii>.

Photos: <http://eol.org/pages/487829/media>.

**TOTAL RANGE:** Arizona and Sonora Mexico.

**RANGE WITHIN ARIZONA:** Pima County: Silver Bell Mts, W side of Baboquivari, Ajo Range and Organ Pipe Cactus National Monument. Nichols also reported from the Mohawk Mts in Yuma County (Benson 1981).

**SPECIES BIOLOGY AND POPULATION TRENDS**

**GROWTH FORM:** Perennial succulent, forming clumps, to 12 inches (30cm) tall.

**PHENOLOGY:** Flowering Mar-Apr; fruiting Jun.

**BIOLOGY:**

**HABITAT:** Arizona Upland Subdivision of Sonoran Desert, exposed slopes, bajadas, hills, mountains, desert scrub, igneous and sedimentary substrates.

**ELEVATION:** 300 – 3200 feet (395-975m)

**EXPOSURE:** Not specified, but “open” slopes mentioned.

**SUBSTRATE:** Grows on limestone, granitic and basaltic slopes. Also gravelly or sandy flats and hillsides (EOL 2015).

**PLANT COMMUNITY:** Arizona Upland Subdivision of Sonoran Desert. Associated plants include: *Jatropha cardiophylla*, *Cereus thurberi*, *Cercidium*, *Ambrosia deltoidea*, *Janusia*, *Trixis*, *Cereus giganteus*, *Opuntia acanthocarpa*, *O. fulgida*, *O. bigelovii*, *Ferocactus covillei*, *Achnatherum speciosum*, *Acourtia wrightii*, *Agave deserti*, *Aloysia wrightii*, *Artemisia ludoviciana*, *Crossosoma bigelovii*, *Cylindropuntia acanthocarpa*, *Echinocereus coccineus*, *Eriogonum wrightii*, *Ferocactus emoryi*, *Fouquieria splendens*, *Gnaphalium canescens*, *Juniperus coahuilensis*, *Mammillaria grahamii*, *Notholaena standleyi*, *Opuntia chlorotica*, *Pellaea truncata*, *Rhamnus crocea*, *Simmondsia chinensis*, *Vauquelinia californica*, and *Viguiera parishii*.

**POPULATION HISTORY AND TRENDS:** The species is considered common, especially in Arizona. The population trend is stable (IUCN 2013).

## **SPECIES PROTECTION AND CONSERVATION**

**ENDANGERED SPECIES ACT STATUS:** None.  
**STATE STATUS:** Salvage Restricted (ARS ANPL 1991)  
**OTHER STATUS:** “Least Concern” (IUCN RedList 2013)

**MANAGEMENT FACTORS:** *Echinocereus nicholii* is wide-ranging and there are no major threats (IUCN 2013).

**PROTECTIVE MEASURES TAKEN:** Listed as a Salvage Restricted species under Arizona Native Plant Law and as a species of Least Concern by IUCN. A significant number of the known collection sites occur within Organ Pipe Cactus National Monument.

**SUGGESTED PROJECTS:** There is one reported collection from the Arizona Strip in northern Arizona (ASU 279815, R. K. Gierisch #5040, April 11, 1988) that should be verified as this would constitute a major range extension.

**LAND MANAGEMENT/OWNERSHIP:** The majority of the known collection sites are on USDI National Park Service – Organ Pipe Cactus National Monument land (some within the Wilderness Area) and the Bureau of Land Management Lower Sonoran Desert Field Office and Ironwood Forest National Monument lands. There are also collections from Bureau of Indian Affairs Tohono O’Odham Reservation, Arizona State Trust Land and private land holdings.

## **SOURCES OF FURTHER INFORMATION**

### **REFERENCES:**

- Benson, Lyman. 1981. The Cacti of Arizona. 3rd edition. University of Arizona Press, Tucson, AZ. pp. 139.  
Encyclopedia of Life (EOL), accessed 12/02/2015, <http://eol.org/pages/486522/details>.  
Flora of North America (eFloras.org), accessed 12/3/2015, [http://www.efloras.org/florataxon.aspx?flora\\_id=1&taxon\\_id=242415250](http://www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=242415250).  
IUCN RedList, accessed 12/03/2015, <http://www.iucnredlist.org/details/152184/0>.

JStor| Global Plants, accessed 12/3/2015,

<http://plants.jstor.org/stable/10.5555/al.ap.specimen.ariz-bot-0005834>.

NatureServe Explorer, accessed 12/03/2015, <http://explorer.natureserve.org/index.htm>.

Tropicos, accessed 12/3/2015, <http://www.tropicos.org/Name/5100985>.

#### MAJOR KNOWLEDGEABLE INDIVIDUALS:

**ADDITIONAL INFORMATION:** Although it was initially considered a variety of *Echinocereus engelmannii*, *E. nicholii* differs in chromosome number and a suite of morphologic characteristics. With its non-erumpent flower buds, diploid chromosome number, relatively small and usually pale flowers, green fruits, and exclusively yellow spines, *E. nicholii* more closely resembles *E. ledingii* than *E. engelmannii* (Flora of North America 2015).

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