

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

Plant Abstract

Element Code: PDCAC08080

Data Sensitivity: Yes

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Ferocactus cylindraceus*

COMMON NAME: Desert barrel cactus, California barrel cactus

SYNONYMS: *Echinocactus viridescens* Torr. & A. Gray var. *cylindraceus* Engelm.;
Ferocactus acanthodes (Lem.) Britt. & Rose var. *eastwoodiae*; *F. acanthodes*
var. *lecontei* (Engelmann) G.E. Lindsay; *F. eastwoodiae* (L.D. Benson) L.D.
Benson

FAMILY: Cactaceae

AUTHOR, PLACE OF PUBLICATION: *Ferocactus cylindraceus* (Engelm.) Orcutt,
Cactography 1926(1): 5. 1926. MBG (accessed 2005) list citation as "Proc. Amer. Acad. Arts
Sci. 3: 275. 1856," which is the citation for *Echinocactus cylindraceus*.

TYPE LOCALITY: Found near San Felipe, on the eastern slope of the California Mountains, San
Diego County, California.

TYPE SPECIMEN: HT: MO. C.C. Parry in 1849 or 1850.

TAXONOMIC UNIQUENESS: *Ferocactus cylindraceus* is 1 of 5 species in the genus. "The
name *Ferocactus acanthodes* has been widely applied to this species but was based on a small
plant of unknown origin (and the specimen was lost), and is therefore ambiguous (N.P. Taylor
1979). The vernacular name "compass barrel" is sometimes misapplied to *Ferocactus*
cylindraceus, which grows straight up in its old age, instead of leaning as would *F. wislizeni*."
(FNA 1993+, 2003b).

DESCRIPTION: Perennial stem succulent (nearly always single stemmed): stem straight, erect
or nearly so (or leaning), and cylindrical. It grows up to 10 feet (3 m) tall, but is generally less than
half that, measuring 4.5-15.0 x 2.5-4.0 dm [1.5-5 x 0.8-1.3 ft]. The ribs, (18-)21-31, are shallowly
notched immediately above each areole. There are (12-)10-18(-32) spines per areole, with the
central spines and the larger radial spines whitish, yellow, pink, dull red, or brown. The spines are
erect and spreading, with the longest recurved, generally with some red, becoming gray. Central
spines are 7.5-17 cm (3-7 in) long, with 4 per areole. FNA (1993+) reports length of 3.6-14 cm.
Crowns of flowers are crowded among the dense spines at the stem tips. Flowers 3-6 x 4-6 cm
(1.2-2.4 x 1.6-2.4 in), maroon on the outside, and yellow on the inside; the inner tepals are
commonly yellow; stigma lobes yellow (to red). The ovary is 9-12 mm long, scales fringed; the
style is 12-20 mm long. The fruit is yellow, egg shaped, readily dehiscent through basal pore,

about 1.5 inches long and 1 inch wide, leathery or fleshy, locule dry, hollow except for seeds. Seeds are 2-3 mm long, pitted. (Benson 1982; FNA 1993+; ASDM 2000).

AIDS TO IDENTIFICATION: The Southwestern Barrel Cactus (*Ferocactus wislizenii*) is larger, has yellow-orange or red-orange flowers, and is found in the Sonoran and Chihuahuan deserts. If one fails to notice the hooked spines, this species could be confused with a young saguaro.

ILLUSTRATIONS:

Color photo (USDA, NRCS. 2002).

Color photo (<http://www.clunet.edu/wf/des/flowers/fwr-34.htm>)

Color photo (Robert Potts 2001, CalPhotos, <http://elib.cs.berkeley.edu/>)

Color photos (Gerald and Buff Corsi 1999, CalPhotos, <http://elib.cs.berkeley.edu>)

Color photo (<http://azwww.az.blm.gov/lhfo/plants/Redbarrel.html>)

Color photo of species and habitat (Taylor, 1998: p. 49)

Line drawing (Hickman, 1993: p. 453)

Line drawing (FNA 1993+, in <http://www.efloras.org>)

Color photo (Jane Villa-Lobos, in <http://plants.usda.gov/>)

TOTAL RANGE: Southeast California, southern Arizona, and Baja California and Sonora, Mexico.

RANGE WITHIN ARIZONA: West half of the state including the counties of Coconino, Gila, Graham, Maricopa, Pima, Yavapai, and Yuma.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Perennial shrub/subshrub (stem succulent).

PHENOLOGY: Flowers during late spring to early summer following winter rains (April-June), but sometimes flowers sporadically after summer rains (where these occur). FNA (1993+) reports flowering from early spring-early summer.

BIOLOGY: Unlike some barrel cactus such as *F. wislizeni*, which leans toward the south as they age (a result of faster growth on the south side), *F. cylindraceus* grows straight up in its old age (FNA 1993+). They are columnar in the wild, but remain barrel-shaped in cultivation. The spines become denser as the species ages. Plants secrete a sugary solution in the summer and autumn, which is thought to attract pollinating ants. The odds that seeds or seedlings reach maturity is slim, since most seeds never germinate, and the heavy rains required for germination happen about once or twice in a decade. Also, many seedlings and young plants die during drought or are eaten by rabbits and rodents. (Bowers, 1999). The fruit and seeds of genus

Ferocactus are eaten by rodents, birds, mule deer, bighorn sheep, and javelina. The plant itself is eaten by cactus beetles (*Moneilema gigas* and other species), jackrabbits, packrats, and javelina. Life spans of most barrel cacti are less than a century. (ASDM 2000).

HABITAT: Gravelly or rocky hillsides, canyon walls, alluvial fans, and wash margins in the Mohave and Sonoran deserts, on igneous and limestone substrates. Collected on *Lycium*, *Larrea* flat.

ELEVATION: 200 to 2,900 ft (61-885 m). FNA (1993+) reports the elevation for the species between 0-1500 m.

EXPOSURE: All.

SUBSTRATE: While it will grow on sandy alluvial plains, it also utilizes slopes and Acid Igneous rock lands.

PLANT COMMUNITY: For the species, Interior chaparral, Mohave desertscrub, and Sonoran desertscrub; creosotebush desertscrub, and Joshua tree woodland. Associated species include: *Larrea tridentata* (creosotebush), *Lycium* (desert-thorn).

POPULATION HISTORY AND TRENDS: Widely scattered over its range, but only locally abundant.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None
STATE STATUS: Salvage Restricted (ARS, ANPL 2008)
[Salvage Restricted (ARS, ANPL 1999)]
[Salvage Restricted (ARS, ANPL 1993)]
[Salvage Restricted (ARS, ANPL 1991)]
[Protected (ARS, ANPL 1986)]
OTHER STATUS: Determined Subject to Special Protection in Mexico (Proyecto de Norma Oficial Mexicana, 2000)

MANAGEMENT FACTORS: Subject to collection for commercial trade.

PROTECTIVE MEASURES TAKEN:

SUGGESTED PROJECTS:

LAND MANAGEMENT/OWNERSHIP: BLM; FWS – Cabeza Prieta National Wildlife Refuge; NPS – Grand Canyon National Park and Tonto National Monument; White Tanks Mountain Regional Park (Maricopa County).

SOURCES OF FURTHER INFORMATION

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Warren, P.L. and A.W. Laurenzi. 1987. Rare plant survey of the Yuma District. The Arizona Nature Conservancy, Final Report of P.O. No. AZ-950-PH6-0540 submitted to U.S. Bureau of Land Management, Yuma District Office, Yuma, Arizona. Pp. 34-37.

MAJOR KNOWLEDGEABLE INDIVIDUALS:

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ADDITIONAL INFORMATION:

According to FNA (1993+, 2003b), “The varieties recognized by L.D. Benson (1982) are not consistently distinguishable.”

Revised: 2002-10-03 (SMS)
2005-05-05 (SMS)
2009-09-04 (SMS)

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Arizona Game and Fish Department. 20XX (= **year of last revision as indicated at end of abstract**). X...X (= **taxon of animal or plant**). Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ. X pp.