ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Plant Abstract **Element Code:** PDCAC14010
Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Lophocereus schottii* (Engelm.) Britt. & Rose
COMMON NAME: Senita, Senita cactus, Sinita, old man cactus, whisker cactus, bearded cactus
SYNONYMS: *Pachycereus schottii* (Engelm.) D.R. Hunt, *Cereus schottii* Engelm., *L. sargentanus, L. schottii* var. *sargentianus, C. sargentianus, Pilocereus schottii*
FAMILY: Cactaceae

AUTHOR, PLACE OF PUBLICATION: *Lophocereus schottii* (Engelm.) Britt. & Rose, Contrib. U.S. Nat. Herb. 12(10): 427. 1909. *Cereus schottii* Engelm., Proc. Amer. Acad. Arts Sci. 3: 288. 1856.

TYPE LOCALITY: Towards Santa Magdalena, Sonora, Mexico.

TYPE SPECIMEN: HT: MO. A. Schott s.n., Aug 1855. IT: F.

TAXONOMIC UNIQUENESS:

DESCRIPTION: A large upright (but not arborescent), multi-stemmed cactus; trunk wanting. Stems are simple, green to gray-green, prominently few-ribbed, branching from the base. Each stem is about 5 inches in diameter, and has 5-10 widely-spaced ribs. The upper (floriferous) part of the adult stems produce spine clusters (areoles) with 15-50 bristle-like, gray spines 2.5-10 cm (1-4 in) long. This is different from the lower portions of the stem, which are short-spined. Stout central spines number 1 to 3, while spreading radial spines number 3 to 7. Maximum plant height is about 6 m (20 ft), while maximum width about 2 m (8 ft). When plant is about 2 m (6 ft) tall, its gray spines become long and curly at the step tip, making the stem look like a brush. Flowers are small (1.5 in wide), cream to pink in color, 2 or more at an areole, produced on the upper stems; flowers open at night and have an unpleasant odor (Kearny and Peebles, 1951, report flowers as odorless). Fruit small (4 cm), red, globose, unarmed, and edible. Shiny black seed, 4 mm long.

AIDS TO IDENTIFICATION: The odorless, pink flowers open soon after sunset and wither the following morning.

ILLUSTRATIONS: Color photo (Lewis E. Epple, *in* A.O. Epple, 1995: Pl. 110)
Color photos (Benson, 1982: Fig. 620-622, 624)

Line drawings (Benson, 1982: Fig. 623)
Photos (H.L. Shantz, *in* Benson, 1981: Fig. 2.10)
Color photo of type specimen (Missouri Botanical Garden, Holotype 2015496, *in* http://digitalis.mobot.org/mrsid/bin/mosid/mosid.pl)
Line drawing (*in* http://huntbot.andrew.cmu.edu/USDA/27/6725.2789.gif)
Color photos (*in* 1998-2003 Philippe Faucon, at http://www.desert-tropicals.com/Plants/Cactaceae/Pachycereus_schottii.html)
Color photos of plants with fruit (*in* http://www.jp29.org/)
Color photos (*in* http://msg.calsnet.arizona.edu/arboretum/plantwalk/)
Color photos (*in* http://helios.bto.ed.ac.uk/bto/desbiome/senita.htm)
Color photos (Organ Pipe Cactus National Monument, http://www.mineralarts.com/cactus/OrganPipe.html)
Color photo of flower (Larry Dech, *in* http://www.enature.com)
Color photo of plant (Phillip Roullard, *in* http://www.enature.com)

TOTAL RANGE: Arizona, and Mexico from Sonora to Baja California to the Cape Region.

RANGE WITHIN ARIZONA: Southern edge of Organ Pipe Cactus National Monument (OPCNM) in Western Pima County. Also reported on the Cabeza Prieta NWR, in the Sierra Pinta, Yuma County (E.L. Smith, 1974). Arizona, as its northern limit, is dictated by frosts that can occur on the flat sites where it grows.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Perennial succulent: stout columnar.

PHENOLOGY: Nocturnal flowering from April to August (September); fruits from April to December with peak fruiting often in June.

BIOLOGY: Flowers are pollinated by bats and moths. Birds and ants consume the pulp and seeds of the fruit, leaving only the hollowed-out fruit case. Frost tolerance is about 15º F (-9º C) for Arizona specimens; growing tips need protection. The monstrose form is more frost sensitive and should not be at less than 25º F (-4º C). Specimens in the wild receive both winter and late summer rain. When used in landscape, established specimens need little or no water. Propagation can occur from cuttings, offsets, and seeds.

These plants have numerous spines, which presumably provide protection from herbivores but are also thought to shade the delicate green photosynthesizing surface of the plant, protecting it from sun burn.

HABITAT: On alluvial plains along wash borders and rocky hillsides.

ELEVATION: 1,000 to 2,000 ft. (305 – 610 m). Based on AGFD, HDMS unpublished records (accessed 2003), elevation in Arizona ranges from 1,000 – 1,700 ft (305-520 m).

EXPOSURE: Open sunny areas.

SUBSTRATE: Heavy or sandy soils of valleys and plains in the desert.

PLANT COMMUNITY: In Pima County, W. Hodgson and J. Marsh (1981) reported this species was associated with *Cereus* (*Carnegia*) *giganteus* (Saguaro cactus), *Cercidium* (paloverde), *Opuntia* sp. (chainfruit cholla), *Stenocereus thurberi* (Organ Pipe-cactus), *Ambrosia* sp. (ragweed), *Prosopis* sp. (mesquite). In Yuma County, reported by F.W. Reichenbacher (1982) to be associated with *Cercidium microphyllum* (*Parkinsonia microphylla*: little-leaf paloverde), *Olneya tesota* (Ironwood tree), and *Larrea tridentata* (creosote bush) in Arizona upland Desertscrub.

POPULATION TRENDS: Unknown.

SPECIES PROTECTION AND PRESERVATION

ENDANGERED SPECIES ACT STATUS:

STATE LIST STATUS: Salvage Restricted (ARS, ANPL 1999)
[Salvage Restricted (ARS, ANPL 1993)]

OTHER STATUS: PR for var. *mieckleyanus* (Proyecto de Norma Oficial Mexicana, 2000)

MANAGEMENT FACTORS: A 1998 report by the OPCNM, states that "human-influenced impacts or threats to either Stenocereus thurberi or L. schottii populations within the monument, though not presently obvious, might occur from illegal collecting. Pesticide drift from Mexican agriculture, past overgrazing, and possibly from global climate change." Another possible threat to these species, although not presently documented, could be the increased smuggling of and/or immigration of illegal aliens from Mexico.

CONSERVATION MEASURES TAKEN:

SUGGESTED PROJECTS:

LAND MANAGEMENT/OWNERSHIP: FWS - Cabeza Prieta National Wildlife Refuge; NPS – Organ Pipe Cactus National Monument.

SOURCES OF FURTHER INFORMATION

RFERENCES:

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MAJOR KNOWLEDGEABLE INDIVIDUALS:

ADDITIONAL INFORMATION:

The genus name *Lophocereus* means "crested cereus", and the species *schottii*, is in honor of Arthur Schott (1814-1875) who worked with the Mexico Boundary Commission as a plant collector.

"The 5-ribbed (sterile or juvenile) stems are boiled in water and the liquid drunk as a remedy for diabetes, cancer, and other ailments. Considerable quantities are harvested in northern Sonora and sold in Tijuana and elsewhere in Mexico." (Felger 2000).

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