ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Plant Abstract **Element Code:** PDCAC0D054
Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Opuntia basilaris* var. *longiareolata*
COMMON NAME: Grand Canyon Beavertail Cactus, Grand Canyon Beavertail Pricklypear Cactus
SYNONYMS: *Opuntia longiareolata* (basionym)
FAMILY: Cactaceae

AUTHOR, PLACE OF PUBLICATION: Benson, Lyman David. The Cacti of Arizona, 2nd ed., p. 43. 1950.

TYPE LOCALITY: Arizona: Coconino County: Grand Canyon NP: Granite Rapids, below Hermit Creek, Canyon of the Colorado.

TYPE SPECIMEN: MICH 1136738 (holotype of *Opuntia longiareolata*). E.U. Clover and M.L. Jotter, #2302. Nov. 14, 1940.

TAXONOMIC UNIQUENESS: NatureServe (2015) recognizes 70 species of *Opuntia* in the U.S. and Canada, 54 additional varieties, and eight named hybrids. Arizona has 33 of these species, 30 varieties, and five of the named hybrids. Five of the species and two of the hybrids are found only within the State. *Opuntia basilaris* var. *longiareolata* is endemic to Arizona, and at the time of its publication, was known only from the type locality.

There is some discrepancy in the number of varieties of *Opuntia basilaris*. NatureServe (2015) recognizes five, Flora of North America reports four, and Pinkava (2003) only two (in Arizona). All sources do recognize *O. b*. var. *longiareolata*.

DESCRIPTION: **Stem** segments often decumbent, flattened apically, spatulate, (5-)9-18 × 4-11 cm; areoles 6-8(-9) per diagonal row across midstem segment, elongate to usually circular. **Spines** absent. **Fruits** spineless. 2n = 22 (Flora of North America 2015).

AIDS TO IDENTIFICATION: The following table from Benson 1981 can be used to separate the varieties of *O. basiolaris*:

	basilaris	***longiareolata***	***aurea***	***Treleasei***
joint shape	obovate or sometimes orbiculate	spathulate	elliptic to obovate	narrowly elliptic to

				obovate
joint size	2 to 6 or 13 inches long, 1-1/2 to 4 or 6 inches broad	4 to 5 inches long, about 2 inches broad	2 to 4 inches long, 1-1/4 inches broad	3-10 inches long, 2 to 4 inches broad
Areole shape and size	Circular, 1/16 to 1/8 inch in diameter	Elongate, 1/8 inch long,1/24 inch broad	as in *basilaris*	Circular, 1/8 in broad
Flower color	Cerese	Cerese	Yellow	Cerese
Seed Margin	Inconspicuous	Unknown	Large and Irregular	Inconspicuous
Geographical distribution	AZ from Mohave Co to Yavapai, W Maricopa and W Yuma, S Calif, southernmost Utah, N Sonora Mexico.	Granite Rapids GCNP	Northern edge AZ, southern edge Utah.	NW most AZ, California.

According to the Flora of North America (2015), *O. basiolaris* var. *longiareolata* has stem segments essentially spineless (rarely 1 to few per stem segment); stem segments are spatulate to elongate, usually decumbent; areoles 4-8(-9) per diagonal row across midstem segment; and found in Arizona and Utah (not California).

ILLUSTRATIONS:

Photos and Herbarium Mounts: http://swbiodiversity.org/seinet/taxa/index.php?taxon=Opuntia%20basilaris%20var.%20longiareolata.

Photos: http://eol.org/pages/404509/media.

TOTAL RANGE: Arizona and Utah (only in Flora of North America).

RANGE WITHIN ARIZONA: From near the Utah border in Paria Canyon, into the Grand Canyon at Marble Canyon, Granite Gorge and Bright Angel Canyon, and as far west as near Diamond Creek and Quartermaster Canyon. One location in the Little Colorado River Gorge.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Succulent shrub, clump-forming.

PHENOLOGY: Flowering: Spring, March-April.

BIOLOGY:

HABITAT: Mohave and Great Basin deserts, clay hills, canyon bottoms to bluffs.

ELEVATION: 1970 – 2550 feet (600-1600m}.

EXPOSURE: Various.

SUBSTRATE: Various associated with multiple Grand Canyon geological strata.

PLANT COMMUNITY: Mohave and Great Basin Desert Shrub. Associated plants include: *Ephedra torreyana, Atriplex navajoensis, A. confertifolia, Atriplex canescens, Stanleya pinnata, Echinocereus engelmannii, Echinocactus polycephalus xeranthemoides, Salvia dorrii dorrii, Acacia greggii, Yucca elata, Calycoseris parryi, Opuntia polyacantha, Chaenactis stevioides, Lycium californicum, Psorothamnus arborescens pubescens, Coleogyne ramosissima, Porophyllum gracile, Encelia resinifera, Brickellia atractyloides, Galium, Aristida, Encelia farinosa, Eriogonum inflatum, Lycium, Thymophylla pentachaeta, Atriplex canescens, Gutierrezia, Bouteloua curtipendula, Aloysia wrightii, Artemisia ludoviciana, Baccharis salicifolia, Mimosa biuncifera, Yucca baccata, Mirabilis bigelovii, Dyssodia porophyllum, Rhus trilobata, Agave utahensis, Panicum, Isocoma, Populus, Acourtia, Typha, Equisetum, Dyssodia, Fallugia paradoxa, Sphaeralcea grossulariifolia, Eriogonum trichopes, E. inflatum, Phacelia crenulata corrugata/angustifolia, P. ambigua, Langloisia setosissima, Erodium cicutarium, Cryptantha racemosa, Cryptantha barbigera, Bebbia juncea, Perityle emoryi, Acacia greggi, Nemacladus glanduliferus, Camissonia chamaenerioides, Camissonia multijuga, Adenophyllum porophylloides, Maurandella antirrhiniflora, Dasychloa pulchella, Allionia incarnata, Parietaria pensylvanica, Plantago patagonica, Bothriochloa intermedia, Gilia, Chaenactis stevioides, Thymophylla pentachaeta belenidium, Brickellia microphylla scabra, Mentzelia affinis, M. cronquistii, Nicotiana obtusifolia obtusifolia, Sphaeralcea ambigua, Descurainia pinnata, Achnatherum speciosum, Lycium andersonii, Opuntia polyacantha cf nicholii, Opuntia phaeacantha, Astragalus calycosus, Eriogonum inflatum, Lycium, Thymophylla pentachaeta, Suaeda, Prosopis glandulosa, Schismus, Bromus rubens, Tiquilia latior, Ephedra viridis, Artemisia bigelovii, Lycium andersonii, Rhus aromatica, Ptelea trifoliata, Cercis occidentalis, Cylindropuntia whipplei.*

POPULATION HISTORY AND TRENDS: When originally published in 1950, *O. b.* var. *longiareolata* was known from a single specimen from the type locality, and Benson stated that "the validity of this variety is dubious." Now, more than 75 years later, the variety has remained recognized. There are now 24 known collections. These are primarily concentrated in the eastern portions of the Grand Canyon, from Marble Canyon to Granite Gorge. The sites extend from the river to the surrounding canyons and benches. Many of the collections note that the cactus is locally common, and many of the collection sites have been visited over multiple years. The distribution also extends from the upper parts of Paria Canyon near the Utah border and downstream almost to Lake Mead. A 2013 collection from the Little Colorado River Gorge extends the range out of the Grand Canyon to the east. NatureServe, which last reviewed the status in 2005 and noted the number of occurrences to be 1-5, considers the variety to be "imperiled." Current data suggests that perhaps the plant merits only a vulnerable ranking based on the number of occurrences. The population trend appears to be stable. The fact the vast majority of the known range is within national park or designated wilderness lands also augments the sustainability for this cactus.

SPECIES PROTECTION AND CONSERVATION

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

MANAGEMENT FACTORS: None specified.

PROTECTIVE MEASURES TAKEN: In addition to protection as a "Salvage Restricted" species under Arizona Native Plant Law, the majority of the known collection sites are either within the Grand Canyon National Park or a Bureau of Land Management Wilderness Area.

SUGGESTED PROJECTS: None.

LAND MANAGEMENT/OWNERSHIP: The majority of the known collections are from within the USDI National Park Service Grand Canyon National Park. Other land ownerships include the USDI Bureau of Land Management Paria-Vermillion Cliffs Wilderness Area and the USDI Bureau of Indian Affairs, both the Navajo Nation and Hualapai Indian Reservations.

SOURCES OF FURTHER INFORMATION

REFERENCES:

Benson, Lyman. 1981. The Cacti of Arizona. 3rd edition. University of Arizona Press, Tucson, AZ. pp. 218.

Flora of North America (eFloras.org), accessed 11/30/2015, http://www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=242415217.

NatureServe Explorer, accessed 11/30/2015, http://explorer.natureserve.org/index.htm.

Pinkava, Donald. 2003. Vascular Plants of Arizona, Cactaceae, Part Six, *Opuntia* P. Miller. Jour. Az-Nev. Acad. Sci. 35(2): 137-150.

Tropicos, accessed 11/30/2015, http://www.tropicos.org/Name/50207911.

MAJOR KNOWLEDGEABLE INDIVIDUALS:

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ADDITIONAL INFORMATION: The elongate areoles that the specific epithet implies are not at all characteristic for *Opuntia basilaris* var. *longiareolata* and are sometimes found on plants of other varieties (Flora of North America 2015).

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