



ARIZONA GAME AND FISH DEPARTMENT  
HERITAGE DATA MANAGEMENT SYSTEM

Plant Abstract

Element Code: PDROS1J153

Data Sensitivity: No

**CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE**

**NAME:** *Rosa stellata* ssp. *abyssa* A. Phillips  
**COMMON NAME:** Grand Canyon rose, desert rose  
**SYNONYMS:** *Rosa stellata* var. *abyssa* (A. Phillips) N.H. Holmgren  
**FAMILY:** Rosaceae

**AUTHOR, PLACE OF PUBLICATION:** A.M. Phillips III, Madroño 39(1): 31-35, f. 1. 1992.

**TYPE LOCALITY:** Twin Point, Shivwits Plateau, Mohave County, Arizona, USA, 1823 m.

**TYPE SPECIMEN:** HT: ARIZ. A.M. Phillips, III #80-103, 15 June 1980. IT: ASC, ASU, DES, MNA, MO, NY, UNLV, UNM, US.

**TAXONOMIC UNIQUENESS:** The subspecies *abyssa* is 1 of 3 in the species *Rosa stellata*; there are 56 species in the genus. "The most apparent morphological difference between *R. s. ssp. abyssa* and all other taxa of *R. stellata* is the consistent presence of very robust, dense prickles on the hypanthium of the Arizona specimens. Although the hypanthium prickles are somewhat variable in the specimens from New Mexico and Texas, they are not as dense as in Arizona specimens." (Phillips 1992).

**DESCRIPTION:** Low-growing clonal, woody shrub with numerous stiff upright stems 2.5-15 dm (10-60 in.) long, and armed with numerous long straight white to straw-colored paired infrastipular thorns, and with or without scattered internodal bristles and prickles. Stems brown, densely pubescent with short stipitate glands, these often encircled by stiff, white, stellately arranged basal pubescence. Leaves with 3-5 wedge shaped leaflets, rounded at broad apex, 5-12 mm long and 3-9 mm wide, sometimes with a few bristles, without glands except immediately below flowers, with 4-8 teeth above the middle; stipules attached to the petiole for half or more of their length; leaves turn bright red in the fall. Flowers solitary at the ends of the stems, about 5 cm (2 in) across; sepals oval, broad at base, to 2.5 cm (1.0 in) long with 2 or more lobes and with free tips; petals dark pink, obovate, 1.5-2.0 cm (0.6-0.8 in.) wide and slightly longer. Hypanthium densely bristly with long, stout, straight prickles, some gland-tipped. Fruit is very spiny, roundish, enclosed by the sepals, 1.0-1.8 cm in diameter; seeds brown, smooth, about 4.0 mm long.

**AIDS TO IDENTIFICATION:** Three leaflets, length equals width; white straight thorns; densely bristly hypanthium. Leaves turn bright red in the fall and contrast with the white thorns. The Arizona rose (*Rosa woodsii*) has brown curved spines, lacks stellate pubescence, has fruits without prickles, and is generally found at higher elevations in more mesic habitats (Phillips 1999).

**ILLUSTRATIONS:** Line drawing (Holland et al. 1980 Plate 9)  
Line drawing (Phillips 1992).  
Line drawing (USFWS).  
Color photo of Isotype (MO-4031664, *in*  
[http://mobot.mobot.org/cgi-bin/search\\_vast](http://mobot.mobot.org/cgi-bin/search_vast))  
Color photo of Isotype (NY-429907, *in*  
<http://207.156.243.8/emu/vh/specimen.php?irn=672009>)  
Color photo of Isotype (US-3232490, *in*  
<http://ravenel.si.edu/botany/types/fullRecords.cfm?myFamily=>)

**TOTAL RANGE:** Arizona Strip, rims (mainly north rims) of the Grand Canyon, Kanab Canyon, and junction of Little Colorado River and Big Canyon in northern Arizona.

**RANGE WITHIN ARIZONA:** Coconino and Mohave counties. See “**Total Range.**”

## **SPECIES BIOLOGY AND POPULATION TRENDS**

**GROWTH FORM:** Woody perennial shrub.

**PHENOLOGY:** Flowering May-June; fruiting September.

**BIOLOGY:** Most observed young plants come from underground vegetative parts and not from rose fruits.

**HABITAT:** All known populations are on or near canyon rims or the tops of cliffs at the edges of mesas or plateaus, along low ledges at depressions caused by breccia pipes. Kanab Canyon: rim on low limestone breaks and in small, shallow drainages. Twin Point: on deeper soils along west edge, Kaibab limestone bedrock outcropping in places.

**ELEVATION:** 4,500 - 7,540 ft. (1373 - 2300 m).

**EXPOSURE:** Open

**SUBSTRATE:** Limestone-red clay soils. Gravelly soils derived from Tinowear Kaibab limestone (Phillips 1999).

**PLANT COMMUNITY:** Great Basin Conifer Woodland, and Great Basin Desertscrub. Associated species include: *Agave utahensis* (Utah agave), *Amelanchier utahensis* (Utah serviceberry), *Artemisia tridentata* (Big sagebrush), *Astragalus newberryi* (Newberry's milk-vetch), *Coleogyne ramosissima* (Blackbush), *Ephedra viridis* (Green Mormon-tea), *Eriogonum* (buckwheat), *Fallugia paradoxa* (Apache-plume), *Fendlera rupicola* (Cliff fendler-bush), *Gutierrezia* (snakeweed), *Juniperus osteosperma* (Utah juniper), *Pinus monophylla* (Single-leaf pine), *Purshia mexicana* (Mexican cliffrose), *P. stansburiana*

(Stansbury cliffrose), *Shepherdia rotundifolia* (Roundleaf buffaloberry), and *Yucca baccata* (Fleshy-fruit Yucca). (From collections in SEINet, accessed 2005).

**POPULATION TRENDS:** Kanab Canyon population decreasing; trends at Twin Point unknown.

## **SPECIES PROTECTION AND CONSERVATION**

**ENDANGERED SPECIES ACT STATUS:** None (USDI, FWS 1996)  
Category 2 (USDI, FWS 1990)

**STATE STATUS:** Salvage Restricted (ARS, ANPL 1993)

**OTHER STATUS:** Forest Service Sensitive (USDA, FS Region 3 1990, 1999)  
Bureau of Land Management Sensitive (USDI, BLM AZ 2000)

**MANAGEMENT FACTORS:** Wildlife may browse on this plant, especially rabbits; grows in breccia pipes where uranium prospects have been concentrated.

**CONSERVATION MEASURES TAKEN:** BLM established a monitoring plot at Clear Water Point.

**SUGGESTED PROJECTS:** Search other potential sites between Kaibab and Shivwits Plateaus. Potential habitat on the Kaibab National Forest is between Jumpup Point and Snake Gulch. Continued monitoring and mapping of known sites.

**LAND MANAGEMENT/OWNERSHIP:** BIA - Navajo Nation; BLM - Arizona Strip Field Office; NPS - Grand Canyon National Park and Lake Mead National Recreation Area.

## **SOURCES OF FURTHER INFORMATION**

### **REFERENCES:**

- Arizona Revised Statutes, Chapter 7. 1993. Arizona Native Plant Law. Appendix A:11.
- Correll, D.S. and M.C. Johnston. 1970. Manual of the vascular plants of Texas. Texas Research Foundation. Renner, Texas. P. 753-755.
- Holland, J.S., W.E. Niles, and D.R. Schramm. 1980. A guide to the threatened and endangered vascular plants of the Lake Mead National Recreation Area. National Park Service/University of Nevada, Las Vegas, LAME Technical Report no. 4.
- Integrated Taxonomic Information System (ITIS). Retrieved 8/3/2005 from ITIS, <http://www.itis.usda.gov>.
- Kearney, T.H., R.H. Peebles with collaborators. 1960. Arizona flora. Second edition with supplement by J.T. Howell, E. McClintock and collaborators. University of California Press. Berkeley, California. P. 93.

- Martin, W.C. and C.R. Hutchins. 1980. A flora of New Mexico. In der A.R. Gantner Verlag Kommanditgesellschaft. Germany. I:924-926, 933.
- McDougall, W.B. 1973. Seed plants of northern Arizona. The Museum of Northern Arizona. Flagstaff, Arizona. P. 594.
- Missouri Botanical Garden – TROPICOS, Nomenclatural Data Base. *Rosa stellata* subsp. *abyssa* A.M. Phillips. [http://mobot.mobot.org/cgi-bin/search\\_vast](http://mobot.mobot.org/cgi-bin/search_vast). Accessed: 3 Aug 2005.
- NatureServe. 2005. NatureServe Explorer: An online encyclopedia of life [web application]. Version 4.5. NatureServe, Arlington, Virginia. Available: <http://www.natureserve.org/explorer>. (Accessed: August 3, 2005).
- Phillips, A.M., III. 1992. A new subspecies of *Rosa stellata* (Rosaceae) from northwestern Arizona. *Madroño* 39(1): 31-35.
- Phillips, A. 1999. *Rosa stellata* Wootton ssp. *abyssa* A. Phillips (Grand Canyon Rose), Rosaceae. Draft abstract from Arizona Rare Plant Book, in prep.
- SEINet. Collections Search Result. Accessed 8/3/2005 at <http://seinet.asu.edu/collections/list.jsp>.
- The New York Botanical Garden. NYBG Specimens Search Results. [http://207.156.243.8/emu/vh/specimen\\_list.php?irn=672009](http://207.156.243.8/emu/vh/specimen_list.php?irn=672009). (Accessed: 8/3/2005).
- U.S. National Herbarium Type Specimen Register (US). <http://ravenel.si.edu/botany/types/fullRecords.cfm?myFamily=>. Accessed: 8/3/2005.
- USDA, Forest Service Region 3. 1990. Regional Forester's Sensitive Species List.
- USDA, Forest Service Region 3. 1999. Regional Forester's Sensitive Species List.
- USDA, NRCS. 2004. The PLANTS Database, Version 3.5 (<http://plants.usda.gov>). National Plant Data Center, Baton Rouge, LA 70874-4490 USA.
- USDI, Bureau of Land Management. 2000. Arizona BLM Sensitive Species List. Instruction Memorandum No. AZ-2000-018.
- USDI, Fish and Wildlife Service. 1990. Endangered and Threatened Wildlife and Plants; Review of Plant Taxa for Listing as Endangered or Threatened Species; Notice of Review. *Federal Register* 55(35):6222.
- USDI, Fish and Wildlife Service. 1996. Endangered and Threatened Wildlife and Plants; Review of Plant and Animal Taxa that are Candidates for Listing as Endangered or Threatened Species; Notice of Review; Proposed Rule. *Federal Register* 60(40): 7596-7613.
- Vines, R.A. 1960, reprint 1994. Trees, shrubs, and woody vines of the Southwest. University of Texas Press. Austin, Texas. Pp. 443-444.

**MAJOR KNOWLEDGEABLE INDIVIDUALS:**

- R.C. Barneby - New York Botanical Gardens, Bronx.
- Lee Hughes - Bureau of Land Management, Arizona Strip Field Office, St. George, Utah.
- Art Phillips - Private consultant, Flagstaff, Arizona.

**ADDITIONAL INFORMATION:**

- Phillips (1992): The Arizona localities of *Rosa stellata* are disjunct by at least 750 km (465 miles) from the nearest localities of the species in New Mexico. Lewis (1965) did not include Arizona specimens in his monograph of the group, although the species has been known from

the rims of the Grand Canyon since 1908. Except for one locality west of Grand Canyon Village, the plants are north of the Grand Canyon at the rims of canyons and points. Increasingly, areas on public lands are undergoing development for uranium mining. The populations are local, consisting of a few to a few hundred plants in an area up to a few acres in size, and the few known localities are widely separated.

R.C. Barneby (Summer, 1979): saw plants in great abundance on Kaibab Plateau--probably less rare than overlooked.

The genus name, *Rosa*, is the ancient Latin name. The species name, *stellata*, refers to the stellate trichomes. (Vines, reprint 1994).

**Revised:** 1991-12-05 (JSP)  
1992-05-21 (BGP)  
1992-09-14 (BKP)  
2002-01-04 (SMS)  
2005-08-18 (SMS)

To the user of this abstract: you may use the entire abstract or any part of it. We do request, however, that if you make use of this abstract in plans, reports, publications, etc. that you credit the Arizona Game and Fish Department. Please use the following citation:

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.