

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

Plant Abstract

Element Code: PDPAP03030

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE



NAME: *Argemone arizonica*
COMMON NAME: Roaring Springs prickly-poppy, Arizona prickly-poppy
SYNONYMS: *Argemone platyceras* Fedde (in part)
FAMILY: Papaveraceae

AUTHOR, PLACE OF PUBLICATION: G.B. Ownbey, Memoirs of the Torrey Bot. Club 21(1): 91-93, f. 14, 18. 1958. This species was first collected in the Grand Canyon by F.H. Knowlton in 1880, but not described until 1958 by Ownbey.

TYPE LOCALITY: Along North Kaibab Trail to Roaring Springs (between Supai Tunnel at 6,800 ft. and footbridge at 6,000 ft.), north side Grand Canyon, Coconino County, Arizona.

TYPE SPECIMEN: HT: CAS. A. Eastwood and J.T. Howell 1003. 1939. IT: POM.

TAXONOMIC UNIQUENESS: A complicated taxonomic group. A distinct species in a genus of approximately 30 species in North and South America. USDA (2002) reports that *Argemone arizonica* is 1 of 16 species in the genus *Argemone*. Closely related to *A. pleiakantha* ssp. *pleiakantha*.

DESCRIPTION: Thistle-like perennial herb, 50-80 (100) cm (20-32 (39) in.) tall. Stems one to several, often multiple and sprawling; stems densely covered with spines, about 60-80 perpendicular prickles per square cm of surface, the largest prickles being 7-10 mm long. Leaves sessile with distinctive blue-green cast, deeply and distantly lobed to near the midrib, the narrow lobes often 5 or more times as long as wide. Leaves are prickly on the veins and remotely prickly on the primary and secondary veins above. Lower leaves up to 20 cm (8.0 in.) long, upper leaves smaller. Flowers consist of 6 white petals, 7-10 cm (2.8-4.0 in.) wide; purple stigma and numerous (150+) yellow stamens; **5 sepals with terete subterminal horn 12-15 mm long, tipped by an indurated prickle.** Fruit is a narrowly spindle-shaped (or fusiform), 3-lobed capsule, 10-14 mm wide and 35-45 mm (1.4-1.8 in.) long. Fruit surface densely covered with straight spines 8-10 mm long (Ownbey 1958, Ownbey et al. 1998).

AIDS TO IDENTIFICATION: Very similar to the widespread *A. pleiakantha*. Obvious divided leaves, with divisions almost to the mid-rib; prickles long, slender uneven sized; herbage blue-green; sepal horn (terminal spine of the sepals before the flower opens) unusually long and round (not flat in cross-section); clear sap; and stems diffusely branching, often sprawling. *Argemone pleiakantha* ssp. *pleiakantha* and *A. munita* have leaves prickly on and between the veins or leaves not as deeply lobed (Falk and Jenkins, et al. 2001).

ILLUSTRATIONS: Photo of seeds & drawing of dehiscent capsule (Gunn and Seldim 1976:30)
Line drawings of leaf, capsule and bud (Ownbey 1958:92)
B&W line drawing (Falk and Jenkins, et al., 2001)
Color photo of plant (Nancy Brian, *in* Falk and Jenkins, et al., 2001)
Color photo of habitat (Kathy Warren, *in* Falk and Jenkins, et al., 2001)
Photos of flowers and fruit (M. Koopman 2001, *in* Brian and Koopman, 2002: p. 9)

TOTAL RANGE: Found only in Roaring Springs Canyon along the North Kaibab Trail, Grand Canyon National Park, Coconino County, Arizona.

RANGE WITHIN ARIZONA: See “Total Range.”

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Herbaceous perennial.

PHENOLOGY: Flowers April - September; fruits July (August) – October.

BIOLOGY: Very little known about this species. Latex reported to be very pale lemon-yellow, but observed to be clear. Exposure to oxygen may play a factor in the color of the latex.

HABITAT: Steep, south-facing, unstable slopes and rock-slides in the pinyon-juniper/desertscrub community of the Supai Formation, 6,000-6,800 ft (1830-2075 m) elevation. According to NatureServe (2002), found at 1000-2000 m elevation, on rocky, steep slopes in pine forests and on north and south walls of canyons.

ELEVATION: 6,000 - 7,000 ft. (1830 - 2135 m).

EXPOSURE: South.

SUBSTRATE: Lower 2 members of Supai Formation: Manakacha and Watahomigi.

PLANT COMMUNITY: Pinyon-juniper series of the Great Basin Conifer Woodland. Dominant associated species include: *Cercis occidentalis* var. *orbiculata*, *Robinia neomexicana*, *Garrya flavescens*, *Populus fremontii*, *Quercus gambelli*, *Ostrya knowltonii*, *Penstemon pachyphyllus*, and *Oryzopsis hymenoides*. Other associated species include: *Macarantthera* spp., *Gutierrezia* spp., *Hedeoma* spp., *Clematis* spp., *Heterotheca villosa*, *Solidago* spp., *Rubus neomexicana*, *Gara* spp., *Bromus tectorum*, *Atriplex* spp., *Dalea* spp., *Ephedra* spp., *Hilaria* spp., *Sphaeralcea* spp., *Ceanothus* spp., *Opuntia* spp., *Purshia stansburiana*, *Yucca* spp., and *Pinus edulis*.

POPULATION TRENDS: Overall trend is unknown. In 1993, 300 plants were observed while 100 plants were observed in 1998.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None, (USDI, FWS 1996)
[Category 2, USDI, FWS 1993]
[Category 2, USDI, FWS 1990]
[Category 2, USDI, FWS 1985]
[Category 2, USDI, FWS 1980]
PTN-T (USDI, FWS 1975)

STATE STATUS: None

OTHER STATUS: Not Forest Service Sensitive (USDA, FS
Region 3 1999)
[Forest Service Sensitive, USDA, FS Region
3 1990]

MANAGEMENT FACTORS: Due to the unstable nature of this taxon's habitat, the known population should be monitored yearly to follow trends and ascertain threats.

CONSERVATION MEASURES TAKEN: The species is protected from disturbance and harm by virtue of its location in Grand Canyon National Park.

SUGGESTED PROJECTS: Surveys of the lower 2 members of the Supai Formation in canyons adjacent to Roaring Springs Canyon should be conducted.

LAND MANAGEMENT/OWNERSHIP: NPS - Grand Canyon National Park.

SOURCES OF FURTHER INFORMATION

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MAJOR KNOWLEDGEABLE INDIVIDUALS:

- Nancy Brian – USDI, Oregon.
- Margaret M. Koopman – Grand Canyon National Park, AZ.
- Dr. Gerald Ownbey - Department of Plant Biology, University of Minnesota, St. Paul, Minnesota.
- Sue Rutman - Organ Pipe National Monument, National Park Service, Ajo, Arizona.

ADDITIONAL INFORMATION:

The name *Argemone* is from the Greek word for ocular cataract, supposedly remedied by sap of other plants with this name, and *arizonica* means of or from Arizona.

McDougall (1973:189) refers to this species as occurring on both the north and south walls of the Grand Canyon. However, as the taxonomic status of *Argemone arizonica* is considered here, the species is only known from the type locality on the north side of the Grand Canyon.

Gierisch has collected *Argemone* several places in the vicinity of Marble Canyon and the Vermilion Cliffs that appear to be *A. munita*.

Summarized in a memo by Rutman (1992), John Anderson (BLM Phoenix District) reported that specimens of *Argemone arizonica* from everywhere except the Grand Canyon have been annotated to other *Argemone* species, mostly *A. pleiacantha*. This includes specimens from: southwestern House Rock Valley, Paria River, and Vermilion Cliffs area, Coconino County, Arizona; and the Cerbat Mountains, Mohave County, Arizona.

The type locality was “re-discovered” by Rutman in July 1992. The site had not been located during the previous 15 years. Specimens of *Argemone* were subsequently collected by Grand Canyon National Park staff (Linda Mazzu) and tentatively identified as *A. arizonica* by the Museum of Northern Arizona. The Museum of Northern Arizona plans to send the specimens to Roger Ownbey for verification. A 1998 collection was confirmed by Dr. Gerald Ownbey. Specimens deposited at Grand Canyon National Park, Desert Botanical Garden, Northern Arizona University, and University of Minnesota herbariums.

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