

ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Plant Abstract

Element Code: PDSAX0P0A0

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Parnassia parviflora*
COMMON NAME: Grass of Parnassus
SYNONYMS: *Parnassia palustris* var. *parviflora*
FAMILY: Celastraceae

AUTHOR, PLACE OF PUBLICATION: Candolle, Augustin Pyramus de. Prodrromus Systematis Naturalis Regni Vegetabilis 1:320. 1824.

TYPE LOCALITY: Canada

TYPE SPECIMEN: BM 001024214 (holotype). Joseph Banks, SN. 1766.

TAXONOMIC UNIQUENESS: The genus *Parnassia* has some 70 species, with the majority occurring in China. There are nine species found in North America. Depending on the taxonomy followed, there are either one or two species in Arizona: *P. parviflora* and/or *P. palustris* var. *parviflora*.

Kartesz (1999) has moved some material from the southwestern U.S. (CA, NV, UT, AZ, NM and CO) out of *Parnassia parviflora* to create this narrower concept which is now treated under a new broader concept of *P. palustris*. *P. palustris* var. *parviflora* of Kartesz (1999) is narrower than *P. parviflora* of Kartesz (1994).

DESCRIPTION: Stems 2-4(-7), 12-20(-30) cm, usually with 1 leaf near middle. Basal leaves 3 to numerous; petiole 3-6(-8) cm; leaf blade abaxially greenish, often purple punctate, adaxially deep green, ovate or long ovate, occasionally triangular-ovate, 1.5-3 × 1-2.5 cm, base subcordate, apex rounded-obtuse or acuminate, often apiculate. Cauline leaf sessile, semiamplexicaul, similar to basal leaves, base often with several rusty brown appendages. Flower 2.2-3(-3.5) cm in diam.; hypanthium inconspicuous. Sepals densely purple-brown punctate, elliptic or oblong, 5-8 × 3-5 mm, margin entire, apex obtuse. Petals white, often purple punctate, broadly ovate or obovate, 1-1.5(-1.8) × 0.7-1(-1.3) cm, base with a short claw, margin entire or occasionally inconspicuously erose, apex rounded-obtuse or shortly acuminate. Anthers ellipsoid, ca. 3 mm; filaments 2.2-7 mm; staminodes to 1 cm, divided into (7-)9-21 filiform rays with globose glands at apex. Ovary superior, ovoid; style very short; stigma 4-lobed. Capsule ovoid. Seeds brown, glossy, oblong. EOL 2014.

AIDS TO IDENTIFICATION: Plants herbaceous, fertile stamens 5, leaves mostly basal. Staminodia in clusters, flowers relatively large, solitary on long peduncles; carpels 3 or 4. Kearney and Peebles 1960.

ILLUSTRATIONS:

Photos and Herbarium Mounts: <http://eol.org/pages/583376/media?page=1>.

TOTAL RANGE: The global distribution is circumboreal and includes North America, northern and central Asia, North Africa and Europe (EOL 2014). In the U.S., the species extends from the Canada south through the Rocky Mountain states (Idaho, Montana, Wyoming, Colorado), into Utah, Nevada, east-central California, northern Arizona and New Mexico south to Mexico. There are also U.S. populations in Michigan and Wisconsin and the Dakotas.

RANGE WITHIN ARIZONA: The six collections in Arizona are dispersed from single sites in the West Fork Oak Creek (Coconino County) and near Greer, and four sites west of the Chuska Mountains in NE Arizona (Apache County).

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Perennial, herbaceous forb with a basal rosette of leaves.

PHENOLOGY: Flowers: July to September. Fruits: October (EOL 2014). Flowers were collected in Arizona from July to September. One collection reported fruits in July.

BIOLOGY:

HABITAT: Range-wide: moist grassy slopes, stream sides, shaded moist places in valleys, grassy fields. Most Arizona collections were made from riparian settings, as well as seeps, springs and one north facing dry hanging garden.

ELEVATION: Collections in Arizona range from 5325 to 8270 feet (1624-2521m).

EXPOSURE: Not specified.

SUBSTRATE: Moist to saturated soils; one site specified moist silty to silty sand soils.

PLANT COMMUNITY: In Arizona, mostly mid- to higher-elevation riparian communities. Plant species mentioned at Arizona collection sites include *Mimulus*, *Alnus*, *Cornus* (West Fork Oak Creek) and *Pseudotsuga menziesii*, *Pinus ponderosa*, *Cornus*, *Alnus*, *Poa*, Manna grass, *Campanula parryi*, *Ranunculus inamoenus*, *Bromus carinatus*, *Cirsium parryi*, *Kelloggia galioides*, *Anthericum torreyi*, *Descurainia*, *Monotropa hypopitys* (Tsaile Creek).

POPULATION HISTORY AND TRENDS: Unknown in Arizona. Two of the six known collection sites document a presence over multiple years: 80 years for West Fork Oak Creek, and 20 years for Tsaile Creek. Populations in these localities may be considered stable. Other collections represent a single occurrence, sometimes historical. Because very few collections are known from the State, NatureServe lists the species as critically imperiled for Arizona. The presence of *P. parviflora* in Arizona and New Mexico represent the southern extension of its circumboreal range, and overall the species is not at risk.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None.
STATE STATUS: None.
OTHER STATUS: None.

MANAGEMENT FACTORS: None specified, but given *P. parviflora* is essentially an obligate riparian species in Arizona, any management activities that adversely affect riparian settings (especially along the West Fork Oak Creek and Tsaile Creek) could have negative impacts on the species.

PROTECTIVE MEASURES TAKEN: None, but several of the collection sites within Arizona derive some protection through their associated land ownership. The multi-year collection sites along West Fork Oak Creek Canyon are within Coconino National Forest and a wilderness area. Another collection site is on a private land holding with Apache-Sigreaves NF, and two others are within US National Park Service Canyon de Chelly National Monument.

SUGGESTED PROJECTS: Revisit the historical collection sites to determine if the species is still extant.

LAND MANAGEMENT/OWNERSHIP: Coronado National Forest, Red Rock Secret Mountain Wilderness Area; U.S. National Park Service Canyon de Chelly National Monument; a private holding within Apache-Sitgreaves National Forest; and the Mavajo Nation.

SOURCES OF FURTHER INFORMATION

REFERENCES:

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MAJOR KNOWLEDGEABLE INDIVIDUALS:

ADDITIONAL INFORMATION: Named by Linnaeus in 1753 after Mount Parnassus in Greece. Common name is misleading because the plant is not at all grass-like.

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