

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

Plant Abstract

Element Code: PDCAR0X160

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Stellaria porsildii* Chinnappa

COMMON NAME: Porsild's Starwort

SYNONYMS:

FAMILY: Caryophyllaceae

AUTHOR, PLACE OF PUBLICATION: C.C. Chinnappa, Syst. Bot. 17(1): 29-31, f. 1. 1992.

TYPE LOCALITY: Signal Peak, Gila National Forest, Pinos Altos Range, Grant County, New Mexico, United States of America.

TYPE SPECIMEN: HT: UAC. C.C. Chinnappa et al. 2934, 14 June 1987. IT: CAN, DAO, NMC.

TAXONOMIC UNIQUENESS: A recently described species of the genus *Stellaria*, that is 1 of 7 species in Arizona, and 1 of 31 in North America. Worldwide, there are about 120 species in this genus (Hickman 1993).

DESCRIPTION: Herbaceous perennial, with slender rhizomes. Erect stems are glabrous, 9-18 cm (3.5-7 in) tall, occasionally growing as clumps but usually uniformly scattered in shaded areas. Leaves green, opposite, sessile, and linear to linear-lanceolate, 27-35 mm long, ciliate at the base. Flowers are solitary in the axils of normal-sized green leaves; peduncles 18-32 mm long. The green sepals are ovate-lanceolate, glabrous, 4-6 mm long. White petals 5, deeply bi-lobed, very broad, exceeding the calyx; styles 3. Flowers are protandrous, self-compatible. Capsules are oblong, black, 6-8 mm long; seeds dark brown, 0.8-1.0 mm in diameter. Chromosomes: $2n=26$. (Chinnappa 1992).

AIDS TO IDENTIFICATION: *Stellaria porsildii* is most similar to taxa in the *Stellaria longipes* complex. However, it differs from *S. longipes* var. *longipes* and *S. longipes* var. *arenicola* by having upright stems that do not form dense mats, and by having solitary flowers in the axils of normal-sized leaves, instead of the flowers being in well-developed cymes. *S. porsildii* is a diploid taxon, while the two varieties of *S. longipes* are polyploid taxa. (Chinnappa 1992).

ILLUSTRATIONS: Line drawing (Chinnappa, 1992: P. 30, Fig. 1)

Line drawing (USFWS).

Color photo of Isotype (NYBG, accessed 4/28/2004 at

http://scisun.nybg.org:8890/searchdb/owa/wwwcatalog.detail_list?this_id=4437867)

Line drawing (Lange, in <http://nmrareplants.unm.edu/reports/stepor.htm>)

Color photo of plant (R. Silvinski, in

<http://nmrareplants.unm.edu/reports/stepor.htm>)

Color photos of plant and habitat (K. Heil, in

<http://nmrareplants.unm.edu/reports/stepor.htm>)

Line Drawing (In Falk, Jenkins et al. 2001)

Color photos of plant and habitat (M. Baker, in Falk, Jenkins et al. 2001)

TOTAL RANGE: Southeastern Arizona and a single peak in adjacent southwestern New Mexico.

RANGE WITHIN ARIZONA: Chiricahua Mountains, Cochise County.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Herbaceous perennial.

PHENOLOGY: Flowers June-July (?).

BIOLOGY: The stems of this species apparently do not surface during periods of prolonged drought (Chinnappa 1992).

HABITAT: Found in partially shaded understory of pine, Douglas fir and oak. It has also been found in open meadows at 7,000-8,000 (2130-2440 m) elevations. (Falk, Jenkins et al. 2001). In New Mexico, this species is typically found in partially open understory, on roadsides, and under edges of forest in Rocky Mountain Montane Conifer Forest communities. In Arizona, this species is found in open parkland type habitat and at the edge of meadows in Madrean Montane Conifer Forest communities (Chinnappa 1992).

ELEVATION: Approximately 8,000 - 9,200 feet (2440-2800 m). Falk, Jenkins et al. (2001) reports elevation from 7,000-8,000 feet (2130-2440 m).

EXPOSURE: Partially shaded.

SUBSTRATE:

PLANT COMMUNITY: This species occurs in Madrean Montane Conifer Forest communities (Arizona) and Rocky Mountain Montane Conifer Forest communities (New Mexico), as defined by Brown (1994). Associated plants in New Mexico include: *Fragaria* sp. (), *Lupinus* sp. (lupine), *Pinus* sp. (pine), *Populus tremuloides* (quaking aspen), *Pseudotsuga menziesii* (Douglas-fir), *Pteridium* sp. (fern), *Quercus* sp. (oak), *Robinia neomexicana* (New

Mexico locust), *Senecio* sp. (groundsel), *Smilacina* (= *Maianthemum*) sp. (Solomon's-plume), *Vicia* sp. (vetch), and *Viola* sp. (violet). (Chinnappa 1992).

Associated plants in Arizona include: *Abies concolor* (white fir), *Achillea millefolium* (common yarrow), *Agrostis scabra* (rough bentgrass), *Androsace septentrionalis* (pygmy-flower rock-jasmine), *Arenaria lanuginosa* (spreading sandwort), *Bromus marginatus* (large mountain brome), *Bromus* sp., *Carex egglestonii* (Mt. Shasta sedge), *Cerastium nutans* (nodding chickweed), *Chenopodium neomexicanum* (New Mexico goosefoot), *Commelina dianthifolia* (birdbill day-flower), *Cystopteris tenuis* (a bladderfern), *Delphinium* sp. (larkspur), *Draba petrophila* (rock whitlow-grass), *Dugaldia hoopesii* (orange-sneezeweed), *Geranium richardsonii* (Richardson geranium), *Gnaphalium viscosum* (winged cudweed), *Halenia recurva* (Mt. Graham spurred-gentian), *Iris missouriensis* (western blue iris), *Koeleria macrantha* (prairie junegrass), *Laennecia schiedeana* (pineland conyza), *Phleum pratense* (meadow timothy), *Pinus ponderosa* (ponderosa pine), *Psacalium decompositum* (Sonoran Indian-plantain), *Pseudotsuga menziesii* (Douglas-fir), *Pteridium aquilinum* (bracken fern), *Senecio bigelovii* (Bigelow's groundsel), *S. eremophilus* (desert groundsel), *Solidago missouriensis* (Missouri goldenrod), *Stellaria porsildii* (Porsild's starwort), *Thalictrum fendleri* (Fendler's meadowrue), *Thermopsis* sp., *Trifolium pinetorum* (pinewoods clover), *Valeriana sorbifolia* (pineland valerian), *Verbascum thapsus* (great mullein), *Viola canadensis* (Canada violet), and various species of grasses. (Chinnappa 1992; Baker 1999).

POPULATION TRENDS: Population trends are unknown. This species is apparently only known from 3 populations. Two of these are in the Chiricahua Mountains and one is in the Pinos Altos Range.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS:	None
STATE STATUS:	None
OTHER STATUS:	Forest Service Sensitive (USDA, FS Region 3 1999)

MANAGEMENT FACTORS: Since this taxon is only known from three areas, surveys should be conducted yearly to determine population trends and ascertain threats.

PROTECTIVE MEASURES TAKEN: This species was listed as "Forest Service Sensitive" in 1999.

SUGGESTED PROJECTS: Monitor existing populations and search areas of suitable habitat for new populations, especially in the mountain ranges where this taxon is already known to occur. Studies are needed to look at the effects of forest fires and livestock grazing on this shade-loving species.

LAND MANAGEMENT/OWNERSHIP: BIA – Navajo Nation; USFS - Coronado and Apache-Sitgreaves National Forests, and Gila National Forest in New Mexico (Silver City RD).

SOURCES OF FURTHER INFORMATION

REFERENCES:

- Baker, M.A. 1999. The status of known distributions within Coronado National Forest of *Allium glandulosum*, *Conioselinum scopulorum*, *Eriogonum arisolius*, *Eupatorium bigelovii*, *Lupinus huachucanus* and *Stellaria porsildii*. Final Draft. Prepared for Coronado National Forest. SWBR Project No. 99-0103FLORA. Pp. 14-16.
- Brown, D.E., ed. 1994. Biotic communities: southwestern United States and northwestern Mexico. University of Utah Press. Salt Lake City. 342 pp.
- Chinnappa, C.C. 1992. *Stellaria porsildii*, sp. nov., a New Member of the *S. longipes* Complex (Caryophyllaceae). Systematic Botany 17(1): 29-32.
- Falk, M., P. Jenkins, et al; Arizona Rare Plant Committee. 2001. Arizona Rare Plant Guide. Published by a collaboration of agencies and organizations. Pages unnumbered.
- Hickman, J.C., ed. 1993. The Jepson manual, higher plants of California. University of California Press. Berkeley, California. p. 496.
- Integrated Taxonomic Information System (ITIS). Retrieved 2/4/2004 from ITIS, <http://www.itis.usda.gov>.
- Lehr, J.H. 1978. A catalogue of the flora of Arizona. Desert Botanical Garden. Phoenix, Arizona. p. 53.
- Missouri Botanical Garden – TROPICOS, Nomenclatural Data Base. *Stellaria porsildii* C.C. Chinnappa. http://mobot.mobot.org/cgi-bin/search_vast. Accessed: 28 Apr 2004.
- Mygatt, J. 1999. *Stellaria porsildii* (Porsild's starwort). Accessed 4/28/2004 at <http://nmrareplants.unm.edu/reports/stepor.htm>
- NatureServe. 2004. NatureServe Explorer: An online encyclopedia of life [web application]. Version 3.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: April 28, 2004).
- The New York Botanical Garden. NYBG Specimens Detailed Results. http://scisun.nybg.org:8890/searchdb/owa/wwwcatalog.detail_list. Accessed: 2/4/2004.
- 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.

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Mima Falk - USFWS, Tucson, Arizona.

ADDITIONAL INFORMATION:

The specific epithet honors A.E. Porsild for his knowledge of the *Stellaria longipes* complex.

Revised: 1998-12-10 (DJG)
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