

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

Plant Abstract

Element Code: PDPLM0E0M0

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Polemonium viscosum*
COMMON NAME: Skunkweed, Jacob's Ladder
SYNONYMS:
FAMILY: Polemoniaceae

AUTHOR, PLACE OF PUBLICATION: Nuttall, Thomas. Proc. Acad. Nat. Sci. Philadelphia 4: 10. 1848.

TYPE LOCALITY: R. Mts. (illegible).

TYPE SPECIMEN: Royal Botanic Garden, Kew: K 769118. Nuttall (#s.n.). No date.

TAXONOMIC UNIQUENESS: There are some 26 genera and 380 species in the family Polemoniaceae. Although predominantly occurring in western North America, they are also found in western South America and temperate Eurasia (Wilken and Porter 2005). NatureServe (2015) reports 25 species of *Polemonium* and 15 subspecies or varieties in North America. Arizona has four species: *P. foliosissimum* (with two varieties), *P. pauciflorum* (with two subspecies), *P. pulcherrimum* (with a single subspecies), and *P. viscosum*.

DESCRIPTION: PLANT: Perennial herb with 1-4 stems to 20 cm tall, from an underground, branching caudex. LEAVES: 5-11 cm long, less than 1 cm wide, glandular short pubescent; leaflets 13-39, each usually divided into 3-5 lobes. INFLORESCENCE: capitate to slightly obovoid. FLOWERS: subsessile, the pedicels 1-3 mm long; calyx 6-10 mm long, the lobes shorter than the tube; corolla pale blue to bluish violet, rarely white, funnelform, 15-20 mm long, the lobes rounded, shorter than the tube; anthers included in the throat to slightly exserted; style usually exserted. CAPSULE: 4-5 mm long; seeds 4-5 per locule.

AIDS TO IDENTIFICATION: The genus *Polemonium* can be separated from the other 23 genera found in Arizona because the calyx tube is herbaceous throughout, membranous (not with ribs) and not ruptured in fruit, and is a perennial with leaves pinnately compound.

The four species found in Arizona can be separated using the following key from Wilken and Porter 2005:

- Corolla tubes 20-35 mm long, calyx lobes attenuate.....*P. pauciflorum*
- Corolla tubes less than 20 mm long, calyx lobes rounded or acuminate
 - Inflorescence capitate to obovoid, leaflets divided into 3-5 lobes.....*P. viscosum*

- Inflorescence open, cymose to paniculate, leaflets entire
 - Flowering stems 5-10 dm tall, with 10-15 internodes.....*P. foliosissimum*
 - Flowering stems less than 3 dm tall, with 3-6 internodes.....*P. pulcherrimum*

ILLUSTRATIONS:

Photos and Herbarium Mounts:

<http://swbiodiversity.org/seinet/taxa/index.php?taxon=Polemonium%20viscosum>.

TOTAL RANGE: British Columbia and Alberta Canada; Washington to Montana, south to Arizona and northern New Mexico (not found in California).

RANGE WITHIN ARIZONA: Coconino County, San Francisco Mountain. There is also a single collection from the “Grand Canyon Region.”

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Perennial herb.

PHENOLOGY: Flowering: June – August.

BIOLOGY:

HABITAT: Talus slopes at or above timberline, boulder fields, scree slopes, Krummholtz.

ELEVATION: 9600 - 12630 feet (2927-3850m), based on Arizona collection data.

EXPOSURE: Not specified, but based on collection sites, seems to be found on multiple aspects.

SUBSTRATE: Rocky habitats; type of rock not specified.

PLANT COMMUNITY: Mixed Conifer, alpine, tundra. Plants species noted at collection sites include: *Picea engelmannii*, *Pinus aritata*, *Penstemon whippleanus*, *Pseudocymopterus montanus*, *Lonicera involucrata*, *Festuca*, *Solidago*, *Senecio franciscanus*, *Geum turbinatum*, *Silene acaulis*

POPULATION HISTORY AND TRENDS: *P. viscosum* has been collected and persisted on the peaks of the San Francisco Mountain for over 120 years. While none of the collection records address the relative abundance of the species, there can be no question about its persistence. Due to the extremely localized setting and very few element occurrences, the plant is considered critically imperiled in Arizona by NatureServe 2015. Note that there is also a collection from the “Grand Canyon Region.” Although there was

insufficient information to actually map the collection site, the specimen was reviewed and identified by ASU's Elinor Lehto, a renown botanist. Given *P. viscosum*'s wider distribution beyond Arizona (north to Canada), this range extension is not surprising.

SPECIES PROTECTION AND CONSERVATION

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

MANAGEMENT FACTORS: None specified.

PROTECTIVE MEASURES TAKEN: None specified, but virtually all known occurrences of the species in Arizona are with the Coconino National Forest and the Kachina Peaks Wilderness Area.

SUGGESTED PROJECTS: Obtain estimates on relative abundance, and preferably establish some simple system to monitor population trends (e.g., photo plots). Survey high elevation sites in the Grand Canyon region to determine if the range extension can be better documented.

LAND MANAGEMENT/OWNERSHIP: U.S. Forest Service, Coconino National Forest, Kachina Peaks Wilderness Area.

SOURCES OF FURTHER INFORMATION

REFERENCES:

JStor| Global Plants, accessed 7/20/2015,
<http://plants.jstor.org/stable/10.5555/al.ap.specimen.k000769118>.
NatureServe Explorer, and Encyclopedia of Life, accessed 7/20/2015,
<http://explorer.natureserve.org/index.htm>.
Tropicos, accessed 7/20/2015, <http://www.tropicos.org/Name/25800478>.
Wilken, Dieter H. and J. Mark Porter. 2005. Polemoniaceae Phlox Family. *Canotia* 1: 1-37.

MAJOR KNOWLEDGEABLE INDIVIDUALS:

J. Mark Porter. Rancho Santa Ana Botanic Garden. Claremont, CA 91711.

ADDITIONAL INFORMATION: The plant has a strong skunk like odor when stepped on. This may serve to deter grazing to some extent, although it is utilized some by domestic sheep.

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