

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

Plant Abstract

Element Code: PDPLM0E0B2

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Polemonium flavum* Greene

COMMON NAME: Pinaleno Jacobs Ladder, yellow Jacob's-ladder, fernleaf polemonium

SYNONYMS: *Polemonium foliosissimum* Gray var. *flavum* (Greene) Anway,
Polemonium filicinum Greene

FAMILY: Polemoniaceae

AUTHOR, PLACE OF PUBLICATION: E.L. Greene, Coult. Bot. Gaz. 6: 217. 1881.

TYPE LOCALITY: Pinos Altos Mountains, New Mexico, United States of America.

TYPE SPECIMEN: HT: ? E.L. Greene, 16 Sep 1880. IT: GH, NY.

TAXONOMIC UNIQUENESS: The genus *Polemonium* has about 20-25 species and is distributed in Eurasia, North America and Central America. There are apparently 4 species of *Polemonium* in Arizona. Martin and Hutchins (1981) and Kartesz (1994, 1999) consider *P. flavum* to be a synonym of *P. foliosissimum* var. *flavum*.

DESCRIPTION: Herbaceous perennial, with stout stems that are solitary or few, 40-70 cm (16-28 in) tall (Malusa (2001) reports up to 1 meter (3.27 ft) tall), branched toward the summit, glabrous or glabrate near the base, and sparsely pubescent or glandular above. Numerous leaves are alternate, pinnate or pinnatifid, while the leaflets are lanceolate, not verticillate, acute or acuminate, 10-30 mm long, with the upper ones decurrent and confluent. The inflorescence corymbose, is several- to many-flowered, and somewhat viscid. The campanulate corolla is 10-17 mm long, yellow, sometimes tinged with lavender, with acute lobes that are longer than the tube and throat; staminal filaments somewhat pilose at the base, occasionally exserted. (Martin and Hutchins 1981).

AIDS TO IDENTIFICATION: *Polemonium flavum* is similar to *P. foliosissimum* var. *foliosissimum* and *P. foliosissimum* var. *alpinum* and is treated by some botanists as a variety of *P. foliosissimum*. The following characteristics help separate these three plants:

P. foliosissimum var. *foliosissimum*: Corollas bluish violet to lavender.

P. foliosissimum var. *alpinum*: Corollas white to cream, the lobes usually rounded; leaflets elliptic to narrowly ovate. Not found south of Oak Creek Canyon.

P. flavum: Corollas light yellow, sometimes tinged with lavender; leaflets narrowly lanceolate to ovate. See the keys to the *Polemonium* species in Kearney and Peebles (1960) and Martin and Hutchins (1981) for more help on the identification of this species.

The only Arizona *Polemonium* with yellow flowers and that can be distinguished by the shape of their flowers are *P. flavum* and *P. pauciflorum* var. *hinckleyi*. *P. flavum* has a campanulate corolla, 10-17 mm long, with lobes longer than the tube; while *P. pauciflorum* var. *hinckleyi* has funnellform flowers up to 40 mm long, with lobes much shorter than the tube. (Malusa 2001).

ILLUSTRATIONS: Line drawing (Martin and Hutchins 1981).

Color photo of Isotype collection (NYBG 337057 in http://scisun.nybg.org:8890/searchdb/owa/wwwcatalog.detail_list?this_id=4414074)

TOTAL RANGE: Southern New Mexico and eastern Arizona.

RANGE WITHIN ARIZONA: Malusa (2001) states that this plant occurs only in Graham County, but based on collections in the University of Arizona and Arizona State University herbarium (accessed 2004), it has been found in the following counties: Hannagan Creek and White Mountains in Apache County, the Chiricahua Mountains in Cochise County, Woods Canyon Lake on the Mogollon Rim in Coconino County, and in the Graham and Pinaleno mountains in Graham County (SEINet accessed 2004).

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Herbaceous perennial.

PHENOLOGY: Flowers June to early September.

BIOLOGY: *Polemonium* grows well in cool, moist, rich, well drained, neutral to basic pH soil. They propagate from seed, but in cultivation, mature plants can be divided every 3-4 years in the spring or late summer.

HABITAT: Shaded sites and drainages in canyons, with rich moist humus loam soil, in coniferous and oak forests. It occurs on wooded montane slopes in New Mexico.

ELEVATION: Approximately 6,700 to 9,500 ft. (2044-2898 m). NatureServe (2004) reports the elevation range as 7,000-9,000 ft (2135-2745 m) in New Mexico and 7500-9500 2288-2898 m) in Arizona.

EXPOSURE: Various, but apparently always in shaded situations.

SUBSTRATE: Rich moist humus loam soil of coniferous and oak forests. Rocky slope.

PLANT COMMUNITY: *Polemonium flavum* occurs in coniferous forest and oak woodland within Madrean/Rocky Mountain montane forest communities, as defined by Brown (1994). Associated species include: *Abies concolor* (white fir), *Acer grandidentatum* (big-toothed maple), *Amorpha* sp. (indigo-bush), *Helianthella quinquenervis* (nodding rockrose), *Heracleum lanatum* (= *H. maximum*, common cowparsnip), *Ipomopsis aggregata* (scarlet gilia), *Mertensia franciscana* (Franciscan bluebells), *Mimulus* sp. (monkey-flower), *Muhlenbergia* sp. (muhly), *Pericome caudata* (mountain leaftail), *Pinus* sp. (pine), *Populus tremuloides* (quaking aspen), *Pseudotsuga menziesii* (Douglas-fir), *Ptelea angustifolia* (western hoptree), *Quercus gambelii* (Gambel oak), *Robinia* sp. (locust), *Rubus neomexicanus* (New Mexico blackberry), *Rubus parviflorus* (thimbleberry) *Thalictrum fendleri* (Fendler's meadow-rue), and *Veratrum californicum* (California false hellebore).

POPULATION TRENDS: Unknown.

SPECIES PROTECTION AND CONSERVATION

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

MANAGEMENT FACTORS:

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

SUGGESTED PROJECTS: Monitor existing populations and document newly discovered populations.

LAND MANAGEMENT/OWNERSHIP: BIA – Fort Apache Reservation; USFS - Coronado and Apache-Sitgreaves National Forests; etc.

SOURCES OF FURTHER INFORMATION

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MAJOR KNOWLEDGEABLE INDIVIDUALS:

- D.H. Wilken - Santa Ana Botanic Garden, Santa Barbara, CA.
J.M. Porter - Santa Ana Botanic Garden, Santa Barbara, CA.

ADDITIONAL INFORMATION:

Wilken and Porter have written the latest treatment of Polemoniaceae in Arizona. It is still unpublished.

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