

ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Plant Abstract

Element Code: PDSAX0U180

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Saxifraga arguta*

COMMON NAME: Brook Saxifrage

SYNONYMS: *Micranthes arguta*, *Saxifraga punctata* subsp. or var. *arguta*, *Saxifraga odontoloma*, *Saxifraga aestivalis*

FAMILY: Saxifragaceae

AUTHOR, PLACE OF PUBLICATION: Don, David. Transactions of the Linnean Society of London 13(2): 356. 1822.

TYPE LOCALITY: Northwest coast of America.

TYPE SPECIMEN: Nat. Hist. Mus. BM602895. Archibald Menzies (SN). No date.

TAXONOMIC UNIQUENESS: There are over 100 species, subspecies and varieties of the genus *Saxifraga* in the United States and Canada. There are also differing opinions regarding the taxonomy of the species in Arizona. The more recent treatment is by Elvander 1992. He presents the family Saxifragaceae as represented by four genera: *Parnassia*, *Heuchera*, *Lithophragma*, and *Saxifraga*. The genus *Saxifraga* has six species in the State: *flagellaris*, *caespitosa*, *rivularis*, *odontoloma*, *eriophora*, and *rhomboidea*. Note that *S. arguta* is not included in this treatment. The original treatment for Arizona is Kearney and Peebles 1960. They recognize a total of nine genera for the family, and also six, but somewhat different species of *Saxifraga*: *S. arguta*, *eriophora*, *rhomboidea*, *flagellaris*, *caespitosa*, and *debilis*. (*S. arguta* and *S. debilis* have been replaced with *S. rivularis* and *S. odontoloma*. However, these species appear to be incorporated from other genera, and not as direct synonyms.) The Arizona Heritage Program generally follows the USFWS nomenclature. In this case, this official taxonomy more closely follows the older treatment presented in Kearney and Peebles 1960. Although there are significant differences between these two versions at the species level, there is actually more agreement at the genus level. In a subsequent division of the genera presented in Kearney and Peebles, the herbaceous species were split from the more woody or shrubby species. As a result, the four herbaceous genera, *Parnassia*, *Heuchera*, *Lithophragma*, and *Saxifraga*, remain identical.

According to both the Encyclopedia of Life (EOL 2015) and Jepson eFlora 2015, *S. arguta* has been reclassified as *Micranthes odontoloma*.

DESCRIPTION: Plants 20–50 cm; caudex producing rhizomes; bulblets 0. Leaf: 4–40 cm; petiole 2–30 cm, base generally ± expanded, sheathing, membranous; blade ± round, base

cordate to reniform, teeth coarse, sharp. Inflorescence: open. Flower: sepals reflexed, generally \pm = petals, ovate to elliptic; petals 3–4.5 mm, round to elliptic, 2-spotted, ephemeral; filaments club-shaped; nectaries band-like; pistil 1, ovary superior, placentas proximally axile and distally marginal in ovary lobes. Fruit: capsule, follicle-like (Jepson eFlora 2015).

AIDS TO IDENTIFICATION: Foliage leaves all basal. Flowers numerous, borne on scapes, these usually naked below the inflorescence, the latter small bracteates. Inflorescence a very open panicle; leaf blades thin, commonly much shorter than the petioles, orbicular or nearly so, more or less cordate at base, deeply crenate-dentate with numerous teeth (Kearney and Peebles 1960, p. 362).

ILLUSTRATIONS:

Photos and line drawing: <http://eol.org/pages/595327/media>.

TOTAL RANGE: California, Arizona and New Mexico, north to British Columbia and Montana.

RANGE WITHIN ARIZONA: Majority of the eight known collection sites are in the Mount Baldy locality of the White Mountains, with one further east in the Escudilla Mountains, all in Apache County. There is a single collection nearly 100 miles to the NW, about 20 miles NE of Payson along the Mogollon Rim, Coconino County. *S. arguta* is notably absent from the San Francisco Mountains near Flagstaff, although other species of *Saxifraga* have been collected there.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Perennial herbaceous plant, with caudex and rhizomes.

PHENOLOGY: Flowers: July-August (Jepson eFlora 2015 and Kearney and Peebles 1960). Collections in Arizona have been in flower from July 1 to September 3.

BIOLOGY:

HABITAT: Wet meadows, ledges and moist rocky habitats. Arizona collections noted stream sides and other moist settings, including amongst moss covered rocks and logs, margins of damp meadows.

ELEVATION: 11,000 feet (3350m) per Kearney and Peebles 1960. Notably also occurs at lower elevations in California (Jepson eFlora 2015): > 4900 feet (1500m). The collections from eastern Arizona (Mount Baldy vicinity) range from 9000-11000 feet (2740-3350m). The single Mogollon Rim collection further west was collected between 7000-7250 feet (2135-2210m).

EXPOSURE: Not usually specified. Has been reported as an understory plant to pine and mixed conifer forests; one collection record specified a N-slope.

SUBSTRATE: Moist to wet soils in meadows and along streams in higher elevation settings. One collection noted a black loam duff.

PLANT COMMUNITY: Both *P. ponderosa* and *Pseudotsuga menziesii*-*Abies lasiocarpa*-*Picea engelmannii* noted as associated over-story plants.

POPULATION HISTORY AND TRENDS: Unknown for Arizona. All collections are either historical or made during the 1980s. A few collections span a decade or so at the same site, but cannot be used to infer a population trend. The species was noted as “sparse” at one collection site.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None.

STATE STATUS: None.

OTHER STATUS: None.

MANAGEMENT FACTORS: None specified.

PROTECTIVE MEASURES TAKEN: None specified. However, all collections are found on either Indian Reservation lands or US Forest Service and four of the eight total collections are from wilderness areas. This would offer some level of protection.

SUGGESTED PROJECTS: Re-visit some of the original collection sites in the Mount Baldy locality to ascertain if the species is still extant.

LAND MANAGEMENT/OWNERSHIP: Three-quarters (6) of the known sites are on USDA Forest Service Apache-Sitgreaves National Forest lands and one-half (4) are within the Escudilla or Mount Baldy Wilderness areas. Another collection area is on USFS Coconino NF land. The remaining sites are on the USDI BIA Fort Apache Indian Reservation.

SOURCES OF FURTHER INFORMATION

REFERENCES:

Elvander, Patrick. 1992. Saxifragaceae – Saxifrage Family. Jour. Az-Nev Academy Science 26(1): 36-41.

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<http://plants.jstor.org/stable/10.5555/al.ap.specimen.bm000602895>.

Kearney, Thomas H. and Robert H. Peebles. 1960. Arizona Flora, 2nd ed. with supplement.
University of California Press, Berkeley. 1085 p.

Tropicos, accessed online 04/22/2015, <http://www.tropicos.org/Name/29100566>.

MAJOR KNOWLEDGEABLE INDIVIDUALS:

ADDITIONAL INFORMATION:

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