

ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Plant Abstract

Element Code: PDAST7N030

Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Psathyrotes ramosissima*
COMMON NAME: Velvet Brittle-stem
SYNONYMS: *Tetradymia ramosissima* (basionym)
FAMILY: Asteraceae

AUTHOR, PLACE OF PUBLICATION: Gray, Asa. Proceed. American Academy
of Arts and Sciences 7(2): 363. 1868.

TYPE LOCALITY: United States: Utah: [probably from borders of Great Salt Lake, 9
Sept 1843].

TYPE SPECIMEN: New York Botanical Garden: NY 272793 (Holotype of *Tetradymia
ramosissima*). Maj. W.H. Emory (SN). Nov. 18, 1846. There is also another holotype listed:
GH 13036. J.C. Fremont (SN). 1849.

TAXONOMIC UNIQUENESS: There are only four species of *Psathyrotes*, and two are
known in Arizona: *P. pilifera* and *P. ramosissima*, and a third species, *P. annua*, has been
collected nearby in Utah, California and Mexico.

DESCRIPTION: Annuals or perennials, 3–30 cm; lanate, furfuraceous. **Stems** erect and
spreading, much branched. **Leaf blades** rounded-deltate to suborbiculate, 8–25 × 8–30 mm,
margins toothed. **Peduncles** 3–50 mm. **Involucres** broadly turbinate to campanulate, 6–10
mm. **Phyllaries** 15–24, outer persistent, 5–6, apically spatulate, tips reflexed to squarrose,
inner falling, 10–18, apically lanceolate, tips erect. **Florets** 16–32; corollas pale yellow, 4.5–5
mm. **Cypselae** 1.5–3.5 mm; **pappi** of 120–140 subequal bristles in 2–4 series, 3–4 mm (Flora
of North America 2014).

AIDS TO IDENTIFICATION: Annual or perennial low, dense subshrub, much-branched,
neatly mounded, ± hairy and scaly; odor turpentine-like; stems woolly, becoming glabrous
and shiny.

P. pilifera has leaves that are entire with conspicuous, long, many-jointed hairs. *P.
ramosissima* has leaves that are toothed or crenate, and the many-jointed hairs, when present,
are relatively short and inconspicuous. *P. pilifera* is found in eastern Coconino County at
elevations of about 4000 feet. *P. ramosissima* is found in Mohave and Yuma Counties, below
1500 feet (Kearney and Peebles 1951).

ILLUSTRATIONS:

Photos: [http://swbiodiversity.org/seinet/taxa/index.php?taxon=Psathyrotes ramosissima](http://swbiodiversity.org/seinet/taxa/index.php?taxon=Psathyrotes+ramosissima).

Photos and Herbarium Mounts: <http://eol.org/pages/490980/media>.

TOTAL RANGE: Arizona (western ¼ from NW corner of Arizona Strip to Mexican border, also collected around Phoenix), California (mostly SE, but does extend N beyond Death Valley to Bishop), Nevada (mostly S of Las Vegas but one collection NW near Reno), and Baja and Sonora, Mexico.

RANGE WITHIN ARIZONA: Essentially the western-most ¼ of Arizona, including the extreme NW corner of Mohave County, La Paz County and Yuma County to the Mexican border. There is one collection near the western-most boundary of Yavapai County, and two outlier collections in Phoenix, Maricopa County. A recent (2008) collection along the Colorado River documented the eastern-most known extension of *P. ramosissima* range in northern Arizona, over 20 miles (70km) east of a Pearce Ferry collection (Christie et al 2011).

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Annual or perennial, low, dense subshrub.

PHENOLOGY: Flowering mostly in spring, otherwise sporadically throughout the year, following rains. Flowers have been noted from Arizona collections from early March through June, and also early September and end of October. Fruits have been noted in March and April, and September.

BIOLOGY:

HABITAT: Sandy soils and desert pavements. Also dry rocky or erosional slopes and badlands, gravelly or disturbed road sides and rocky road cuts, alluvial gravel or gravel bars. Silt-clay loam and cinder slopes.

ELEVATION: Range-wide, reported from 98 feet below-sea-level to 2950 feet (-30–900m). Arizona collections range from 160 – 2120 feet (50-645m).

EXPOSURE: Not specified, but probably fairly open.

SUBSTRATE: Mostly sands, but also silt-clay or gravelly loams. One collection from cinder slopes.

PLANT COMMUNITY: Creosote-bush scrub. Other associated species include: *Ambrosia dumosa*, *Fouquieria splendens*, *Cercidium microphyllum*, *Parkinsonia microphyllum*, *Olyneya tesota*, *Encelia farinosa*, *Opuntia acanthocarpa*, *Acacia greggii*, *Hymenoclea salsola*, *Psoralea emoryi*, *Hyptis emoryi*, *Ditaxis lanceolata*, *Allonia incarnata*. At one collection site described as an eroded old alluvial surface with caliche and rubble, and surrounded by dense linear sand dunes, plant species immediately associated with *P. ramosissima* were *Chorizanthe*, *Plantago*, *Schismus* and *Trichoptilium incisum*. Plants found in the surrounding dunes included *Krameria*, *Mentzelia*, *Schismus*, *Ambrosia dumosa*, *Larrea tridentata*, *Cercidium microphyllum*, *Encelia farinosa*, *Stillingia spinulosa*, *Fouquieria splendens*, *Aristida californica*, *Palafoxia arida*, *Ephedra trifurca*, *Eriogonum deserticola*, *Croton californicus*, *Hilaria rigida*, *Eriophyllum lanosum*, *Dimorphocarpa wislizeni*, *Abronia villosa*.

POPULATION HISTORY AND TRENDS: Unknown. The species seems widely distributed throughout the western-most part of Arizona. Collections near Phoenix and a 2008 collection documenting a more eastern location in Mohave County suggest that additional sites beyond the known 35 collections will be found. Of the known collections, about one-third noted some information about the local abundance of the plant, and observations were evenly split between common or abundant, occasional, or uncommon to rare. *P. ramosissima* has been collected in Arizona since the mid-1920s. Five of the 35 collections have been repeated at or near the original locality. Several of these have been at 4-5 decade intervals. The facts that a significant number of the populations in Arizona were noted as common (or at least occasional), and that some of these have shown persistence for many decades, suggests that there are a good number of well established and seemingly stable populations in Arizona.

SPECIES PROTECTION AND CONSERVATION

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

MANAGEMENT FACTORS: None are identified, but note that the plant seems to grow on some disturbed sites.

PROTECTIVE MEASURES TAKEN: None, and none are probably needed.

SUGGESTED PROJECTS: As additional collections are made, it is recommended that better data on population size and/or extent be recorded.

LAND MANAGEMENT/OWNERSHIP: The 35 collections have been made from a wide variety of land management entities. Just under half are from BLM lands representing The Arizona Strip, Lake Havasu, Kingman, Yuma and Lower Sonoran field offices. Another eight are from Department of Defense lands (Luke-Williams or Yuma Proving Grounds). Three are

on US National Park Service lands (Lake Mead NRA and Grand Canyon NP). Another five are on State lands or a State park. There have also been collections on two BIA Indian Reservations (Fort Mohave and Salt River Pima/Maricopa), and from Bureau of Reclamation and private lands.

SOURCES OF FURTHER INFORMATION

REFERENCES:

- Christie, Kyle, Glenn Rink and Tina Ayers. 2011. Additions to the flora of Grand Canyon National Park resulting from National Vegetation Mapping Program fieldwork. *CANOTIA* 7:41-53.
- Flora of North America, accessed 7/15/2014, http://www.efloras.org/florataxon.aspx?flora_id=1&taxon_id=250067376.
- JSTOR| Global Plants, accessed 7/15/2014, <http://plants.jstor.org/specimen/ny00273793?s=t>.
- Kearney, Thomas K. and Robert H. Peebles. 1951, with Supplement 1960. *Arizona Flora*. University of California Press, Berkeley. p. 943.
- Tropicos, accessed 7/15/2014, <http://www.tropicos.org/Name/2703017>.

MAJOR KNOWLEDGEABLE INDIVIDUALS:

ADDITIONAL INFORMATION:

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