

## NEW RECORDS FOR THE FLORA OF ARIZONA

### JUNCACEAE

*Juncus bryoides* F.J. Hermann. *Juncus bryoides* is a dwarf, annual rush with stems under 25 mm tall that are terminated by a single flower. The scape and flower or fruit resemble the sporophyte of a moss, accounting for its specific epithet, *bryoides* (moss-like). This species is native and occurs sporadically from southern Oregon and Idaho to western Colorado, southern Utah, southern California, and Mexico (Brooks and Clemants 2000). In Arizona it is presently known from a single specimen (Marc A. Baker, Theresa Wright, and Ian Trushell 10686, ASU #19826) collected in Yavapai County on 2 May 1993. This population was found northwest of Prescott, 3.1 km southeast of Stinson Mountain near the intersection of Forest roads 705 and 9897B on Prescott National Forest. The Arizona population represents a range extension of nearly 300 km from the nearest known population in southern Kane County, Utah (Fertig 21907, BRY).

The collection by Baker, Wright, and Trushell was originally identified as *Juncus sphaerocarpus* Nees, and will key to this taxon in the *Arizona Flora* (Kearney and Peebles 1960). The name *Juncus sphaerocarpus* may belong to an unrelated Mediterranean species not found in North America (Cronquist et al. 1977). Recent floras have treated *J. sphaerocarpus* as a synonym of *J. bufonius* L. var. *occidentalis* F.J. Herm. (Zika 2012) or ignored it completely (Brooks and Clemants 2000).

I first encountered the Baker et al. collection while imaging the ASU *Juncus* collections for SEINet in May 2014. I immediately recognized the diminutive specimen as being *Juncus bryoides*, based on my field experience with the species in southern Utah. *Juncus bryoides* and *J. bufonius* are the only annual *Juncus* species in the flora of Arizona, but can be readily distinguished by their stature and inflorescence characters (Figure 1). *Juncus bryoides* has a basal cluster of leaves and leafless scapes averaging 3-20 mm long, topped by a solitary, reddish-purple, flower with tepals 1.5-2.3 mm long. By contrast, *J. bufonius* typically has leafy stems up to 30 cm tall and a branched, raceme-like interrupted spike of 2-20 flowers, with greenish or hay-colored sepals over 3 mm long.

The population of *J. bryoides* from Yavapai County, Arizona, is unusual in being from a barren site within a pine-oak woodland. Welsh et al. (2008) report this species from conifer, aspen, and mountain brush communities, but usually associated with washes, springs, or seeps. Populations from southern Utah are associated with ephemeral wetlands found in stabilized sand dunes derived from Navajo Sandstone. Similar habitats are likely to occur in the Arizona Strip in northern Coconino, Mohave, Navajo, and Apache counties. Due to the plant's tiny size, it is easily overlooked and may be more widespread than presently known.

### ACKNOWLEDGMENTS

My herbarium assistant, Beedemariam Kassaw, first brought this collection to my attention when he couldn't get the camera to properly focus on the tiny plants I was asking him to photograph. Max Licher and Glenn Rink, who are working on a treatment of Juncaceae for the Vascular Plants of Arizona Project, corroborated the identification.

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**Figure 1.** One plant of *Juncus bufonius* (Keil 11425, ASU) on left compared with several plants of *J. bryoides* (Baker et al. 10686, ASU) on right.