

A third record of *Puccinellia distans* for Missouri with notes on its identification and distribution

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ABSTRACT. — Information is provided for a third Missouri collection of *Puccinellia distans* from St. Louis County, representing the first report from the state since 1997. Distinguishing features separating this species from similar taxa are provided.

The genus *Puccinellia* (alkali grass) consists of ca. 120 species that are most prevalent in the middle and high latitudes of the Northern Hemisphere (Davis 2007). There are 21 species in North America north of Mexico, including three introduced species (Davis 2007). Most species are halophytic and adapted to soils with high salinity and/or pH. Species native to Europe and Asia occur in North America mostly as waifs in areas where salt is added for snow and ice during the winter months (Yatskievych 1999).

Puccinellia distans (Jacq.) Parl. (weeping alkali grass or European alkali grass) occurs throughout North America, from Alaska to Newfoundland and south to Virginia and west to California (see http://bonap.net/MapGallery/County/Puccinellia_distans.png). Previous to this report, there were only two records of this species for Missouri, both also from St. Louis County – a Muehlenbach collection from along a railroad right-of-way in St. Louis City County collected on 23 May 1954 (Muehlenbach 70) (<http://legacy.tropicos.org/Specimen/3528760>), and a collection made by the author and Brad Jacobs along a roadside on the University of Missouri, St. Louis campus, St. Louis County, on 4 June 1997 (McKenzie and Jacobs 1770) (<http://legacy.tropicos.org/Specimen/2598922>). Both specimens are archived at MO.

On 29 May 2020, while conducting a bird survey at Little Creve Coeur Marsh in St. Louis County, Missouri, I noticed a large population of *Puccinellia distans* on bare soil in the southernmost River Valley Drive parking lot and along a roadside ditch just west of the entrance (Fig. 1). I collected multiple specimens for distribution in various herbaria. The only associate noted at the site was *Anthemis cotula*.

Specimen cited: U.S.A. MISSOURI: ST. LOUIS CO.: Parking lot of Little Creve Coeur Marsh and adjacent roadside of River Valley Dr., ca. 0.74 mi. WNW of the intersection of Waterworks Rd. and Maryland Heights Expressway, 38.694949 N, 90.512045 W, 29 May 2020, McKenzie 2658 (MO).

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Puccinellia distans is a member of Tribe Poeae, which includes eight genera in Missouri (Yatskievych 1999). The genus *Puccinellia* Parl. most closely resembles members of the genus *Poa* with its open leaf sheaths, membranous ligule, paniculate inflorescences with ascending or reflexed branches, and multiple-floreted spikelets with glumes much shorter than the rest of the spikelet. *Puccinellia distans* differs from all *Poa* species other than *Poa annua* in lacking cobwebby hairs at the base of the lemmas. The related and *Torreyochloa pallida* (Torr.) G.L. Church var. *pallida* also lack hairs on the lemmas, but is a conservative native aquatic species that roots at the lower nodes, with lemmas that are only faintly 5-nerved.



Figure 1. Population of *Puccinellia distans* at Little Creve Coeur Marsh parking lot, St. Louis County, 29 May 2020. Photo by the author.

The strongly spreading and reflexed downward appearance of some panicle branches of *Puccinellia distans* (Fig. 2) most closely resembles *Poa sylvestris* A. Gray, but that species usually occurs in shaded, rich, mesic upland forests with soils having a much lower pH. *Poa sylvestris* also differs from *Puccinellia distans* in having lemmas that are hairy on the keel and lateral nerves, and with cobwebby hairs at the base. With *Puccinellia distans*, the lemmas lack cobwebby hairs at the base and are usually glabrous or with only a few short hairs at the base.



Figure 2. Specimen of *Puccinellia distans* (McKenzie 2658) showing reflexed, downward-pointing panicle branches. Little Creve Coeur Marsh parking lot, St. Louis County, 29 May 2020. Photo by the author.

Due to its adaptation to disturbed, saline or alkaline soils, *Puccinellia distans* is not likely to have a significant impact on Missouri's native flora. It has been shown to be useful in establishing vegetation on bare soils with a high pH and may have potential as a turf grass or on the fairways of golf courses (Mohlenbrock 1992, Cao & Sturtevant 2020).

Because of its similarity to *Poa sylvestris*, it is likely that this species is easily overlooked. As predicted by Yatskievych (1999), it is probable that additional records of this species will be found in urban or industrial areas where winter deicing salt is applied to roads. In Missouri, searches for the species should occur around the last week of May through the third week of June, especially in urban areas where salt was applied to highway rights-of-way or bare soil the previous winter.

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