

## *Rhynchospora glomerata*, new to Missouri, and an Updated Key to the Genus in the State

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ABSTRACT. — *Rhynchospora glomerata* is reported new to Missouri from 5 counties in the eastern Ozarks. A revised key to the 9 species of *Rhynchospora* in the flora is provided to aid identification.

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*Rhynchospora glomerata* (L.) Vahl is a ubiquitous component of moist to wet habitats in the Southeastern U.S. where it is often syntopic with other *Rhynchospora* species, notably *R. capitellata* (Michx.) Vahl. The distribution of *R. glomerata* borders southern Missouri and it occurs in adjacent counties in Arkansas, although no collections have been documented for Missouri. Naczi and Moyer (2017) report *R. glomerata* from Kansas, and it is considered endangered in Illinois (IESPB 2015). Several Missouri botanists have expected that field studies or specimen analysis would eventually lead to the documentation of *R. glomerata* in Missouri.

During examination of specimens at MO, several *Rhynchospora* determined as *R. capitellata* were notably taller and had distinctly larger spikelets than typical plants of this species. Measurements of the spikelets (4.5–5.7 mm vs. 3.5–4 mm) and achenes (3.2–3.8 mm vs. 2–3 mm) of these specimens were well outside the range of *R. capitellata*. These were confirmed as *R. glomerata* using the Flora of North America *Rhynchospora* treatment (Kral 2002) and the recent revision of the *R. glomerata* species group (Naczi & Moyer 2017). Missouri specimens of *R. glomerata* are reported below.

*Specimens examined:* **U.S.A. MISSOURI:** CARTER CO.: 5 miles south of Ellsinore on Hwy K, just south of New Hope – Waddell property; persistent wet area in pasture; associated with *Carex laevivaginata*, *C. lurida*, *C. oklahomensis*, *C. scoparia*, *C. suberecta*, *Schoenoplectus tabernaemontani*, *Juncus effusus*, *Glyceria striata*, *Agrimonia parviflora*, *Eupatorium perfoliatum*, 36° 51' 44"N, 90° 43' 32"W; 18 June 2005, Walker s.n. (MO). IRON CO.: Bluffs and slopes along Crane Pond Creek from old dam up to Forest Service land; sandstone substrate; cespitose or short rhizomatous spreading in open cracks of sandstone pavement along stream, wet, sandy alluvium; N1/2 NW1/4 sec. 3 T31N R4E; 30 June 1993, Brant 2445 (MO). SHANNON CO.: The Nature Conservancy's Shut-In Mountain Fen, ca. 1 mile E of Highway H, open swampy calcareous fen; 27 Aug 1999, Summers & Pelton 9412 (MO). STE GENEVIEVE CO.: Toe slopes and floodplain of Jonca Creek; moist to mesic, open, sandy alluvium along stream, rhizomatous;

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SE1/4 sec. 2 T36N R7E; 2 Aug 1993, *Brant* 2548 (MO). WAYNE CO.: South tributary of Brushy Creek, 1 air mile south of county highway A, ca. 4 air miles west of Williamsville; ca. 1-acre high-quality fen with moderate gradient; 21 Sep 2002, *Vogt* 521B (MO). Coldwater Conservation Area, open perched fen above south branch of Hunter Creek; caespitose but forming dense patches in open fen, with *Juncus subcaudatus*, *Carex hystericina*, *C. atlantica* subsp. *capillacea*; 37° 15' 32"N 90° 24' 6"W; 31 August 2017, *Brant* 8582 (MO). Streamhead fen-seep complex, south branch of Hunter Creek, open and shrub seeps, south-facing, caespitose but forming dense stands in open saturated fen with *Juncus canadensis*, *J. subcaudatus*, *Fuirena simplex*, *Rudbeckia fulgida*; 37° 15' 36"N 90° 24' 6"W; 6 September 2017, *Brant* 8625. (MO); *ibid.*, 8 July 2017, *Brant* 8471 (MO); *ibid.*, 4 Aug 2017, *Brant* 8498 (MO); *ibid.*, 4 Aug 2017, *Brant* 8500 (MO); *ibid.*, 29 July 2017, *Brant* 8480 (MO).

In Missouri, *Rhynchospora glomerata* occurs in five counties in the southeastern portion of the state in the Lower Ozarks and the St. Francois Mountains sections of the Ozarks. It is highly likely, given the similarities of *R. glomerata* and *R. capitellata* in the field, especially without comparison of their spikelets, that there remain overlooked occurrences of this species in the state. Documented populations are from fens, springheads, creek floodplains, and wet swales in sandy alluvium often underlain by limestone. There are fewer than 10 known populations of *R. glomerata* in 5 counties and it would rank as S2 (Imperiled) for Missouri, although fieldwork in adjacent counties in similar habitats will undoubtedly lead to the discovery of additional populations.

#### KEY TO MISSOURI RHYNCHOSPORA

*Rhynchospora globularis* and *R. recognita* are treated as separate species following Kral (2002).

- 1 Style simple or 2-fid only at apex; fruit tubercles stout and conic and longer than fruit body; plants typically robust.
  - 2 Perianth bristles (5-) 6, 11–14 mm long, subequal and longer than the mature fruits...***R. macrostachya***
  - 2 Perianth bristles usually 5 (3–6), 2–4 mm long, unequal and shorter than the mature fruits .....***R. corniculata***
- 1 Styles deeply divided into 2 stigmatic branches; fruit tubercles variable in shape and size; plants variable in size.
  - 3 Plants annual, caespitose; rhizomes absent; spikelets 3–7 mm long; fruit body 1.3–1.5 mm long; tubercle to 0.5 mm and distinctly flattened .....***R. scirpoides***
  - 3 Plants perennial, caespitose or rhizomatous; rhizomes absent or present; spikelet's 2.5–7.0 mm long; fruit body 1.2–2.8 mm long, tubercles 0.3–1.6 mm long and triangular to conical.
    - 4 Perianth bristles retrorsely barbellate, bristles surpassing middle of fruit body and typically longer than fruit; achenes ovoid to ellipsoid with prominent elongate achene tubercles more than half the achene body length.
      - 5 Leaf blades 0.2–0.4 mm wide, margins involute; clusters of spikelets ovoid.....***R. capillacea***
      - 5 Leaf blades 0.5–7 mm wide, flat; clusters of spikelets turbinate or hemispherical.
        - 6 Spikelets 3.5–4 (-5) mm long; fruits (2-) 2.5–3 mm long, obovoid, tubercle typically abruptly tapered; plants typically smaller ..... ***R. capitellata***

- 6 Spikelets 4.5–6.5 mm long; fruits 3–3.5 (-4) mm long, pyriform, tubercle typically stout and triangular; plants typically robust ..... ***R. glomerata***
- 4 Perianth bristles antrorsely barbellate or rarely smooth, bristles shorter than the body of the fruit, usually not reaching the midpoint; achenes rounded to ovoid with tubercles length less than half the achene body length.
- 7 Achenes 1.4–1.8 × 1.4–1.7 mm, tubercles with prominent bony or crustaceous rim at its base..... ***R. harveyi***
- 7 Achenes 1–1.8 × 1.3–1.6 mm, tubercles without prominent rim at base.
- 8 Leaf blades typically 1.5–2.5 mm wide; achenes nearly round 1.3–1.5 × 1.3–1.5 mm ..... ***R. globularis***
- 8 Leaf blades typically 3–4.5 mm wide; achenes oblate, 1.3–1.8 × 1.3–1.6 mm ..... ***R. recognita***

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