CAREX CONOIDEA (CYPERACEAE) NEW TO ARKANSAS AND NOTES ON ITS OCCURRENCE IN ARKANSAS AND MISSOURI

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The range of *Carex conoidea* Schkuhr ex Willd. extends from Newfoundland and Nova Scotia west to Manitoba and south to Missouri, Illinois, Indiana, Ohio, and North Carolina; disjunct and possibly introduced in Arizona (Radford et al. 1964; Mohlenbrock 1999; Yatskievych 1999; Naczi & Bryson 2002). Habitat listed for the species includes "bogs," "low ground, and moist grassy places," "wet meadows, wet prairies," and moist depressions of upland prairies (Radford et al. 1964; Voss 1972; Mohlenbrock 1999; Yatskievych 1999; Naczi & Bryson 2002). The species has not been previously documented from Arkansas (Hyatt 1998; Smith 1988; Arkansas Vascular Flora Committee 2002; Naczi & Bryson 2002).

On 8 May 2003, while conducting a plant survey on Searles Prairie Natural Area in Benton County, Arkansas, we discovered 32 clumps of *Carex conoidea* scattered throughout the western half of the preserve. The species is readily recognized by the combination of light green leaves, scabrous peduncles and culms below the inflorescence, bracts that subtend the uppermost pistillate spikes equaling or exceeding the staminate spike, and its plump, lustrous green perigynia with ca. 20 impressed nerves. *Carex conoidea* can be readily distinguished from other members of the *Carex* section Griseae (L.H. Bailey) Kükenthal in Arkansas by the combination of its scabrous peduncles and culms below the inflorescence, the fewer number of impressed nerves (others in the Section usually have 40 or more nerves), and the position of the staminate spike, well-exserted above the uppermost pistillate spike.

Various authors (e.g., Steyermark 1963; Mohlenbrock 1999; Yatskievych 1999) depict the perigynia of *C. conoidea* as being tapered at both ends. Illustrators undoubtedly only had access to herbarium specimens or over-mature

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perigynia, as fresh, mature perigynia of *C. conoidea* are plump and inflated, and watermelon shaped. We have noticed the perigynia of *C. conoidea* shrink and become tapered at both ends upon drying in a plant press.

Clumps of *Carex conoidea* at the Searles Prairie site extend from swales in the prairie to the drier margins of areas just upslope of the depressions. Despite the field characters listed above, identification of *C. conoidea* in the field can be difficult because many of the tufts may have few flowering culms and the culms often lean on or are hidden by adjacent, taller vegetation.

Searles Prairie represents the last intact remnant of the Osage Prairies that once surrounded the town of Rogers, Arkansas in Benton County. It was used as a hay meadow and cut annually until it was donated to the Arkansas Natural Heritage Commission in 1988. Prescribed fire was introduced to the prairie in 1996, with additional prescribed burns in December 2001 and February 2003. Searles Prairie is a low loamy prairie that probably exists because of shallow, impervious clay subsoil and fluctuations in water depth and persistence. This provides graminoids and other ground-covering forbs a competitive advantage over trees (Arkansas Natural Heritage Commission 2002). The Jay and Cherokee silt loam soils are characterized by layers of moderately well-drained silt loam, to somewhat poorly drained silt loam, silty clay loam, and clay. This prairie remains wet for long periods of time after rains due to the clay (United States Department of Agriculture 1977) and poor drainage.

Plants associated with *C. conoidea* at Searles Prairie include *Agrostis hyemalis, Andropogon gerardii, Carex brevior, C. bushii, C. buxbaumii, C. festucacea, Cephalanthus occidentalis, Cicuta maculata, Eleocharis verrucosa, E. wolfii, Eryngium yuccifolium, Eupatorium perfoliatum, Galium obtusum, Juncus spp., Orbexilum pedunculatum, Panicum acuminatum, P. scoparium, Physostegia angustifolia, Potentilla simplex, Pycnanthemum tenuifolium, Ranunculus laxicaulis, Rubus spp*, and *Sisyrinchium angustifolium*.

Voucher Specimens: U.S.A. **ARKANSAS. Benton Co.:** Searles Prairie Natural Area; inter. of U.S. Rt. 62 and Dixieland Rd. in Rogers, AR; T20NR30WS35SE1/4SE1/4SW1/4; Bentonville South 7.5' Quad. 8 May 2003, *McKenzie 2081* (DOV, MO); *Witsell 03-0232* (anhc-Arkansas Natural Heritage Commission, LRU); & 11 Jun 2003 *Witsell 03-0474* (anhc-Arkansas Natural Heritage Commission, APCR, LRU, peh-pers. herb. of Philip E. Hyatt, STAR, UARK).

Carex conoidea is apparently a good indicator of high quality, well-managed prairies in Missouri as well as Searles Prairie in Arkansas (Yatskievych 1999; pers. obs.). The lack of records in some prairies may reflect the lack of survey efforts by individuals familiar with the species' field characters or the difficulty in seeing the diagnostic inflorescences among other prairie vegetation. Searches for the species by the senior author in five prairies in Benton and Pettis counties, Missouri in early June 2002 failed to yield additional populations. Searches in two additional Arkansas prairies by the authors on 9 May 2003 and five

additional sites by Witsell in Arkansas in May and June 2003 failed to document the species at additional localities. Subsequently, however, McKenzie and Smith discovered the species at Hite Prairie in Morgan County and Taberville Prairie in St. Clair County, Missouri on 6 and 7 June, 2003, respectively [*McKenzie 2085* (DOV, MO), *2090* (DOV, MO)]. These collections represent only the third and fourth extant records of this sedge in Missouri. The plants were difficult to see at the two Missouri sites, however, because the 20 and 30 clumps with few flowering culms had inflorescences leaning on or hidden among adjacent, taller vegetation. Despite the limitations mentioned above, future searches for *C. conoidea* should be conducted in other high quality prairies throughout Arkansas and Missouri from about 1 May to 1 June depending on the latitude of the locality to be surveyed.

Botanical nomenclature listed herein follows Yatskievych (1999) or Yatskievych and Turner (1990).

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