

CYPERUS HASPAN (CYPERACEAE) NEW TO OKLAHOMA

JASON R. SINGHURST
Wildlife Diversity Program
Texas Parks and Wildlife Department
4200 Smith School Road
Austin, Texas 78744
jason.singhurst@tpwd.state.gov

JEFFREY N. MINK
6412 May Drive
Waco, Texas 76710
jmink@mclennan.edu

WALTER C. HOLMES
Department of Biology
Baylor University
Waco, Texas 76798-7388
walter_holmes@baylor.edu

ABSTRACT

Cyperus haspan is reported in Pushmataha Co., Oklahoma, constituting the first report of the species in the state. A population of 25–30 individuals was discovered in a hillside bog, growing in association with numerous wetland species, 11 of which are currently being tracked as rare in Oklahoma. *Cyperus haspan* is known from the adjoining states of Texas, Arkansas, and Louisiana and occurs in the lower to middle Gulf Coastal Plain and the Atlantic Coastal Plain northward to Virginia.

Cyperus (Cyperaceae) is a pantemperate and tropical genus of about 600 species of nearly worldwide distribution (Tucker et al. 2002). Approximately 90 species of *Cyperus* occur in North America (Tucker 1986), with about 45 taxa known from Oklahoma (Hoagland et al. 2004). Despite moisture regime requirements of many species, several *Cyperus* species persist as pernicious weeds, especially non-native introductions (Hickman 1993; Li et al. 1999).

Although widely distributed as a genus, at least two-thirds of all known North American species occur in sandy soils (wet or dry). This biogeographical pattern remains consistent in regions of the Atlantic Coastal Plain, which contain the highest known *Cyperus* diversity within the USA (Tucker 1987; Li et al. 1999).

Based on the following specimen, we report *Cyperus haspan* L. (Figure 1) as new to the native flora of Oklahoma.

USA. Oklahoma. Pushmataha Co.: 0.9 mi N of the jct of Indian Nation Turnpike and Pushmataha/Choctaw County line, W side of Indian Nation Turnpike (34° 09' 45", 95° 35' 42"), 21 Nov 2015, *Singhurst* 21032 (BAYLU).

The *Cyperus haspan* population in Pushmataha County consisted of 25-30 individuals along a perennial spring run at the very head drainage of a hillside bog (Figure 2). Hillside bogs in southeastern Oklahoma are extremely rare (Hoagland 2000) and contain various plants tracked by the Oklahoma Natural Heritage Program as rare (Buthod 2013). In the following list of associated species, those 11 tracked as rare in Oklahoma are noted with an asterisk (*). Associated flora included *Acer rubrum*, *Agalinis* sp., *Andropogon virginicus* var. *virginicus*, *Boehmeria cylindrica*,

*Carex longii**, *C. oklahomensis**, *Cyperus strigosus*, *C. flavescens*, *Dichanthelium scoparium*, *Eleocharis tortilis**, *Eupatorium perfoliatum*, *E. rotundifolium* var. *rotundifolium*, *Fuirena squarrosa*, *Hydrolea ovata*, *Hypericum mutilum*, *Iris* sp., *Juncus effusus*, *J. validus*, *Leersia oryzoides*, *Ludwigia hirtella**, *Lycopodiella appressa**, *Mitreola sessilifolia**, *Nyssa sylvatica*, *Oldenlandia uniflora**, *Osmunda cinnamomea*, *O. regalis*, *Pluchea foetida**, *Polygonum hydropiperoides*, *Rhexia virginica*, *Rhynchospora corniculata*, *R. glomerata*, *R. gracilentia**, *Rubus* sp., *Salix nigra*, *Solidago rugosa*, *Sophronanthe (Gratiola) pilosa*, *Sphagnum* sp., *Triadenum walteri**, *Typha* sp., *Utricularia gibba*, *U. juncea**, *Vernonia* sp., *Viola* sp., and *Xyris jupicai*.

In the USA, *Cyperus haspan* occurs natively along the lower and middle Atlantic and Gulf Coastal plains from Virginia to central Texas (Tucker et al. 2002). The occurrence of the species in southeastern Oklahoma follows a pattern of Gulf Coastal Plain flora that is highly restricted to bogs ('isolated wetlands') in this state. Other rare plants of Oklahoma have the potential to occur at this bog site and consequently this site needs further investigation.



Figure 1. *Cyperus haspan* with associated flora in Pushmataha Co., Oklahoma. Photo by Jason R. Singhurst.



Figure 2. Hillside bog, Pushmataha Co. Oklahoma. Photo by Jason R. Singhurst.

ACKNOWLEDGEMENTS

The authors are grateful to Theo Witsell, Senior Botanist/Ecologist with the Arkansas Natural Heritage Commission for his suggestions and review of this manuscript.

LITERATURE CITED

- Buthod, A.K. 2013. Oklahoma Natural Heritage Oklahoma Biological Survey Plant Tracking List. Norman, Oklahoma.
- Hoagland, B.W. 2000. The vegetation of Oklahoma: A classification for landscape mapping and conservation planning. *Southw. Naturalist* 45: 385–420.
- Hoagland B.W., A.K. Buthod, I.H. Butler, P.H.C. Crawford, A.H. Udasi, W.J. Elisens, and R.J. Tyrl. 2004. Oklahoma Vascular Plants Database, Oklahoma Biological Survey, Univ. of Oklahoma, Norman. <<http://geo.ou.edu/botanical>> Accessed 29 Jan 2015
- Hickman, J.C. (ed.). 1993. *The Jepson Manual: Higher Plants of California*. Univ of California Press, Berkeley.
- Li, M-R., D.A. Wedin and L.L. Tieszen. 1999. C3 and C4 photosynthesis in *Cyperus* (Cyperaceae) in temperate eastern North America. *Canad. J. Bot.* 77: 209–218.
- Tucker, G.C. 1986. Distribution of C3 and C4 species of *Cyperus* in North and Central America. *Amer. J. Bot.* 73: 792 (abstract).
- Tucker, G.C., B.G. Marcks, and J.R. Carter. 2002. *Cyperus* (Cyperaceae). Pp. 141–191, in *Flora of North America North of Mexico*, Vol. 23. Oxford Univ. Press, New York and Oxford.
- Tucker, G.C. 1987. The genera of Cyperaceae in the southeastern United States. *J. Arnold Arbor.* 68: 361–445.