

NOTEWORTHY COLLECTIONS

FIRST REPORT OF *HYPERICUM ADPRESSUM*
(HYPERICACEAE) IN MICHIGAN

Michael R. Penskar and Beverly S. Walters

University of Michigan Herbarium
3600 Varsity Drive
Ann Arbor, MI 48108-2228
penskar@umich.edu
waltersb@umich.edu

Significance of the Report. The first documented report of this native, globally rare, Atlantic Coastal Plain disjunct species from the State of Michigan.

Previous Knowledge. *Hypericum adpressum* Barton (Hypericaceae), Creeping St. John's-wort, is a medium-sized, strongly rhizomatous, perennial wetland forb of seasonally inundated depressional wetlands. Along much of the Atlantic Coastal Plain this species is typically known from various types of intermittent ponds and also from a diversity of other habitats including marshy shores, wet meadows, bogs, swales, ditches, and even moist depressions in sand prairies (Robson 2015; Witsell 2007; Crow and Hellquist 2000; Gleason and Cronquist 1991; Godfrey and Wooten 1981). In New England, the habitat is characterized by Enser (2001) as damp sands, gravels, and peats on the exposed shores and inundated margins of freshwater ponds, whereas Haines (2011) notes that in this same region it also occurs on river shores and coastal plain pond shores and in sandy and peaty depressions. This native North American species occurs primarily from Massachusetts and Rhode Island south to Georgia along the Atlantic Coastal Plain, occurring sporadically to the west with several marked disjunct occurrences documented in Arkansas, Missouri, Illinois, Indiana, Kentucky, and Tennessee (USDA, NRCS 2016).

Discussion. We discovered *Hypericum adpressum* (Figure 1) in the central-west portion of Lower Michigan during natural community and botanical surveys in Newaygo County. The nearest record relative to this new Michigan locality (Michigan Flora Online 2011) is from Porter County in northwest Indiana, more than 175 miles away. This follows a pattern strongly similar to the distribution of several other Atlantic Coastal Plain disjuncts known in the upper Midwest, as described in a thorough overview of this pattern by Reznicek (1994). Although *Hypericum adpressum* may be locally dominant within a site, as amply observed in subsequent visits of our Michigan discovery, it is not classified as a common taxon in any state within its documented distribution. Globally the species is considered to be vulnerable (G3), and a review of state conservation status ranks shows that *Hypericum adpressum* is classified as either critically im-



FIGURE 1. *Hypericum adpressum* in flower in coastal plain marsh near Little Robinson Lake, Manistee National Forest, Newaygo County, Michigan. Photo by Bradford S. Slaughter.

periled (S1) or imperiled (S2) in each of the 15 states where it is considered to be extant (NatureServe 2015). In the remaining five states where this species has been documented, it is known only from historical records (four states) or is considered to be extirpated (one state). In Michigan, *Hypericum adpressum* is currently ranked as critically imperiled and is protected as a state threatened species (Michigan Natural Features Inventory 2016). Interestingly, when we discovered

this species, we found it in abundance in an area well-known to, and frequented by, botanists familiar with wetlands known to contain Atlantic Coastal Plain disjunct species. This forb was discovered at a site within the Manistee National Forest near Little Robinson Lake, in a tract southwest of White Cloud that encompasses an exemplary wetland complex of high-quality coastal plain marshes, a rare natural community type in Michigan (Cohen et al. 2014). Any of a number of factors may have hampered an earlier discovery of *Hypericum adpressum* in Michigan, including the highly variable water table fluctuations that can occur in coastal plain marshes both within and between seasons. During high water years, *Hypericum adpressum* may have been dormant (non-emergent) or sterile and highly reduced in size, and similarly dormant or depauperate during droughty years with protracted drawdowns. This robust species also may have simply been missed as a result of a fortuitous mismatch in the timing of surveys with the flowering period. Our collective experience with the coastal plain marsh community in Michigan, which has included annual plot monitoring in southwest Michigan, has demonstrated that vegetation structure and composition can change markedly from season to season, even when apparently similar habitat conditions persist, thus indicating the need for future research to better understand this biologically significant and diverse wetland type.

Diagnostic Characters. *Hypericum adpressum* is a rhizomatous perennial forb about 40-75 cm in height, occasionally having a woody or spongy base, and with opposite, pinnately-veined, linear-oblong leaves that have revolute margins (Voss and Reznicek 2012, Robson 2016, Gleason and Cronquist 1991). The flowers, which are usually numerous and begin to develop in late June to mid-summer, are borne terminally. The sepals are revolute, and the seeds are distinctly less than 1 mm in length (Voss and Reznicek 2012). *Hypericum sphaerocarpaceum* (Round-fruited St. John's-wort), a similar species that can be distinguished by its flat sepals and seeds that are at least 2 mm long, also differs in being a species of dry to somewhat moist upland habitats, and is known in the state from only a single locality in Monroe County in extreme southeastern Michigan.

Specimen Citations. Newaygo County: T13N R12W Sec. 19. Lat: 43.504609, Long: -85.800283. Locally common in large coastal plain marshes. With *Rhynchospora fusca*, *Rhynchospora capitellata*, *Euthamia remota*, *Panicum spretum*. Walters and Penskar 9016, Sept. 29, 2005 (MICH). T13N R12W S19. Forms dominant cover in several shallow wetland depressions supporting numerous coastal plain disjuncts. Flowers yellow. Colonies discovered by M. Penskar and B. Walters in 2005. Bradford S. Slaughter 536, July 10, 2006 (MICH). T13N R12W Sec. 19. Large coastal plain marshes near Centerline Rd and 28th St. Locally common, with *Calamagrostis canadensis*, *Euthamia remota*, *Panicum spretum*, *Rhynchospora capitellata*, *Rhynchospora fusca*. Flowers bright yellow. Walters and Spalink 856, July 19, 2006 (MICH). SW of W 24 Street and Ferris Ave junction, ca. 7 km SW of White Cloud. Lat.: 43° 30' 26.3"N, Long: -85° 50' 03.4"W. Emergent shoreline and shallow water on sandy/peaty shore of small lakes. Abundant, forming dense stands on the shoreline. Flowers yellow, stems with aerenchyma near the base. Reznicek et al. 11833, Aug. 17, 2006 (MICH).

ACKNOWLEDGMENTS

Many thanks to Tony Reznicek, who verified our determination and accompanied us on several further botanical explorations of interesting sites in Newaygo County. We would also like to thank Brad Slaughter for the use of his photo and Michael Huft for edits that greatly improved the manuscript.

LITERATURE CITED

- Cohen, J. G., M. A. Kost, B. S. Slaughter, and D. A. Albert. (2014). A field guide to the natural communities of Michigan. Michigan State University Press, East Lansing.
- Crow, G. E., and C. B. Hellquist. (2000). Aquatic and wetland plants of northeastern North America. Volume 1. Pteridophytes, gymnosperms, and angiosperms: Dicotyledons. University of Wisconsin Press, Madison.
- Enser, R. W. (2001). *Hypericum adpressum* (Creeping St. John's-wort) Conservation and research plan. New England Wild flower society, Framingham, Massachusetts. Available at <http://www.nwefs.org> (Accessed January 20, 2016).
- Gleason, H. A., and A. Cronquist. (1991). Manual of the vascular plants of northeastern United States and adjacent Canada, 2nd edition. The New York Botanical Garden, Bronx, N.Y.
- Godfrey, R. K., and J. W. Wooten. (1981). Aquatic and wetland plants of southeastern United States. Dicotyledons. University of Georgia Press, Athens.
- Haines, A. (2011). Flora novae angliae. A manual for the identification of native and naturalized higher vascular plants of New England. New England Wildflower Society, Yale University Press, New Haven, Connecticut.
- Michigan Flora Online. A. A. Reznicek, E. G. Voss, and B. S. Walters. January (2011). University of Michigan. Available at <http://michiganflora.net/home.aspx> (Accessed April 6, 2015).
- Michigan Natural Features Inventory. (2016). Rare species explorer. Available at <http://mnfi.anr.msu.edu/explorer> (Accessed January 20, 2016).
- NatureServe. 2015. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available at <http://explorer.natureserve.org>. (Accessed: January 20, 2016).
- Reznicek, A. A. (1994). The disjunct coastal plain flora in the Great Lakes region. *Biological Conservation* 68: 203–215.
- Robson, K. B. R. (2015). Hypericaceae. Pp. 71–105 in *Flora of North America, Volume 6: Magnoliophyta: Cucurbitaceae to Droseraceae*. Flora of North America Editorial Committee, editors. Oxford University Press, New York, N.Y.
- USDA, NRCS. (2015). The PLANTS Database, National Plant Data Center, Baton Rouge, Louisiana. Available at <http://plants.usda.gov/> (Accessed January 19, 2016).
- Voss, E. G., and A. A. Reznicek. (2012). Field manual of Michigan flora. University of Michigan Press, Ann Arbor.
- Witsell, C. T. (2007). *Hypericum adpressum* (Clusiaceae) new to Arkansas and the Ouachita Mountains, U.S.A. *Journal of the Botanical Research Institute of Texas* 1: 713–716.