

## NOTEWORTHY COLLECTION

THE DISCOVERY OF *RHEXIA MARIANA* L. VAR. *MARIANA*  
(MELASTOMATACEAE) IN NORTHWEST INDIANA

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**Significance of the Report.** Prior to this collection, *Rhexia mariana* var. *mariana* had not been documented in northern Indiana or in the 22-county Chicago region, as defined in Swink and Wilhelm (1994) and Wilhelm and Rericha (2017).

**Previous Knowledge.** *Rhexia mariana* L. var. *mariana* (Melastomataceae), the Maryland meadow beauty (Figure 1), is a perennial herb of dry to moist sandy soil and full to partial sun conditions, occurring primarily in sandhills, savannas, flatwoods, meadows, marshes, ditches, bogs, edge of thickets, and upper shores of ponds and swales (Correll and Johnston 1979; Radford et al. 1968; Voss and Reznicek 2012; Wunderlin and Hansen 2003). It is one of several species with a core geographical distribution along the Gulf of Mexico and Atlantic Ocean coastal plains (in this case reaching from Texas to Massachusetts) and with disjunct populations around the Great Lakes (in this case in southwest Michigan prior to the recent collection) (Reznicek 1994); the core of the range of *R. mariana* var. *mariana* stretches inland to southeastern Missouri, southern Illinois, and southern Indiana (Kartesz 2015; USDA, NRCS 2018). Although it had not been documented from the 22-county Chicago region prior to this collection (Kartesz 2015; Swink and Wilhelm 1994), *R. mariana* var. *mariana* is extant in Allegan and Ottawa counties in Michigan, just north of the easternmost extent of the Chicago region (Voss and Reznicek 2012). In Indiana, *R. mariana* var. *mariana* was known from the southern third of the state, where it formed the boundary of the known core of its coastal plain distribution (Deam 1940; Kartesz 2015). Across its range, *R. mariana* var. *mariana* is globally secure (G5T5), but at the edge of its range in Indiana, it is critically imperiled (S1) and state threatened, and in the disjunct portion of its range in Michigan it is critically imperiled to imperiled (S1S2) and state threatened (IDNR-DNP 2016; Michigan Natural Features Inventory 2007; NatureServe 2017).

**Discussion.** A large, dense population of *Rhexia mariana* var. *mariana* estimated to include over 10,000 stems was discovered along the Calumet Bike Trail in a remnant mesic sand prairie within an overhead powerline right-of-way (Figure 2) in Porter County, Indiana in 2014. A brief search of the right-of-way and of the savanna and woodland in the immediate vicinity following the discovery did not result in the observation of any additional colonies of *R. mariana* var. *mariana*. This population is approximately 200 miles from the nearest Indiana



FIGURE 1. *Rhexia mariana* L. var. *mariana* along the Calumet Trail, Porter County, Indiana. Photo by Scott A. Namestnik.

populations at the edge of the core of the range of the species and is approximately 80 miles from the nearest southwest Michigan populations; as a result it helps to fill the gaps in the known disjunct range of *R. mariana* var. *mariana* around Lake Michigan. After becoming aware of this population, on October 6, 2018 Doug Botka located another population of approximately 90 individuals of *Rhexia mariana* var. *mariana* in adjacent LaPorte County, Indiana at 41°42'49.67", -86°49'42.57", growing around the edge of an excavated pond with *Acer rubrum* L., *Coleataenia rigidula* (Bosc ex Nees) LeBlond, *Dichanthelium* ssp. (Hitc. & Chase) Gould, *Euthamia gymnospermoides* Greene, *Frangula alnus* Mill., *Nyssa sylvatica* Marshall, *Osmundastrum cinnamomeum* (L.) C. Presl, *Oxycoccus macrocarpus* (Aiton) Pursh, *Pinus sylvestris* L., *Rhynchospora capitellata* (Michx.) Vahl, *Rubus* sp. L., *Schizachyrium scoparium* (Michx.) Nash, *Solidago rugosa* Mill., *Spiraea tomentosa* L., *Spiranthes incurva* (Jenn.) M.C. Pace, *Symphytotrichum praealtum* (Poir.) G.L. Nesom, *Toxicodendron vernix* (L.) Kuntze, *Vaccinium corymbosum* L., and *Vernonia* sp. Schreb. (D. Botka, personal communication, October 7, 2018 and November 7, 2018). These discoveries should encourage field botanists to conduct additional targeted surveys for *R. mariana* var. *mariana* in appropriate habitat in proximity to Lake Michigan. Field botanists in this region should also be on the lookout for species with similar ranges as documented by Reznicek (1994) that have not yet



FIGURE 2. Habitat of *Rhexia mariana* L. var. *mariana* along the Calumet Trail, Porter County, Indiana. Photo by Scott A. Namestnik.

been documented in northwest Indiana (such as *Bartonia paniculata* (Michx.) Muhl.).

**Diagnostic characters.** *Rhexia mariana* var. *mariana* is one of 14 taxa (not including hybrids) in the genus, which is nearly endemic to the eastern United States (*R. virginica* L. reaches into Canada, and *R. cubensis* Griseb. reaches into the West Indies) (Kral and Bostick 1969; Nesom 2012). The following characteristics (from Kral and Bostick 1969 and Nesom 2012) can be used to distinguish *R. mariana* var. *mariana* from the other taxa in the genus: the four petals are lavender-pink to white (not yellow as in *R. lutea* Walter); the anthers are 5–11 mm long and curved (not ca. 2 mm long and nearly straight as in *R. lutea*, *R. nuttallii* C. W. James, and *R. petiolata* Walter); the stems and leaves are pubescent (not glabrous as in *R. alifanus* Walter); the bracts are narrower than the hypanthia (not foliaceous and as wide as the hypanthia as in *R. parviflora* Chapm.); the hypanthia are up to 1 cm long (not over 1 cm long as in *R. cubensis* and *R. nashii* Small); and the stem faces are unequal, with two broader, darker green and convex, and the other two narrower, pale and concave (not equal and flat as in *R. aristosa* Britton, *R. interior* Pennell, *R. salicifolia* Kral & Bostick, *R. ventricosa* Fernald & Griscom, *R. virginica*, and sometimes in *R. parviflora*). The species to which *R. mariana* var. *mariana* is most similar are *R. interior*, *R. ventricosa* and *R. virginica*. Several characteristics can be used to distinguish *R.*



FIGURE 3. Stem and leaves of *Rhexia mariana* L. var. *mariana* along the Calumet Trail, Porter County, Indiana. Photo by Scott A. Namestnik.

*mariana* var. *mariana* (Figure 3) from *R. virginica*, including leaves (linear to lanceolate, to 11 mm wide, and short petioled in *R. mariana* var. *mariana* versus ovate, over 11 mm wide, and sessile in *R. virginica*), stems (blunt angled in *R. mariana* var. *mariana* versus strongly wing-angled in *R. virginica*), and flower color (white to pale pink in *R. mariana* var. *mariana* versus pink-purple in *R. virginica*) (Kral and Bostick 1969; Wilhelm and Rericha 2017); in addition, *R. mariana* var. *mariana* tends to grow in slightly dryer conditions and tends to flower slightly later than *R. virginica* (Voss and Reznicek 2012). The stems can be used to distinguish *R. mariana* var. *mariana* from *R. interior* and *R. ventricosa* (as noted above) (Kral and Bostick 1969; Nesom 2012). A variety of *R. mariana* with white petals and linear leaves, *R. mariana* L. var. *exalbida* Michx., is said to be distinct in portions of the range of the species, such as in North Carolina (Weakley 2015), but intergrades with *R. mariana* var. *mariana* are common, especially in regions between the extremes of the varieties (Nesom 2012).

**Specimen citations.** INDIANA. PORTER CO.: Calumet Trail. 41°40'4.7", -86°59'53.5". Rather dense population in mesic sand prairie located within NIPSCO right-of-way, just east of 5-mile marker on south side of Calumet Trail. More abundant in areas lacking *Solidago rugosa* and at slightly lower elevation than in immediately adjacent areas. Plants with buds, flowers, and fruit. Petals light pink (dried deeper pink). Associated species: *Achillea millefolium*, *Agrostis gigantea*, *Dichanthelium clandestinum*, *Eragrostis spectabilis*, *Euphorbia corol-*

*lata*, *Euthamia nuttallii*, *Galium pilosum*, *Hieracium kalmii*, *Juncus dudleyi*, *Juncus greenei*, *Lactuca canadensis*, *Liatris aspera*, *Linaria vulgaris*, *Lonicera* sp., *Melilotus albus*, *Panicum virgatum*, *Polygala polygama*, *Polytrichum* sp., *Potentilla simplex*, *Prunus serotina*, *Quercus palustris*, *Rubus baileyanus*, *Salix eri-occephala*, *Schizachyrium scoparium*, *Solidago decemflora*, *Solidago juncea*, *Solidago rugosa*, *Spiraea tomentosa*, *Spiranthes cernua*, *Symphotrichum oolentangiensis*, *Symphotrichum praealtum*, *Viola sagittata*. September 13, 2014, Namestnik 2242 (BUT, MOR).

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