

## NOTEWORTHY COLLECTION

## WISCONSIN

*Spiranthes ovalis* Lindley var. *erostellata* Catling  
Orchidaceae  
October Lady's-tresses

**Significance of the Report.** The first report of this rare species from southeastern Wisconsin.

**Previous Knowledge.** This terrestrial, perennial herb ranges from Pennsylvania west to Iowa and south to Florida and Texas (Sheviak & Brown 2002). It has been reported to be spreading northward in the Midwest (Homoya 1993). *Spiranthes ovalis* var. *erostellata* was first discovered in southwestern Wisconsin by Mark Leach in 1990, growing on a steep wooded slope with "exposed limestone rocks nearby as well as pieces of chert" in Grant County (Leach 1892, WIS). There are two subsequent collections from this locality (Leach 2892, WIS; Sime & MacGregor 06-01, WIS). There are additional collections from two other localities with similar habitats elsewhere in Grant County (Sime 07-13, WIS; Sime 06-02, WIS). Although it has not been previously collected outside of Grant County in Wisconsin, there are unconfirmed reports from Lafayette and Crawford Counties, both of which are also in far southwestern Wisconsin (Wisconsin Department of Natural Resources 2014). *Spiranthes ovalis* var. *erostellata* occurs throughout most of Illinois, and was first discovered in the Chicago Region by Wayne Lampa at the Blackwell Forest Preserve in Du Page County in 1981; it was also found two years later by Dick Young and Jon Duerr in Kendall County (Swink and Wilhelm 1994). It was more recently collected in Cook County at Shoe Factory Road Woods in 2007 (Rericha & Wilhelm 3633, MOR) and at Palo Park (Rericha & Krug 4007, MOR) in 2010.

**Discussion.** A population of approximately 30 individuals of *Spiranthes ovalis* var. *erostellata* was observed in Waukesha County, Wisconsin, on October 3, 2014. The population was growing along a trail under a closed canopy of *Quercus macrocarpa* Michx. and *Ulmus americana* L. in association with a shrub layer dominated by *Rhamnus cathartica* L. and *Lonicera xbella* Zabel and an herbaceous layer dominated by *Acalypha rhomboidea* Raf. and *Geum canadense* Jacq. Many of the orchids were at anthesis. Exposed dolomite bedrock was observed nearby. However, unlike the previous collections in Wisconsin, the area supporting the population was fairly level (slope estimated at < 5%). Inspection of aerial photographs taken in 1941 revealed that the population location was then at the edge of an oak woodland and that the adjacent area nearer Jericho Creek, now dominated by lowland hardwoods, contained few, if any, trees or shrubs (Waukesha County 2014). *Besseyia bullii* (Eaton) Rydb. was observed in several relatively open areas nearby on the same property, suggesting a pre-settlement condition ranging from prairie to open oak woodland. The



FIGURE 1. Inflorescence of *Spiranthes ovalis* Lindley var. *erostellata* Catling at the collection site in Waukesha County, Wisconsin, on October 3, 2014. Photograph by Matthew Pace.

property owner is currently restoring oak woodland and savanna elsewhere on the property but has not managed the area where the orchids occur beyond keeping the trail free of debris. A digital photo was taken to serve as the voucher.

This locality, the first in Wisconsin outside of the southwesternmost corner of the state, is more than 100 km east of the previous collections in Wisconsin and about 100 km north of the nearest localities in northeastern Illinois. While this is a modest expansion of the known range, it is noteworthy because this orchid is critically impaired (S1) and a State Special Concern species in Wisconsin, rare in other states in the northern part of its range (it is State Threatened in both Iowa and Michigan and State Endangered in Pennsylvania), and occurrences are generally sparse throughout its range. It is not known whether the Wisconsin populations of this species are the result of a recent range expansion or if they were overlooked in the past, but the recent nature of this and other northern records is consistent with range expansion.

**Diagnostic Characters.** *Spiranthes ovalis* is subdivided into two varieties based on the capacity for out-crossing and column morphology. The typical allogamous (out-crossing) var. *ovalis* displays a fully formed rostellum and viscidium and is pollinated by bees (Catling 1980, 1983). The autogamous (self-pollinating) var. *erostellata* lacks both a rostellum and viscidium, allowing the pollinia to come into direct contact with the stigmatic surface, leading to self-pollination (Catling 1983). *Spiranthes ovalis* var. *ovalis*, is restricted to the Gulf coast region from Florida to Texas, whereas *S. ovalis* var. *erostellata* is more wide-ranging, being sparsely distributed throughout much of the lower eastern U.S., from Florida to southern Pennsylvania, and from eastern Texas to southern Wisconsin (Sheviak & Brown 2002).

*Spiranthes ovalis* var. *erostellata* (Figure 1) is characterized by its wholly white flowers, cupped lateral sepals, strongly narrowing and acute labellum that is less than 5.5 mm long, lack of a rostellum and viscidium, dark green oblanceolate leaves, the presence of at least one expanded cauline leaf at flowering time, and its preference for wooded and shady habitats. The populations of *S. ovalis* var. *erostellata* in Wisconsin bloom from the last week of September into early October. Together, these characteristics can be used to clearly differentiate this species from all other species of *Spiranthes* in the upper Midwest.

*Spiranthes cernua* (L.) Rich. is the only other autumn-blooming species that approximates *S. ovalis* var. *erostellata* in Wisconsin in general appearance, with which it shares a wholly white glabrous labellum and non-fragrant flowers. *Spiranthes cernua* may be distinguished by its larger rounded to subacute labellum 7-12 mm long with a crisped to lightly lacerate margin, fully formed rostellum and viscidium, and rounded, rather than slender, incurved callosities at the base of the labellum.

**Specimen Citation.** Wisconsin. Waukesha Co., Eagle Township, T5N, R17E, Sec. 24, SE¼ SE¼; Latitude 42.881917°N; Longitude 88.424785°W; approximately 30 plants along a trail in an area with dolomite near the surface at the Jericho Oak Woods. October 3, 2014, Carter WI-0012 (WIS – digital photo, SEWRPC – digital photo).

#### ACKNOWLEDGMENTS

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