

Additions to the Orchid Flora of Madison County, Illinois

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ABSTRACT

Of the 30-plus species of Orchidaceae known from Illinois, only two were reported for Madison County by recent editions of the Illinois Natural History Survey's (INHS) Illinois Plant Information Network (ILPIN): *Platanthera* (= *Habenaria*) *leucophaea* (Nutt.) Lindl. and *Spiranthes magnicamporum* Sheviak. Six additional species -- *Corallorhiza odontorhiza* (Willd.) Nutt., *C. wisteriana* Conrad, *Liparis liliifolia* (L.) Rich. ex Lindl., *Spiranthes lacera* (Raf.) Raf., *S. ovalis* Lindl., and *S. vernalis* Englem. and Gray -- are presented as new records for Madison County, Illinois. This brings the published flora of Orchidaceae from Madison County to eight species. A summary of information on collections of Orchidaceae, both recent and historical, from Madison County is provided.

INTRODUCTION

While exploring the vegetation and flora of Madison County, Illinois during the 1980s and 1990s, I learned that some of the locally occurring species of Orchidaceae were not recorded for the county in the most recent literature (Sheviak, 1974; Mohlenbrock and Ladd, 1978). According to the Illinois Natural History Survey's Illinois Plant Information Network (ILPIN) database (ILPIN, 1993) and to the publications of Sheviak and Mohlenbrock and Ladd, only two species from the family Orchidaceae -- *Platanthera* (= *Habenaria*) *leucophaea* (Nutt.) Lindl. and *Spiranthes magnicamporum* Sheviak -- were known in the documented flora of Madison County. In fact, the former species was only known from the county from collections made in the 19th century. Thus, I initiated an effort to document Orchidaceae species not yet recorded for the county.

MATERIALS AND METHODS

During field trips from 1984 to 1999, I took detailed notes of Orchidaceae species whenever I encountered them in Madison County, Illinois. Identifications were made using Mohlenbrock (1975), Sheviak (1974), Steyermark (1963), and Summers (1987). The INHS's ILPIN data, Mohlenbrock and Ladd (1978), and Sheviak (1974) were consulted to determine if the species represented a county record. Voucher specimens representing county records were collected and deposited in either the INHS (ILLS) or Missouri Botanical Garden herbaria (MO).

Nomenclature of the species treated below follows Summers (1996).

RESULTS

Additions

Corallorhiza odontorhiza (Willd.) Nutt., Fall coral root orchid. Southern Illinois University – Edwardsville’s Supporting Services complex, southeast of the main campus, early successional woods, K. W. Lynn, collection no. 4236634, October 1, 1992, (MO). I originally found this orchid at this site on October 1, 1984. Two specimens were collected at that time for deposit to the Southern Illinois University – Edwardsville herbarium (SIUE); however, both specimens are now missing. The number of individual stems varied considerably at this site from a low of four in 1988 to a high of 80 in 1989. I counted a total of 281 stems at this site from 1984 to 1993.

Corallorhiza wisteriana Conrad, Wister’s (early) coral root orchid. Southern Illinois University – Edwardsville campus, D. Thompson, May 13, 1963, (ILLS [transferred from SIUE]), May 1964 (SIUE), May 1965 (SIUE). None of these collections were reported by Mohlenbrock and Ladd (1978), Sheviak (1974), nor the ILPIN.

C. wisteriana was more recently reported (Thompson, 1981): Olin Natural Area, northwest of Alton, IL, sunny exposures of xeric wooded uplands, including the wooded, steep, and well-drained slopes, D. L. Thompson, spring 1976. Specimens deposited at SIUE, subsequently destroyed (neglect); and Olin Natural Area, same habitat, J. D. Lynn, April 29, 1995, (ILLS). Mr. J. D. Lynn and I visited the site a couple of years later but we were unable to find any additional specimens.

Liparis liliifolia (L.) Rich. ex Lindl., Large twayblade orchid. Near Moro, old field divided by electric transmission line right-of-way, no collection made. This species was found by William Elzinga in May, 1986 (Environmental Science and Engineering (ESE), 1988). Though no voucher specimen was collected, the identification should be considered valid since it was made by experienced field botany professionals.

Spiranthes lacera (Raf.) Raf., Slender ladies’ tresses orchid. Southern Illinois University – Edwardsville, northwest of main campus, old field on the loess bluff top bordering the American Bottoms, K. W. Lynn, October 3, 1992 (MO). This species was first found in Madison County by J. D. Lynn on September 19, 1984, in an old field on the loess bluff-top, northwest of the Southern Illinois University – Edwardsville campus. A total of 30 individuals were counted at this site by Mr. Lynn and me at that time. Four were variety *S. l. gracilis* (Bigel.) Luer, while 26 were variety *S. l. lacera*. A collection was made of both varieties for deposit (SIUE). Both specimens are now missing. In subsequent years, the site became progressively overgrown with *Rubus* L. spp. (brambles), *Robinia pseudoacacia* L. (black locust), and *Cornus drummondii* Meyer (rough-leaved dogwood), and by 1987 I could only find one stem of *S. lacera* at the site; by 1991, none were observed. At that time, it was nearly impossible to maneuver through the undergrowth. On October 3, 1992, however, I was able to find a single specimen growing in a densely shaded spot at the site.

I also observed a single individual of *S. l. lacera* at the Block House hill prairie (Evers, 1955) in Glen Carbon on September 8, 1993. The site was destroyed in 1995 when the bluff dirt was removed for use as fill at a nearby interstate highway project.

Spiranthes ovalis Lindl., Oval ladies' tresses orchid. Southern Illinois University – Edwardsville, northwest of main campus, densely overgrown old field on the loess bluff top bordering the American Bottoms (the same site where *S. lacera* had originally been found), K. W. Lynn, collection no. 4228737, September 17, 1991 (MO). I counted a total of 12 individuals at the time I made the collection. The following year, four were counted at the site; in 1993, five were observed.

S. ovalis has been more recently found: at a small hill prairie east of the Nativity of the Virgin Mary Orthodox Cemetery in Glen Carbon (no collection made). I found a single *S. ovalis* at this site on September 11, 1992. It could not be found the following year. Also: at a wooded disturbed site in Glen Carbon, K. W. Lynn, September 28, 1997 (ILLS). I counted 41 *S. ovalis* at this site at the time the collection was made. Nineteen were counted at the site the following year; in 1999, only 11 were seen.

Spiranthes vernalis Englem. and Gray, Spring ladies' tresses orchid. Near the hamlet of Poag, a remnant, wet tallgrass railroad prairie, J. D. Lynn and J. Schwegman, collection no. 3245517, July 14, 1985 (MO [now at SIUC – collection no. 75596]). This species was originally found in 1983 or 1984 by a Southern Illinois University - Edwardsville Field Botany class led by Dr. Frank Kulfinski (William Elzinga, pers. comm.). The number of individuals at the site has varied considerably from year to year. In 1985, the collectors noted “at least 50.” In 1991, I counted only 10 at the site, and only five in 1992. The following year, 56 were counted, while in 1994, only two were found. In 1996 I counted 12, and in 1997, eight were observed. *S. vernalis* is listed as “endangered” in Illinois (Herkert, 1991).

Existing records

Platanthera (= *Habenaria*) *leucophaea* (Nutt.) Lindl., Eastern prairie white-fringed orchid. Near the hamlet of Poag, “wet prairies”, H. Eggert, June 17 and 22, 1878 (AMES [1], G. Romero, pers. comm.; MO [4], G. Yatskiyevych, pers. comm.). No collections or reports of this species have been recorded in the 20th century from Madison County; undoubtedly, it has been extirpated from the county, most likely due to destruction of its preferred habitat (i.e., wet prairies). I and others have searched a remnant wet tallgrass railroad prairie near the hamlet of Poag in recent years with no success. In 1999, much of this remnant was destroyed for industrial development. This species is currently listed as “endangered” in Illinois (Herkert, 1991).

Spiranthes magnicamporum Sheviak, Great plains ladies' tresses orchid. Two miles north of Collinsville, hill prairie, R. A. Evers, collection no. 145134, September 27, 1972 (ILLS (L. R. Phillippe, pers. comm.)). This specimen was originally identified as *S. cernua* (L.) Rich., but was annotated in 1973 by C. Sheviak as *S. magnicamporum* (Sheviak 1974). I have observed this species at the following locations in Madison County:

- 1) Block House hill prairie (Evers, 1955) in Glen Carbon. I counted 10 stems at this site in 1989. The site was destroyed in 1995 when the bluff dirt was removed for use as fill at a nearby interstate highway project.
- 2) A small hill prairie near the intersection of Interstate 270 and state highway 157 in Glen Carbon. Fourteen was the highest number of stems I counted at this site (in 1984).
- 3) A small hill prairie located west of the main campus at Southern Illinois University - Edwardsville. The highest number of individuals I counted at this site was 18 in 1985.
- 4) A lightly wooded area near the intersection of Bluff Road and state highway 157, Glen Carbon. J. D. Lynn and I counted 51 specimens at this site on September 29, 1984. None were observed after 1989; the site became progressively overgrown and presumably less hospitable after 1984.
- 5) A small hill prairie east of the Nativity of the Virgin Mary Orthodox Cemetery, near the intersection of Interstate 270 and state highway 157 in Glen Carbon. On September 11, 1992, I counted 49 specimens at this site.

In total, I counted 299 specimens of *S. magnicamporum* at these five sites during the ten-year period 1984-1993. All of these locations are on the loess bluff-top bordering the American Bottoms.

DISCUSSION

Madison County, Illinois, includes a wide variety of habitats, including limestone and loess bluff, sand terrace, bottomland, hill prairie, oak-hickory woods, stream border, and disturbed sites, to name a few. Although it has been significantly altered as a result of agricultural, industrial, and residential developments, some remnants of these habitats remain. The list of orchids above should by no means be considered complete. It should be expected that additional species of Orchidaceae will be found in the county as field efforts continue.

Based on the preferred habitat and former and current distributions of species described in Sheviak (1974), and habitats that currently exist in Madison County, following is a list of Orchidaceae that could be expected to occur in the county:

Aplectrum hyemale (Muhl. ex Willd.) Torr., Adam and Eve orchid. This species has been collected from nearby St. Clair and Macoupin counties, and prefers undisturbed, rich, mesic woods along streams on loess-derived soils.

Cypripedium calceolus L. var. *pubescens* (Willd.) Correll, Large yellow lady slipper orchid. Collected from nearby St. Clair, Jersey, and Bond counties, from a variety of mesic, upland woodlands with sparse canopies on silt loam soils.

Cypripedium candidum Muhl. ex Willd., Small white lady slipper. This species has been collected from nearby St. Clair and Macoupin counties, and the "American Bottoms." Prefers undisturbed, low prairies on calcareous alluvial deposits.

Galearis (= *Orchis*) *spectabilis* (L.) Raf., Showy orchis. This species has been collected from nearby St. Clair and Macoupin counties, and prefers disturbed woodlands (oak-hickory).

Hexalectris spicata (Walt.) Barnh., Crested coral root. Collected from calcareous loess hill prairies on limestone bluffs in nearby Monroe and Randolph counties.

Platanthera (= *Habenaria*) *flava* var. *herbiola* (R. Br.) Luer, Pale green orchid. Collected from sand deposits throughout the state of Illinois, including nearby St. Clair County.

Platanthera (= *Habenaria*) *leucophaea* (Nutt.) Lindl., Eastern prairie white-fringed orchid. Although previously known from Madison County, this species has no doubt been extirpated from the county (see earlier treatment in Results section above); Bowles et. al. (1992) reported that *P. leucophaea* had extant populations in only eight counties in Illinois, none in close proximity to Madison County. Nevertheless, this species could possibly turn up at the remnant railroad wet prairie near Poag (near its last collection site in 1878), perhaps if the site were burned (*P. leucophaea* is known to respond to fire) (Sheviak, 1974).

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