

NOTES ON SOME RARE ILLINOIS ORCHIDS

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ABSTRACT

Twelve species of Orchidaceae rarely collected in Illinois are treated. The literature is reviewed and incorrect reports revised. Several new collections, including range extensions, are reported.

For the past several years I have conducted an intensive study of Illinois Orchidaceae and for a period of fifteen years have studied these species in the field throughout the state. I have exhaustively studied and analyzed the literature and have examined the collections of thirty-four herbaria. A detailed account of the family, with emphasis on each species' distribution and ecology in the state, is in preparation, but it is perhaps desirable to make available at an earlier date, and in concise form, a few notes on some of the state's rarer species, especially those which have been poorly treated in the past or those for which substantial new discoveries have been made. Twelve taxa fall into such categories.

Cypripedium acaule Ait.

The Cass County report by Gates (1922) is doubtless erroneous. This report is attributed to local residents, who often refer to C. reginae as "pink lady's slipper", and may thus have misled Gates.

Cypripedium acaule has been known from Cook County (Higley and Raddin, 1891; Pepon, 1927; Jones and Fuller, 1955; and others); several additional specimens from other localities have been found. This species is now known to occur in four counties:

Cook County: Moist woods, rare, 6 plants, Elk Grove, Des Plaines, May 30, 1942. G. Pearsall 7329. (ISM).

Lake County: Tamarack forest in sphagnum bog, Volo Bog, northwest of Volo, 28 May, 1968. C. J. Sheviak 210. (in collector's herbarium);

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Moist woods, rare, Waukegan, 4 June, 1944. G. Pearsall 21a. (ISM). (This specimen is part of a mixed collection and may have been collected at Elk Grove.)

McHenry County: Hummock in tamarack forest, Wilson Bog, east of Pistakee Bay, 27 May 1972. A. W. Haney and C. J. Sheviak 510. (ILLS and latter collector's herbarium).

Ogle County: Sand rock woods, Ogle County, Illinois, May 22, 1960. W. S. Hooks 101. (Northern Illinois University) (There is some cause to suspect that this specimen was planted).

Habenaria dilatata (Pursh) Hook.

The report of this species from Lake County (Gates, 1912) is based on specimens of H. hyperborea and H. flava var. herbiola deposited at the Field Museum and the University of Illinois. The reports of H. X media (as H. dilatata var. media) from Lake County by Pepon (1927) and Fuller (1933) are based on specimens of H. hyperborea and do not indicate the presence of H. dilatata in this area.

In Illinois, H. dilatata is known from three counties. It was reported from McHenry County by Swink (1969) and Mohlenbrock (1970), but the specimen upon which these reports were based could not be located during this study. The following collections are known:

Carroll County: Thompson Marsh, June 2, 1886, (without collector). (ILL).

Kankakee County: Near Kankakee, August 3, 1912. J. M. Greenman 3532. (MO).

Habenaria flava (L.) R.Br. ex Spreng. var. flava

In Illinois, this southern variety is limited to southern swamp forests in the Coastal Plain and lower Wabash valley. It is known from an early collection in Wabash County, and it has recently been discovered by John Schwegman in Massac and Johnson counties.

The report of this variety from St. Clair County by Mohlenbrock (1970) is apparently in error. The only St. Clair County specimen of H. flava which could be located during this study (Bluff Lake in ILLS, July 1878, H. Eggert, s. n.) is referable to var. herbiola. Because Mohlenbrock did not cite St. Clair County for this variety, and because this specimen is deposited at the Missouri Botanical Garden, which collection he examined, it appears that this specimen is the basis for this report. The resultant distributional pattern in Illinois is in agreement with the range of var. flava in Missouri, where it is limited to the southeast and does not extend up the Mississippi River valley (Steyermark, 1963).

The following Illinois collections are known:

Johnson County: Along Cache River below Wildcat Bluff, 3 miles southwest of Vienna, October 4, 1970. John Schwegman. (unmounted in collector's herbarium);

same locality, 2 August 1971. C. J. Sheviak 408. (in collector's herbarium, photograph deposited at ILLS).

Massac County: Black Bottom, bottomland forest with Onoclea, August 17, 1969. John Schwegman. (photograph and unmounted specimens in collector's herbarium).

Wabash County: Mt. Carmel, Ill., July 1890. M. Craig, s. n. (ILL).

Habenaria hookeri Torr. ex Gray

This species has long been known from Lake and Cook Counties, and the comparative abundance of collections suggests that it is not properly treated in this paper. However, the discovery of a collection which greatly alters the known range of H. hookeri in Illinois dictates that mention of this specimen be included here without citation of other collections. Although the previously known collections of this species indicate that it is limited to the northeastern portion of the state, especially the Lake Michigan border, the distribution of the species in Iowa and southern Wisconsin suggests a wider occurrence in Illinois. A search of the S. B. Mead herbarium at Knox College has revealed a collection from Hancock County (grows in woods west of Bob Browns, abundant. S. B. Mead s. n.). Kibbe (1952) reported that this locality was near Augusta, Hancock County. These specimens served as the basis for her report of H. orbiculata from that county.

A duplicate Mead specimen has been deposited at the University of Illinois.

Habenaria obtusata (Banks ex Pursh) Richards

This boreal species was reported by Correll (1950) as ranging south to "... (?) Illinois (Kane County)" This report is based on a specimen collected by Boyce and now deposited at the Dudley Herbarium of Stanford University (Correll, personal communication). This specimen bears a label from the "Herbarium of State Normal School, Winona, Minnesota". Examination of the specimens on the sheet, however, revealed a partially decomposed Picea needle imbedded in the root mass of one of the specimens. This collection is thus not from Illinois, and the locality cited must refer to Boyce's place of residence, not the collection locality.

Habenaria orbiculata (Pursh) Torr.

Ames (1910) tentatively reported this species from Kane County, but the specimen at the Smithsonian Institution which served as the basis for his report bears Abies balsamea needles in its crown and thus was not collected in Illinois. The labeling of this specimen is identical with that of the H. obtusata specimen dealt with above. Kibbe's report (1952) of H. orbiculata from Hancock County rests on specimens of H. hookeri. Fernald (1933) attributed H. orbiculata to Winnebago County, but it has not been possible to verify this record. Such a colony would be a most unusual disjunct, and this report must remain questionable; it may involve a misidentification of H. hookeri.

At present, only two valid Illinois collections of this species are known. One, annotated H. orbiculata by D. S. Correll (Mohlenbrock, personal communication) was reported from Elgin, Kane County, by Mohlenbrock and Ozment (1967). This specimen could not be located for this study. An additional specimen, part of a mixed collection with H. hookeri, has been located:

Cook County: Evanston. (without collector or date) from the herbarium of Charles Raddin. (F).

Spiranthes lucida (H. H. Eaton) Ames

The reports of this species from Menard County (Patterson, 1876; Hill, 1899; Fernald, 1945) are based on E. Hall collections of S. ovalis deposited at the Field Museum. Considering the labeling of Mead's specimens, his report (1846) of S. aestivalis (Lamb.) L.C. Rich, is referred here. Raddin (1883) reported S. lucida (as S. latifolia, a synonym) from Cook County. The accuracy of this report is not known.

Spiranthes lucida has been known from 1844 and 1897 collections from Hancock and Will counties, respectively. It was recently discovered by D. A. Niemann and the author in Woodford County. A colony was located on a grazed shore bar of the Illinois River but was later destroyed by natural deposition of sand. The species, however, appeared to have recently invaded the site and probably still occurs in the vicinity.

The following collections are known:

Hancock County: Creek under hill north of Cain on old Carthage Road, May 29, 1844. S. B. Mead s. n. (Knox College).

Will County: Springy bog in wooded pasture southeast of Marley, June 22, 1897. Agnes Chase s. n. (Chicago Academy of Sciences).

Woodford County: Shore bar of Illinois River, SW $\frac{1}{4}$ (100 feet south of NW $\frac{1}{4}$) sec. 11, T. 27 N., R. 4 W., south of Spring Bay, 25 May 1968. D. A. Niemann and C. J. Sheviak 257. (In latter collector's herbarium; photograph deposited at ILLS).

Spiranthes romanzoffiana Cham.

This species displays a most interesting and perplexing distributional pattern in Illinois. Known from Cook, Peoria, and Coles counties, its stations in the latter counties are disjunct by 140 and 200 miles, respectively, from that in Cook, which lies on the southernmost edge of the general range of the species. This curious distribution is perhaps related to the occurrence of hanging fens along the Shelbyville Moraine, but why other fens are avoided is unknown.

The following collections are known:

Coles County: Near Lincoln Log Cabin, October 1947. E. L. Stover s. n. (Eastern Illinois University).

Cook County: Glencoe. August 5, 1873. Paul Blatchford 2525. (ISM).

Peoria County: Peoria. (without collector or date). (US).

Spiranthes vernalis Engelm. & Gray

Reports of this species by Illinois workers frequently are based on misidentifications of other species. The report of S. vernalis from Clark County (Hellings and Ebinger, 1970) is based on S. cernua. The reports of S. vernalis from Menard County (Jones and Fuller, 1955; Jones, 1963; Mohlenbrock, 1970) are based on E. Hall specimens of S. ovalis deposited at the Field Museum.

Many specimens of S. cernua from southern Illinois have been found labeled S. vernalis. This situation results from the often high angle of the parastichy in material of S. cernua from our area, thus presenting a single-ranked aspect to the inflorescence and permitting these plants to be keyed to S. vernalis. Attention should be given to the nature of the indument, which in S. vernalis is composed exclusively of sharp-pointed hairs, but in S. cernua exhibits at least some capitate trichomes.

The following Illinois S. vernalis specimens are known:

Effingham County: Grassy right-of-way of I.C.R.R. 5 miles south of Watson, July 8, 1951. G. S. Winterringer 7218. (ISM).

Massac County: Old field (with Andropogon sp.), Mermet Refuge, June 22, 1965. John Schwegman 48. (SIU).

Fope County: Woods around Lake Glendale, near Dixon Springs, August 16, 1960. A. C. Koelling 203. (ILL); SW $\frac{1}{4}$, NE $\frac{1}{4}$, NE $\frac{1}{4}$, sec. 2, R. 5 E., T. 13 S., Brownfield Quad., August 8, 1964. John Schwegman s. n. (SIU);

old field, southwest of Bay City, July 23, 1970. R. A. Evers 103101. (ILLS);

in old field of Andropogon scoparius, NW $\frac{1}{4}$, SW $\frac{1}{4}$, sec. 14, T. 15 S., R. 6 E., southwest of Bay City, 2 August 1971. C. J. Sheviak 407. (in collector's herbarium).

St. Clair County: Cahokia, August 13, 1891. E. Douglass s. n. (MO).

Wabash County: Vicinity of Mt. Carmel, September 1877. Harry Patterson s. n. (F);

along railroad southwest of Mt. Carmel, July 9, 1968. R. A. Evers 96388. (ILLS).

Malaxis monophyllos (L.) Sw. var. brachypoda (Gray) Morris & Eames.

The report of this species (as Microstylis monophyllos, a synonym) from Menard County (Patterson, 1876) is evidently in error. Patterson's report reads, "Swamps, Menard County, Brendel; Elgin, Kane County, Vasey". In the University of Illinois herbarium is Brendel's copy of the Patterson catalogue. In this copy, Brendel has crossed out the Menard County report, and this record is thus here considered to be erroneous.

The reports of M. unifolia from Kane County (see below) are based on this species.

Mohlenbrock and Ozment (1967) recently reported an Illinois specimen of this species. Since then, an additional specimen has been located. It has served as the basis for incorrect reports of M. unifolia from Kane County. The following specimens are known:

Kane County: Elgin Swamp, Ill. Vasey s. n. (Illinois State University).

Illinois, without proper locality: Bogs, Ill. (without date or collector). (MO).

Malaxis unifolia Michx.

This species apparently has been collected in only three west-central counties, although Jones (1945), Jones and Fuller (1955), Jones (1963), Swink (1969), and Mohlenbrock (1970) reported it from Kane County. These reports are evidently based on the Elgin specimen of M. monophyllos var. brachypoda referred to M. unifolia by Jones (1945).

The following specimens are known:

Hancock County: Dry woods, Augusta, July 12, 1852.

S. B. Mead s. n. (AMES);

Illinois, 3.5 WsW 10 NW 1 or 2, nearly out of flower,
July 12, 1852. S. B. Mead s. n. (Knox College);

One additional Knox College Mead collection is known and
is probably from Hancock County.

Henderson County: In woods, near Oquawka, June 13, 1872.

H. N. Patterson s. n. (F).

Menard County: Woods, Athens, 1861. E. Hall s. n.
(F, ILL, ISM, NY);

Athens, August 1866. E. Hall s. n. (F);

Menard County, E. Hall s. n. (Illinois State University);

Menard County, (without collector or date). from the
herbarium of Frederick Brendel. (ILL).

Corallorhiza trifida Chat.

This species was reported from St. Clair County by Mohlenbrock and Ozment (1967) and Mohlenbrock (1970). These reports are erroneous, as the specimens upon which they are based (St. Clair County, Hillsides, May 10, 1897. J. Kellogg s. n.), deposited at the Missouri Botanical Garden and bearing Mohlenbrock's annotation, are all C. wisteriana.

This species has also been reported from Hancock County (Kibbe, 1952), but the specimen upon which this report is based (W. June 1. N. L. pond N. W. end. S. B. Mead s. n.), at Knox College, is labeled Neottia aestivalis; this suggests a mixture of labels.

The only apparently valid report of this species from Illinois is that of Higley and Raddin (1891), who reported it (as C. innata, a synonym) from Cook County in an area adjacent to known colonies in Indiana. This report is thus here considered to be valid, even though the specimen, reported as deposited at the University of Chicago (whose collection is now deposited at the Field Museum), could not be located. It should be noted that no misidentifications which could have contributed to this report were found, and some other specimens of other species similarly reported by Higley and Raddin as deposited in this herbarium have not been located; a loss of specimens is thus apparent.

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