

## Recent Additions to the Flora of Southern Indiana

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### Introduction

This paper is a continuation of a report published in 1983 on additions to the flora of southern Indiana (1). Southern Indiana is defined here as that area south of U.S. Highway 40 east of Indianapolis and U.S. Highway 36 west of Indianapolis. Information on current endangerment status in the state comes from the Indiana Natural Heritage Program (INHP) (2). Most specimens discussed are deposited in the Deam Herbarium at Indiana University in Bloomington, Indiana (IND).

### Species New to Indiana

*Asplenium bradleyi* D.C. Eat. Bradley's spleenwort. Dubois County. Details to be published elsewhere. (October 23, 1984 *Homoya and Bacone* IND 131508).

*Asplenium* x *kentuckiense* McCoy. Kentucky spleenwort. Perry County. Details to be published elsewhere. (January 24, 1984 *Homoya, Abrell, and Post* IND 132285).

*Asplenium resiliens* Kunze. Black-stem spleenwort. Harrison County (two sites). Details to be published elsewhere. (August 16, 1984 *Homoya and Abrell* IND 131439 and September 5, 1984 *Homoya and Abrell* IND 131509).

*Bartonia paniculata* (Michx.) Muhl. Ripley County. Hundreds of plants of the screwstem were discovered in a regrowth sweetgum-red maple forest bordering a mature flatwoods community in Versailles State Park. This species is generally considered to be an eastern coastal plain species, being very rare in the interior U.S. (September 26, 1985 *Homoya and Hutchison* IND 132305).

*Cimicifuga rubifolia* Kearney. Posey County. This species of bugbane was discovered growing on a mesic, north-facing forested slope in Harmonie State Park. This species has a very limited range overall, being almost exclusively restricted to east and central Tennessee. It appears to have entered the western Kentucky, southeastern Illinois, and southwestern Indiana area from the south along the Cumberland River drainage. (October 18, 1985 *Homoya and Bacone* IND 132296).

*Ludwigia leptocarpa* (Nutt.) Hara. Vanderburgh County. Primarily a coastal plain species, this plant is expanding its range to the north along the valleys of large rivers, e.g. the Mississippi and Ohio. The Indiana population occurs in a marsh bordering a small manmade lake. (October 18, 1985 *Homoya and Bacone* IND 132302).

### Species New to Southern Indiana

*Carex atlantica* subsp. *atlantica* L.H. Bailey. This, the fifth collection of this plant in Indiana, was discovered growing in an acid seep spring south of Chestnut Ridge in Jackson County. (June 6, 1984 *Homoya, Abrell, and Huffman* IND 131442). Formerly called *Carex incompta* Bicken., this species is also known from northern Indiana in Kosciusko, St. Joseph, Starke, and Whitley Counties. This species was also collected from seep spring communities in Clay and Owen Counties in 1985.

*Carex aurea* Nutt. Previously known in Indiana only from the Lake Michigan dunes region, a remarkable disjunct occurrence was discovered growing in a disturbed seepage slope near Lyford in Parke County. (June 20, 1984 *Homoya and Aldrich* IND 131443).

*Carex seorsa* Howe. Jackson County. This generally eastern coastal plain species was previously known in Indiana only from disjunct populations in northern Indiana. The Jackson County population was collected from a swampy woods south of Chestnut Ridge. (May 17, 1985 *Homoya and Brothers* IND 132289).

*Lycopodium dendroideum* Michx. Round-branch ground-pipe. Crawford County. Details to be published elsewhere. (Feb. 10, 1983 *Homoya, Abrell, and Aldrich* IND 130101).

*Spiranthes magnicamporum* Sheviak. Clark County. Eleven individuals of the Great Plain's ladies'-tresses were found growing in a limestone glade near Charlestown. This species is very restricted in Indiana, currently known only from here and far northwestern Indiana. (October 10, 1985 *Homoya and Maxwell* IND 132295).

### Infrequently Collected Species in Southern Indiana

*Aster solidagineus* Michx. There are four extant populations of the narrowleaf white-top aster known to the INHP. Two are 1984 discoveries. One small population was seen September 9, 1984 in an opening of a blackjack oak-post oak forest in Perry County. A large population was discovered in a remnant barrens community in Dubois County. (July 25, 1984 *Homoya and Abrell* IND 131456).

*Baptisia australis* (L.) R. Br. The blue wild-indigo was known historically in Indiana only from the banks of the Ohio River, and was presumed extirpated due to flooding caused by navigation dams on the river. Populations have been discovered by INHP biologists at several sites along the Blue River and Indian Creek in Crawford and Harrison Counties. The plants are restricted to gravel wash communities composed of limestone and chert.

*Botrychium oneidense* (Gilbert) House. A small population of this grape fern was discovered growing on the edge of an acid seep spring community in Owen County. (August 6, 1985 *Homoya* IND 132281). Recently this northern fern has been found with regularity in the flatwoods community type of southeastern Indiana, probably having been overlooked in the past.

*Carex abscondita* Mack. Several plants were located on a dry-mesic slope above Stinking Fork Creek in Perry County. Associates include *Kalmia latifolia* (L.) and *Oxydendrum arboreum* (L.) DC. (June 13, 1984 *Homoya* IND 131441).

*Carex socialis* Mohlenbrock and Schwezm. This sedge is now noted with regularity in counties bordering the Ohio River from Posey County to Spencer County. It typically grows in dense mats near the annual high water mark on floodplains of the Ohio River and its tributaries. (May 23, 1985 *Homoya, Baskin, and Baskin* IND 132290).

*Chamaelirium luteum* (L.) Gray. Last collected in 1919 by C.C. Deam, the fairywand was believed extirpated until 50-100 individuals were discovered growing on the lower slopes of a rocky ravine in Harrison-Crawford State Forest, Harrison County. The population is remarkable in that other Indiana populations consisted of only one plant each. (August 16, 1984 *Homoya and Abrell* IND 131446).

*Chenopodium gigantospermum* Aellen. This mostly northern species was discovered growing at the drip-line under a high sandstone overhang in western Perry County. It is interesting to note the occurrence of this species in an environment obviously occupied by early American Indians, especially since the plant was utilized for food by them (3). The plants at this site may represent an introduction that occurred hundreds of years ago. (July 25, 1984 *Homoya and Abrell* IND 131448). This species is also known from similar habitat at Hemlock Cliffs in Crawford County.

*Clitoria mariana* L. Two new sites for the butterfly pea were discovered, one each in Perry and Harrison Counties. They are the only extant populations known to the INHP. (August 16, 1984 *Homoya and Abrell* IND 131451).

*Corallorhiza maculata* Raf. Brown County. One plant of this orchid was observed by John Bacone, Hank Huffman, and the senior author on July 30, 1985 in a mesic upland forest near Nashville. This site is certainly the most southern site known in the midwest for an extant occurrence of this species.

*Dicliptera brachiata* (Pursh) Spring. Our collection of this species is from a site near its initial discovery site in Indiana found by Ralph Kriebel in 1939. The plant is locally abundant along Little Pigeon Creek in Warrick County. (June 2, 1983 *Homoya and Abrell* IND 131455).

*Eleocharis wolfii* Gray. Posey County. Only a few clumps of this rare sedge were found growing in a wet depression of a flatwoods community. Extant populations in Indiana now total two. (May 23, 1985 *Homoya, Baskin, and Baskin* IND 132291).

*Hexalectris spicata* (Walt.) Barnh. Washington County. Previously known only from a few sites, all within five miles of the Ohio River, the crested coralroot orchid is now known from Washington County. Two small populations were observed growing below a limestone glade northwest of Salem. These plants are at the very northern edge of the species' range. (July 25, 1985 *Homoya, Baskin, and Baskin* IND 132294).

*Hydrocotyle americana* L. Jim Aldrich and the senior author verified the continued existence of the American pennywort in Jefferson County and in Indiana by observing numerous colonies occupying a seepage slope on a north-facing limestone cliff above Big Creek. The site and plants were discovered by Edna Banta in 1935. An 1875 collection from Jefferson County by Harvey Young may possibly have been from this site.

*Krigia oppositifolia* Raf. This plant was collected at two sites, both being fallow fields adjacent to flatwoods, in Warrick and Vanderburgh Counties. It was common at both sites. Previously this species was known in Indiana only from a 1935 collection by Scott McCoy. (May 24, 1985 *Homoya* IND 132307).

*Lechea racemulosa* Lam. Clark County. This species of pinweed was collected from a dry, chestnut oak dominated hillside near Borden. This is the only known extant population in Indiana. (October 17, 1984 *Homoya and Abrell* IND 132301).

*Lesquerella globosa* (Desv.) Wats. Posey County. Hundreds of plants of the bladderpod were observed in the exact location where C.C. Deam first discovered the population in 1941. Since Deam's discovery, the species had not been seen in Indiana until this rediscovery. (April 20, 1985 *Homoya and Dennis* IND 132297).

*Ophioglossum engelmannii* Prantl. Adder's tongue fern. Harrison and Washington Counties. Details to be published elsewhere. (April 29, 1983 *Homoya et al., s. n.* and May 5, 1985 *Homoya* IND 132284).

*Oxalis illinoensis* Schwegman. This recently described species has been seen only once in Indiana by the senior author. (May 31, 1985 *Homoya and Huffman* IND 132299). The site is a mesic upland forest over limestone near the Ohio River in Crawford County. Also known from old, single collections from Martin and Orange Counties, this species is apparently an Interior Low Plateaus endemic.

*Oxydendrum arboreum* (L.) DC. Two new locations are known to harbor sourwood, bringing the total number of extant sites to four. All are in Perry County. One of the new populations occurs in Rockhouse Hollow near Mogan Ridge, and the other along Stinking Fork Creek near Sulphur Springs. (June 13, 1984 *Homoya* IND 131454).

*Perideridia americana* (Nutt.) Reichenb. This rare umbel is locally common at two sites in southern Indiana, both being post oak flatwoods communities in Warrick and Posey Counties. (April 23, 1985 *Homoya and Bacone* IND 132304, and April 30, 1985 *Homoya* IND 132303).

*Poa paludigena* Fern. and Wieg. The second extant population in Indiana of the bog bluegrass was discovered in an acid seep spring south of Chestnut Ridge, Jackson

County. As in the population in Dubois County, these plants were growing on the hummocks formed at the base of cinnamon ferns. (June 22, 1984 *Homoya, Abrell, and Huffman* IND 131440). New populations in Owen and Elkhart Counties were discovered in 1985.

*Salix caroliniana* Michx. Rarely collected in Indiana, this willow is common in limestone gravel wash communities along creeks in Harrison and Jefferson Counties. It usually occurs as a shrub or small tree; not a surprising condition given the environment where it occurs.

*Smilacina stellata* (L.) Desf. An exceptionally rare plant of the southern one-third of the state, the starry false solomon's-seal was collected from a small, wet ledge high on a limestone cliff overlooking the Ohio River in Harrison County. (August 16, 1984 *Homoya and Abrell* IND 131447).

*Solidago squarrosa* Muhl. Less than fifteen plants of this rare goldenrod were observed on October 17, 1984 by the authors in Clark State Forest, Clark and Scott Counties. This population, first discovered in 1930 by R.C. Friesner, is a disjunct occurrence marking the western limit of the species' range.

*Spiranthes ovalis* Lindl. Six plants of this rare orchid were observed in Harrison County on September 13, 1983. The site consists of a dense, young forest on a south-facing, rocky slope composed of limestone. Only four extant populations are known in the state.

*Trichomanes boschianum* Sturm. Filmy Fern. Martin County. Details to be published elsewhere. (May 31, 1984 *Homoya, Engle, Huffman, and Hutchison* IND 131438).

*Viburnum molle* Michx. Clark County. This attractive shrub is apparently restricted in southern Indiana to steep, limestone slopes bordering streams. The Clark County site is along Fourteenmile Creek southeast of Otisco. It is the fifth collection from southern Indiana. (October 10, 1985 *Homoya* IND 132306).

*Waldsteinia fragarioides* (Michx.) Tratt. A large population of the barren-strawberry was discovered growing on ledges at the mouth of a limestone cave in Washington County. It is the sixth known extant population in the state. (July 24, 1984 *Homoya* IND 131450).

*Wisteria macrostachya* Nutt. Posey County. The Kentucky wisteria was collected from a vine twining in a redbud tree at the mouth of a forested ravine in Harmonie State Park. This is the second known collection of the species in Indiana. (October 18, 1985 *Homoya and Bacone* IND 132298).

#### Literature Cited

1. Homoya, M.A. 1983. Additions to the flora of southern Indiana. *Indiana Acad. Sci. Pro.* 92:379-382.
2. Indiana Natural Heritage Program Data Base, Indiana Department of Natural Resources, Indianapolis, Indiana.
3. Seeman, M.F. and H.D. Wilson. 1984. The food potential of *Chenopodium* for the prehistoric midwest, in Patrick J. Munson, Ed. *Experiments and Observations on Aboriginal Wild Plant Food Utilization in Eastern North America*. Prehistory Research Series. Indiana Historical Society. Vol. II, No. 2. 299-316.