

NOTES ON PLANTS OF JEFFERSON COUNTY NEW OR RARE IN INDIANA

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At one time considerable work was done on the flora of Jefferson County, Indiana, and three lists were published, A. H. Young's in 1871, J. M. Coulter's in 1874, and C. R. Barnes' in 1877. Since these lists are not completely substantiated by herbarium specimens, and because there have been many changes in habitat factors due to the clearing and cultivating of the land, it seemed worth while to make another study of this flora. Hence in the spring of 1933, I began a collection of the vascular plants of the county, and, although more than one thousand species and varieties have been collected, the list is not yet nearly complete. A full report of this study will be published later; meanwhile it seemed advisable to report certain new or unusual plants.

Specimens of the species here reported are in my herbarium, which is later to be deposited in the herbarium of Indiana University. Duplicate specimens have been sent to Chas. C. Deam and are in the Deam Herbarium. All identifications have been verified by Mr. Deam or by specialists to whom he has referred them. The nomenclature is that in use at the Gray Herbarium. If a new name has been adopted, the name used in Gray's Manual (7th edition) follows it in brackets.

The following species are new to the state:

1. *Dentaria multifida* Muhl. Harbarts Creek, April 4, 1934.

A small colony of this was found at the base of a slope near where Harbarts Creek flows into Big Creek, about one mile south of Volga. All efforts to identify it having failed, specimens were collected in April, 1935, and sent to the Gray Herbarium for identification. The report received was: "*Dentaria multifida* Muhl. a good find." It is described and given species rank in the 1933 edition of Small's Flora of the South-eastern States and in the 6th. edition of Gray's Manual, but it is entirely ignored in the 7th. edition of Gray's Manual and in the 2nd. edition of Britton and Brown's Illustrated Flora. Range, according to Small: Appalachian provinces, Ga., Ala., and Ohio.

2. *Rubus phoenicolasius* Maxim. Crow Ravine, June 3, 1935.

This Asiatic species was sold and introduced into gardens in Hanover under the name of Japanese wine berry. It was cultivated for a few years but proved so dissappointing that it was subsequently dug up and thrown on dump heaps. I first noticed it as an escape in 1924, when I found a few plants of it in Crow Ravine some distance below Crow Falls. Above Crow Falls there is at present a thrifty colony of it, which seems to be a survival of a former dump.

3. *Geranium columbinum* L. Harbarts Creek, May 22, 1934.

One plant of this European species was found in a pasture one mile southwest of Wirt. In 1935 it was found as a common weed in a strawberry patch about one mile west of the first station and in a fallow field about one mile east of the first station. Range, according to Gray's Manual: Borders of fields, etc., N. J. and Pa. to Va., also Dak.

4. *Hypericum aureum* Bartr. Clifty Falls Park, July 10, 1935.

This southern shrub was discovered by Mr. Merritt Carr, custodian of Clifty Falls State Park. It is growing in a thicket on the steep rocky slope of the hill southeast of the reservoir for Clifty Inn. Careful investigation uncovered no evidence of its ever having been planted there or near by. If it is an escape, its source is not known. Range, according to Britton Brown: River banks and bluffs, S. C. to Tenn., Ky., and Tex.

5. *Bupleurum rotundifolium* L. Lost Fork, June 6, 1934.

The only station for this plant is along a creek bank three miles east of Brooksbury. It was noted in 1926 by A. L. Banta, who found it while mowing weeds along the creek. It still persists here after eight years. Since it grows among weeds which are taller and more conspicuous, it is not easily found, and other stations may thus be overlooked. Range, according to Gray's Manual: N. H. to N. C., S. Dak., and Ariz.

6. *Torilis anthriscus* (L.) Bernh. Brooksbury Road, May 20, 1934.

This introduced umbellifer is a common and conspicuous weed on the south slopes of the hills east of Madison and extending eastward to state road 129. General range, according to Gray's Manual: N. Y. to D. C., Ky., and Ohio.

7. *Rudbeckia bicolor* Nutt. Big Creek, August 8, 1935.

This unusual looking Rudbeckia was collected on the farm of William Boyd, one mile east of Lancaster. It was growing in a stubble field, at the crest of high bluffs along Big Creek. In size and vegetative characters it is similar to *Rudbeckia hirta* L., but the flowers are conspicuously different in having brownish purple, trident-shaped spots at the base of the ligules of the ray flowers. It is a southern species said to grow on "dry hills and sandy soil, various provinces, Alabama to Texas, Arkansas and Tennessee."

8. *Crepis pulchra* L. Brooksbury road, May 20, 1934.

This introduced weed is common along state road 56 from Madison to Brooksbury a distance of eight miles. It is also found less commonly in fields and waste places three miles east of Brooksbury. It grows to a height of 2 to 4 feet and seems to be competing quite successfully with such weeds as *Lactuca canadensis* L. All the evidence seems to point to a noxious and successful weed. Little has been learned concerning its distribution. Gray's Manual states that it is locally established in Virginia. Specimens have been sent to the Gray Herbarium and to E. B. Babcock, who is studying the genus from the genetic standpoint.

The following plants are rare or extend the range of the species in the state:

9. *Pteritis nodulosa* (Michx.) Nieuwl. [*Onoclea Struthiopteris* (L.) Hoffm.] Chambers' Woods, August 8, 1934.

Only one colony of this fern was found. It is in a large primitive woods, known locally as the Chambers' Woods, about five miles north of North Madison along the Paper Mill Road. It was reported from Henry County by Joe R. Craw in 1932 and from Lawrence County by Ralph M. Kriebel in 1934. These are to date the most southern records in In-

diana for this species. General distribution, according to Gray's Manual: Alluvial soil, Nfd. to Va., and north westward.

10. *Juniperus communis* var. *depressa* Pursh. Harbarts Creek, May 21, 1934.

This species is represented in the Jefferson County flora at present by two plants, growing along Harbarts Creek about two and three miles southwest of Wirt. The land owner told of three others that had been cut down in the last five or six years. The first of the two specimens is young and vigorous, 10.5 feet high and about 11 feet in spread. It consists of a whorl of stems decumbent for a few inches then soon erect, the whole plant having from a distance the appearance of a low branching specimen of *Juniperus virginiana* L. The second plant is old and much less vigorous and has many dead branches. It is about 12.5 feet high with a spread 15 feet. The first one is growing on a rather steep slope underlaid by Niagara Limestone. The most common tree growing with it is *Juniperus virginia* L. The second plant is at the crest of a very gentle slope which flattens out into a very flat, wet woods in which the most common tree is *Liquidambar styraciflua* L.

The two stations are only a mile apart, but the first is steep and dry and faces east, while the second is moist and almost level and faces west. The distribution of this species in the state is scattered and its habitat varied. It is most common in the dunes along Lake Michigan, where it grows in pure sand. Deam reports it from the following interesting habitats: a hard clay woods in Elkhart County, muck ground in Laporte County, and a decadent tamarack swamp in Steuben County.

11. *Cyperus pseudovegetus* Steud. Near Chelsea, Aug. 2, 1935.

This species was found along a roadside ditch near Chelsea in the southwestern part of the county. It was common here for about a quarter of a mile. This habitat is typical of the southern Indiana flats. The one published record for the state is for Posey County, by Deam. Distribution: Del. to Fla., west to Kan. and Tex.

12. *Eleocharis quadrangulata* (Michx.) R. and G. North Madison, August 8, 1934.

This species is abundant in the railroad pond at North Madison, and about one mile north of Madison it is again found in a pond on a farm belonging to Joseph M. Cravens. In the lake area it is common, but south of there it has been reported only for Crawford and Harrison counties.

13. *Rhynchospora capitellata* (Michx.) Vahl. [*R. glomerata* (L.) Vahl] Near Chelsea, August 28, 1935.

This species is common in a flat, very wet clearing in a woods about a mile northeast of Chelsea and six miles southwest of Hanover. It is common in the lake area of the state but south of there it has not been reported.

14. *Spiranthes Beckii* Lindl. Harbarts Creek, August 28, 1934.

This specimen was found on a dry clay bank in a pine woods along Harbarts Creek two miles southwest of Wirt. It has been reported by

Deam from an open black oak woods in Harrison County and from an open white oak woods in Owen County. It is easily overlooked and is probably not as rare as it seems. General distribution, according to Gray's Manual: Dry soil near the coast, Mass. to Fla. and Tex., inland in the Miss. Valley to Ky. and Ark.

15. *Ranunculus pusillus* Nutt. Near Volga, June 3, 1933.

I have this species from two stations in the county, which are about ten miles apart. The first station was a low flat, very wet woods, about one mile south of Volga. The second was a similar woods about one-half mile northeast of Chelsea and six miles southwest of Hanover. It has been reported from Posey and Harrison counties by Deam, and from Knox County in Coulter's Catalogue for Spillman. Distribution, according to Gray's Manual: Wet places near the coast, southern N. Y. to Fla. and Tex., north in the Miss. basin to Mo. and Tenn.

16. *Thlaspi perfoliatum* L. Brooksbury Road, April 5, 1933.

I have a specimen of this in a plant collection made while a student in Hanover College in 1924. A marginal note in the Gray's Manual of Dr. A. H. Young of Hanover, shows that this specimen was the first to come to his attention. At that time only a small colony of it was found; now it is common along state road 56 east of Madison and along the Wolf Run Road northwest of Manville. The only published record for Indiana is for St. Joseph County.

17. *Rosa micrantha* Borer. East of Madison, June 1, 1934.

This rose has taken possession of a steep rocky pasture about one-half mile east of the Madison City limits. From here it extends north along the slopes of Goat Hollow for perhaps one-half mile, and occasional specimens are found for five or six miles east along state road 56. It is a native of Europe and has been reported as an escape in Clark County by Baird and Taylor, and from Jefferson County by Barnes and by Young. Since the extent to which it had escaped was not noted in those reports I am including it in this list.

18. *Prunus Mahaleb* L. Clifty Falls Park, June 14, 1934.

This southern European species has been reported previously for Jefferson County and is included here merely to note its abundance. It is now quite common in woods and thickets on the hillsides around Madison. It seems to grow best on dry, warm slopes and is reproducing freely. It begins to flower and fruit when small, many fruiting specimens being only small shrub size. Birds are probably the distributing agent, for the fruits are much relished by them.

19. *Oxalis florida* Salisb. [*O. filipes* Small.] Harbarts Creek, June 2, 1935.

Specimens of this were collected in a low woods two miles southwest of Wirt. The only other report for this species in Indiana is from Perry County by Deam.

20. *Orobanche Ludoviciana* Nutt. Brooksbury, Sept. 15, 1935.

This parasite was found by a tobacco grower near Brooksbury and given to me to identify. I visited the field and found it growing on the

tobacco roots, but the manuals state that it is parasitic on the roots of *Ambrosia trifida* L. An inquiry concerning its host plants was sent to the U. S. Department of Agriculture. The following information was received in a letter from H. A. Allard: "It appears that this species has been reported upon *Artemesia frigida* W., *Artemesia tridenta* Nutt., and also upon *Psoralea verrucosa* L. It does not appear to have been reported upon tobacco. The species sometimes affecting tobacco in the Kentucky area is *Orobanchae ramosa* L." My specimen cannot be *O. ramosa* L., for it has a distinctly five cleft calyx, and *O. ramosa* is described as having a four lobed calyx. This character is a key character in separating these two species.

21. *Hydrocotyle americana* L. Bluffs, Big Creek, August 11, 1935.

A small colony of this species was found along Big Creek about one mile south of Lancaster. It was growing high upon the north face of a cliff, kept moist by the drip from a spring. At the crest of the cliff the conspicuous members of the tree flora were *Tsuga canadensis* (L.) Carriere and *Castanea dentata* (Marshall) Borkh. Deam reports this from a cranberry bog in Lagrange County. These two habitats, a cranberry bog in the extreme northern part of the state and a limestone cliff in the extreme southern part of the state, afford a most striking contrast. The Lagrange County report is the only other report for the state.

22. *Martynia louisianica* Mill.¹ Harbarts Creek, June 24, 1934.

This was found growing as a weed in a garden two miles southwest of Wirt. The owner of the garden told me that it had been a weed about the premises for each of the ten years that he had owned the land. This is the only place where it is now known to occur in the county, although it was reported by Barnes in 1877 as common along the Ohio River at Madison.

23. *Carduus nutans* L. Lost Fork, June 12, 1934.

This European migrant was found in a pasture along the Lost Fork Road three miles east of Brooksbury. The owner of the land told me that it appeared there first when the field was planted to alfalfa about six years ago. It is now well established and becoming a pest. The only other report for the state is for Elkhart County, by Albert Hansen in 1924.

¹The correct spelling is *louisianica* Mill. not *louisiana* Mill. It seems that the latter was a misprint of some sort and was corrected in the errata at the end of the 8th. edition of Miller's Garden Dictionary. See also: Howell, 1933. *Martynia louisianica* Mill., a correction. Leaf. Western Bot. 1:80.