

NOTES ON SOME NEW OR LITTLE-KNOWN MEMBERS OF THE
INDIANA FLORA.

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In preparing the present paper all notices of species of general and well known distribution in the State have been omitted and only those of more particular interest included. These plants naturally fall into three groups: first, those which have not previously been recorded as members of our flora; second, those which have been recognized as members of our flora since the publication of Dr. Coulter's Catalogue; third, those which are recognized in that catalogue, but known only from a limited region of the State or from a very few localities.

The nomenclature adopted is that of Britton's Manual. Synonyms are given only in case of species which bear a different name in Gray's Manual from that employed here, or which have been previously reported from the State under another name. The twenty-seven species which are recorded for the first time as members of the Indiana flora are marked with an asterisk (*).

1. *Lycopodium porophyllum* Lloyd & Underwood. Rock Club-moss.

The only reference in any paper on the Indiana flora to this species is by Dr. Coulter in the Proceedings of the Academy for 1901 (p. 301), where the distinguishing characters of this species and its range are quoted from Britton's Manual with the following remark: "The familiarity of Dr. Underwood with the Pteridophytes of the State places this reference beyond question." There is a specimen of this species in the Herbarium of DePauw University, which was collected by Dr. MacDougal and originally labeled *L. selago*. The specimen was collected at Fern, Putnam County, where the plant grows sparingly on sandstone cliffs in company with *L. lucidulum*. This is the type locality of this species.

2. *Canadensis* Marsh *Taxus*. American Yew.

"Found only in Putnam County, associated with *Tsuga canadensis*," according to the State Catalogue (p. 618). A specimen in the herbarium of the Eli Lilly Company, collected by Walter H. Evans, extends its range to the southern part of Montgomery County.

3. *Echinodorus cordifolius* (L.) Griesb. Upright Bur-head.

"Reported only from the southern part of the State and probably not extending far northward, as the species is southern in its mass distribution." (State Catalogue, p. 624.) The only citation given is Vigo County. This species occurs in abundance in a wet river bottom in Tippecanoe County, where it was collected in midsummer.

*4. *Panicum capillare gattingeri* Nash.

Hamilton County, with the typical form. Probably of wider distribution in the State.

5. *Chaetochloa verticillata* (L.) Scribn. (Ixophorus v.) Fox-tail Grass.

In waste places about dwellings, Tippecanoe County. Previously reported only from Marion County. (State Catalogue, p. 630.)

6. *Aristida oligantha* Michx.

Common along the Monon Railroad in Putnam County, growing in sandy soil. "Found in the counties bordering on the Ohio and lower Wabash rivers." (State Catalogue, p. 633.) Probably a railroad migrant, but now well established.

*7. *Bromus purgans* L.

Putnam County, in thickets. In his elaboration of the Gramineae for Britton's Manual Nash has included this species with *B. ciliatus*, from which it is easily distinguished by having the flowering glumes pubescent throughout, remarking that "the form known as var. *purgans* * * * may be distinct." Later he has separated the two species in Small's Flora of the Southern States. Probably of general distribution in the State.

*8. *Bromus erectus* Huds. Upright Brome-grass.

Tippecanoe County. This is the determination by the Bureau of Plant Industry of a specimen sent by Mr. Fisher of the Experiment Station during the present season.

9. *Bromus tectorum* L. Downy Brome-grass.

Putnam County, common along railroads and in waste places. Previously reported from Lake, Madison and Tippecanoe counties. (Proc. Ind. Acad. Sci. 1900: 137; 1904: 301.)

*10. *Lolium temulentum* L. Darnel.

Tippecanoe County. Streets of Lafayette, apparently introduced with grass seeds.

11. *Hordeum pusillum* Nutt. Little Barley.

Putnam County, common in waste places about towns. Previously reported from Tippecanoe County by Dorner. (Proc. Ind. Acad. Sci. 1903: 118.)

12. *Cyperus rivularis* Kunth. Shining Cyperus.

Putnam County, along streams. Previously reported "only from the northern part of the State * * * Round Lake (Deam.)." (State Catalogue, p. 649.)

13. *Kyllinga pumila* Michx.

Putnam and Tippecanoe counties. Vigo County is the most northern locality from which this species is recorded in the State Catalogue. (p. 651.)

*14. *Scripus cyperinus eriophorum* (Michx.) Britton.

Hamilton County, in swamps.

15. *Eriophorum polystachyon* L. Tall Cotton-grass.

"Occurring in very wet grounds in Putnam County, upon the authority of Dr. MacDougal. So far as has come to my knowledge, the only record for the State." (State Catalogue, p. 655.) The specimen in the herbarium of DePauw University which should verify this citation is *Scripus cyperinus*. The species is to be retained as a member of our flora, however, as it has been collected in Lake County by E. J. Hill.

16. *Carex lupuliformis* Sartwell.

Hamilton County. Previously reported only from the lake region of northern Indiana. (State Catalogue, p. 658.)

17. *Carex retrorsa* Schwein.

Hamilton County. Previously reported only from the southwestern part of the State. (State Catalogue, p. 658.)

*18. *Carex typhnoides* Schwein. Cat-tail Sedge.

Hamilton and Tippecanoe counties in swamps. A beautiful sedge which has probably been confused with *C. squarrosa*, as the present species is not given in Gray's Manual. The material from the two localities shows quite a wide range in the size of the spikes, the latter being short enough to suggest a large head of *C. squarrosa*, while the former are long enough to suggest a small cat-tail flag.

- *19. *Carex prasina* Wahl. Drooping Sedge.

Putnam County, in wet woods and along streams.

- *20. *Carex amphibola* Steud. Narrow-leaved Sedge.

Hamilton and Putnam counties, in dry soil.

21. *Tradescantia brevicornis* Raf. Low Spiderwort.

Putnam County, on the brow of dry hills. Previously reported from Tippecanoe County by Dorner. (Proc. Ind. Acad. Sci. 1903: 118.) These citations materially extend the range of this species, which is given by Britton as Illinois, Kentucky and Missouri.

- *22. *Tradescantia reflexa* Raf. Reflexed Spiderwort.

Tippecanoe County, along the Wabash Railroad east of Lafayette, where it is well established. Probably a railroad migrant, as its mass distribution is western. This species is easily distinguished from its relatives by its bluish, glaucous vegetation.

23. *Juncus bufonius* L. Toad Rush.

Hamilton, Putnam and Tippecanoe counties, common in wet places along streets and highways. Previously reported only from the northern part of the State. (Proc. Ind. Acad. Sci. 1900: 138.)

- *24. *Juncus dudleyi* Wiegand. Dudley's Rush.

Hamilton County, in wet places. With the habit of *J. tenuis*, from which it is readily distinguished by the yellowish, cartilaginous margins of its leaf sheaths, the latter species having whitish, membranous margins.

- *25. *Juncus secundus* Beauv. Second Rush.

Putnam County, very rare in dry pastures. The mass distribution is east of the Allegheny Mountains, and its occurrence inland by no means frequent.

26. *Heimerocallis fulva* L. Day Lily.

Tippecanoe County, along small streams. No locality in the northern half of the State is given for this species in the State Catalogue. (p. 679.)

27. *Populus grandidentata* Michx. Great-toothed Aspen.

Clay, Hamilton and Putnam counties. The former citation is based on a specimen in the herbarium of DePauw University which was collected by Dr. MacDougal, while the other two are from personal collections. According to the State Catalogue (p. 701) this tree has been reported only from the lower Wabash Valley.

28. *Humulus lupulus* L. Hop.

This species is given in the State Catalogue as an escape from cultivation, which is doubtless true of some of the stations of this plant within the State. In other localities it is evidently a native. Among these is a region of very low bottom land near White River in Hamilton County, where wild hops of a good quality are by no means rare. Some of the older residents of the county say that in the days when the greater part of this region was still unsettled that annual trips were made to the swamps of this region for the purpose of gathering the family supply of hops. This region furnished the hop vines which are still growing at some of the older homesteads.

*29. *Humulus japonica* Sieb. & Zucc. Japanese Hop.

Tippecanoe County, about dumps in Lafayette, where it produces seeds freely.

30. *Asarum acuminatum* (Ashe) Bicknell.

Putnam County, with *A. canadensis* and of about equal abundance. First recorded as a member of our flora by Mr. Dorner, who collected it in Tippecanoe County. (Proc. Ind. Acad. Sci. 1903: 118.)

31. *Chenopodium murale* L. Nettle-leaved Goosefoot.

Hamilton County. This weed has been introduced into the country districts in the packing of grocery boxes. It is also quite common in waste places about towns. Previously reported from Tippecanoe County by Mr. Stewart. (Proc. Ind. Acad. Sci. 1901: 283.)

32. *Atriplex patula* L. Spreading Orachne.

Hamilton, Marion and Tippecanoe counties. In the first two counties this is a common weed along country roads while it is very common in waste places about Indianapolis and Lafayette. According to Britton's Manual this species is confined principally to the eastern states. Previously reported from Marion and Steuben counties. (Proc. Ind. Acad. Sci. 1904: 303.)

*33. *Atriplex hortense* L. Garden Orachne.

Hamilton County, growing in waste places about towns.

34. *Allonia nyctaginea* Michx. Wild Four-o-Clock.

Tippecanoe County. Well established along the Wabash Railroad both east and west of Lafayette. Previously reported from Hamilton,

Putnam and Marion counties. In all the localities which have come under my observation this is truly a railroad weed. (State Catalogue, p. 733. Proc. Ind. Acad. Sci. 1904: 223.)

35. *Fumaria officinalis* L. Fumitory.

Putnam County. Previously reported only from the eastern part of the State. (State Catalogue, p. 763.)

*36. *Lepidium campestre* (L.) R. Br. Field Cress.

Putnam County, roadsides.

37. *Sisymbrium altissimum* L. Tumbling Mustard.

Hamilton, Putnam and Tippecanoe counties. The first notice of this species in Indiana occurs in the Proceedings of the Academy for 1901 (p. 300) where it is reported by Dr. Hessler as "growing along the State Line Railroad east of Lake Cicott, Cass County," and by H. W. Clark from Marshall County. In the Proceedings for 1903 (p. 134) Mr. Smith reports that a single specimen was taken along the Monon Railroad near the State Fair Grounds at Indianapolis. These records point to a wide distribution over the State as a railroad weed. This is one of the most important migrants which has entered our State in recent years, as it is one of the worst weeds of the grain fields of the northwest. So important indeed is this weed that it has received considerable attention both in experiment station and government publications. The station in Tippecanoe County indicates that the species has probably been brought in with grain, as it is found along the switch by one of the elevators.

38. *Barbarea stricta* Andrz.

This species is admitted to the State Catalogue on the authority of Dr. MacDougal, who reported it from Putnam County, but on account of range probabilities "it is somewhat doubtfully included." (State Catalogue, p. 766.) This species is quite abundant along a small stream in the central part of Putnam County.

39. *Boripa sinuata* (Nutt.) A. S. Hitchcock.

This species is also admitted to the State Catalogue tentatively on the authority of a specimen collected in Putnam County by Dr. MacDougal. (State Catalogue, p. 766.) This species is well established at a single station on the Big Four Railroad west of Greencastle where it has been able to maintain itself for the past fifteen years.

40. *Cardamine pennsylvanica* Muhl. Smooth Bitter Cress.

Previously reported by C. C. Deam from Wells County. (Proc. Ind. Acad. Sci. 1900: 139.) This species is probably of general occurrence throughout the State, but has been confused with *C. hirsuta*, from which it differs in the entire absence of pubescence. The reference to the latter species from Hamilton and Putnam counties in the State Catalogue (p. 768) should be transferred to the species under consideration as all the material in the herbarium of DePauw University and in my own collection from these localities belongs here. I have been unable to find a single specimen of *C. hirsuta* in either county.

*41. *Coringia orientalis* (L.) Dumort. Hare's Ear. Treacle Mustard
Putnam and Tippecanoe counties, along the Monon Railroad.

*42. *Heuchera hirsuticaulis* (Wheelock) Rydb. Hirsute Heuchera.

Putnam County, in dry woods and thickets. This species is intermediate between *H. villosa* and *H. americana*, from the former of which it is easily distinguished by the shallow, rounded lobes of its leaves, and from the latter by its hirsute scape. Previously reported from Steuben County. (Proc. Ind. Acad. Sci. 1904: 220.)

43. *Ribes gracile* Michx. Missouri Gooseberry.

Hamilton and Marion counties. This species is by no means common in this portion of the State. Previously reported from Vigo, Tippecanoe and Kosciusko counties. (State Catalogue, p. 778.)

44. *Ribes rubrum* L. Red Currant.

Putnam County, sparingly escaped from cultivation.

45. *Fragaria americana* (Porter) Britton. American Strawberry.

Putnam County, in hilly woods. Previously reported from Wells County by Mr. Deam. (Proc. Ind. Acad. Sci. 1900: 140.)

*46. *Potentilla sulphurea* Lam. Rough-fruited Cinquefoil.

Putnam County, streets of Greencastle and adjoining pastures, apparently introduced in lawn grass seed and now well established in a limited area.

*47. *Rosa arkansana* Porter. Arkansas Rose.

Putnam County. This western rose is established at a number of points along the embankment of the Big Four Railroad east of Greencastle.

*48. *Pyrus communis* L. Scrub Pear.

Hamilton and Putnam counties, in red clay soil. Within the course of a few years abandoned fields in the hill counties are covered with a growth of blackberries, hickory and pears. Fruiting trees are not uncommon.

*49. *Amygdalis persica* L. Peach.

Putnam County. A number of bearing trees are to be found about the dumps and in the woods where seeds have been thrown.

50. *Baptisia tinctoria* (L.) R. Br. Wild Indigo.

Tippecanoe County. A single plant of this species was found late in the fall at the brow of a hill in company with *Andropogon* and *Lithospermum*. The only locality given in the State Catalogue is Steuben County. (p. 799.)

51. *Geranium pusillum* Burm. f. Small-flowered Cranes-bill.

In the Proceedings of the Academy for 1903 (p. 118) Mr. Dorner says: "In the summer of 1902, this was found growing among the grass on the Experiment Station grounds. This one collection, however, without any additional observations is hardly enough to admit it to the State flora." The station in question appears to be well established and spreading, exterminating the grass.

*52. *Oxalis corniculata* L. Yellow Procumbent Wood-sorrel.

Putnam County, along the Big Four Railroad west of Greencastle. Britton gives the range of this species as "in ballast about eastern sea-ports, and frequently growing on the ground in greenhouses * * * Recently found in Ontario." The plant is also found in the warm regions of both hemispheres.

53. *Hypericum maculatum* Walt. Spotted St. John's-wort

Hamilton County. Previously reported from Steuben and Marion counties. (State Catalogue, p. 839; Proc. Ind. Acad. Sci. 1903: 134.)

54. *Sarothra gentionoides* L. Pine-weed.

Fulton County. Material collected by Dr. Underwood is in the herbarium of DePauw University.

*55. *Viola palmata sororia* (Willd.) Pollard.

Putnam County, in rich woods.

- *56. *Viola papilionacea domestica* (Bicknell) Pollard. Field Violet.
Putnam County, in cultivated fields. Not common.

57. *Passiflora lutea* L. Yellow Passion Flower.

Putnam County, on the embankment of the Big Four Railroad west of Greencastle. The most northern record for the State. (State Catalogue, p. 846.)

58. *Onagra biennis grandiflora* (Ait.) Lindl. (*Oenothera* b. g.)

Putnam County, along the Big Four Railroad. The only previous mention of this species in the State is found on page 179 of the Proceedings of the Academy for 1901, where it is recorded that "a patch, probably of recent introduction, of var. *grandiflora* was found in moist ground near Warsaw."

59. *Anogra albicaulus* (Pursh.) Britton. Prairie Evening Primrose.

Tippecanoe County. The State Catalogue (p. 852) classes this species as "an exceptional form occasionally occurring in the southern counties. Its northern limit in the State seems to be Hamilton County." This showy flower was collected at two stations in the vicinity of Lafayette the past summer. It was rather abundant in a meadow east of the city and several plants were found along the Belt Railroad about a mile distant.

60. *Circaea lutetiana* L. Enchanter's Nightshade.

The texts with one accord speak of the plants of this genus as white flowered. This, however, is inaccurate, as the present species shows a marked variation in this respect. While the flowers are typically white there are all the intermediate shades up to a bright pink. The first part of the flower to change its color is the outside of the sepals, then the entire sepal, and last of all the petals. Dr. Coulter tells me that he has seen this form rather frequently in this State and in New York during the past summer. I have collected the red flowered form in a single locality in Hamilton County.

61. *Anagallis arvensis* L. Poor Man's Weatherglass.

Putnam County. A specimen of this species collected in Putnam County by Miss Amelia Ellis is in the herbarium of DePauw University. The most northern record given in the State Catalogue is Monroe County. (P. 873.)

62. *Obolaria virginica* L. Pennywort.

Putnam County, on a wooded hillside. The most northern locality previously reported in the State is Vigo County. (State Catalogue, p. 879.)

63. *Gonolobus leavis* Michx. (Ampelinus albidus (Nutt) Britt.; Enslenia a.)
Climbing Milkweed,

Hamilton and Tippecanoe counties. "Confined to the southern counties, its northern record being Vigo County." (State Catalogue, p. 884.) Each of these stations is of interest, as they very materially extend the range of this species in the State. The Hamilton County locality was in an abandoned roadway which had in latter years become a fence row. The soil is red clay and the locality about a mile from the river. The plant maintained itself for a number of years and began to spread to the adjacent fields. It was at last eradicated by the landowner. The vine is abundant in the bottoms of the Wabash River near Lafayette, where it is a bad weed in cornfields. This species is probably of wider distribution in the State than the recorded localities would indicate, as it is very easily overlooked on account of the superficial resemblance of its leaves to those of *Ipomoea pandurata* with which it grows.

64. *Macrocalyx nictalea* (L.) Kuntze.

Tippecanoe County. A clump of this plant was found near the bank of the Wabash River near Lafayette. Previously recorded only from Vigo and Knox counties. (State Catalogue, p. 893.)*

*65. *Stachys ambigua* (A. Gr.) Britton. (*S. hyssipifolius ambigua* Gray.)

Putnam and Tippecanoe counties, in swamps and along streams.

66. *Melissa officinalis* L. Bee Balm.

Hamilton County.

*67. *Ruellia strepens micrantha* (Engelm. & Gray) Britton. (*R. s. cleistantha* A. Gray.)

Hamilton and Marion counties. This is the commonest form of this species in the central part of the State.

68. *Lonicera sempervirens* L. Honeysuckle.

Tippecanoe County, on dry hillsides. Not previously reported "north of Wayne County." (State Catalogue, p. 944.)

*Since found common about Lafayette. June, 1906.

69. *Tragopogon porrifolius* L. Oyster Plant.

Putnam County, in waste places about Greencastle. Previously reported from Wells County by Deam. (Proc. Ind. Acad. Sci. 1900: 142.)

*70. *Silphium terebinthinaceum pinnatifidum* (Ell.) A. Gr.

Hamilton County. The citation of the species (State Catalogue, p. 982), is incorrect, as the specimens have laciniate radical leaves.

71. *Helianthus petiolaris* Nutt.

Tippecanoe County, along the Big Four Railroad west of Lafayette. Previously reported from Lake County. (Proc. Ind. Acad. Sci. 1900: 141.)

72. *Synosma suaveolens* (L.) Raf.

Hamilton County. The material first collected of this species was defective, and so determined as *Colcosanthus grandiflorus* and reported to Dr. Coulter. Later collections of material made a correct determination possible. The latter species should, therefore, be stricken out of the doubtful list of Indiana plants. (State Catalogue, p. 608.)

73. *Centauria cyanus* L. Blue Bottle.

Tippecanoe County, in cultivated ground and about dumps.

*74. *Centauria solstitialis* L. Yellow Star Thistle.

Dearborn County. This plant was sent to the experiment station under date of October 16, 1905, by Lute Helm of Moores Hill, who reported it as a weed in alfalfa fields. It is an old world plant which is sparingly naturalized in the Southern States. It can be readily distinguished from *C. calcitrapa* by its yellow flowers. This species is not included in Britton's Manual.

LAFAYETTE, IND., November, 1905.

