

BIBLIOGRAPHY OF INDIANA BOTANY.

Comparatively little material is at hand to record the early botanical work done within the limits of the present state of Indiana, though it is doubtless a fact that could the history be correctly told it would present many features of interest. The first recorded item of the history dates back just a century for we know that Michaux came to Louisville, Kentucky, in July 1793, and collected plants in that vicinity, and that later (1795), he ascended the Wabash as far as Vincennes. Thomas Nuttall botanized along the Ohio river to its mouth in 1818. A little later the erratic Rafinesque, who was professor of natural science in the University of Lexington, Ky., 1819-1826, collected in states to the north and south of his home and was an occasional visitor in our state. The establishment of the communistic society at New Harmony made that place a rendezvous for all the visiting naturalists and when the full history of that enterprise is written, there will be much of interest connected with these visits. Among them Maximilian, Prince of Neuwied, spent a winter there (1832-3) and published a list of the trees of the vicinity in 1839. During this period also, Riddell and Short were botanizing along the southern borders of the state, and Lapham of Wisconsin, occasionally collected grasses and other plants in the northern parts. In 1835 Dr. Clapp of New Albany made considerable collections in that vicinity, a part of which is still preserved in the herbarium of Wabash College. Alphonso Wood once resided at Terre Haute and made considerable collections in the state.

The commencement of the series of county floras was made by Professor A. H. Young for Jefferson county in 1871, soon followed by one for the lower Wabash Valley by Dr. Schneck of Mt. Carmel, Ill. Two additional lists of Jefferson county plants have been made, the second by John M. Coulter and the third by Charles R. Barnes. Other similar lists have followed: for Noble county by Van Gorder, Steuben by Bradner, East Central Indiana by Phinney, Franklin by Meynke, Dearborn by Collins, and Clark by Baird and Taylor. In addition to these several have been prepared, but not published: Putnam by MacDougal, Monroe and Vigo by Blatchley, Henry by Mrs. Mikels, and Knox by Spillman. The unfortunate feature about most of these publications is the fact that nothing exists but the original list. In many cases not a single specimen stands behind the list, so

that verification of doubtful plants will be impossible until additional material is collected.

Probably the greatest impetus to the study of Botany in Indiana was given by the founding of the Botanical Bulletin in November 1875, soon changed to the Botanical Gazette. Its original form was quite unlike its present magnitude—a four page sheet without cover in place of its present 40 page issue. Its contents also were as unlike the present as can be well imagined and the file of this journal may well be taken to represent the splendid progress made in the science of Botany in America during the past two decades. The first numbers were largely filled with local notes and the entire journal during the first few years of its existence shows its strictly provincial character. In 1881 this journal published a catalogue of the state flora including nearly 1,500 plants stopping with the ferns. In the preparation of this flora, much assistance was received from Rev. E. J. Hill regarding the flora of the northern counties of the state and he has since contributed many notes regarding the rarer plants of that region. This portion of the state has further received some attention from Messrs. Higley and Raddin in their flora of Chicago and vicinity.

The story of the study of the cryptogamic flora of the state is soon told. *Uromyces lespedezæ* seems to have been the first of the lower cryptogams to be reported in 1876 by John M. Coulter. Sixty-nine species of mosses were reported from Southern Indiana by A. H. Young in 1876, and a number of Mosses and Lichens were reported from Wayne county by Mrs. Haines. Both these collections are in existence but they are not accessible for reference at the present time. H. L. Bolley and Dr. J. C. Arthur have collected some material from the vicinity of Lafayette; among that collected by Mr. Bolley were several interesting Uredineæ on Carex and other Cyperads. Those collected by Dr. Arthur were mostly species of economic interest. In 1890 E. M. Fisher, under appointment of the Department of Agriculture at Washington, collected a considerable number of parasitic fungi mostly in Montgomery and Johnson counties. J. N. Rose and M. A. Brannon have each had a brief struggle with the powdery mildews and W. H. Evans at one time made some collection of the lichens, but the material does not seem to be in existence at present. Dr. Julius Röhl made extensive collections of mosses in America and a considerable number of species from Hobart, Indiana are included in his list. This sums up in brief, the history of botanical collection and local workers in Botany to the time of the organization of the Biological Survey.

The following papers have been published to date which bear more or less directly on the state flora. Many additional data concerning Indiana plants are given in the various manuals of botany which have not been included in this enumeration:

Arthur, Joseph Charles. Spotting of Peaches and Cucumbers. Bull.

Ag. Exp. Sta., Indiana, No. 19. (Jan. 1889.)

Account of *Cladosporium carpophilum* and *C. cucumerinum*.

—Smut of Wheat and Oats. Bull. Ag. Exp. Sta., No. 28. (Sept. 1889.)

Account of *Tilletia foetens* and *Ustilago avenae*.

—Treatment of Smut in Wheat. Bull. Ag. Exp. Sta., No. 32. (July, 1890.)

Methods of controlling stinking smut of wheat (*Tilletia foetens*).

—The Loose Smut of Oats. Bull. Ag. Exp. Sta., No. 35. (Mar. 1891.)

Account of treatment of *Ustilago avenae*.

—Treatment of Powdery Mildew and Black Rot. Bull. Ag. Exp. Sta., No. 38. (March, 1892.)

Brief account of treatment of *Uncinula ampelopsidis* and *Lasstidia Bidwellii*.

Arthur, J. C., and Golden, Katherine. Diseases of the Sugar Beet Root. Bull. Ag. Exp. Sta., No. 39. (April, 1892.)

Account of "Beet Scab," attributing it to a bacterial disease.

Bailey, Liberty Hyde. Limits of Michigan Plants. Bot. Gazette, 7: 105-108. (Sept. 1882.)

Notes on some Indiana plants.

Baird, John F., and Taylor, John L. The Flora of Clark county, Ind. Manual of the Pub. Schools of Clark county, Ind., for 1878-9, 45-65.

Barnes, Charles Reid. Notes [on various plants]. Bot. Gazette, 2: 120-121. (July, 1877.)

—Addenda [to flora of Jefferson county]. Bot. Gazette, 3: 13. (February, 1878.)

Adds three species to previous lists.

—Catalogue of Phanogamous and Vascular Cryptogamous Plants found growing wild in Jefferson county, Indiana, to which is added a list of plants growing in Clark county, but not found in Jefferson, by John F. Baird. 8 vo.: pp. 9. (?)

Barnes, C. R., Brotherus, Dr., Venturi, Dr. v., Renauld, F., Cardot, J., Röhl, J., Stephani, F. Nord-Amerikanische Laubmoose, Torfmoose und Lebermoose gesammelt von Dr. Julius Röhl in Darmstadt. Hedwigia, 32: 181-203, 260-309, 334-402. (1893.)

Includes species collected at Hobart, Indiana: 49 Musci, 9 Sphagnaceae, 5 Hepaticae, with several new varieties.

Benedict, A. C., and Elrod, M. N. A partial list of the Flora of Wabash and Cass counties, with notes. 17th Ann. Rept. Geol. Survey, 260-272. (1892.)

List of 92 plants.

Blatchley, W. S. On Weeds in general, and our worst weeds in particular. *Indiana Farmer*. (8 March, 1890.)

Includes list of 20 worst weeds of Indiana, and some account of their origin in the state.

—The Ironweed. *Indiana Farmer*. (4 October, 1890.)

Discusses habits and general character as a weed.

Bolley, H. L. The Heteroecismal Pucciniae. *Am. Month. Micros. Jour.*, 10: 169-180, plate. (1889.)

Illustrates *Puccinia Bolleyana* and gives account of the change of host plants for several species.

—Sub-epidermal Rusts. *Bot. Gazette*, 14: 139-145. Pl. 15. (June, 1889.)

Notes on various Indiana species of *Puccinia*.

—Wheat Rust. *Bull. Ag. Exp. Sta.*, No. 26. (July, 1889.)

Account of *Puccinia graminis*, *P. coronata*, *P. rubigo-vera*.

Botanical Gazette. Some Big Trees of Indiana. *Bot. Gazette*, 5: 69-70. (May, 1880.)

Quotes notes from Case's Botanical Index.

—Notice of Catalogue of the Flora of Indiana. *Bot. Gazette*, 6: 179. (Jan. 1881.)

Note to effect that work through Compositae was done by C. R. Barnes, and that remaining work was to be done by editors.

—Flora of Indiana. Supplement I. (April, 1882), pp. 1-4.

List of 43 additions, bringing the number of vascular plants of Indiana to 1,475.

—New Indiana Plants. *Bot. Gazette*, 8: 285. (Aug. 1883.)

Notes four additions to the state flora.

Bowers, Homer. A contribution to the life history of *Hydrastis Canadensis*. *Bot. Gazette*, 16: 73-82. Pl. 8. (March, 1891.)

Notes on life history and probable extinction of the species in Indiana.

Bradner, E. A partial Catalogue of the Flora of Steuben county. 17th Ann. Rept. Geol. Survey, 135-159. (1892.)

List of 729 species.

Collins, S. H. A partial flora of Dearborn county, Indiana, and vicinity. 16th Ann. Rept. Dept. of Geology and Natural History, 376-382. (1889.)

List of 248 species.

- Copeland, Herbert E.** *Cyclostoma platyphyllum* Moquin. Bot. Bulletin (now Bot. Gazette), 1: 6. (Dec. 1875.)
Notes this plant as established on Fall creek. Also, *Nasturtium sessiliflorum* and *Dactyloctenium Aegyptiacum* in Indianapolis.
- Coulter, John Merle.** *Sullivantia Ohionis*. Amer. Nat., 9: 572. (1874.)
Its occurrence near Hanover, with some account of its habitat.
- Partial list of the flora of Jefferson county. 6th Ann. Rept. Geol. Survey, 229-277. (1875.)
List of 722 species.
- Aster Novæ-Angliæ*. Bot. Bulletin (now Bot. Gazette), 1: 2. (Nov. 1875.)
Notes on habits of plants growing in vicinity of Hanover.
- (*Quercus* near Hanover, Ind. Bot. Bull., 1: 2. (Nov. 1875.)
Mentions nine species in vicinity.
- Diarrhæna Americana* Beauv. Bot. Bull., 1: 6. (Dec. 1875.)
Notes occurrence of this plant in Clifty Ravine.
- Dentaria laciniata* Muhl. Bot. Bull., 1: 8. (Dec. 1875.)
Notes variations of this plant in vicinity; suggest union of several species of *Dentaria* under one name.
- An interesting herbarium. Bot. Bull., 1: 9-10. (Jan. 1876.)
Account of the collection of Dr. Clapp, who collected in vicinity of New Albany, 1835-6, then preserved by the Natural History Society of that place.
- Some effects of the unusual season. Bot. Bull., 1: 11-12. (Jan. 1876.)
Notes blossoming of various plants in December, 1875, in various parts of state.
- Some plants noted in Carroll county, Indiana. Bot. Bull., 1: 12. (Jan. 1876.)
Notes richness of flora of Wabash valley.
- Some early plants. Bot. Bull., 1: 15. (Feb. 1876.)
Notes early blossoming of plants, January, 1876.
- Uromyces lespedezeæ* (Schw.) Bot. Bull., 1: 20. (March, 1876.)
Notes occurrence of this rust as plentiful on *L. violacea*. Quotes letter from C. H. Peck, naming the fungus, which seems to have been the first collected in the state of which we have any definite record.
- Some plants new to the Flora of Jefferson county. Bot. Bull., 1: 34-35. (June, 1876.)
Notes on the occurrence of numerous plants not included in the two lists of the Geol. Survey.
- Plants new to Jefferson county. Bot. Bull., 1: 38. (July, 1876.)
Additional list collected by A. H. Young.
- Some *Carices* near Hanover, Ind. Bot. Bull., 1: 38-40. (July, 1876.)
List of 24 species, with notes.
- The "Knobs" of Southern Indiana. Bot. Bull., 1: 41-42. (August, 1876.)
Brief account of the flora of this region in Clark and Floyd counties.

- *Magnolia acuminata* L. Bot. Bull., 1: 44. (August, 1876.)
Notes on this species near Hanover, Ind.
- *Conohea multifida* Benth. Bot. Bull., 1: 47. (Sept. 1876.)
Notes on this species from Kirkville, Ind.
- Some river bank flowers. Bot. Bull., 1: 51-52. (Oct. 1876.)
Notes on plants growing in the alluvium of the Ohio river near Hanover, Ind.
- *Aster oblongifolius* Nutt. Bot. Gazette, 2: 65-66. (Dec. 1876.)
Notes occurrence in Jefferson county.
- Natural grafting. Bot. Gazette, 2: 137. (Sept. 1877.)
Notes *Carpinus* growing on trunk of *Fagus* near Hanover.
- *Spermacoe glabra* Michx. Bot. Gazette, 2: 137-138. (Sept. 1877.)
Note of station near Hanover.
- The "Barrens" of Southern Indiana. Bot. Gazette, 2: 145-146.
(Oct. 1877.)
Brief account of the flora of these regions, located in Clark, Floyd, Washington and Harrison counties.
- Some new stations. Bot. Gazette, 3: 24. (March, 1878.)
Notes on rare plants of Clark county.
- The Flora of Northern Indiana. Bot. Gazette, 4: 109-113. (Jan. 1879.)
Notes based largely on a botanizing trip along the L. S. & M. S. R. R.
- A natural Botanic Garden. Bot. Gazette, 5: 70. (May, 1880.)
Notes on flora of Wabash College campus.
- A comparative view of the Flora of Indiana. Bot. Gazette, 6: 301-302. (Dec. 1881.)
Gives comparative statistics of the flora of Indiana, Washington, D. C., and eastern United States.
- Some Notes on *Physostegia Virginiana*. Bot. Gazette, 7: 111-112. (Sept. 1882.)
Notes the flowers as cataleptic.
- Coulter, J. M., Coulter, M. S., and Barnes, C. R.** Catalogue of the
Phænogamous and Vascular Cryptogamous Plants of Indiana. 8 vo. pp. 38.
Crawfordsville (1881.)
List of 1,432 species.
- Coulter, John M., and Thompson, Harvey.** Origin of the Indiana
Flora. 15th Ann. Rept. Geol. Survey, 253-282. (1886.)
- Coulter, [M.] Stanley.** On the size of forest trees in Jefferson county,
Ind. Bot. Bull. 1: 10. (Jan., 1876.)
Notes large trees, especially *Platanus occidentalis*, *Fagus ferruginea* and *Liriodendron
Tulipifera*.

—The numerical relations existing among the forest trees of Jefferson county, Ind. Bot. Bull., 1: 15. (Feb. 1876.)

Gives relative abundance in per cents: *Fagus ferruginea* leads with 35 per cent.

—The forest trees of Cass County, Ind. Bot. Bull., 1: 42-43. (Aug. 1876.)

Notes on relative abundance; the *Quercis* forming 50 per cent.

—Note on *Euphorbia marginata*. Bot. Gazette, 2: 63. (Dec. 1876.)

Note on naturalization of this plant on Eel river.

—The Forest Trees of Indiana, their distribution and economic value. Trans. Indiana Horticultural Society, 1891, 157-192 (1892.) Also, separate pp. 36.

List of 108 species, with notes on distribution and economic characters.

Curtiss, George L. Diatoms of the waters of Indiana. 12th Ann. Rept. Geol. Survey, 377-384, Pl. 33-38. (1883.)

Figures numerous species of Diatoms: a few of the figures named.

Elliott, Thomas B. The trees of Indiana. Trans. Indianapolis Acad. Science, 72-86. (1872.)

[Not seen; inserted on authority of Dr. N. L. Britton's State and Local Floras.]

Geddes, W. N. Some great ragweeds. Bot. Bull., 1: 14-15. (Feb. 1876.)

Notes *Ambrosia trifida* 12 to 18 feet high near Hanover.

Gorby, S. S. Geology of Miami county. 16th Ann. Rept. Dept. of Geology and Natural History, 165-188. (1889.)

Includes list of trees and shrubs, pp. 168-170.

Grahn, E. G. Microscopical Notes. Bull. Brookville Soc. Nat. Hist., No. I., 39-41. (1885.)

List of 46 Diatomaceæ and 2 Desmidiaceæ from vicinity of Brookville.

Haines, Mary P. List of Ferns, Mosses, Hepaticæ and Lichens collected in Wayne county. 8th, 9th and 10th Ann. Rept. Geol. Survey, 235-239. (1879.)

Higley, William K. and Radden, Charles S. The flora of Cook county, Illinois, and a part of Lake county, Indiana. Bull. Chicago Acad. Sci. II: i-xxiii, 1-168, with map.

Phanerogams and Pteridophytes of Lake county north of the Little Calumet river.

Hill, E. J. Botanical Notes. Bot. Gazette, 6: 259-263. (Sept. 1881.)

Localities for various plants in Northern Indiana.

—*Eleocharis dispar* n. sp. Bot. Gazette, 7: 3. (Jan. 1882.)

From Lake county: referred by Gray's Manual to *E. capitata* R. Br.

—Notes on Indiana Plants. Bot. Gazette, 7: 187-188. (March, 1882.)

Gives stations of new plants from Lake county.

- Notes on Indiana Plants, 1883. *Bot. Gazette*, 9: 45-48. (March, 1884.)
Various Lake county stations.
- Some Indiana Plants. *Bot. Gazette*, 10: 262-263. (April, 1885.)
Stations in Lake and Porter counties.
- Some Indiana Plants. *Bot. Gazette*, 13: 323. (Dec. 1888.)
Notes on certain plants of the northern counties.
- Notes on the Flora of Chicago and vicinity. *Bot. Gazette*, 17: 246-252. (August, 1892.)
Notes on a few Lake county species.
- Hussey, John.** Regular flower in *Pedicularis Canadensis*. *Bot. Gazette*, 4: 166-167. (June, 1879.)
Note on form, from near Lafayette.
- Lapham, Increase A.** The Grasses of Wisconsin and the adjacent states of Iowa, Illinois, Indiana, Ohio and Michigan, and the territory of Minnesota and the region about Lake Superior. *Trans. Wis. State Ag. Soc.*, 3: 397-488. (1853.)
- Maximilian, Alexander Philip** (Prince of Neuwied). [List of trees in vicinity of New Harmony.] *Reise in das innere Nord-Amerika*, 1: 209, (Coblenz, 1839.)
Includes list of 60 species of trees.
- Meyncke, O. M.** A large red-bud. *Bot. Gazette*, 7: 36. (March, 1882.)
Tree 14 inches in diameter near Brookville.
- The Flora of Franklin county. *Bull. Brookville Soc. Nat. Hist.*, No. 1: 13-38 (1885); No. 2: 45-49 (1886).
- Phinney, A. J.** Catalogue of the Flora of Central Eastern Indiana. (Alpine or elevated district of the State.) 12th Ann. Rept. Geol. Survey, vey, 196-243. (1883.)
Mainly from Delaware and Wayne counties.
- Riddell, John L.** Synopsis of the Flora of the Western States. *Western Journ. of Med. and Phys. Sciences*, 7: 329-374 (Jan. 1835); 489-556 (April, 1835.)
Intended to cover Ohio, Indiana, Illinois, West Tennessee, Missouri and Northwest Territories.
List of 1,802 species, including mosses, hepaticæ and lichens.
- Ridgway, Robert.** Notes on the Native Trees of the Lower Wabash and White river valleys in Illinois and Indiana. *Proc. U. S. Nat. Mus.*, -: 49-88. (1882.)
Valuable notes on 92 species of trees.
- Additions and corrections to the list of native trees of the Lower Wabash. *Bot. Gazette*, 8: 345-352. (Dec. 1883.)

Rose, Joseph N. Nostoc and Penicillium in $\text{Na C}_2 \text{H}_3 \text{O}_2$. Bot. Gazette, 10: 280. (May, 1885.)

Note on occurrences of these plants in a four per cent. solution of sodium acetate.

—Notes on the conjugation of Spirogyra. Bot. Gazette, 10: 304-306, Pl. 7. (July, 1885.)

Diverse methods of conjugation studied at Wabash College.

—Mildews of Indiana. Bot. Gazette, 11: 60-63. (March, 1886.)

Enumerates 12 species of Erysiphei.

—Selinum Canadense in Indiana. Bot. Gazette, 11: 338. (Dec. 1886.)

Notes discovery of station of this plant near Crawfordsville.

Schneck, J. Flora of the Lower Wabash valley, below the mouth of the White river. 7th Ann. Rept. Geol. Survey, 504-579. (1876.)

List of 867 species, some of which belong to the flora of Illinois.

—Some plants of the Lower Wabash. Bot. Gazette, 2: 83. (Feb. 1877.)

26 plants added to his previous list.

Thompson, Maurice. Geographical Botany. 15th Ann. Rept. Geol. Survey, 242-252. (1886.)

Introduction to paper by Coulter and Thompson.

—Preliminary sketch of the characteristic plants of the Kankakee region. 16th Ann. Rept. Dept. of Geol. and Nat. Hist., 155-161. (1889.)

Brief list of a few common plants.

—Geological and Natural History Report of Carroll county. 17th Ann. Rept. Geol. Survey, 171-191. (1892.)

Contains a partial list of plants, pp. 188-190.

Thompson, Harvey. Origin of the Flora of Indiana. Bot. Gazette, 11: 88-90. (April, 1886.)

Resumé of longer article, by Coulter and Thompson.

Troop, J. Grasses of Indiana. Bull. Ag. Exp. Sta., No. 29. (Dec. 1889.)

Descriptions of 128 grasses known to inhabit Indiana, with figures of several.

Underwood, Lucien Marcus. Some Additions to the state Flora from Putnam county. Proc. Ind. Acad. Sci., 1891, 89-91. (1892.)

Notes on *Eustichia Norvegica*, *Fossombronina cristata*, *Trametes ambigua*, *Hydnum stratosum*, *Cordyceps capitata*, *Phallus Ravenelii*.

—Edible Fungi.—A great waste of vegetable food in Indiana. Trans.

Indiana Hort. Soc., 1893, 62-67. (1894.)

Popular account of the most common edible species, with plate.

Van Gorder, W. B. Catalogue of the Flora of Noble county, Indiana.

Pp. 52. Kendallville, Ind. (1885.)

List of 693 species, 25 of which are not in state catalogue of 1881.

Young, A. Harvey. Manual of the Botany of Jefferson county. 2nd Ann. Rept. Geol. Survey, 253-292. (1871.)

List of 609 species.

- Notes on certain species of the genus *Asplenium*. Bot. Bull., 1: 2-3. (Nov. 1875.)
Notes on four species of Southern Indiana.
- Notes on some interesting plants found in Jefferson county. Bot. Bull., 1: 6-8. (Dec. 1875.)
Notes occurrence and stations of several rare plants.
- Notes upon some Gramineæ. Bot. Bull., 1: 18-20. (March, 1876.)
Notes based on collections in Jefferson county.
- Ferns near Hanover, Ind. Bot. Bull., 1: 22-23, 27. (April, May, 1876.)
Notes on habitat of twenty species of ferns.
- Bryological Notes. Bot. Gazette, 2: 61-62. (Dec. 1876.)
Includes list of 69 species from Southern Indiana, chiefly near Hanover.
- Jeffersonia diphylla* Pers. Bot. Gazette, 2: 136-137. (Sept. 1877.)
Notes on variations.
- Habenaria peramœna* Gray. Bot. Gazette, 2: 137. (Sept. 1877.)
Notes abundance near Hanover.
- Monotropa uniflora*. Bot. Gazette, 3: 37-38. (April, 1878.)
Notes station in Jefferson county, and poisonous effect: cf. Bot. Gazette, 3: 54-55 and 79, on latter point.

UNPUBLISHED PAPERS READ BEFORE THE ACADEMY.

- Blatchley, W. S.** List of the plants of Monroe county, Ind. (Read, 1888.)
Paper accessible; many of the plants are in the herbarium of DePauw University.
- The Compositæ of Vigo county, Ind. (Read, 1889.)
Paper accessible.
- On some plants new to the state list. (Read, 1889.)
Paper accessible; many of the plants are in the herbarium of DePauw University.
- Brannon, M. A.** Some Indiana Mildews. (Read, 1889.)
Paper in the hands of the survey, also duplicates of many of the specimens.
- Evans, Walter H.** Lichens of Indiana. (Read, 1887.)
Paper not accessible: specimens ought to be at Wabash College, but cannot be found.
- Fisher, E. M.** Parasitic Fungi of Indiana. (Read, 1890.)
Paper not accessible; plants were collected for Div. of Veg. Pathology, U. S. Dept. Agriculture. Through the kindness of Prof. B. T. Galloway, a list of species collected is in possession of the survey.
- Hubbard, G. C.** Additions to the Flora of Indiana. (Read, 1886 and 1887.)
Papers not accessible as read; a complete list of plants collected by Mr. Hubbard in Indiana is in the possession of the survey.

- MacDougal, Daniel T.** The plants of Putnam county. (Read, 1889.)
Paper in the hands of the survey; most of the plants it represents are in the herbarium of DePauw University.
- Meyncke, O. M.** Notes on the White-spored Agarics of Franklin county, Ind. (Read, 1887.)
Paper not accessible; plants represented by the notes not preserved.
- Mikels, Rosa Redding.** Preliminary paper on the flora of Henry county, Ind. (Read, 1891.)
Paper accessible; few plants to represent the flora preserved.
- Shannon, W. P.** The Occurrence of *Veratrum Woodii* in Decatur county, Ind. (Read, 1890.)
- Spillman, W. J.** Preliminary list of Knox county plants. (Read, 1890.)
Paper not accessible; a list of Knox county plants in the herbarium of the writer is in the hands of the survey.

APPENDIX B.

LIST OF CRYPTOGAMS AT PRESENT KNOWN TO INHABIT THE STATE OF INDIANA.

In the following list specimens collected by various persons are duly credited; where no collector is named, the collection was made by the Director of the Survey. The plants collected by Mr. Fisher are in the U. S. Nat. herbarium; a few of these have not been collected by any one else. Unless a special statement is made, all species are represented in the Underwood herbarium; reference is made in brackets for those species not in our possession. A considerable amount of material including some interesting algae has not been fully determined as yet, and some small collections have not been worked over.

MYXOMYCETES.

- ARCYRIA CINEREA* (Bull.) Schum. Vermillion, 7, 1889 (Arthur).
- ARCYRIA PUNICEA* Pers. Vermillion, 7, 1889 (Arthur); Putnam, 10, 1893
- BADHAMIA UTRICULARIS* (Bull.) Berk. Putnam, 10, 1893.
- CERATIOMYXA MUCIDA* (Pers.) Schröt. (*Ceratium hydroides* Auct.) Vigo, 5, 1893.
- COMATRICHA LONGA* Pk. Putnam, 7, 1893.
- DICTYDIUM LONGIPES* Morg. Vermillion, 9, 1889 (Arthur).
- DIDYMIUM FARINACEUM* Schrad. Putnam, 5, 1892.