

scarcely a stagnant pond but that will yield an abundance of algae which have as yet been scarcely touched in this region.\*

The great need is for students who have the patience, the perseverance and the fortitude to make a special study of some of these groups that are waiting for the enthusiastic collector.

In conclusion, it is desirable to extend thanks to those who have aided in the prosecution of the work of the survey. Especially would we mention Messrs. Ellis, Peck and Morgan, for the continuance of favors in determinations and for the communication of other material assistance in the work of the survey. To my assistant, Miss Mary E. Wright, for the very laborious work of preparing the labels for the exsiccata. And finally to the management of the Vandalia and Big Four Railroads for favors extended to the survey, that have made more extensive field work possible.

#### APPENDIX A.

#### LIST OF ADDITIONS TO THE STATE FLORA.

##### MYXOMYCETES.

- ARCYRIA MINOR Schw. Putnam, 5, 1894 (Paul Burlinganius).  
 HEMIARCYRIA FUNALIS Morgan. Putnam, 10, 1894.  
 PHYSSARUM ATRUM Schw. Tippecanoe, 6, 1893 (Arthur).  
 PHYSSARUM POLYMORPHUM Mont. Grant, 7, 1894 (Mary Wright).

##### ASCOMYCETES.

###### DISCOMYCETES.

- DASYSCYPHA VIRGINEA (Batsch) Fekl. Putnam, 9, 1893.  
 MACROPODIA MACROPUS (P.) Fekl. (*Fesiza macropus*, P.) Putnam, 5, 1894.  
 (Fred Howe.)

###### SPILERIACEÆ.

- CARYOPORA PUTAMINUM (S.) De Not.  
 On Peach Stones, Putnam, 5, 1893.  
 DIATRYPELLA CEPHALANTHI (S.) Sacc.

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One of the great drawbacks in the study of the algae is the lack of proper references. The director is pleased to announce that he had secured a set of Rabenhorst's *Die Algen Europas*, including over 2,500 specimens of algae exsiccata; and shall be glad to make them useful to students who wish to consult them. These, with the two series of American exsiccata issued during the present year, sets of which are now in the herbarium of the director, give fairly good opportunity to compare our local forms.

On *Cephalanthus occidentalis*. Putnam, 12, 1892.

*EUTYPELLA PLATANI* (S.) Sacc.

On Sycamore, Putnam, 5, 1893.

*HYPOXYLON PETERSII* B. and C. Putnam, 11, 1894.

*HYPOXYLON SASSAFRAS* (S.) Berk.

On *Lindera*, Putnam, 12, 1894.

*NUMMULARIA REPANDA* Fr. Putnam, 7, 1893.

*SPHAERELLA THALICTRI* E. and E.

On *Thalictrum dioicum*, Montgomery, —, 1894 (Olive).

*TREMATO PERTUSA* (P.) Fekl. Owen, 5, 1893.

#### DOTHIDIACEÆ.

*DOTHIDEA COLLECTA* (Schw.) E. & E.

On Osage orange. Putnam, 5, 1892.

*DOTHIDEA LINDERE* Ger.

On *Lindera Benzoin*. Putnam, 10, 1893.

#### FUNGI IMPERFECTI.

##### SPHEROPSIDEÆ.

*CONIOTHYRIUM CONCENTRICUM* Desm.

On *Yucca* (cult.) Montgomery, 5, 1894 (Olive).

*PHYLLOSTICTA CHENOPODII* West.

On *Chenopodium album*. Montgomery, 1894 (Olive).

*PHYLLOSTICTA DESMODII* E. & E.

On *Desmodium rotundifolium*. Montgomery, 1894 (Olive).

*PHYLLOSTICTA LABRUSCÆ* Thuem.

On *Vitis labrusca*. Montgomery, 1894 (Olive.)

*PHYLLOSTICTA MACROSPORA* E. & E.

On *Liriodendron tulipifera*. Wabash, 8, 1892 (Miller).

*PHYLLOSTICTA PODOPHYLLI* Wint.

On *Podophyllum peltatum*. Montgomery, 1894 (Olive).

*PHYLLOSTICTA ROSÆ* Desm.

On *Rosa setigera*. Montgomery 7, 1894 (Olive).

*PHYLLOSTICTA SOLITARIS* E. & E., n. sp.

On *Pirus coronaria*. Montgomery, 10, 1893.

*PHYLLOSTICTA SMILACTIS* E. & M.

On *Smilax rotundifolia*. Montgomery, 9, 1893 (Olive).

## SEPTORIA AGRIMONIE Boum.

On Agrimonia Eupatoria, Montgomery, 6, 1894 (Olive).

## SEPTORIA CALYSTEGLIE West.

On Convolvulus sepium, Putnam, 6, 1894.

## SEPTORIA CERASTII Rob. and Desm.

On Cerastium sp., Putnam, 5, 1894.

## SEPTORIA CONSOCIA Pk.

On Polygala senega, Montgomery, O., 1894 (Olive).

## SEPTORIA CRYPTOTENIE E. and Ran.

On Cryptotenia Canadensis, Montgomery, 1894 (Olive).

## SEPTORIA ERIGERONTIS Pk.

On Erigeron annuus, Montgomery, 1894 (Olive).

On Erigeron Philadelphicus, Montgomery, 1894 (Olive).

## SEPTORIA HEUCHERIE Pass.

On Heuchera Americana, Montgomery, 4, 1894 (Olive).

## SEPTORIA PIRICOLA Desm.

On Pirus communis, Tippecanoe, 9, 1892 (Arthur); Putnam, 10, 1892; 7, 1893;  
Montgomery, 9, 1894 (Olive).

## ? SEPTORIA PHLOGIS Sacc. and Speg.

On Phlox divaricata, Montgomery, 1894 (Olive).

## SEPTORIA PTELEAE E. and E.

On Ptelea trifoliata, Montgomery, 9, 1894 (Olive).

## SEPTORIA RECURVATA E. and Halst.

On Trillium erectum, Montgomery, 1894 (Olive).

## SEPTORIA SAMBUCINA Pk.

On Sambucus Canadensis, Montgomery, 1894 (Olive).

## SEPTORIA SCROPHULARIE Pk.

On Scrophularia nodosa, Putnam, 10, 1893; Montgomery, 1894 (Olive).

## SEPTORIA STAPHYSAGRIE Wint.

On Delphinium tricornis, Vigo, 5, 1893.

## SEPTORIA URTICE Desm.

On Laportea Canadensis, Montgomery, 1894 (Olive).

## VERMICULARIA LILIACEARUM Ursd. Fulton, 10, 1893.

## VERMICULARIA VIOLE E. and E., n. sp.\*

On Viola cucullata, Montgomery, 1894 (Olive).

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\*VERMICULARIA VIOLE, E. and E. On leaves of *Viola cucullata*, Canada (Dearness), Indiana (E. W. Olive). Epiphyllous or subglobose or irregularly shaped. White spots 2 to 3 mm. in diameter. Perithecia punctiform, clothed with straight, black, obscurely septate bristles 75-150x3½-4  $\mu$ . Sporules fusoid, hyaline, slightly curved, 15-20x3  $\mu$ .

## HYPHOMYCETES.

CERCOSPORA AMPHAKODES E. and H.

On *Phlox divaricata*, Montgomery, 1894 (Olive).

CERCOSPORA ARMORACLE Sacc.

On *Nasturtium armoracia*, Montgomery, 9, 1893 (Olive).

CERCOSPORA CAULOPHYLLI Pk.

On *Caulophyllum thalictroides*, Montgomery, 1894 (Olive).

CERCOSPORA CLEOMIS Ell. & Halst.

On *Polanisia graveolens*, Montgomery, 9, 1894 (Olive).

CERCOSPORA NASTURTII Pass.

On *Nasturtium officinale*, Montgomery, 10, 1893 (Olive).

CERCOSPORA POLYGONORUM Cke.

On *Polygonum hydropiper*, Putnam, 10, 1893.

On *P. Mühlenbergii*, Montgomery, 1894 (Olive).

CERCOSPORA SORDIDA Sacc.

On *Tecoma radicans*, Putnam, 9, 1893, Montgomery, 10, 1893.

DIDYMARIA FULVA E. and E., n. sp.<sup>†</sup>

On *Dioscorea villosa*, Montgomery, 1894 (Olive).

EPICOCCUM NEGLECTUM Desm.

On *Sanguinaria canadensis*, Montgomery, 6, 1894 (Olive).

MONILIA SITOPHILA (Mont.) Sacc.

On corn cobs. Putnam, 4, 1895 (Melia Ellis).

OIDIUM MEGALOSPORUM Berk. Vermillion 9, 1889 (Arthur).

PHOMA GLANDICOLA Desm.

On acorns. Vigo, 5, 1893.

RAMULARIA VARIABILIS Fekl.

On *Verbascum thapsus*. Montgomery, 1894 (Olive).

SEPTONEMA SPILONEUM Berk. Vermillion, 9, 1889 (Arthur).

<sup>†</sup> DIDYMARIA FULVA E. and E. On leaves of *Dioscorea villosa*, Crawfordsville, Ind., July, 1894 (E. W. Olive). Hypophyllous forming small yellow patches, made up of closely crowded tufts of fusoid or narrow ovate, uniseptate, hyaline conidia 12-22 (mostly 15-20) x 3-5  $\mu$ , straight or slightly curved, and often constricted at the septum. Hyphae short, hardly distinguishable from the conidia. The shorter conidia are also the broader ones, and are mostly obtuse at one end, while the longer ones are generally acute at both ends. Differs from the usual type of *Didymaria* in its yellow color and short, almost obsolete basidia.

## MELANCONIEÆ.

## CYLINDROSPORIUM OFFICINALE E. &amp; E., n. sp.\*

On *Saponaria officinalis*. Montgomery, 5, 1894 (Olive).

## BASIDIOMYCETES.

## USTILAGINEÆ.

## ENTYLOMA SANICULÆ Pk.

On *Sanicula*, Putnam, 5, 1893.

## SCHIZONELLA MELANOGRAMMA (DC.) Schrl.

On *Carex*, sp., Fulton, 5, 1894.

## UROCYSTIS CEPTULÆ Frost.

On onions in market, Putnam, 12, 1893.

## UREDINEÆ.

## ÆCIDIUM COMPOSITARUM Mart.

On *Eupatorium perfoliatum*, Montgomery, 1894 (Olive).

On *Lactuca Canadensis*, Montgomery, 1894 (Olive).

## ÆCIDIUM ERIGERONATUM Schw.

On *Erigeron annuus*, Montgomery, 6, 1894 (Olive).

## ÆCIDIUM NAPÆÆ Arth. and Holw.

On *Napæa dioica*, Tippecanoe, 6, 1889 (Arthur).

## ÆCIDIUM THALICTRI-FLAVI (DC).

On *Anemonella thalictroides*, Montgomery, 1894 (Olive).

## PUCCINIA FUSCA (Rehb.), Wint.

On *Anemone nemorosa*, Fulton, 5, 1894

## PUCCINIA OBTECTA Pk.

On *Scirpus* sp., Marshall, 10, 1893.

On *Scirpus lacustris*, Montgomery, 9, 1893, (Olive).

## PUCCINIA PHYSOSTEGLE Pk. and Clinton.

## CYLINDROSPORIUM OFFICINALE E. &amp; E.

On leaves of *Saponaria officinalis*. *Crawfordsville*, Ind., May, 1894 (E. W. Olive). Spots numerous. Small (1-1½ mm.), dark brown, with a purplish shaded border, sometimes confluent. Acervuli epiphyllous, numerous, subcircinate. Sporules filiform, slightly curved, continuous, 30-40x1¼-1½  $\mu$ , issuing in white cirrhi.

*Septoria Saponariae* is on subindefinite, yellowish spots, and has true perithecia with sporules 40-50x3½-4½  $\mu$ , and is a very different thing from this.

*Cylindrosporium Saponariae*, Roum., is on large, grayish green spots, and has conidia 10-10x3-5  $\mu$ .

On *Physostegia Virginiana*, Marshall. 10, 1893.

UROMYCES RUDBECKII Arth. and Holw.

On *Rudbeckia laciniata*, Montgomery, 1894 (Olive).

#### TREMELLINEE.

GUERPINIA ELEGANS B. and C. Putnam, 12, 1894; Marion, 1, 1895 (Boatright).

### HYMENOMYCETES.

#### THELEPHOREE.

CORTICIUM OCHROLENCUM SPUMEUM B. and Rav. Putnam, 10, 1893.

EXOBASIDIUM VACCINII (Fekl.) Woron.

On *Vaccinium* sp., Brown, 5, 1893.

HYMENOCILETE CINERASCES S. Putnam, 12, 1891.

HYMENOCILETE RUBIGINOSA Schrad. Putnam, 10, 1891; 4, 1892; 10, 1893.

STEREUM SUBPILEATUM B. and C. Montgomery, 4, 1892.

#### HYDNEI.

GRANDINIA TUBERCULATA B. and C. Putnam, 10, 1893.

HYDNUM MEMBRANACEUM Bull. Putnam, 11, 1894 (R. Norton).

RADULUM ORBICULARE Fr. Putnam, 10, 1893.

#### POLYPORINEE.

POLYPORUS BIFORMIS Fr. Putnam, 10, 1892.

POLYPORUS BRUMALIS Fr. Putnam, 12, 1894.

POLYPORUS CHIONEUS Fr. Putnam, 10, 1893.

POLYPORUS CINEREUS S. Vigo, 10, 1893.

POLYPORUS EPILEUCUS Fr. Putnam, 7, 1894.

POLYPORUS FERRUGINOSUS Schrad. Vigo, 10, 1893.

POLYPORUS GALACTINUS Berk. Putnam, 10, 1894.

POLYPORUS LUCIDUS Fr. Putnam, 10, 1894; Vigo, 9, 1894 (Blatchley); Greene, 8, 1894 (Myrtle Hays).

POLYPORUS NIDULANS Fr. Putnam, 10, 1891; 10, 1893.

POLYPORUS PURPUREUS Fr. Putnam, 10, 1893.

POLYPORUS RENIFORMIS Morgan. Putnam, 4, 1895.

POLYPORUS SALICINUS Fr. Putnam, 12, 1891; 12, 1894.

POLYPORUS SALMONICOLOR B. and C. Putnam, 12, 1894.

POLYPORUS SUBACIDUS Pk. Putnam, 4, 1893.

- POLYPORUS SCPIXUS Fr. Vermillion, 4, 1893 (Arthur).  
 POLYPORUS RAPORARIUS Pers. Putnam, 12, 1894.  
 POLYPORUS VULGARIS Fr. Putnam, 10, 1892; 4, 1893.  
 TRAMETES SEPIUM Berk. Putnam, 10, 1891; 10, 1893.

#### AGARICINEÆ.

- CLADOPUS NIDULANS Pers. Putnam, 12, 1894.  
 CREPIDOTUS ILFRENS Pk. Putnam, 6, 1893.  
 LEPIOTA FRIESII Lasch. Putnam, 10, 1893.  
 LEPIOTA RUBROINCTA Pk. Putnam, 10, 1893.  
 PLEUROTUS APPLICATUS Batsch. Putnam, 12, 1891.  
 PLEUROTUS SAPIDUS Kalkbr. Putnam, 11, 1894.  
 STROPHARIA STERCORARIA Fr. Putnam, 10, 1891.  
 LENTINUS TIGRINUS Bull. Vigo, 10, 1893.  
 LENTINUS VULPINUS Fr. Putnam, 12, 1894.

#### GASTROMYCETES.

##### LYCOPERDACEÆ.

- GEASTER MINIMUS S. Monroe, 12, 1894 (R. Norton).  
 LYCOPERDON CURTISII Berk. Tippecanoe, 10, 1894 (Arthur).  
 LYCOPERDON ECHINATUM P. Vermillion, 8, 1889 (Arthur).

#### BRYOPHYTA.

##### RICCIACEÆ.

- RICCIOCARPUS NATANS (L.) Corda. Montgomery, 3, 1895 (Olive).

##### MARCHANTIACEÆ.

- LUNULARIA CRUCIATA (L.) Dumort. In green houses, Tippecanoe, 3, 1895.

#### APPENDIX B.

#### ADDITIONAL LIST OF HOST PLANTS OF FUNGI, 1894.

- CACALIA BENIFORMIS (Septoria cacalie). Montgomery, 1894 (Olive).  
 CARDAMINE RHOMBOIDEA (Albugo candida). Montgomery, 1894 (Olive).  
 CRATAEGUS CRUS-GALLI (Rostelia laeerata). Montgomery, 1894 (Olive).  
 HELIANTHUS STRUMOSUS (Erysiphe cichoracearum). Montgomery, 1894 (Olive).  
 LACTUCA SCARIOLA (Septoria lactuce). Montgomery, 1894 (Olive).