

THE USTILAGINALES OF INDIANA III.<sup>1</sup>

H. S. JACKSON, Purdue University Agricultural Experiment Station.

The following notes on the smuts of Indiana are presented at this time as the second supplement to the paper bearing the same title which was published in the Proceedings of the Indiana Academy of Science for 1917, pp. 119-132. The first supplement was included in the Proceedings for 1920, pp. 157-164.

In the two previous papers a total of 57 species have been recorded for the state. The present paper includes records for seven additional species, bringing the total number found in Indiana to 64. Additional notes are included on some of the previously recorded species. As in the previous papers each species is given a number and these are consecutive for the three papers. Unless otherwise stated the collections were made by the writer.

## NOTES ON SPECIES PREVIOUSLY RECORDED.

## 33. ENTYLOMA COMPOSITARUM Farl.

On CARDUACEAE:

*Ratibida pinnata* (Vent) Barnh. (*Lepachys pinnata* (Vent) Torr. & Gray.) Bayle's Mills, Tippecanoe Co., June 12, 1922, with H. H. Whetzel.

The collection reported in the 1917 list on *Ambrosia elatior* L. has been transferred to *Entyloma polysporum* cf. 37. No collections on *Ambrosia* referrible to *E. compositarum* have yet been made in Indiana.

## 37. ENTYLOMA POLYSPORUM (Peck) Farl.

On AMBROSIACEAE:

*Ambrosia elatior* L., LaFayette, July 2, 1889, J. C. Arthur; Ladoga, July 27, 1920, P. J. and H. W. Anderson.

*Ambrosia trifida* L., West Lafayette, August 21, 1916; Dayton, September 2, 1920.

In the 1917 report it was stated that, while this species was listed from Indiana by Clinton (N. Am. Flora 7:62. 1906), we had seen no specimens. The above collections have since been encountered. I am indebted to Dr. G. P. Clinton for the identifications. The collection first mentioned was previously recorded as *E. compositarum* but should be transferred to this species.

## SPECIES NEW TO INDIANA.

## USTILAGINACEAE.

## 58. SOROSPORIUM ELLISH Wint. Hedwigia 22:2. Ja. 1883.—Bull. Torrey Club. 10:7. Ja. 1883.

On POACEAE:

*Andropogon virginicus* L., One mile west of French Lick, October 5, 1921.

*Schizachyrium scoparium* (Michx.) Nash., Thayer, Newton Co., May 1921 and September 29, 1921.

<sup>1</sup> Contribution from the Botanical Department of the Purdue University Agricultural Experiment Station.

"Proc. 38th Meeting, 1922 (1923)."

In this species the entire inflorescence is reduced to a smutty mass of spores as distinguished from the next following species which attacks only the individual ovaries. In the original description, this species was confused with another on *Aristida dichotoma*.<sup>2</sup>

59. *SOROSPORIUM EVERHARTII* Ellis & Gall. Jour. Myc. 6:32. 1890.

On POACEAE:

*Andropogon virginicus* L. One mile west of French Lick, October 5, 1921.

60. *SPHACELOTHECA OCCIDENTALIS* (Seym.) Clinton Jour. Myc. 8:141. 1902.

*Soroporum Ellisii occidentalis* Seym.; Ellis & Ev. N. Am. Fungi 2,265. 1889.

On POACEAE:

*Andropogon furcatus*. Muhl. In flat sterile place in woods on south side of Lake Maxinkuckee, Marshall County, September 14, 1921. C. C. Deam, 34,722.

This species occurs in the individual ovaries of the grass and is doubtless not uncommon, but has not before been recorded so far east.

61. *USTILAGO OXALDIS* Ellis & Tracy, Jour. Myc. 6:77. 1890.

On OXALIDACEAE:

*Oxalis stricta* L. Near English, May 24, 1922; near Huntingburg, May 25, 1922.

This is a species of wide distribution in the eastern half of the United States. The sori occur in the seeds, the affected ovaries differing only slightly from the normal. Usually all the seed of diseased plants are affected.

#### TILLETIACEAE.

62. *DOASSANSIA MARTIANOFFIANA* (Thuem.) Schrot. Krypt. Fl. Sches. 3<sup>1</sup>:287. 1887.

*Protomyces martianoffianus* Thuem. Bull. Soc. Nat. Mosc. 53<sup>1</sup>:207. 1878.

On ZANNICHELLIACEAE:

*Potamogeton* sp. Edge of Bass Lake, Starke County, June 18, 1921.

An inconspicuous species forming yellowish white spots on the leaves which later become reddish brown.

63. *ENTYLOMA SEROTINUM* Schroet. Biotr. Biol. Pfl. 2:437. 1877.

On BORAGINACEAE:

*Mertensia virginica* (L.) DC. Near Harrodsburg, May 7, 1921. J. M. Van Hook 3,865.

64. *TILLETIA CORONA* Schrib. Tracy & Earle, Bull. Torrey Club. 23:210. 1896.

On POACEAE:

*HAMALOCENCHRUS VIRGINICUS* (Willd.) Britt. Northeast of Fairmount, October 3, 1915. C. C. Deam 19,314; One mile southwest of French Lick, October 5, 1921.

This species causes rather conspicuous enlarged and deformed ovaries, only occasional ones in the inflorescence being infected.

<sup>2</sup> Cf. Jackson, H. S. *Sorosporium Ellisii* Wint., a Composite species. Bull. Torrey Club. 35: 148. 1908.