

77. *PILEOLARIA BREVIPES* B. & Br.
 On *Rhus radicans* L. (*R. Toxicodendron* Am. Auct.) 1893:58. 1896:223.
78. *PUCCINIA GLOBOSUM* (Farl.) Kuntze (*Gymnosporangium* Farl. and *Ræstelia lac-
 erata* Fr.).
 On *Cratægus coccinia* L. 1893:56.
 On *Cratægus Crus-Galli* L. 1894:153.
 On *Cratægus mollis* (T. & G.) Scheele (*C. subvillosa* T. & G.). Tippe-
 canoe Co., 7, 1898 (Arthur).
 On *Cratægus punctata* Jacq. 1893:56.
 On *Juniperus Virginiana* L. 1893:51.
79. *PUCCINIA JUNIPERI-VIRGINIANÆ* (Schw.) nom. nov. (*Gymnosporangium macro-
 pus* Lk. and *Ræstelia pyrata* Thax.).
 On *Malus coronaria* (L.) Mill. (*Pyrus coronaria* L.) 1893:56. 1896:218.
 On *Malus Malus* (L.) Brit. (*Pyrus Malus* L.) Floyd Co., 8, 1890 (Latta).
 On *Pyrus communis* L. 1893:56.
 On *Juniperus Virginiana* L. 1893:51. 1896:218.
80. *UROPYXIS AMORPHÆ* (Curt.) Schroet.
 On *Amorpha canescens* Pursh. 1893:58.

THE UREDINEÆ OF MADISON AND NOBLE COUNTIES, WITH ADDITIONAL SPECI-
 MENS FROM TIPPECANOE COUNTY. BY LILLIAN SNYDER.

In preceding papers over a hundred species of *Uredineæ* have been reported from the State. Various counties are represented. The largest collection is reported from Tippecanoe, Montgomery and Putnam, while there are a number of counties from which no report has been made. Among the latter are Noble and Madison.

During my collecting in Madison county I have found nine species. Most of these are abundant. Several rusts on leaves of *Carices* were collected, but, with the exception of one, they are not listed here because the hosts have not been determined. The one species on *Carex* given, is classed as *Puccinia carices*, though somewhat different from typical specimens of that species.

The following is a list of the Madison county *Uredineæ*: Following the name of the host is the collector's name, and the date of collection.

Colcosporium sonchi-arvensis (Per.) Lév.

Common on dry ground. Reported from Montgomery, Johnson and Putnam counties in 1893, and from Tippecanoe county in 1896.

On *Aster* sp. 9, 1898 (Snyder).

Metampsora salicina Lév.

Very abundant. Reported from Montgomery, Johnson and Putnam counties in 1893, and from Tippecanoe county in 1896.

On *Salix* sp. 9, 1898 (Snyder).

Puccinia carices (Schum.) Wint.

Very abundant in places. Grows in marshy ground in creek bottom. Reported from Johnson, Montgomery, Putnam, Fulton and Boone counties in 1893, and from Tippecanoe county in 1896.

On *Carex Frankii*. 9, 1898 (Snyder).

Puccinia asteris Duby.

Found only on one species of *aster*. Reported from Montgomery and Tippecanoe counties in 1893.

On *Aster* sp. 9, 1898 (Snyder).

Uromyces Rudbeckii Arth. and Holw.

Abundant. Grows in low, swampy ground. Reported from Montgomery county in 1894.

On *Rudbeckia laciniata* 10, 1898 (Snyder).

Uromyces junci (Schw.) Tul.

Very common in low, black soil. Reported from Tippecanoe county in 1896.

On *Juncus tenuis* 9, 1898 (Snyder.)

Uromyces euphorbiae C. P.

Common in open fields and along the streets in town. Reported from Putnam, Johnson and Tippecanoe counties in 1893.

On *Euphorbia hypericifolia*, 9, 1898 (Snyder).

Uromyces Howei Peck.

Common. Reported from Johnson, Montgomery, Putnam, Wabash and Dearborn counties in 1893, and Tippecanoe in 1896.

On *Asclepias cornuti* 9, 1898 (Snyder).

Uromyces trifolii (A. and S.) Wint.

Rare. Found in only a very few places in open fields. Reported from Johnson, Montgomery, Putnam, Tippecanoe and Wabash counties in 1893.

On *Trifolium pratense* 11, 1898 (Snyder.)

Besides the Madison county collection, I have in my herbarium fourteen species of *Uredineæ* collected in Noble county by Mr. A. H. King, of Avilla, Ind. In this collection the host of *Puccinia polygoni-amphibii* is new to the State.

Æcidium geranii D. C.

Reported from Vigo county in 1893, and from Tippecanoe in 1896.

On *Geranium maculatum* 5, 1897 (King).

Æcidium grossulariæ D. C.

Reported from Putnam and Montgomery counties in 1893.

On *Ribes cynosbati* 5, 1897 (King).

Cecoma nitens Schw.

First report from the State.

On *Rubus villosus* 5, 1897 (King).

Melampsora populina Lév.

Reported from Montgomery, Putnam, Johnson, Tippecanoe and Marshall counties in 1893.

On *Populus tremuloides* 10, 1897 (King).

Melampsora salicina Lév.

Reported from Montgomery, Johnson and Putnam counties in 1893 and from Tippecanoe in 1896.

On *Salix* sp. 10, 1897 (King).

Roestelia lacinata (Sow.) Fr.

Reported from Montgomery and Putnam counties in 1893 and from Tippecanoe in 1896.

On *Crataegus subvillosa* 6, 1897 (King).

Puccinia maydis Carr.

Reported from Putnam, Montgomery and Dearborn counties in 1893. Not since reported.

On *Zea Mays* 9, 1897 (King).

Puccinia graminis Pers.

Reported from Putnam, Montgomery, Tippecanoe, Marshall and Johnson counties in 1893.

On *Triticum vulgare* 7, 1897 (King).

Puccinia flosculosorum (A. and S.) Wint.

Reported from Marion, Marshall, Putnam, Johnson, Montgomery and Tippecanoe counties in 1893.

On *Taraxacum dens-leonis* 7, 1897 (King).

Puccinia coronata Corda.

Reported from Tippecanoe county in 1893.

On *Avena sativa* 7, 1897 (King).

Puccinia Polygoni-amphibii Per.

Reported from Johnson and Putnam counties in 1893 on *Polygonium acre*, from Fulton and Wabash counties in 1893 on *Polygonium Muhlenbergii*, and from Tippecanoe in 1896 on *Polygonium erectum*.

On *Polygonium hydropiperoides* 10, 1897 (King).

Puccinia podophylli Schw.

Reported from Johnson, Monroe, Brown, Owen, Vigo, Putnam, Montgomery, Wabash and Dearborn counties in 1893, and from Tippecanoe in 1896.

On *Podophyllum peltatum* 5, 1897 (King).

Uromyces caladii (Schw.) Farlow.

Reported from Vigo, Brown, Montgomery, Putnam, Monroe and Owen counties in 1893, and from Tippecanoe in 1896.

On *Arisarum triphyllum* 5, 1897 (King).

Uromyces trifolii (A. and S.) Wint.

Reported from Johnson, Montgomery, Putnam, Tippecanoe and Wabash counties in 1893.

On *Trifolium pratense* 10, 1897 (King).

The list of additional species to Tippecanoe county is small, only two new species having been found.

Æcidium Lycopi Gerard.

This species was found in swampy ground, and was quite abundant. The leaves and stems of the plant are covered with the *Æcidium* which eats holes in the leaves and destroys the host to some extent.

On *Lycopus sinuatis* 6, 1898 (Snyder).

Puccinia poarum Niels.

Found abundantly in lawns.

On *Poa pratensis* 5, 1897 (Snyder).

ASPERGILLUS ORYZAE (AHLBURG) COHN. BY KATHERINE E. GOLDEN.

A. oryzae is a mould which is of much practical interest by reason of its zymotic activity, since it secretes a diastatic ferment, and also for the claim which has been made that under certain conditions of growth, it is convertible into a yeast, and that, like most yeasts, it can give rise to alcoholic fermentation. It would constitute, in fact, if all claims made