

COPROPHILOUS ASCOMYCETES OF ILLINOIS. I. PYRENOMYCETES

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ABSTRACT.—A preliminary taxonomic survey of the coprophilous ascomycetes of east central Illinois has yielded 29 species of seven genera of pyrenomycetes. Twenty-three of these species are not reported from Illinois in the available accounts of Illinois fungi or of coprophilous fungi. Also included are five species indentified by Lane (1951).

INTRODUCTION

The coprophilous ascomycetes, belonging to several orders, represent a large and heterogeneous group of ascomycetous fungi united by their affinities for animal dung. These fungi develop readily under laboratory conditions on herbivore dung collected at any time of year.

This study has been primarily undertaken to determine the relative abundance and number of species of coprophilous ascomycetes in Illinois, and has thus far been restricted to counties in the east central portion of the state. The orders treated here are included in the series Pyrenomycetes as defined in the restricted sense by Alexopoulos (1962). Coprophilous representatives of other orders will be treated in the future.

Previous knowledge of this group of fungi in Illinois has been primarily restricted to Lane's (1951) unpublished report of the coprophilous pyrenomycetes in the Champaign area of the state. Five species recorded by Lane but not found during this study are included, although no specimens of his collections have been located.

MATERIALS AND METHODS

Over 10 collections of dung have been examined during this study, including material from cow (C), deer (D), goat (G), guinea pig (GU), horse (H), raccoon (RA), sheep (S), squirrel (SQ), tame rabbit

(TR), and wild rabbit (R). The above abbreviations have been used in the species list to indicate the substrata that each species has been recorded on.

Dung samples were either incubated immediately after collection or air dried and stored for one to several months before incubation. Petri dishes and one-pint freezer containers, lined with filter paper or paper towels, served as incubation chambers. Samples were maintained in normal room light and temperature (21° C – 23° C) throughout the incubation period, which usually lasted four to eight weeks. Sterile water was used to keep the samples moist.

The number in parentheses following each species in the list indicates the number of times that species has appeared. Species followed by an asterisk were identified only by Lane (1951). Dried specimens, preserved material, or permanent slides of most species are in the herbarium of the University of Illinois or the author's herbarium. In a few cases, when all material of a species was needed for identification, camera lucida drawings were made for documentation.

The most useful keys for identifying members of the Chaetomiales are those of Chivers (1915), Skolko and Groves (1953), Ames (1961), and Seth (1971). Coprophilous species of the Sphaeriales can best

be identified using the keys of Griffiths (1901), Lundqvist (1972), Cain (1934), and Mirza and Cain (1969). The nomenclature used for the Sphaeriales in the last two references has been adopted here.

DISCUSSION

The collection of *Nectria coccinea* (Pers. ex Hook.) Fr., which developed on deer dung from Effingham County, appears to be the first record of this species on dung for the United States.

Several coprophilous pyrenomyces, three of which may be found on substrata other than dung, have been reported from Illinois. Cain and Groves (1948) found *Podospora inaequalis* (Cain) Cain on seeds from Illinois. Skolko and Groves (1953), in examining the collections of Chivers, reported Illinois material of *Chaetomium globosum* Kunze on corn husks and of *Chaetomium murorum* Corda on a culture of chips. Cain (Cooke, 1969) reported the following coprophilous species from the 1965 Illinois foray: *Bombardia coprophila* (Fries), *Podospora anserina* (Ces.) Winter, *Podospora coronifera* (Grove) Cain, *Podospora fimicola* Ces., *Podospora vestita* (Zopf) Winter, and *Zygopleurage zygospora* (Speg.) Boedijn. All other species listed below are thought to be reported for the first time from Illinois.

SPECIES LIST

- Chaetomiales
 Chaetomiaceae
Chaetomium aterrimum Ellis and Everhart (1) GU
Chaetomium bostrychodes Zopf (13) D, H, RA, SQ, R
Chaetomium caprinum Bainier (3) D, H, R
Chaetomium cochliodes Palliser (2) C, H
Chaetomium crispatum Fuckel (2) R, C
Chaetomium globosum Kunze (5) H, R, SQ
Chaetomium funiculum Cooke (1) H

Chaetomium murorum Corda (7) C, D, G, H, S, TR

Chaetomium seminudum Ames (1) R
 Sphaeriales

Sordariaceae

Bombardia coprophila (Fries) Kirsch. (1) C

Coniochaeta Hansenii (Oud.) Cain (1) R

Coniochaeta scatigena (Berk. and Broome) Cain*

Phomatospora hyalina (Griff.) Cain (1) C

Podospora atoides (Fuckel) Mirza and Cain (1) C

Podospora anserina (Ces. ex Rabenh.) Niessl (9) G, H, S, TR

Podospora appendiculata (Auersw.) Niessl (3) R

Podospora australis (Speg.) Niessl (1) H

Podospora communis (Speg.) Niessl (7) H, S

Podospora curvicolla (Winter) Niessl (22) H, R

Podospora curvula (DeBary) Niessl (7) C, II

Podospora dakotensis (Griff.) Mirza and Cain (1) R

Podospora decipiens (Winter) Niessl (5) C, H

Podospora fimicola Ces.*

Podospora inaequalis (Cain) Cain (1) H

Podospora pleiospora (Winter) Niessl (3) H, R

Podospora pyriformis (Bayer) Cain*

Podospora setosa (Winter) Niessl (1) R

Podospora similis (Hansen) Niessl*
Podospora tetraspora (Winter) Cain (11) RA, R

Podospora vesticola (Berk. and Broome) Mirza and Cain (12) C, G, H, S

Sordaria fimicola (Rob.) Ces. and DeNot. (13) C, D, H, R

Sordaria humana (Fuckel) Winter (5) D, C, R, TR

Sordaria zygospora Speg.*

Hypocreales

Nectriaceae

Nectria coccinea (Pers. ex Hook.) Fr. (1)

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