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## A Partial List of the Parasitic Fungi of Decatur County, Iowa

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A PARTIAL LIST OF THE PARASITIC FUNGI OF DECATUR COUNTY, IOWA.\*

BY J. P. ANDERSON.

INTRODUCTION.

During the years 1897 to 1905 the writer did considerable collecting of botanical material in Decatur County, Iowa. Parasitic fungi were included and the following list is based largely on the material collected at that time. The list is far from complete. There is still some unidentified material on hand, and no special effort was made to have the collection complete originally, as the phanerogams were the special group sought. Specimens of most of the species here enumerated are deposited in the herbarium at Iowa State College. Some of the diseases of economic plants, however, are based on notes and observations, no specimens being collected.

The thanks of the writer is due to Dr. L. H. Pammel for assistance in the identification of species. Also to Dr. Pammel and his assistants for other assistance rendered.

BACTERIACEAE.

1. *Pseudomonas campestris* (Pammel) E. Smith.  
On *Brassica oleracea* (cabbage).
2. *Pseudomonas tumefaciens* E. Smith & Townsend.  
On species of *Amygdalus*, *Malus*, *Prunus*, *Pyrus*, *Rosa*, *Rubus*, and *Vitis*. Most common on apple.
3. *Bacillus amylovorus* (Burr.) De Toni.  
On species of *Malus* and *Pyrus*, especially destructive on *P. communis* L.
4. *Bacillus tracheiphilus* E. Smith.  
On *Cucumis sativus* L. Sometimes very destructive.

\*We do not have an accurate knowledge of the distribution of parasitic fungi in different parts of Iowa. Some excellent collecting has been done by Dr. Macbride of the State University, Dr. J. C. Arthur of Purdue University, E. D. Holway of Minneapolis formerly of Decorah, A. S. Hitchcock of the U. S. Dept. of Agriculture, Dr. Byron D. Halsted and Dr. C. E. Bessey formerly of Ames and members of the staff of the Dept. of Botany, Iowa State College, in recent years. The lists are, however, far from complete and should be greatly extended.—L. H. Pammel.

SYNCHYTRIACEAE.

5. *Synchytrium decipiens* Farl.  
On *Falcata comosa* (L.) Kuntze, *F. pitcheri* (T. & G.) Kuntze.

PERONOSPORACEAE (including *Albuginaceae*).

6. *Cystopus candidus* (Pers.) Lev.  
On *Bursa bursa-pastoris* (L.) Britton.  
On *Cochlearia armoracia* L.  
On *Lepidium apetalum* Willd.  
On *Raphanus sativus* L.  
*Roripa palustris* (L.) Bess. Very common.
7. *Cystopus bliti* (Biv.) Lev.  
On *Amaranthus retroflexus* L. Common.
8. *Cystopus portulacae* (DC.) Lev.  
On *Portulaca oleracea* L. Moderately common.
9. *Plasmopara viticola* (B. & C.) Berl. & De Toni.  
On *Vitis labrusca* L. Ordinarily does but little damage but becomes destructive some seasons.
10. *Plasmopara cubensis* (B. & C.) Humphry.  
On leaves of *Micrampelis lobata* (Michx.) Greene.
11. *Peronospora arthuri* Farl.  
On *Gaura biennis* L.
12. *Peronospora gonolobi* Lagerh.  
On *Gonolobus laevis* Michx.
13. *Peronospora parasitica* (Pers.) De Bary.  
On *Bursa bursa-pastoris* (L.) Britt., *Lepidium apetalum* Willd.,  
*Sisymbrium officinale* (L.) Scop., *Sophia pinnata* (Walt.)  
Britton.
14. *Peronospora potentillae* De Bary. On *Potentilla monspeliensis* L.
15. *Phytophthora infestans* (Mont.) De Bary.  
On *Solanum tuberosum* L. More or less destructive some seasons but most years gives little or no trouble.

EXOASCAEAE.

16. *Excuseus deformans* (Berk.) Fuckel.  
On *Amygdalus persica* L. Quite destructive some seasons. Different varieties differ much in susceptibility.
17. *Exoascus pruni* Fuckel.  
On *Prunus americana* Marsh and *P. domestica* L.

HELOTIACEAE.

18. *Sclerotinia fructigena* (Pers.) Schroet.  
On *Amygdalus persica* L., *Prunus americana* Marsh, *P. domestica* L., *P. hortulana* Bailey, *P. triflora*. Common and sometimes very destructive especially to the foreign varieties.

MOLLISIACEAE.

19. *Mollisia dehnii* (Rabenh.) Karst.  
On *Potentilla monspeliensis* L.

PHACIDIACEAE.

20. *Rhytisma acerinum* (Pers.) Fr.  
On *Acer saccharinum* L.

SPHAERIACEAE.

21. *Guignardia bidwellii* (Ell.) Viala & Ravaz.  
On *Vitis labrusca* L.
22. *Micosphaerella fragariae* (Tul.) Lindau.  
On *Fragaria chiloensis*, *F. virginiana* Duchesne.
23. *Ventura pomi* (Fr.) Wint.  
On *Malus ioensis* (Wood) Britt., *M. malus* (L.) Britt., *M. soulardi* (Bailey) Britton.
24. *Glomerella rufomaculans* (Berk) Spald. & Von Sch.  
On *Malus malus* (L.) Britton.
- 24½. *Gonomia veneta* (Sacc. & Speg.) Kleb.  
On *Platanus occidentalis* L.
25. *Nummularia discretata* Tul.  
On *Malus malus* (L.) Britton.

HYPOCREACEAE.

26. *Claviceps purpurea* (Fr.) Tul.  
On *Elymus canadensis* L.

DOTHIDIACEAE.

27. *Plowrightia morbosa* (Schw.) Sacc.  
On *Prunus americana* L., *P. domestica* L., *P. virginiana* L.
28. *Phyllachora graminis* (Pers.) Fuckel.  
On *Elymus canadensis* L.

29. *Phyllachora lespedezae* (Schw.) Sacc.  
On *Lespedeza capitata* Michx.
30. *Phyllachora trifolii* (Pers.) Fufl.  
On *Trifolium repens* L.
31. *Ophiodothis haydeni* (B. & C.) Sacc.  
On *Aster diffusus* Ait.

SPHAERIOIDACEAE.

32. *Darluca filum* (Biv.) Cast.  
On *Melampsora farinosa* on *Salix nigra*.  
On *Puccinia graminis* on *Hordeum pratense*.  
On *Puccinia graminis* on *Poa pratensis*.
33. *Phyllosticta antennariae* Ell. & Ev.  
On *Antennaria plantaginifolia* (L.) Richards.
34. *Phyllosticta aesculi* Ell. & Mart.  
On *Aesculus glabra* Willd.
35. *Phyllosticta saccharini* Ell & Mart.  
On *Acer nigrum* Michx.
36. *Coniothyrium fockelii* Sacc.  
On *Rubus occidentalis* L.
- 36½. *Septoria agrimonia-eupatorii* Bomm. & Rouss.  
On *Agrimonia mollis* (T. & G.) Britton.
37. *Septoria liatridis* Ell. & Davis.  
On *Lacinaria* sp.
- 37½. *Septoria pyricola* Desm.  
On *Pyrus communis* L.
38. *Septoria ribis* Desmz.  
On *Ribes missouriensis* Nutt.
- 38½. *Septoria rubi* West.  
On *Rubus canadensis roribaceus* Bailey.
39. *Septoria salliae* W. R.  
On *Acer saccharinum* L.
40. *Septoria saniculae* E. & E.  
On *Sanicula marylandica* L.
41. *Septoria silenicola* Ell. & Mart.  
On *Silene stellata* (L.) Ait.
- 41½. *Septoria sisymbrii* Ell.  
On *Dentaria laciniata* Muhl.

42. *Septoria viridi-tingens* Curt.  
On *Allium tricoccum* Ait.
43. *Septoria nolitangere* Gerard.  
On *Impatiens aurea* Muhl.
44. *Septoria polygonorum* Desm.  
*Polygonum incarnatum* Ell., *P. pennsylvanicum* L.
45. *Septoria scrophulariae* Peck.  
On *Scrophularia marylandica* L.

## MELANCONIACEAE.

46. *Colletotrichum lindemuthianum* (Sacc. & Magn.) Scribn.  
On *Phaseolus vulgaris* L., *P. lunatus* L.  
Sometimes quite destructive to some varieties of lima bean.
47. *Gloeosporium ampelophagum* Sacc.  
On *Vitis labrusca* L.
48. *Gloeosporium venetum* Speg.  
On *Rubus nigrobaccus* Bailey, *R. occidentalis* L.  
*R. strigosus* Michx., *R. neglectus* Peck. Destructive to the  
black raspberry but not to the others.
49. *Marsonia juglandis* (Lib.) Sacc.  
On *Juglans cinerea* L.
50. *Cylindrosporium padi* Karst.  
On *Prunus americana* Marsh., *P. avium* L., *P. cerasus* L., *P.*  
*mahaleb* L.

## MUCEDINAE.

51. *Oospora scabies* Thaxter.  
On *Solanum tuberosum* L.
52. *Ovularia obliqua* (Cooke) Oud.  
On *Rumex* sp.
53. *Cercospora chionea* (Ell. & Kellerm) Sacc.  
On *Cercis Canadensis* L.
54. *Piricularia grisea* (Cooke) Sacc.  
On *Syntherisma sanguinalis* (L.) Dulac.
55. *Piricularia parasitica* E. & E.  
On *Phyllachora* on *Elymus canadensis*.

## DEMATIACEAE.

56. *Cladosporium carpophilum* Thum.  
On *Amygdalus persica* L.

57. *Macrosporium solani* E. & M.  
On *Solanum tuberosum* L.
58. *Cercospora apii pastinacae* Farl.  
On *Pastinaca sativa* L.
- 58½. *Cercospora angulata* Wint.  
On *Ribes rubrum* L.
59. *Cercospora beticola* Sacc.  
On *Beta vulgaris* L.
60. *Cercospora euonymi* Ell.  
On *Euonymous antopurpureus* Jacq.
61. *Cercospora granuliformis* Ell. & Holw.  
On *Viola papilionacea* Pursh.
62. *Cercospora monoica* Ell. & Holw.  
On *Falcata* Sp.
63. *Cercospora rhoiza* C. & E.  
On *Rhus glabra* L.
64. *Cercospora venturioides* Peck.  
On *Asclepias syriaca* L.
65. *Cercospora vernoniae* E. & K.  
On *Vernonia fasciculata* Michx.
66. *Cercospora avicularis* Wint.  
On *Polygonum aviculare* L.

ERYSIPHACEAE.

67. *Sphaerotheca humuli* (DC.) Burrill.  
On *Rosa Arkansana* Porter. This species is not very common.
68. *Sphaerotheca humuli fuliginea* (Schlecht), Salmon.  
On *Bidens frondosa* L., *B. involuerata* (Nutt.) Britton, *Eriohitites hieracifolia* (L.) Raf., *Leptandra virginica* (L.) Nutt., *Taraxacum taraxacum* (L.) Karst. This species is very common but confined to weeds.
69. *Sphaerotheca pannosa* (Wallr.) Lev.  
On *Rosa multiflora*—especially on the hybrid variety known as *Crimson Rambler*. Does some damage.
70. *Sphaerotheca mors-uvae* (Schwein.) Berk & Curt.  
On *Ribes* spp. Does considerable damage to cultivated gooseberries some years.

71. *Podosphaera oxyacanthae* (DC.) De Bary.  
On *Prunus americana* Marsh, *P. avium* L., *P. besseyi* Bailey, *P. cerasus* L. Often does some damage to the cherry. Is quite common.
72. *Podosphaera leucotricha* (Ell. & Ever.) Salmon.  
On *Malus malus* (L.) Britton. This species injures young trees and sprouts, etc.
73. *Erysiphe polygoni* D C.  
On *Astragalus carolinianus* L., *Brassica nigra* (L.) Koch, *Clematis virginiana* L., *Falcata pitcheri* (T. & G.) Kunze, *Pisum sativum* L.; *Polygonum aviculare* L., *P. erectum* L., *Ranunculus abortivus* L., *Thalictrum purpurascens* L. This species often proves very destructive on the pea.
74. *Erysiphe cichoracearum* D C.  
On *Ambrosia artemisiaefolia* L., *A trifida* L., *A trifida integrifolia* (Muhl.) T. & G., *Aster laevis* L., *Carduus discolor* (Muhl.) Nutt., *Galium circaezans* Michx., *Helenium autumnale* L., *Helianthus grosse-serratus* Martens, *H. tuberosus* L., *Phlox divaricata* L., *Plantago major* L., *P. rugelii* Dec., *Verbena hastata* L., *V. stricta* Vent., *V. urticifolia* L., *Verbesina alternifolia* (L.) Britt. This is a very abundant species but as most of the hosts attacked are weeds it cannot be considered as causing damage.
75. *Erysiphe graminis* D C.  
On *Poa pratensis* L. Quite common.
76. *Erysiphe taurica* Lev.  
On *Heliopsis scabra* Dunal. Common.
77. *Microsphaera alni* (Wallr.) Wint.  
On *Corylus americana* L., *Lonicera sullivantii* A. Gray, *Ostrya virginica* (Mill.) Willd., *Quercus rubra* L., *Syringia vulgaris* L. Very common, especially on the lilac.
78. *Microsphaera alni vaccinii* (Schwein.) Salmon.  
On *Catalpa speciosa* Wardr. Destructive but not very common.
79. *Microsphaera alni extensa* (Cooke & Peck) Salmon.  
On *Quercus prinoides* Willd. Not very destructive.
80. *Microsphaera diffusa* Cooke and Peck.  
On *Meibomia canadensis* (L.) Kuntze, and *Symphoricarpos vulgaris* Michx. Common.



81. *Microsphaera russellii* Clinton.  
On *Oxalis stricta* L. Not conspicuous enough to be often noticed.
82. *Microsphaera euphorbiae* (Peck) Berk. & Curt.  
On *Euphorbia carollata* L. Common.
83. *Uncinula necator* (Schwein.) Burrill.  
On *Parthenocissus quinquefolia* (L.) Planch., and *Vitis labrusca* L. This species appears to be more common and destructive on the former than on the latter host.
84. *Uncinula circinata* Cooke and Peck.  
On *Acer saccharinum* L.
85. *Uncinula macrospora* Peck.  
On *Ulmus americana* L. and *U. racemosa* Thomas. Quite common. In some cases it is conspicuous and in other cases not.
86. *Uncinula geniculata* Gerard.  
On *Morus rubra* L. Inconspicuous and not often found.
87. *Phyllactinia corylea* (Pers.) Karst.  
On *Ostrya virginiana* (Mill.) Willd., *Ulmus racemosa* Thomas. This species probably occurs on many other hosts but the writer has collected only on the two mentioned.

UREDINEAE.

88. *Uromyces appendiculatus* (Pers.) Lev.  
On *Phaseolus vulgaris* L. Sometimes destructive.
89. *Uromyces caladii* Farl.  
On *Arisaema triphyllum* (L.) Schott. *A. dracontium* (L.) Torr.
90. *Uromyces erythronii* (DC.) Passer.  
On *Allium canadense* L.
91. *Uromyces euphorbiae* Cooke & Peck.  
On *Euphorbia maculata* L. Common.
92. *Uromyces fabae* (Pers.) DeBy.  
On *Apios tuberosa* Moench.
93. *Uromyces geranii* (DC.) Warton.  
On *Geranium maculatum* L.
94. *Uromyces howei* Peck.  
On *Asclepias syriaca* L. Common and somewhat destructive.
95. *Uromyces junci* (Desm.) Tul.  
On *Juncus tenuis* Willd. Common.

96. *Uromyces terebinthii* (DC.) Wint.  
On *Rhus toxicodendron* L.
97. *Uromyces trifolii* (Hedw.) Lev.  
On *Trifolium pratense* L.
- 97½. *Uropyxis amorphae* (Curt.) Schroet.  
On *Amorpha canescens* Pursh.
98. *Puccinia asparagi* D C.  
On *Asparagus officinalis* L. Very destructive.
99. *Puccinia coronata* Corda.  
On *Rhamnus lanceolatus* Pursh, *Avena sativa* L.
100. *Puccinia circaeae* Pers.  
On *Circaea lutetiana* L.
101. *Puccinia caricis* (Schum.) Reb.  
On *Carex* spp.
102. *Puccinia convolvuli* (Pers.) Karst.  
On *Convolvulus sepium* L.
103. *Puccinia galii* (Pers.) Schwein.  
On *Galium trifidum* L.
104. *Puccinia graminis* Pers.  
On *Avena sativa* L., *Berberis vulgaris* L., *Agrostis alba* L.,  
*Hordeum pratense* L., *Hordeum jubatum*, *Triticum vulgare*  
L. Very common and destructive.
105. *Puccinia helianthi* Schwein.  
On *Helianthus annuus* L., *H. tuberosus* L.
106. *Puccinia heliopsidis* Schwein.  
On *Veronia fasciculata* Michx., *V. noveboracensis* (L.) Willd.
107. *Puccinia hieracii* (Shum.) Mart.  
On *Taraxacum taraxacum* (L.) Karst.
108. *Puccinia hydrophylli* Peck & Clint.  
On *Macrocalyx nyctelea* (L.) Kuntze.
109. *Puccinia menthae* Pers.  
On *Monarda fistulosa* L.  
*Koellia virginiana* (L.) Mc.M.
- 109½. *Puccinia phlei-pratense* Eriks & Henn.  
On *Phleum pratense* L.
110. *Puccinia phragmites* (Schum.) Korn.  
On *Spartina cynosuroides* (L.) Willd.
111. *Puccinia polysora* Underw.  
On *Tripsacum dactyloides* L.

112. *Puccinia podophylli* Schwein.  
On *Podophyllum peltatum* L.
113. *Puccinia polygoni* Pers.  
On *Polygonum scandens* L., *Polygonum* sp.
114. *Puccinia pruni-spinosa* Pers.  
On *Prunus hortulana* Bailey.
115. *Puccinia rubigo-vera* (DC.) Winter.  
On *Elymus canadensis* L.
116. *Puccinia silphii* Schwein.  
On *Silphium integrifolium* Michx.
117. *Puccinia sorghi* Schwein.  
On *Oxalis stricta* L., *Zea mays*.
118. *Puccinia solida* Schwein.  
On *Anemone virginiana* L.
119. *Puccinia xanthii* Schwein.  
On *Xanthium Canadense* Mill.
120. *Gymnosporangium macropus* Lk.  
On *Malus ioensis* (Wood) Britton, *M. malus* (L.) Britton,  
*Juniperus virginiana* L. Only of moderate frequency on  
cultivated apple but at times destructive to the wild crab  
and disfiguring the red cedar.
121. *Gymnosporangium clavariaeforme* (Jacq.) Rees.  
On *Crataegus tomentosa* L.
122. *Gymnoconia peckiana* (Howe) Franz.  
On *Rubus nigrobaccus* Bailey. Very common on the wild  
forms but the leading cultivated varieties seem somewhat  
resistant.
- 122½. *Phragmidium potentillae* (Pers.) Karst.  
On *Potentilla canadensis* L.
123. *Phragmidium subcorticum* (Schrank) Wint.  
On *Rosa hemisphaerica* Herrm.
124. *Phragmidium speciosum* Fr.  
On *Rosa arkansana* Porter.
125. *Coleosporium solidagineis* (Schwein.) Thum.  
On *Solidago canadensis* L., *S. ulmifolia* Muhl.
126. *Coleosporium vernoniae* B. & C.  
On *Vernonia noveboracensis* (L.) Willd.
127. *Coleosporium sonchi* (Pers.) Lev. On *Aster diffusus* Ait.

128. *Melampsora populina* (Jacq.) Lev.  
On *Populus deltoides* Marsh, *P. balsamifera* L.
129. *Melampsora farinosa* (Pers.) Schroet.  
On *Salix nigra* Marsh, *S. interior* Rowlee.
130. *Uredo agrimoniae* (DC.) Schroet.  
On *Agrimonia mollis* (T. & G.) Britton.
131. *Uredo polypodii* (Pers.) D C.  
On *Filix fragilis* (L.) Underw.
132. *Aecidium asterum* Schwein.  
On *Aster saggitifolius* Willd., *Solidago canadensis* L., *S. ulmi-folia* Muhl., *Aster laevis* L.
133. *Aecidium abundans* Pec. On *Symphoricarpos vulgaris* Michx.
134. *Aecidium compositarium* Mart.  
On *Aster laevis* L., *A. cordifolius* L., *Helianthus tuberosus* L.,  
*Lactuca canadensis* L., *Silphium integrifolium* Michx., *S. laciniatum* L., *Solidago serotina* Ait.
135. *Aecidium convallariae* Schum.  
*Salomonina commutata* (R. & S.) Britt.
136. *Aecidium erigeronatum* Schwein.  
On *Erigeron annuus* (L.) Pers., *Leptilon canadense* (L.) Britton,  
*Erigeron philadelphicus* L.
137. *Aecidium fraxini* Schwein.  
On *Fraxinus lanceolata* Borek, *F. Americana* L.
138. *Aecidium grossulariae* Schum.  
On *Ribes missouriensis* Nutt., *Ribes* sp. (Cult.)
139. *Aecidium impatientis* Schwein.  
On *Impatiens aurea* Muhl.
140. *Aecidium lysamichiae* (Schlect) Wallr.  
On *Stieronema ciliatum* (L.) Raf.
141. *Aecidium peckii* De Toni.  
On *Onagra biennis* (L.) Scop.
142. *Aecidium plantaginis* Ces.  
On *Plantago aristata* Michx., *P. major* L.
143. *Aecidium polemonii* Curt.  
On *Polemonium reptans* L., *Phlox pilosa* L.
144. *Aecidium pustulatum* Curt.  
On *Comandra umbellata* (L.) Nutt.
145. *Aecidium thalactri-flavi* (DC.) Wint.  
On *Syndesmon thalactroides* (L.) Hoffng.

- 146. *Aecidium verbenae* Speg.  
On *Verbena stricta* Vent.
- 147. *Aecidium compositarium silphii* Burr.  
On *Silphium laciniatum* L.
- 148. *Aecidium jamesianum* Peck.  
On *Asclepias syriaca* L.
- 149. *Aecidium Ranunculi* Schwein.  
On *Ranunculus abortivus* L.

USTILAGINACEAE.

- 150. *Ustilago maydis* (DC.) Corda.  
On *Zea* Mays.
- 151. *Ustilago tritici* (Pers.) Jensen.  
On *Triticum vulgare* L.
- 152. *Ustilago avenae* (Pers.) Jensen.  
On *Avena sativa* L.
- 153. *Ustilago urticulosa* (Nees.) Tul.  
On *Polygonum pennsylvanicum* L., *P. incarnatum* Ell.
- 154. *Ustilago neglecta* Niessl.  
On *Chaetochloa glauca* (L.) Scribn.
- 155. *Ustilago rabenhorstiana* Kuehn.  
On *Panicum proliferum* Lam. *Syntherisma sanguinalis* (L.)  
Dulac.
- 156. *Ustilago reiliana* Kuehn.  
On *Zea mays*.
- 157. *Entyloma physalidis* (Kalchbr. & Cooke) Wint.  
On *Physalis pubescens* L.

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