

ERYSIPHALES OF INDIANA

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ABSTRACT: Erysiphales (Ascomycota, Leotiomycetes), known as the powdery mildews, is an important and speciose order of fungi that infect plants. Knowledge about the species composition and distribution of these fungi within the U.S. in general, and within Indiana, is limited. In this study, we examined all historical records, including from online data aggregates and literature, as well as new and historical collections in the Kriebel Herbarium (PUL) at Purdue University, which houses one of the richest collections of plant pathogens in the state, and in the U.S. National Fungus Collections (BPI), which contains the richest national collection of phytopathogenic fungi. Herein we provide an annotated checklist of all known species of powdery mildews in Indiana; names of prior records have been updated to reflect the current taxonomic classifications for the group. A total of 104 Erysiphales taxa (100 species and four infraspecies taxa) in seven genera and their host species are confirmed, including new and updated records for the state. These data should improve attempts to record the extant fungal biodiversity in Indiana as well as providing a resource for statewide plant disease diagnosticians.

Keywords: *Blumeria*, *Erysiphe*, *Golovinomyces*, *Microsphaera*, *Neoerysiphe*, *Phyllactinia*, *Podosphaera*, powdery mildew, Erysiphales

INTRODUCTION

The Erysiphales is an order of obligate plant pathogens in the Leotiomycetes (Ascomycota) that cause diseases commonly referred to as powdery mildews. Approximately 900 species of Erysiphales are recognized, infecting a broad range of angiosperms (Braun & Cook 2012). The earliest attempt to collect and identify powdery mildews in Indiana was made by Rose (1886). Rose's list contained the names of thirteen species of Erysiphales and twenty-nine hosts. Since that time, scattered records of new species/host occurrences have been reported, culminating in a recent checklist of 58 species reported to occur in the state (Bates et al. 2020). In the intervening years since the publication of Rose (1886), the taxonomy of Erysiphales has been significantly revised. For this reason, most of the prior published names and herbarium records for Erysiphales are known by obsolete or erroneous names.

The purpose of this study is to provide a complete record of the Erysiphales species and their hosts from Indiana. Our list was assembled from all available literature and herbarium records, including examination of materials with dubious names, and updated all records to reflect

the most current classification for these organisms.

MATERIALS AND METHODS

The main part of this publication is based on a review of all available literature, databases [MyCoPortal: <https://mycoportal.org/portal/collections/list.php> (MyCoPortal 2020) and the U.S. National Fungus Collections database: <https://nt.ars-grin.gov/fungalatabases/> (Farr & Rossman 2018)], and herbarium records; the source for each listing is provided within the list. Herbarium specimens from the Kriebel Herbarium (PUL) and the U.S. National Fungus Collections (BPI) were studied to confirm dubious names or records. Taxonomy of Erysiphales follows the classification presented by Braun & Cook (2012). The authors of fungal names follow the conventions in Index Fungorum (<http://www.indexfungorum.org/names/AuthorsOfFungalNames.asp>). The current name of host plants follows that used by the PLANTS database (<http://plants.usda.gov>) and Plants of the World Online (<http://www.plantsoftheworldonline.org/>).

RESULTS

The current checklist contains three parts. Part 1 provides a list of powdery mildews, arranged alphabetically, and all known hosts for each

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species. We document 342 individual Erysiphales/host records and a total of 104 Erysiphales taxa (100 species and four varieties) distributed on 231 host taxa. Thirty-nine species and two varieties of Erysiphales taxa mentioned in Part 1 (shown by an asterisk) represent species names (in most cases corrected from previously reported erroneous names) that are new for Indiana. Table 1 provides these same data, but listed by host family and species. As we have tried to use the most recent nomenclatural and taxonomic names in Part 1 and Table 1, Part 2 provides a compiled list of historical records by original determinations, with annotations updating the taxonomy and showing to which species these earlier records are now known to refer. Part 3 contains a list of doubtful reports of Erysiphales from Indiana, for which we were unable to verify their status. The current checklist of Erysiphales in Indiana will be useful for systematic mycologists, plant pathologists, specialists dealing with agricultural quarantine and many other applied scientific fields in agriculture as well as contribute to ongoing efforts to record all extant biodiversity within the state.

Part 1: Fungus-host list based on current names of powdery mildew taxa (Braun & Cook 2012); * indicates new names for Indiana.—

Blumeria graminis (DC.) Speer

Avena sativa L. (Poaceae) – (Schafer & Caldwell 1953; McCain 1994)

Digitaria sanguinalis (L.) Scop. (Poaceae) – (McCain 1994)

Elymus repens (L.) Gould [as *Elytrigia repens* (L.) Desv. ex Nevski] (Poaceae) – (McCain 1994)

Hordeum vulgare L. (Poaceae) – (McCain 1994)

Poa pratensis L. (Poaceae) – (Rose 1886; Underwood 1893; Pipal 1915; Anderson & Anderson 1919; Pecknold et al. 1975; McCain 1994)

Poa sp. (Poaceae) – (PUL-F1658)

Triticum aestivum L. (Poaceae) – (McCain 1994)

Triticum aestivum L. [as *Triticum vulgare* Vill.] (Poaceae) – (Anderson & Anderson 1919; Ruhl et al. 1987)

Triticum aestivum L. [Red Wave] (Poaceae) – (Gardner 1920)

Triticum sp. (Poaceae) – (Van Hook 1911, 1935; Schafer & Caldwell 1953; Ruhl et al. 1981, 1984, 1991)

Unknown grass – (Underwood 1893; Van Hook 1910; Fink & Fuson 1919)

Host not indicated – (Bates et al. 2020)

Erysiphe abbreviata (Peck) U. Braun & S. Takam.

Quercus bicolor Willd. (Fagaceae) – (MyCo-Portal 2020)

Quercus robur L. (Fagaceae) – (PUL-F1532, F1533) (McCain 1994)

Host not indicated – (Bates et al. 2020)

Erysiphe adunca (Wallr.) Fr. var. adunca

Populus tremuloides Michx. (Salicaceae) – (Underwood 1893)

Populus spp. (Salicaceae) – (Pipal 1915)

Salix cordata Michx. (Salicaceae) – (Underwood 1893; Anderson & Anderson 1919)

Salix nigra Marshall (Salicaceae) – (Underwood 1893; Van Hook 1915)

Salix sericea Marshall (Salicaceae) – (Underwood 1893; Anderson & Anderson 1919; Anonymous 1960)

Salix sp. (Salicaceae) – (PUL-F333) (Brannon 1898; McCain 1994)

Unknown plant – (Fink & Fuson 1919)

Host not indicated – (Bates et al. 2020)

***Erysiphe aquilegiae DC. var. aquilegiae**

Aquilegia canadensis L. (Ranunculaceae) – (Underwood 1893; Anderson & Anderson 1919; Van Hook 1935; Anonymous 1960; McCain 1994)

Clematis virginiana L. (Ranunculaceae) – (Rose 1886; Underwood 1893; Brannon 1898; Anderson & Anderson 1919)

Ranunculus abortivus L. (Ranunculaceae) – (Rose 1886; Underwood 1893; Anderson & Anderson 1919; Van Hook 1928)

Ranunculus recurvatus Poir. (Ranunculaceae) – (Underwood 1893; Brannon 1898; Anderson & Anderson 1919)

Thalictrum pubescens Pursh [as *Thalictrum polygamum* Muhl. ex Spreng.] (Ranunculaceae) – (Underwood 1893)

Unknown plant – (Fink & Fuson 1919)

***Erysiphe aquilegiae DC. var. ranunculi (Grev.) R.Y. Zheng & G.Q. Chen**

Anemone sp. (Ranunculaceae) – (Rose 1886; Anderson & Anderson 1919; Anonymous 1960)

Delphinium carolinianum Walter [as *Delphinium azureum* Michx.] (Ranunculaceae) – (Van Hook 1935)

Erysiphe calocladophora (G.F. Atk.) U. Braun & S. Takam.

Quercus spp. (Fagaceae) – (Brannon 1898; Braun & Cook 2012)

Unknown plant – (Fink & Fuson 1919)

Table 1.—List of Erysiphales species in Indiana by host. Details for sources of reports are provided in Part 1.

Host Family	Host species	Erysiphales species
Adoxaceae	<i>Sambucus nigra</i> subsp. <i>canadensis</i>	<i>Erysiphe vanbruntiana</i> var. <i>vanbruntiana</i>
	<i>Viburnum acerifolium</i>	<i>Erysiphe viburni</i>
	<i>Viburnum dentatum</i>	<i>Erysiphe viburni</i>
	<i>Viburnum prunifolium</i>	<i>Erysiphe viburni</i>
	<i>Viburnum</i> sp.	<i>Erysiphe viburni</i>
Anacardiaceae	<i>Rhus aromatica</i>	<i>Podosphaera pruinosa</i>
	<i>Rhus</i> sp.	<i>Podosphaera pruinosa</i>
Aquifoliaceae	<i>Ilex verticillata</i>	<i>Erysiphe nemopantheri</i>
Asteraceae	<i>Ageratina altissima</i>	<i>Neoerysiphe cumminsiana</i>
	<i>Ambrosia artemisiifolia</i>	<i>Golovinomyces ambrosiae</i>
	<i>Ambrosia trifida</i>	<i>Golovinomyces ambrosiae</i>
	<i>Arctium minus</i>	<i>Golovinomyces depressus</i>
	<i>Aster</i> spp.	<i>Golovinomyces asterum</i>
	<i>Bidens connata</i>	<i>Podosphaera xanthii</i>
	<i>Bidens frondosa</i>	<i>Podosphaera xanthii</i>
	<i>Bidens laevis</i>	<i>Podosphaera xanthii</i>
	<i>Chrysanthemum</i> sp.	<i>Golovinomyces chrysanthemi</i>
	<i>Cichorium intybus</i>	<i>Golovinomyces cichoracearum</i>
	<i>Cirsium altissimum</i>	<i>Golovinomyces montagnei</i>
	<i>Cirsium discolor</i>	<i>Golovinomyces montagnei</i>
	<i>Conyza canadensis</i>	<i>Podosphaera erigerontis-canadensis</i>
	<i>Coreopsis trichosperma</i>	<i>Podosphaera xanthii</i>
	<i>Dahlia</i> sp.	<i>Golovinomyces spadiceus</i>
	<i>Erechtites hieraciifolius</i>	<i>Podosphaera xanthii</i>
	<i>Erigeron</i> sp.	<i>Podosphaera erigerontis-canadensis</i>
	<i>Eupatorium perfoliatum</i>	<i>Golovinomyces circumfusus</i>
	<i>Eutrochium purpureum</i>	<i>Golovinomyces circumfusus</i>
	<i>Helianthus annuus</i>	<i>Golovinomyces ambrosiae</i>
	<i>Helianthus decapetalus</i>	<i>Golovinomyces ambrosiae</i>
	<i>Helianthus maximiliani</i>	<i>Golovinomyces ambrosiae</i>
	<i>Helianthus strumosus</i>	<i>Golovinomyces ambrosiae</i>
	<i>Helianthus tuberosus</i>	<i>Golovinomyces ambrosiae</i>
	<i>Helianthus</i> × <i>doronicoides</i>	<i>Golovinomyces ambrosiae</i>
	<i>Helianthus</i> sp.	<i>Golovinomyces ambrosiae</i>
	<i>Heliopsis helianthoides</i>	<i>Golovinomyces ambrosiae</i>
	<i>Hieracium</i> sp.	<i>Podosphaera xanthii</i>
	<i>Lactuca floridana</i> var. <i>villosa</i>	<i>Podosphaera xanthii</i>
	<i>Lactuca</i> sp.	<i>Podosphaera xanthii</i>
	<i>Nabalus altissimus</i>	<i>Podosphaera xanthii</i>
	<i>Rudbeckia laciniata</i>	<i>Golovinomyces ambrosiae</i>
	<i>Rudbeckia triloba</i>	<i>Golovinomyces ambrosiae</i>
	<i>Solidago canadensis</i>	<i>Golovinomyces asterum</i> var. <i>solidaginis</i>
	<i>Solidago flexicaulis</i>	<i>Golovinomyces asterum</i> var. <i>solidaginis</i>
	<i>Solidago gigantea</i>	<i>Golovinomyces asterum</i> var. <i>solidaginis</i>
	<i>Solidago</i> sp.	<i>Golovinomyces asterum</i> var. <i>solidaginis</i> ; <i>Podosphaera xanthii</i>
	<i>Sonchus asper</i>	<i>Podosphaera xanthii</i>
	<i>Symphyotrichum cordifolium</i>	<i>Golovinomyces asterum</i>
	<i>Symphyotrichum ericoides</i>	<i>Golovinomyces asterum</i>
<i>Symphyotrichum lanceolatum</i>	<i>Golovinomyces asterum</i>	
? <i>Symphyotrichum lateriflorum</i> (as <i>Aster tradescantii</i>)	<i>Golovinomyces asterum</i>	
<i>Symphyotrichum novae-angliae</i>	<i>Golovinomyces asterum</i>	
<i>Symphyotrichum oolentangiense</i>	<i>Golovinomyces asterum</i>	
<i>Symphyotrichum puniceum</i>	<i>Golovinomyces asterum</i>	

Table 1.—Continued.

Host Family	Host species	Erysiphales species
	<i>Symphytotrichum undulatum</i>	<i>Golovinomyces asterum</i>
	<i>Taraxacum officinale</i>	<i>Golovinomyces cichoracearum</i> ; <i>Podosphaera erigerontis-canadensis</i>
	<i>Verbesina alternifolia</i>	<i>Golovinomyces spadiceus</i>
	? <i>Verbesina alternifolia</i> (as <i>Helianthus parviflorus</i>)	<i>Golovinomyces ambrosiae</i>
	<i>Vernonia fasciculata</i>	<i>Golovinomyces cichoracearum</i>
	<i>Vernonia gigantea</i>	<i>Golovinomyces cichoracearum</i>
	<i>Vernonia noveboracensis</i>	<i>Golovinomyces cichoracearum</i>
	<i>Xanthium strumarium</i>	<i>Golovinomyces spadiceus</i>
	<i>Zinnia violacea</i>	<i>Golovinomyces spadiceus</i>
	<i>Zinnia</i> sp.	<i>Golovinomyces spadiceus</i>
Betulaceae	<i>Alnus incana</i>	<i>Phyllactinia alnicola</i>
	<i>Betula pumila</i>	<i>Erysiphe ornata</i> var. <i>ornata</i>
	<i>Betula</i> sp.	<i>Phyllactinia betulae</i>
	<i>Carpinus caroliniana</i>	<i>Erysiphe ellisii</i> ; <i>Phyllactinia carpini</i>
	<i>Carpinus</i> sp.	<i>Erysiphe ellisii</i>
	<i>Corylus americana</i>	<i>Phyllactinia guttata</i>
	<i>Corylus</i> sp.	<i>Phyllactinia guttata</i>
	<i>Ostrya virginiana</i>	<i>Erysiphe ellisii</i> ; <i>Phyllactinia ostryae</i>
Bignoniaceae	<i>Campsis radicans</i>	<i>Erysiphe peckii</i>
	<i>Catalpa bignonioides</i>	<i>Phyllactinia catalpae</i>
	<i>Catalpa bungei</i>	<i>Erysiphe elevata</i>
	<i>Catalpa speciosa</i>	<i>Erysiphe elevata</i> ; <i>Phyllactinia catalpae</i>
	<i>Catalpa</i> spp.	<i>Erysiphe elevata</i> ; <i>Phyllactinia catalpae</i>
Boraginaceae	<i>Hydrophyllum appendiculatum</i>	<i>Golovinomyces hydrophyllacearum</i>
	<i>Hydrophyllum canadense</i>	<i>Golovinomyces hydrophyllacearum</i>
	<i>Hydrophyllum macrophyllum</i>	<i>Golovinomyces hydrophyllacearum</i>
	<i>Hydrophyllum virginianum</i>	<i>Golovinomyces hydrophyllacearum</i>
Brassicaceae	<i>Arabidopsis thaliana</i> (from Greenhouse)	<i>Golovinomyces orontii</i>
	<i>Brassica nigra</i>	<i>Erysiphe cruciferarum</i>
	<i>Brassica rapa</i>	<i>Erysiphe cruciferarum</i>
Cannabaceae	<i>Humulus lupulus</i>	<i>Podosphaera macularis</i>
Caprifoliaceae	<i>Lonicera flava</i>	<i>Erysiphe caprifoliacearum</i>
	<i>Lonicera</i> sp.	<i>Erysiphe caprifoliacearum</i>
	<i>Symphoricarpos orbiculatus</i>	<i>Erysiphe symphoricarpi</i>
	<i>Symphoricarpos vulgaris</i>	<i>Erysiphe symphoricarpi</i>
	<i>Symphoricarpos</i> sp.	<i>Erysiphe symphoricarpi</i>
Celastraceae	<i>Celastrus scandens</i>	<i>Phyllactinia celastris</i>
	<i>Euonymus atropurpureus</i>	<i>Erysiphe euonymi</i> ; <i>Erysiphe pseudopusilla</i>
	<i>Euonymus</i> spp.	<i>Erysiphe euonymi</i> ; <i>Erysiphe pseudopusilla</i>
Cornaceae	<i>Cornus florida</i>	<i>Phyllactinia corni</i>
Cucurbitaceae	<i>Cucumis melo</i>	<i>Podosphaera xanthii</i>
	<i>Cucumis melo</i> var. <i>reticulatus</i>	<i>Golovinomyces cucurbitacearum</i>
	<i>Cucumis sativus</i>	<i>Golovinomyces cucurbitacearum</i>
	<i>Cucumis</i> sp.	<i>Golovinomyces cucurbitacearum</i>
	<i>Cucurbita moschata</i>	<i>Golovinomyces cucurbitacearum</i>
	<i>Cucurbita pepo</i>	<i>Podosphaera xanthii</i>
	<i>Cucurbita</i> spp.	<i>Golovinomyces cucurbitacearum</i> ; <i>Podosphaera xanthii</i>
Elaeagnaceae	<i>Shepherdia canadensis</i>	<i>Podosphaera shepherdiae</i>
Ericaceae	<i>Vaccinium</i> sp.	<i>Erysiphe vaccinii</i>
Euphorbiaceae	<i>Euphorbia corollata</i>	<i>Erysiphe euphorbiicola</i>
	<i>Euphorbia marginata</i>	<i>Erysiphe euphorbiicola</i>

Table 1.—Continued.

Host Family	Host species	Erysiphales species	
Fabaceae	<i>Amphicarpaea bracteata</i>	<i>Erysiphe glycines</i>	
	<i>Apios americana</i>	<i>Erysiphe diffusa</i>	
	<i>Desmodium canadense</i>	<i>Erysiphe diffusa</i>	
	<i>Desmodium</i> sp.	<i>Erysiphe diffusa</i>	
	<i>Gleditsia triacanthos</i>	<i>Erysiphe ravenelii</i>	
	<i>Glycine max</i>	<i>Erysiphe glycines</i>	
	<i>Lathyrus latifolius</i>	<i>Erysiphe pisi</i>	
	<i>Lathyrus palustris</i>	<i>Erysiphe pisi</i> ; <i>Erysiphe lathyricola</i>	
	<i>Lathyrus venosus</i>	<i>Erysiphe lathyricola</i>	
	<i>Lespedeza</i> sp.	<i>Erysiphe diffusa</i>	
	<i>Lupinus perennis</i>	<i>Erysiphe pisi</i>	
	? <i>Phaseolus lunatus</i> (as <i>Phaseolus limensis</i>)	<i>Erysiphe diffusa</i>	
	<i>Trifolium hybridum</i>	<i>Erysiphe trifoliorum</i>	
	<i>Trifolium pratense</i>	<i>Erysiphe trifoliorum</i>	
	<i>Trifolium repens</i>	<i>Erysiphe trifoliorum</i>	
	<i>Trifolium</i> sp.	<i>Erysiphe trifoliorum</i>	
	<i>Vigna sinensis</i>	<i>Podosphaera xanthii</i>	
	? <i>Vigna unguiculata</i> (as <i>Dolichos biflorus</i>)	<i>Erysiphe diffusa</i>	
	Fagaceae	<i>Castanea</i> sp.	<i>Phyllactinia angulata</i> var. <i>angulata</i>
		<i>Fagus grandifolia</i>	<i>Erysiphe erineophila</i> ; <i>Phyllactinia angulata</i> var. <i>angulata</i>
<i>Fagus</i> sp.		<i>Erysiphe erineophila</i>	
<i>Quercus alba</i>		<i>Erysiphe extensa</i>	
<i>Quercus bicolor</i>		<i>Erysiphe abbreviata</i> ; <i>Erysiphe extensa</i>	
<i>Quercus coccinea</i>		<i>Phyllactinia angulata</i> var. <i>angulata</i>	
<i>Quercus falcata</i>		<i>Erysiphe extensa</i>	
<i>Quercus lyrata</i>		<i>Erysiphe extensa</i>	
<i>Quercus macrocarpa</i>		<i>Erysiphe extensa</i>	
<i>Quercus muehlenbergii</i>		<i>Erysiphe extensa</i>	
<i>Quercus palustris</i>		<i>Phyllactinia angulata</i> var. <i>angulata</i>	
<i>Quercus robur</i>		<i>Erysiphe abbreviata</i> ; <i>Erysiphe extensa</i>	
<i>Quercus rubra</i>		<i>Erysiphe extensa</i> ; <i>Phyllactinia angulata</i> var. <i>angulata</i>	
<i>Quercus velutina</i>		<i>Erysiphe extensa</i> ; <i>Phyllactinia angulata</i> var. <i>angulata</i>	
<i>Quercus</i> spp.		<i>Erysiphe calocladophora</i> ; <i>Erysiphe extensa</i> ; <i>Phyllactinia angulata</i> var. <i>angulata</i>	
Geraniaceae		<i>Geranium maculatum</i>	<i>Erysiphe geraniacearum</i> ; <i>Podosphaera fugax</i>
Grossulariaceae		<i>Ribes cynosbati</i>	<i>Podosphaera mors-uvae</i>
	<i>Ribes uva-crispa</i> var. <i>sativum</i>	<i>Podosphaera mors-uvae</i>	
	<i>Ribes</i> spp.	<i>Podosphaera mors-uvae</i>	
Hamamelidaceae	<i>Hamamelis virginiana</i>	<i>Podosphaera biuncinata</i>	
Hydrangeaceae	<i>Philadelphus pubescens</i>	<i>Phyllactinia philadelphi</i>	
Juglandaceae	<i>Carya cordiformis</i>	<i>Erysiphe caryae</i>	
	<i>Juglans nigra</i>	<i>Erysiphe juglandis-nigrae</i>	
Lamiaceae	<i>Glechoma hederacea</i>	<i>Golovinomyces biocellatus</i>	
	<i>Monarda fistulosa</i>	<i>Golovinomyces biocellatus</i>	
	<i>Monarda</i> sp.	<i>Golovinomyces biocellatus</i>	
	<i>Prunella vulgaris</i>	<i>Podosphaera elsholtziae</i>	
	<i>Scutellaria elliptica</i>	<i>Neoerysiphe galeopsidis</i>	
	<i>Scutellaria lateriflora</i>	<i>Neoerysiphe galeopsidis</i>	
	<i>Stachys aspera</i>	<i>Neoerysiphe galeopsidis</i>	
	<i>Stachys hyssopifolia</i>	<i>Neoerysiphe galeopsidis</i>	
	<i>Stachys palustris</i>	<i>Neoerysiphe galeopsidis</i>	
<i>Stachys</i> sp.	<i>Neoerysiphe galeopsidis</i>		

Table 1.—Continued.

Host Family	Host species	Erysiphales species
Magnoliaceae	<i>Liriodendron tulipifera</i>	<i>Erysiphe liriodendri</i> ; <i>Phyllactinia liriodendri</i>
Malvaceae	<i>Tilia americana</i>	<i>Erysiphe clintonii</i>
Moraceae	<i>Morus rubra</i>	<i>Erysiphe geniculata</i>
Oleaceae	<i>Fraxinus americana</i>	<i>Phyllactinia fraxini</i>
	<i>Fraxinus nigra</i>	<i>Phyllactinia fraxini</i>
	<i>Fraxinus pennsylvanica</i>	<i>Phyllactinia fraxini</i>
	<i>Fraxinus quadrangulata</i>	<i>Phyllactinia fraxini</i>
	<i>Fraxinus</i> spp.	<i>Phyllactinia fraxini</i>
	<i>Ligustrum</i> spp.	<i>Erysiphe syringae</i>
	<i>Syringa vulgaris</i>	<i>Erysiphe syringae</i>
	<i>Syringa</i> sp.	<i>Erysiphe syringae</i>
Orobanchaceae	<i>Pedicularis lanceolata</i>	<i>Podosphaera phtheirospermi</i>
Oxalidaceae	<i>Oxalis corniculata</i>	<i>Erysiphe russellii</i>
	<i>Oxalis stricta</i>	<i>Erysiphe russellii</i>
Plantaginaceae	<i>Chelone glabra</i>	<i>Golovinomyces orontii</i> ; <i>Neoerysiphe chelones</i>
	<i>Plantago major</i>	<i>Golovinomyces sordidus</i>
	<i>Plantago rugelii</i>	<i>Golovinomyces sordidus</i>
Platanaceae	<i>Platanus occidentalis</i>	<i>Erysiphe platani</i>
	<i>Platanus</i> sp.	<i>Erysiphe platani</i>
Poaceae	<i>Avena sativa</i>	<i>Blumeria graminis</i>
	<i>Digitaria sanguinalis</i>	<i>Blumeria graminis</i>
	<i>Elymus repens</i>	<i>Blumeria graminis</i>
	<i>Hordeum vulgare</i>	<i>Blumeria graminis</i>
	<i>Poa pratensis</i>	<i>Blumeria graminis</i>
	<i>Poa</i> sp.	<i>Blumeria graminis</i>
	<i>Triticum aestivum</i>	<i>Blumeria graminis</i>
	<i>Triticum</i> sp.	<i>Blumeria graminis</i>
	Unknown grass	<i>Blumeria graminis</i>
Polemoniaceae	<i>Phlox divaricata</i>	<i>Golovinomyces magnicellulatus</i> var. <i>magnicellulatus</i>
	<i>Phlox paniculata</i>	<i>Golovinomyces magnicellulatus</i> var. <i>magnicellulatus</i>
	<i>Phlox</i> sp.	<i>Golovinomyces magnicellulatus</i> var. <i>magnicellulatus</i>
Polygonaceae	<i>Fallopia convolvulus</i>	<i>Erysiphe polygoni</i>
	<i>Polygonum aviculare</i>	<i>Erysiphe polygoni</i>
	<i>Polygonum erectum</i>	<i>Erysiphe polygoni</i>
Ranunculaceae	<i>Anemone</i> sp.	<i>Erysiphe aquilegiae</i> var. <i>ranunculi</i>
	<i>Aquilegia canadensis</i>	<i>Erysiphe aquilegiae</i> var. <i>aquilegiae</i>
	<i>Clematis virginiana</i>	<i>Erysiphe aquilegiae</i> var. <i>aquilegiae</i>
	<i>Delphinium carolinianum</i>	<i>Erysiphe aquilegiae</i> var. <i>ranunculi</i>
	<i>Ranunculus abortivus</i>	<i>Erysiphe aquilegiae</i> var. <i>aquilegiae</i>
	<i>Ranunculus recurvatus</i>	<i>Erysiphe aquilegiae</i> var. <i>aquilegiae</i>
	<i>Thalictrum pubescens</i>	<i>Erysiphe aquilegiae</i> var. <i>aquilegiae</i>
Rosaceae	<i>Agrimonia eupatoria</i>	<i>Podosphaera aphanis</i> var. <i>aphanis</i>
	<i>Agrimonia gryposepala</i>	<i>Podosphaera aphanis</i> var. <i>aphanis</i>
	<i>Comarum palustre</i>	<i>Podosphaera aphanis</i> var. <i>aphanis</i>
	<i>Crataegus crus-galli</i>	<i>Podosphaera clandestina</i> var. <i>clandestina</i>
	<i>Crataegus</i> sp.	<i>Podosphaera clandestina</i> var. <i>clandestina</i>
	<i>Crataegus spathulata</i>	<i>Podosphaera clandestina</i> var. <i>perlonga</i>
	<i>Crataegus viridis</i>	<i>Phyllactinia mali</i>
	<i>Cydonia oblonga</i>	<i>Podosphaera clandestina</i> var. <i>clandestina</i>
	<i>Filipendula rubra</i>	<i>Podosphaera filipendulae</i>
	<i>Fragaria</i> spp.	<i>Podosphaera aphanis</i> var. <i>aphanis</i>
	<i>Geum canadense</i>	<i>Podosphaera aphanis</i> var. <i>aphanis</i>

Table 1.—Continued.

Host Family	Host species	Erysiphales species
	<i>Geum</i> sp.	<i>Podosphaera aphanis</i> var. <i>aphanis</i>
	<i>Malus sylvestris</i>	<i>Podosphaera clandestina</i> var. <i>clandestina</i> ; <i>Podosphaera leucotricha</i>
	<i>Malus</i> sp.	<i>Podosphaera leucotricha</i>
	<i>Physocarpus</i> sp.	<i>Podosphaera physocarp</i>
	<i>Prunus americana</i>	<i>Podosphaera prunicola</i>
	<i>Prunus avium</i>	<i>Podosphaera prunicola</i>
	<i>Prunus cerasus</i>	<i>Podosphaera prunicola</i>
	<i>Prunus persica</i>	<i>Podosphaera pannosa</i>
	<i>Prunus</i> spp.	<i>Podosphaera prunicola</i>
	<i>Rosa multiflora</i>	<i>Podosphaera pannosa</i>
	<i>Rosa</i> spp.	<i>Podosphaera pannosa</i>
	<i>Spiraea tomentosa</i>	<i>Podosphaera minor</i>
Rubiaceae	<i>Cephalanthus occidentalis</i>	<i>Erysiphe semitosta</i>
Rutaceae	<i>Zanthoxylum americanum</i>	<i>Phyllactinia zanthoxylicola</i>
Salicaceae	<i>Populus tremuloides</i>	<i>Erysiphe adunca</i> var. <i>adunca</i>
	<i>Populus</i> spp.	<i>Erysiphe adunca</i> var. <i>adunca</i>
	<i>Salix cordata</i>	<i>Erysiphe adunca</i> var. <i>adunca</i>
	<i>Salix nigra</i>	<i>Erysiphe adunca</i> var. <i>adunca</i>
	<i>Salix sericea</i>	<i>Erysiphe adunca</i> var. <i>adunca</i>
	<i>Salix</i> sp.	<i>Erysiphe adunca</i> var. <i>adunca</i>
Sapindaceae	<i>Acer nigrum</i>	<i>Takamatsuella circinata</i>
	<i>Acer rubrum</i>	<i>Takamatsuella circinata</i>
	<i>Acer saccharinum</i>	<i>Takamatsuella circinata</i>
	<i>Acer saccharum</i>	<i>Takamatsuella circinata</i>
	<i>Acer</i> spp.	<i>Takamatsuella circinate</i>
	<i>Aesculus glabra</i>	<i>Erysiphe flexuosa</i>
	<i>Aesculus hippocastanum</i>	<i>Erysiphe flexuosa</i>
	<i>Aesculus × carnea</i>	<i>Erysiphe flexuosa</i>
	<i>Aesculus</i> sp.	<i>Erysiphe flexuosa</i>
Solanaceae	<i>Petunia × hybrida</i>	<i>Podosphaera xanthii</i>
Ulmaceae	<i>Celtis occidentalis</i>	<i>Erysiphe parvula</i> ; <i>Podosphaera phytoptophila</i>
	<i>Ulmus americana</i>	<i>Erysiphe macrospora</i>
	<i>Ulmus rubra</i>	<i>Erysiphe macrospora</i>
	<i>Ulmus</i> spp.	<i>Erysiphe macrospora</i>
Urticaceae	<i>Parietaria canadensis</i> (doubtful host species)	<i>Golovinomyces greeneanus</i>
	<i>Parietaria pensylvanica</i>	<i>Golovinomyces greeneanus</i>
	<i>Pilea pumila</i>	<i>Golovinomyces greeneanus</i>
Verbenaceae	<i>Glandularia × hybrida</i>	<i>Podosphaera xanthii</i>
	<i>Verbena hastata</i>	<i>Golovinomyces verbenae</i>
	<i>Verbena stricta</i>	<i>Golovinomyces verbenae</i>
	<i>Verbena urticifolia</i>	<i>Golovinomyces verbenae</i>
Violaceae	<i>Viola</i> sp.	<i>Podosphaera violae</i>
Vitaceae	<i>Parthenocissus quinquefolia</i>	<i>Erysiphe necator</i> var. <i>ampelopsidis</i>
	<i>Vitis labrusca</i>	<i>Erysiphe necator</i> var. <i>necator</i>
	<i>Vitis riparia</i>	<i>Erysiphe necator</i> var. <i>necator</i>
	<i>Vitis vulpina</i>	<i>Erysiphe necator</i> var. <i>necator</i>
	<i>Vitis</i> spp.	<i>Erysiphe necator</i> var. <i>necator</i>

***Erysiphe caprifoliacearum (U. Braun) U. Braun & S. Takam.**

Lonicera flava Sims (Caprifoliaceae) – (MyCoPortal 2020, as *Microsphaera alni*)

Lonicera sp. (Caprifoliaceae) – (Gardner & Mains 1929; McCain 1994)

Erysiphe caryae (U. Braun) U. Braun & S. Takam.

Carya cordiformis (Wangenh.) K. Koch. [as *Hicoria sulcata* (Willd.) Britton] (Juglandaceae) – (Underwood 1893; MyCoPortal 2020)

Host not indicated – (Bates et al. 2020)

Erysiphe clintonii (Peck) U. Braun & S. Takam.

Tilia americana L. (Malvaceae) – (Underwood 1893; Pipal 1915; Anderson & Anderson 1919)

Unknown plant – (Fink & Fuson 1919)

Host not indicated – (Bates et al. 2020)

Erysiphe cruciferarum Opiz ex L. Junell

Brassica nigra (L.) W.D.J. Koch (Brassicaceae) – (Anderson & Anderson 1919; Anonymous 1960)

Brassica rapa L. (Brassicaceae) – (Gardner 1928; Gardner & Mains 1929; McCain 1994)

Erysiphe diffusa (Cooke & Peck) U. Braun & S. Takam.

Apios americana Medik. (Fabaceae) – (Anonymous 1960; Underwood 1893 as *Apios tuberosa* Moench)

Desmodium canadense (L.) DC. (Fabaceae) – (MyCoPortal 2020)

Desmodium sp. (Fabaceae) – (Brannon 1898)

Lespedeza sp. (Fabaceae) – (Underwood 1893)

?*Phaseolus lunatus* L. [as *Phaseolus limensis* Macfad.] (Fabaceae) – (Anonymous 1960)

?*Vigna unguiculata* (L.) Walp. [as *Dolichos biflorus* L.] (Fabaceae) – (Anonymous 1960)

Host not indicated – (Bates et al. 2020)

Erysiphe elevata (Burrill) U. Braun & S. Takam.

Catalpa bungei C.A. Mey. (Bignoniaceae) – (Van Hook 1928)

Catalpa speciosa (Warder) Warder ex Engelm. (Bignoniaceae) – (Van Hook 1915; Anderson & Anderson 1919)

Catalpa spp. (Bignoniaceae) – (Underwood 1893; Pipal 1915; McCain 1994)

Unknown plant – (Van Hook 1910; Fink & Fuson 1919)

Host not indicated – (Bates et al. 2020)

***Erysiphe ellisii (U. Braun) U. Braun & S. Takam.**

Carpinus caroliniana Walter (Betulaceae) – (Underwood 1893; Anderson & Anderson 1919; Anonymous 1960; MyCoPortal 2020)

Carpinus sp. (Betulaceae) – (Gardner 1928)

Ostrya virginiana (Mill.) K. Koch (Betulaceae) – (Underwood 1893; Gardner 1928; MyCoPortal 2020)

Erysiphe erineophila (Peck) U. Braun & S. Takam.

Fagus grandifolia Ehrh. [as *Fagus ferruginea* Aiton] (Fagaceae) – (Underwood 1893)

Fagus grandifolia [as “on Erineum of *Fagus ferruginea*”] (Fagaceae) – (Underwood 1893)

Fagus sp. (Fagaceae) – (Pipal 1915)

Unknown plant – (Fink & Fuson 1919)

Host not indicated – (Bates et al. 2020)

Erysiphe euonymi DC.

Euonymus atropurpureus Jacq. (Celastraceae) – (Cooke 1975)

Euonymus sp. (Celastraceae) – (Fink & Fuson 1918; McCain 1994)

Unknown plant – (Fink & Fuson 1919)

Host not indicated – (Bates et al. 2020)

***Erysiphe euphorbiicola U. Braun & S. Takam.**

Euphorbia corollata L. (Euphorbiaceae) – (Brannon 1898; Underwood 1893; McCain 1994)

Euphorbia marginata Pursh (Euphorbiaceae) – (Anderson & Anderson 1919; Anonymous 1960)

Unknown plant – (Fink & Fuson 1919)

Host not indicated – (Bates et al. 2020)

Erysiphe extensa (Cooke & Peck) U. Braun & S. Takam.

Quercus alba L. (Fagaceae) – (Underwood 1893; Gardner 1928)

Quercus bicolor Willd. (Fagaceae) – (Underwood 1893)

Quercus falcata Michx. (Fagaceae) – (Brannon 1898)

Quercus lyrata Walter (Fagaceae) – (Underwood 1893)

Quercus macrocarpa Michx. (Fagaceae) – (Underwood 1893)

Quercus muehlenbergii Engelm. (Fagaceae) – (Underwood 1893)

Quercus robur L. (Fagaceae) – (Anonymous 1960)

Quercus rubra L. (Fagaceae) – (Underwood 1893; Anderson & Anderson 1919)

Quercus velutina Lam. (Fagaceae) – (Anderson & Anderson 1919; Gardner 1928)

Quercus spp. (Fagaceae) – (Underwood 1893; Brannon 1898; Salmon 1900; Pipal 1915;

- Anderson & Anderson 1919; Van Hook 1921; Ruhl et al. 1981)
 Unknown plant – (Fink & Fuson 1919)
 Host not indicated – (Bates et al. 2020)
Erysiphe flexuosa (Peck) U. Braun & S. Takam.
Aesculus × *carnea* Hayne (Sapindaceae) – (Van Hook 1935; Anonymous 1960)
Aesculus glabra Willd. (Sapindaceae) – (Underwood 1893; Pipal 1915; Anderson & Anderson 1919; Van Hook 1928)
Aesculus hippocastanum L. (Sapindaceae) – (Cooke 1986; Underwood 1893; Pipal 1915)
Aesculus sp. (Sapindaceae) – (Brannon 1898)
 Unknown plant – (Fink & Fuson 1919)
 Host not indicated – (Bates et al. 2020)
Erysiphe geniculata (W.R. Gerard) U. Braun & S. Takam.
Morus rubra L. (Moraceae) – (Underwood 1893; Anderson & Anderson 1919)
 Unknown plant – (Fink & Fuson 1919)
 Host not indicated – (Bates et al. 2020)
**Erysiphe geraniacearum* U. Braun & Simonyan
Geranium maculatum L. (Geraniaceae) – (Underwood 1893; Anderson & Anderson 1919; Anonymous 1960)
**Erysiphe glycines* F.L. Tai
Amphicarpaea bracteata (L.) Fernald [as *Amphicarpaea monoica* (L.) Elliott] (Fabaceae) – (Underwood 1893; Anderson & Anderson 1919)
Glycine max (L.) Merr. (Fabaceae) – (Pecknold et al. 1975; Stevenson et al. 1976)
Erysiphe grossulariae (Wallr.) de Bary
 Unknown plant – (Fink & Fuson 1919)
 Host not indicated – (Bates et al. 2020)
**Erysiphe juglandis-nigrae* (U. Braun) U. Braun & S. Takam.
Juglans nigra L. (Juglandaceae) – (Underwood 1893; Pipal 1915; Anderson & Anderson 1919)
**Erysiphe lathyricola* U. Braun
Lathyrus palustris L. [as *Lathyrus myrtifolius*] (Fabaceae) – (MyCoPortal 2020)
Lathyrus venosus Muhl. ex Willd. (Fabaceae) – (MyCoPortal 2020)
Erysiphe liriodendri Schwein.
Liriodendron tulipifera L. (Magnoliaceae) – (Underwood 1893; Pipal 1915; Anderson & Anderson 1919; Van Hook 1924; Ruhl et al. 1981, 1983, 1984; McCain 1994)
 Unknown plant – (Fink & Fuson 1919)
 Host not indicated – (Bates et al. 2020)
Erysiphe macrospora (Peck) U. Braun & S. Takam.
Ulmus americana L. (Ulmaceae) – (Underwood 1893; Anderson & Anderson 1919; Van Hook 1935)
Ulmus rubra Muhl. [as *Ulmus fulva* Michx.] (Ulmaceae) – (Underwood 1893; Anderson & Anderson 1919)
Ulmus spp. (Ulmaceae) – (Pipal 1915)
 Unknown plant – (Fink & Fuson 1919)
 Host not indicated – (Bates et al. 2020)
Erysiphe necator Schwein. var. *necator*
Vitis labrusca L. (Vitaceae) – (Anderson & Anderson 1919)
Vitis riparia Michx. (Vitaceae) – (Underwood 1894)
Vitis vulpina L. (Vitaceae) – (Anderson & Anderson 1919)
Vitis vulpina [as *Vitis cordifolia* Michx.] (Vitaceae) – (Underwood 1893; Anderson & Anderson 1919; Van Hook 1928; MyCoPortal 2020)
Vitis (The grape) (Vitaceae) – (Rose 1886; MyCoPortal 2020)
Vitis (Thompson seedless grape) (Vitaceae) – (Van Hook 1935)
Vitis spp. (Vitaceae) – (Underwood 1893; Pipal 1915; Van Hook 1915; Pecknold et al. 1975; Stevenson et al. 1976)
 Unknown plant – (Fink & Fuson 1919)
 Host not indicated – (Bates et al. 2020)
Erysiphe necator Schwein. var. *ampelopsidis* (Peck) U. Braun & S. Takam.
Parthenocissus quinquefolia (L.) Planch. (Vitaceae) – (PUL-F1486) (McCain 1994)
Parthenocissus quinquefolia (L.) Planch. [as *Ampelopsis quinquefolia* (L.) Michx.] (Vitaceae) – (Underwood 1893; Brannon 1898; Van Hook 1928)
Parthenocissus quinquefolia (L.) Planch. [as *Psedera quinquefolia* (L.) Greene] (Vitaceae) – (Anderson & Anderson 1919)
 Unknown plant – (Fink & Fuson 1919)
**Erysiphe nemopanthei* (Peck) U. Braun & S. Takam.
Ilex verticillata (L.) A. Gray (Aquifoliaceae) – (Underwood 1893)
**Erysiphe ornata* (U. Braun) U. Braun & S. Takam. var. *ornata*
Betula pumila L. (Betulaceae) – (Underwood 1893)
Erysiphe parvula (Cooke & Peck) U. Braun & S. Takam.
Celtis occidentalis L. (Cannabaceae) – (Underwood 1893)
 Unknown plant – (Fink & Fuson 1919)

Host not indicated – (Bates et al. 2020)

Erysiphe peckii (U. Braun) U. Braun & S. Takam.

Campsis radicans (L.) Seem. ex Bureau (Bignoniaceae) – (Anonymous 1960; Braun 1987; Braun & Cook 2012)

Campsis radicans [as *Tecoma radicans* (L.) Juss.] (Bignoniaceae) – (Underwood 1893)

Host not indicated – (Bates et al. 2020)

Erysiphe pisi DC.

Lathyrus latifolius L. (Fabaceae) – (MyCoPortal 2020)

Lathyrus palustris L. (Fabaceae) – (Underwood 1893)

Lupinus perennis L. (Fabaceae) – (MyCoPortal 2020)

Host not indicated – (Bates et al. 2020)

Erysiphe platanii (Howe) U. Braun & S. Takam.

Platanus occidentalis L. (Platanaceae) – (Rose 1886; Underwood 1893; Pipal 1915; Van Hook 1915; Anderson & Anderson 1919; Gardner 1928; Anonymous 1960)

Platanus sp. (Platanaceae) – (Ruhl et al. 1981, 1983)

Unknown plant – (Fink & Fuson 1919)

Host not indicated – (Bates et al. 2020)

Erysiphe polygoni DC.

Fallopia convolvulus (L.) Á. Löve (Polygonaceae) – (Anderson & Anderson 1919; Anonymous 1960)

Polygonum aviculare L. (Polygonaceae) – (Van Hook 1911; Anderson & Anderson 1919)

Polygonum erectum L. (Polygonaceae) – (Anderson & Anderson 1919)

Host not indicated – (Bates et al. 2020)

Erysiphe pseudopusilla U. Braun & S. Takam.

Euonymus atropurpureus Jacq. (Celastraceae) – (Underwood 1893; Anderson & Anderson 1919; Van Hook 1930; Braun & Cook 2012; MyCoPortal 2020)

Euonymus sp. (Celastraceae) – (Stevenson et al. 1976)

Host not indicated – (Bates et al. 2020)

Erysiphe ravenelii (Berk.) U. Braun & S. Takam.

Gleditsia triacanthos L. (Fabaceae) – (PUL-F306) (Underwood 1893; Brannon 1898; Pipal 1915; Anderson & Anderson 1919; Van Hook 1928; McCain 1994)

Unknown plant – (Fink & Fuson 1919)

Host not indicated – (Bates et al. 2020)

Erysiphe russellii (Clinton) U. Braun & S. Takam.

Oxalis corniculata L. (Oxalidaceae) – (Anderson & Anderson 1919)

Oxalis stricta L. (Oxalidaceae) – (Rose 1886; Underwood 1893)

Unknown plant – (Fink & Fuson 1919)

Host not indicated – (Bates et al. 2020)

Erysiphe semitosta (Berk. & M.A. Curtis ex Cooke & Peck) U. Braun & S. Takam.

Cephalanthus occidentalis L. (Rubiaceae) – (Underwood 1893; Anonymous 1960; MyCoPortal 2020)

Unknown plant – (Fink & Fuson 1919)

Host not indicated – (Bates et al. 2020)

Erysiphe symphoricarpi (Howe) U. Braun & S. Takam.

Symphoricarpos orbiculatus Moench (Caprifoliaceae) – (Anderson & Anderson 1919; Gardner & Mains 1929)

Symphoricarpos vulgaris Michx. (Caprifoliaceae) – (Underwood 1893)

Symphoricarpos sp. (Caprifoliaceae) – (McCain 1994)

Unknown plant – (Fink & Fuson 1919)

Host not indicated – (Bates et al. 2020)

Erysiphe syringae Schwein.

Ligustrum spp. (Oleaceae) – (Anonymous 1960; Ruhl et al. 1981)

Syringa vulgaris L. (Oleaceae) – (PUL-F304, F1534) (Rose 1886; Underwood 1893; Pipal 1915; Anderson & Anderson 1919; Ruhl et al. 1987; McCain 1994; MyCoPortal 2020)

Syringa sp. (Oleaceae) – (Pecknold et al. 1975; Stevenson et al. 1976; Ruhl et al. 1984)

Unknown plant – (Fink & Fuson 1919)

Host not indicated – (Bates et al. 2020)

Erysiphe trifoliorum (Wallr.) U. Braun

Trifolium hybridum L. (Fabaceae) – (Van Hook 1928)

Trifolium pratense L. (Fabaceae) – (PUL-F1528) (Van Hook 1928; McCain 1994)

Trifolium repens L. (Fabaceae) – (Van Hook 1928)

Trifolium sp. (Fabaceae) – (Gardner 1927; MyCoPortal 2020)

Host not indicated – (Bates et al. 2020)

Erysiphe vaccinii Schwein.

Vaccinium sp. (Ericaceae) – (Underwood 1893; McCain 1994)

Unknown plant – (Fink & Fuson 1919)

Host not indicated – (Bates et al. 2020)

Erysiphe vanbruntiana (W.R. Gerard) U. Braun & S. Takam. var. vanbruntiana

Sambucus nigra L. subsp. *canadensis* (L.) R. Bolli [as *Sambucus canadensis* L.] (Adoxa-

- ceae) – (Rose 1886; Underwood 1893; Anderson & Anderson 1919; MyCoPortal 2020)
- Erysiphe viburni* Duby**
- Viburnum acerifolium* L. (Adoxaceae) – (Underwood 1893)
- Viburnum dentatum* L. (Adoxaceae) – (Underwood 1893)
- Viburnum dentatum* [as *Viburnum pubescens* (Aiton) Pursh] (Adoxaceae) – (Underwood 1893)
- Viburnum prunifolium* L. (Adoxaceae) – (Underwood 1893; Lee 1929)
- Viburnum* sp. (Adoxaceae) – (PUL-F1535, cultivated) (Ruhl et al. 1984; MyCoPortal 2020)
- Host not indicated – (Bates et al. 2020)
- **Golovinomyces ambrosiae* (Schwein.) U. Braun & R.T.A. Cook**
- Ambrosia artemisiifolia* L. (Asteraceae) – (Rose 1886; Underwood 1893; Anderson & Anderson 1919)
- Ambrosia trifida* L. (Asteraceae) – (Underwood 1893; Brannon 1898; Van Hook 1915, 1935; Anderson & Anderson 1919; Saenz & Taylor 1999)
- Helianthus annuus* L. (Asteraceae) – (Rose 1886; Underwood 1893; Anderson & Anderson 1919; McCain 1994)
- Helianthus decapetalus* L. (Asteraceae) – (Underwood 1893; Anderson & Anderson 1919)
- Helianthus* × *doronicoides* Lam. (Asteraceae) – (Rose 1886; Anderson & Anderson 1919)
- Helianthus maximiliani* Schrad. (Asteraceae) – (MyCoPortal 2020)
- Helianthus strumosus* L. (Asteraceae) – (Underwood 1894; Anderson & Anderson 1919)
- Helianthus tuberosus* L. (Asteraceae) – (Underwood 1893; Anderson & Anderson 1919; McCain 1994)
- Helianthus* sp. (Asteraceae) – (Van Hook 1935; McCain 1994)
- Heliopsis helianthoides* (L.) Sweet (Asteraceae) – (McCain 1994)
- Rudbeckia laciniata* L. (Asteraceae) – (Anderson & Anderson 1919)
- Rudbeckia triloba* L. (Asteraceae) – (Anderson & Anderson 1919)
- ?*Verbesina alternifolia* (L.) Britton ex Kearney [as *Helianthus parviflorus* Bernh. ex Spreng.] (Asteraceae) – (Underwood 1893)
- **Golovinomyces asterum* (Schwein.) U. Braun**
- Aster* spp. (Asteraceae) – (Underwood 1893; Anderson & Anderson 1919; Van Hook 1921)
- Symphotrichum cordifolium* (L.) G.L. Nesom [as *Aster cordifolius* L.] (Asteraceae) – (Underwood 1893; Brannon 1898)
- Symphotrichum ericoides* (L.) G.L. Nesom [as *Aster ericoides* L.] (Asteraceae) – (Underwood 1893; Anderson & Anderson 1919)
- Symphotrichum lanceolatum* (Willd.) G.L. Nesom [as *Aster paniculatus* Lam.] (Asteraceae) – (Underwood 1893; Anderson & Anderson 1919)
- ?*Symphotrichum lateriflorum* (L.) Á. Löve & D. Löve [as *Aster tradescantii* L.] (Asteraceae) – (Underwood 1893)
- Symphotrichum novae-angliae* (L.) G.L. Nesom [as *Aster novae-angliae* L.] (Asteraceae) – (Underwood 1893; Anderson & Anderson 1919)
- Symphotrichum oolentangiense* (Riddell) G.L. Nesom [as *Aster azureus* Lindl.] (Asteraceae) – (Underwood 1893; Anderson & Anderson 1919)
- Symphotrichum puniceum* (L.) Á. Löve & D. Löve [as *Aster puniceus* L.] (Asteraceae) – (Underwood 1893)
- Symphotrichum undulatum* (L.) G.L. Nesom [as *Aster undulatus* L.] (Asteraceae) – (Brannon 1898)
- **Golovinomyces asterum* (Schwein.) U. Braun var. *solidaginis* U. Braun**
- Solidago canadensis* L. (Asteraceae) – (Rose 1886; Underwood 1893; Anderson & Anderson 1919)
- Solidago flexicaulis* L. [as *Solidago latifolia* L.] (Asteraceae) – (Underwood 1893; Anderson & Anderson 1919)
- Solidago gigantea* Aiton [as *Solidago serotina* Aiton] (Asteraceae) – (Underwood 1893)
- Solidago* sp. (Asteraceae) – (Van Hook 1915)
- Golovinomyces biocellatus* (Ehrenb.) V.P. Heluta**
- Glechoma hederacea* L. (Lamiaceae) – (PUL-F1687, F1689) (Scholler et al. 2016)
- Monarda fistulosa* L. (Lamiaceae) – (Saenz & Taylor 1999)
- Monarda* sp. (Lamiaceae) – (PUL-F1568)
- Golovinomyces cichoracearum* (DC.) V.P. Heluta, s.str. emend Braun & Cook 2012**
- Cichorium intybus* L. (Asteraceae) – (Saenz & Taylor 1999; Cook et al. 2006)
- Taraxacum officinale* F.H. Wigg. (Asteraceae) – (Van Hook 1921; Anonymous 1960)

- Vernonia fasciculata* Michx. (Asteraceae) – (BPI 561923) (Rose 1886; Underwood 1893; Anderson & Anderson 1919)
- Vernonia gigantea* (Walter) Trel. [as *Vernonia altissima* Nutt.] (Asteraceae) – (Anderson & Anderson 1919)
- Vernonia noveboracensis* (L.) Michx. (Asteraceae) – (Underwood 1893; Van Hook 1915)
- **Golovinomyces chrysanthemi* (Rabenh.) M. Bradshaw, U. Braun, J. Meeboon & S. Takam.**
- Chrysanthemum* sp. (Asteraceae) – (Pecknold et al. 1975)
- **Golovinomyces circumfusus* (Schltld.) U. Braun**
- Eupatorium perfoliatum* L. (Asteraceae) – (Rose 1886; Underwood 1893; Anderson & Anderson 1919)
- Eutrochium purpureum* (L.) E.E. Lamont [as *Eupatorium purpureum* L.] (Asteraceae) – (Underwood 1893; Brannon 1898; Anderson & Anderson 1919)
- Golovinomyces cucurbitacearum* (R.Y. Zheng & G.Q. Chen) Vakal. & Kliron.**
- Cucumis melo* L. var. *reticulatus* Naud. (Cucurbitaceae) – (Stevenson et al. 1976)
- Cucumis sativus* L. (Cucurbitaceae) – (Pipal 1915; Ruhl et al. 1981)
- Cucumis* sp. (Cucurbitaceae) – (Gardner 1920, 1928)
- Cucurbita moschata* Duchesne (Cucurbitaceae) – (Ruhl et al. 1981)
- Cucurbita* [Pumpkin] (Cucurbitaceae) – (Gardner 1927)
- Cucurbita* sp. (Cucurbitaceae) – (McCain 1994)
- **Golovinomyces depressus* (Wallr.) V.P. Heluta**
- Arctium minus* Bernh. (Asteraceae) – (McCain 1994)
- Golovinomyces greeneanus* (U. Braun) V.P. Heluta**
- Parietaria canadensis* (doubtful host species) (Urticaceae) – (Underwood 1893)
- Parietaria pensylvanica* Muhl. ex Willd. (Urticaceae) – (Anderson & Anderson 1919)
- Pilea pumila* (L.) A. Gray (Urticaceae) – (Underwood 1893; Anderson & Anderson 1919; Anonymous 1960)
- Members of Urticaceae – (Braun & Cook 2012)
- Golovinomyces hydrophyllacearum* (U. Braun) V.P. Heluta**
- Hydrophyllum appendiculatum* Michx. (Boraginaceae) – (PUL-F3499) (Underwood 1893; Anderson & Anderson 1919)
- Hydrophyllum canadense* L. (Boraginaceae) – (Anderson & Anderson 1919)
- Hydrophyllum macrophyllum* Nutt. (Boraginaceae) – (Underwood 1893; Anderson & Anderson 1919)
- Hydrophyllum virginianum* L. (Boraginaceae) – (PUL-F1683) (Underwood 1893; Anderson & Anderson 1919)
- Golovinomyces magnicellulatus* (U. Braun) V.P. Heluta var. *magnicellulatus***
- Phlox divaricata* L. (Polemoniaceae) – (Anderson & Anderson 1919; Anonymous 1960)
- Phlox paniculata* L. (Polemoniaceae) – (Underwood 1893; Anderson & Anderson 1919; Saenz & Taylor 1999)
- Phlox* sp. (Polemoniaceae) – (PUL-F1524) (Gardner 1927; Ruhl et al. 1981)
- **Golovinomyces montagnei* U. Braun**
- Cirsium altissimum* (L.) Hill (Asteraceae) – (Anderson & Anderson 1919)
- Cirsium altissimum* [as *Cnicus altissimus* Willd.] (Asteraceae) – (Underwood 1893)
- Cirsium discolor* (Muhl. ex Willd.) Spreng. [as *Cnicus altissimus* var. *discolor* (Muhl. ex Willd.) A. Gray] (Asteraceae) – (Rose 1886)
- Golovinomyces orontii* (Castagne) V.P. Heluta**
- Arabidopsis thaliana* (L.) Heynh. (Brassicaceae) – (PUL-F1690, from Greenhouse)
- Chelone glabra* L. (Plantaginaceae) – (Anonymous 1960)
- Golovinomyces sordidus* (L. Junell) V.P. Heluta**
- Plantago major* L. (Plantaginaceae) – (Anderson & Anderson 1919; Saenz & Taylor 1999)
- Plantago rugelii* Decne. (Plantaginaceae) – (Van Hook 1915)
- **Golovinomyces spadiceus* (Berk. & M.A. Curtis) U. Braun**
- Dahlia* sp. (Asteraceae) – (Gardner 1928)
- Verbesina alternifolia* (L.) Britton ex Kearney [as *Actinomeris alternifolia* (L.) DC.; as *Actinomeris squarrosa* Nutt.] (Asteraceae) – (PUL-F2674, PUL-F1525, BPI559336) (Anderson & Anderson 1919; Rose 1886; Underwood 1893)
- Xanthium strumarium* L. (Asteraceae) – (Underwood 1893; Anderson & Anderson 1919)
- Zinnia violacea* Cav. [as *Zinnia elegans* Jacq.] (Asteraceae) – (Underwood 1893; Van Hook 1928; Van Hook 1935; McCain 1994)
- Zinnia* sp. (Asteraceae) – (Pecknold et al. 1975; Ruhl et al. 1987)
- **Golovinomyces verbenae* (Schwein.) V.P. Heluta**
- Verbena hastata* L. (Verbenaceae) – (Underwood 1893)

- Verbena stricta* Vent. (Verbenaceae) – (Underwood 1893; Brannon 1898; Anderson & Anderson 1919; McCain 1994)
- Verbena urticifolia* L. (Verbenaceae) – (Rose 1886; Underwood 1893; Anderson & Anderson 1919)
- **Neoerysiphe chelones* (Schwein.) U. Braun**
- Chelone glabra* L. (Plantaginaceae) – (Underwood 1893)
- Neoerysiphe cumminsiana* (U. Braun) U. Braun**
- Ageratina altissima* (L.) R.M. King & H. Rob. var. *altissima* [as *Eupatorium rugosum* Houtt.] (Asteraceae) – (Saenz & Taylor 1999; Takamatsu et al. 2008)
- Neoerysiphe galeopsidis* (DC.) U. Braun**
- Scutellaria elliptica* Muhl. ex Spreng. [as *Scutellaria pilosa* Michx.] (Lamiaceae) – (Underwood 1893)
- Scutellaria lateriflora* L. (Lamiaceae) – (Underwood 1893; Anderson & Anderson 1919; Anonymous 1960)
- Stachys aspera* Michx. (Lamiaceae) – (Underwood 1893)
- Stachys hyssopifolia* Michx. (Lamiaceae) – (MyCoPortal 2020)
- Stachys palustris* L. (Lamiaceae) – (MyCoPortal 2020)
- Stachys* sp. (Lamiaceae) – (Saenz & Taylor 1999; Takamatsu et al. 2008)
- Unknown plant – (Fink & Fuson 1919)
- **Phyllactinia alnicola* U. Braun**
- Alnus incana* (L.) Moench (Betulaceae) – (MyCoPortal 2020)
- **Phyllactinia angulata* (E.S. Salmon) S. Blumer var. *angulata***
- Castanea* sp. (Fagaceae) – (Anonymous 1960)
- Fagus grandifolia* Ehrh. [as *Fagus americana* Sweet] (Fagaceae) – (MyCoPortal 2020)
- Quercus coccinea* Münchh. (Fagaceae) – (Underwood 1893; Anderson & Anderson 1919)
- Quercus palustris* Münchh. (Fagaceae) – (Underwood 1893; Anderson & Anderson 1919; McCain 1994)
- Quercus rubra* L. (Fagaceae) – (Underwood 1893; Lee 1929; Van Hook 1930)
- Quercus velutina* Lam. (Fagaceae) – (Anonymous 1960)
- Quercus* sp. (Fagaceae) – (PUL-F318) (Pipal 1915; Pecknold et al. 1975; Ruhl 1981)
- Host not indicated – (Bates et al. 2020)
- **Phyllactinia betulae* (DC.) Fuss**
- Betula* sp. (Betulaceae) – (Ruhl et al. 1984; MyCoPortal 2020)
- **Phyllactinia carpinii* (Rabenh.) Fuss**
- Carpinus caroliniana* Walter (Betulaceae) – (Underwood 1893; Anderson & Anderson 1919; Anonymous 1960; MyCoPortal 2020)
- Phyllactinia catalpae* U. Braun**
- Catalpa bignonioides* Walter (Bignoniaceae) – (Underwood 1893; Anderson & Anderson 1919; Anonymous 1960; Braun & Cook 2012)
- Catalpa speciosa* (Warder) Warder ex Engelm. (Bignoniaceae) – (Anonymous 1960; Braun & Cook 2012)
- Catalpa* sp. (Bignoniaceae) – (Pipal 1915)
- **Phyllactinia celastri* U. Braun**
- Celastrus scandens* L. (Celastraceae) – (Underwood 1893; Anderson & Anderson 1919; Van Hook 1935)
- **Phyllactinia corni* H.D. Shin & M.J. Park**
- Cornus florida* L. (Cornaceae) – (Rose 1886; Underwood 1893; Anderson & Anderson 1919)
- Phyllactinia fraxini* (DC.) Fuss**
- Fraxinus americana* L. (Oleaceae) – (Underwood 1893; Anderson & Anderson 1919; MyCoPortal 2020)
- Fraxinus nigra* Marshall (Oleaceae) – (Anderson & Anderson 1919); [as *Fraxinus sambucifolia* Lam.] – (Underwood 1893; Van Hook 1915)
- Fraxinus pennsylvanica* Marshall [as *Fraxinus pubescens* Lam.] (Oleaceae) – (Underwood 1893)
- Fraxinus quadrangulata* Michx. (Oleaceae) – (Underwood 1893; Anonymous 1960)
- Fraxinus* spp. (Oleaceae) – (Pipal 1915)
- Host not indicated – (Bates et al. 2020)
- Phyllactinia guttata* (Wallr.) Lévy.**
- Corylus americana* Walter (Betulaceae) – (Underwood 1893; Anderson & Anderson 1919)
- Corylus* sp. (Betulaceae) – (Rose 1886)
- Unknown plant – (Fink & Fuson 1919)
- Host not indicated – (Bates et al. 2020)
- Phyllactinia liriodendri* U. Braun**
- Liriodendron tulipifera* L. (Magnoliaceae) – (Underwood 1893; Pipal 1915; Anderson & Anderson 1919; Braun & Cook 2012)
- **Phyllactinia mali* (Duby) U. Braun**
- Crataegus viridis* L. (Rosaceae) – (PUL-F2740)
- Phyllactinia ostryae* U. Braun**
- Ostrya virginiana* (Mill.) K. Koch (Betulaceae) – (Underwood 1893; Anderson & Anderson 1919; Braun & Cook 2012)
- **Phyllactinia philadelphii* (Jacz.) Bunkina**

- Philadelphus pubescens* Loisel. (as *Philadelphus verrucosus* Schrad.) (Hydrangeaceae) – (PUL-F319, F1696) (McCain 1994)
- Philadelphus pubescens* Loisel. (Hydrangeaceae) – (MyCoPortal 2020)
- **Phyllactinia zanthoxylicola* U. Braun**
- Zanthoxylum americanum* Mill. (Rutaceae) – (Anderson & Anderson 1919)
- Zanthoxylum americanum* [as *Xanthoxylum americana*] (Rutaceae) – (Underwood 1893)
- Podosphaera aphanis* (Wallr.) U. Braun & S. Takam. var. *aphanis***
- Agrimonia eupatoria* L. (Rosaceae) – (Underwood 1893; MyCoPortal 2020)
- Agrimonia gryposepala* Wallr. (Rosaceae) – (Anderson & Anderson 1919)
- Comarum palustre* L. [as *Potentilla palustris* (L.) Scop.] (Rosaceae) – (Underwood 1893)
- Fragaria* spp. (Rosaceae) – (Pipal 1915)
- Geum canadense* Jacq. (Rosaceae) – (Anonymous 1960)
- Geum* sp. [as *Geum album* J.F. Gmel.] (Rosaceae) – (Underwood 1893)
- Podosphaera biuncinata* Cooke & Peck**
- Hamamelis virginiana* L. (Hamamelidaceae) – (Underwood 1893; Van Hook 1922)
- Unknown plant – (Fink & Fuson 1919)
- Host not indicated – (Bates et al. 2020)
- Podosphaera clandestina* (Wallr.) Lév. var. *clandestina***
- Crataegus crus-galli* L. (Rosaceae) – (Underwood 1893)
- Crataegus* sp. [as *Crataegus tomentosa* L.] (Rosaceae) – (Underwood 1893)
- Cydonia oblonga* Mill. [as *Cydonia vulgaris* Pers.] (Rosaceae) – (Rose 1886; Underwood 1893; Pipal 1915; Anderson & Anderson 1919)
- Malus sylvestris* (L.) Mill. [as *Pyrus malus* L.] (Rosaceae) – (Pipal 1915; Ruhl et al. 1981)
- Host not indicated – (Bates et al. 2020)
- Podosphaera clandestina* (Wallr.) Lév. var. *perlonga* U. Braun**
- Crataegus spathulata* Michx. (Rosaceae) – (Underwood 1893; Braun & Cook 2012)
- **Podosphaera elsholtziae* (Z.Y. Zhao) T.Z. Liu & U. Braun**
- Prunella vulgaris* L. (Lamiaceae) – (Underwood 1893; Fink & Fuson 1918; Anderson & Anderson 1919; Van Hook 1928; Anonymous 1960)
- **Podosphaera erigerontis-canadensis* (Lév.) U. Braun & T.Z. Liu**
- Conyza canadensis* (L.) Cronquist [as *Erigeron canadensis* L.] (Asteraceae) – (Underwood 1893)
- Erigeron* sp. (Asteraceae) – (Rose 1886; Anderson & Anderson 1919; Anonymous 1960)
- Taraxacum officinale* F.H. Wigg. (Asteraceae) – (Underwood 1893; Van Hook 1915; Anderson & Anderson 1919; McCain 1994); [as *Taraxacum dens-leonis* Desf.] – (Rose 1886)
- **Podosphaera filipendulae* (Z.Y. Zhao) T.Z. Liu & U. Braun**
- Filipendula rubra* (Hill) B.L. Rob. (Rosaceae) – (Anonymous 1960; MyCoPortal 2020)
- Podosphaera fugax* (Penz. & Sacc.) U. Braun & S. Takam.**
- Geranium maculatum* L. (Geraniaceae) – (PUL-F326) (McCain 1994; MyCoPortal 2020)
- Podosphaera fuliginea* (Schlttdl.) U. Braun & S. Takam**
- Host not indicated – (Bates et al. 2020)
- Podosphaera leucotricha* (Ellis & Everh.) E.S. Salmon**
- Malus sylvestris* (L.) Mill. [as *Pyrus malus* L.] (Rosaceae) – (Pipal 1015; McCain 1994)
- Malus sylvestris* (L.) Mill. (Rosaceae) – (Pecknold et al. 1975; Stevenson et al. 1976)
- Malus* sp. [Crab apple] (Rosaceae) – (Pecknold et al. 1975; Stevenson et al. 1976)
- Unknown plant – (Fink & Fuson 1919)
- Host not indicated – (Bates et al. 2020)
- **Podosphaera macularis* (Wallr.) U. Braun & S. Takam.**
- Humulus lupulus* L. (Cannabaceae) (PUL-F2873, F2874)
- Host not indicated – (Bates et al. 2020)
- **Podosphaera minor* Howe**
- Spiraea tomentosa* L. (Rosaceae) – (Underwood 1893)
- Podosphaera mors-uvae* (Schwein.) U. Braun & S. Takam.**
- Ribes cynosbati* L. (Grossulariaceae) – (Underwood 1893; Anderson & Anderson 1919)
- Ribes uva-crispa* L. var. *sativum* DC. [as *Ribes grossularia* L.] (Grossulariaceae) – (Pipal 1915)
- Ribes* spp. (Grossulariaceae) – (Pipal 1915; Stevenson et al. 1976)
- Unknown plant – (Fink & Fuson 1919)
- Host not indicated – (Bates et al. 2020)
- Podosphaera pannosa* (Wallr.) de Bary**
- Prunus persica* (L.) Batsch [as *Amygdalus persica* L.] (Rosaceae) – (Pipal 1915)
- Rosa multiflora* Thunb. (Rosaceae) – (McCain 1994)

- Rosa* ‘Crimson Rambler’ (Rosaceae) – (Gardner 1928)
- Rosa* ‘Dorothy Perkins’ (Rosaceae) – (Gardner 1928; Gardner & Mains 1929)
- Rosa* ‘Double White Killarney’ (Rosaceae) – (Gardner 1928)
- Rosa* spp. (Rosaceae) – (Underwood 1893; Pipal 1915; Gardner 1920, 1927; Van Hook 1928, 1930; Pecknold et al. 1975; Ruhl et al. 1983); [as *Rosa lucida* Ehrh.] – (Underwood 1893)
- Unknown plant – (Van Hook 1910; Fink & Fuson 1919)
- Host not indicated – (Bates et al. 2020)
- **Podosphaera phtheiospermi* (Henn. & Shirai) U. Braun & T.Z. Liu**
- Pedicularis lanceolata* Michx. (Orobanchaceae) – (Underwood 1893; Savile 1968; MyCoPortal 2020)
- **Podosphaera physocarp* (U. Braun) U. Braun**
- Physocarpus* sp. (Rosaceae) – (Ruhl et al. 1981, 1983)
- Podosphaera phytoptophila* (Kellerm. & Swingle) U. Braun & S. Takam.**
- Celtis occidentalis* L. (Cannabaceae) [as *Phytoptus* fascicles on *Celtis occidentalis*] – (Underwood 1893; Anderson & Anderson 1919; McCain 1994)
- Unknown plant – (Fink & Fuson 1919)
- Host not indicated – (Bates et al. 2020)
- **Podosphaera pruinosa* (Cooke & Peck) U. Braun & S. Takam.**
- Rhus aromatica* Aiton (Anacardiaceae) – (Anonymous 1960)
- Rhus* sp. [as *Rhus canadensis* Mill.] (Anacardiaceae) – (Gardner & Mains 1929; McCain 1994)
- **Podosphaera prunicola* U. Braun**
- Prunus americana* Marshall (Rosaceae) – (Underwood 1893; MyCoPortal 2020)
- Prunus avium* (L.) L. (Rosaceae) – (Stevenson et al. 1976; Ruhl et al. 1981)
- Prunus cerasus* L. (Rosaceae) – (PUL-F322) (Underwood 1893; Anderson & Anderson 1919; McCain 1994)
- Prunus* spp. (Rosaceae) – (Brannon 1898; Pipal 1915; Gardner 1920, 1924, 1927)
- **Podosphaera shepherdiae* (U. Braun) U. Braun & S. Takam.**
- Shepherdia canadensis* (L.) Nutt. (Elaeagnaceae) – (MyCoPortal 2020)
- **Podosphaera violae* (U. Braun) U. Braun & S. Takam.**
- Viola* sp. (Violaceae) – (MyCoPortal 2020)
- Podosphaera xanthii* (Castagne) U. Braun & Shishkoff**
- Bidens connata* Muhl. ex Willd. (Asteraceae) – (Underwood 1893)
- Bidens frondosa* L. (Asteraceae) – (BPI559928) (Rose 1886; Underwood 1893; Anderson & Anderson 1919; Anonymous 1960)
- Bidens laevis* (L.) Britton, Sterns & Poggenb. [as *Bidens chrysanthemoides* Michx.] (Asteraceae) – (Rose 1886; Underwood 1893)
- Bidens laevis* (L.) Britton, Sterns & Poggenb. (Asteraceae) – (Anderson & Anderson 1919)
- Coreopsis trichosperma* Michx. (Asteraceae) – (Underwood 1893)
- Cucumis melo* L. (Cucurbitaceae) – (Ruhl et al. 1987, 1991)
- Cucurbita pepo* L. (Cucurbitaceae) – (MyCoPortal 2020)
- Cucurbita* sp. (Cucurbitaceae) – (Latin 1993, Liu et al. 2011)
- Erechtites hieraciifolius* (L.) Raf. ex DC. (Asteraceae) – (Underwood 1893)
- Glandularia* × *hybrida* (Groenl. & Rümpler) G.L. Nesom & Pruski [as *Verbena hybrida*] (Verbenaceae) – (MyCoPortal 2020)
- Hieracium* sp. (Asteraceae) – (Rose 1886; Anderson & Anderson 1919)
- Lactuca floridana* (L.) Gaertn. var. *villosa* (Jacq.) Cronquist [*Lactuca villosa* Jacq.] (Asteraceae) – (Gardner 1928)
- Lactuca* sp. (Asteraceae) – (Rose 1886; Anderson & Anderson 1919; Anonymous 1960)
- Nabalus altissimus* (L.) Hook. [as *Prenanthes altissima* L. (Asteraceae)] – (Brannon 1898)
- Petunia* × *hybrida* Vilm. (Solanaceae) – (Kiss et al. 2008)
- Solidago* sp. (Asteraceae) – (Anonymous 1960)
- Sonchus asper* (L.) Hill (Asteraceae) – (Van Hook 1928)
- Vigna sinensis* (L.) Savi ex Hassk. (Fabaceae) – (Anonymous 1960)
- Takamatsuella circinata* (Cooke & Peck) U. Braun & A.N. Shi**
- Acer nigrum* Michx. (Sapindaceae) – (Gardner 1928; Anonymous 1960)
- Acer rubrum* L. (Sapindaceae) – (Rose 1886; Underwood 1893; Anderson & Anderson 1919)
- Acer saccharinum* L. (Sapindaceae) – (Brannon 1898; Anderson & Anderson 1919; Gardner 1928)
- Acer saccharinum* L. [as *Acer dasycarpum* Ehrh.] (Sapindaceae) – (Underwood 1893)

Acer saccharum Marshall (Sapindaceae) – (Underwood 1893; Anderson & Anderson 1919; Van Hook 1928)

Acer spp. (Sapindaceae) – (Pipal 1915; Ruhl et al. 1981; Braun & Cook 2012)

Unknown plant – (Fink & Fuson 1919)

Host not indicated – (Bates et al. 2020, as *Erysiphe circinata*)

Part 2: Annotated fungus-host list based on original names of powdery mildew taxa from literature; → indicates current names for these taxa.—

Alphitomorpha fuliginea Schltld.

Host not indicated – (Bates et al. 2020) →

Podosphaera fuliginea

Erysiphe biocellata Ehrenb.

Monarda fistulosa L. (Lamiaceae) – (Saenz & Taylor 1999) → *Golovinomyces biocellatus*

Erysiphe cichoracearum DC.

Most of the Indiana records of this species published in the 19th and early 20th centuries were based on an ultra-broad species concept of this taxon. On the basis of recent data (Braun & Cook 2012), *G. cichoracearum* s.str., is confined to hosts of Asteraceae subfam. Cichorioideae. The listing in Bates et al. (2020) could apply to any of the segregated species.

Ambrosia artemisiifolia L. (Asteraceae) – (Underwood 1893; Anderson & Anderson 1919) → *Golovinomyces ambrosiae*; *Ambrosia trifida* L. (Asteraceae) – (Underwood 1893; Van Hook 1915; Anderson & Anderson 1919; Van Hook 1935; Saenz & Taylor 1999) → *Golovinomyces ambrosiae*; *Arctium minus* Bernh. (Asteraceae) – (McCain 1994) → *Golovinomyces depressus*; *Aster* spp. (Asteraceae) – (Underwood 1893; Anderson & Anderson 1919; Van Hook 1921) → *Golovinomyces asterum*; *Bidens frondosa* L. (Asteraceae) – (Anonymous 1960): There is no confirmed report of *G. cichoracearum* s.str. on this host in North America. Study of BPI559928 (*Erysiphe cichoracearum* on *Bidens frondosa*, Indiana, Lafayette) disclosed chasmothecia of 60–90 µm diameter, having a few, long brown appendages as well as secondary hyphae which fit well within the description of *P. xanthii*, making that the most likely species to which this record refers; *Chelone glabra* L. (Plantaginaceae) – (Anonymous 1960) → *Golovinomyces orontii*; *Chrysanthemum* sp. (Asteraceae) – (Pecknold et

al. 1975): re-examinations of several old herbarium specimens deposited as *Erysiphe cichoracearum* and *Oidium chrysanthemi* by Bradshaw et al. (2017), now show that *G. chrysanthemi* has been present in the U.S. since at least the end of the 19th century → *Golovinomyces chrysanthemi*; *Cichorium intybus* L. (Asteraceae) – (Saenz & Taylor 1999) → *Golovinomyces cichoracearum* s.str.; *Cirsium altissimum* (L.) Hill (Asteraceae) – (Anderson & Anderson 1919) → *Golovinomyces montagnei*; *Cirsium altissimum* [as *Cnicus altissimus* Willd.] (Asteraceae) – (Underwood 1893) → *Golovinomyces montagnei*; *Coreopsis alternifolia* L. [as *Actinomeris squarrosa* Nutt.] (Asteraceae) – (Rose 1886) → *Golovinomyces spadiceus*; *Cucumis melo* L. var. *reticulatus* Naud. (Cucurbitaceae) – (Stevenson et al. 1976) → *Golovinomyces cucurbitacearum*; *Cucumis sativus* L. (Cucurbitaceae) – (Pipal 1915; Ruhl et al. 1981) → *Golovinomyces cucurbitacearum*; *Cucumis* sp. (Cucurbitaceae) – (Gardner 1920, 1928) → *Golovinomyces cucurbitacearum*; *Cucurbita moschata* Duchesne (Cucurbitaceae) – (Ruhl et al. 1981) → *Golovinomyces cucurbitacearum*; *Cucurbita* [Pumpkin] (Cucurbitaceae) – (Gardner 1927) → *Golovinomyces cucurbitacearum*; *Dahlia* sp. (Asteraceae) – (Gardner 1928) → *Golovinomyces spadiceus*; *Eupatorium perfoliatum* L. (Asteraceae) – (Underwood 1893; Anderson & Anderson 1919) → *Golovinomyces circumfusus*; *Eutrochium purpureum* (L.) E.E. Lamont [as *Eupatorium purpureum* L.] (Asteraceae) – (Underwood 1893; Anderson & Anderson 1919) → *Golovinomyces circumfusus*; *Helianthus annuus* L. (Asteraceae) – (Underwood 1893; Anderson & Anderson 1919; McCain 1994) → *Golovinomyces ambrosiae*; *Helianthus decapetalus* L. (Asteraceae) – (Underwood 1893; Anderson & Anderson 1919) → *Golovinomyces ambrosiae*; *Helianthus × doronicoides* Lam. (Asteraceae) – (Anderson & Anderson 1919) → *Golovinomyces ambrosiae*; *Helianthus maximiliani* Schrad. (Asteraceae) – (MyCoPortal 2020) → *Golovinomyces ambrosiae*; *Helianthus parviflorus* Bernh. ex Spreng. (Asteraceae) – (Underwood 1893) → *Golovinomyces ambrosiae*; *Helianthus strumosus* L. (Asteraceae) – (Underwood 1894; Anderson & Anderson 1919) → *Golovinomyces ambrosiae*; *Helianthus tuberosus* L. (Asteraceae) – (Underwood 1893; Anderson & Anderson 1919; McCain 1994) → *Golovinomyces ambrosiae*; *Helianthus* sp. (Asteraceae) – (Van Hook 1935; McCain 1994) → *Golovinomyces ambrosiae*;

Heliopsis helianthoides (L.) Sweet (Asteraceae) – (McCain 1994): There is no report of any *Golovinomyces* species on this host in the latest world monograph of powdery mildews (Braun & Cook 2012). However, there is one report on above host from Germany as *Erysiphe cichoracearum* var. *latispora* (Ali et al. 2000) which was considered as a synonym for *G. ambrosiae* by Braun & Cook (2012) → ***Golovinomyces ambrosiae***; *Hydrophyllum appendiculatum* Michx. (Boraginaceae) – (Underwood 1893; Anderson & Anderson 1919) → ***Golovinomyces hydrophyllacearum***; *Hydrophyllum canadense* L. (Boraginaceae) – (Anderson & Anderson 1919) → ***Golovinomyces hydrophyllacearum***; *Hydrophyllum macrophyllum* Nutt. (Boraginaceae) – (Underwood 1893; Anderson & Anderson 1919) → ***Golovinomyces hydrophyllacearum***; *Hydrophyllum virginianum* L. (Boraginaceae) – (Underwood 1893; Anderson & Anderson 1919) → ***Golovinomyces hydrophyllacearum***; *Parietaria canadensis* (doubtful host species) (Urticaceae) – (Underwood 1893) → ***Golovinomyces greeneanus***; *Parietaria pensylvanica* Muhl. ex Willd. (Urticaceae) – (Anderson & Anderson 1919) → ***Golovinomyces greeneanus***; *Plantago major* L. (Plantaginaceae) – (Anderson & Anderson 1919) → ***Golovinomyces sordidus***; *Plantago rugelii* Decne. (Plantaginaceae) – (Van Hook 1915) → ***Golovinomyces sordidus***; *Phlox divaricata* L. (Polemoniaceae) – (Anderson & Anderson 1919; Anonymous 1960) → ***Golovinomyces magnicellulatus***; *Phlox paniculata* L. (Polemoniaceae) – (Underwood 1893; Anderson & Anderson 1919) → ***Golovinomyces magnicellulatus***; *Phlox* sp. (Polemoniaceae) – (3, Gardner 1927) → ***Golovinomyces magnicellulatus***; *Pilea pumila* (L.) A. Gray (Urticaceae) – (Underwood 1893; Anderson & Anderson 1919; Anonymous 1960) → ***Golovinomyces greeneanus***; *Rudbeckia laciniata* L. (Asteraceae) – (Anderson & Anderson 1919) → ***Golovinomyces ambrosiae***; *Rudbeckia triloba* L. (Asteraceae) – (Anderson & Anderson 1919) → ***Golovinomyces ambrosiae***; *Solidago canadensis* L. (Asteraceae) – (Underwood 1893; Anderson & Anderson 1919) → ***Golovinomyces asterum*** var. ***solidaginis***; *Solidago flexicaulis* L. [as *Solidago latifolia* L.] (Asteraceae) – (Underwood 1893; Anderson & Anderson 1919) → ***Golovinomyces asterum*** var. ***solidaginis***; *Solidago gigantea* Aiton [as *Solidago serotina* Aiton] (Asteraceae) – (Underwood 1893) → ***Golovinomyces asterum*** var. ***solidaginis***; *Solidago* sp. (Asteraceae) – (Van Hook 1915) →

Golovinomyces asterum var. ***solidaginis***; *Symphotrichum cordifolium* (L.) G.L. Nesom [as *Aster cordifolius* L.] (Asteraceae) – (Underwood 1893) → ***Golovinomyces asterum***; *Symphotrichum ericoides* (L.) G.L. Nesom [as *Aster ericoides* L.] (Asteraceae) – (Underwood 1893; Anderson & Anderson 1919) → ***Golovinomyces asterum***; *Symphotrichum lanceolatum* (Willd.) G.L. Nesom [as *Aster paniculatus* Lam.] (Asteraceae) – (Underwood 1893; Anderson & Anderson 1919) → ***Golovinomyces asterum***; *Symphotrichum novae-angliae* (L.) G.L. Nesom [as *Aster novae-angliae* L.] (Asteraceae) – (Underwood 1893; Anderson & Anderson 1919) → ***Golovinomyces asterum***; *Symphotrichum oolentangiense* (Riddell) G.L. Nesom [as *Aster azureus* Lindl.] (Asteraceae) – (Underwood 1893; Anderson & Anderson 1919) → ***Golovinomyces asterum***; *Symphotrichum puniceum* (L.) A. Löve & D. Löve [as *Aster puniceus* L.] (Asteraceae) – (Underwood 1893) → ***Golovinomyces asterum***; *Symphotrichum tradescantii* (L.) G.L. Nesom [as *Aster tradescantii* L.] (Asteraceae) – (Underwood 1893) → ***Golovinomyces asterum***; *Taraxacum officinale* F.H. Wigg. (Asteraceae) – (Van Hook 1921; Anonymous 1960) → ***Golovinomyces cichoracearum*** s.str.; *Verbena hastata* L. (Verbenaceae) – (Underwood 1893) → ***Golovinomyces verbenae***; *Verbena stricta* Vent. (Verbenaceae) – (Underwood 1893; Anderson & Anderson 1919; McCain 1994) → ***Golovinomyces verbenae***; *Verbena urticifolia* L. (Verbenaceae) – (Underwood 1893; Anderson & Anderson 1919) → ***Golovinomyces verbenae***; *Verbesina alternifolia* (L.) Britton ex Kearney [as *Actinomeris alternifolia* (L.) DC.] (Asteraceae) – (Anderson & Anderson 1919): two species of *Golovinomyces* species are reported on Heliantheae members in North America, i.e., *G. ambrosiae* and *G. spadiceus* (Braun & Cook 2012). However, there is no report of these species on *Verbesina* (reported as *Actinomeris* in above reference). The most important diagnostic feature for separating these two *Golovinomyces* taxa is the size of conidia, which are narrower in *G. spadiceus*. Based on this feature, two studied specimens from Indiana on *Verbesina* (PUL-F2674, F1525) are consistent with *G. spadiceus*. Conidia in these two specimens measured as 31.2–41.6 × 16–19.2 μm vs the conidial size of *G. ambrosiae* mentioned as 25–45 × 15–27 μm by Braun & Cook (2012). → ***Golovinomyces spadiceus***; *Vernonia fasciculata* Michx. (Asteraceae) – (Rose 1886; Underwood 1893; Anderson &

Anderson 1919): there are no *Golovinomyces* species reported on *Vernonia* by Braun & Cooke (2012). However, as the genus belongs to Vernoniaeae (Asteraceae: subfamily Cichorioideae), it is appropriate to consider records from Indiana as *G. cichoracearum* s.str. emend Braun & Cook (2012). See also explanation under *Erysiphe lamprocarpa*. → *G. cichoracearum* s.str.; *Vernonia gigantea* (Walter) Trel. [as *Vernonia altissima* Nutt.] (Asteraceae) – (Anderson & Anderson 1919) → *G. cichoracearum* s.str.; *Vernonia noveboracensis* (L.) Michx. (Asteraceae) – (Underwood 1893; Van Hook 1915) → *G. cichoracearum* s.str.; *Xanthium strumarium* L. (Asteraceae) – (Underwood 1893; Anderson & Anderson 1919) → *Golovinomyces spadiceus*; *Zinnia violacea* Cav. [as *Zinnia elegans* Jacq.] (Asteraceae) – (Underwood 1893; Van Hook 1928; Van Hook 1935; McCain 1994) → *Golovinomyces spadiceus*; *Zinnia* sp. (Asteraceae) – (Pecknold et al. 1975) → *Golovinomyces spadiceus*.

Erysiphe circinata (Cooke & Peck) U. Braun & S. Takam.

Host not indicated – (Bates et al. 2020) → *Takamatsuella circinata*
Erysiphe communis (Wallr.) Schltldl.

This name is based on *Alphitomorpha communis* Wallr., as basionym. However, this basionym is a Nom. rejic. (Art. 56.1 Melbourn Code), as no type specimen was designated.

Amphicarpaea bracteata (L.) Fernald Nutt. [as *Amphicarpaea monoica* (L.) Elliott] (Fabaceae) – (Underwood 1893) → *Erysiphe glycines*; *Anemone* sp. (Ranunculaceae) – (Rose 1886) → *Erysiphe aquilegiae* var. *ranunculi*; *Apios tuberosa* Moench (Fabaceae) – (Underwood 1893) → *Erysiphe diffusa*; *Aquilegia canadensis* L. (Ranunculaceae) – (Underwood 1893) → *Erysiphe aquilegiae* var. *aquilegiae*; *Clematis virginiana* L. (Ranunculaceae) – (Underwood 1893) → *Erysiphe aquilegiae*; *Geranium maculatum* L. (Geraniaceae) – (Underwood 1893) → *Erysiphe geraniacearum*; *Lathyrus palustris* L. (Fabaceae) – (Underwood 1893) → *Erysiphe pisi*; *Lupinus perennis* L. (Fabaceae) – (MyCoPortal 2020) → *Erysiphe intermedia*; *Ranunculus abortivus* L. (Ranunculaceae) – (Rose 1886; Underwood 1893) → *Erysiphe aquilegiae*; *Ranunculus recurvatus* Poir. (Ranunculaceae) – (Underwood 1893; Brannon 1898) → *Erysiphe aquilegiae*; *Thalictrum pubescens* Pursh [as *Thalictrum polygamum*

Muhl. ex Spreng.] (Ranunculaceae) – (Underwood 1893) → *Erysiphe aquilegiae*.

Erysiphe cucurbitacearum R.Y. Zheng & G.O. Chen

Cucurbita sp. (Cucurbitaceae) – (McCain 1994) → *Golovinomyces cucurbitacearum*

Erysiphe cumminsiana U. Braun

Ageratina altissima (L.) R.M. King & H. Rob. var. *altissima* [as *Eupatorium rugosum* Houtt.] (Asteraceae) – (Saenz & Taylor 1999) → *Neoerysiphe cumminsiana*

Erysiphe euphorbiae Peck

Euphorbia corollata L. (Euphorbiaceae) – (Brannon 1898) → *Erysiphe euphorbiicola*
Host not indicated – (Bates et al. 2020)

Judging from Braun & Cook (2012), records of *E. euphorbiae* on *Euphorbia* spp. including *E. corollata* from several countries are dubious. Braun & Cook (2012) considered *E. euphorbiae* restricted to *Chamaesyce hypericifolia*. We follow the same concept here.

Erysiphe galeopsidis DC.

Chelone glabra L. (Plantaginaceae) – (Underwood 1893) → *Neoerysiphe chelones*; *Scutellaria elliptica* Muhl. ex Spreng. [as *Scutellaria pilosa* Michx.] (Lamiaceae) – (Underwood 1893) → *Neoerysiphe galeopsidis*; *Scutellaria lateriflora* L. (Lamiaceae) – (Underwood 1893; Anderson & Anderson 1919; Anonymous 1960) → *Neoerysiphe galeopsidis*; *Stachys aspera* Michx. (Lamiaceae) – (Underwood 1893) → *Neoerysiphe galeopsidis*; *Stachys hyssopifolia* Michx. (Lamiaceae) – (MyCoPortal 2020) → *Neoerysiphe galeopsidis*; *Stachys palustris* L. (Lamiaceae) – (MyCoPortal 2020) → *Neoerysiphe galeopsidis*; *Stachys* sp. (Lamiaceae) – (Saenz & Taylor 1999) → *Neoerysiphe galeopsidis*; Unknown plant – (Fink & Fuson 1919) → *Neoerysiphe galeopsidis*. The listing in Bates et al. (2020) could refer to either or both of these species.

Erysiphe graminis DC.

Avena sativa L. (Poaceae) – (Schafer & Caldwell 1953) → *Blumeria graminis*; *Poa pratensis* L. (Poaceae) – (Underwood 1893; Pipal 1915; Anderson & Anderson 1919; Pecknold et al. 1975) → *Blumeria graminis*; *Triticum aestivum* L. [as *Triticum vulgare* Vill.] (Poaceae) – (Anderson & Anderson 1919) → *Blumeria graminis*; *Triticum* sp. (Poaceae) – (Van Hook 1911, 1935; Schafer & Caldwell 1953; Ruhl et al. 1981, 1984, 1991) →

Blumeria graminis; *Triticum aestivum* L. [Red Wave] (Poaceae) – (Gardner 1920) → *Blumeria graminis*; Unknown grass – (Underwood 1893; Van Hook 1910; Fink & Fuson 1919) → *Blumeria graminis*.

Erysiphe graminis f.sp. tritici É.J. Marchal

Triticum aestivum L. [as *Triticum vulgare* Vill.] (Poaceae) – (Ruhl et al. 1987) → *Blumeria graminis*

Erysiphe horridula (Wallr.) Rabenh.

[This name is based on *Alphitomorpha horridula* Wallr., which is an illegitimate name (nom. superfl.)]

Eutrochium purpureum (L.) E.E. Lamont [as *Eupatorium purpureum* L.] (Asteraceae) – (Brannon 1898) → *Golovinomyces circumfusus*; *Verbena stricta* Vent. (Verbenaceae) – (Brannon 1898) → *Golovinomyces verbenae*.

Erysiphe humuli DC.

Host not indicated – (Bates et al. 2020) →

Podospaera macularis

Erysiphe lamprocarpa (Wallr.) Link

[This name is based on a basionym *Alphitomorpha lamprocarpa* Wallr., which is a Nom. illegit. (Art. 52.1 Melbourn code)].

Ambrosia artemisiifolia L. (Asteraceae) – (Rose 1886) → *Golovinomyces ambrosiae*; *Ambrosia trifida* L. (Asteraceae) – (Brannon 1898) → *Golovinomyces ambrosiae*; *Cirsium discolor* (Muhl. ex Willd.) Spreng. [as *Cnicus altissimus* var. *discolor* (Muhl. ex Willd.) A. Gray] (Asteraceae) – (Rose 1886) → *Golovinomyces montagnei*; *Coreopsis alternifolia* L. [as *Actinomeris squarrosa* Nutt.] (Asteraceae) – (Rose 1886): study of specimen BPI559336 on the above host from IN, showed narrow conidia < 20 um with a longitubus germination pattern. Narrow conidia (< 20 um) is a characteristic feature for *G. spadiceus*, which is where we place this record → *Golovinomyces spadiceus*; *Eupatorium perfoliatum* L. (Asteraceae) – (Rose 1886) → *Golovinomyces circumfusus*; *Helianthus annuus* L. (Asteraceae) – (Rose 1886) → *Golovinomyces ambrosiae*; *Helianthus × doricoides* Lam. (Asteraceae) – (Rose 1886) → *Golovinomyces ambrosiae*; *Solidago canadensis* L. (Asteraceae) – (Rose 1886) → *Golovinomyces asterum* var. *solidaginis*; *Symphotrichum cordifolium* (L.) G.L. Nesom [as *Aster cordifolius* L.] (Asteraceae) – (Brannon 1898) → *Golovinomyces asterum*; *Symphotrichum undulatum* (L.) G.L. Nesom [as

Aster undulatus L.] (Asteraceae) – (Brannon 1898) → *Golovinomyces asterum*; *Verbena stricta* Vent. (Verbenaceae) – (Brannon 1898) → *Golovinomyces verbenae*; *Verbena urticifolia* L. (Verbenaceae) – (Rose 1886) → *Golovinomyces verbenae*; *Vernonia fasciculata* Michx. (Asteraceae) – (Rose 1886): based on study of herbarium material (BPI 561923), the above record belongs to *Golovinomyces cichoracearum* s.str. → *Golovinomyces cichoracearum* s.str.

Erysiphe magnicellulata U. Braun

Phlox paniculata L. (Polemoniaceae) – (Saenz & Taylor 1999) → *Golovinomyces magnicellulatus*

Erysiphe martii Lév.

Lupinus perennis L. (Fabaceae) – (MyCoPortal 2020) → *Erysiphe intermedia*

Erysiphe penicillata (Wallr.) Link

Carpinus caroliniana Walter (Betulaceae) – (MyCoPortal 2020) → *Erysiphe ellisii*;

Ostrya virginiana (Mill.) K. Koch (Betulaceae) – (MyCoPortal 2020) → *Erysiphe ellisii*;

Host not indicated – (Bates et al. 2020) → *Erysiphe ellisii*.

Erysiphe polygoni sensu auct.

Amphicarpaea bracteata (L.) Fernald Nutt. [as *Amphicarpaea monoica* (L.) Elliott] (Fabaceae) – (Anderson & Anderson 1919) → *Erysiphe glycines*; *Anemone* sp. (Ranunculaceae) – (Anderson & Anderson 1919; Anonymous 1960) → *Erysiphe aquilegiae* var. *ranunculi*; *Apios americana* Medik. (Fabaceae) – (Anonymous 1960) → *Erysiphe diffusa*; *Aquilegia canadensis* (Ranunculaceae) – (Anderson & Anderson 1919; Van Hook 1935; Anonymous 1960; McCain 1994) → *Erysiphe aquilegiae* var. *aquilegiae*; *Brassica nigra* (L.) W.D.J. Koch (Brassicaceae) – (Anderson & Anderson 1919; Anonymous 1960) → *Erysiphe cruciferarum*; *Brassica rapa* L. (Brassicaceae) – (Gardner 1928; Gardner & Mains 1929) → *Erysiphe cruciferarum*; *Clematis virginiana* L. (Ranunculaceae) – (Anderson & Anderson 1919) → *Erysiphe aquilegiae*; *Delphinium carolinianum* Walter [as *Delphinium azureum* Michx.] (Ranunculaceae) – (Van Hook 1935) → *Erysiphe aquilegiae* var. *ranunculi*; *Geranium maculatum* L. (Geraniaceae) – (Anderson & Anderson 1919; Anonymous 1960) → *Erysiphe geraniacearum*; *Glycine max* (L.) Merr. (Fabaceae) – (Pecknold et al. 1975; Stevenson et al. 1976) → *Erysiphe glycines*; *Lathyrus latifolius* L. (Fabaceae) – (MyCoPortal 2020) → *Erysiphe pisi*; *Lirioden-*

dron tulipifera L. (Magnoliaceae) – (Anderson & Anderson 1919; Van Hook 1924; Ruhl et al. 1981, 1983, 1984; McCain 1994) → *Erysiphe liriodendri*; *Lupinus perennis* L. (Fabaceae) – (MyCoPortal 2020) → *Erysiphe intermedia*; *Polygonum aviculare* L. (Polygonaceae) – (Van Hook 1911; Anderson & Anderson 1919) → *Erysiphe polygoni*; *Fallopia convolvulus* (L.) Å.Löve [as *Polygonum convolvulus* L.] (Polygonaceae) – (Anderson & Anderson 1919; Anonymous 1960) → *Erysiphe polygoni*; *Polygonum erectum* L. (Polygonaceae) – (Anderson & Anderson 1919) → *Erysiphe polygoni*; *Ranunculus abortivus* L. (Ranunculaceae) – (Anderson & Anderson 1919; Van Hook 1928) → *Erysiphe aquilegiae* (both *aquilegiae* & *ranunculi* varieties have been reported on this host genus from North America); *Ranunculus recurvatus* Poir. (Ranunculaceae) (Anderson & Anderson 1919) → *Erysiphe aquilegiae*; *Trifolium hybridum* L. (Fabaceae) – (Van Hook 1928) → *Erysiphe trifoliorum*; *Trifolium repens* L. (Fabaceae) – (Van Hook 1928) → *Erysiphe trifoliorum*; *Trifolium pratense* L. (Fabaceae) – (Van Hook 1928) → *Erysiphe trifoliorum*; *Trifolium* sp. (Fabaceae) – (Gardner 1927) → *Erysiphe trifoliorum*.

***Erysiphe sordida* L. Junell**

Plantago major L. (Plantaginaceae) – (Saenz & Taylor 1999) → *Golovinomyces sordidus*

***Erysiphe tortilis* (Wallr.) Link**

Clematis virginiana L. (Ranunculaceae) – (Rose 1886; Brannon 1898) → *Erysiphe aquilegiae*; Unknown plant – (Fink & Fuson 1919) → *Erysiphe aquilegiae*.

***Erysiphe* sp.**

Poa pratensis L. (Poaceae) – (Rose 1886) → *Blumeria graminis*; *Syringa vulgaris* (Oleaceae) – (Ruhl et al. 1987) → *Erysiphe syringae*; *Zinnia* sp. (Asteraceae) – (Ruhl et al. 1987) → *Golovinomyces spadiceus*.

***Golovinomyces orontii* (Castagne) V.P. Heluta**

Glechoma hederacea L. (Lamiaceae) – (MyCoPortal 2020) → *Golovinomyces biocellatus*

***Microsphaera abbreviata* Peck**

Quercus bicolor Willd. (Fagaceae) – (MyCoPortal 2020) → *Erysiphe abbreviata*

***Microsphaera alni* sensu auct.**

Betula pumila L. (Betulaceae) – (Underwood 1893) → *Erysiphe ornata*; *Campsis radicans* (L.) Seem. ex Bureau (Bignoniaceae) – (Anonymous 1960) → *Erysiphe peckii*; *Campsis radicans* [as *Tecoma radicans* (L.) Juss.] (Bignoniaceae) – (Underwood 1893) → *Erysiphe peckii*; *Carpinus*

caroliniana Walter (Betulaceae) – (Underwood 1893; Anonymous 1960); one record of *Microsphaera alni* on *C. caroliniana* is treated as *Phyllactinia alnicola* (Farr & Rossman 2018), but likely also refers to *E. ellisii* → *Erysiphe ellisii*; *Carpinus* sp. (Betulaceae) – (Gardner 1928) → *Erysiphe ellisii*; *Cephalanthus occidentalis* L. (Rubiaceae) – (MyCoPortal 2020) → *Erysiphe semitosta*; *Euonymus atropurpureus* Jacq. (Celastraceae) – (Underwood 1893; Anderson & Anderson 1919; Van Hook 1930) → *Erysiphe pseudopusilla*; *Euonymus* sp. (Celastraceae) – (Stevenson et al. 1976) → *Erysiphe pseudopusilla*; *Fagus grandifolia* Ehrh. [as *Fagus ferruginea* Aiton] (Fagaceae) – (Underwood 1893) → *Erysiphe erineophila*; *Fagus* sp. (Fagaceae) – (Pipal 1915) → *Erysiphe erineophila*; *Gleditsia triacanthos* L. (Fabaceae) – (Pipal 1915; Anderson & Anderson 1919; Van Hook 1928) → *Erysiphe ravenelii*; *Carya cordiformis* (Wangenh.) K. Koch [as *Hicoria sulcata* (Willd.) Britton] (Juglandaceae) – (Underwood 1893) → *Erysiphe caryae*; *Ilex verticillata* (L.) A. Gray (Aquifoliaceae) – (Underwood 1893) → *Erysiphe nemopanthi*; *Juglans nigra* L. (Juglandaceae) – (Underwood 1893; Pipal 1915; Anderson & Anderson 1919) → *Erysiphe juglandis-nigrae*; *Ligustrum* spp. (Oleaceae) – (Anonymous 1960; Ruhl et al. 1981) → *Erysiphe syringae*; *Lonicera flava* Sims (Caprifoliaceae) – (MyCoPortal 2020) → *Erysiphe caprifoliacearum*; *Lonicera* sp. (Caprifoliaceae) – (Gardner & Mains 1929) → *Erysiphe caprifoliacearum*; *Ostrya virginiana* (Mill.) K. Koch (Betulaceae) – (Underwood 1893; Gardner 1928) → *Erysiphe ellisii*; *Platanus occidentalis* L. (Platanaceae) – (Underwood 1893; Pipal 1915; Van Hook 1915; Anderson & Anderson 1919; Gardner 1928) → *Erysiphe platani*; *Quercus alba* L. (Fagaceae) – (Gardner 1928) → *Erysiphe extensa*; *Quercus robur* L. (Fagaceae) – (Anonymous 1960) → *Erysiphe extensa*; *Quercus rubra* L. (Fagaceae) – (Anderson & Anderson 1919) → *Erysiphe extensa*; *Quercus velutina* Lam. (Fagaceae) – (Anderson & Anderson 1919; Gardner 1928) → *Erysiphe extensa*; *Quercus* spp. (Fagaceae) – (Pipal 1915; Anderson & Anderson 1919; Van Hook 1921; Ruhl et al. 1981) → *Erysiphe extensa*; *Symphoricarpos orbiculatus* Moench (Caprifoliaceae) – (Gardner & Mains 1929) → *Erysiphe symphoricarpi*; *Syringa vulgaris* L. (Oleaceae) – (Underwood 1893; Pipal 1915; Anderson & Anderson 1919) → *Erysiphe syringae*; *Syringa* sp. (Oleaceae) – (Pecknold et al. 1975; Stevenson et al. 1976; Ruhl et al. 1984) → *Erysiphe syringae*

Schwein; *Viburnum acerifolium* L. (Adoxaceae) – (Underwood 1893) → *Erysiphe viburni*; *Viburnum dentatum* L. (Adoxaceae) – (Underwood 1893) → *Erysiphe viburni*; *Viburnum dentatum* [as *Viburnum pubescens* (Aiton) Pursh] (Adoxaceae) – (Underwood 1893) → *Erysiphe viburni*; *Viburnum prunifolium* L. (Adoxaceae) – (Underwood 1893; Lee 1929) → *Erysiphe viburni*; *Viburnum* sp. (Adoxaceae) – (Ruhl et al. 1984) → *Erysiphe viburni*; *Vigna sinensis* (Powdery mildew) Indiana – (Anonymous 1960) → *Podosphaera xanthii*.

Microsphaera alni var. extensa (Cooke & Peck)

E.S. Salmon

Quercus spp. (Fagaceae) – (Salmon 1900) →

Erysiphe extensa

Microsphaera alni var. vaccinii (Schwein.) E.S.

Salmon

Catalpa bungei C.A. Mey. (Bignoniaceae) – (Van Hook 1928) → *Erysiphe elevata*; *Catalpa speciosa* (Warder) Warder ex Engelm. (Bignoniaceae) – (Anderson & Anderson 1919) → *Erysiphe elevata*.

Microsphaera caryae U. Braun

Carya cordiformis (Wangenh.) K.Koch [as *Carya sulcata* Nutt.] (Juglandaceae) – (MyCoPortal 2020) → *Erysiphe caryae*

Microsphaera densissima (Schwein.) Peck

Quercus sp. (Fagaceae) – (Brannon 1898) →

Erysiphe calocladophora; Unknown plant – (Fink & Fuson 1919) → *Erysiphe calocladophora*.

The basionym of the above taxon, *Erysiphe densissima* Schwein., is a nomen dubium, see Braun & Cook 2012).

Microsphaera diffusa Cooke & Peck

Desmodium canadense (L.) DC. (Fabaceae) – (MyCoPortal 2020) → *Erysiphe diffusa*;

Desmodium sp. (Fabaceae) – (Brannon 1898) → *Erysiphe diffusa*;

Lespedeza sp. (Fabaceae) – (Underwood 1893) → *Erysiphe diffusa*;

Symphoricarpos orbiculatus Moench (Caprifoliaceae) – (Anderson & Anderson 1919) → *Erysiphe symphoricarpi*;

Symphoricarpos sp. (Caprifoliaceae) – (McCain 1994) → *Erysiphe symphoricarpi*.

Microsphaera elevata Burrill

Catalpa speciosa (Warder) Warder ex Engelm. (Bignoniaceae) – (Van Hook 1915) →

Erysiphe elevata; *Catalpa* sp. (Bignoniaceae) – (Underwood 1893; McCain 1994) →

Erysiphe elevata; Unknown plant – (Van Hook 1910; Fink & Fuson 1919) → *Erysiphe elevata*.

Microsphaera erineophila Peck

Fagus grandifolia Ehrh. [as “On Erineum of *Fagus ferruginea* Aiton”] – (Underwood 1893) → *Erysiphe erineophila*; Unknown plant – (Fink & Fuson 1919) → *Erysiphe erineophila*.

Microsphaera euonymi (DC.) Sacc.

Euonymus atropurpureus Jacq. (Celastraceae) – (Cooke 1975) → *Erysiphe euonymi*; *Euonymus* sp. (Celastraceae) – (Fink & Fuson 1918; McCain 1994) → *Erysiphe euonymi*; Unknown plant – (Fink & Fuson 1919) → *Erysiphe euonymi*.

Microsphaera euphorbiae Berk. & M.A. Curtis

Dolichos biflorus L. (Fabaceae) – (Anonymous 1960) → *Erysiphe diffusa*;

Euphorbia corollata L. (Euphorbiaceae) – (Underwood 1893; McCain 1994) → *Erysiphe euphorbiicola*;

Euphorbia marginata Pursh (Euphorbiaceae) – (Anderson & Anderson 1919; Anonymous 1960) → *Erysiphe euphorbiicola*;

Phaseolus limensis Macfad. (Fabaceae) – (Anonymous 1960) → *Erysiphe diffusa*;

Unknown plant – (Fink & Fuson 1919) → *Erysiphe euphorbiicola*.

Microsphaera extensa Cooke & Peck

Quercus falcata Michx. (Fagaceae) – (Brannon 1898) → *Erysiphe extensa*;

Quercus sp. (Fagaceae) – (Brannon 1898) → *Erysiphe extensa*;

Unknown plant – (Fink & Fuson 1919) → *Erysiphe extensa*.

Microsphaera friesii (Lév.) Sacc.

Syringa vulgaris L. (Oleaceae) – (Rose 1886) →

Erysiphe syringae; Unknown plant – (Fink & Fuson 1919) → *Erysiphe syringae*.

These records refer to *M. friesii* var. *syringae* Cooke & Peck, which is a synonym for *E. syringae*.

Microsphaera friesii (= *Erysiphe friesii*) is a Eurasian powdery mildew species restricted to the genus *Rhamnus* (Rhamnaceae) (Braun & Cook 2012).

Microsphaera grossulariae (Wallr.) Sacc.

Sambucus nigra L. subsp. *canadensis* (L.) R. Bolli [as *Sambucus canadensis* L.] (Adoxaceae) – (Rose 1886; Underwood 1893; Anderson & Anderson 1919) → *Erysiphe vanbruntiana* var. *vanbruntiana*;

Unknown plant – (Fink & Fuson 1919) → *Erysiphe grossulariae*.

Microsphaera peckii U. Braun

Campsis radicans (L.) Seem. ex Bureau (Bignoniaceae) – (Braun 1987; Braun & Cook 2012) → *Erysiphe peckii*

Microsphaera penicillata (Wallr.) Sacc.

Gleditsia triacanthos L. (Fabaceae) – (McCain 1994) → *Erysiphe ravenelii*; *Quercus robur* L. (Fagaceae) – (McCain 1994) → *Erysiphe abbreviata*; *Syringa vulgaris* L. (Oleaceae) – (McCain 1994) → *Erysiphe syringae*; *Viburnum* sp. (Adoxaceae) – (MyCoPortal 2020) → *Erysiphe viburni*.

Microsphaera penicillata (Wallr.) Sacc. var. loniceræ (DC.) W.B. Cooke

Lonicera sp. (Caprifoliaceae) – (McCain 1994) → *Erysiphe caprifoliacearum*

Microsphaera platani Howe

Platanus occidentalis L. (Platanaceae) – (Rose 1886) → *Erysiphe platani*; Unknown plant – (Fink & Fuson 1919) → *Erysiphe platani*.

Microsphaera pusilla U. Braun

Euonymus atropurpureus Jacq. (Celastraceae) – (MyCoPortal 2020) → *Erysiphe pseudopusilla*

Microsphaera quercina (Schwein.) Burrill

Quercus alba L. (Fagaceae) – (Underwood 1893) → *Erysiphe extensa*; *Quercus bicolor* Willd. (Fagaceae) – (Underwood 1893) → *Erysiphe extensa*; *Quercus lyrata* Walter (Fagaceae) – (Underwood 1893) → *Erysiphe extensa*; *Quercus macrocarpa* Michx. (Fagaceae) – (Underwood 1893) → *Erysiphe extensa*; *Quercus michauxii* Nutt. [as *Quercus prinus*] (Fagaceae) – (MyCoPortal 2020) → *Erysiphe extensa*; *Quercus muehlenbergii* Engelm. (Fagaceae) – (Underwood 1893) → *Erysiphe extensa*; *Quercus rubra* L. (Fagaceae) – (Underwood 1893) → *Erysiphe extensa*; *Quercus* sp. (Fagaceae) – (Underwood 1893) → *Erysiphe extensa*; Unknown plant – (Fink & Fuson 1919) → *Erysiphe extensa*.

Microsphaera ravenelii Berk.

Gleditsia triacanthos L. (Fabaceae) – (Underwood 1893; Brannon 1898) → *Erysiphe ravenelii*; *Lathyrus palustris* L. [as *Lathyrus myrtifolius*] (Fabaceae) – (MyCoPortal 2020) → *Erysiphe lathyricola*; *Lathyrus venosus* Muhl. ex Willd. (Fabaceae) – (MyCoPortal 2020) → *Erysiphe lathyricola*; Unknown plant – (Fink & Fuson 1919) → *Erysiphe ravenelii*.

Microsphaera russellii Clinton

Oxalis corniculata L. (Oxalidaceae) – (Anderson & Anderson 1919) → *Erysiphe russellii*; *Oxalis stricta* L. (Oxalidaceae) – (Rose 1886; Underwood 1893) → *Erysiphe russellii*; Unknown plant – (Fink & Fuson 1919) → *Erysiphe russellii*.

Microsphaera semitosta Berk. & M.A. Curtis ex Cooke & Peck

Cephalanthus occidentalis L. (Rubiaceae) – (Underwood 1893) → *Erysiphe semitosta*; Unknown plant – (Fink & Fuson 1919) → *Erysiphe semitosta*.

Microsphaera symphoricarpi Howe

Symphoricarpos vulgaris Michx. (Caprifoliaceae) – (Underwood 1893) → *Erysiphe symphoricarpi*; Unknown plant – (Fink & Fuson 1919) → *Erysiphe symphoricarpi*.

Microsphaera trifolii (Grev.) U. Braun

Trifolium pratense L. (Fabaceae) – (McCain 1994) → *Erysiphe trifoliorum*

Microsphaera trifolii (Grev.) U. Braun var. intermedia U. Braun

Lupinus perennis L. (Fabaceae) – (MyCoPortal 2020) → *Erysiphe intermedia*

Microsphaera vaccinii (Schwein.) Cooke & Peck

Catalpa spp. (Bignoniaceae) – (Pipal 1915) → *Erysiphe elevata*; *Vaccinium* sp. (Ericaceae) – (Underwood 1893; McCain 1994) → *Erysiphe vaccinii*; Unknown plant – (Fink & Fuson 1919) → *Erysiphe vaccinia*.

Microsphaera vanbruntiana W.R. Gerard

Sambucus nigra L. subsp. *canadensis* (L.) R. Bolli [as *Sambucus canadensis* L.] (Adoxaceae) – (MyCoPortal 2020) → *Erysiphe vanbruntiana* var. *vanbruntiana*

Oidium obductum Ellis & Langl.

Platanus sp. (Platanaceae) – (Ruhl et al. 1981, 1983) → *Erysiphe platani*

Oidium monilioides (Nees) Link

Host not indicated – (Bates et al. 2020) → *Blumeria graminis*

Phyllactinia corylea sensu auct.

Alnus incana (L.) Moench (Betulaceae) – (MyCoPortal 2020) → *Phyllactinia alnicola*; *Carpinus caroliniana* Walter (Betulaceae) – (Anderson & Anderson 1919; Anonymous 1960) → *Phyllactinia carpini*; *Castanea* sp. (Fagaceae) – (Anonymous 1960) → *Phyllactinia angulata* var. *angulata*; *Catalpa bignonioides* Walter (Bignoniaceae) – (Anderson & Anderson 1919; Anonymous 1960; Braun & Cook 2012) → *Phyllactinia catalpae*; *Catalpa speciosa* (Bignoniaceae) – (Anonymous 1960; Braun & Cook 2012) → *Phyllactinia catalpae*; *Celastrus scandens* L. (Celastraceae) – (Anderson & Anderson 1919; Van Hook 1935) → *Phyllactinia celastri*; *Cephalanthus occidentalis* L. (Rubiaceae) – (MyCoPortal 2020) → *Erysiphe semitosta*, see explanation under *Phyllactinia guttata*.; *Cornus florida* L.

(Cornaceae) – (Anderson & Anderson 1919) → *Phyllactinia corni*; *Corylus americana* Walter (Betulaceae) – (Anderson & Anderson 1919) → *Phyllactinia guttata*; *Fagus grandifolia* Ehrh. [as *Fagus americana* Sweet] (Fagaceae) – (MyCoPortal 2020) → *Phyllactinia angulata* var. *angulata*; *Fraxinus americana* L. (Oleaceae) – (Anderson & Anderson 1919) → *Phyllactinia fraxini*; *Fraxinus nigra* Marshall (Oleaceae) – (Anderson & Anderson 1919) → *Phyllactinia fraxini*; *Fraxinus nigra* Marshall [as *Fraxinus sambucifolia* Lam.] (Oleaceae) – (Anderson & Anderson 1919) → *Phyllactinia fraxini*; *Fraxinus quadrangulata* Michx. (Oleaceae) – (Anonymous 1960) → *Phyllactinia fraxini*; *Fraxinus* spp. (Oleaceae) – (Pipal 1915) → *Phyllactinia fraxini*; *Liriodendron tulipifera* L. (Magnoliaceae) – (Anderson & Anderson 1919) → *Phyllactinia liriodendri*; *Ostrya virginiana* (Mill.) K. Koch (Betulaceae) – (Anderson & Anderson 1919) → *Phyllactinia ostryae*; *Platanus occidentalis* L. (Platanaceae) – (Pipal 1915): it is quite common for chasmothecia of *Phyllactinia* species to be dislodged by wind onto other substrates ranging from stones to lichens and bark and leaves of non-host plants (Braun & Cook 2012). The above record is one of those examples. There are two specimens of *Phyllactinia* species on *Platanus* at BPI, i.e., *P. corylea* from California (BPI 606615) and *P. guttata* from Pennsylvania (BPI 859697). Both of these specimens were annotated by K. Pastrickova as “*Erysiphe platani*” and appear to have resulted from spurious colonization as explained above, rather than having adapted as phytopathogens of this host → *Erysiphe platani*. *Quercus coccinea* Münchh. (Fagaceae) – (Anderson & Anderson 1919) → *Phyllactinia angulata* var. *angulata*; *Quercus palustris* Münchh. (Fagaceae) – (Anderson & Anderson 1919) → *Phyllactinia angulata* var. *angulata*; *Quercus rubra* L. (Fagaceae) – (Van Hook 1930) → *Phyllactinia angulata* var. *angulata*; *Quercus velutina* Lam. (Fagaceae) – (Anonymous 1960) → *Phyllactinia angulata* var. *angulata*; *Quercus* sp. (Fagaceae) – (Pecknold et al. 1975; Ruhl et al. 1981) → *Phyllactinia angulata* var. *angulata*; *Zanthoxylum americanum* Mill. (Rutaceae) – (Anderson & Anderson 1919) → *Phyllactinia zanthoxyli-*

cola; Unknown plant – (Fink & Fuson 1919) → *Phyllactinia guttata*.

***Phyllactinia guttata* (Wallr.) Lévy.**

Betula sp. (Betulaceae) – (MyCoPortal 2020) → *Phyllactinia betulae*; *Carpinus caroliniana* Walter (Betulaceae) – (MyCoPortal 2020) → *Phyllactinia carpini*; *Cephalanthus occidentalis* L. (Rubiaceae) – (Anonymous 1960): the collection from Indiana (BPI606221) has been studied by Braun & Cook (2012), but all chasmothecia proved to be dislodged and deposited by wind. They only found the anamorph of *E. semitosta* on the leaves → *Erysiphe semitosta*. *Fraxinus americana* L. (Oleaceae) – (MyCoPortal 2020) → *Phyllactinia fraxini*; *Philadelphus pubescens* Loisel. (as *Philadelphus verrucosus* Schrad.) (Hydrangeaceae) – (McCain 1994; MyCoPortal 2020) → *Phyllactinia philadelphia*; *Platanus occidentalis* L. (Platanaceae) – (Anonymous 1960) → *Erysiphe platani* (see note under *Phyllactinia corylea*); *Quercus palustris* Münchh. (Fagaceae) – (McCain 1994) → *Phyllactinia angulata* var. *angulata*.

***Phyllactinia suffulta* (Rebent.) Sacc.**

Carpinus caroliniana Walter (Betulaceae) – (Underwood 1893) → *Phyllactinia carpini*; *Catalpa bignonioides* Walter (Bignoniaceae) – (Underwood 1893) → *Phyllactinia catalpae*; *Catalpa* sp. (Bignoniaceae) – (Pipal 1915) → *Phyllactinia catalpae*; *Celastrus scandens* L. (Celastraceae) – (Underwood 1893) → *Phyllactinia celastri*; *Cephalanthus occidentalis* L. (Rubiaceae) – (MyCoPortal 2020) → *Erysiphe semitosta* (see explanation under *Phyllactinia guttata*); *Cornus florida* L. (Cornaceae) – (Rose 1886; Underwood 1893) → *Phyllactinia corni*; *Corylus americana* Walter (Betulaceae) – (Underwood 1893) → *Phyllactinia guttata*; *Corylus* sp. (Betulaceae) – (Rose 1886) → *Phyllactinia guttata*; *Fraxinus americana* L. (Oleaceae) – (Underwood 1893) → *Phyllactinia fraxini*; *Fraxinus nigra* Marshall [as *Fraxinus sambucifolia* Lam.] (Oleaceae) – (Underwood 1893) → *Phyllactinia fraxini*; *Fraxinus pennsylvanica* Marshall [as *Fraxinus pubescens* Lam.] (Oleaceae) – (Underwood 1893) → *Phyllactinia fraxini*; *Fraxinus quadrangulata* Michx. (Oleaceae) – (Underwood 1893) → *Phyllactinia fraxini*; *Liriodendron tulipifera* L. (Magnoliaceae) – (Underwood 1893; Pipal 1915) → *Phyllactinia liriodendri*; *Ostrya virginiana* (Mill.) K. Koch (Betulaceae) – (Underwood

1893) → *Phyllactinia ostryae*; *Quercus coccinea* Münchh. (Fagaceae) – (Underwood 1893) → *Phyllactinia angulata* var. *angulata*; *Quercus palustris* Münchh. (Fagaceae) – (Underwood 1893) → *Phyllactinia angulata* var. *angulata*; *Quercus rubra* L. (Fagaceae) – (Underwood 1893) → *Phyllactinia angulata* var. *angulata*; *Quercus* spp. (Fagaceae) – (Pipal 1915) → *Phyllactinia angulata* var. *angulata*; *Zanthoxylum americanum* Mill. [as *Xanthoxylum americana*] (Rutaceae) – (Underwood 1893) → *Phyllactinia zanthoxylicola*.

***Phyllactinia* sp.**

Betula sp. (Betulaceae) – (Ruhl et al. 1984) → *Phyllactinia betulae*

***Podosphaera clandestina* (Waller.) Lév.**

Prunus americana Marshall (Rosaceae) – (MyCoPortal 2020) → *Podosphaera prunicola*; *Prunus cerasus* L. (Rosaceae) – (McCain 1994) → *Podosphaera prunicola*.

***Podosphaera oxyacanthae* (DC.) de Bary**

Crataegus crus-galli L. (Rosaceae) – (Underwood 1893) → *Podosphaera clandestina* var. *clandestina*; *Crataegus spathulata* Michx. (Rosaceae) – (Underwood 1893) → *Podosphaera clandestina* var. *perlonga*; *Crataegus tomentosa* L. (Rosaceae) – (Underwood 1893) → *Podosphaera clandestina* var. *clandestina*; *Crataegus* sp. (Rosaceae) – (Underwood 1893) → *Podosphaera clandestina* var. *clandestina*; *Cydonia oblonga* Mill. [as *Cydonia vulgaris* Pers.] (Rosaceae) – (Rose 1886; Underwood 1893; Pipal 1915; Anderson & Anderson 1919) → *Podosphaera clandestina* var. *clandestina*; *Malus sylvestris* (L.) Mill. [as *Pyrus malus* L.] (Rosaceae) – (Pipal 1915; Ruhl et al. 1981) → *Podosphaera clandestina* var. *clandestina*; *Prunus americana* Marshall (Rosaceae) – (Underwood 1893) → *Podosphaera prunicola*; *Prunus avium* (L.) L. (Rosaceae) – (Stevenson et al. 1976; Ruhl et al. 1981) → *Podosphaera prunicola*; *Prunus cerasus* L. (Rosaceae) – (Underwood 1893; Anderson & Anderson 1919) → *Podosphaera prunicola*; *Prunus* spp. (Rosaceae) – (Brannon 1898; Pipal 1915; Gardner 1920, 1924, 1927) → *Podosphaera prunicola*; *Spiraea tomentosa* L. (Rosaceae) – (Underwood 1893) → *Podosphaera minor*.

***Sphaerotheca aphanis* (Waller.) U. Braun**

Agrimonia eupatoria L. (Rosaceae) – (MyCoPortal 2020) → *Podosphaera aphanis* var. *aphanis*

***Sphaerotheca castagnei* Lév. nom. supfl.**

Bidens connata Muhl. ex Willd. (Asteraceae) – (Underwood 1893) → *Podosphaera xanthii*; *Bidens frondosa* L. (Asteraceae) – (Rose 1886; Underwood 1893) → *Podosphaera xanthii*; *Bidens laevis* (L.) Britton, Sterns & Poggenb. [as *Bidens chrysanthemoides* Michx.] (Asteraceae) – (Rose 1886; Underwood 1893) → *Podosphaera xanthii*; *Conyza canadensis* (L.) Cronquist [as *Erigeron canadensis* L.] (Asteraceae) – (Underwood 1893) → *Podosphaera erigerontis-canadensis*; *Coreopsis trichosperma* Michx. (Asteraceae) – (Underwood 1893) → *Podosphaera xanthii*; *Erechtites hieracifolius* (L.) Raf. ex DC. (Asteraceae) – (Underwood 1893) → *Podosphaera xanthii*; *Erigeron* sp. (Asteraceae) – (Rose 1886) → *Podosphaera erigerontis-canadensis*; *Glandularia × hybrida* (Groenl. & Rümpler) G.L. Nesom & Pruski [as *Verbena hybrida*] (Verbenaceae) – (MyCoPortal 2020) → *Podosphaera xanthii*; *Hieracium* sp. (Asteraceae) – (Rose 1886) → *Podosphaera xanthii*; *Lactuca* sp. (Asteraceae) – (Rose 1886) → *Podosphaera xanthii*; *Pedicularis lanceolata* Michx. (Orobanchaceae) – (Underwood 1893) → *Podosphaera phtheirospermi*; *Nabulus altissimus* (L.) Hook. [as *Prenanthes altissima* L.] (Asteraceae) – (Brannon 1898) → *Podosphaera xanthii*; *Prunella vulgaris* L. (Lamiaceae) – (Underwood 1893) → *Podosphaera elsholtziae*; *Shepherdia canadensis* (L.) Nutt. (Elaeagnaceae) – (MyCoPortal 2020) → *Podosphaera shepherdiae*; *Taraxacum officinale* F.H. Wigg. [as *Taraxacum dens-leonis* Desf.] (Asteraceae) – (Rose 1886) → *Podosphaera erigerontis-canadensis*; *Taraxacum officinale* F.H. Wigg. (Asteraceae) – (Underwood 1893; Van Hook 1915) → *Podosphaera erigerontis-canadensis*.

***Sphaerotheca fugax* Penz. & Sacc.**

Geranium maculatum L. (Geraniaceae) – (MyCoPortal 2020) → *Podosphaera fugax*

***Sphaerotheca fuliginea* sensu auct.**

Cucumis melo L. (Cucurbitaceae) – (Ruhl et al. 1987, 1991) → *Podosphaera xanthii*; *Cucurbita pepo* L. (Cucurbitaceae) – (MyCoPortal 2020) → *Podosphaera xanthii*; *Cucurbita* sp. (Cucurbitaceae) – (Latin 1993; Liu et al. 2011) → *Podosphaera xanthii*; *Geranium maculatum* L. (Geraniaceae) – (McCain 1994) → *Podosphaera fugax*; *Pedicularis lanceolata* Michx. (Orobanchaceae) – (Savile

1968) → *Podosphaera phtheirospermi*; *Taraxacum officinale* F.H. Wigg. (Asteraceae) – (McCain 1994) → *Podosphaera erigerontis-canadensis*; Host not indicated – (Bates et al. 2020): This taxon was considered a new species record for Indiana by Bates et al. (2020); we could not locate the MycoBank record that was referenced in that work, and without host data it is difficult to determine the correct species for this listing.

Sphaerotheca humuli sensu auct.

Agrimonia eupatoria L. (Rosaceae) – (Underwood 1893) → *Podosphaera aphanis* var. *aphanis*;

Agrimonia gryposepala Wallr. (Rosaceae) – (Anderson & Anderson 1919) → *Podosphaera aphanis* var. *aphanis*; *Comarum palustre* L. [as *Potentilla palustris* (L.) Scop.] (Rosaceae) – (Underwood 1893) → *Podosphaera aphanis* var. *aphanis*; *Filipendula rubra* (Hill) B.L. Rob. (Rosaceae) – (Anonymous 1960) → *Podosphaera filipendulae*; *Fragaria* spp. (Rosaceae) – (Pipal 1915) → *Podosphaera aphanis* var. *aphanis*; *Geum canadense* Jacq. (Rosaceae) – (Anonymous 1960) → *Podosphaera aphanis* var. *aphanis*; *Pedicularis lanceolata* Michx. (Orobanchaceae) – (MyCoPortal 2020) → *Podosphaera phtheirospermi*; *Prunella vulgaris* L. (Lamiaceae) – (Van Hook 1928) → *Podosphaera elsholtziae*; *Rhus aromatica* Aiton (Anacardiaceae) – (Anonymous 1960) → *Podosphaera pruinosa*; *Rhus canadensis* Mill. (Anacardiaceae) – (Gardner & Mains 1929) → *Podosphaera pruinosa*; *Rosa* sp. (Rosaceae) – (Van Hook 1930) → *Podosphaera pannosa*; *Viola* sp. (Violaceae) – (MyCoPortal 2020) → *Podosphaera violae*.

Sphaerotheca humuli var. fuliginea (Schltdl.)

E.S. Salmon

Bidens frondosa L. (Asteraceae) – (Anderson & Anderson 1919) → *Podosphaera xanthii*; *Bidens laevis* (L.) Britton, Sterns & Poggenb. (Asteraceae) – (Anderson & Anderson 1919) → *Podosphaera xanthii*; *Erigeron* sp. (Asteraceae) – (Anderson & Anderson 1919; Anonymous 1960) → *Podosphaera erigerontis-canadensis*; *Hieracium* sp. (Asteraceae) – (Anderson & Anderson 1919) → *Podosphaera xanthii*; *Lactuca floridana* (L.) Gaertn. var. *villosa* (Jacq.) Cronquist [*Lactuca villosa* Jacq.] (Asteraceae) – (Gardner 1928) → *Podosphaera xanthii*; *Lactuca* sp. (Asteraceae) – (Anderson & Anderson 1919;

Anonymous 1960) → *Podosphaera xanthii*; *Prunella vulgaris* L. (Lamiaceae) – (Fink & Fuson 1918; Anderson & Anderson 1919; Anonymous 1960) → *Podosphaera elsholtziae*; *Solidago* sp. (Asteraceae) – (Anonymous 1960) → *Podosphaera xanthii*; *Sonchus asper* (L.) Hill (Asteraceae) – (Van Hook 1928) → *Podosphaera xanthii*; *Taraxacum officinale* F.H. Wigg. (Asteraceae) – (Anderson & Anderson 1919) → *Podosphaera erigerontis-canadensis*.

Sphaerotheca macularis (Wallr.) Magnus

Filipendula rubra (Hill) B.L. Rob. (Rosaceae) – (MyCoPortal 2020) → *Podosphaera filipendulae*; *Physocarpus* sp. (Rosaceae) – (Ruhl et al. 1981, 1983) → *Podosphaera physocarpis*; *Rhus canadensis* Mill. (Anacardiaceae) – (McCain 1994) [author of fungus name mentioned as *S. macularis* (Wallr.:Fr.) Lind] → *Podosphaera pruinosa*.

Sphaerotheca mors-uvae (Schwein.) Berk. & M.A. Curtis

Ribes cynosbati L. (Grossulariaceae) – (Underwood 1893; Anderson & Anderson 1919) → *Podosphaera mors-uvae*; *Ribes uva-crispa* L. var. *sativum* DC. [as *Ribes grossularia* L.] (Grossulariaceae) – (Pipal 1915) → *Podosphaera mors-uvae*; *Ribes* spp. (Grossulariaceae) – (Pipal 1915; Stevenson et al. 1976) → *Podosphaera mors-uvae*; Unknown plant – (Fink & Fuson 1919) → *Podosphaera mors-uvae*.

Sphaerotheca pannosa (Wallr.) Lév.

Geum canadense Jacq. [as *Geum album* J.F. Gmel.] (Rosaceae) – (Underwood 1893) → *Podosphaera aphanis* var. *aphanis*; *Prunus persica* (L.) Batsch [as *Amygdalus persica* L.] (Rosaceae) – (Pipal 1915) → *Podosphaera pannosa*; *Rosa lucida* Ehrh. (Rosaceae) – (Underwood 1893) → *Podosphaera pannosa*; *Rosa multiflora* Thunb. (Rosaceae) – (McCain 1994) → *Podosphaera pannosa*; *Rosa* ‘Crimson Rambler’ (Rosaceae) – (Gardner 1928) → *Podosphaera pannosa*; *Rosa* ‘Dorothy Perkins’ (Rosaceae) – (Gardner 1928; Gardner & Mains 1929) → *Podosphaera pannosa*; *Rosa* ‘Double White Killarney’ (Rosaceae) – (Gardner 1928) → *Podosphaera pannosa*; *Rosa* spp. (Rosaceae) – (Underwood 1893; Pipal 1915; Gardner 1920, 1927; Van Hook 1928; Pecknold et al. 1975) → *Podosphaera pannosa*; Unknown plant – (Van Hook 1910; Fink & Fuson 1919) → *Podosphaera pannosa*.

Sphaerotheca phytoptophila Kellerm. & Swingle

Celtis occidentalis L. (Ulmaceae) [as *Phytoptus* fascicles on *Celtis occidentalis*] – (Underwood 1893; Anderson & Anderson 1919; McCain 1994) → ***Podosphaera phytoptophila***; Unknown plant – (Fink & Fuson 1919) → ***Podosphaera phytoptophila***.

Sphaerotheca sp.

Rosa sp. (Rosaceae) – (Ruhl et al. 1983) → ***Podosphaera pannosa***

Uncinula adunca (Wallr.) Lév.

Salix nigra Marshall (Salicaceae) – (Van Hook 1915) → ***Erysiphe adunca* var. *adunca***; *Salix* sp. (Salicaceae) – (Brannon 1898; McCain 1994) → ***Erysiphe adunca* var. *adunca***; Unknown plant – (Fink & Fuson 1919) → ***Erysiphe adunca* var. *adunca***.

Uncinula americana Howe

Vitis (The grape) (Vitaceae) – (Rose 1886) → ***Erysiphe necator* var. *necator***; Unknown plant – (Fink & Fuson 1919) → ***Erysiphe necator* var. *necator***.

Uncinula ampelopsidis Peck

Parthenocissus quinquefolia (L.) Planch. [as *Ampelopsis quinquefolia* (L.) Michx.] (Vitaceae) – (Brannon 1898) → ***Erysiphe necator* var. *ampelopsidis***; *Vitis vulpina* [as *Vitis cordifolia* Michx.] (Vitaceae) – (MyCoPortal 2020) → ***Erysiphe necator* var. *necator***; *Vitis* (The grape) (Vitaceae) – (MyCoPortal 2020) → ***Erysiphe necator* var. *necator***; Unknown plant – (Fink & Fuson 1919) → ***Erysiphe necator* var. *ampelopsidis***.

Uncinula circinata Cooke & Peck

Acer nigrum Michx. (Sapindaceae) – (Gardner 1928; Anonymous 1960) → ***Takamatsuella circinata***; *Acer rubrum* L. (Sapindaceae) – (Rose 1886; Underwood 1893; Anderson & Anderson 1919) → ***Takamatsuella circinata***; *Acer saccharinum* L. (Sapindaceae) – (Brannon 1898; Anderson & Anderson 1919; Gardner 1928) → ***Takamatsuella circinata***; *Acer saccharinum* L. [as *Acer dasycarpum* Ehrh.] (Sapindaceae) – (Underwood 1893) → ***Takamatsuella circinata***; *Acer saccharum* Marshall (Sapindaceae) – (Underwood 1893; Anderson & Anderson 1919; Van Hook 1928) → ***Takamatsuella circinata***; *Acer* spp. (Sapindaceae) – (Pipal 1915; Ruhl et al. 1981; Braun & Cook 2012) → ***Takamatsuella circinata***; Unknown plant – (Fink & Fuson 1919) → ***Takamatsuella circinata***.

Uncinula clintonii Peck

Tilia americana L. (Malvaceae) – (Underwood 1893; Pipal 1915; Anderson & Anderson 1919) → ***Erysiphe clintonii***; Unknown plant – (Fink & Fuson 1919) → ***Erysiphe clintonii***.

Uncinula flexuosa Peck

Aesculus hippocastanum L. (Sapindaceae) – (Underwood 1893; Pipal 1915; Cooke 1986) → ***Erysiphe flexuosa***; *Aesculus × carnea* Hayne (Hippocastanaceae) – (Van Hook 1935; Anonymous 1960) → ***Erysiphe flexuosa***; *Aesculus glabra* Willd. (Hippocastanaceae) – (Underwood 1893; Pipal 1915; Anderson & Anderson 1919; Van Hook 1928) → ***Erysiphe flexuosa***; *Aesculus* sp. (Hippocastanaceae) – (Brannon 1898) → ***Erysiphe flexuosa***; Unknown plant – (Fink & Fuson 1919) → ***Erysiphe flexuosa***.

Uncinula geniculata W.R. Gerard

Morus rubra L. (Moraceae) – (Underwood 1893; Anderson & Anderson 1919) → ***Erysiphe geniculata***; Unknown plant – (Fink & Fuson 1919) → ***Erysiphe geniculata***.

Uncinula macrospora Peck

Ulmus americana L. (Ulmaceae) – (Underwood 1893; Anderson & Anderson 1919; Van Hook 1935) → ***Erysiphe macrospora***; *Ulmus rubra* Muhl. [as *Ulmus fulva* Michx.] (Ulmaceae) – (Underwood 1893; Anderson & Anderson 1919) → ***Erysiphe macrospora***; *Ulmus* spp. (Ulmaceae) – (Pipal 1915) → ***Erysiphe macrospora***; Unknown plant – (Fink & Fuson 1919) → ***Erysiphe macrospora***.

Uncinula necator (Schwein.) Burrill

Parthenocissus quinquefolia (L.) Planch. [as *Psedera quinquefolia* (L.) Greene] (Vitaceae) – (Anderson & Anderson 1919) → ***Erysiphe necator* var. *ampelopsidis***; *Parthenocissus quinquefolia* (L.) Planch. [as *Ampelopsis quinquefolia* (L.) Michx.] (Vitaceae) – (Underwood 1893; Van Hook 1928) → ***Erysiphe necator* var. *ampelopsidis***; *Parthenocissus quinquefolia* (L.) Planch. (Vitaceae) – (McCain 1994) → ***Erysiphe necator* var. *ampelopsidis***; *Vitis labrusca* L. (Vitaceae) – (Anderson & Anderson 1919) → ***Erysiphe necator* var. *necator***; *Vitis riparia* Michx. (Vitaceae) – (Underwood 1894) → ***Erysiphe necator* var. *necator***; *Vitis vulpina* L. [as *Vitis cordifolia* Michx.] (Vitaceae) – (Underwood 1893; Anderson & Anderson 1919; Van Hook 1928) → ***Erysiphe necator* var. *necator***; *Vitis vulpina* (Vitaceae) – (Anderson & Anderson 1919) → ***Erysiphe necator* var.**

necator; *Vitis* (Thompson seedless grape) (Vitaceae) – (Van Hook 1935) → *Erysiphe necator* var. *necator*; *Vitis* spp. (Vitaceae) – (Underwood 1893; Pipal 1915; Van Hook 1915; Pecknold et al. 1975; Stevenson et al. 1976) → *Erysiphe necator* var. *necator*; Unknown plant – (Fink & Fuson 1919) → *Erysiphe necator* var. *necator*.

***Uncinula parvula* Cooke & Peck**

Celtis occidentalis L. (Ulmaceae) – (Underwood 1893) → *Erysiphe parvula*; Unknown plant – (Fink & Fuson 1919) → *Erysiphe parvula*.

***Uncinula salicis* (DC.) G. Winter**

Populus tremuloides Michx. (Salicaceae) – (Underwood 1893) → *Erysiphe adunca* var. *adunca*; *Populus* spp. (Salicaceae) – (Pipal 1915) → *Erysiphe adunca* var. *adunca*; *Salix cordata* Michx. (Salicaceae) – (Underwood 1893; Anderson & Anderson 1919) → *Erysiphe adunca* var. *adunca*; *Salix nigra* Marshall (Salicaceae) – (Underwood 1893) → *Erysiphe adunca* var. *adunca*; *Salix sericea* Marshall (Salicaceae) – (Underwood 1893; Anderson & Anderson 1919; Anonymous 1960) → *Erysiphe adunca* var. *adunca*.

Part 3: Doubtful records.—This list contains all Indiana records that we were not able to verify or reconcile with current classifications. Most represent names that are now known to be part of a species complex but lack sufficient host details or any voucher material to ascertain to which species they belong.

***Erysiphe alphitoides* (Griffon & Maubl.) U. Braun & S. Takam.**

Quercus lyrata Walter (Fagaceae) – (MyCoPortal 2020); *Quercus michauxii* Nutt. [as *Quercus bicolor* Willd. var. *michauxii* (Nutt.) Chapm.] (Fagaceae) – (MyCoPortal 2020); Host not indicated – (Bates et al. 2020).

Reported as a new record for Indiana by Bates et al. (2020), however, not otherwise reported from North America. It is likely these reports refer to *Erysiphe calocladophora*.

***Erysiphe cichoracearum* sensu lat.**

Unknown plant – (Van Hook 1910; Fink & Fuson 1919)

***Erysiphe communis* (Wallr.) Schldl.**

Heuchera americana L. (Saxifragaceae) – (Underwood 1893)
Unknown plant – (Fink & Fuson 1919)

Judging from Braun & Cook (2012), there is no *Erysiphe* record on the above host. This report very probably belongs to *Podosphaera macrospora* (U. Braun) U. Braun & V. Kumm, a common species on Saxifragaceae including *Heuchera* in North America.

***Erysiphe horridula* (Wallr.) Rabenh.**

Unknown plant – (Fink & Fuson 1919)

This taxon is based on *Alphitomorpha horridula* Wallr., which is an illegitimate name (Nom. superfl.).

***Erysiphe lamprocarpa* (Wallr.) Link**

Unknown plant – (Fink & Fuson 1919)

This taxon is based on a basionym *Alphitomorpha lamprocarpa* Wallr., which is a Nom. illegit. (Art. 52.1 Melbourn code).

***Erysiphe polygoni* sensu auct.**

Unknown plant – (Fink & Fuson 1919)

***Erysiphe quercina* Schwein.**

Host not indicated – (Bates et al. 2020)

Reported as a new record by Bates et al. (2020), the current name for this fungus is *Erysiphe alphitoides* (Griffon & Maubl.) U. Braun & S. Takam., a fungus not otherwise reported from North America. It is likely these reports refer to *Erysiphe calocladophora*.

***Erysiphe* sp.**

Dahlia sp. (Asteraceae) – (Ruhl et al. 1987)

Judging from Braun & Cook (2012), this record may belong to the genus *Golovinomyces* or, possibly, to the genus *Neoerysiphe*.

***Leveillula taurica* (Lév.) G. Arnaud**

Host not indicated – (Bates et al. 2020)

We were unable to confirm this record through either the literature or herbarium records. It is possible that this listing is referable to *Oidium obductum*, although it is difficult to connect without host information.

***Microsphaera alni* sensu auct.**

Unknown plant – (Van Hook 1910; Fink & Fuson 1919)

***Microsphaera diffusa* Cooke & Peck**

Unknown plant – (Fink & Fuson 1919)

Previous reports of the above species belong to *Erysiphe diffusa* or *E. symphoricarpi*. Without

host information it will be hard to connect the above record to one of those species.

Oidium balsamii Mont.

Host not indicated – (Bates et al. 2020)

The current name for this fungus is *Golovinomyces verbasci* (Jacq.) V.P. Heluta. We were unable to confirm this record; however the only known report of *G. verbasci* in the U.S. is from California (Moparthi et al. 2018) and this record likely refers to *Erysiphe cichoracearum* sensu lato.

Oidium roseum Zenoni

Host not indicated – (Bates et al. 2020)

We could not confirm this record and *Oidium roseum* is a name that has been applied to yeasts in the Saccharomycetales.

Phyllactinia corylea sensu auct.

Juglans cinerea L. (Juglandaceae) – (Pipal 1915)
Juglans sp. (Juglandaceae) – (Anonymous 1960)

Judging from Braun & Cook (2012) *Phyllactinia juglandis* J.F. Tao & J.Z. Qin, is the only reported species of *Phyllactinia* with a wide distribution range on *Juglans* spp. However, the identities of records from U.S. including those from Indiana are unclear as material was not available for review.

Phyllactinia suffulta (Rebent.) Sacc.

Desmodium sp. (Fabaceae) – (Brannon 1898)
Unknown plant – (Van Hook 1910; Fink & Fuson 1919)
Host not indicated – (Bates et al. 2020)

Phyllactinia desmodii J.F. Tao, J.Z. Qin & Y.Z. Shen, is the only *Phyllactinia* known on *Desmodium* which has been only reported from type locality in China, prov. Sichuan (Braun & Cook 2012). There was no specimen available to us to confirm its presence in Indiana.

Podosphaera oxyacanthae (DC.) de Bary

Diospyros virginiana L. (Ebenaceae) – (Rose 1886; Anderson & Anderson 1919)

There is no report of *Podosphaera* species on *Diospyros* in the last version of the powdery mildews world monograph (Braun & Cook 2012). Rose (1886) remarks regarding the chasmothecia “The perithecia, however, are few and scattered” are probably a sign to consider this record as another example of wind contamination of a host.

Rose (1886) also described all asci of this species as nine-spored, which is unusual for powdery mildew species.

Unknown plant – (Van Hook 1910; Fink & Fuson 1919)

Sphaerotheca castagnei Lév. nom. suprfli.

Unknown plant – (Fink & Fuson 1919)
Host not indicated - Bates et al. (2020)

Sphaerotheca humuli sensu auct.

Tamarix sp. (Tamaricaceae) – (Anonymous 1960)

Considered as a very doubtful report under *Podosphaera macularis* by Braun & Cook (2012).

Sphaerotheca humuli var. fuliginea (Schltld.)

E.S. Salmon

Tamarix sp. (Tamaricaceae) – (Fink & Fuson 1918)

Unknown plant – (Fink & Fuson 1919)

Considered as a very doubtful report under *Podosphaera macularis* by Braun & Cook (2012).

Uncinula geniculata W.R. Gerard

Salmon (1900) reported the presence of chasmothecia of the above species on *Hydrophyllum appendiculatum*, specimen number BPI 1003 collected from Crawfordsville, Indiana labelled as “*Erysiphe cichoracearum* DC.” He left the case doubtful. We fully agree with Salmon and believe that chasmothecia probably dislodged by wind and deposited on *Hydrophyllum* leaves. Braun & Cook (2012) considered a similar case for some *Phyllactinia* species records in North America, as well.

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