NOTES ON WISCONSIN PARASITIC FUNGI. VI.

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The fungi mentioned in this series of notes, unless otherwise specified, were collected in the vicinity of Madison in 1943. Like 1942, 1943 was very favorable for the development of parasites and a considerable number of new and rare species were found.

The rare PHYSODERMA MENYANTHIS DeBary occurred on *Menyanthes trifoliata* near Eagleville in southwestern Waukesha Co. Coll. July 5, 1941. A single earlier collection of this was made by Davis in 1902 in Vilas Co.

PERONOSPORA PARASITICA (Pers.) Fr. was found on *Draba caroliniana* at Madison, May 1. Cheney found this on *D. caroliniana* at Madison in 1895, and Davis and I collected it in Columbia Co., near Prairie du Sac, in 1935. The scarcity of specimens is probably due to the fact that the host flourishes very early and is largely overgrown by other foliage by the time most collectors get into the field.

PERONOSPORA TRIFOLIORUM DeBary was collected in some abundance on *Lupinus perennis* at Hancock, Waushara Co., June 2, by Dr. B. M. Duggar. A single very scanty earlier specimen on this host is from Millston, Jackson Co., taken in 1915 by Davis.

PERONOSPORA HEDEOMAE Kell. & Sw. occurred on *Hedeoma hispida* at Madison, June 15. The only previous station for this on *H. hispida* is Blue River, Grant Co., where Davis and I collected it in 1935.

Tanacetum vulgare was heavily infected with the oidial stage of a powdery mildew. Species of Erysiphe and Sphaerotheca have been reported on this host in Europe. *Aster linariifolius* was similarly infected, presumably by ERYSIPHE CICHORACEARUM DC.

CAPNODIUM sp. has been seen in abundant development on *Pinus strobus* from Stanley, Chippewa Co. Although this is perhaps not a parasite it is probably damaging to the pine, and is

said to produce serious effects on the trees bearing it. Whether this is identical with CAPNODIUM PINI B. & C., described on "pine" from Maine is questionable.

As previously noted, PHYLLACHORA BOUTELOUAE Rehm, so far as observed, comes to maturity on *Bouteloua curtipendula* in Wisconsin only after overwintering, and then but sparsely. Leaves of this grass bearing the Phyllachora, from the previous season, were collected and examined April 8. No asci with mature spores were observed. Portions of a number of the leaves were immersed in shallow water in a Petri dish and left at room temperature for 48 hours. Fifteen ascomata from as many leaf segments were then examined and all except one had matured. Ascomata from dry leaves showed no further development. In October leaves of the current season were treated in the same fashion, but none of the uniformly immature ascomata showed any change.

In the fall of 1942 several clumps of *Panicum virgatum* in the University Arboretum were very heavily infected with supposed immature PHYLLACHORA GRAMINIS. The clumps were marked and collections made in the spring of 1943, but no further development had taken place, and material placed in a moist chamber failed to mature.

CRYPTOSPORELLA ANOMALA (Pk.) Sacc. on living shoots of *Corylus americana*, May 21. Reported by Trelease, but there are no interim Wisconsin collections in the herbarium. Concerning this species Ellis and Everhart in "North American Pyrenomycetes", p. 531, state "The pustules appear first on the smaller branches and are seriately arranged along one side of the branch; afterwards they appear also on the larger branches and on the trunk itself, and in the course of two or three years the part of the tree above ground is entirely killed. The roots, however, still retain their vitality and continue to send up each year a luxuriant growth of new shoots destined to be destroyed the succeeding year by the inexorable pest."

ENTYLOMA COMPOSITARUM Farl. occurred on *Senecio aureus*, June 30. It has been found once or twice before in Wisconsin on this host, and on the basis of one of these collections Ciferri (Ann. Mycol. 26: 40, 1928) set up the new species ENTYLOMA WISCONSINENSE which Davis does not consider to be distinct from E. COMPOSITARUM.

Professor R. I. Evans has recently found among the manuscripts of the late L. S. Cheney a packet bearing rusted leaves of *Betula pumila*, collected in July 1906 at Bloomer, Chippewa Co. This is the uredial stage of MELAMPSORIDIUM BETULINUM (Pers.) Kleb., rarely collected in Wisconsin and hitherto represented in the herbarium by but a single specimen from the state.

Although the aecial stage of COLEOSPORIUM SOLIDAGINIS (Schw.) Thüm. is probably not uncommon on *Pinus banksiana* in Wisconsin it has seldom been collected. There are but three satisfactory specimens, all recent, from Dane, Grant, and Adams Cos. The lone collection on *Pinus resinosa* is from Grant Co.

If one may judge by the scarcity of material in the herbarium, the aecial stage of UROMYCES LESPEDEZAE-PROCUMBENTIS (Schw.) Curt. is rarely developed in Wisconsin. This was abundant on *Lespedeza capitata* in the University Arboretum in June. Despite considerable previous collecting experience, over a period of years, in regions where the host is fairly common, I have never before encountered aecia of this rust, although uredia and telia are of course regularly produced.

LIATRIS PYCNOSTACHYA was heavily infected by PUCCINIA LIATRIDIS (Webber) Bethel in the University Arboretum in July. The sole previous station for the rust on this host is near Eagle in Waukesha Co. The source of the infection is a puzzle, for there are no stands of rusted *Koeleria cristata*, the alternate host, anywhere in the vicinity so far as I know.

PUCCINIA HELIANTHI Schw. I has been found on *Helianthus strumosus*, June 14. Trelease in 1885 reported aecia of this rust on *H. strumosus*, but early reports are questionable.

PUCCINIA HIERACII (Schum.) Mart. II, III occurred in profusion on *Agoseris cuspidata*, June 9. Professor N. C. Fassett made a single small earlier collection on this rare host at Pine Bluff, Dane Co.

Davis in 1893 reported UROMYCES SILPHII (Burr.) Arth. I (as AECIDIUM COMPOSITARUM) on *Silphium integrifolium* from Racine. There is, however, no specimen at the University of Wisconsin. This was in great abundance on close plantings of *S. integrifolium* in the University Arboretum in June; also found on the Scuppernong Prairie near Eagle, Waukesha Co. in June.

Ellis and Everhart (Bull. Torr. Bot. Club *24*: 285, 1897) described PHYLLOSTICTA GALLICOLA occurring on insect-produced

galls which have been known as "RHYTISMA SOLIDAGINIS". A somewhat similar form has been found at Madison on poorly developed galls on the leaves of *Solidago latifolia* (cult.). The conidia of PH. GALLICOLA were described as being 6–15 × 6–8μ, but those of the fungus on *Solidago latifolia* are 14–21 × 5–7μ. It seems improbable that this is a parasite.

DARLUCA FILUM (Biv.) Cast. occurs on telia of PUCCINIA ELEOCHARIDIS on *Eleocharis acicularis*. In the great majority of cases this parasite occurs on uredia only.

A fungus which is perhaps referable to Ascochyta was found on leaves of *Leonurus cardiaca*, July 13. It is definitely not ASCOCHYTA LEONURI Ell. & Dearn. In this specimen the spots are rather large, angled, blackish brown, one or two to a leaf. The thin-walled pycnidia are about 100–130μ, or somewhat more in diam. The conidia are quite variable with many of the larger ones running 10–12 × 3.5–4μ, with a single median septation. The shorter conidia are mostly about 5–6μ long, and continuous. It may be that they are immature. At any rate the material does not seem sufficiently well-defined to warrant description of a new species without additional confirmatory specimens.

So-called "Davisiella" has been found in PHYLLACHORA BOUTELOUAE Rehm on overwintered leaves of *Bouteloua curtipendula*. The conidia are obscurely 3-septate, almost cylindrical, tapering slightly at each end, mostly about 17–22 × 3μ. For previous discussions of conidial forms associated with Phyllachora see the following, all appearing in the Trans. Wis. Acad. Sci.: Vols. 19(2): 701, 1919; 22: 166 (1926); 30: 7 (1937); 34: 86 (1942); 35: 116 (1943). In addition to PH. BOUTELOUAE, PH. GRAMINIS, PH. LUTEOMACULATA, PH. PUNCTA and PH. VULGATA have been found bearing "Davisiella" in one or another form.

STAGONOSPORA CARICINELLA Brun. collected on *Carex pennsylvanica*, May 6, has spores some of which have as many 6 septations and are 27 × 5μ, while what is supposedly the same species, found on a broad-leaved Carex on May 8, has spores 10–13 × 3–3.5μ, some of which are uniseptate, others continuous. Davis gives a rather extensive discussion of this form in Trans. Acad. Sci. 18(1): 264 (1915).

A fungus which is assigned to STAGONOSPORA LUZULAE (West.) Sacc. was found on dead tips of leaves of *Luzula saltu-*

ensis from Sauk Co. The hyaline conidia are mostly 2-septate, guttulate, straight, 12–15 × 3μ. It is doubtful that this is parasitic.

SEPTORIA BETULAE (Lib.) West. and SEPTORIA BETULICOLA Peck show a tendency to integrade and may not be specifically distinct. A recent collection on *Betula alba* var. *papyrifera* has rather small, angled spots with a ragged, incomplete dark brown border and a light brown center on which the pycnidia are borne. The spots are distinct and sharply defined, with the pycnidia easily visible by transmitted light. The sporules are about 30–40 × 2–2.5μ. This has been filed under S. BETULAE. Davis discussed these forms at some length. (See Trans. Wis. Acad. Sci. 18(1): 102, 1915).

Aconitum novaboracense var. *quasiliatum* Fassett, collected at Parfrey's Glen, Sauk Co., July 30, 1929, bears a Septoria which may be allied to SEPTORIA LYCOCTONI Speg. Unfortunately the areas with the Septoria are overrun with Colletotrichum so that the character of the original spots cannot be determined. The pycnidia are about 100μ diam., or slightly more, and the slender continuous sporules 15–25 × 1μ. There are no previous reports of fungi on this rare host.

SEPTORIA LYTHRINA Peck was found in profuse development on *Lythrum alatum*, July 15. In 1910 Davis reported this from Union Grove, Racine Co., but there is no specimen at the University of Wisconsin.

A clean-cut and well-defined species of Septoria occurred in small quantity on leaves of *Gentiana procera*, Lake Wingra marsh, Madison, September. This is quite unlike S. GENTIANAE Thüm., S. GENTIANOIDES Dearn. & House, or S. MICROSORA Speg. The spots are gray with a distinct light tan border, rounded, 5 mm. diam.; the large black pycnidia are gregarious, strongly erumpent, their position being evident whichever side of the leaf is inspected; pycnidia 250–300μ diam.; sporules hyaline, pluriseptate, slender, about 40–50 × 1.5μ. This has filed temporarily under SEPTORIA sp., for the small size of the specimen precludes its use as a type.

Previous collections of SEPTORIA LINARIAE Greene on *Linaria canadensis* (see Trans. Wis. Acad. Sci. 35: 130, 1943) have been notable for heavy infections of stems as well as leaves, but a gathering made in early June 1943 shows pycnidia only on the

tips of the lower leaves. Later specimens, however, show stems infected, so it would appear that the leaves are first attacked. The host is an annual and the presumption is that the infection is seed borne.

SEPTORIA CAMPANULAE (Lev.) Sacc. developed in some quantity on *Campanula aparinoides* in August. A single earlier collection on this host is from Spooner, Washburn Co., made by Davis in 1911.

The report of SEPTORIA DAVISII Sacc. (S. FUMOSA Peck) on *Solidago canadensis* in Davis' "Parasitic Fungi of Wisconsin" is in error as to host which should be *Solidago altissima.* (see Davis, Trans. Wis. Acad. Sci. 24: 281, 1929).

Until recently SEPTORIA COREOPSIDIS J. J. Davis has been represented in the herbarium only by the type specimen collected at Hixton, Jackson Co., in September 1917. This was found at Madison on the same host, August 1943. Here the sporules, which seem well-developed, are from 20–35μ long, instead of 30–50μ as in the type.

Davis reported SEPTORIA KRIGIAE Dearn. & House on the scapes and involucral bracts of *Krigia virginica.* This is one of the earliest of the spring flowering composites of the region and Davis' material taken on June 20, represents but the dried remains of the plant and does not include the basal rosette which had died away. A collection of the same parasite was made May 13 on the green basal leaves at Mazomanie, Dane Co.

A Septoria which appears to belong to the S. LACTUCAE-LACTUCICOLA group has been found in small quantity on leaves of *Agoseris cuspidata.* The pycnidia are small, slightly less than 100μ, the conidia slender, straight, continuous, about 22–25 $\times$ 1.5μ. The identification can be only tentative in the lack of ample material and seeming absence of previous reports of Septoria on Agoseris.

Trelease in his preliminary list of Wisconsin parasitic fungi reported SEPTORIA sp. on leaves of *Silphium integrifolium.* This was later reported by Davis as SEPTORIA SILPHII Ell. & Ev., so I suppose he checked the Trelease specimen, at present in the herbarium of the Missouri Botanical Garden. Davis did not find the fungus on this host, but it occurred in profusion on *S. integrifolium* in June in the University Arboretum. It seems to be without question the same thing Trelease had, judging from his short descriptive notes.

LEPTOSTROMA PINASTRI Desm. (the conidial stage of LOPHODERMIUM PINASTRI (Schrad.) Chev.) appears to be rarely developed on *Pinus resinosa* in Wisconsin. Out of many hundreds of leaves examined, most of them with the perfect stage, I have found but a single one bearing the Leptostroma. There are two specimens on *Pinus banksiana* in the herbarium.

In Notes II (Trans. Wis. Acad. Sci. 34: 98, 1942) in connection with SPORONEMA TRIFOLII n. sp. it was stated "Apparently it usually occurs in association with ASCOCHYTA TRIFOLII or GLOEOSPORIUM TRIFOLII. . . ." As should have been specified, these names are synonyms of STAGONOSPORA RECEDENS (C. Massal.) Jones & Weimer. (see Jour. Agr. Res. 57: 791-812, 1938).

A perplexing form intermediate between Gloeosporium and Colletotrichum, appearing parasitic, has been found on large, deep brown, orbicular spots on leaves of *Pyrola elliptica*. The acervuli are deeply seated in the host tissue, inconspicuous, small, about 60–75μ diam., with pale brown setae which are scarcely longer than the diameter of the acervulus. The conidia are fusoid or short-cylindrical, mostly about 10 $\times$ 4μ, and are of a type more commonly associated with Gloeosporium than with Colletotrichum. Some of the acervuli lack setae, but since the conidia are the same it appears that only a single fungus is involved.

Bulblets of *Allium tricoccum* from Ridgeway, Iowa Co., bear acervuli of Colletotrichum on the scales. This does not seem to be COLLETOTRICHUM CIRCINANS, and it is difficult to say whether it is parasitic. There is no admixture of any other of the common saprophytes.

A fungus which is perhaps referable to CYLINDROCEPHALUM Bon. occurs on languishing foliage of *Caulophyllum thalictroides*, collected at Blue Mounds, Iowa Co., August 13, 1938. Microscopically this is not unlike CYLINDROCEPHALUM HYALINUM (Cke. & Harkn.) Sacc. as described, although the conidia are somewhat shorter. Occasional conidiophores are branched. It is likely that this is parasitic, since it causes more or less definite spotting in leaf areas which are still green.

RAMULARIA ARVENSIS Sacc. developed abundantly on *Potentilla canadensis* in June. This fungus is of course extremely common on *Potentilla norvegica* var. *hirsuta*, but is usually not found on *P. canadensis*.

A species of Cladosporium has been collected on living leaves of *Lysimachia terrestris*. There seem to be no reports of Cladosporium on Primulaceae. This fungus is not morphologically distinct from various other species of Cladosporium as described, and it is felt that host relationship alone is insufficient to warrant erection of a new species in this case.

CLADOSPORIUM ASTERICOLA J. J. Davis has been collected on *Solidago speciosa* on one previous occasion. The earlier specimen is on leaf blades only, as is the case with specimens on other hosts. In the recent collection, however, the fungus is principally on the upper stem, forming small, rounded, well-defined patches.

In a previous publication (Trans. Wis. Acad. Sci. 32: 81, 1940) I reported CLADOSPORIUM NERVALE Ell. & Dearn. on EUPHORBIA COROLLATA. It now appears that this was the dubious FUSICLADIUM FASCICULATUM C. & E. (PASSALORA FASCICULATA (C. & E.) Earle). I was misled by the exceptionally long and lax conidiophores in the specimen in question and by definite evidence of catenulation of the conidia. I believe that this organism would be much better placed under Cladosporium, but refrain from any action, since the proper position of the fungus has long been in dispute. Davis reported PASSALORA FASCICULATA on *E. corollata* from Racine in 1903, but there is no specimen collected by him on this host at the University of Wisconsin. I have specimens from Madison and from the vicinity of Lodi, Columbia Co.

The report of CERCOSPORELLA FILIFORMIS J. J. Davis on *Thalictrum dasycarpum* (Trans. Wis. Acad. Sci. 32: 80, 1940) is plainly in error. This is CYLINDROSPORIUM THALICTRI Ell. & Ev. which is probably not a good Cylindrosporium, but perhaps might be referred to CERCOSEPTORIA Petrak.

CERCOSPORA SEQUOIAE var. JUNIPERI Ell. & Ev., so-called, was destructive to plantings of *Juniperus communis* var. *depressa* in the University of Wisconsin Arboretum. Professor Chupp doubts that this is a good Cercospora, and states that in any case it bears so little resemblance to C. SEQUOIAE it can hardly be considered a variety thereof.

So far as I am aware the only hitherto known station for CERCOSPORA FUSIMACULANS Atk. on *Leptoloma cognatum* is Madison where I collected it in 1942. It has been found recently on a

specimen of the same host from Muscoda, Grant Co., collected in 1935, but filed away at the time and later overlooked.

The rare CERCOSPORA SANGUINARIAE Peck was found in abundance on *Sanguinaria canadensis* in Baxter's Hollow, Town of Sumpter, Sauk Co., July 10, and also at Ridgeway, Iowa Co., July 24. As Peck states "Owing to the scattered mode of growth of the flocci the fungus is scarcely visible, but the large smoky-brown spots are very conspicuous." One scanty earlier collection of this was made at Phlox, Langlade Co., in 1914.

CERCOSPORA LYTHRI (West.) Niessl developed quite generally on *Lythrum alatum* at Madison. This is an exceedingly inconspicuous fungus, but its presence is detectable by the pronounced reddening of the host leaves. This species is perhaps more common than would be indicated by the two collections in the herbarium. (Davis took a specimen at Racine in August 1900).

ADDITIONAL HOSTS

The fungi mentioned in the following list have been previously reported as occurring in Wisconsin, but not on the particular hosts cited here.

ALBUGO CANDIDA (Pers.) O. Ktze. on *Lepidium campestre.* June 7. The weedy host has become widespread in southern Wisconsin.

BREMIA LACTUCAE Regel on *Lactuca ludoviciana.* August 29.

MICROSPHAERA ALNI (Wallr.) Wint. on *Betula sandbergii.* September 10.

ERYSIPHE POLYGONI DC. on *Delphinium cultorum.* October 12. University Horticultural Gardens.

ERYSIPHE CICHORACEARUM DC. on *Galium aparine.* July 7. In this material the perithecia are very large, approaching the upper size limits for the species. Davis (Trans. Wis. Acad. Sci. 18(1): 252, 1915) mentions that at one time at Racine there occurred a destructive outbreak of Erysiphe on this host. He states "On examination from time to time no spores were found in the asci and no specimens were preserved for that reason as I did not know at that time that they were not formed during the season. . . ." However that may be, in the present material the characteristic spores and asci are well developed. A massive growth of the host was completely covered by the mildew, perithecia being developed even on the fruits.

The fungus known as SPHAERIA SOLIDAGINIS Schw. (of questionable status) listed by Davis as occurring on *Solidago altissima* in Wisconsin is also found on *Solidago serotina.* October 12, 1942.

HYPOMYCES LACTIFLUORUM (Schw.) Tul. on *Cantharellus* sp. July 18. This seems not to have been reported before on Cantharellus in these lists, although it is not rare. Specific identification of the host cannot be made because of the distortion caused by the systemic infection.

EOCRONARTIUM MUSCICOLA (Pers. ex Fr.) Fitzp. on *Homomallium adnatum* (*Amblystegiella adnata*). Sauk Co., Parfrey's Glen, July 10. Coll. Prof. G. S. Bryan. Host det. by Prof. R. I. Evans.

COLEOSPORIUM TEREBINTHINACEAE (Schw.) Arth. II, III on *Silphium terebinthinaceum.* On seedling leaves. October 6. Davis collected this on *Silphium perfoliatum* at Lancaster, Grant Co., suggesting that the fungus was probably not a permanent member of the Wisconsin flora. The present collection, however, seems to offer evidence for the affirmative.

UROPYXIS AMORPHAE (Curt.) Schroet. I on *Amorpha fruticosa.* Sauk Co., Town of Prairie du Sac. Two collections made by Davis in 1931 and 1932 bear the uredinoid aecia, clustered and in close association with the pycnia. Uredia and telia only have hitherto been reported for Wisconsin. Davis undoubtedly saw the pycnia, but holding to the older usage, regarded the associated structures as uredia rather than aecia. The change is made to conform with Arthur's manual of the rusts, the accepted standard of present-day workers in this region. Determination confirmed by Dr. Cummins.

PUCCINIA GRAMINIS Pers. III on *Koeleria cristata.* Bayfield Co., Iron River, September 16, 1937. Coll. N. C. Fassett (No. 19119) This appears to be an eastward extension of the range insofar as this host is concerned. Determination confirmed by Dr. Cummins.

PUCCINIA EXTENSICOLA Plowr. I on *Aster paniculatus* var. *simplex* (*Aster tradescanti*), June 14.

PUCCINIA HELIANTHI Schw. I on *Helianthus grosseserratus.* June 18.; on *Helianthus giganteus,* June 19.

GYMNOSPORANGIUM GLOBOSUM Farl. I on *Crataegus mollis.*

September 6; on *Crataegus monogyna* (*C. oxyacantha*). September 15. Seemingly rarely developed on the latter host.

PHYLLOSTICTA TRILLII Ell. & Ev. on *Trillium declinatum.* Dane Co., Mt. Vernon, July 5, 1938. This is referred here with doubt. Davis reported this on *Trillium cernuum* and I have listed it on *T. grandiflorum.* Careful microscopic comparison of all three collections indicates that this fungus might perhaps better be assigned to Gloeosporium, although it is surely not GL. TRILLI Ell. & Ev. On the other hand, the leaves of Trillium are very thin, which might account for the imperfect development of the pycnidia.

PHYLLOSTICTA MINUTISSIMA Ell. & Ev. on *Acer rubrum.* September 14. Probably merely the precursor of a perfect stage with the tiny "conidia" non-germinable.

PHYLLOSTICTA DESMODII Ell. & Ev. on *Desmodium canadense.* August 19.

PHYLLOSTICTA LIATRIDIS J. J. Davis on *Liatris spheroidea* f. *benkei.* Waukesha Co., Eagleville, August 8. The lesions here are very similar to those of the type specimen on *Liatris spicata,* but the spores are somewhat smaller and verging on the ellipsoidal.

PHYLLOSTICTA LABRUSCAE Thüm. on *Parthenocissus tricuspidata* (cult.). July 25.

PHYLLOSTICTA NEBULOSA Sacc. on *Silene latifolia.* July 8; on *Silene dichotoma.* July 13.

ASCOCHYTA PISI Lib. on leaves of *Lupinus perennis.* June 7. The spores here are of about the size specified by Sprague (Phytopath. 19: 927, 1929) for this fungus as it appears on *Pisum sativum* and varieties, i. e., usually rather narrow and with the mean spore length less than 13.5μ.

STAGONOSPORA ATRIPLICIS (West.) Lind. on *Atriplex patula* var. *littoralis.* Dane Co., Black Earth, August 11, 1941. Coll. M. P. Backus.

STAGONOSPORA APOCYNI (Peck) Davis on *Apocynum cannabinum.* August 5. This was excellent material and developed in quantity. Judging by his remarks, Davis seems at one time to have had an unsatisfactory specimen on *A. cannabinum,* but there is no collection of his in the herbarium.

SEPTORIA POPULI Desm. occurred as a disfiguring and defoli-

ating leaf blight on a large array of poplar hybrids in a nursery in the University Arboretum. The infection was so severe as bring into serious question the desirability of these trees as subjects for ornatmental plantings. Some of the hybrids affected were as follows (the names are those employed by the nurserymen and are certainly in some cases botanically incorrect.): *Populus berolinensis* × *angulata, P. charkowiensis* × *caudina, P. charkowiensis* × *trichocarpa, P. maximowiczii* × *berolinensis, P. maximowiczii* × *plantierensis, P. maximowiczii* × *trichocarpa, P. nigra* × *laurifolia, P. nigra* × *trichocarpa, P. nigra betulifolia* × *trichocarpa, P. petrowskyana* × *caudina, P. rasumoskyana* × *caudina, P. sargentii* × *berolinensis rossica,* and *P. tacamahacca candicans* × *berolinensis.*

SEPTORIA VIOLAE West. on *Viola sagittata.* July 4. The sporules are small, 16–20 × 1μ, the dimensions given by Diedicke in the Kryptogamenflora der Mark Brandenburg.

SEPTORIA POLYGONORUM Desm. on *Polygonum persicaria.* July 29. Also found on a phanerogamic specimen of this host collected by Prof. N. C. Fassett at St. Croix Falls, Polk Co., September 3, 1927.

SEPTORIA MELANDRII Pass. on *Lychnis flos-cuculi.* Sheboygan Co., Sheboygan, June 1903. On a phanerogamic specimen collected by the late Chas. Goessl; on *Silene dichotoma,* Madison, July 13. Although this species seems not to have been reported on Silene, it corresponds well with S. MELANDRII as it appears on *Lychnis alba.* The sporules are up to 65μ long.

SEPTORIA SCUTELLARIAE Thüm. on *Scutellaria parvula* var. *ambigua.* June 17. This seems not to have been reported before on this host from Wisconsin or elsewhere.

SEPTORIA LYSIMACHIAE West. on *Lysimachia terrestris.* August 24. Apparently the first report of Septoria on this host.

SEPTORIA SONCHIFOLIA Cke. on *Sonchus arvensis.* July 13. Also found on a phanerogamic specimen of the same host collected at Appleton, Outagamie Co., in 1928.

LEPTOTHYRIUM PUNCTIFORME B. & C. on *Erigeron ramosus.* June 9.

MARSONIA FRAXINI Ell. & Davis on *Fraxinus americana.* August 5. The large uniseptate conidia are here borne in definite acervuli. Typical conidia measure 35–40 × 5–6μ.

COLLETOTRICHUM SOLITARIUM Ell. & Barth. on *Solidago juncea.* August 16.

CYLINDROSPORIUM BETULAE J. J. Davis on *Betula sandbergii.* July 30. Most of the specimens in the herbarium appear to be on the hybrid rather than on *B. pumila* as labelled.

CYLINDROSPORIUM ARTEMISIAE Dearn & Barth. on *Artemisia ludoviciana.* June 12.

RAMULARIA VIRGAUREAE Thüm. on *Aster ptarmicoides.* September 1. Many of the conidia in this specimen are of the Cercosporella type, up to 100μ long. It is possible that a scanty earlier collection on *A. ptarmicoides* from Eagleville, Waukesha Co., which was referred to RAMULARIA ASTERIS (Phil. & Plowr.) Bubak, should have been placed under R. VIRGAUREAE.

RAMULARIA TARAXACI Karst. on *Taraxacum erythrospermum.* May 26.

SCOLECOTRICHUM GRAMINIS Fckl. on *Muhlenbergia racemosa.* August 24.

HELMINTHOSPORIUM SATIVUM Pamm., King & Bakke on *Agropyron repens.* May 24. Professor J. L. Allison of the Department of Plant Pathology at the University of Wisconsin informs me that he has collected H. SATIVUM on quack grass on several occasions.

CERCOSPORELLA CANA Sacc. on *Erigeron philadelphicus.* July 4.

CERCOSPORA MUHLENBERGIAE Atk. on *Muhlenbergia racemosa.* August 14.

CERCOSPORA POLYGONACEA Ell. & Ev. on *Polygonum convolvulus.* July 1. Determination confirmed by Prof. Chupp.

CERCOSPORA VIOLAE Sacc. on *Viola sagittata.* July 4. Determined by Prof. Chupp.

CERCOSPORA PARVIMACULANS J. J. Davis on *Solidago altissima.* August 24.

CERCOSPORA BIDENTIS Tharp on *Bidens coronata.* September 10. The first report of Cercospora on this host. Determination confirmed by Prof. Chupp.

ADDITIONAL SPECIES

The species listed below have not previously been reported to occur in Wisconsin.

SYNCHYTRIUM HOLWAYI Farl. on *Monarda fistulosa.* A small collection made on June 29, but found in abundance in the same vicinity July 27. This species has resting sporangia much smaller than those of SYNCHYTRIUM AUREUM.

According to Professor Mix (Mycologia *30*: 570-5, 1938) the report of TAPHRINA FILICINA Rostr. on *Cystopteris fragilis* in Wisconsin is erroneous and the fungus should be referred to TAPHRINA CYSTOPTERIDIS Mix n. sp.

SCLEROTINA LAXA Aderh. & Ruhl. (Monilia stage) has been found on sour cherry (*Prunus cerasus*) in Door Co. Coll. J. D. Moore, June 1, 1942. Det. G. W. Keitt.

NAEMACYCLUS NIVEUS (Pers. ex Fr.) Sacc. on *Pinus sylvestris* (cult.). May 1. On fallen needles. Det. Dr. G. D. Darker. Clements and Shear place this interesting fungus in the family Stictidaceae of the Phacidiales. It is differentiated from similar forms in the Hysteriaceae by color and consistency and by the disk being widely exposed at maturity. This organism causes a typical needle casting of pines, and Darker in his "Hypodermataceae of Conifers" states that the disease is of sufficient importance to warrant careful investigation.

DOASSANSIA OCCULTA (Hoffm.) Cornu on *Potamogeton gramineus* var. *graminifolius.* Douglas Co., Town of Lake Nebagamon, Sect. 1, T46N, R11W, August 22. Coll. N. C. Fassett. Host det. by Prof. Fassett.

PUCCINIA VIRGATA Ell. & Ev. II, III on *Sorghastrum nutans.* October 2. Profuse development of uredia was observed as early as the last week in August.

PHYLLOSTICTA HISPIDA Ell. & Dearn. on *Smilax hispida.* Dane Co., near Sauk City, October 15, 1935. Coll. Davis & Greene. The conidia are very small, of the bacillary type, 5–6 $\times$ 1μ. The material was overwintered but failed to develop further. This is plainly the same thing which was issued under this name as No. 3541 in North American Fungi.

PHYLLOSTICTA VIOLAE Desm. on *Viola* sp. (probably *V. pubescens*). July 19. In this specimen the conidia are about 10–13 $\times$ 3.5–4.5μ. Davis in his "Parasitic Fungi of Wisconsin", p. 67, states "PHYLLOSTICTA VIOLAE Desm. was included in the Provisional List, but I find no Wisconsin specimen." The species is therefore entered here as new to the state.

PHYLLOSTICTA ROSAE Desm. on *Rosa* sp. September 2. Probably not uncommon, but apparently hitherto unreported.

PHYLLOSTICTA MONARDAE Ell. & Barth. on *Monarda fistulosa.* August 19. Referred here with some doubt. The spots are conspicuous, with a small rounded light gray center, about 1 mm. diam., and a wide much darker border, the whole producing a suborbicular spot 3–5 mm. diam. The spores are of the dimensions specified in the original description. A Phyllostica found on *Blephilia ciliata,* June 25, is likewise assigned to PH. MONARDAE. The conidia are small 4–6 × 1.5μ, and the pycnidia, which are about 100μ diam., are borne on very small, arid, purple-bordered spots. The spots are of the type so frequently seen on *Monarda fistulosa* which have been, in my experience, consistently sterile.

PHYLLOSTICTA SICCATA n. sp.

Spots white, arid, suborbicular, sunken, with raised border, 1–2 mm. diam.; pycnidia epiphyllous, gregarious, subglobose, olivaceous, thin-walled, ostiolate, 75–125μ diam.; conidia hyaline, ellipsoid, 4–5 × 3–3.5μ.

On leaves of *Solidago serotina.* Madison, Wis., U. S. A., July 14, 1943.

PHYLLOSTICTA SICCATA sp. nov.

Maculis albidis, aridis, suborbicularibus, depressis, cum marginibus elevatis, 1–2 mm. diam.; pycnidiis epiphyllis, gregariis, subglobosis, olivaceis, muris tenuibus, ostiolatis, 75–125μ diam.; conidiis hyalinis, ellipticis, 4–5 × 3–3.5μ.

In foliis *Solidaginis serotinae.* Madison, Wis., U. S. A.

SCLEROPHOMA PITHYOPHILA (Cda.) v. Hoehn. occurs commonly on fallen needles of various pines (e. g., *Pinus banksiana, P. resinosa, P. strobus* and *P. sylvestris* in Wisconsin). While this fungus is probably normally a saprophyte it appears that it may occasionally function as a weak parasite. Many small trees of *Pinus strobus* in a plantation in the University Arboretum show foliage with the individual needles brown and dead to about halfway back from the tip, but still green at the base. The brown portions are thickly beset with the erumpent pycnidia of S. PITHYOPHILA. It is possible that insects are primarily responsible for the discoloration, but not impossible that the fungus may also be involved. In addition to the above-mentioned pines, a scanty collection was made on languishing foliage of

P. ponderosa (cult.), and it is of interest that a fungus which is morphologically identical with S. PITHYOPHILA occurred on dead twigs of *Larix laricina.*

SELENOPHOMA DONACIS (Pass.) Sprague & Johnson on *Panicum virgatum.* Columbia Co., Lodi, June 30, 1938; Dane Co., Madison, August 1942 and 1943. This is what was formerly called SEPTORIA DONACIS Pass. f. PANICI Ell. & Barth. In a personal communication Dr. Sprague states "These things have no business being in Septoria. They have falcate spores, are nonseptate, have characteristically smallish globular pycnidia with coarse polygonal cell structure, stout cuspidate pycnophores, and produce a characteristic scurfy growth on media." According to Dr. Sprague this species is common in the prairie country, but there seem to be no previous reports for Wisconsin.

SEPTORIA MITELLAE Ell. & Ev. on *Mitella diphylla.* On green, overwintered leaves (basal). Vernon Co., Westby, May 9.

SEPTORIA WISCONSINA n. sp.

Spots none; tips of leaflets pale brown; pycnidia almost concolorous, gregarious, deeply imbedded, amphigenous, globose, small 50–75μ diam.; ostioles wide, thickened rings of tissue, prominent, 20–30μ diam.; conidia acicular, slightly curved, continuous or more or less distinctly septate, 12–25 $\times$ 1.5μ.

On leaves of *Astragalus canadensis.* Madison, Dane Co., Wis., U. S. A., July 28, 1943.

SEPTORIA WISCONSINA sp. nov.

Maculis nullis, foliis pallidis brunneis apici, pycnidiis prope concoloribus, gregariis, immersis, amphigenis, globosis, parvis, 50–75μ diam.; ostiolis latis, crassis annulis, prominentibus, 20–30μ diam.; conidiis acicularibus, leviter curvatis, continuis vel plusve minusve distincte septatis, 12–25 $\times$ 1.5μ.

In foliis *Astragali canadensis.* Madison, Wis., U. S. A.

This is different from other species described on Astragalus, none of which have conidia as short and slender as those of S. WISCONSINA.

SEPTORIA EUPATORII Rob. & Desm. on *Eupatorium perfoliatum.* July 20. There seems to be no previous record of this fungus on *E. perfoliatum.*

Dr. Berch Henry of the Department of Plant Pathology at the University of Wisconsin has given to the herbarium a specimen of needles of *Pinus nigra* var. *austriaca* bearing a parasite

that he identifies as LECANOSTICTA ACICOLA (Thüm.) Syd. (SEPTORIA ACICOLA (Thum.) Sacc.). This was the cause of so-called brown spot disease of Austrian pine in a nursery at Waterloo, Jefferson Co., June 1943. Wolf and Barbour (Phytopath. 31: 61-74, 1941) have published on this disease.

PROTOCORONOSPORA NIGRICANS Atk. & Edg. on *Vicia villosa.* September 4.

GLOEOSPORIUM LEPTOTHYROIDES Kab. & Bub. on *Betula sandbergii.* July 30. This corresponds well with the description and with No. 429 of the Fungi imperfecti exsiccati issued by Kabat and Bubak.

HELMINTHOSPORIUM LEUCOSTYLUM Drechsler on *Eleusine indica.* August 14. Dr. C. L. Lefebvre suggests that this is very similar to HELMINTHOSPORIUM HADROTRICHOIDES Ell. & Ev. on *Eragrostis cilianensis.*

HELMINTHOSPORIUM INCONSPICUUM C. & E. var. BUCHLOES Ell. & Ev. was found in July on *Buchloe dactyloides* (cult.), *Bouteloua hirsuta,* and *Bouteloua curtipendula.* The specimen on Buchloe was collected by Prof. J. L. Allison. Dr. Sprague informs me that this is common on buffalo grass on the great plains, and also occurs on grama grass.

HELMINTHOSPORIUM LEUCOSTYLUM Drechsler on *Eleusine inlianensis.* September 16. Determined by Dr. Lefebvre.

A rather perplexing fungus has been found on leaves of *Cerastium vulgatum.* This is a very delicate form, being scarcely discernible with a good hand lens. It is close to Cercospora, so material was submitted to Professor Chupp. He considers that because of the extremely slender non-tapering conidia it is not a good Cercospora. The conidiophores are rudimentary and very short. Petrak (Ann. Myc. *23*: 68-70, 1925) sets out the new genus Cercoseptoria from the Cercospora-Cercosporella complex, and the fungus in question seems to fall under that genus as defined. No similar form appears to have been described on Cerastium or related genera, so the fungus is described as CERCOSEPTORIA CERASTII n. sp.

CERCOSEPTORIA CERASTII n. sp.

Spots none; fruiting amphigenous, mostly hypophyllous; tubercles intrastomatal, brown, 35–40μ diam.; conidiophores narraw, very short, almost obsolete, 5–10μ long; conidia hyaline, slender, filiform, continuous, slightly curved, 35–70 $\times$ 1μ.

On leaves of *Cerastium vulgatum.* Madison, Wis., U. S. A., July 1, 1943.

CERCOSEPTORIA CERASTII sp. nov.

Maculis nullis; fructificationibus amphigenis, plerumque hypophyllis; tuberculis in stomatis, brunneis, 35–40μ diam.; conidiophoris angustis, brevissimis, prope obsoletis, 5–10μ longis; conidiis hyalinis, angustis, filiformibus, continuis, leviter curvatis, 35–70 $\times$ 1μ.

In foliis *Cerastii vulgati.* Madison, Wis., U. S. A.

CERCOSPORELLA ONTARIENSIS Sacc. on *Euthamia graminifolia.* June 25. This has been compared with Fungi Columbiani No. 4710, issued as C. ONTARIENSIS, and seems to be the same thing. For convenience' sake I have thus listed the Wisconsin specimen, although to me it seems doubtful that it is a species distinct from the inter-grading assemblage of Ovularia-Ramularia-Cercosporella-like fungi that occur on various solidaginicolous hosts. Davis would perhaps have referred this to RAMULARIA VIRGAUREAE Thüm.

CERCOSPORA SEMINALIS Ell. & Ev. on *Buchloe dactyloides* (cult.). Coll. & det. by Prof. J. L. Allison. It seems probable that the parasite was imported with the host.

Cercospora cannabis (Hara) Chupp n. comb. (Syn. *Cercosporina cannabis* Hara). On Cannabis sativa Professor Chupp states that the only other specimen of this species reported from the United States was sent to him from Missouri. Madison, August 13.

CERCOSPORA ACETOSELLAE Ell. on *Rumex acetosella.* August 20. Determination confirmed by Professor Chupp.

CERCOSPORA THLASPIAE Chupp & Greene n. sp.

On silicles, spots minute to large, dark olivaceous to almost black, covered with minute black pustules; stromata small, dark olivaceous brown; fascicles 2–12 spreading stalks; conidiophores pale to medium in color and width, tips narrow and paler, indistinctly multiseptate, straight to mildly curved, not branched, rarely geniculate, subtruncate tip, 4–5.5 $\times$ 50–400μ; conidia hyaline, acicular, straight to curved, indistinctly multiseptate, base truncate, tipe acute to subacute, 2–4 $\times$ 40–300μ.

On silicles of *Thlaspi arvense.* Dane Co., near Sauk City, Wis., U. S. A., July 10, 1943.

CERCOSPORA THLASPIAE sp. nov.

In fructibus, maculis minutis vel magnis, fuscis-olivaceis vel prope nigris, cum nigris pustlis minutis; stromatis parvis, fuscis olivaceo- brunneis; fasciis 2–12 cauliculis divergentibus; conidiophoris pallidis vel mediis brunneis, latitudinibus mediis, apicibus pallidis, angustioribus, indistincte multiseptatis, rectis vel leviter curvatis, non ramosis, raro geniculatis, apicibus subtruncatis, 4–5.5 × 50–400μ; conidiis hyalinis, acicularibus, rectis vel curvatis, indistincte multiseptatis, basibus truncatis, apicibus acutis vel subacutis, 2–4 × 40–300μ.

In fructibus *Thlaspi arvensis*. Dane Co., Wis., U. S. A.

CERCOSPORA URAMENSIS Chupp & Müller on *Cleome spinosa* (cult.). University of Wisconsin campus, August 30. Professor Chupp states that he had previously seen this only on *Cleome* sp. from the type locality in Venezuela. Some of the conidia in the Madison specimen are considerably longer than the upper limit of 125μ set forth in the description. (Bol. Soc. Venez. Cien. Nat. 8 (52) : 58, 1942).

CERCOSPORA POTENTILLAE Chupp & Greene n. sp.

Spots subcircular, 0.5–3 mm. diam., brown center, wide dark red border; fruiting chiefly epiphyllous; stromata mostly a few large brown cells; fascicles 2–10 diverging stalks; conidiophores pale olivaceous brown, fairly uniform in color, somewhat irregular in width, multiseptate, not branched, not or only once geniculate, slightly curved or bent, subtruncate tip, 4–5.5 × 40–170μ; conidia hyaline, acicular, straight to curved, indistinctly multiseptate, base truncate, tip acute, 2–4 × 40–160μ.

On leaves of *Potentilla recta*. Madison, Wis., U. S. A., July 7, 1943.

CERCOSPORA POTENTILLAE sp. nov.

Maculis subrotundatis, 0.5–3 mm. diam., centris brunneis, marginibus latis, fuscis rubris; fructificationibus plerumque epiphyllis; stromatibus paucis magnis cellis brunneis; fasciis 2–10 cauliculis divergentibus; conidiophoris pallidis olivaceis brunneis, coloribus plerumque uniformibus, latitudinibus nonnihil irregularibus; multiseptatis, non ramosis, non vel 1-geniculatis, leviter curvatis vel sinuosis, apicibus subtruncatis, 4–5.5 × 40–170μ; conidiis hyalinis, acicularibus, rectis vel curvatis, indistincte multiseptatis, basibus truncatis, apicibus acutis, 2–4 × 40–160μ.

In foliis *Potentillae rectae.* Madison, Wis., U.S.A.

CERCOSPORA POTENTILLAE has also been found on *Potentilla norvegica* var. *hirsuta* at Madison, August 1943.

CERCOSPORA ASTRAGALI Woronichin on *Astragalus canadensis.* July 20. Determined by Professor Chupp who states that he believes this is the first report of this species other than the type.

CERCOSPORA DESMODIICOLA Atk. on *Desmodium canadense.* September 8. Determined by Professor Chupp.

In my third series of notes there was mention of a species of Cercospora on *Oxalis stricta* which Professor Chupp identified as C. OXALIDIPHILA Speg. ined. A description of this by Chupp & Müller has appeared (Bol. Soc. Venez. Cien. Nat. 8 (52) : 52, 1942) so the species is here included among fungi new to the state.

CERCOSPORA GRISEA Cke. & Ell. on *Polygala sanguinea.* September 7.

CERCOSPORA VULPINAE Ell. & Kell. on *Vitis vulpina.* August 16. Determined by Professor Chupp who finds the specimen to be not quite mature.

CERCOSPORA LECHEAE Chupp & Greene n. sp.

Spots minute, reddish, turning yellowish to pale or brownish; fruiting chiefly hypophyllous, stromata a few brown cells filling the stomatal opening; fascicles 2–12 spreading stalks; conidiophores pale to medium brown, fairly uniform in color and width, indistinctly 0–3 septate, rarely branched, slightly curved, undulate or tortuous, not geniculate, conic tip, 3–5.5 × 15–80μ; conidia very pale olivaceous, obclavate, shortest ones cylindric, straight to mildly curved, indistinctly 1–5 septate, base obconically truncate, tip subobtuse, 2.5–5 × 15–70μ.

On leaves of *Lechea intermedia.* Madison, Wis., U. S. A., September 8, 1943.

CERCOSPORA LECHEAE sp. nov.

Maculis minutis, rufulis, mutantibus ochraceis vel brunneolis; fructificationibus plerumque hypophyllis; stromatibus paucis brunneis cellis, replentibus stomatis; fasciis 2–12 cauliculis divergentibus; conidiophoris pallidis mediisve brunneis, coloribus et latitudinibus prope uniformibus, indistincte 0–3 septatis, raro ramosis, leviter curvatis, undulatis vel tortis, non geniculatis,

apicibus conicis, 3–5.5 × 15–80μ; conidiis pallidissimis olivaceis, obclavatis vel cylindraceis si brevissimis; rectis vel leviter curvatis, indistincte 1–5 septatis, basibus obconicis truncatis, subobtusatis, 2.5–5 × 15–70μ.

In foliis *Lecheae intermediae*. Madison, Wis., U. S. A.

The two other species on the Cistaceae, C. HELIANTHEMI and C. CISTINEARUM, have hyaline conidia.

CERCOSPORA APII Fres. on *Apium graveolens* (cult.) August 26, 1941. Coll. R. E. Vaughn. This species seems not to have been reported before in these notes, nor is there any other specimen from Wisconsin in the herbarium.

There is in the Davis Herbarium at the University of Wisconsin a specimen on *Zizia cordata* from which, presumably, Ellis and Everhart described CYLINDROSPORIUM ZIZIAE. I had occasion to examine this and failed to find any Cylindrosporium, but did find a well-marked Cercospora. This was submitted to Professor Chupp in the belief that it might be CERCOSPORA PLATYSPORA Ell. & Holw. However, he finds it to be a new species, and it is therefore described as CERCOSPORA CORDATAE Chupp & Greene. (It would seem that the name CYLINDROSPORIUM ZIZIAE is highly dubious at best and should in all probability be dropped. No. 429 of the Fungi Dakotenses, issued as CYLINDROSPORIUM ZIZIAE, appears (so far as the specimen at Wisconsin is concerned at any rate) to be good CERCOSPORA ZIZIAE Ell. & Ev. which is even farther removed from Cylindrosporium.)

CERCOSPORA CORDATAE n. sp.

Spots angular to elongate, 1–2 × 2–5 mm., brown; fruiting chiefly hypophyllous; stromata a few hyaline to brown cells below stomatal openings; fascicles dense, compact, filling stomatal opening; conidiophores subhyaline to pale brown, tip frequently hyaline, irregular in width, not or rarely septate, not branched, rarely geniculate, bluntly rounded tip with large spore scar, sometimes several spore scars near tip, 4–7 × 10–35μ; conidia hyaline, cylindric, 0–3 septate, base subtruncate, tip obtuse, 4–6 × 15–65μ, straight to mildly curved.

On leaves of *Zizia cordata*. Coll. J. J. Davis, Racine, Wis. U. S. A., June 22, 1890.

CERCOSPORA CORDATAE sp. nov.

Maculis angulosis vel elongatis, 1–2 × 2–5 mm., brunneis; fructificationibus maxime hypophyllis; stromatibus paucis cellis

hyalinis vel brunneis infra stomatis; fasciis densis, solidis, replentibus stomatis; conidiophoris subhyalinis vel brunneis pallidis, apicibus frequenter hyalinis, latitudinibus irregularibus, plerumque non-septatis, non ramosis, raro geniculatis, apicibus obtusatis, rotundatis, cum sporis cicatricibus magnis, interdum paucis cicatricibus ad apices, 4–7 × 10–35μ; conidiis hyalinis, cylindraceis, 0–3 septatis, basibus subtruncatis, apicibus obtusatis, 4–6 × 15–65μ, rectis vel leviter curvatis.

In foliis *Ziziae cordatae*. Racine, Wis., U. S. A.

CERCOSPORA ELAEOCHROMA Sacc. on *Asclepias amplexicaulis*. July 18. Determined by Professor Chupp.

CERCOSPORA VERBENICOLA Ell. & Ev. on *Verbena stricta*. August 16. Professor Chupp informs me that CERCOSPORA VERBENAE-STRICTAE Peck is a synonym for C. VERBENICOLA. There are several earlier specimens in the herbarium, listed as C. VERBENAE-STRICTAE.

CERCOSPORA BLEPHILIAE Chupp & Greene n. sp.

Spots subcircular, 2–6 mm. diam., brown or rarely with almost gray center; fruiting chiefly epiphyllous; stromata none or a few brown cells; fascicles 2–15 spreading stalks; conidiophores pale to medium olivaceous brown, almost hyaline apex, uniform in width, multiseptate, not branched, 0–2 geniculate, tip subtruncate, 4–5 × 30–150μ; conidia hyaline, acicular, occasionally cylindric when short, indistinctly multiseptate, straight to mildly curved, base truncate, tip subacute, 2–4.5 × 30–200μ.

On leaves of *Blephilia ciliata*. Scuppernong Prairie, 2 miles northwest of Eagle, Waukesha Co., Wis., U. S. A., August 8, 1943.

CERCOSPORA BLEPHILIAE sp. nov.

Maculis subrotundatis, 2-6 mm. diam., brunneis vel raro cum centris prope griseis; fructificationibus plerumque epiphyllis; stromatibus nullis vel paucis brunneis cellis; fasciis 2–15 cauliculis divergentibus; conidiophoris palladis vel mediis olivaceo-brunneis, apicibus prope hyalinis, latitudinibus uniformibus, multiseptatis, non ramosis, 0–2 geniculatis, apicibus subtruncatis, 4–5 × 30–150μ; conidiis hyalinis, acicularibus, nonnumquam cylindraceis si brevis, indistincte multiseptatis, rectis vel leviter curvatis basibus truncatis, apicibus subacutis, 2–4.5 × 30–200μ.

In foliis *Blephiliae ciliatae*. Eagle, Waukesha Co., Wis., U. S. A.

CERCOSPORA LOBELIAE Ell. & Ev. on *Lobelia spicata.* August 16.

CERCOSPORA SOLIDAGINIS Chupp & Greene n. sp.

Spots none, fruiting effuse, olivaceous, in numerous minute patches 0.5–2 mm. diam., stromata lacking; nonfasciculate to dense compact fascicles; conidiophores medium to dark brown, uniform in color, somewhat irregular in width, 0–7 septate, when nonfasciculate arising as branches from procumbent threads, rarely geniculate, variously curved or bent, tip conic to blunt, 3–5.5 × 10–50μ; conidia pale or very pale olivaceous, longest ones obclavate-cylindric, shorter ones distinctly cylindric, straight or mildly curved, ends rounded bluntly or base short obconically truncate, 1–7 septate, 2.5–5 × 15–50μ.

On leaves of *Solidago juncea.* Madison, Wis., U. S. A., August 18, 1943.

CERCOSPORA SOLIDAGINIS sp. nov.

Maculis nullis; fructificationibus effusis, olivaceis, amphigenis, in numerosis minutis acervis, 0.5–2 mm. diam.; stromatibus nullis; nonfasciculatis vel fasciculatis, fasciis nonnumquam densis; conidiophoris mediis vel fuscis brunneis, coloribus uniformibus, latitudinibus nonnihil irregularibus, 0–7 septatis, si nonfasciculatis ramis ab hyphis procumbentibus, raro geniculatis, varie curvatis vel sinuosis, apicibus conicis vel obtusatis, 3–5.5 × 10–50μ; conidiis pallidis vel pallidissimis olivaceis, si longioribus obclavatis-cylndraceis, si brevioribus distincte cylindraceis, rectis vel leviter curvatis, basibus obtusatis vel brevis obconicis truncatis, 1–7 septatis, 2.5–5 × 15–50μ.

In foliis *Solidaginis junceae.* Madison, Wis., U. S. A.

CERCOSPORA WISCONSINENSIS Chupp & Greene n. sp.

Spots pale brown or whitish with narrow dark purple border, rounded or angled, 1.5–5 mm. diam.; fruiting amphigenous, fascicles mostly not dense; conidiophores pale, tips paler and narrower, not branched, undulate to geniculate above, medium spore scar, tip subtruncate, 0–6 septate, variable, 3.5–5 × 15–180μ, longest when hypophyllous; conidia hyaline, acicular, 2–4 × 40–125μ; longer conidia continuous or indistinctly septate; shortest conidia narrow-obclavate, distinctly 4–5 septate.

On leaves of *Prenanthes alba.* Madison, Wis., U. S. A., September 9, 1943.

CERCOSPORA WISCONSINENSIS sp. nov.

Maculis pallidis brunneis vel albentibus, marginibus angustis fuscis purpureis, rotundatis vel angulosis, 1.5–5 mm. diam.; fructificationibus amphigenis; fasciis plerumque non densis; conidiophoris pallidis, apicibus pallidioribus et angustioribus, non ramosis, supra undulatis vel geniculatis, sporis cicatricibus mediis, apicibus subtruncatis, 0–6 septatis, variis, 3.5–5 × 15–180μ, si hypophyllis longissimis; conidiis hyalinis, aciculari-bus, 2–4 × 40–125μ; conidiis longioribus continuis vel indistincte septatis; conidiis brevissimis angustis-obclavatis, distincte 4–5 septatis.

In foliis *Prenanthis albae.* Madison, Wis., U. S. A.

An earlier collection of this species was made at Eagleville, Waukesha Co., August 31, 1941, but was held pending collection of further confirmatory specimens. C. WISCONSINENSIS has also been found in small quantity on *Prenanthes racemosa* at Madi-son, September 4, 1943.

Specimens of all new species described have been placed in the University of Wisconsin Cryptogamic Herbarium. Those of new species of Cercospora, described jointly with Professor Chupp are also deposited in the herbarium of the Department of Plant Pathology of Cornell University at Ithaca, New York.