

## NOTES ON WISCONSIN PARASITIC FUNGI. XVIII

H. C. GREENE

*Department of Botany, University of Wisconsin, Madison*

The collections on which this series of notes is based were, unless stated otherwise, made during the season of 1952.

LEPTOSPHERIA sp. on *Phalaris arundinacea* var. *picta* (cult.) occurs on elongate dead areas on leaves that were, in the main, still living. Coll. August 23 at Madison. The scattered to subseriate perithecia are on lesions on both green and chlorotic areas of this variegated ornamental and are in good maturity. It seems likely that the fungus is weakly parasitic. A rather large and confusing assemblage of species of *Leptosphaeria* have been described on Gramineae, mostly on culms, and any further formal descriptions do not seem justified at present. Notes on this collection are as follows: Perithecia black, globose, 100–115 $\mu$  diam.; asci broadly clavate, 60–65 x 13–14 $\mu$ ; ascospores olivaceous, 3-septate, the penultimate cell slightly enlarged, falcate, 21–23 x 5–6 $\mu$ .

CYTOSPORA EVONYMI Cooke was associated with a destructive twig blight of *Evonymus fortunei* (*E. radicans*) at Madison, but it is not certain that it was the primary agent.

PHYLLOSTICTA, which seems not to correspond with any of the considerable number of species reported on that host, was collected on *Rhus radicans* at Madison, August 14. The black, subglobose pycnidia, approx. 150–175 $\mu$  diam., which are somewhat imperfect below, are scattered and epiphyllous on large, dead, yellow-brown, wedge-shaped lesions involving the tips of the leaves. The conidia are hyaline, cylindrical, 5–7 x 2–2.5 $\mu$ .

PHYLLOSTICTA sp. on *Rhamnus cathartica*, collected at Madison, August 3, while technically seemingly referable to this genus, is scarcely the ordinarily encountered representative. The dark-olivaceous pycnidia are strongly erumpent, almost superficial, on dead areas near the leaf tips. They are subglobose and the walls are lined with a conspicuous layer of closely ranked conidiophores, about 20 x 2 $\mu$ . In some pycnidia there is a basal, olivaceous, pseudoparenchymatous cushion over which the phores are ranged. The pycnidia measured run from 200–330 $\mu$  in the largest diam. The fusoid conidia are hyaline, 4–6 x 2–2.5 $\mu$ .

PHYLLOSTICTA sp. occurred on small cinereous spots on the leaves of *Stachys palustris* at Madison, September 2. The pyc-

nidia are black, pseudoparenchymatous, small, about  $65\mu$  diam., globose, with a dark ostiolar ring. The conidia are hyaline, bacilliform,  $3-4 \times 1\mu$ . Possibly the precursor of a perfect stage.

PHYLLOSTICTA (or *Phoma*?) on *Castilleja sessiliflora* at Gibraltar Bluff, Columbia Co., July 30. The capsules are thickly studded with the pycnidia which are black, flattened, pseudoparenchymatous, variable in size, the largest up to  $175\mu$  diam. The conidia are short-cylindric, hyaline,  $5-6 \times 2-2.5\mu$ . Possibly parasitic.

PHYLLOSTICTA on *Plantago rugelii*, collected in small quantity at Madison, July 27, differs from other species described on *Plantago*, as indicated in the key given by Tehon and Daniels (*Mycologia* 19: 118. 1927). The spots are orbicular, about 1.5 cm. diam., with wide brown margins and cinereous centers. The pycnidia are black, subglobose,  $150-175\mu$  diam., while the conidia are hyaline and rod-shaped,  $4-5 \times 1.5\mu$ .

PHOMA sp. was conspicuously and consistently present on dead leaders of the previous season's growth on plants of *Spiraea alba* at Madison. Profuse development of healthy lateral branches had occurred below the dead terminal portion. It seems likely, but is not certain that the fungus is secondary. The pycnidia are in the epidermal tissue, gregarious, black, subglobose, about  $75-100\mu$  diam., with accompanying weakly radiating strands of dark, thick-walled, mostly isodiametric cells, producing a vaguely dendritic effect. The conidia are hyaline, mostly ovoid, rather variable,  $4-6.5 \times 3-3.5\mu$ .

CONIOTHYRIUM sp., possibly parasitic, occurred on narrow, dead marginal strips of otherwise still green leaves of *Carex aquatilis* at Madison, July 17. The black, shining, seriate pycnidia are  $75-100\mu$  diam. The elliptic or fusoid conidia are a clear purplish-brown,  $8-11 \times 4-4.5\mu$ .

ASCOCHYTA sp. on *Napaea dioica*, collected near New Glarus, Green Co., August 9, bears the pycnidia, mostly epiphyllous, on large, mottled, brown and white, wedge-shaped areas. This was compared with *Ascochyta althaeina* Sacc. & Bizz., but the latter is confined to rounded, small, sharply defined spots and has smaller conidia than the specimen on *Napaea*, where they run from  $8-15 \times 3.5-4.5\mu$ , without a noticeable constriction at the septum. The pale brown pycnidia are subglobose, thin-walled, about  $125\mu$  diam.

ASCOCHYTA sp., which seems quite distinct and well-marked, was collected on leaves of *Verbena urticaefolia* at Madison, July 2. The spores are within the size range of those of an *Ascochyta*-

*Stagonospora* complex encountered in previous years in the same vicinity on *Verbena stricta* so, in the expectation that further collections may clarify relationships, formal description is deferred. The lesions are large, brown or purplish-brown, wedge-shaped areas, which originate at the leaf tips and become progressively larger with the spread of the infection, until ultimately the entire leaf dies back. The lower stem leaves are usually those affected. The pycnidia, which are scattered over the lesions, are of the usual *Ascochyta* type, rather large, pale brown and thin-walled. The hyaline, uniseptate conidia are about 7–13 x 3–4 $\mu$ , and may or may not guttulate, depending on the pycnidium in which they are borne. Many of the more heavily infected leaves bore numerous, rather prominent, almost superficial, immature, black perithecia, interspersed among the *Ascochyta* pycnidia. Some of these leaves were placed in a wire cage which was set out in the field in the vicinity of the original collection. About a month later the leaves were examined again and it was found, rather surprisingly, that some of the perithecia had matured, producing large hyaline, uniseptate ascospores. They seem closest to *Melanopsamma* and it seems highly probable that this is the perfect stage of the *Ascochyta*.

ASCOCHYTA sp. on *Kuhnia eupatorioides*, collected August 27, in LaFollette Memorial Park on the east shore of Lake Kegonsa in Dane Co., is borne on small, scattered, angled, cinereous spots. The black pycnidia are epiphyllous, subglobose, about 115–125 $\mu$  diam. The hyaline conidia are cylindrical, 7–11 x 2–3 $\mu$ . Coll. only in small quantity.

STAGONOSPORA sp. on *Cyperus filiculmis* var. *macilentus*. Dane Co., Madison, July 29. The host plants were brown and dead at the time of collection, but are studded from top to bottom with the black, somewhat elongate pycnidia and it seems very likely that this fungus was the cause of the necrosis. The pycnidia are approx. 125–175 $\mu$  in long diam. The spores, which are not very numerous, are hyaline, granular, 17–26 x 5.5–6.5 $\mu$ , 1–2-septate. *Stagonospora cyperi* Ell. & Tracy, the only other species of which I find a report on *Cyperus*, has spores which are much smaller and out of the range of the Wisconsin specimen.

STAGONOSPORA on *Carex lanuginosa*, collected at Madison, July 13, is so far undetermined as to species. The medium-sized pycnidia are on straw-colored spots on the narrow leaves. The conidia are hyaline, 2-septate, subcylindric, straight or slightly curved, cell contents granular, many cells with one or two oil droplets, 35–55 x 10–13 $\mu$ . The *Stagonosporae* seem to have an affinity for *Carex* and a considerable array of species have been

listed thereon. A critical study would probably reduce the numbers of species significantly.

STAGONOSPORA sp. on *Juncus tenuis*, Madison, June 25, has spores whose dimensions correspond to those of *Stagonospora trimera* (Cooke) Sacc., but the original description is too meager to allow of satisfactory determination. North American Fungi No. 341, issued as this species, was examined, but spores were not found. The Madison material is on plants of the current season, but as they had been completely killed back when observed, it is a question whether or not the fungus was the primary agent.

SEPTORIA LEPACHYDIS Ell. & Ev. was extremely destructive to leaves of *Brauneria purpurea* at Madison. Large areas or entire leaves had become brown or blackish, and bore many hundreds, if not thousands, of the tiny pycnidia. Ordinarily this vigorous host is free of extensive fungus infection of any sort, although a small earlier specimen of *S. lepachydis* on it was reported in my Notes III.

SEPTORIA on *Solidago rigida*, collected August 1, 1951, near Marshall, Dane Co., has not been determined. The rather large black pycnidia are amphigenous on large, indefinite, brown, dead areas. The leaves bear numerous small purplish spots but, so far as examined, they are sterile. The slightly flexuous spores are filiform-acicular, mostly about 50–60 x 1.5 $\mu$ . Perhaps close to *S. fumosa* Peck, but dissimilar from other collections assigned to that species.

LEPTOTHYRIUM sp. occurred in profusion on the flower stalks and capsules of *Wulfenia (Besseyia) bullii*, near Brodhead, Green Co., August 9. A metamorphosis of at least the surface layers of the host had taken place and stalks and capsules were a conspicuous, shining black. The black, flattened fruiting bodies, mostly on, but not confined to the capsules, are about 150–175 $\mu$  diam., or rarely more. They are firmly seated within the carbonized host tissues, yet withal erumpent. The conidiophores are bottle-shaped and in a rather compact basal layer. Most of the hyaline conidia are fusoid and straight, occasionally moderately curved, about 10–16 x 2–3 $\mu$ . A few of the conidia are almost allantoid. There had evidently been no seed set, so the fungus is perhaps parasitic. However, *Wulfenia bullii* is one of our earliest blooming spring plants, so it may be that the flowering stems were languishing or dead before being attacked.

COLLETOTRICHUM sp. occurs in questionable relationship to the host on the terminal portions of living leaves of *Carex cephalophora* in two collections from the vicinity of Madison in July and August. This is a large, coarsely setose fungus, with falcate

conidia well over  $20\mu$  in length. The fungus has fruited in greatest profusion on dead or dying tissue which is closely adjacent to the still green portion of the leaf. Possibly weakly parasitic.

CLADOSPORIUM sp., parasitic on *Achillea millefolium*, Madison, July 31, is extremely interesting in the host-parasitic relationship in that it is confined, or nearly so, to the trichomes which have been invaded to the degree that at many points they are literally packed with light brown, short-septate mycelium. The trichomes of *Achillea* have a short, inflated, cellular basal portion and many of those which are infected have broken off at this point, at which there is usually produced a tuft of spreading conidiophores. On the distal portions of the trichomes the phores are usually not in definite tufts, but in series radiating from the substratum. They are highly variable in length, and hence in septation, but all are clear, dark brown, tortuous, occasionally branched, and several times closely geniculate at the somewhat paler tips. The conidia are catenulate, pale olivaceous-gray, usually with a distinct spore scar at each end, fusoid, subfusoid, or subcylindric,  $7-14 \times 3-5\mu$ , continuous or 1-septate. *Achillea millefolium*, with its very hairy surface, serves as a trap for air-borne spores, and the spore situation is not entirely clear. A good many *Alternaria* spores are found in mounts from this material, but it is not thought that they were formed here. As shown by allergy counts, they are present in the air in great numbers in mid- and late summer. At various points on the mycelium in some mounts there have been noted muriform, almost sessile, *Stemphylium*-like structures, and their relation is also obscure.

*Liatrix ligulistylis* leaves, collected at Madison, August 11, bear on large (1-1.5 cm.) rounded, dull brown lesions, a fungus which appears probably parasitic, but which I have been unable to place satisfactorily even as to genus. The conidia are  $17-23 \times 3-3.5\mu$ , faintly olivaceous, subcylindric to subfusoid, 1-septate and occasionally somewhat constricted at the septum. There is a prominent truncate spore scar. The conidiophores are in small tufts of not more than 6 or 7, from a small, dark, substomatal tubercle. They are clear brown, continuous,  $12-22 \times 4-4.5\mu$ , many of them with a strongly curved tip which is once or twice geniculate. Suggestive of a depauperate *Cercospora*. The spores are not of the type usually associated with *Cladosporium*, *Scolecotrichum*, or *Fusicladium*.

*Carex crinita* var. *gynandra*, growing in deep shade around the border of a woodland pool in the Town of Primrose, Dane Co., July 12, 1951, is heavily infected by an interesting, but so far undetermined fungus in the *Heterosporium-Helmintho-*

*sporium* category. The dead, brown, distal portions of the leaves have scattered over them on their upper sides an organism which, under hand lens inspection, appeared to be a *Colletotrichum*. However, the supposed setae are small tufts (3-6 in a tuft) of erect-spreading, brown, 5-8-septate conidiophores, 130-200 x 6-7 $\mu$ , slightly paler at the tip which may have a few closely spaced geniculations. These phores arise from a small, dark, compact, rounded, pseudoparenchymatous, stromatoid base, about 50-65 $\mu$  diam. The few conidia which were observed are about 30-35 x 6-7 $\mu$ , 3-septate, pale yellowish-gray and appearing smooth, or almost so. This fungus might perhaps be referred to the genus *Cercosporidium* Earle, which Chupp considers to be doubtfully distinct from *Cercospora*.

HELMINTHOSPORIUM spp. (?) have been found, both at Madison, on *Scirpus acutus* and on *Juncus tenuis* in what may be a parasitic relationship. While the dimensions are entirely different, the spores are of a similar type, and are not of the sort encountered in graminicolous species of *Helminthosporium*. In both cases there is a strongly tapered, attenuate apex, which is hyaline, or subhyaline, and non-septate. The enlarged basal portion is septate and shows the cell lumen condition usually found in old, mature *Helminthosporium* spores. On *Scirpus acutus* the spores run from about 100-130 x 12-15 $\mu$ , and are 6-9-septate, with the appendage not accounting for more than a quarter or a third of the overall length. On *Juncus tenuis*, however, in the case of a spore 165 x 11 $\mu$  and 8-septate, the non-septate, hyaline apical portion is 100 $\mu$  or three-fifths of the entire length.

CERCOSPORA sp. (?) on stems of *Juncus balticus* var. *littoralis* was collected at Madison, July 2. The short conidiophores are in spreading tufts of approx. 3-6, protruding from stomatal openings, and arising from a small substomatal tubercle. They are continuous, brown below, with pallid tips, closely geniculate at the tip with very prominent spore scars, 15-22 x 4-4.5 $\mu$ . The spores are clavate, truncate below with large scar, straight or almost so, with only a slight taper to the obtuse tip, rather thick-walled and pale olivaceous, mostly indistinctly 2-septate, about 50-60 x 4-4.5 $\mu$ .

#### ADDITIONAL HOSTS

The following hosts have not been previously recorded as bearing the fungi mentioned in Wisconsin.

MICROSPHAERA EUPHORBIAE (Peck) B. & C. on *Euphorbia preslii*. Dane Co., Madison, September 20.

ACANTHOSTIGMA OCCIDENTALE (Ell. & Ev.) Sacc. Conidial stage on *Cirsium altissimum*. Green Co., New Glarus Woods, September 4.

CLAVICEPS PURPUREA (Fr.) Tul. Sclerotia on *Festuca elatior*. Green Co., New Glarus, August 9.

PHYLLACHORA PUNCTA (Schw.) Orton on *Panicum subvillosum*. Vilas Co., Sayner, September 1940. Coll. L. H. Shinnars.

PHRAGMIDIUM AMERICANUM (Peck) Diet. II, III on *Rosa setigera* (cult.). Dane Co., Madison, August 14.

PUCCINIA RUBIGO-VERA (DC.) Wint. I on *Anemone cylindrica*. Columbia Co., Gibraltar Bluff near Okee, June 8. II, III on *Agropyron smithii*. Columbia Co., Portage, September 15.

PUCCINIA SILPHII Schw. on *Silphium terebinthinaceum* X *laciniatum*. Dane Co., Morrisonville, August 22. This was with the parent species which were likewise infected. I assume that this hybrid is var. *pinnatifidum* of *S. terebinthinaceum*, as of Gray's Manual where it is based on leaf characters. However, not only leaves, but flowers are intermediate.

PELLICULARIA FILAMENTOSA (Pat.) Rogers on *Solanum dulcamara*. Dane Co., Madison, July 21. Strictly hypophyllous, and appearing strongly parasitic.

PHYLLOSTICTA GROSSULARIAE Sacc. on *Ribes alpinum* (cult.). Dane Co., Madison, August 24.

PHYLLOSTICTA CACALIAE H. C. Greene on *Solidago rigida*. Dane Co., Morrisonville, August 22. Reported hitherto in Wisconsin on *Cacalia tuberosa*, *Senecio aureus*, *Silphium perfoliatum*, and *Silphium terebinthinaceum*. Admittedly, the specific name was an unfortunate choice, in view of the host range. On *S. rigida* the spots are orbicular, about .5–.7 cm. diam., cinereous with a narrow brown or yellow-brown border.

ASTEROMELLA ANDREWSII Petr. was highly destructive to the following cultivated species of *Gentiana* at Madison: *G. setigera*, *G. clausa*, *G. kisselringii*, *G. purdomi*, and *G. lagodechiana*. Grown and coll. by J. T. Curtis.

ASCOCHYTA SYRINGAE Bres. on *Syringa josikaea* (cult.). Dane Co., Madison, August 18.

DARLUCA FILUM (Biv.) Cast. on *Puccinia gentianae* III on *Gentiana puberula*. Columbia Co., near Portage, Septemebr 17. Rarely found on telia.

SEPTORIA ANDROPOGONIS J. J. Davis on *Andropogon scoparius*. Sauk Co., Cactus Bluff, Town of Prairie du Sac, July 11. The spores are slightly wider, and the pycnidia slightly larger, than in typical material on *A. furcatus*, but the specimen falls well within Sprague's expanded conception of *S. andropogonis*, as set

forth in his "Diseases of Cereals and Grasses in North America", where he reports a collection on *A. scoparius* from Nebraska. Also on *Sorghastrum nutans*, Columbia Co., near Lodi, July 23. This specimen shows spores as described for the type on *Andropogon furcatus*, as well as some larger spores of the sort found in *S. andropogonis* var. *sorghastri* Greene & Sprague (Farlowia 1: 576. 1944) showing intergrading, as might be expected.

SEPTORIA SOLIDAGINICOLA Peck on *Solidago rigida*. Dane Co., Morrisonville, August 22. The spots are irregularly angled or rounded, mostly rather large and not very clean-cut. The pycnidia are gregarious on the cinereous central portion.

HAINESIA LYTHRI (Desm.) Hohn. (*Pezizella*) on *Rosa blanda*. Dane Co., Madison, August 19. On *Rhus copallina*. Dane Co., Madison, August 21. On *Potentilla arguta*. Dane Co., Belleville, September 13.

OVULARIA SPHAEROIDEA Sacc. on *Vicia villosa*. Dane Co., Madison, September 20. Coll. L. Weathers.

HETEROSPORIUM GRACILE (Wallr.) Sacc. on *Belamcanda chinensis*. Iowa Co., along County Trunk C, 3 miles southeast of Lone Rock, August 12. The host plants had persisted and were spreading in a long-abandoned farm garden.

CERCOSPORA CARICIS Oud. (*C. caricina* Ell. & Dearn.) on *Carex pubescens*. Sauk Co., Devils Lake, September 10.

CERCOSPORA GRANULIFORMIS Ell. & Holw. on *Viola pedata*. Richland Co., near Lone Rock, August 12. Det. Chas. Chupp.

#### ADDITIONAL SPECIES

The fungi mentioned have not been previously reported as occurring in Wisconsin.

MYCOSPHAERELLA ALTERA (Pass.) House on *Equisetum arvense*. Dane Co., Madison, July 15. On the dead tips of living branches.

CINTRACTIA PSILOCARYAE (Tracy & Earle) Clint. on *Psilocarya scirpoides*. Marquette Co., Westfield, September 18, 1934. Coll. N. C. Fassett. On a phanerogamic specimen only recently mounted and filed in the Wisconsin Herbarium. As reported in the "North American Flora", Massachusetts and Rhode Island are the only other localities for the smut on this host.

HERPOBASIDIUM DEFORMANS Gould is the name applied to the fungus reported in Wisconsin lists as *Glomerularia lonicerae* Peck. Martin, in his "Revision of the North Central Tremellales" (Univ. Iowa Studies in Nat. Hist. 19(3): 1952) states that the so-called conidia are really resting spores produced after the basidia.



**Phomopsis pimpinellae** (Ell.) comb. nov.

*Septoria pimpinellae* Ell. (Jour. Mycol. 7: 277. 1894.)

Abundant material on leaves of *Taenidia integerrima*, at Madison, August 2, 1952, shows both scolecospores and *Phoma*-type spores borne regularly in the same pycnidium. The latter are subfusoid to fusoid, ca. 11–14 x 2.5–3.5 $\mu$ , while the scolecospores are mostly 20–25 x 1.5 $\mu$ , strongly curved, tapered to a point at one end and subobtuse at the other. A small specimen collected at Madison in 1949 (Amer. Midl. Nat. 44: 640. 1950) did not show the fusoid spores, but as noted at the time the fungus seemed suggestive of *Phomopsis*.

ASCOCHYTA SONCHI (P. Henn.) Syd. on *Sonchus asper*. Columbia Co., two miles south of Rio, July 26. This was originally described as *Diplodina sonchi* P. Henn. Sydow's *Mycotheca germanica* No. 2387, issued as *A. sonchi* on leaves of *Sonchus oleraceus* proves, upon examination to be quite worthless for purposes of microscopic comparison, as is the case with so many numbers of this over-issued series. However, the Wisconsin material approximates the description fairly closely, although the conidia, instead of being 8–13 x 3–3.5 $\mu$  as described, run 10–15 x 3.5–4 $\mu$ . The conspicuous spots are orbicular with pale brown centers, somewhat sunken, 2–7 mm. diam., and with a moderately wide, elevated purplish margin. Occasional lesions occur on the stems.

STAGONOSPORA GLYCERICOLA R. Sprague on *Glyceria grandis*. Dane Co., Madison, July 5. Sprague states that, on the basis of the material he studied, he regards this species as a saprophyte. The Wisconsin collection, however, appeared to be parasitic, insofar as could be judged from the newer lesions. Where infection had been heaviest the leaves were killed back.

**Urohendersonia stipae** sp. nov.

Maculis pallidis, elongatis, fuscis varie; pycnidiis olivaceis, subglobose, muris tenuibus, ostiolatis, gregariis vel sparsis; conidiis olivaceis, cylindraceutis vel fusoides late, distincte 3-septatis, 25–30 x 8.5–10 $\mu$ , pedicellatis, pedicellis affixis constanter, hyalinis, curvis in spiris laxis, filiformibus, 19–28 x 1–1.5 $\mu$ .

Spots pallid, elongate, with fuscous mottling; pycnidia olivaceous, subglobose, thin-walled, ostiolate, gregarious or scattered; conidia olivaceous, cylindrical or broadly fusoid, distinctly 3-septate, 25–30 x 8.5–10 $\mu$ , pedicellate, pedicels remaining attached to spores, hyaline, curved in a lax spiral, filiform, 19–28 x 1–1.5 $\mu$ .

On living leaves of *Stipa spartea*. Madison, Dane County, Wisconsin, U. S. A., July 29, 1952.

The areas on which the pycnidia occur are dead, but were surrounded by living tissue, and the fungus is considered to have functioned as a parasite. A highly interesting and unusual form, differing from *Hendersonia* in the persistent pedicels which, in the spores lying free in a mount, appear as caudate appendages.

SEPTORIA QUINQUESEPTATA R. Sprague on *Koeleria cristata*. Sauk Co., Cactus Bluff, Town of Prairie du Sac, July 7, 1945. In this specimen the pycnidia, which are about  $175\mu$  diam., are clustered on small ashen spots. The spores are 5-7-septate and closely resemble Sprague's figure of them. It seems possible that, as Sprague suggests in his "Diseases of Cereals and Grasses in North America", p. 253, this is but a variant of *Septoria andropogonis*, J. J. Davis.

***Colletotrichum madisonensis* sp. nov.**

Maculis cinereis vel pallido-brunneis, elongatis varie; acervulis sparsis irregulariter, epiphyllis, subcuticularibus, planis, fuscis, amplitudinibus formisque variis, prope circulis vel elongatis,  $100-450\mu$  in mensuris longis; setis in marginibus plerumque, sparsis vel gregariis, plerumque brevibus, pote robustis, rectis vel curvis, vel sinuosis nonnihil, subacuminatis, continuis vel 1-septatis raro, fuscis,  $25-60 \times 4-4.5\mu$ ; conidiis hyalinis, subfusoides vel subfalcatis,  $17-23 \times 3.5-4\mu$ ; conidiophoris brevibus, ampulliformibus, in ordinibus planis compactis.

Spots cinereous to pale brown, variously elongate; acervuli irregularly scattered, epiphyllous, subcuticular in origin, appanate, dark brown, variable in size and shape, from almost round to elongate,  $100-450\mu$  in long dimension; setae mostly marginal, scattered or in loose clusters, mostly short, rather stout, straight or curved, or somewhat sinuous, subacuminate, continuous, or rarely 1-septate, dark brown,  $25-60 \times 4-4.5\mu$ ; conidia hyaline, subfusoid or subfalcate,  $17-23 \times 3.5-4\mu$ ; conidiophores short, flask-shaped, in a compact, flat layer.

On living leaves of *Carex lacustris*. Madison, Dane County, Wisconsin, U. S. A., June 25, 1952.

The pale spots in which the acervuli occur are themselves usually surrounded by brown tissue, the whole often forming a central stripe toward the distal end of the long leaf. The extreme tip of an infected leaf is usually brown and dead. The cuticle above an acervulus is frequently ruptured, but often remains attached, forming a little flap which follows the outline of the acervulus. Also collected on *Carex stricta* at Madison, August 8, 1952.

***Cylindrosporium interstitialis* sp. nov.**

Maculis nullis; acervulis elongatis varie, 65–80 $\mu$  latis, in interstitiis mesophyllis foliis, hypophyllis, saepe in seriebus; conidiophoris inconspicuis, fere obsoletis; conidiis robustis, rectis vel flexuosis vel curvis, hyalinis, 20–36 x 3–4 $\mu$ , 2–3-septatis.

Spots none; acervuli variously elongate, 65–80 $\mu$  wide, in mesophyll between the leaf ribs, hypophyllous, often in series; conidiophores inconspicuous, almost obsolete; conidia stout, straight, flexuous, or curved, hyaline, 20–36 x 3–4 $\mu$ , 2–3-septate.

On living leaves of *Spartina pectinata*. Madison, Dane County, Wisconsin, U. S. A., July 27, 1952.

Sprague in his "Diseases of Cereals and Grasses in North America" lists only two other species of *Cylindrosporium* on native Gramineae, both based on Wisconsin material. These are *C. calamagrostidis* Ell. & Ev. and *C. glyceriae* Ell. & Ev., neither of which resembles *C. interstitialis*. The infected leaves show an obscure yellowing and speckling, but there are no definite spots. In *Spartina* the only accessible mesophyll tissue abuts on the spaces between the heavily sclerified ribs, and this accounts for the restricted placement of the acervuli.

***Cercoseptoria scirpi* sp. nov.**

Maculis areis immarginatis pallidis, in caulibus supra; conidiophoris nullis vel rudibus; tuberibus compactis, olivaceis, subglobosis, infra stomatibus, 20–25 $\mu$  diam.; conidiis in fasciis ex tuberibus, hyalinis, flexuosis, apicibus obtusis vel subobtusis, 40–55 x 3.5–4 $\mu$ , obscure 3-septatis.

Spots immarginate pallid areas on the upper stems; conidiophores none or rudimentary; tubercles compact, olivaceous, subglobose, substomatal, 20–25 $\mu$  diam.; conidia borne in small tufts on the tubercles, hyaline, flexuous, ends obtuse or subobtuse, 40–55 x 3.5–4 $\mu$ , obscurely 3-septate.

On living stems of *Scirpus acutus*. Madison, Dane County, Wisconsin, U. S. A., August 8, 1952.

Most of the conidia are somewhat more obtuse at one end than at the other. This is another of those borderline forms that are neither *Cylindrosporium* nor yet *Cercospora*. Although the conidia are in small tufts, this is not apparent from a hand lens examination, which shows only a sordid-whitish, appressed-farinose surface, without revealing the presence of the fungus. Infection was restricted to the upper stem.

**Cercoseptoria iridis** (Ell. & Halst.) comb. nov.

*Cylindrosporium iridis* Ell. & Halst. (Jour. Mycol. 6: 34. 1890).

Although I have not seen the specimen on which Ellis and Halsted based their description, I am quite confident that material collected on *Iris virginica* var. *shrevei* in southern Wisconsin in 1952 is but a somewhat better development of the same thing. I consider this fungus to belong properly in the Moniliaceae, although indeed it verges even on the tuberculariaceous. In the Wisconsin specimens the spores are up to  $35 \times 2\mu$ , although most are shorter and more slender, while the conidiophores are about as the authors described them, approx.  $8 \times 2\mu$ . Despite the non-descript phores I am transferring this to *Cercoseptoria*, as each tuft is borne on a small tubercle.

CERCOSPORA SIMULANS Ell. & Kell. on *Amphicarpa bracteata*. Green Co., New Glarus Woods, July 5, 1951. Chupp has examined this specimen and states that it is atypical in the almost complete lack of color in the conidiophores, but otherwise is characteristic. He informs me that, depending on conditions of development, certain Cercosporae exhibit considerable variability in depth of coloration of the conidiophores.

CERCOSPORA CANESCENS Ell. & Mart. on *Phaseolus vulgaris*. Dane Co., Madison, August 25.

**Alternaria araliae** sp. nov.

Maculis obscuro-brunneis, zonatis infirme, conspicuis, orbicularibus, saepe magnis, .5–3 cm. diam.; conidiophoris unis vel in fasciis parvis non plus quam 3, intrastomatibus, epiphyllis, robustis, prope rectis vel curvis leviter, non-geniculatis, apicibus truncatis, cicatricibus prominentibus, claris, pallido-brunneis,  $40\text{--}65 \times 6\text{--}9\mu$ , 2–4-septatis, cellis basibus fere amplis distincte; conidiis acrogenis, longo-attenuatis, claro-olivaceis infra, apicibus fere hyalinis, basibus obtusis, cicatricibus prominentibus, non-muriformis vel restricte tantum,  $70\text{--}180\mu$  longis  $\times$   $10\text{--}17\mu$  infra,  $125\text{--}170 \times 15\text{--}17\mu$  plerumque, 3–10– (6–10– plerumque) septatis.

Spots dull brown, faintly zonate, conspicuous, orbicular, often large, .5–3 cm. diam.; conidiophores arising singly or in small tufts of not more than 3, intrastomatal, epiphyllous, stout, almost straight or slightly curved, non-geniculate, tip truncate, with prominent spore scar, clear pale brown,  $40\text{--}65 \times 6\text{--}9\mu$ , 2–4-septate, the basal cell usually noticeably enlarged; conidia acrogenous, long-tapering, clear olivaceous at base to almost hyaline at the narrow tip, base obtuse with prominent scar, non-muriform or only sparingly so,  $70\text{--}180\mu$  long  $\times$   $10\text{--}17\mu$  at the base,

mostly 125–170 x 15–17, 3–10– (mostly 6–10–) horizontal septations.

On living leaves of *Aralia racemosa*. Madison, Dane County, Wisconsin, U. S. A., September 19, 1952.

This is plainly not *Alternaria panax* (*panacis*) Whetzel. Authentic material of *A. panax* from the Herbarium of the Department of Plant Pathology at Cornell University differs markedly from the fungus on *Aralia* in characteristics of both conidia and conidiophores. A typical conidium of *A. araliae* shows the following measurements: 128 $\mu$  overall length, 15 $\mu$  wide at base, 4 $\mu$  at tip, the septate, olivaceous basal portion 63 $\mu$  long, the strongly tapered, subhyaline, non-septate apical portion 65 $\mu$  long.

ALTERNARIA FASCICULATA (C. & E.) Jones and Grout on *Calistephus chinensis* (cult.). Kenosha Co., Kenosha, September 20. Coll. A. O. Paulus, Referred here with some doubt. A number of specimens in the Wisconsin Herbarium, labeled as *A. fasciculata*, were examined and found to be quite variable, especially as regards conidiophores. The spores of the current collection show good correspondence with the description, and the fungus appears to have been definitely parasitic.

