spermatia or bacillar conidia. This condition is similar if not identical to that described in *Guignardia Aesculi* (Pk.) V. B. Stewart ("The Leaf Blotch of Horse-chestnut", Phytopathology, Vol. 6. pp. 5 to 19). It is also very unusual that the smaller spores should measure slightly larger (1 to 2½ by 5 to 10 microns) in 1922 than those of 1920 which were ½ to 1 by 5 to 6 microns. This may indicate a condition similar to that in leaves of *Aesculus* where Stewart describes two sizes of spermatia. This point was not determined.

INDIANA FUNGI—IX.

J. M. VAN HOOK, Indiana University.

The fungi herein reported, are either new to the state, or to the county, or are on hosts not before reported, or are those that exhibit characteristics not before described so far as we have been able to learn. In a few cases, entire descriptions have been newly written. The season of 1925 was not ideal for the development of leaf spot fungi, which are usually members of the Imperfect group. Apparently, the unusual and continued dry weather during spring prevented the growth of these fungi at a time when they ordinarily begin to develop. Certain diseases, as the sycamore anthracnose, which has been gradually increasing in severity for a number of years, were scarcely noticeable in the vicinity of Bloomington.

PHYCOMYCETES.

Plasmopara viticola (B. & C.) Berl. & DeToni. "White Rot of Grapes." On living leaves, stems, berries, and berry stalks of fall blue grapes, Monroe County, August 5, 1924, J. M. V. 4026. Appeared early in July and began to rot the berries badly when about half grown.

BASIDIOMYCETES.

USTILAGINALES.

Sorosporium Syntherismae (Pk.) Farl. On *Panicum dichotomiflorum* Michx., Monroe County, September 25, 1925, Riecken 4980.

Sphacelotheca Sorghi (Link) Clinton. On Kaffir corn, Shelby County, September 1, 1925, Hawkins 4087.

UREDINALES.

Dicaeoma Rhamni (Pers.) Kuntze. (*Puccinia coronata* Cda.) On leaves of *Rhamnus cathartica* L., Monroe County, June 27, 1924, Blaydes 4016. Same, May 19, 1925, J. M. V. 4099.

POLYPORACEAE.

Boletus mutabilis Morg. Open woods, Monroe County, July 15, 1925, J. M. V. 4073. In open blue grass lawn, October 19, 1925, 4084.

ASCOMYCETES.

Massaria conspurcata Wallr. On twigs of cultivated Prunus (large blue plum), Monroe County, July 1, 1925, J. M. V. 4075.

Physalospora Ambrosiae E. & E. On living leaves of *Ambrosia trifida* L., Shelby County, September 1, 1925, Hawkins 4081. Spots brown or yellowish brown, darker in center, circular, 2/3 to 2 cm. in diameter, sometimes spreading, often situated across the main veins of the leaf; perithecia usually gregarious near the center of the spot, dark, amphigenous but mostly epiphyllous, showing through on both sides, 200 to 450 microns in diameter, later collapsing above; asci gelatinous, clavate, spore bearing part 50 to 75 microns, with spores sometimes transverse in the ascus; spores hyaline, granulate, continuous, sub-globose to elliptical, granulate, one-guttulate, 7 to 12 microns.

Xylaria castoria Berk. Monroe County, 1908, J. M. V. 4058. This is a most unusual form, being very smooth and in shape very similar to Indian clubs. It is unlike any we have heretofore collected and was identified by John Dearness.

Xylaria corniformis Fr. An unusual form collected in Montgomery County by Hemmer in 1916, and identified by Dearness. 4059.

Xylaria polymorpha (Pers.) Grev. On white-oak post at surface of ground in a shaded spot, clustered, West Point, Tippecanoe County, March 27, 1925, Paul E. Harris 4060. Identified by Dearness. A form with stipes of length equal to ascus bearing part.

FUNGI IMPERFECTI.

SPHAEROPSIDALES.

Phyllosticta liriodendrica Sacc. On living leaves of *Liriodendron Tulipifera* L., Monroe County, Summer 1923, J. M. V. 4055. These spores are bi-guttulate (appearing as a light spot in the center in strong light.) This character is mentioned in North American Phyllostictas by Ellis & Everhart, p. 38.

Phyllosticta Paviae Desm. (Guignardia Aesculi (Pk.) V. B. Stewart.) On living leaves of *Aesculus glabra* Willd., Madison County, May 16, 1925. J. M. V. 4070. Very severe, killing all the leaves on many young bushes.

Phyllosticta prunicola Sacc. On living leaves of one year old seedlings of *Prunus serotina* Ehrb. Almost every leaf of 300 seedlings which ranged in all heights up to three feet, were so badly spotted as to attract attention. The description compares fairly well with ours except that ours have a broad purple margin. There are so many of these small-spored Phyllosticta species described on certain genera of the *Rosaceae*, that it is exceedingly difficult to determine with certainty when comparing one's specimen with the poor descriptions. We are, therefore, giving the description of our specimens: Spots amphigenous, circular, 2 to 8 mm. in diameter, vinaceous tawny

to sorghum brown (Ridgeway) when dry, bounded by a purple zone ½ to 1 mm. broad; pycnidia epiphyllous, few, dark, rupturing the epidermis, small, 35 to 65 microns in diameter, with a distinct pore; spores yellowish in mass, elliptical, very small, 2 by 3 to 5 microns.

Phyllosticta ulmicola Sacc. On living leaves of *Ulmus fulva* Michx., Monroe County, July 1912, J. M. V. 3480. These specimens are identical with those of number 3957, *Ulmus americana* L., except that these spots become lacerate as described for *P. lacerans* Pass., are few or many, well scattered, not limited by the veins. The most noticeable character is spore color, which suggests strongly a *Coniothyrium*. *P. melaleuca* E. & E. should possibly be referred here. It is said to have pycnidia 100 to 120 microns in diameter; but ours range from 50 to 150, though mostly 60 to 80. The description by Davis (Trans. Wis. Acad. Sci. Vol. 19, p. 711. 1919.) is a remarkably fine one for our fungus. In "Indiana Fungi-VII" (1923), we referred this species to *P. melaleuca* E. & E.

Septoria Oenotherae West. On living leaves of *Oenothera biennis* L., Monroe County, May 20, 1925, J. M. V. 4061. Pycnidia epiphyllous, 50 to 83 microns in diameter, pore broad, spores 30 to 40 by 2 microns. This fungus is very common in early spring on the rosette leaves.

Septoria Polygonorum Desm. On living leaves of *Polygonum Persicaria* Desm., Monroe County, July 1, 1925, J. M. V. 4098. Although the pycindia of our specimens are 65 to 100 microns and the spores 1 to 1½ by 25 to 50, we feel that it should be referred to *S. Polygonorum* Desm., rather than to *S. polygonicola* (Lasch.) Sacc., which is described as having rather straight spores 1 by 40 to 50 microns and no discolored border. It appears on the leaves very much as illustrated for *S. persicariae* P. J. O'Gara in Mycologia Vol. 9, 1917, p. 248. This disease is sometimes severe enough to cause almost complete defoliation of its host on low ground. In such cases, a yellowing quickly follows the spotting of the leaves.

Septoria Ribes Desm. On living leaves of cultivated *Ribes Grossularia* L., Putnam County, August 14, 1924, Glen W. Blaydes 4057.

MELANCONIALES.

Gloeosporium Caryae Ell. & Dear. On living leaves of *Carya alba* (L.) K. Koch., Shelby County, August 29, 1925, Hawkins 4083. This anthracnose, which is more or less severe every year, was unusually noticeable in Monroe County in 1925.

Gloeosporium hysterioideum Dear. & Barth. A very severe leaf disease of *Acer saccharum* Marsh., Borden, Clark County, September 10, 1920, 3827; October 20, 1922, 3936; August 14, 1923, J. M. V. 4089. (See "Gloeosporium hysterioideum Dear. & Barth.,—A Leaf Disease of Acer saccharum Marsh.", in this issue.)

Marsonia Martini Sacc. & Ell. On living leaves of *Quercus Robur* L., Monroe County, June 25, 1920, J. M. V. 3775. The spores here are 2½ to 5 by 12 to 18 microns and variously shaped, curved, cylindrical, mostly not septate, usually constricted at the middle or at the septum. Our specimens agree so well with the descriptions of both *M. Martini* Sacc. & Ell. and *M. Quercus* Pk., as to suggest that the two are identical. The spore size and shape are identical. While our specimens agree better with *M. Quercus* Pk., they are nearer *M. Martini* Sacc. & Ell. as to spot characters.

HYPHOMYCETES.

Cercospora granuliformis Ell. & Holw. On leaves of *Viola sororia* Willd., Shelby County, August 29, 1925, Hawkins 4077.

Piricularia grisea (Cke.) Sacc. On living leaves of *Syntherisma sanguinalis* L., Shelby County, August 27, 1925, Hawkins 4082.

Ramularia dubia Riess. On living leaves of *Chenopodium album* L., Shelby County, August 29, 1925, Hawkins 4086. Spots (above) brownish-yellow surrounded by a broad greenish-yellow border; below, paler, pallid yellow, circular, 3 to 8 mm. in diameter; conidiophores tufted, (tufts 50 to 87 microns), light brown in mass, continuous, seldom toothed, erect, cylindrical, enlarged or narrowed at the apex, seldom bent, 4 to 6 by 15 to 40 microns (mostly about 15 to 20); conidia fusiform, cylindrical, clavate, obclavate, curved or variously shaped, with enlargement or with enlarged cell at the end or central part of the spore, continuous to three septate, hyaline, irregularly guttulate, 5 to 7½ by 17 to 52 microns (mostly about 25 to 35 in length); mycelium is hyaline, abundant, much branched, guttulate. Although the conidiophores are somewhat colored in mass, the mycelium is hyaline. This, doubtless, is the cause of much confusion as to the genus. The peculiar and varied spore shapes are discussed somewhat by Winter (Die Pilze, 9, p. 800). He says: "einzellne Zellen oft ungleich besonders eine oder beide mittleren mit gewoelbter Membran, also breiter als die Endzellen". This variation in spore shape is one of the most characteristic things about our specimens. They are often noticeably swollen, not only in the middle, but also at either end, particularly when the spore is continuous or only two-celled.

MYXOMYCETES.

Stemonitis Morgani Pk. On Catalpa stump, Benton County, September 1925. Loughridge 4078.