

## SOME NEW PORTO RICAN FUNGI

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The material studied was collected by Dr. F. L. Stevens in the years 1912 and 1913, and the specimens are deposited as described by Miss Esther Young (1). Expressions of appreciation are due to Dr. N. L. Britton and Mr. Percy Wilson, of the New York Botanical Garden, and also to Mrs. Agnes Chase of the Bureau of Plant Industry, for assistance by determining host-plants.

## I.—MYCOSPHAERELLA TABEBUIAE SP. NOV.

Spots amphigenous, becoming white and transparent, small, 1-5 millimeters in diameter, surrounded by a dark, brown-purple blotch which gradually shades off into the normal leaf tissue. Perithecia numerous, epiphyllous, black, quite evident on the light background of the center of the spot, 80-130 microns in diameter, ostiolate. No paraphyses. Asci cylindrical, sometimes slightly ovate, double-walled, straight or somewhat curved, 50-60x10 microns. Spores narrowly clavate, hyaline, straight or slightly curved, 1-septate in the middle, scarcely if at all constricted, lower cell narrower and somewhat pointed, 17-20x3.5 microns.

On living leaves of *Tabebuia haemantha* (Bertero.) DC. in Porto Rico: Vega Baja, 2021 (type); Mona Island, 6187.

This species differs from *Mycosphaerella capreolata* on *Bignonia capreolata* in its narrower spores, and from *M. erysioides* on *Tecoma radicans* and *M. passiflorae* on *Bignonia* in its much larger spores.

## II.—MYCOSPHAERELLA DIDYMOPANACIS SP. NOV.

Spots amphigenous, mostly circular, sometimes confluent, but the individual spots remaining distinct, very light-brown or gray in color, one or two centimeters in diameter, surrounded by a narrow orange-brown line, on the lower side thickly studded to within a millimeter of the edge of the spot by the small black perithecia. Perithecia amphigenous, much more abundant on the lower side of the leaf, erumpent, numerous, small, dark, 70-130 microns. Ostiole 12-20 microns in diameter. No paraphyses. Asci short-stalked, oblong, slightly

ovate, 40-50x10-12 microns. Spores hyaline, 1-septate, somewhat constricted, elongate-elliptical, cells slightly pointed at ends, 17-20 by 3-3.5 microns.

On living leaves of *Didymopanax mortonii*, Dcne. in Porto Rico; Añasco, 35; 39; 297; 2962; 3591 (type); 3780; 5716; 5748; 6829; 8140; Utuado, 4681.

This species differs from *Mycosphaerella araliae* and *M. panacis* in that its spores are much larger, and from *M. papyrifera* and *M. longispora* in its much smaller spore measurements.

### III.—MYCOSPHAERELLA DUBIA sp. nov.

Spots amphigenous, round or somewhat irregular, becoming two or three centimeters in diameter, often confluent, dry, pale-brown, surrounded by a darker brown border which gradually shades off into the normal leaf tissue, many on a leaf. Perithecia epiphyllous, erumpent, scattered, minute, 45-60 microns, ostiolate. Ostiole 10-12 microns in diameter. No paraphyses. Asci ovate, curved, 24-27x10 microns. Spores inordinate, hyaline, uniseptate, not constricted, straight, fusoid, 10x3-3.5 microns.

On living leaves of *Solanum* (?) sp. in Porto Rico: Maricao 750 (type.)

This species differs from *Mycosphaerella solani* on *Solanum dulcamara* in having smaller perithecia and asci, and from *M. asterimoides* on members of the Solanaceae, *M. lycii* on *Lycium vulgare*, and *M. nicotianae* and *M. tabaca* on *Nicotiana tabacum* in having all its measurements smaller.

### IV.—MYCOSPHAERELLA GUTTIFERAE sp. nov.

Spots epiphyllous, somewhat irregular, when young salmon-colored, when old covered by a cinereous, papery membrane, bounded by a raised border, composed of very narrow bands of alternate light and dark brown. Spots reaching a diameter of one and one-half or two centimeters. Perithecia epiphyllous, numerous, black, erumpent, scattered over the entire spot, plainly visible 80-110 microns, with an ostiole 20-25 microns in diameter. Asci ovate or broadly clavate, 55-65x17 microns. Spores slightly fusoid, uniseptate, inordinate, hyaline, the lower cell a little narrower, 24x4-5 microns.

1. *Mycologia*, 7 (1915) 143.

On living leaves of *Clusia gundlachii*, (Stahl) in Porto Rico; Maricao, 286 (type); 809, 7136, 7482, 8829, 8849, 8906.

This species differs from *Mycosphaerella clusiae* on *Clusia rosea* in the appearance of the spots and in the larger spore measurements.

V.—MYCOSPHAERELLA MAXIMA sp. nov.

Spots amphigenous, irregular, pale-salmon in color, conspicuous, bounded by a narrow dark brown line, several on a leaf, often becoming three or more centimeters in diameter, sometimes confluent. Perithecia epiphyllous, subepidermal, minute, thickly scattered over spot, ostiolate, 80-90 microns. No paraphyses. Asci oblong or slightly narrowed above, 55-60x15-17 microns. Spores inordinate, hyaline, narrowly oblong, uniseptate in the middle. 28-35x3.5-4 microns.

On living leaves of an undetermined host, probably a member of the Rubiaceae in Porto Rico: Maricao, 754 (type.)

VI.—MYCOSPHAERELLA PERSIAE sp. nov.

Spots amphigenous, on upper side of leaf covered by a cinereous, papery membrane, without a limiting border, on the lower side brown, bordered by a narrow line of darker brown, very irregular, both in size and outline, a single spot often covering several square centimeters of the leaf surface; the thin membrane finally flaking off and leaving a spot on the upper surface which closely resembles the one on the lower side. Perithecia epiphyllous, somewhat flattened, black, scattered, rather numerous, 70x80-100 microns, ostiolate. Ostiole very slightly raised, 15-25 microns in diameter. No paraphyses. Asci oblanceolate or narrowly clavate, 45-55x7-9 microns. Spores hyaline, uniseptate, cylindrical, scarcely constricted at the middle, mono or subdistichous, slightly pointed at the ends, 12-13x3-4 microns.

On living leaves of *Persea americana*, Mill., in Porto Rico: Maricao, 753, 4486 (type); 4809; Rio Piedras, 2176; 2501; San German, 5797; Dos Bocas below Utuado, 6601.

This species differs from *Mycosphaerella exutans* on *Persea carolinensis* which has minute spots with unequally uniseptate spores.

## VII.—MYCOSPHAERELLA PALMAE sp. nov.

Spots amphigenous, from small and oval to quite long and narrow, with the long axis parallel to that of the leaf, light-brown, surrounded by a narrow, dark-brown line. Perithecia amphigenous, small, dark, immersed often closely aggregated, 80-90 microns in diameter, ostiolate. No paraphyses. Asci oblong or broadly clavate, straight, 45-50x17 microns. Spores hyaline, uniseptate, not constricted, fusoid, straight or curved, usually curved, pointed at both ends, 30-35x4-5 microns.

On leaves of palms in Porto Rico; Guanica, 2107 (type).

## VIII.—MYCOSPHAERELLA CHRYSOBALANI sp. nov.

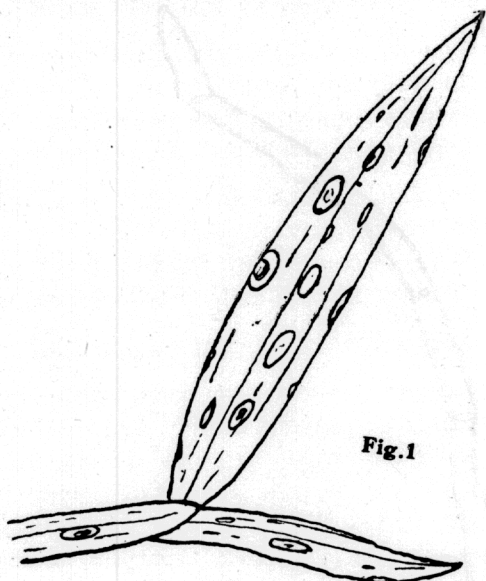
Spots amphigenous, irregular, both in size and outline, usually becoming confluent so as to cover a large part of the upper leaf surface; on upper side covered by a white, cinereous membrane, which makes the spots very conspicuous. Perithecia epiphyllous, numerous, black, erumpent, scattered, 100 microns in diameter, ostiolate. No paraphyses. Asci ovate or oblong, 40-50x15 microns. Spores inordinate, hyaline, uniseptate in the middle, not constricted, fusoid, somewhat pointed at ends, straight or curved, 24x3.5 microns.

On leaves of *Chrysobalanus icaco*, in Porto Rico; Rio Piedras, 5699 (type).

## IX.—MYCOSPHAERELLA ANTHURII sp. nov.

Spots very large, sometimes 10 centimeters in diameter, amphigenous, somewhat irregular in outline, dry and becoming practically transparent, thickly studded with black perithecia, bounded by a narrow, dark-brown line, portions falling out and leaving merely a network of veins. Perithecia epiphyllous, sub-epidermal, very numerous, scattered over the entire spot, dark, ostiolate, 100-150 microns in diameter. Asci ovate, oblong, or broadly clavate, 45x15-18 microns. Spores ovoid or oval, light-green, septum usually indistinct, guttulate, inordinate, 15-20x6 microns.

On leaves of *Anthurium acaule* (Jacq.) Schott Melet., in Porto Rico; Aguas Buenas 299; Monte Aleguillo, 1420; Yabucoa, 2184 (type); Trujillo Alto, 2407; Rosario, 3788; Catorio, 4150; Bayamon, 4162; Cabo Rojo, 6456; Tanama River, 7850; Dos Bocas, 8095.



X.—HELMINTHOSPORIUM MAYAGUEZENSE sp. nov.

Spots amphigenous, distinct, conspicuous, very light-brown, cinereous toward the center, surrounded by a narrow, dark-brown line. Spots oval in outline, varying in size from quite small to a centimeter in length, approximately one-half as wide as long. Conidiophores large, numerous, single or very rarely in pairs, unbranched, hollow, straight or slightly curved, rising usually from a point where two or more mycelial hyphae come together, as a rule, through a stoma, often constricted at the point of passage through the epidermis, expanding into a more or less pronounced swelling immediately above it, dark-brown in color, 300-500x18-22 microns. Mycelium composed of short irregularly shaped cells, branching quite frequently, intercellular, light-yellow in color. Spores fusiform or clavate, 3-4-septate, dilute-brown, borne singly, short-pedicillate, thin-walled, collapsing readily, 135-155x35-45 microns at the broadest point.

On culms and leaves of *Paspalum conjugatum*, Bergius, in Porto Rico, Mayaguez, 970; 1066; 7124 (type); 8232, 8279; 8941; Dos Bocas, 1093; San German, 5803; Añasco, 4904; Maricao, 8776.

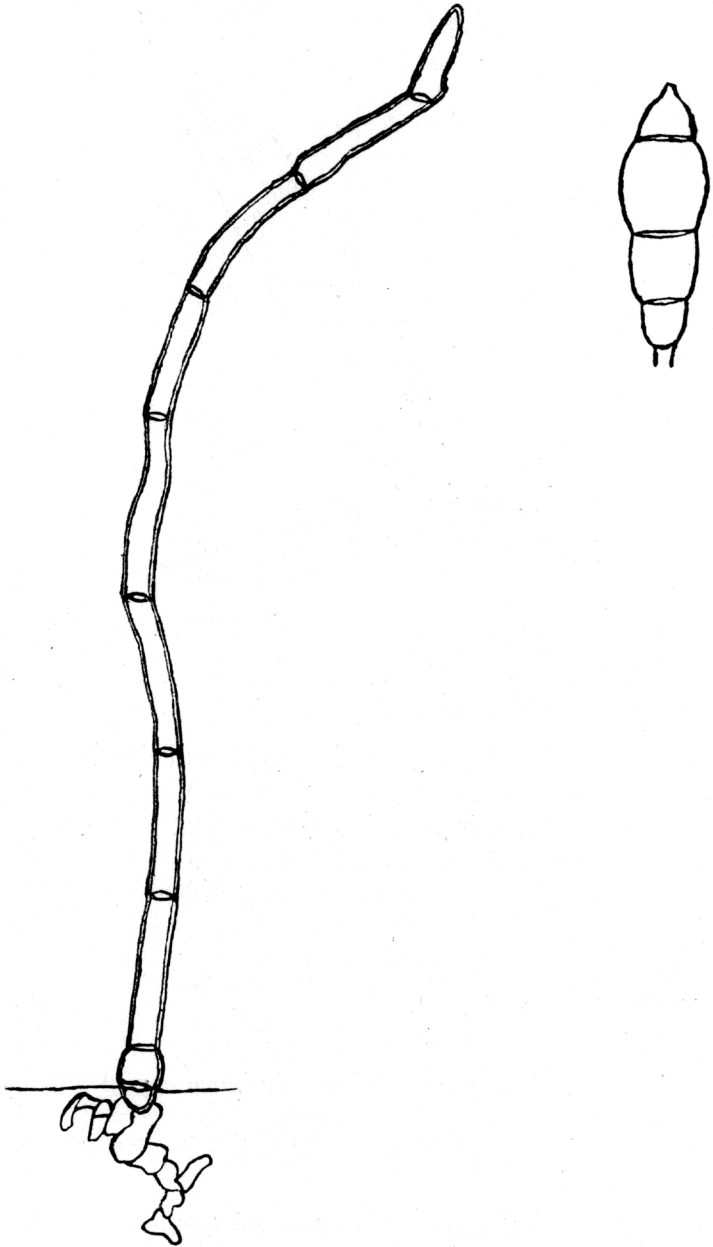


Fig. 2

## XI.—CERCOSPORA CARBONACEA SP. NOV.

Spots amphigenous, very conspicuous on upper side of leaf, burned or charred in appearance, usually angular, limited by veins or veinlets, somewhat elevated, becoming one or one and one-half centimeters in diameter; on the lower side of leaf, brown, becoming darker with age. Conidiophores fasciculate, 10-20 in a cluster, arising from a stoma, erect, 1-2-septate, dark, simple, unbranched, smooth or somewhat geniculate toward the apex, 50-80x4-5 microns. Conidia single, cylindrical always curved near one end, cane-shaped, 4-8-septate, slightly narrower at the straight end, very dilutely colored, 70-100x6 microns. (Fig. III.)

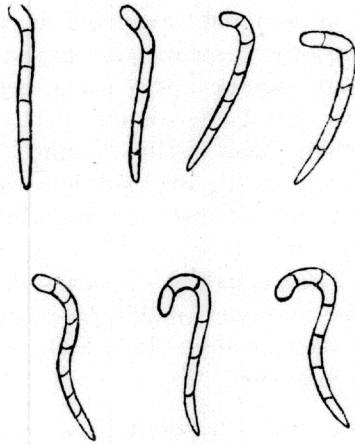


Fig. 3

On living leaves of *Dioscorea alata*, L. in Porto Rico: Vega Alta, 4178; (type); Vega Baja, 4234; Cabo Rojo, 6469; Añasco, 3563; St. Ana. 6687.

## EXPLANATION OF FIGURES

Fig. I—*Helminthosporium* leaf-spot on *Paspalum conjugatum*.

Fig. II—*Helminthosporium mayaguezense*; (a) conidiophore; (b) spore.

Fig. III—Spores of *Cercospora carbonacea*.