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NEW OR INTERESTING TROPICAL AMERICAN DOTHIDEALES—II *

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(WITH PLATES I AND II)

Since the publication by the writer (1) of the first paper on the Dothideales, a renewed interest in this group has been aroused due to the fact that Doctor H. Sydow of Berlin has expressed his intention of revising his well known monograph on the group (5) which is indeed in great need of revision, especially in regard to the Tropical American species.

The present paper, in the writers opinion, is a further evidence that such a revision is imperative. The critical study of the grass forms occurring in Porto Rico and Santo Domingo has proved to be suprisingly interesting and a number of forms which had been determined and reported in the work of Seaver and Chardon (3), after comparing with authentic type material or with forms already known from the continent, has turned out to be either species new to science, or else they have been referred to continental species. On the contrary, species like *Pyllachora Eriocholae* Speg. which had been reported as occurring in Porto Rico and Santo Domingo, have been eliminated from the flora of both islands.

If such a chaotic situation has prevailed in our knowledge of the Dothideales of Porto Rico, an island which has been so thoroughly explored by a dozen mycologists in the past fifteen years and the collections of which have been critically studied by the best American specialists in the different groups, the rest of tropical America no doubt offers, as it was previously stated "a vast field of investigation for systematic mycologists."

An additional paper by the writer (2), although not part of this series, has also appeared in which a number of new Phyllachorae have been described from Colombia. These were collected by the writer in the region of the Central Andes and along the banks of the Magdalena River in 1926.

The species herein described as new or interesting have been collected by various mycologists and by the writer in Porto Rico and deposited in part in the writer's personal herbarium; by Doctor

* For the first contribution see Mycologia 19: 295–301. 1927.

F. D. Kern and Mr. R. A. Toro in Santo Domingo in 1926; by Mr. R. A. Toro, who has lately been stationed in Medellín, Colombia; and material from various collectors of the U. S. Department of Agriculture from South America, which has been kindly communicated for study by Mr. John A. Stevenson, in charge of the mycological collection in the Bureau of Plant Industry, Washington, D. C. To all of these collectors the writer wishes to express his indebtedness.

Seaver (4) in a recent publication has also given some attention of species of *Phyllachora* from Tropical America. His use of the name *Phyllachora* "in a broad sense" may seem somewhat objectionable to those of us who have accepted Theissen and Sydow's classification of the group.

An expression of appreciation is also due to Doctor H. Sydow, of Berlin, for kindly supplying type material and to Don Mario Brau, of the Museum of the Department of Agriculture of Porto Rico for the colored plates accompanying the paper.

DOTHIDEACEAE.

BAGNISIOPSIS TIJUCENSIS Theiss et Syd., Annal. Mycol. **13**: 291. 1915.

Two specimens from Colombia collected by R. A. Toro are referred to this species, which was only previously known from near Río de Janeiro, Brazil. The stromata showed the characteristic dothideoid and erumpent character of *Bagnisiopsis*. Spores 1–celled, hyaline, uniseriate in the ascus, elliptical, 13–14 × 5–6 u, which are slightly smaller than the description given by Theissen and Sydow.

On *Tibouchina longifolia* (Vahl.) Baill.

COLOMBIA: R. A. Toro No. *264*, Guarnes, Dept. of Antioquia, Nov. 3, 1927; R. A. Toro, No. *303*, near Medellin, Dept. of Antioquia, Jan. 20, 1928.

Achorella Toroana Chardon spec. nov.

Spots approximately circular, or irregular through coalescence, very conspicuously epiphyllous with the borders limited by a violet tinge, sometimes hypophyllous; stromata dothideaceous, warty, erumpent, black, mostly multiloculate, the locules globose or slightly irregular through lateral pressure, 350–400 × 250–300 u, the walls of the stroma when placed in water dissolving into a very conspicuous greenish blue substance; asci cylindrical, 8–spored, with the spores early evanescent from the asci, 158–172 × 11–15 u; spores 2–celled, distinctly brown, provided with a distinct cell wall, uniseriate in the ascus, 23–26 × 9–11; paraphyses present.

This is a very interesting new form: the stroma is evidently

dothideaceous, resembling a *Bagnisiopsis* or a *Dothidina*, but the 2-celled, brown character of the spores makes it fall in the genus *Achorella*. The fungus is unique in tha the walls of the stroma when placed in water for examination under the miscroscope, secrete an opaque, greenish blue substance.

The species is dedicated to its collector, Mr. Rafael A. Toro, Porto Rican mycologist, now in Medellin, Colombia.

On *Cavendishia* Spec.

COLOMBIA: R. A. Toro, No. *260*, Guarnes, Dept. of Antioquia, Nov. 3, 1927 (*type*).

Dothidina sphaerospora Chardon spec. nov.

Spots hypophyllous, not exceeding the stromata; stromata dothideaceous, warty, black, coalescing and aranged in conspicuous, circular clusters 1–3 mm. across; locules globose or slighly irregular through lateral pressure, 300–400 × 250–300 u, asci cylindrical, 8-spored, uniseriate, with the sporiferous part 56–65 × 7 u; spores 1-celled, globose, 8 × 7 u, at first hyaline, provided with a distinct cell wall, later becoming light brown in color, uniseriate; paraphyses profuse.

This fungus is evidently not *Dothidina peribebuyensis* (Speg.) Chardon (Mycologia **13**: 289. 1921) which has spores 14–18 × 6–7 u and reported on various Melastomaceae from South America and Porto Rico, while they are globose 8–7 u, in the Colombian specimen. It is a true dothideaceous form, with erumpent stromata.

On *Clidemia impetiolaris* (Naud.) Cogn.

COLOMBIA: R. A. Toro No. *314*, vicinity of Medellin, Dept. of Antioquia, Jan. 20, 1928 (*type*).

PHYLLACHORACEAE.

Trabutia Mangiferae Chardon spec. nov.

Spots irregular or roughly circular, amphigenuos, brownish brick colored, 12–15 mm. across; stromata hypophyllous black, shiny, irregular, angular, 3–5 mm. across; stroma multiloculate, distinctly situated between the cuticle and the epidermis; locules flat ellipsoidal or angular through lateral pressure, fully immersed in the clack stroma, 240–325 × 120–200 u, asci cylindrical clavate, 8-spored, with the spores biseriate in the main body of the ascus, 62–75 × 15–17 u, spores 1-celled, hyaline, ellipsoidal, 10–12 × 5–6 u; paraphyses present. (Plate II, Fig. 5.)

There is only one dothideaceous fungus reported on this host. *Zimmermanniella trispora* P. Henn. from Buitenzorg, Java. (*Theiss.* & Sydow p. 290). This rare genus is a 3-spored *Bagnisiopsis*, while

the species under study is very evidently a new species of *Trabutia,* since the stroma is quite distinctly between the cuticle and the epidermis.

On *Mangifera indica* L.

BRAZIL: U. S. Dept. Agr. No. *61130* (coll. by J. R. Weir), Santa Laura, Madeira River, Amazonas, Aug. 31, 1923 (*type*).

Catacauma costaricense Chardon nom. nov.

Phyllachora Pittieri Speg. Bol. Acad. Nac. Ci. Cordoba **23**: 569. 1919. Not *Ph. Pittieri* Theiss & Syd. Ann. Mycol. **13**: 544. 1915.

It may be interesting to state briefly the nomenclatorial entanglement that has resulted in the adoption of a new name for this species. *Phyllachora Pittieri* was described by Spegazzini in 1919 from material collected by A. Tonduz in Costa Rica in 1897. The specific name is not valid because there is another *Ph. Pittieri* named by Theissen and Sydow in 1915. (Ann. Mycol. **13**: 544).

Prof. Sydow later reported (Ann. Mycol. **24**: 398) two of his collections from Costa Rica as *Pyllachora Pittieri* Speg. These two collections have been examined by the writer, and microscopic sections of the leaves have shown the position of the stroma to be between the epidermis and the mesopyll, thus making this species to fall under the genus *Catacauma.* With the specific name *Pittieri* not valid, and the genus changed from *Phyllachora* to *Catacauma,* the fungus has to be entirely renamed as *Catacauma costaricense* Chardon nom. nov.

In both of Sydow's specimens the spores (11–13 × 6–7 u) are smaller than in Spegazzini's description. This author reports them as 15–16 × 7–9 u.

A third collection by Standley, from Honduras, communicated by Mr. John A. Stevenson, has also been referred here. The spores are also 11–13 × 6–7 but mostly biseriate in the ascus and become somewhat opaque at maturity.

On *Xylosma velutina* Tr. & Planch.

COSTA RICA: H. Sydow No. *93,* La Caja, near San José, Dec. 22, 1924.

On *Xylosma oligendri* Donn. Sm.

COSTA RICA: H. Sydow No. *134,* Cerro de San Isidro, near San Ramón, Feb. 7, 1925.

On *Xylosma* sp.

HONDURAS: U. S. Dept. Agr. No. *55989* (coll. by P. C. Standley), vicinity of Siguatepeque, Feb. 14–27, 1928.

Catacauma Ingae Chardon spec. nov.

Spots approximately circular, yellowish, very small, inconspicuous, 1–1.5 mm. in diameter; stromata epiphyllous, scattered, small, very inconspicuous, 0.5–0.8 mm. across, circular, unilocular, situated between the epidermis and the mesophyll forming a clypeus over the locule, 45–60 u thick, with a portion of compact stromatic tissue in the hypophyll just below the locule but not touching it; locule flat, 300–400 × 80–100 u, asci cylindrical-clavate, 8-spored with the spores inordinate in the ascus, 75–90 × 13–15 u; spores long navicular, hyaline, continuous, 24–26 × 3.5–4 u, provided with several oil drops: paraphyses present.

This species had evidently escaped the attention of the mycologists that have visited Porto Rico due to its minute, inconspicuous stromata. *Ophiodothella Ingae* (P. Henn.) Th. & Syd. reported on *Inga* spec. from São Paulo, Brazil, is evidently different from this species in possessing filiform spores in a parallel arrangement in the ascus.

On *Inga vera* L.

PORTO RICO: C. E. Chardon No. ——* Maricao Insular Forest Reserve, June 9–10, 1928 (*type*).

Catacauma semi-lunata Chardon spec. nov.

Spots not exceeding the stromata but identified with them; stromata black, shiny, occasioning a tar-spot, very conspicuous, epiphyllous, either oval or slightly irregular at first, 3–5 mm. in diameter but often becoming confluent into large irregular, tar-like masses 6–10 mm. across, multilocular in cross section, with 3–5 or even more locules, the stroma located between the epidermis and the mesophyll, the stromatic tissue much more compact and solid black in color above the locules and on their sides; locules globose or ellipsoidal, sometimes angular through lateral pressure, 150–250 × 100–150 u; asci cylindrical clavate, 8-spored, with the spores arranged biseriately in the ascus; spores hyaline, 1-celled, lunulate, 14–18 × 4–5 u; paraphyses present. (Plate I, Fig. 1).

The shape of the spores of this species, is very characteristic and unique for the group; they are crescent shaped which is very distinctive. This curious spore shape may perhaps serve to justify the erection of a new genus in the Scirrhiineae of the Phyllochoraceae, right next to *Catacauma* and *Catacaumella*, but for the present, the species is included as a *Catacauma* which includes all the forms of the Scirrhiineae having 1-celled, hyaline spores with paraphyses present.

On *Eugenia* sp.

PORTO RICO: C. E. Chardon No. ——* Maricao Insular Forest Reserve, June 9–10, 1928 (*type*).

* The types of this and the following species were destroyed during the hurricane of September 13, 1928.

Catacauma Weirii Chardon spec. nov.

Spots approximately circular or irregular, conspicuous, pale yellow contrasting with the green tissue of the leaf, epiphyllous but also faintly visible in the hypophyll, 12–20 millimeters across; stromata pale black a, epiphyllous, not shiny, at first approximately circular or slightly angular, 2–3 mm. across, very distinctly between the epidermis and the mesophyll, later coalescing into large, laberynthiform stromata of various shapes, 15 to 20 mm., across; locules many in the stromata, sub-globose, very often flattened, or else angular thru lateral pressure, with most of the black stromatic tissue above or on their sides, very little or none below, 200–400 × 120–160 u; asci cylindrical-clavate, 8-spored, with the spores obliquely uniseriate in the ascus; spores hyaline, 1-celled, smooth, long elliptical with the ends obtuse, 12–13 × 6 u; paraphyses present. (Plate II, Fig. 3).

Ph. tenuis (B. & C.) Sacc. reported from Nicaragua on *Bauhinia* (Theissen & Sydow p. 489) has spores with the same dimensions as this species but being a *Phyllachora* is quite different from *Catacauma* in the position of the stroma within the leaf tissues. The laberynthiform stromata of this form, somewhat suggesting that of *Trabutia conspicua* Chardon (see Mycologia **19**, pl. 27, fig. 4) is very characteristic. Named in honor of its collector, the well known American mycological explorer, Dr. James R. Weir.

On *Bauhinia* sp.

BOLIVIA: U. S. Dept. Agr. No. *61126*, (coll. by J. R. Weir) Riberalta, Rio Beni, Sept. 28, 1923 (*type*).

Robledia Chardon gen. nov. (Phyllachoraceae rum).

Stromata between the epidermis and the mesophyll; asci cylindrical clavate; spores brown, 2–celled, the upper cell developed, the lower one papillate; paraphyses present. Type species, *Robledia tetraspora.*

In honor of Dr. Emilio Robledo, Colombian physician and botanist, resident in Medellin.

The erection of this new genus in the Scirrhiineae of the Phyllachoraceae is necessary in order to include those forms like the one described below with brown, 2–unlike celled spores (see Theissen and Sydow's keys in Ann. Mycol. **13**: 177). In the genus *Phaedothiopsis* Theiss. & Syd. the spores are brown 2–celled, with the cells alike, while in the new genus *Robledia,* the spores are also brown 2–celled, but the cells are unlike.

Robledia tetraspora Chardon spec. nov.

Spots not exceeding the stromata; stromata epiphyllous, black, not shiny, warty, globose to subglobose, 1–2 mm. across, situated

between the epidermis and the mesophyll; locules many in the stroma, elliptical or angular through lateral pressure, 125–180 × 80–120 u, with most of the black stromatic tissue above, with some on the sides and none below; asci cylindrical or cylindrical-clavate, 4-spored, 45–62 × 12–18 u, with the spores uniseriate or biseriate; spores 2-celled, yellowish brown, with the cells unlike, the upper cell long elliptical, 14–20 × 6–7 u, provided with a distinct cell wall, 1 u thick, the lower cell papillate, 2–3 u across; paraphyses present. (Plate I, Fig. 2).

This is a distinct species characterized by the 4-spored asci.

On *Eupatorium tacotanum* Klett.

COLOMBIA: R. A. Toro No. *312,* La Primavera, Dept. of Antioquia, Dec. 25, 1927 (*type*).

Phyllachora Ortonii Chardon spec. nov.

Stromata amphigenous, black, not shiny, 0.8–1.0 mm. long × 0.3–0.6 mm. wide, but coalescing to form a long linear row of stromata 4.0 to 8.0 mm. or even more in length, parallel to the main axis of the leaf; fructification simple, with a large globose or elliptical locule, 180–230 × 80–100 u, completely immersed in the mesophyll of the leaf, and surrounded on all sides by the black stroma; asci cylindrical-clavate, 8-spored, with the spores biseriate in the main body of the ascus, 80–92 × 13–18 u; spores hyaline, 1-celled, elliptical with somewhat acute ends, 13–15 × 5–6 u; paraphyses present.

This specimen appears determined in the herbarium as *Phyllachora Andropogonis* Schw., a species which according to Dr. C. R. Orton does not occur in Porto Rico; Dr. Orton is evidently correct since the spore dimensions given for *Ph. Andropogonis* are 16–20 × 6–8 u. In *Ph. infuscans* Winter (Theiss & Sydow, p. 456) reported on *Paspalum* sp. from Brazil, the spores are even larger, 22–27 × 9–11 u. In the opinion of the writer the erection of a new species is amply justified here, which is dedicated to Dr. C. R. Orton, who has given much study to the American grass forms of *Phyllachora.*

On *Paspalum millegrana* Schrad.

PORTO RICO: F. L. Stevens No. *6763,* Naguabo; no month specified, 1913 (*type*).

Phyllachora brevifolia Chardon spec. nov.

Stromata amphigenous, black, not shiny, 0.8 to 1.0 mm. long × 0.5 to 0.8 mm. wide, the longer dimension following the main axis of the leaf, mostly isolated, seldom coalescing; fructification simple, or very rarely 2-loculate, with the locule covered above and below with black stromatic tissue, locule flat with the lower surface straight, the upper distinctly convex, 180–250 × 45–60 u; asci cylindrical-clavate, 8-spored, with the spores mostly uniseriate or sometimes

partially biseriate, 54–62 × 9–11 u; spores hyaline 1-celled, distinctly lemon shaped with acute ends, 9–11 × 4–5 u; paraphyses present.

This species had been reported by Seaver and Chardon (p. 51), based on determination made by C. R. Orton, as *Phyllachora assimilis* Theiss & Sydow. An examination of a fragment of the type of this species (Butler No. *1250*) which was kindly supplied by Dr. H. Sydow has shown that the Porto Rican material is different from it. In *P. assimilis*, the stromata are always multiloculate, while in our form they are uniloculate or very rarely biloculate. Furthermore, in *Ph. assimilis* the spores are not lemon-shaped with acute ends, but ellipsoidal with blunt ends; the spore measurements are also different. These differences have determined the writer in erecting a new species.

On *Schizachyrium brevifolium* (Sw.) Ness. (*Andropogon brevifolius* Sw.).

PORTO RICO: F. L. Stevens No. *5751* (Cornell University No. *11099*), Río Piedras, Nov. 3, 1913 (*type*); B. López No. *7899*, Experiment Station Grounds, Río Piedras, Aug. 1922.

PHYLLACHORA ERIOCHLOAE Speg., Anal. Mus. Nac. Buenos Aires 19: 416. 1909.

Seaver and Chardon (Sci. Surv. Porto Rico and Virgin Ids. 8: 52) based mostly on determinations made by C. R. Orton, have reported the occurrence of this species in Porto Rico, on two hosts: *Paspalum conjugatum* Berg. and *Valota insularis* (L.) Chase. It seems evident, however, that we are dealing with two distinct forms, neither of which agree with the description of Spegazzini's species, which has spores described as "sporae oblique monostichae, apice altero obtuse rotundatae, altero abruptiuscule cuneatoacutatae, 14–15 × 7 u hyalino." None of the material from Port oRico or Santo Domingo properly falls under *P. Eriochloae* Speg.: the one on *Paspalum conjugatum* Berg. is referred here to *Phyllachora paspalicola* P. Henn, while the one on *Valota insularis* (L.) Chase is herein described as a new species, *Phyllachora insularis*.

Toro (Mycologia 19: 80) also reports *Phyllachora Eriochloae* Speg. from Santo Domingo on the two above-mentioned hosts. After a careful examination of his material, the form on *Valota* insularis (L.) Chase, seems to be identical with the Porto Rican form *Phyllachora insularis* sp. nov., while the one on *Paspalum conjugatum* Berg., is a species of *Telimena*, described in this paper as *Telimena domingensis* sp. nov.

Thus it seems justifiable for the present to exclude *Phyllachora*

Eriochloae Speg. from both Porto Rico and Santo Domingo, thus restricting its range to continental South America.

Phyllachora insularis Chardon spec. nov.

Stromata mostly epiphyllous, but obten hypophyllous, black, not shiny; at first small, punctiform, globose, 0.5 mm. in diameter arranged in linear rows parallel to the main axis of the leaf, later coalescing into large, conspicuous, irregular, black stromata 2–5 mm. long, 1–2 mm. wide, enclosing 3 to 5 or more locules; locules flat ellipsoidal, or angular, thru lateral pressure, 150–240 × 120–150 u, with a black, prominent clypeus on the roof of the locules, which may run along their sides and bottom; asci long-cylindrical, 60–75 × 6–8 u, 8-spored with the spores uniseriate in the ascus; spores hyaline, continuous, ellipsoidal with both ends obtuse, 8–10 × 4–5 u; paraphyses present.

This is evidently not *Phyllachora Eriochloae* Speg. whose spores are reported to measure 14–15 × 7 u. Our material does conform in macroscopic stromatal characters with Mayors No. *158* from Colombia which was first reported by Sydow (Mem. soc. neuch. Sci. nat. **5**: 436) as *Ph. Eriochloae* Speg., and later, by Theissen and Sydow (Ann. Mycol. **13**: 448) as *Ph. Eriochloae* Speg. var. *columbiensis*. The spores in the Colombian specimen, however, measure 10–12 × 4–5 u and the ends are acute, not blunt as in the Porto Rican and Santo Domingan material. These differences warrant the erection of a new species, distinct from the South American form.

On *Valota insularis* (L.) Chase.

Porto Rico: Barceloneta, Whetzel & Olive No. *551*, Feb. 25, 1916, (*type*); along river north of Peñuelas, Chardon No. *1021*, July 28, 1920; Finca Pretoria, Peñuelas, Chardon No. *1047*, July 20, 1920.

Santo Domingo: Santiago Kern & Toro No. *275*, Mar. 21, 1926; Bajabonico, Kern & Toro No. *252*, Mar. 23, 1926; Jaina, Kern & Toro No. *307*, Mar. 30, 1926.

Phyllachora Paspalicola P. Henn. Hedwigia **48**: 106. 1908.

Previously reported by Seaver and Chardon (Sci. Surv. Porto Rico and Virgin Ids. **8**: 52), as *Phyllachora Eriochloae* Speg. The spores of the Porto Rican material are distinctly lemon-shaped, 8–10 × 5–6 u, which evidently do not conform with the spore measurements of the Spegazzinian species.

It seems appropriate to refer it to *Ph. paspalicola* P. Henn: Although the type of this species (from Pará, Brazil) has not been seen, our material conforms very well with Mayor's No. *165*, from Colombia and determined as such by Sydow.

On *Paspalum conjugatum* Berg.

PORTO RICO: College grounds, Mayagüez, Chardon No. *918,* July 15, 1920; Corral Viejo, road to Adjuntas, Chardon No. *904*, Aug. 15, 1920.

Phyllachora Paspali-virgati Chardon spec. nov.

Stromata amphigenous, black, not shiny, 1–2 mm. long, 0.5 to 1 mm. wide, with 2 to 3 locules, entirely immersed in the mesophyll of the leaf, bordered on all sides with black stromatal tissue; locules flat globose or angular thru lateral pressure, 125–200 × 100–125 u; asci cylindrical, 8-spored; spores uniseriate in the ascus, hyaline, continuous, long-elliptical with both ends obtuse, 8–10 × 4–5 u; paraphyses present.

The spores in this species agree in shape and size with those already given for *Phyllachora insularis* sp. nov. but in stromatal characters, the two forms are quite distinct: In *Ph. insularis* the stromata are mostly epiphyllous with scarcely any stromatal tissue under the locule, while in *Ph. Paspali-virgati* the stromata are amphigenous and the locules surrounded on all sides by the black stroma.

On *Paspalum virgatum* L.

PORTO RICO: Along railroad, San Germán, Whetzel and Olive, No. *559 (type)*, Apr. 2, 1916; Poultry Farm, Guaynabo, Whetzel, Kern and Toro, No. *2570*, June 25, 1924.

Phyllachora macorisensis Chardon spec. nov.

Stromata amphigenous, black, not shiny, scattered 0.5 to 1.5 mm. long × 0.3–0.5 mm. wide; fructification simple, more often compound, with 2–3 or rarely 5 loculi; locules elliptical, flattened, or irregular thru lateral pressure, 160–200 × 120–140 u; asci cylindrical-clavate, 75–90 × 8–12 u, 8-spored; spores ellipsoidal, hyaline or faintly pale, 1-celled, 10–11 × 4–5.6 u, uniseriate; paraphyses filiform, longer than the asci.

No *Phyllachora* has been reported to occur on *Stenotaphrum.* This seems to be quite distinct from other known species on Gramineae.

On *Stenotaphrum* sp.

SANTO DOMINGO: San Pedro de Macorís, Kern & Toro, No. *150,* Mar. 10, 1926 (*type*).

Phyllachora Rhynchosporae Chardon spec. nov.

Stromata amphigenous black, not shiny, scattered, 0.5 to 1.5 mm. long × 0.2 × 0.5 mm. wide; fructification simple, or rarely compound, with 2 or at the most 3 loculi; locules elliptical globose, somewhat flattened, seldom irregular, 120–200 × 100–135 u; asci

elliptical-clavate, somewhat bulged in the middle, 85–110 × 16–22 u, 8-spored; spores navicular with the ends acute, faintly pale, uniseriate above and below, biseriate in the main body of the ascus, 1-celled, 15–17.5 × 4–4.5 u; paraphyses filiform, longer than the asci.

No *Phyllachora* has been reported on *Rhynchospora*, although several are known to occur on other cyperaceous hosts. The spore characters of this species are very distinct, and entirely justify the erection of a new species.

On *Rhynchospora cyperoides* (Sw.) Mart.

SANTO DOMINGO: Santo Domingo City, Kern & Toro No. *302*, Mar. 27, 1926 (*type*).

Sphaerodothis antioquensis Chardon spec. nov.

Stromata amphigenous, black, shiny, equally visible on both surfaces of the leaf, 1.0–1.5 mm. long to .8–1.0 mm. wide, the longer dimension following the main axis of the leaf, very seldom coalescing; fructification simple, with stromata immersed in the mesophyll of the leaf and the locule entirely covered by black stromata, locule flattened, large, 250–350 × 75–120; asci clavate, 8-spored, 65–78 × 20–23, with the spores inordinate in the ascus; spores elliptical, with blunt ends, 1-celled, distinctly brown in color 16–20 × 10–12 u; paraphyses present.

There being no species of *Sphaerodothis* reported on this host, the fungus is described herein as a new species.

On *Arthrostylidium* sp.

COLOMBIA: R. A. Toro, No. *284*, Santiago, Dept. of Antioquia, No. 13, 1927 (*type*).

Sphaerodothis luquillensis Chardon spec. nov.

Spots not exceeding the stromata; stromata amphigenous, black, shiny, small at first, 0.8–1 mm. long × 0.4–0.7 mm. wide, with the long axis parallel to the main axis of the leaf, later coalescing profusely, forming rows of linear stromata several millimeters long, unilocular in a cross section of the leaf; locule 250–300 × 120–150 u; asci cylindrical-clavate, 8-spored, 84–95 × 7–8 u, with the spores arranged uniseriately; spores at first broad elliptical, hyaline, 1-celled full of oil droplets, 12–14 × 6–6.5 u, later turning light brownish and reducing in size, at full maturity, long elliptical, with acute ends, distinctly brown in color, evanescent, 1-celled, 8–9 × 3–3.5 u; paraphyses profuse.

No species of *Sphaerodothis* appears to occur on Gramineae in Theissen and Sydow. The spore characters of this form are quite

distinct. The reduction in the size of the spores as they aproach maturity is interesting and has been clearly followed by the writer.

On *Eriochloa punctata* (L.) Desv.

PORTO RICO: C. E. Chardon & M. F. Barrus No. *3113*, La Catalina coffee farm, Luquillo Mountains, Jan. 21, 1928 (*type*).

Telimena domingensis Chardon spec. nov.

Stromata on both surfaces of the leaf, small, black, not shiny, less than 1 mm. in diameter, mostly uniloculate, seldom biloculate; locules 150–190 × 100–125 u, entirely immersed in the mesophyll and surrounded by a black stroma, at first enclosing numerous 1-septate, fusoid, hyaline stylospores, 21–24 × 2–3 u; asci cylindrical-clavate, 48–56 × 4–5 u, 8-spored with the spores arranged biseriately in the ascus; spores fusoid, 3-septate, hyaline to greenish with both ends acute, 12–14 × 2–3 u; paraphyses present.

Thru an error in determination this was reported by Toro (Mycologia 19: 80) as *Phyllachora Eriochloae* Speg. *Telimena graminella* Sydow (Fungi, exot. exc. *399*) on *Paspalum* from the Philippines, has much larger spores, 20–25 × 4–4.5 u.

On *Paspalum conjugatum* Berg.

SANTO DOMINGO: San Cristobal, Kern and Toro, No. *156*, Mar. 12, 1926 (*type*).

Ophiodothella floridana Chardon spec. nov.

Spots large, very conspicuous, roughly circular or irregular through coalescence, 8–15 mm. across, amphigenous but more pronounced in the undersurface of the leaf, with a black, not shiny, conspicuous stroma, 5–12 mm. across, in the center of the spot, bordered by a distinct yellowish zone which borders the stroma on all sides; stroma multiloculate, with locules in a row facing the undersurface, immersed in the mesophyll of the leaf, with heavy stroma above, lighter below; locules globose or elliptical, 250–350 × 200–280 u; asci cylindrical-clavate, 8-spored, 80–112 × 11–13 u; spores filiform, 1-celled, hyaline, 56–64 × 4 u; paraphyses present. (Plate II, Fig. 5).

A conspicuously large form, superficially resembling some species of *Catacauma* known on various *Ficus*, but falling in the genus *Ophidothella* v. Hohn, on account of its filiform spores.

On *Ficus* sp.

FLORIDA: U. S. Dept. Agric. No. *60925* (collected by L. H. Mc Cullough) Miami, no date (*type*).

Río PIEDRAS, PORTO RICO.

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EXPLANATION OF PLATES I AND II.

Fig. 1. Small branch of *Eugenia* sp. showing tar-spot stromata of *Catacauma semilunata* sp. nov. (nat. size).

Fig. 2. Small branch and inflorescence of *Eupatorium tacotanum* showing small inconspicuous stromata of *Robledia tetraspora* gen. et sp. nov. (nat. size).

Fig. 3. Leaf of *Bauhinia* sp. showing labyrinthiform stromata of *Catacauma Weirii* sp. nov. (nat. size).

Fig. 4. Leaf of *Ficus* sp. showing conspicuous stromata of *Ophiodothella floridana* sp. nov. (nat. size).

Fig. 5. Leaf of *Mangifera indica* showing tar-spot stromata of *Trabutia Mangiferae* sp. nov. (nat. size).

PLATE I.

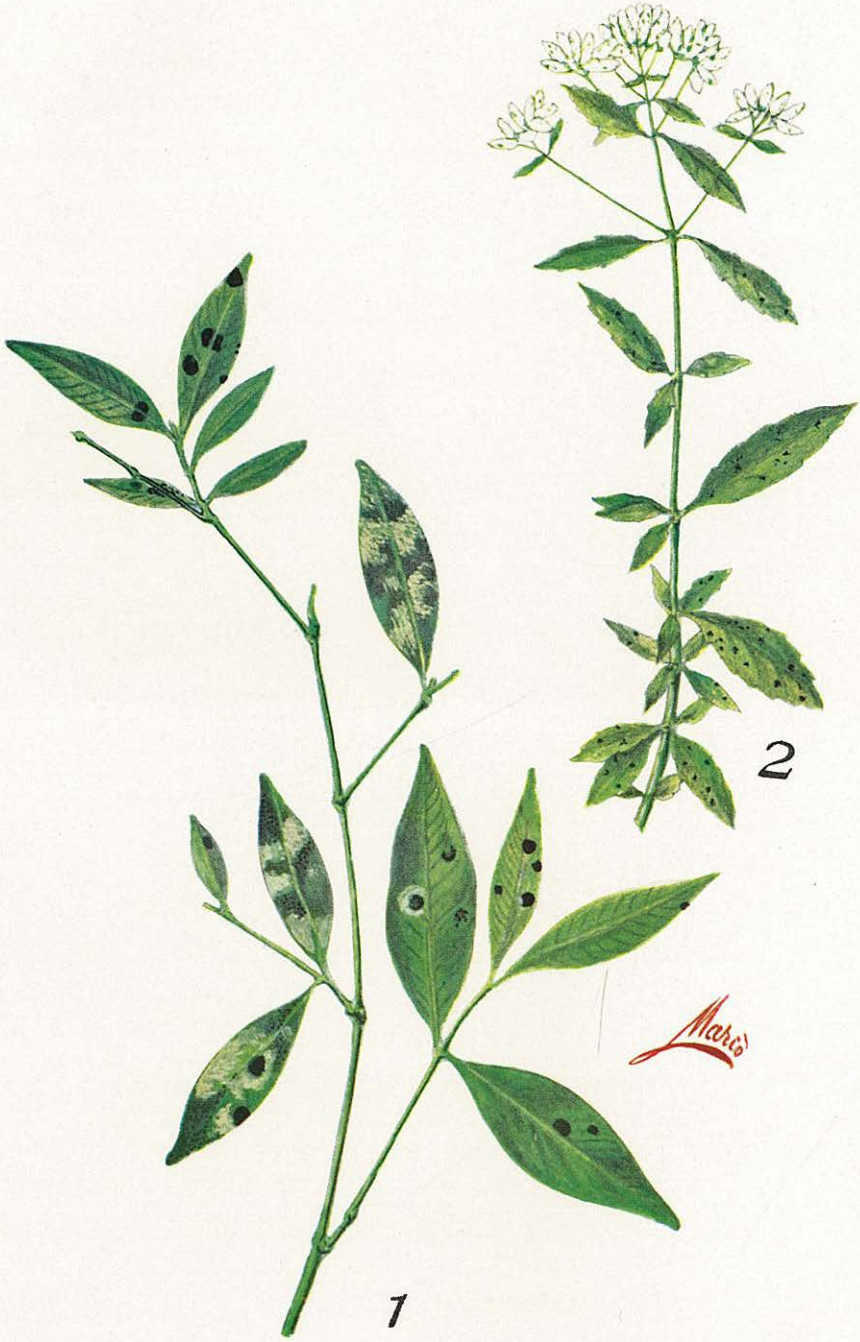
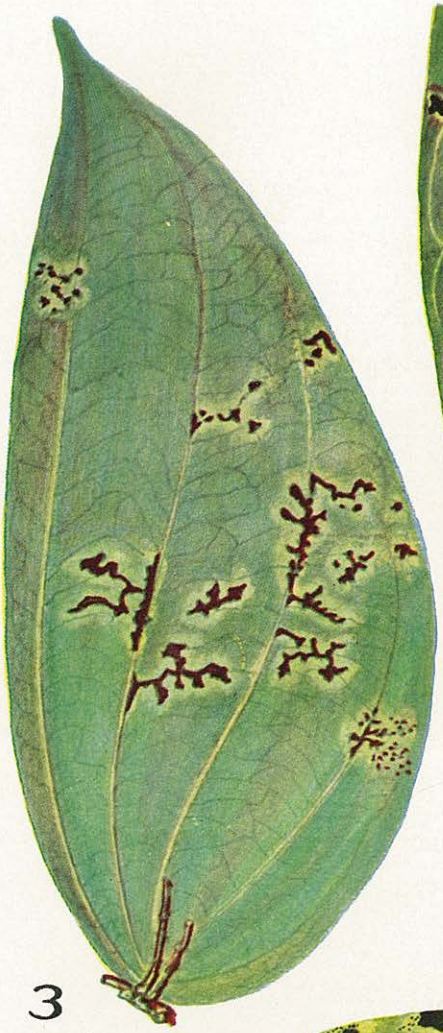


PLATE II.



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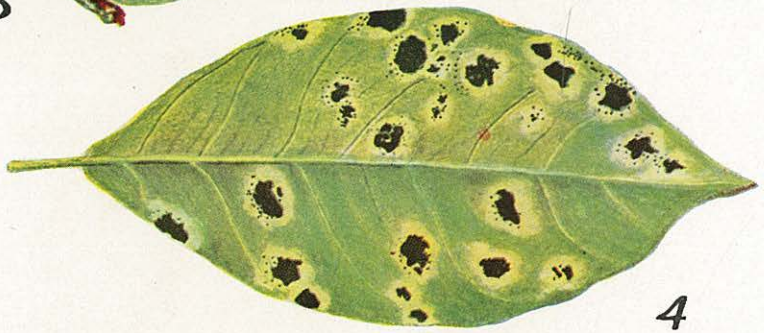
Mario

5



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