Hyphomycetes from the West Indies and Venezuela

J. L. CRANE
Illinois Natural History Survey, Urbana, Illinois
AND
K. P. DUMONT
The New York Botanical Garden, Bronx, New York
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Four fungi are described as new, and one previously known only from Africa has been found in Venezuela.

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Quatre champignons sont décrits comme nouveaux et un autre précédement connu seulement d'Afrique, a été trouvé au Vénézuéla.

Introduction

Of five species of Hyphomycetes collected on taxonomic surveys to the West Indies and Venezuela, four are described as new; one represents a new record for the neotropical flora.

Actinospora jamaicensis Crane & Dumont sp. nov. Figs. 1, 10

Coloniae effusae, pulvinatae, albae. Mycelium in substrato immersum, e hyphis ramosis, septatis, hyalinis vel subhyalinis compositum. Conidiophora e hypharum latere orta, macronemata et mononemata, hyalina vel subhyalina, simplicia vel interdum ramosa, 8–13 septata, frequenter ad septa constricta, 205–342 × 10–15 μm, cellulis longitudine latitudineque variabilibus. Cellulae conidiogenae terminales sterilibus similes, hyalinae, sublageniformes, monoblasticae, semel, bis, vel ter percurrenter proliferantes, 17.8–25.4 (–30) × 11–15.6 (–20) μm. Conidia holoblastica, annellidica, hyalina, e cellula globosa centrali (51.3–) 55.4–66.2 μm diametro simul (7–) 10–13 brachia proferente composita. Brachia conidii hyalina, (0–) 1–2 (–3) septata, naviculiformia, in superficie aequidistantia, ad basim constricta, apicem versus obtusum attenuata, (13–) 30–43.8 × 6.7–8.9 (–10) μm. Holotypus CUP-MJ-128. (NY), Isotypus ILLS 35494.

Colonies effuse, pulvinate, white. Mycelium immersed in the substrate, composed of branched, septate, hyaline or subhyaline hyphae. Conidiophores arising laterally on the hyphae, macronematous, mononematous, hyaline or subhyaline, simple or occasionally branched, 8–13 septate, frequently constricted at the septa, 205–342 × 10–15 μm, individual cells variable in length and width. Conidiogenous cells terminal, integrated, hyaline, somewhat flask-shaped, monoblastic, with one to three percurrent proliferations, 17.8–25.4 (–30) × 11.0–15.6 (–20) μm. Conidia holoblastic, annellidic, hyaline, consisting of a central, globose cell, (51.3–)55.4–66.2 μm diam with (7–)10–13 arms, which arise simultaneously from the central cell. Conidial arms hyaline, (zero–)one–two–(–three) septate, navicular, uniformly dispersed on the surface of the central cell, constricted at the base, tapering to a blunt apex, (13–)30.0–43.8 × 6.7–8.9(–10) μm.

HOLOTYPE: On wet wood along trail to Silver Hill Gap, near Woodcutter's Gap, vicinity of Newcastle, Portland Parish, Jamaica. January 9, 1971. R. P. Korf *et al.* CUP-MJ-128. (NY).

ISOTYPE: ILLS 35494.

Actinospora was described in 1952 with *A. megalospora* as the type species (Ignold 1952). The genus was characterized as producing terminal thalloconidia; each conidium consisting of a central cell with four or more arms, which develop simultaneously. In the type species, the conidiophore may branch several times to form a terminal penicillus of conidiogenous cells (Ingold 1952) or remain simple with a single terminal integrated, conidiogenous cell (Goos 1970).

Cultural studies of *A. megalospora* undertaken

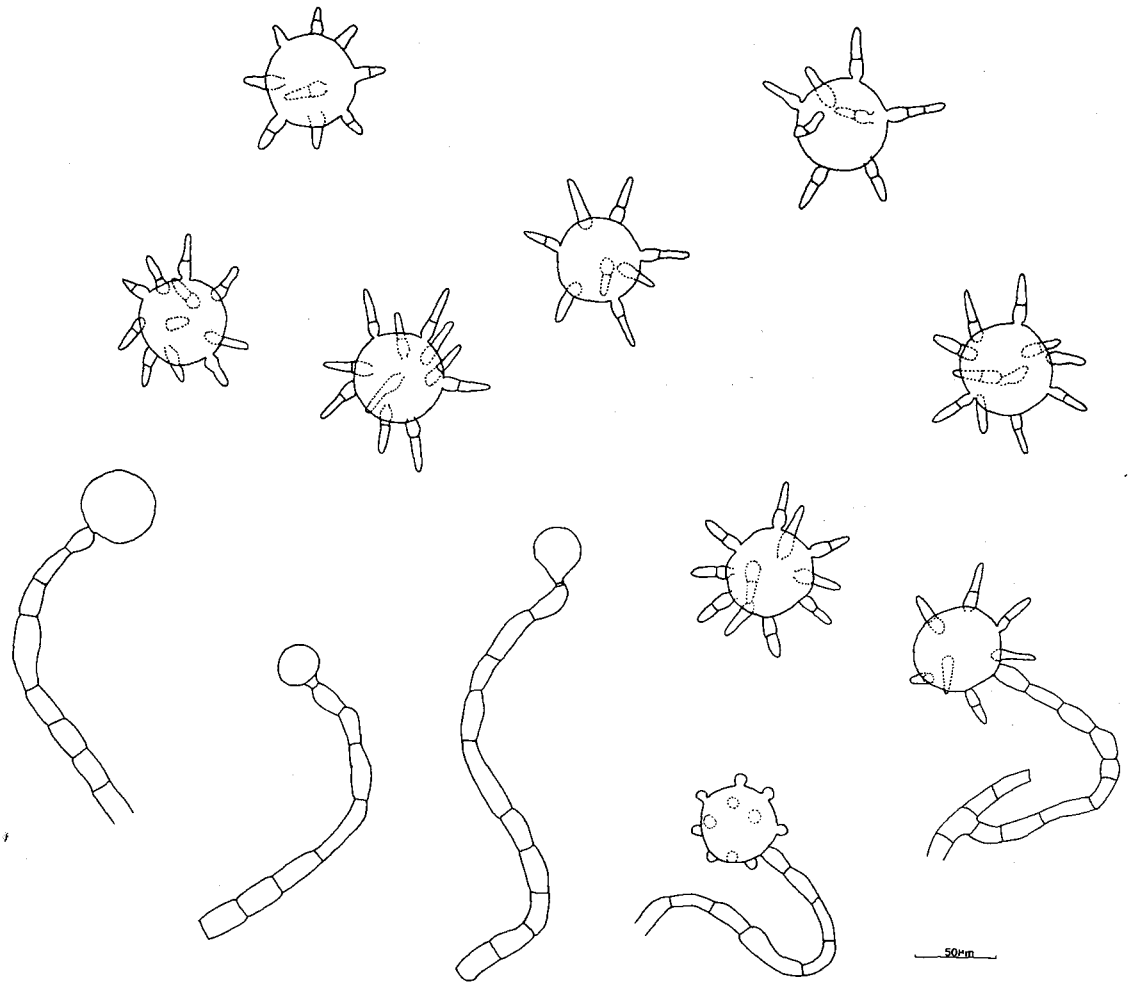


FIG. 1. *Actinospora jamaicensis* illustrating conidiogenesis and mature conidia.

by Goos (1970) have shown that the conidiogenous cells develop by percurrent proliferation and that the conidia are holoblastic and annellidic. These characters are also present in *A. jamaicensis*, which differs from the type species in the size of the central cell of the conidia and in the number and size of the conidial arms.

Triposporium batistae Crane & Dumont sp. nov. Fig. 2

Mycelium in substrato immersum, e hyphis ramosis, septatis, brunneis compositum. Conidiophora singula vel in gregibus parvis orta, macronemata, mononemata, simplicia, (3–)5–7(–10) septata, brunnea, apicem versus brunneo-pallescentia vel subhyalina, (63–)108–183(–200) µm longa, (3.2–)3.8–8.5(–10) µm lata ad basim, apicem versus attenuata. Cellulae conidiogenae monoblasticae, terminales, integri conidiophori partes, semel ad sexties percurrenter proliferantes. Conidia singula, sicca, acrogena, e cellula stipitaria cylindracea vel doliiformi, truncata, pallide brunnea vel subhyalina, 3–5.4 µm longa, ad adjunctionem 2.3–3 µm lata, altera centrali, brunnea, tetrahedrali, et brachiis tribus simul a faciebus superioribus centralis divergentibus consistentia. Brachium omne (4.7–)5.4–6.9(–7.8) µm longum, 5.4–7.7 µm latum, 1-septatum, ad septum aliquantum constrictum, apicem versus gradatim attenuatum, cellula apicali subhyalina, obtusa, subapicali pallide brunnea. Holotypus CUP-PR-4179. (NY), Isotypus ILLS 34960.

Mycelium immersed in the substrate, com-

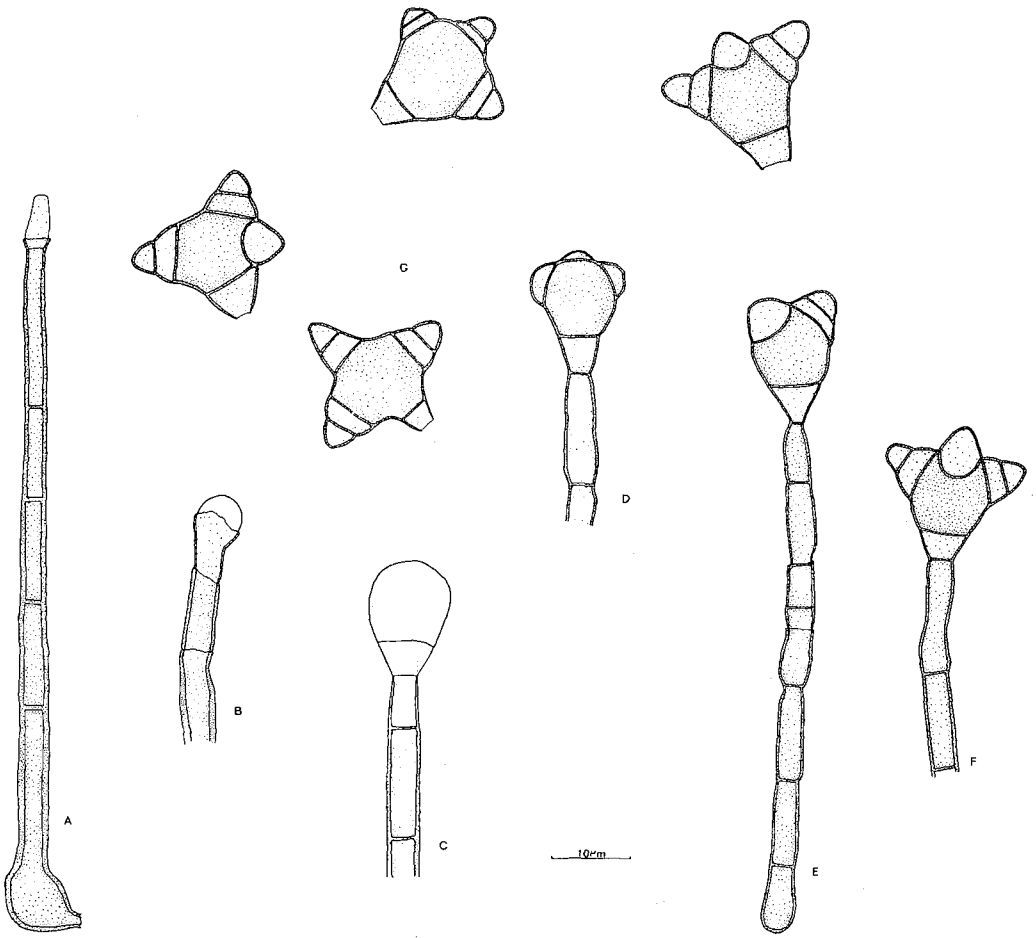


FIG. 2. *Triposporium batistae*. (A–F) Conidiogenesis. (G) Mature conidia.

posed of branched, septate, dark brown hyphae. Conidiophores arising singly or in small groups, macronematous, mononematous, simple, (3–)5–7(–10) septate, brown, becoming pale brown to subhyaline at the apex, (63–)108–183(–200) µm long, (3.2–)3.8–8.5(–10) µm wide at the base, tapering towards the apex. Conidiogenous cells monoblastic, terminal, integrated, with one to six percurrent proliferations. Conidia solitary, dry, acrogenous, consisting of a cylindrical to doliform, truncate, light brown to subhyaline stalk cell, which is 3–5.4 µm long, 2.3–3 µm wide at the point of attachment, a central cell which is brown and tetrahedral, and three divergent arms which develop simultaneously from the upper faces of the central cell. Each arm is (4.7–)5.4–6.9(–7.8) µm long, 5.4–7.7 µm wide, one-septate, somewhat constricted at the septum, gradually tapering towards the apex; apical cell subhyaline and obtuse, subapical cell light brown.

ETYMOLOGY: Honoring A. Chaves Batista (1916–1967), mycologist of the New World tropics.

HOLOTYPE: On a decayed pod (?) along the Rio Nueve Pasos, Dr. Luis Roure's property near Rosario, Puerto Rico. Elevation 140 m. June 17, 1970, R. P. Korf *et al.* CUP-PR-4179, (NY).

ISOTYPE: As microscopic preparations, ILLS 34960.

Triposporium batistae was compared with the type collection of *T. sarcinula* Sacc., a closely related species (Saccardo 1881*a*, 1881*b*). It differs from *T. sarcinula* in having two-celled conidial arms, the apical cell gradually tapering towards the apex.

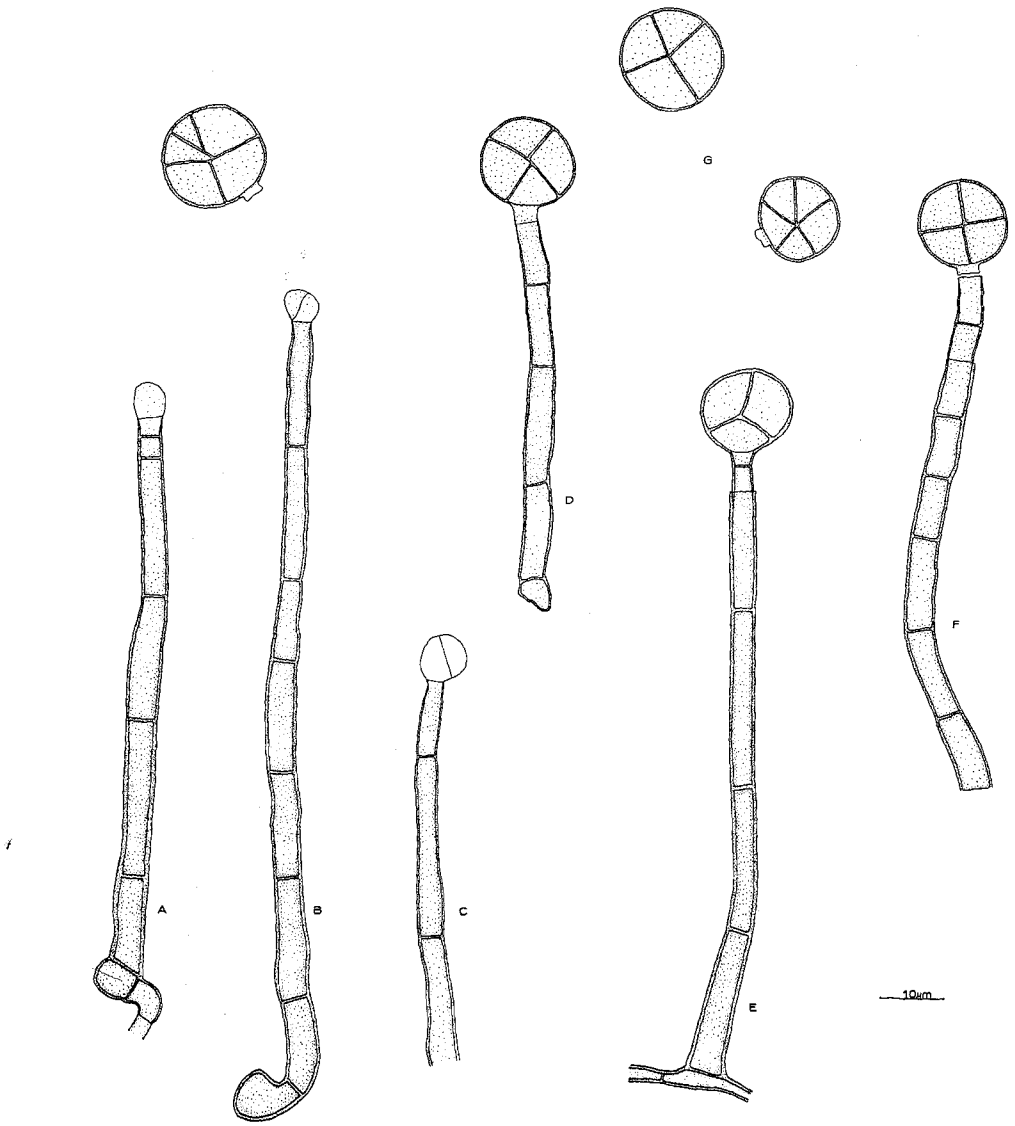


FIG. 3. *Acrodictys martinii*. (A–F) Conidiogenesis. (G) Mature conidia.

Acrodictys martinii Crane & Dumont sp. nov. Figs. 3, 11

Coloniae effusae, brunneae. Mycelium is substrato immersum, e hyphis ramosis, septatis, brunneis, leviter tunicatis compositum. Conidiophora e latere hypharum orta, singula vel pauca aggregata, macronemata, mononemata, recta vel aliquantum flexuosa, 4–12 septata, leviter tunicata, ad basim atro-brunnea, apicem versus brunnea vel pallide brunnea, (116–)138–248 (–522) µm longa, ad basim 8.9–11 µm crassa, apicem versus ad 6.7–8.9 µm attenuata. Cellulae conidiogenae integratae, terminales, monoblasticae, pallide brunneae vel subhyalinae, cylindricae, semel vel bis proliferantes. Conidia solitaria, sicca, pallide brunnea, globosa, muriformia, specie cruciatim septata a septis angulo recto coeuntibus, (11–)12.3–13.3(–15.6) µm diam. Holotypus CUP-PR-4205. (NY), Isotypus ILLS 35534.

Colonies effuse, brown. Mycelium immersed in the substrate, composed of branched, septate, brown, smooth-walled hyphae. Conidiophores arising laterally on the hyphae, either singly or

in small groups, macronematous, mononematous, straight or somewhat flexuous, 4–12 septate, smooth-walled, dark brown at the base, brown to pale brown at the apex, (116–)138–248(–522) μm long, 8.9–11 μm wide at the base, tapering to 6.7–8.9 μm wide at the apex. Conidiogenous cells integrated, terminal, monoblastic, light brown, to subhyaline, cylindrical with one or two percurrent proliferations. Conidia solitary, dry, pale brown, globose, muriform, appearing divided cruciately by septa at right angles to one another, (11–)12.3–13.3(–15.6) μm diam.

ETYMOLOGY: Honoring G. W. Martin 1886–1971.

HOLOTYPE: On rotted bark and wood along Rio Nueve Pasos, Dr. Luis Roure's property near Rosario, Puerto Rico. June 17, 1970. R. P. Korf *et al.* CUP-PR-4205. (NY).

ISOTYPE: As microscopic preparations. ILLS 35534.

Acrodictys martinii differs from the known species of *Acrodictys* in having globose conidia which are somewhat cruciately septate.

Masoniomyces Crane & Dumont gen. nov.

Coloniae effusae, nigrae, conidiis maturantibus canescentes. Mycelium superficiale vel in substrato immersum, e hyphis ramosis septatis, brunneis vel atrobrunneis tunicis asperulis compositum. Conidiophora macronemata, mononemata, simplicia vel ramosa, recta vel subflexuosa, brunnea vel atrobrunnea, verrucosa, multiseptata. Cellulae conidiogenae brunneae, ellipsoidales vel late fusiformes, polyblasticae, foraminibus sympodice efformatis. Conidia solitaria, acrogena, sicca, fusiformi-elliptica, parum allantoidea, continua, subhyalina, apice obtuso, basi truncato. Species typica: *M. claviformis*.

Colonies effuse, black, becoming gray as the conidia mature. Mycelium superficial or immersed in the substrate, composed of branched, septate, brown to dark brown, rough-walled hyphae. Conidiophores macronematous, mononematous, simple or branched, straight or slightly flexuous, brown to dark brown, verrucose, multiseptate. Conidiogenous cells discrete and acropleurogenous, subhyaline to light brown, ellipsoidal to broadly fusiform, polyblastic with sympodial openings. Conidia solitary, acrogenous, dry, fusiform-elliptical, slightly allantoid, one-celled, subhyaline, obtuse at apex, thick-walled and truncate at base.

TYPE SPECIES: *M. claviformis*.

ETYMOLOGY: Honoring the distinguished mycologist E. W. Mason.

Masoniomyces claviformis Crane & Dumont sp. nov. Figs. 4–8

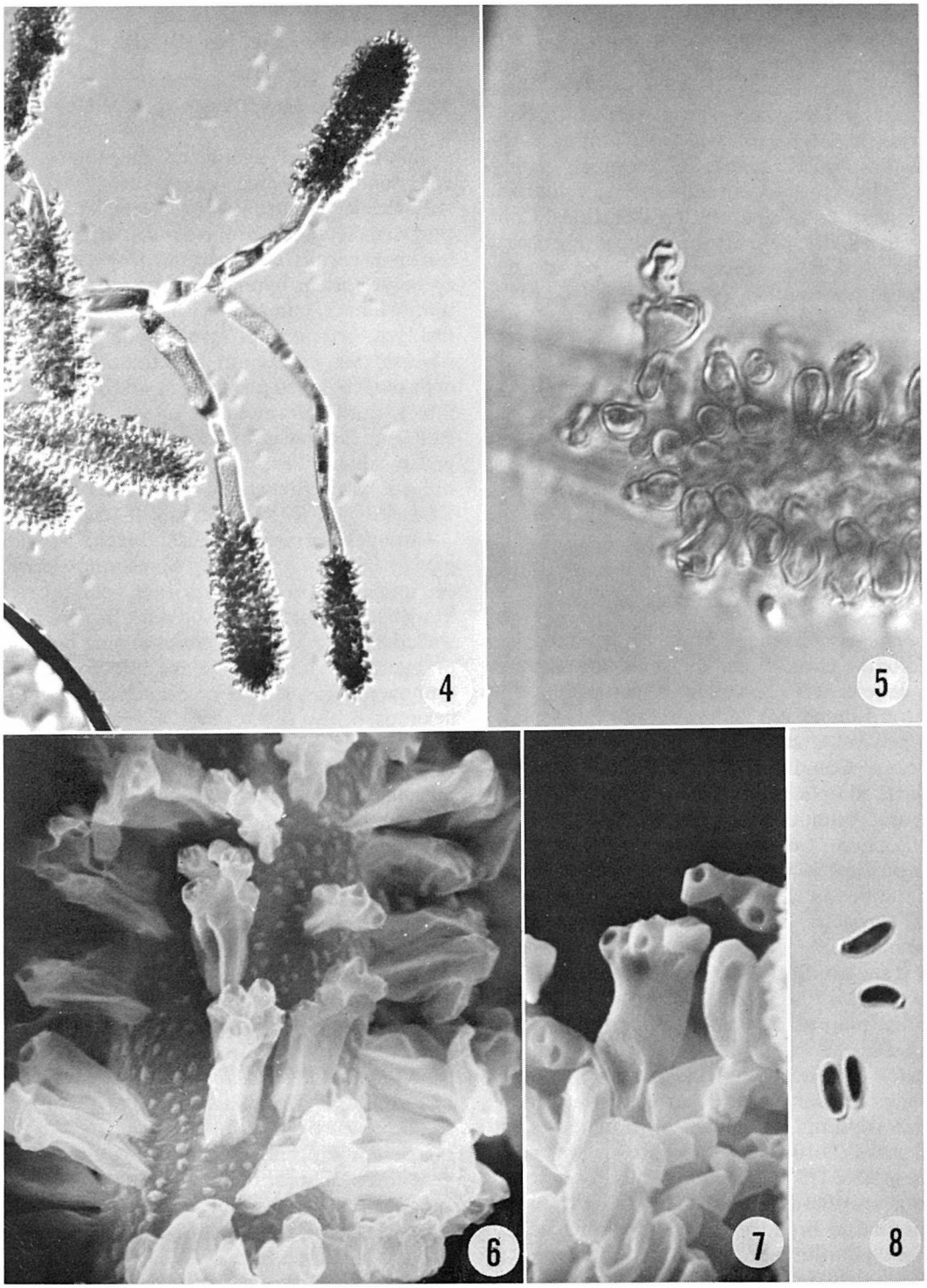
Coloniae super lignum effusae, nigrae, conidiis maturescentibus canescentes. Mycelium superficiale vel in substrato immersum, e hyphis ramosis, septatis, brunneis vel atro-brunneis, tunicis asperulis compositum. Conidiophora ex apice vel latere hypharum orta, macronemata, mononemata, simplicia vel ramosa, recta vel flexuosa, brunnea vel atro-brunnea, verrucosae, multiseptata, apice in capitulum claviforme expanso, 165–950 μm longa, ad basim 6.7–11 μm lata, ad apicem 13.3–17.8 μm lata. Conidia solitaria, acrogena, sicca, fusiformi-elliptica, parum allantoidea, continua, subhyalina, apice obtuso, basi truncato, 4–7 × 2 μm. Holotypus CUP-MJ-715. (NY), Isotypus ILLS 35742.

Colonies on wood effuse, black, becoming grey as the conidia mature. Mycelium superficial or immersed in the substrate, composed of branched, septate, brown to dark brown, rough-walled hyphae. Conidiophores arising terminally or laterally from the hyphae, macronematous, mononematous, simple or branched, straight or flexuous, brown to dark brown, verrucose, multiseptate, 165–950 μm long, 6.7–11 μm wide at base, 13.3–17.8 μm wide at apex, the apex enlarging to form a clavate head. Conidia solitary, acrogenous, dry, fusiform-elliptical, slightly allantoid, one-celled, subhyaline, obtuse at apex, thick-walled and truncate at base, 4–7 × 2 μm.

HOLOTYPE: On wood. Dolphin Head, Hanover, Parish, Jamaica. R. P. Korf *et al.* January 22, 1971. CUP-MJ-715. (NY).

ISOTYPE: ILLS 35742.

Masoniomyces resembles *Basidiobotrys* Höhnel (1909), *Nodulisporium* Preuss, and *Geniculosporium* Chesters & Greenhalgh (Ellis 1971). The type species, *M. claviformis*, is similar to that of *Basidiobotrys*, *B. clautriavii* (Pat.) Höhnel, in the acropleurogenous arrangement of the polyblastic conidiogenous cells on the elongate-clavate conidiophore. It differs from the species of *Basidiobotrys* in the ellipsoidal to broadly fusiform shape of the conidiogenous cells and in the conidial scars which are not denticulate. *Nodulisporium* differs from *Masoniomyces* in the penicillate arrangement of the conidiogenous cells and the denticulate conidial scars. *Geni-*



FIGS. 4–8. *Masoniomyces claviformis*. Fig. 4. Illustrating the clavate nature of the conidiophores and the acropleurogenous arrangement of the conidiogenous cells. × 292. Figs. 5–7. Discrete, polyblastic conidiogenous cells with sympodial openings. Fig. 5. × 1600. Fig. 6. × 3604. Fig. 7. × 4250. Fig. 8. Mature conidia. × 1440.

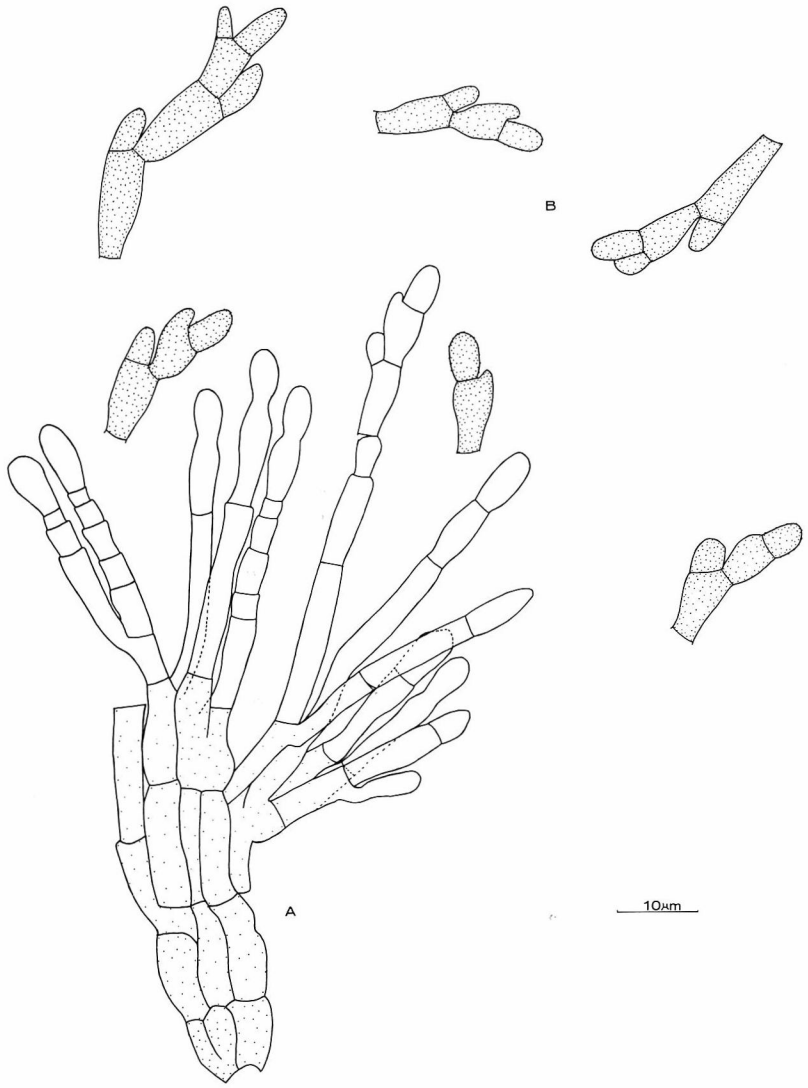


FIG. 9. *Annellodochium ramulisporium*. (A) Conidiophores and conidial development. (B) Mature conidia.

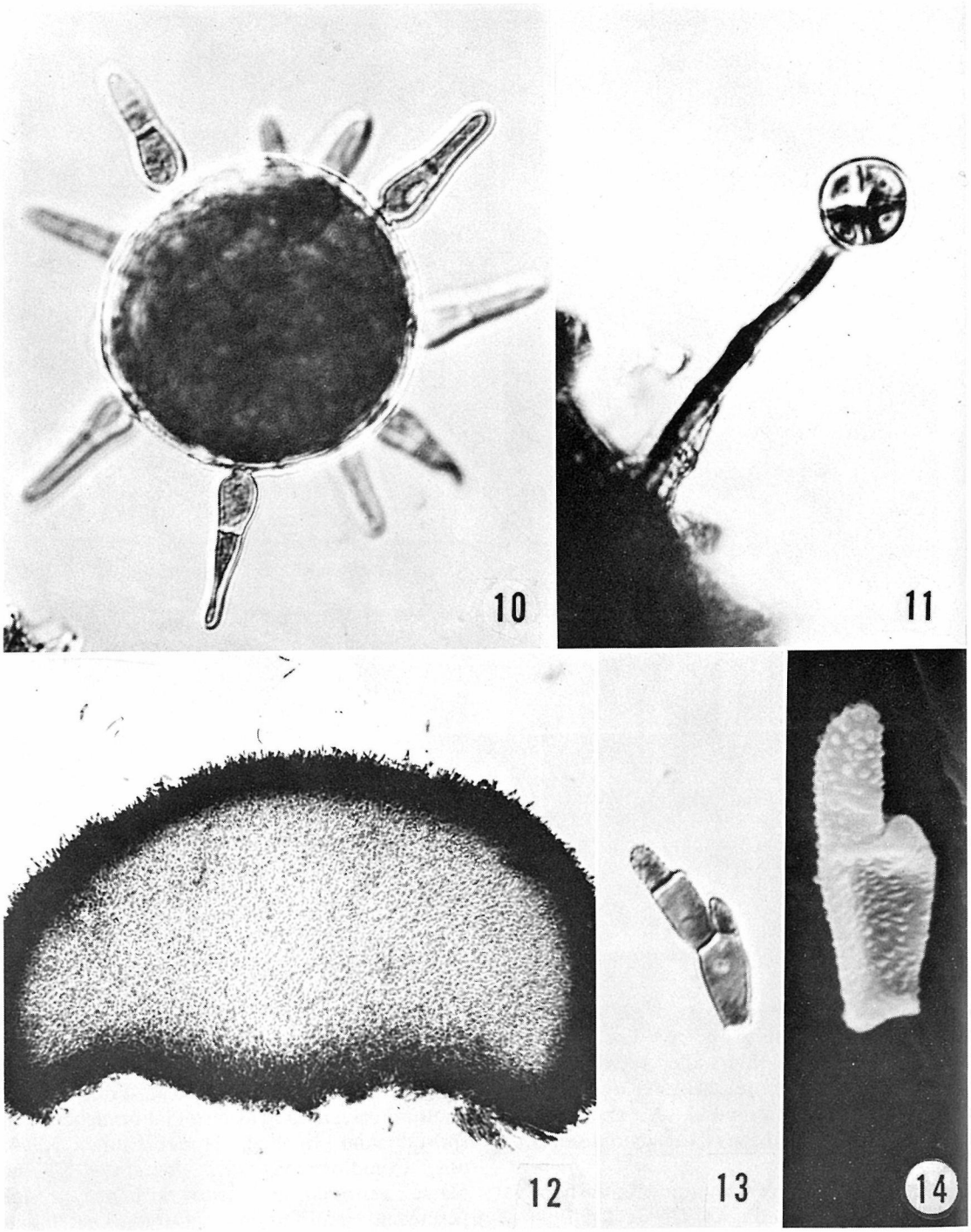
culosporium is different from *Masoniomyces* in the geniculate nature of the conidiogenous cells and the presence of thin-walled separating cells which after conidium release leave a minute frill at the site of each conidial scar and a corresponding frill at the base of each conidium (Ellis 1971).

Masoniomyces may accommodate the conidial states of several species of *Hypoxylon* Bull. ex Fr. such as *H. tinctor* (Berk.) Cooke, which were previously considered to be *Basidiobotrys*-like.

Annellodochium ramulisporum Deighton, Mycol. Pap. C.M.I. 118: 28. 1969. Figs. 9, 12–14

Sporodochia tan to light brown, punciform, scattered 450–700 µm wide, 150–520 µm high. Conidiophores macronematous, mononematous, hyaline, subhyaline, cylindrical, branching dichotomously, arising as terminal branches of the sporodochial hyphae, 90.6–171 µm × 3.3–4.9 µm. Conidiogenous cells integrated, monoblastic, terminal, cylindrical with one to eight percurrent proliferations. Conidia catenulate, mitten-shaped, dry, acrogenous, light brown, verruculose, one-septate, (10–)12.2–23(–25.4) × 3.3–4.4(–5.5) µm, tapering to 2.2 µm at base.

MATERIAL EXAMINED: On decorticated unidentified wood. Between Refugio "No Te



FIGS. 10–14. Neotropical Hyphomycetes. Fig. 10. *Actinospora jamaicensis*. Mature conidium. × 769. Fig. 11. *Acrodictys martinii*. Conidiophore and conidium. × 1875. Figs. 12–14. *Annellodochium ramulisporum*. Fig. 12. Transverse section of a sporodochium. × 130. Figs. 13, 14. Mature conidia. Fig. 13. × 1505. Fig. 14. × 4335.

Apures" and Quebrada Los Palos Grandes, south-facing slope of La Silla, Parq. Nac. El Ávila, Edo Miranda, Venezuela. K. P. Dumont-VE-3764 (NY), ILLS 35653. On unidentified bark. About 9 km N of El Rincon on Carupano – El Pilar Road, Edo. Sucre, Venezuela. Dumont-VE-4030 (NY), ILLS 35654. On unidentified wood. About 10 km above Maracay, on the Maracay–Choroní Road, Parq. Nac. Henry Pittier, Edo Aragua, Venezuela. Dumont-VE-2001, ILLS 35655.

The Venezuelan collections of *A. ramulisporum* agree well with the type description and represent the first South American record of this species. The most significant difference is the verruculose nature of the conidia in the South American material (Figs. 13, 14).

Acknowledgments

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