non-septate, hyaline, smooth, accumulating in hyaline drops of liquid at the apex of each phialide.

HABITAT.— On decaying wood and bark.
DISTRIBUTION.— Temperate and tropical America, Indonesia, Japan, Republic of China; probably cosmopolitan in warmer latitudes.

HOLOTYPE.— UNITED STATES. New Jersey, on dead *Vaccinium corymbosum*, 618 (NY).
ADDITIONAL SPECIMENS EXAMINED.— GUYANA. Cuyuni-Mazaruni Region, VII; Mazaruni Subregion, VII-2; vic. Chinoweing Village, 05°43′ N, 60°18′ W, elev. 450 m, 15 Feb 1987, G.J. Samuels G.J.S. 87-14, Guayana 4727 (NY). INDONESIA. Eastern Dumoga-Bone National Park, on twig of recently dead tree, Sept 1985, G.J. Samuels 2223, det. Y. Doi (BPI 744450). PUERTO RICO. Caribbean National Forest, Pal Hueco, off Rte. 186, 22 Nov. 1992, S.M. Huhndorf 209 & D.J. Lodge, det. G.J. Samuels (BPI 802549; NY); TAIWAN. Fushan Botanical Garden, on twig, 1995, M.-L. Wu, det. G.J. Samuels (BPI 744454). THAILAND. Saraburi Province, Khao Yai National Park, 11 Aug 1997, G.J. Samuels 8372 & P. Chaverri (BPI 745704). VENEZUELA. Territorio Federal Amazonas, Neblina base camp, on dead twig, 27 Jan 1985, A. Rossman 2390 (BPI 745892).

ILLUSTRATIONS.— Doi (1972, Fig. 4); Ellis & Everhart (1892, Pl. 11, Figs. 4–7).
SPECIMEN ILLUSTRATED.— TAIWAN. Fushan Botanical Garden, on twig, 21 Apr 1994, M.L. Wu F3-II-T6, det. G.J. Samuels (BPI 744474, TMTC).

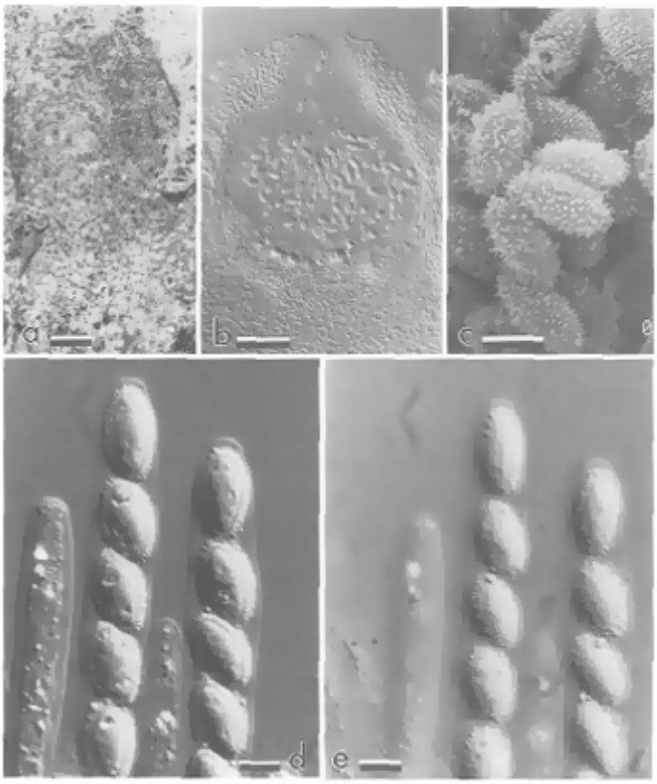

Plate 23. a–e. *Rogersonia striolata*. a. Surface view of stroma and immersed ascomata evident as darkened apices. b. Median section of ascoma. c. SEM of ascospores. d. Apical portion of asci with ascospores in median focus. e. Apical portion of asci with ascospores in off-median focus to show ascospore ornamentation. a–e. Holotype – BPI 749257. Scale bars: a = 1 mm; b = 50 µm; c = 5 µm; d, e = 10 µm.

ROGERSONIA Samuels & Lodge, Sydowia 48: 250. 1996.

Type: *R. striolata* Samuels & Lodge

Subiculum indefinitely effused, light-colored. Ascomata caespitose, numerous, partly to completely immersed throughout the subiculum, pale yellow, papillate, becoming cupulate upon drying. Ascomatal apex free, formed of clavate cells. Subiculum and ascomatal anatomy as in *Hypomyces*. Ascospores non-septate, broadly ellipsoid, hyaline, transversely striate. Anamorph unknown. On decaying woody substrata.

NOTES.— *Rogersonia* is unique within the *Hypocreaceae* in having ascomata immersed in an indefinitely effused, hyphal subiculum combined with the conspicuously transversely striate ascospores. The indefinitely effused subiculum in which numerous ascomata of *R. striolata* are aggregated is similar to the effused stromata of polyporicolous species of *Hypomyces*. In ascomatal anatomy, especially the ascomatal apex, *Rogersonia* is similar to that observed in several agaricicolous species of *Hypomyces* (Rogerson & Samuels, 1994). The combined features of the subiculum and the ascomatal anatomy suggest that *Rogersonia* is related to *Hypomyces*, however, there are significant differences. Species of *Hypomyces* are fungicolous while there is no indication of a fungal host for *R. striolata*. Asci of *Hypomyces* typically have an apical discharge mechanism and ascospores of *Hypomyces* are typically one-septate, apiculate and warted. In species of *Hypomyces* having non-septate ascospores, the ascospores are fusiform rather than broadly ellipsoid. Striate ascospores are otherwise unknown in *Hypomyces* and transversely striate ascospores are otherwise unknown in the *Hypocreaceae*. The relatively large, broadly ellipsoid, conspicuously ornamented ascospores of

Plate 22. a. *Pseudohypocrea citrinella*. **b.** *Rogersonia striolata*. **c.** *Sphaerostilbella lutea*. **d.** *Calonectria* sp. **e.** *Corallomycetella repens*. **f.** *Cosmospora vilior*. **g.** *Lanatonectria mammiformis*. **h.** *Nectria cinnabarina*. **i.** *Neonectria coccinea*. **j, k.** *Ophionectria trichospora*. k. Hyphae from living culture of anamorph, *Antipodium spectabile*. **l.** *Pseudonectria rousseliana*. a. Photograph by Mei-Li Wu, BPI 744474. b. BPI 749255. c. Holotype of *Sphaerostilbe lutea* – FH. d. Holotype of *Nectria venusta* – S. e. CUP–MJ 822. f. BPI 1107402. g. Huhndorf 2002. h. Photograph by J.-F. Magni, specimen A 9827. i. BPI 551493. j. G.J.S. 4829a – NY. k. Type culture of *Antipodium spectabile*, ATCC 28509; l. Photograph by J.-F. Magni, A9491. Scale bars: a, c–e, j = 1 mm, b = 2.5 mm, f, l = 250 µm, g = 2 mm, h = 500 µm, i = 2 mm, k = 10 µm.

Rogersonia suggest those of *Sarawakus* Boedijn (Samuels & Rossman, 1992). However, ascomata of species of *Sarawakus* form in a discrete, discoidal or pulvinate stroma and the ascal apex of species of that genus is thickened and has a shallow ring. The affinities of *Sarawakus* lie with *Hypocrea*, whereas those of *Rogersonia* lie with *Hypomyces*.

Rogersonia striolata Samuels & Lodge, Sydowia 48: 251. 1996. — Plate 22, b; Plate 23, a–e.

Subiculum indefinitely effused, thin, dissipated at the margin, light-colored, center dull yellowish, greyish yellow, pale yellow to yellowish brown, KOH–; behind the margin yellowish brown to pale yellow; white at the margin; hyphae *ca* 5.5 µm wide, tending to be vesiculose, 9–13 µm wide, thin-walled, with many erect free ends or lateral branches, 25–40 µm long, *ca* 10 µm wide, septate, tapering slightly from base to apex, hyaline, smooth-walled. Ascomata caespitose in great numbers except at the margin of the subiculum, discrete but crowded, clothed in hyphae with emergent papillae, pale yellow, KOH–, becoming cupulate on drying with erect papilla. Ascomatal wall *ca* 20 µm thick, of a single region of thin-walled, flattened cells, *ca* 15 × 4 µm. Ascomatal apex of conspicuous chains of cells that terminate in a larger clavate cell, 10–15 × 6–7 µm. Asci cylindrical, (80–)90–110(–120) × (6–)6.5–9(–11) µm, disintegrating at maturity; apex simple, 8-spored, ascospores uniseriate. Ascospores broadly ellipsoid, (10–)11.5–14(–16) × (5–)6–7.5(–8.5) µm, non-septate, hyaline, wall 1–1.7 µm thick, with conspicuous, transversely arranged, slightly anastomosing, ridge-like striations and intermittently reinforced with spinose extensions.

Habitat.— In rain forest on large fallen branches and logs of *Guarea guidonia* and *Swietenia macrophylla* at an elevation of 350 m.

Distribution.— Puerto Rico, Luquillo Mts.

Type and other specimens examined are listed in Samuels & Lodge (1996b).

Specimens illustrated.— PUERTO RICO. Luquillo Mts., El Verde Research Area, trail to Rio Sonadora, elev. 350 m, on underside of log, 4 Jul 1993, D.J. Lodge PR 1214 (Holotype – BPI 749257); same locality, on branch of *Guarea guidonia*, 4 Oct 1993, D.J. Lodge RP 1282 (BPI 749255); same locality, on log of *Swietenia macrophylla*, 16 Nov 1993, D.J. Lodge PR 1586 (BPI 749254).

Illustrations.— Samuels & Lodge (1996b, Figs. 1–11).

SARAWAKUS Lloyd, Mycol. Writings 7: 1258. 1924.

Type: *S. lycogaloides* (Berk. & Broome) Lloyd (≡ *Hypoxylon lycogaloides* Berk. & Broome).

Stroma discrete, discoidal, fleshy, pale yellow to rufous or brown, *Hypocrea*-like. Ascomata immersed in a single layer. Asci cylindrical, (6–)8-spored. Ascospores non-septate, hyaline, pale yellow to green, spinulose to tuberculate. Anamorphs *Gliocladium*-, *Trichoderma*-, or *Verticillium*-like. On decaying woody substrata.

Notes.— *Sarawakus* was established as a unispecific genus for *S. lycogaloides* which Lloyd considered unique and allied to either *Hypocrea* in having a soft-textured stroma or *Hypoxylon* in having a dark brown stroma and brown, non-septate ascospores. Boedijn (1934, 1964) provided the first complete description of the type species, placing the genus in the *Hypocreales*, and later he compared it to *Thuemenella*. Rifai (1969b) examined the type specimen and provided a detailed account of *Sarawakus* and its type species, placing it in the *Hypocreales*. Samuels & Rossman (1992) determined that *Sarawakus* is correctly placed in the *Hypocreales* and is distinct from *Thuemenella*, the latter belonging to the *Xylariales*, based primarily on characteristics of the anamorph. They provided a key, descriptions and illustrations to eleven species in *Sarawakus*, many of which have *Gliocladium*-, *Trichoderma*- or *Verticillium*-like anamorphs and show close affinities to *Hypocrea*. *Sarawakus* may eventually be restricted to *S. lycogaloides* Boedijn and *S. succisus* Rifai. Based on their anamorphs, the remaining species may by regarded as species of *Hypocrea* having non-septate ascospores. All names in *Sarawakus* were accounted for by Samuels & Rossman (1992).

Sarawakus lycogaloides (Berk. & Broome) Lloyd, Mycol. Writings 7: 1258. 1924. — Plate 24, a–f.

≡ *Hypoxylon lycogaloides* Berk. & Broome, J. Linn. Soc., Bot. 14: 120. 1873.

≡ *Sarcoxylon lycogaloides* (Berk. & Broome) Cooke, Grevillea 12: 50. 1883.

≡ *Penzigia lycogaloides* (Berk. & Broome) Sacc., Syll. Fung. 9: 569. 1891.

= *Hypocrea rhytidospora* Ces., Atti Accad. Sci. Fis. (Napoli) 8: 14. 1879.

≡ *Clintoniella rhytidospora* (Ces.) Sacc. & P. Syd., Syll. Fung. 16: 588. 1902.

Anamorph: None known.

Subiculum conspicuous to lacking, restricted to the immediate vicinity of the stroma or spreading over the substratum, nearly white to yellow, of branched, septate, thick-walled, 3–7 µm wide hyphae. Stromata discoidal, 3–10 mm diam, to 4 mm high, constricted at the base with margins free, surface papillate to slightly tuberculate from ascomatal protuberances, yellow at first, yellow-brown to rufous with age. Cells at stromal surface forming a 20–30 µm thick cortex of densely interwoven cells with 1.5–2 µm thick walls and narrow lumina; cortex continuous around the stroma to the