

with *Hyponectria buxi* (Desm.) Sacc., '*Pseudonectria coronata* or its anamorph, *Sesquicillium buxi* (Link : Fr.) W. Gams.

DISTRIBUTION.— Europe and North America.

TYPE.— FRANCE. Ad folia *Buxi sempervirentis*, Meloduno, primus Roussel (PC, lectotype).

Additional specimens examined are listed in Rossman *et al.* (1993).

SPECIMEN ILLUSTRATED.— FRANCE. Sauveterre de Bearn Isle (64), on leaves of *Buxus*, 12 June 1994, J.-F. Magni, A9491.

ILLUSTRATIONS.— Bezerra (1963, Figs. 1–3); Candoussau & Magni (1995, Fig. 4a); Dennis (1978, Pl. 35M); Juel (1925, Fig. a, Pl. 1.1); Petch (1938, Fig. 4); Rossman *et al.* (1993, Figs. 7–12).

NOTES.— *Pseudonectria rousseliana* and its anamorph *Volutella buxi* (DC.) Berk. are known as the cause of a disease of *Buxus* (Bezerra, 1963; Samuels, 1977; Sinclair *et al.*, 1987). The ascomata of *P. rousseliana* are variable in color ranging from pale yellow to yellow-green. In one collection the ascomata on one leaf varied in color from straw to greyish yellow-green, thus, the variety *viridis* distinguished by greenish ascomata is considered a synonym of the type variety.

The anamorph bears similarity to *Volutella minima*, the anamorph of *Cosmospora consors* (Samuels, 1977; Samuels *et al.*, 1991, as *Nectria consors*) as discussed in Rossman *et al.* (1993), but it has much more diffuse sporodochia, giving the culture a slimy aspect. *Pseudonectria rousseliana* and its more commonly encountered anamorph are reported wherever *Buxus sempervirens* is grown, primarily in Europe and North America (Petch, 1938). Unlike most species of *Cosmospora*, *P. rousseliana* occurs on living to recently killed plant tissue.

The second accepted species in *Pseudonectria*, *P. pachysandricola* Dodge, and its anamorph, *Volutella pachysandricola* Dodge, was described and illustrated in Rossman *et al.* (1993) and Sinclair *et al.* (1987).

RUBRINECTRIA Rossman & Samuels, *gen. nov.*

Type: *R. olivacea* (Seaver) Rossman & Samuels (= *Macbridella olivacea* Seaver, *Mycologia* 2: 178. 1910).

Stroma pseudoparenchymatosum. Ascomata aggregata, superficialia, aurantiaca vel rubra, verrucis concoloribus vel viridibus oblecta. Parietes ascomatis 20–30 μm crassus, e duabus partibus: pars externa *textura angulari*, cellulae usque ad 1 μm crassitunicatae et pigmentatae; pars interna *textura prismatica*, elongata, cellulae tenuitunicatae. Asci cylindrici. Ascospores 1-septatae, aureo-brunneae, grosse striatae. Anamorphosis *Dendrodochii* similis, sed conidiis catenatis.

Stromata erumpent, pseudoparenchymatous. Ascomata aggregated, superficial, orange to red with concolorous to greenish warts. Ascomatal wall 20–30 μm thick, of two regions: outer region of *textura angularis*, cells with

up to 1 μm thick, pigmented walls, intergrading with the stroma; inner region of *textura prismatica*, with elongate, thin-walled cells. Asci cylindrical. Ascospores broadly ellipsoid to fusiform, one-septate, golden-brown, with coarse striations. Anamorph similar to *Dendrodochium* but bearing conidia in chains. On decaying woody substrata, often fruiting on newly killed wood.

NOTES.— The unispecific genus *Rubrinectria* is described for an unusual *Nectria*-like species having ascomata often with a green-tinged, warted wall, golden-brown, coarsely striate ascospores, and a peculiar sporodochial anamorph bearing conidia in chains.

Rubrinectria olivacea (Seaver) Rossman & Samuels, *comb. nov.* — Plate 32, c; Plate 35, a–e.

= *Macbridella olivacea* Seaver, *Mycologia* 2: 178. 1910.

= *Phaeonectria olivacea* (Seaver) Sacc. & Trotter, *Syll. Fung.* 22: 485. 1913.

= *Nectria olivacea* (Seaver) Samuels, *Canad. J. Bot.* 51: 1277. 1973.

= *Macbridella cinnabarina* Seaver, in Seaver & Chardón, *Sci. Surv. Porto Rico and Virgin Isl.* 8: 43. 1926.

Anamorph: cf. *Dendrodochium* sp., but conidia in chains.

Mycelium subcortical, forming stromata at points. Stromata erumpent through bark, gregarious, buff-colored, at first conidial, later producing ascomata, cells of stroma pseudoparenchymatous, about 10 μm in greatest dimension, walls about 1 μm thick. Ascomata aggregated in groups of 5 to 10 to densely gregarious, superficial, globose to broadly ovate or broadly pyriform, (280–)340–450 μm high \times 280–375 μm diam, collapsing laterally when dry or not, with a short, rounded papilla, orange to red with orange, rarely green, scales, KOH+ dark red. Papilla obtuse, 80–100 μm diam at the apex, cells at the surface of the papilla ellipsoid, 7–10 \times 3–4 μm , thin-walled. Ascomatal surface cells forming a *textura angularis*, circular to ellipsoid, 10–15 μm diam, walls 1–1.5 μm thick. Ascomatal wall 30–60 μm thick, of two regions: outer region 20–30 μm thick, of ellipsoid cells, about 10 μm diam, becoming flattened toward the interior, with 1–2 μm thick walls, merging with the stroma below, forming scales at the surface; inner region of elongate, hyaline, thin-walled cells. Asci cylindrical, 75–105 \times (6–)7–13 μm , apex simple or with a small, refractive ring, 8-spored, ascospores uniseriate to irregularly biseriate. Ascospores broadly ellipsoid to fusiform, 10–17 \times 5–8 μm , one-septate, slightly constricted at the septum, very pale brown to golden-brown, coarsely striate.

ANAMORPH: Sporodochia erumpent, about 1–2 mm diam \times 0.5 mm high, buff-colored, in culture pale orange.

Conidiophores macronematous, mononematous, arising from vegetative hyphae, $40.5\text{--}67.5 \times 3.5\text{--}4 \mu\text{m}$, once or twice branched, each branch bearing 1–4 penicillately arranged phialides, or phialides arising directly from the hyphae. Phialides cylindrical, $(9\text{--})11\text{--}18 \times 2.5\text{--}3.5 \mu\text{m}$, narrowing toward the apex, apex thickened, slightly flared or not. Conidia broadly ellipsoid to oblong with slightly protuberant, flat, with or without recognizable basal abscission scar, $4.5\text{--}7(10) \times 2\text{--}4 \mu\text{m}$, non-septate, hyaline, held in dry, white chains. Ascospores developing in culture after two months (Seaver, 1910b).

HABITAT.— On dead bark, wood, or palm stems.

DISTRIBUTION.— Probably pantropical, known from Central and South America (Colombia, French Guiana, Mexico, Panama, Puerto Rico, Peru), China, the Philippines (Samuels & Brayford, 1994), and Thailand.

TYPES.— MEXICO. Motzorongo, near Córdoba, in moist forest, on stem of unidentified palm, 15 Jan. 1910, Murrill & Murrill 911 (NY, holotype of *Macbridella olivacea*). PUERTO RICO. on dead wood, 24 Jan–5 Apr 1923, Seaver & Chardón 525 (NY, lectotype of *Macbridella cinnabarina*, designated by Samuels, 1973a).

SPECIMENS EXAMINED.— CHINA. Ting-an, Hainan, on bark of dead tree, 6 Sep 1934, S.Q. Deng 4366, S.C. Teng 5897 (BPI 631932). FRENCH GUIANA. Saül, Saut Mais, 17 km E of Saül, on bark of newly fallen log, 2 Nov 1986, A.Y. Rossman 2955, C. Feuillet & L. Skog (BPI 1107216, culture CBS 101604). PHILIPPINES. Luzon: Mt. Maquilang, on bark, Feb 1912, P.W. Graff, Lloyd 11408 (BPI 801936). THAILAND. Saraburi Province, Khao Yai National Park, Wang Jumpee trail to Lamp Tha Kong Creek, on bark of recently killed tree, 31 Jul 1997, G.J. Samuels 97-163 = CBS 101605, P. Chaverri, & K. Poldmaa (BPI 745636).

Additional specimens examined listed in Samuels & Brayford (1994, as *Nectria olivacea*).

ILLUSTRATIONS.— Samuels (1973a, Figs. 5–9, 26–27, as *N. olivacea*); Samuels & Brayford (1994, Figs. 35, 62–72, as *N. olivacea*); Seaver (1910b, Figs. 6–13, as *M. olivacea*).

STALAGMITES Theiss. & Syd., Ann. Mycol. 12: 189, 1914.

Type: *S. tumefaciens* (Syd. & P. Syd.) Theiss. & Syd. (= *Dothidea tumefaciens* Syd. & P. Syd.).

Causing galls on host branches, oval to globose, up to 3 cm diam. Stroma spreading over the gall surface. Ascospores caespitose in groups of 100 or more, densely aggregated, superficial, globose to broadly ovoid, not collapsed or slightly laterally pinched when dry, black, violet in transmitted light, KOH+ dark purple, purple pigments dissolving in KOH, red in lactic acid, ostiolate, surface smooth, shiny. Ascospores $ca 75 \mu\text{m}$ thick, outer regions continuous with the stroma, $ca 25 \mu\text{m}$ thick, walls pigmented; inner region up to $40 \mu\text{m}$ thick, cells hyaline. Asci clavate, apex simple, ascospores bi- to pluriseriate. Ascospores narrowly ellip-

soid, usually 1(–3)-septate, occasionally multiseptate with age, slightly constricted, hyaline, smooth-walled. Anamorph not known. On branches of *Serjania*.

NOTES.— *Stalagmites* was established for what was considered an unusual member of the *Dothideales* having a well-developed, dark purple stroma with immersed ascospores, lacking paraphyses, and having dark, non-septate ascospores. Based on an examination of several parts of the type specimen, *Stalagmites* is recognized as a genus in the *Nectriaceae*. It bears similarity to *Gibberella* that has a dark-purple ascospore wall and three-septate ascospores, and *Pleogibberella* that has a dark-purple ascospore wall and muriform ascospores.

Stalagmites tumefaciens (Syd. & P. Syd.) Theiss. & Syd., Ann. Mycol. 12: 189, 1914. — Plate 32, d; Plate 35, f–1.

= *Dothidea tumefaciens* Syd. & P. Syd., Ann. Mycol. 5: 360, 1907.

Galls apparently caused by the fungus, oval to globose, up to 3 cm diam, stroma spreading over the gall surface, up to 10 mm thick; in section of thin-walled, angular cells forming a *textura angularis*. Ascospores densely aggregated in groups of 100 or more, superficial, globose to broadly ovoid, not collapsed or slightly laterally pinched when dry, $240\text{--}400 \times 210\text{--}275 \mu\text{m}$, black, violet in transmitted light, KOH+ dark purple, purple pigments dissolving in KOH, red in lactic acid, fleshy, ostiolate; surface smooth, shiny. Ascospore wall $ca 75 \mu\text{m}$ thick, outer region continuous with the stroma, $ca 25 \mu\text{m}$ thick, walls pigmented, $1.5\text{--}3 \mu\text{m}$ thick, cells irregular in outline, up to $10 \mu\text{m}$ diam; inner region up to $40 \mu\text{m}$ thick, cells hyaline, progressively thinner-walled, $ca 10 \times 4.5 \mu\text{m}$. Asci clavate, $75\text{--}110 \times (9\text{--})11\text{--}17 \mu\text{m}$, sessile, apex simple, ascospores bi- to pluriseriate. Ascospores narrowly ellipsoid, $23\text{--}34 \times 5.5\text{--}7.5 \mu\text{m}$, usually 1(–3)-septate, slightly constricted, occasionally multiseptate with age, hyaline, smooth-walled.

ANAMORPH: Pale orange substance, possibly a *Fusarium*, associated with the ascospores but lacking conidia.

HABITAT AND DISTRIBUTION.— Known only from the type specimen.

TYPES.— BRAZIL. São Paulo, Campinas, on branches of *Serjania* (*Sapindaceae*), Nov. 1897, F. Noack, no. 811 (S, lectotype of *Dothidea tumefaciens*, designated herein: FH, isoelectotype: LPS, W. ex Petrak Pilzherbarium 04285, isoelectotypes).

NOTES.— The lectotype specimen consists of 1 cm diam piece of vine-like wood with a woody gall covered with dispersed clumps of densely aggregated, dark ascospores.