

## Notes on Deuteromycetes III\*

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New genera and species of coelomycetes from Australia are described and illustrated, including *Corniculariella queenslandica*, *Gloeosporidina lasiopetali*, *Kyphophora avicenniae*, *Mapletonia falcata* and *Quasidiscus simmondsii*. *Metadiplodia eucalypti* and *Tracylla aristata* are redescribed. New synonyms of *Pilidium acerinum* are listed.

Keywords: taxonomy, coelomycetes, Deuteromycotina, Australia.

### 13. *Corniculariella queenslandica* B.C. SUTTON sp. nov. – Fig. 1.

Mycelium immersum, ramosum, septatum, hyalinum, sparsum, 2–3  $\mu$ m crassum. Conidiomata eustromatica, immersa vel semi-immersa, globosa vel ellipsoidea vel elongata, sparsa, usque ad 250  $\mu$ m crassa x 500–700  $\mu$ m longa x 200  $\mu$ m alta, nigra, nitescentia; paries ex textura intricata hyalina compositus, ad basim 10  $\mu$ m crassus, alibi 20–50  $\mu$ m crassus. Dehiscencia irregularis, demum longitudinalis. Conidiophora hyalina, repetite et irregulariter ramosa, aliquot ramulis in nodis individuus producentia, semper horizontalia sed ramulis conidiogenis verticalibus, usque ad 20  $\mu$ m longa x 2–3  $\mu$ m crassa, ex cellulis interioribus conidiomatum formata. Cellulae conidiogenae in conidiophoris incorporatae, cylindricae vel doliiformes, hyalinae, laeves, 4–12 x 1.5–3  $\mu$ m; collo absentia, canale et spissescenti periclinali minutis. Conidia holoblastica, hyalina, 3-septata, fusiformia, recta vel leniter curvata, basim truncata vel obtusa, apicem obtusa, laevia, 15–18 x 3–4  $\mu$ m.

In ligno decorticato ignoto, Australia, Queensland, Cunningham's Gap N.P., 2.9.1981, B.C. SUTTON & J.L. ALCORN, IMI 263602, holotypus.

Mycelium immersed, branched, septate, hyaline, sparse, 2–3  $\mu$ m wide. – Conidiomata eustromatic, immersed to semi-immersed, globose to ellipsoidal or elongated, sparse, up to 250  $\mu$ m wide x 500–700  $\mu$ m long x 200  $\mu$ m high, black, shining; walls composed of hyaline textura intricata, 10  $\mu$ m thick at the base, 20–50  $\mu$ m

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\* This paper is a continuation of earlier studies on miscellaneous deuteromycetes mostly from Australia (SUTTON 1985, 1989).

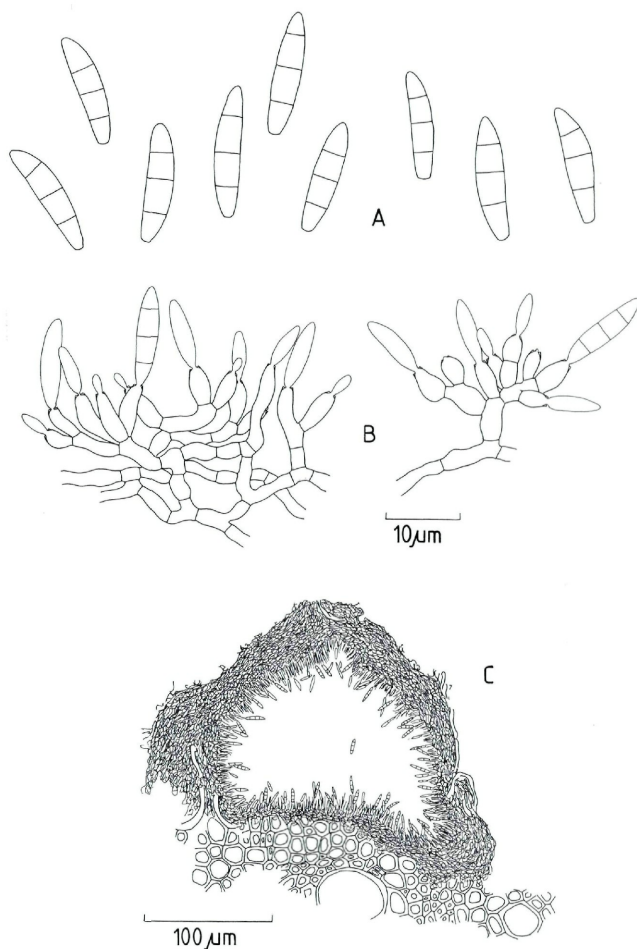


Fig. 1. – *Corniculariella queenslandica* (holotype). – A. conidia. – B. conidiophores and conidiogenous cells. – C. vertical median section of a conidioma.

thick at the sides and above. Dehiscence irregular, by rupture of the upper wall, finally resulting in a longitudinal opening. – Conidiophores hyaline, repeatedly and irregularly branched, several branches often being produced at individual nodes, frequently horizontal with vertically-orientated conidiogenous branches, up to 20  $\mu\text{m}$  long  $\times$  2–3  $\mu\text{m}$  wide, formed from the inner cells of the conidiomatal wall. – Conidiogenous cells integrated, cylindrical to doliform, wider in the middle than at each end, hyaline, smooth, 4–12  $\times$  1.5–3  $\mu\text{m}$ ; collarette absent, channel and periclinal thickening minute. – Conidia holoblastic, hyaline, 3-septate, fusiform, straight or slightly curved, truncate to rounded at the base, obtuse at the apex, smooth, eguttulate, 15–18  $\times$  3–4  $\mu\text{m}$ .

The genus *Corniculariella* KARST. was revised and amended by DI COSMO (1978) and seven species accepted. The conidiomata were described as black, scattered, erumpent, subcylindrical, often gregarious, separate or united at the base, composed of closely interwoven septate hyphae, compacted towards the exterior with the locule in the upper part and opening irregularly. While *C. queenslandica* agrees in many respects with these characters it differs in some features. The structure is of *textura oblita/intricata* and although the tissue is compacted towards the exterior it does not become more deeply pigmented or thicker-walled and this is unusual, for at low magnification and viewed under the dissecting microscope intact conidiomata are dark brown to black and globose to ellipsoid rather than subcylindrical; there is no distinct basal layer of the stroma supporting the conidial locule. Conidiogenesis, conidiogenous cell proliferation with conidia seceding at the same level (phialides, sensu SUTTON, 1980) and conidial morphology are very similar in *C. queenslandica* and the other species of *Corniculariella*. It seems inadvisable to separate *C. queenslandica* into a new genus on the basis of the differences in wall structure alone. The full range in conidiomatal structure in coelomyces and more importantly its significance in systematics of the group is still being worked out and the consequences of such studies cannot be fully assessed at the moment.

An unusual feature of this species is the differential staining of the conidiomatal wall with trypan blue, lactofuchsin and erythrosin. Lactofuchsin fails to stain at all whereas trypan blue in lactophenol stains very faintly but shows that the walls of the cells comprising the conidiomata have reduced contents, almost like *textura oblita*, yet instead of parallel orientation which is typical of this type of *textura* the hyphae are branched and anastomosed as in *textura intricata*. In erythrosin in ammonia the wall cells are stained cyan blue rather than red which is the usual reaction.

14. *Gloeosporidina lasiopetali* B.C. SUTTON sp. nov. – Fig. 2.

Lesiones distinctae, singulatim usque ad 0.3cm diam, raro confluentes tum usque ad 0.8cm diam, plus minusve circulares, dein irregulares, in pagina superiori folii margine fusco brunneo et in centro 'sienna', in pagina inferiori folii indistinctae. Conidiomata acervularia vel eustromatica, circularia, epiphylla, abundantia, saepe in annulo concentrico disposita, usque ad 150  $\mu\text{m}$  diam, epidermalia, ex textura angulari pallide brunnea composita, pariete superiori brunneo. Dehiscencia irregularis. Conidiophora hyalina, basim versus 1-septata, non ramosa, lageniformia, recta vel irregularia, 17–27  $\mu\text{m}$  longa, ad basim 4–5  $\mu\text{m}$  crassa, ex basi et latere conidiomatum oriunda. Cellulae conidiogenae discretae vel in conidiophoris incorporatae, lageniformes vel irregulares, hyalinae, laeves, 10–17.5  $\mu\text{m}$  longae, ad basim 3.5–5  $\mu\text{m}$  crassae, apicem versus 1.5–2  $\mu\text{m}$  deminutae; collo absentis, canale minuto, spissescenti periclinali distincto. Conidia holoblastica, hyalina, aseptata, pyriformia, ad basim 2.5–3  $\mu\text{m}$  lata et truncata, apicem obtusa, laevia, interdum multiguttulata, 7–9  $\times$  3.5–4.5  $\mu\text{m}$ .

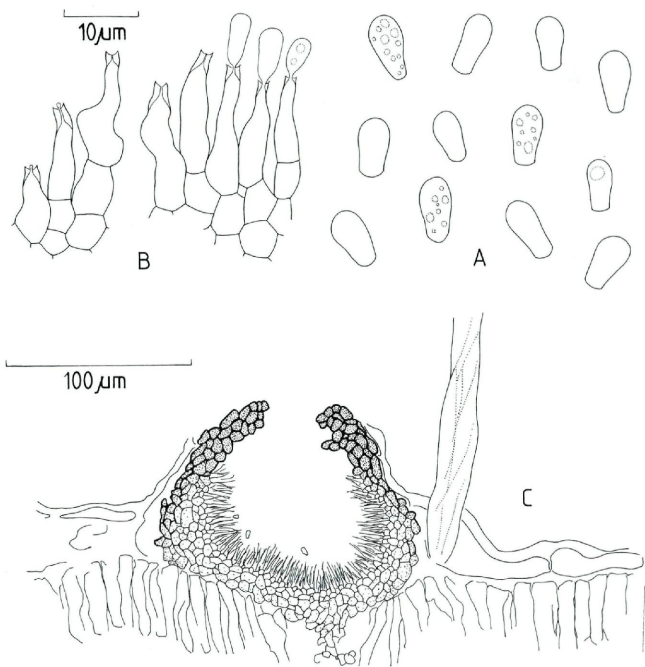


Fig. 2. – *Gloeosporidina lasiopetali* (holotype). – A. conidia. – B. conidiophores and conidiogenous cells. – C. vertical median section of a conidioma.

In foliis vivis *Lasiopetali macrophylli* GRAH. AUSTRALIA, New South Wales, Boudhi National Park, 25.9.1983, C. LIDDELL, IMI 281198, holotypus; 1.10.1984, IMI 290751, paratypus.

Lesions distinct, only occasionally confluent, more or less circular, when larger becoming irregular, on the upper surface with a chestnut brown narrow border and a sienna centre, on the lower surface margin indistinct and pigmentation masked by the profuse leaf hairs, individually up to 0.3cm diam, reaching up to 0.8cm diam when confluent. – Conidiomata acervular to eustomatic, circular, epiphyllous, abundant, often in a single concentric ring, up to 150 µm diam, epidermal, composed of a basal layer of very pale brown, thin-walled *textura angularis*, becoming darker and with thicker walls at the sides, the upper wall 3–4 cells thick of brown *textura angularis*. Dehiscence irregular, by rupture of the upper wall and epidermis. – Conidiophores hyaline, 1-septate at the base, unbranched, long lageniform to irregular, straight or irregular, 17–27 µm long x 4–5 µm wide at the base, formed at the base and sides of the conidiomata. – Conidiogenous cells discrete or integrated, lageniform, hyaline, smooth, 10–17.5 µm long x 3.5–5 µm wide at the base, tapering to 1.5–2 µm wide at the apex; collarette absent, channel minute, periclinal thickening distinctive. – Conidia holoblastic, hyaline, aseptate, pyriform, with a broad truncate base 2.5–3 µm wide, apex obtuse, smooth, sometimes with several small guttules, 7–9 x 3.5–4.5 µm.

*Gloeosporidina* PETRAK (1921) was redescribed by SUTTON & POLLACK (1973) and SUTTON (1980). Four species were accepted, and of these, *G. canthiicola* SUTTON described from *Canthium venosum* is most similar to *G. lasiopetali*. Conidia in *G. canthiicola* are slightly smaller and consistently eguttulate, conidiogenous cells are shorter and thinner, and the conidiomata are typically acervular.

15. ***Kyphophora*** B.C. SUTTON gen. nov.  
(etymology: Kyphos (G)-bent)

Conidiomata eustomatica, immersa, separata, hyalina vel pallide brunnea; parietes ex *textura angulari*/globulosa, hyalina vel medio brunnea, cellulis tenuibus compositi; partem superiorem versus atriora. Ostiolum singulum, circulare, leviter papillatum. Conidiophora ex cellulis parietum conidiomatum, hyalina, laevia, septata, repetite et irregulariter ramosa, saepe flexuosa et typice irregulariter curvata. Cellulae conidiogenae in conidiophoris incorporatae, cylindricae vel doliiformes, hyalinae, laeves, apice pariete constructo formatae, ontogeni conidiali thallico congruentes, conidia septo transverso delimitata inordinata, sine maturatione, secessione inordinata schizolytica. Conidia thallica, hyalina, laevia, aseptata, cylindrica, recta vel leniter curvata, truncata.

Sp. typ.: *K. avicenniae* sp. nov.

Conidiomata eustromatic, immersed, separate, pale brown to hyaline; walls composed of hyaline to medium brown thin-walled *textura angularis/globulosa*, more deeply pigmented in the upper part. – Ostiole single, circular, slightly papillate. – Conidiophores formed from the inner surface of the conidiomatal wall, hyaline, smooth, septate, repeatedly and irregularly branched, often flexuous and typically curved irregularly. – Conidiogenous cells integrated, cylindrical to doliiform, hyaline, smooth, formed by a wall building apex coincident with thallic conidial ontogeny, random delimitation by transverse septa, no maturation, random scission schizolytic. – Conidia thallic, hyaline, smooth, aseptate, cylindrical, straight or slightly curved, truncate at each end.

Compared with the total number of acceptable coelomycete genera, the proportion with thallic conidiogenesis is very small (SUTTON, 1980). *Vouauxiella* PETRAK & SYDOW is the only representative of the Thallopyncidiineae and there are but 9 genera in the Thallostromatineae. Of these, *Phacidiella* KARST. and *Sirozythiella* HÖHN. most closely resemble *Kyphophora* but they differ in sufficient detail to preclude the accommodation of the fungus on *Avicennia* there. *Phacidiella* has aseptate conidia and *Sirozythiella* has 1-septate conidia, otherwise the two genera are very similar. Neither have the same conidiomatal structure, pigmentation or dehiscence as *Kyphophora*. *Dothioropsis* RIEDL was described with aseptate and septate thallic conidia formed in irregularly branched chains from eustromatic conidiomata that dehisce irregularly. However, RIEDL (pers. comm.) now considers this genus to represent the immature stage of a *Cytospora*.

***Kyphophora avicenniae* B.C. SUTTON sp. nov. – Fig. 3.**

Mycelium immersum, ramosum, septatum, hyalinum, sparsum, 2–3 µm crassum. Conidiomata eustromatica, immersa, separata, globosa, basim appanata, usque ad 300 µm crassa x 175 µm profunda, pallide brunnea vel hyalina; parietes basim ex *textura angulari/globulosa*, hyalina, parietibus crassis compositi, parte basali 4–6 cellulis 10–12 µm latis, parte superiori 5–8 cellulis, usque ad 15 µm latis, partem superiorem versus atrioribus, dein circum ostiolum mediobrunneis composita. Ostiolum singulare, circulare, leniter papillatum, 15 µm diam. Conidiophora ex cellulis parietum conidiomatum, hyalina, laevia, septata, repetite et irregulariter ramosa, ramis singularibus vel aliquot per cellulam singularem, saepe flexuosa et typice irregulariter curvata, in longitudinem variabilis, 1.5 µm crassa. Cellulae conidiogenae in conidiophoris incorporatae, cylindricae vel doliiformes, hyalinae, laeves. Conidia thallica, hyalina, laevia, aseptata, cylindrica vel leniter doliiformia, recta vel leniter curvata, truncata, eguttulata, 2–4 x 1.5 µm.

In foliis vivis *Avicenniae marinae*. AUSTRALIA, Queensland, Morton Island, C.M. LIDDELL, 6.1.1984, IMI 284115, holotypus.

Mycelium immersed, branched, septate, hyaline, sparse, 2–3  $\mu\text{m}$  wide. – Conidiomata eustromatic, epigenous, immersed, septate, globose, with the base flattened, up to 300  $\mu\text{m}$  wide x 175  $\mu\text{m}$  deep, pale brown to hyaline; walls composed at the base of hyaline, thinner walled *textura angularis/globulosa* 4–6 cells thick and 10–12  $\mu\text{m}$  wide, becoming more deeply pigmented in the upper part and finally medium brown in the ostiolar region. – Ostiole single, circular, slightly papillate, 15  $\mu\text{m}$  diam. – Conidiophores formed from the entire inner surface of the conidiomatal wall, hyaline, smooth, septate, repeatedly and irregularly branched in different planes, branches individual or several from a single cell, often flexuous and typically curved irregularly, variable in length, 1.5  $\mu\text{m}$  wide. – Conidiogenous cells integrated, cylindrical to doliiform, hyaline, smooth, comprising the conidiophore. – Conidia thallic, hyaline, smooth, aseptate, cylindrical or slightly doliiform, straight or slightly curved, truncate at each end, eguttulate, 2–4 x 1.5  $\mu\text{m}$ .

This species is associated with distinct circular lesions up to 0.6 cm diam with a raised margin and grey brown necrotic tissue. Of the numerous marine coelomycetes listed by KOHLMAYER & KOHLMAYER (1979), none on *Avicennia* or other Rhizophoraceae resemble this species. From the available descriptions of similar fungi in the literature, *Cytospora rhizophorae* KOHLMAYER & KOHLMAYER is confirmed as an acceptable species of *Cytospora* EHRENB.: FR., *Ascochyella rhizophoropsis* CIFERRI & FRAGOSO ex CASH has olivaceous 1-septate conidia and can be excluded from comparison, and *Phoma rhizophorae* TASSI, although with a conidial size of 2–2.5 x 1.5  $\mu\text{m}$ , was described from dead stems with semi-immersed pycnidia. Neither conidial shape nor conidiomatal structure are correct for this fungus from *Avicennia*.

16. **Mapletonia** B.C. SUTTON gen. nov.  
(etymology: Mapleton Falls, loc. typ.)

Conidiomata pycnidialia, separata, immersa, collabentia vel depressa, atro brunnea, unilocularia; parietes ex textura angulari compositi, ostium centrale, circulare, non protrudens; setae brunneae, in pariete superiori restrictae. Conidiophora in pariete basali conidiomatum restricta, hyalina, 1(-2)-septata, cylindrica. Cellulae conidiogenae in conidiophoris incorporatae, hyalinae, cylindricae. Conidia holoblastica, hyalina, 1-septata, falcata, fusiformia, laevia. Conidiogenesis: ontogenesis conidiorum holoblastica constructione parietis apicali, maturata conidia ontogene synchrona vel tarde evoluta, conidia uno septo delimitata, secessio schizolytica, proliferatio cellulae conidiogenae enteroblastica conidiis additis ad positiones eadem successivas producens.

Sp. typ.: *M. falcata* sp. nov.

Conidiomata pycnidial, separate, immersed, collabent to depressed, dark brown, unilocular; wall of *textura angularis*; ostiole

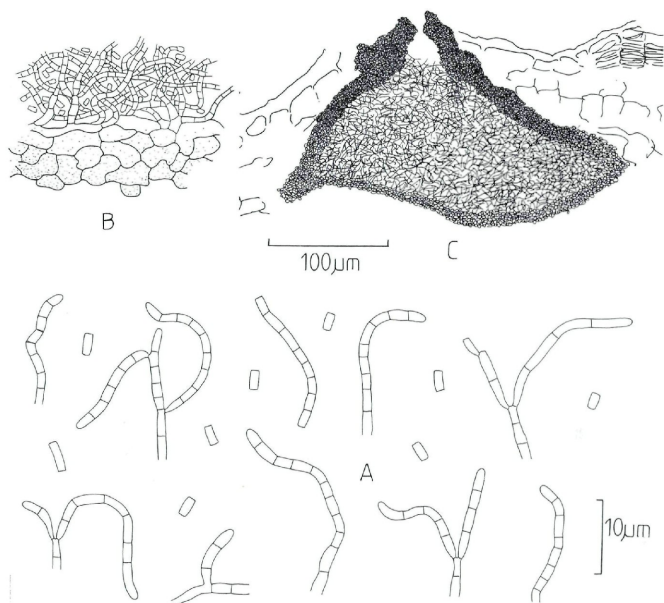


Fig. 3. – *Kypophora avicenniae* (holotype). – A. conidia and conidiophores. – B. part of conidiomatal wall. – C. vertical median section of a conidioma.

central, circular, not protruding. – Setae brown, confined to the upper wall. – Conidiophores restricted to the conidiomatal base, hyaline 1(-2) septate, cylindrical. – Conidiogenous cells hyaline, cylindrical, integrated. – Conidial development (phialidic, sensu SUTTON, 1980): ontogeny holoblastic by apical wall building; maturation synchronous with ontogeny or delayed, delimitation by a transverse septum, schizolytic secession, enteroblastic conidiogenous cell proliferation with successive conidia seceding at the same level. – Conidia holoblastic, hyaline, 1-septate, falcate, fusiform, smooth.

No genus of coelomycete so far described combines the features shown by *Mapletonia*. In *Chaetophiophoma* SPEG. the pycnidial conidiomata are superficial rather than immersed and lack any setae. Otherwise the genus is similar in conidiogenesis and conidiophore and conidial morphology. Most setose genera of coelomycetes with



hyaline conidia produced from phialides (sensu SUTTON, 1980) differ from *Mapletonia* in conidiomatal structure and conidial morphology, but in *Chaetosphaeronema* MOESZ (SUTTON, 1980) the differences are not so clear. *Mapletonia* is segregated from this genus by (1) the conidiomata that have several wall layers with different tissue types and a non-protuberant ostiole; (2) the insertion of the setae that are situated over the whole upper conidiomatal wall and originate beneath the host tissues rather than above them; (3) the conidiogenous area which is restricted to the base of the conidioma rather than covering the whole inner wall; (4) the conidia, though hyaline and 1-septate as in *Chaetosphaeronema*, are falcate and fusiform.

***Mapletonia falcata* B.C. SUTTON sp. nov.** - Fig. 4.

Mycelium immersum, ramosum, septatum, hyalinum vel pallide brunneum, 2-3  $\mu\text{m}$  diam. Conidiomata pycnidialia, epidermalia vel subepidermalia, separata, collabentia vel depressa, atro brunnea vel nigra, usque ad 250  $\mu\text{m}$  diam x 150  $\mu\text{m}$  profunda, unilocularia, pariete stratis duobus, strato externo 2-3 cellulis crasso ex textura angulari atrobrunnea, parietibus cellularum crassis composito, strato interno 3-5 cellulis crasso ex textura angulari pallide brunnea vel hyalina, magniori, parietibus tenuibus composito; ostiolum 10  $\mu\text{m}$  diam, centrale, circulare, non protrudens, canale distincto praeditum, in parte superiori cellulis atrioribus circumcincto. Setae sparsae, usque ad 10 in quoque conidiomate, in parietibus superioribus restrictae et oriundae, divergentes, plerumque rectae, rigidae, laeves, pallide brunneae, apices obtusos versus non deminutae, basim versus atriores, 5-7 septatae, 100-150  $\mu\text{m}$  longae x 7-8  $\mu\text{m}$  latae. Conidiophora in pariete basali conidiomatum restricta ex textura angulari, hyalina, parietibus tenuibus oriunda, hyalina, laevia, plerumque 1(-2) septata, tantum ad basim ramosa, cylindrica, recta vel curvata, 11-19 x 1.5-2  $\mu\text{m}$ . Cellulae conidiogenae determinatae, in conidiophoris incorporatae, terminales vel intercalares, cylindricae, 3.5-9 x 1-2  $\mu\text{m}$ , e locis apicalibus in cellulis terminalibus, vel lateralibus statim infra septa transversales oriundae. Conidia holoblastica, hyalina, in medio 1-septata, falcata, fusiformia, laevia, eguttulata, ad apicem acuta, ad basim obtusa, 19-21 x 1.5(-2)  $\mu\text{m}$ .

In foliis emortuis *Eucalypti*. AUSTRALIA, Queensland, Mapleton Falls National Park, B.C. SUTTON & J.L. ALCORN, 30.8.1981, IMI 263431a, holotypus, IMI 263446e, paratypus.

Mycelium immersed, branched, septate, hyaline to pale brown, 2-3  $\mu\text{m}$  diam. - Conidiomata pycnidial, epidermal to subepidermal, separate, collabent to depressed, dark brown to black, up to 250  $\mu\text{m}$  diam x 150  $\mu\text{m}$  deep; unilocular, wall consisting of two layers, the outer 2-3 cells thick, of dark brown, thick-walled *textura angularis*, the inner 3-5 cells thick, of larger, pale brown to hyaline, thin-walled *textura angularis*; ostiole 10  $\mu\text{m}$  diam, central, circular, not protruding, with a well-defined channel lined in the upper part by much darker cells. - Setae sparse, up to 10 per conidioma, confined to and originating from the upper walls, divergent, mostly straight, rigid, smooth, very pale brown but not noticeably tapered

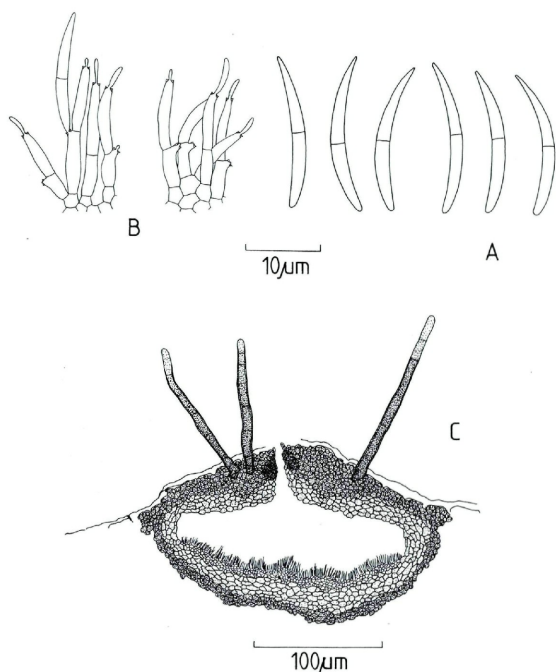


Fig. 4. – *Mapletonia falcata* (holotype). – A. conidia. – B. conidiophores and conidiogenous cells. – C. vertical median section of a conidioma.

towards the obtuse apices, becoming darker towards the base, 5–7 septate, 100–150  $\mu\text{m}$  long  $\times$  7–8  $\mu\text{m}$  wide. – Conidiophores restricted to the conidiomatal base where they arise from a layer of hyaline, thin-walled, small-celled *textura angularis*, hyaline, smooth, mostly 1(-2) septate, branched only at the base, cylindrical, straight or curved, 11–19  $\times$  1.5–2  $\mu\text{m}$ . – Conidiogenous cells determinate, integrated, terminal or intercalary, cylindrical, 3.5–9  $\times$  1.5(-2)  $\mu\text{m}$ , loci apical on the terminal cell, or lateral immediately below transverse septa. – Conidia holoblastic, hyaline, 1-septate in the middle, falcate, fusiform, smooth, guttulate, apex acute, base obtuse, 19–21  $\times$  1.5(-2)  $\mu\text{m}$ .

Of the coelomycetes described from *Eucalyptus* species, only one invites close comparison with *M. falcata*. This is *Septoria*

*ceuthosporoides* (CKE & HARKN.) SACCARDO (1884), originally described as *Cryptosporium ceuthosporoides* COOKE & HARKNESS (1881). Conidiomata were described as flattened, brown, ceuthosporoid, finally opening by fissures. Conidia were reported as fusiform, curved, hyaline, 18–20 x 3 µm. The holotype from K was examined and the species proves to be *Pilidium acerinum* KUNZE. The names are therefore reduced to synonymy as follows:

***Pilidium acerinum* KUNZE**, Mykol. Hefte 2: 92(1823).

*Leptothyrium acerinum* (KUNZE) CORDA, Icones fungorum 2: 25(1838).

*Coccomyces acerinus* (KUNZE) QUÉLET, Enchirid. fungorum: 337(1886).

*Cryptosporium ceuthosporoides* COOKE & HARKN., Grevillea 9: 127(1881).

*Septoria ceuthosporoides* (COOKE & HARKN.) SACC., Syll. fung. 3: 490(1884).

*Fusicoccum coronatum* KARST., Hedwigia 23: 21(1884).

*Leptothyrium medium* COOKE, Grevillea 13: 98(1885).

*Leptothyrium medium* COOKE var. *castaneicola* COOKE, Grevillea 13: 98(1885).

17. ***Metadiplodia eucalypti* H. SYD.**, Annl. mycol. 35: 359 (1937). – Fig 5.

Lesions amphigenous, initially discrete, scattered and rarely confluent, then much larger, angular, at first carmine or violaceous red, then with the centre becoming paler, 1.5–3.5 mm diam. – Mycelium immersed, branched, septate, hyaline to pale brown, sparse, 2–3 µm wide. – Conidiomata immersed, eustromatic, either simple and like pycnidia or convoluted and divided with a few irregular locules, globose to irregular in shape, brown, up to 550 µm wide x 250 µm deep, thin-walled, consisting of an outer layer of brown, thick-walled *textura angularis* 2–3 cells thick and an inner layer of similar tissue but pale brown to hyaline and thinner-walled; ostiole indistinct, barely papillate, with no specialized associated tissue, up to 50 µm diam. – Conidiophores absent. – Conidiogenous cells completely lining the conidiomatal wall, discrete, indeterminate, pale brown to hyaline, smooth, cylindrical to lageniform, 7–11 µm high x 4–5.5 µm wide, with 1–4 percurrent proliferations. – Conidial development is holoblastic by apical wall building; maturation is synchronous with ontogeny or delayed, and delimitation is by a transverse septum with schizolytic secession. The conidiogenous cell proliferates percurrently by enteroblastic growth to produce additional conidia which secede at successively higher levels. – Conidia holoblastic, 1-euseptate in the middle, the septum dark brown and 1.5–3 µm thick, wall double layered, 1 µm thick, minutely verruculose, perprolate, truncate at the base, conical to rounded at the apex, occasionally guttulate, 16–19.5 x 7–8 µm.

Material examined. - On leaves of *Eucalyptus melanophloia*, Australia, New South Wales, Warialda, May 1931, J.W. VICKERY 132, isotype in W; *E. blakeleyi*, Australia, New South Wales, Tooraweenah and Coonabarabran, L. FRASER, Jan. 1936, IMI 22362.

When *Metadiplodia* was introduced by SYDOW (1937) the genus was briefly compared with *Diplodia* and *Microdiplodia*. SUTTON (1977) had not examined *M. eucalypti* but discussed the implications of the work by ZAMBETTAKIS (1955) who effectively reduced *Metadiplodia* to synonymy with *Diplodia* FR. The account of *Diplodia mutila* FR., type species of *Diplodia*, by SUTTON (1980) shows that *Metadiplodia* differs in conidiomatal structure, conidial and con-

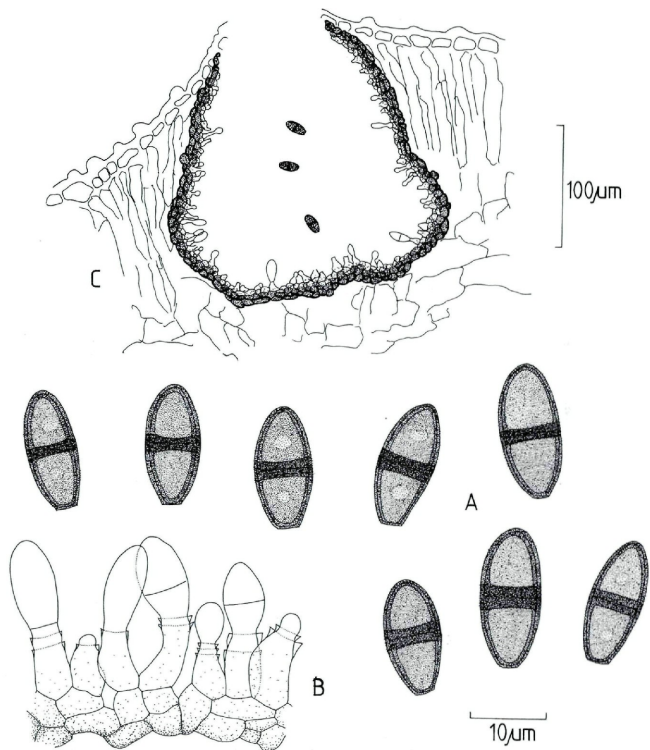


Fig. 5. - *Metadiplodia eucalypti* (isotype). - A. conidia. - B. conidiogenous cells. - C. vertical median section of a conidioma.

idiophore morphology, and growth of the conidiogenous cells after conidial formation. *Kamatella* ANAHOSUR (1969) may be distinguished from *Metadiplodia* for the same reasons. Somewhat closer is *Coniothyrium* CORDA sensu stricto (SUTTON, 1980) which consistently has simple pycnidial conidiomata but conidia which may be aseptate and of different wall structure from *Metadiplodia*. *Pellionella* SACC. (SUTTON, 1980) differs in conidial morphology, absence of additional growth in the conidiogenous cell following conidial formation and in the pseudostromatic conidiomata. *Tunicago* SUTTON & POLLACK (1977) has simple conidiomata similar to *Metadiplodia* but the conidial morphology is quite different. Instead of conidiogenous cells being successively percurrent, they produce several conidia at the same level. *Microdiplodia* ALLESCH. was considered to be of doubtful application by SUTTON (1977).

18. ***Quasidiscus*** B.C. SUTTON gen. nov.

(etymology: *quasi* (L) – nearly, almost, as though, and *discus* (L) – disc)

Mycelium immersum, ramosum, septatum, atrobrunneum. Conidiomata eustromatica, semi-immersa, separata, atrobrunnea, cupulata, unilocularia, ex textura angulari composita, in hypostromate atrobrunneo immerso insidentia; a parieti imminenti ruptili dehiscentia. Conidiophora hyalina vel pallide brunnea, basim versus septata et ramosa, ex cellulis parietum conidiomatum formata. Cellulae conidiogenaee in conidiophoris incorporatae, determinatae, laeves, cylindricae, canali lato praeditae, spissescenti marginali periclinali et collo minutis. Conidia holoblastica, successive producentia, aseptata, laevia, fusiformia, obtusa, eguttulata. Conidiogenesis: ontogenesis conidiorum holoblastica constructione apicali, maturatio conidiorum ontogene synchrona, conidiis uno septo delimitatis, secessio schizolytica, proliferatio cellulaae conidiogenaee enteroblasticae conidia addita ad positiones easdem successivas producens.

Sp. typ.: *Q. simmondsii* sp. nov.

Mycelium immersed, branched, septate, dark brown. – Conidiomata eustromatic, semi-immersed, separate, dark brown, cupulate, unilocular, of *textura angularis*, seated on a dark brown immersed hypostroma; dehiscence by break-down of the overlying wall. – Conidiophores hyaline to pale brown, septate and branched at the base, formed from the conidiomatal wall. – Conidiogenous cells integrated, determinate, smooth, cylindrical, with a wide channel, marginal periclinal thickening and minute collarette. – Conidial development: ontogeny holoblastic by apical wall building; maturation synchronous with ontogeny, delimitation by a transverse septum, secession schizolytic, enteroblastic conidiogenous cell proliferation with successive conidia seceding at the same level. – Conidia holoblastic, produced in succession, aseptate, smooth, fusiform, obtuse at each end, eguttulate.

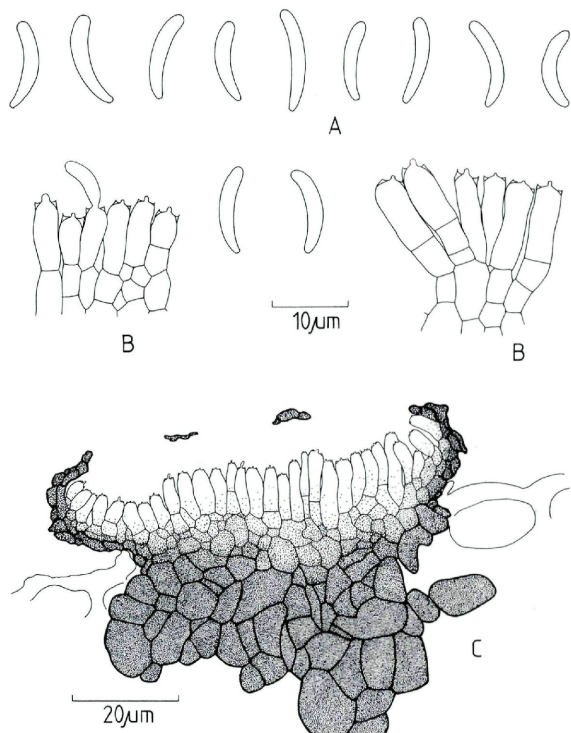


Fig. 6. - *Quasidiscus simmondsii* (holotype). - A. conidia. - B. conidiophores and conidiogenous cells. - C. vertical median section of a conidioma.

The most closely related genus to *Quasidiscus* is *Pseudostegia* BUBÁK (1906), redescribed by SUTTON (1980). *Pseudostegia* differs in having fusiform falcate conidia, short discrete hyaline conidiogenous cells, and no hypostroma. A distinctive method of conidiomatal dehiscence involves circumscissile rupture of the upper conidiomatal wall and upper epidermal wall of the host giving rise to an elevated flap of tissue which may break off. *P. nubilosa* is close to the curved-spored *Colletotrichum* species but *Q. simmondsii* is excluded from comparison because of the difference in conidial morphology and cupulate conidiomatal structure.

***Quasidiscus simmondsii*** B.C. SUTTON sp. nov. — Fig. 6.

(etymology: after the late J.H. SIMMONDS, noted Queensland plant pathologist)

Mycelium immersum, repetite ramosum, septatum, laeve, atrobrunneum, 5–7  $\mu$ m diam. Conidiomata eustromatica, atrobrunnea, unilocularia, initio clausa dein a parieti imminente ruptili dehiscentia, postremo cupulata, usque ad 80  $\mu$ m diam; parietes 2–3 cellulis crassis ex textura angulari atrobrunnea elongata compositi, ad basim in hypostromate atrobrunneo immerso 80  $\mu$ m diam x 40  $\mu$ m profundo insidentia; hypostroma ex cellulis atrobrunneis grandibus parietibus tenuibus compositum. Conidiophora hyalina vel pallide brunnea, 1–2 septata, basim versus ramosa, recta, cylindrica, 9–15 x 3–4  $\mu$ m, ex cellulis superioribus parietorum basalium conidiomatum oriunda. Cellulae conidiogenae in conidiophoris incorporatae, raro discretae, determinatae, laeves, pallide brunneae vel hyalinae, cylindricae, canali lato praeditae, spissescenti marginali periclinali et collo minutis, 5–12 x 3–4  $\mu$ m. Conidia holoblastica, successive producentia, aseptata, eguttulata, laevia, fusiformia, basim versus leviter deminuta, obtusa, 10.5–13.5 x 2  $\mu$ m.

In foliis emortuis *Macadamiae*. AUSTRALIA, J.H. Simmonds Plot, Queensland, Brookfield, B.C. SUTTON & J.L. ALCORN, 28.8.1981, IMI 263349c, holotypus.

Mycelium immersed, repeatedly branched, septate, smooth, dark brown, 5–7  $\mu$ m diam. — Conidiomata eustromatic, dark brown, unilocular, at first closed then dehiscing by irregular rupture and breakdown of a thin rudimentary overlying wall, finally cupulate, up to 80  $\mu$ m diam; lateral walls 2–3 cells thick, of dark brown elongated textura angularis, at the base seated on an irregularly shaped hypostroma which is up to 80  $\mu$ m diam x 40  $\mu$ m deep consisting of large-celled, thin-walled, dark brown *textura angularis* that becomes paler towards the conidiogenous region and consists of smaller cells. — Conidiophores hyaline to pale brown, 1–2 septate and branched towards the base, straight, cylindrical, 9–15 x 3–4  $\mu$ m, formed from the upper cells of the basal conidiomatal wall. — Conidiogenous cells integrated, more rarely discrete, determinate, smooth, pale brown or hyaline, cylindrical, with a wide cytoplasmic channel, marginal periclinal thickening and a minute collette, 5–12 x 3–4  $\mu$ m. — Conidia holoblastic, produced in succession through the cytoplasmic channel, aseptate, eguttulate, smooth, fusiform, slightly narrower towards the base, both ends obtuse, 10.5–13.5 x 2  $\mu$ m.

19. ***Tracylla aristata*** (COOKE) TASSI, Boll. R. Orto Bot. Siena 6: 62(1904). — Fig. 7.

*Leptothyrium aristatum* COOKE, Grevillea 20: 6(1892).

This species was originally described from *Eucalyptus* in Victoria, Australia but has not been reported since, apart from one record from New Zealand (NAG RAJ, 1975). There are also two collections

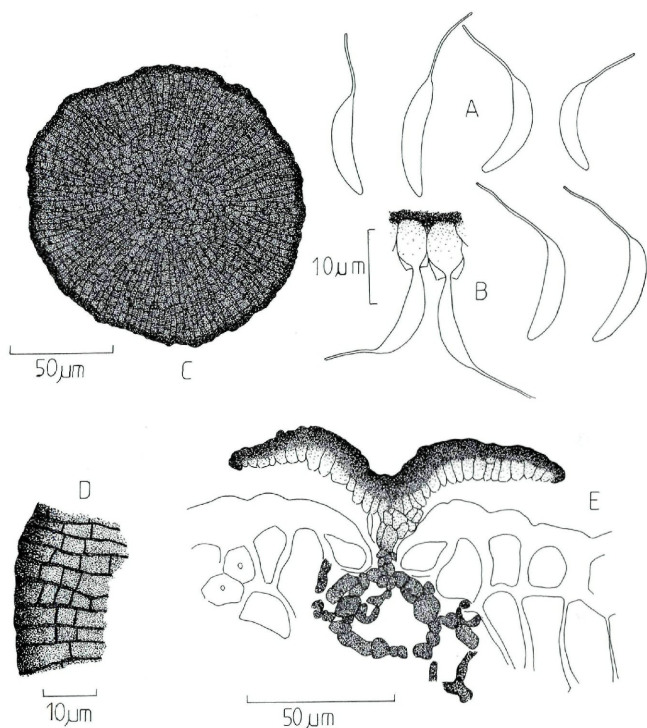


Fig. 7. – *Tracylla aristata* (IMI 280108b). – A. conidia. – B. conidiogenous cells. – C. conidioma. – D. conidiomatal margin. – E. vertical median section of a conidioma.

from New Zealand in IMI and these conform to the type collection in having three tissue zones to the pycnothyria – a central zone of pale brown isodiametric *textura angularis*, a median zone of darker *textura prismatica* and an outer zone composed of cells which are more elongated. The second Australian collection, although with similar tissue types in the three zones does not show the differences in pigmentation. Most of the pycnothyria are evenly dark brown with a much darker marginal zone. In this respect it resembles the single New Zealand collection mentioned by NAG RAJ (1975).



Material examined.- AUSTRALIA: *Eucalyptus goniocalyx*, Victoria, Mt Dan-  
denong, B.C. SUTTON 19.8.1983, IMI 280108b. - NEW ZEALAND: *Eucalyptus* sp., Auck-  
land, Western Springs, E. McKENZIE, 8.10.1976, IMI 210310g; Mt Albert, E. McKENZIE,  
26.7.1976, IMI 210307d.

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