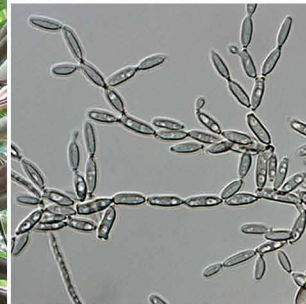
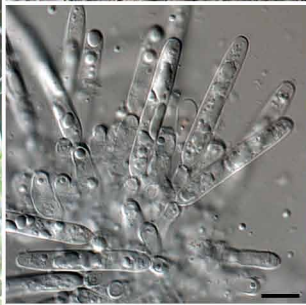
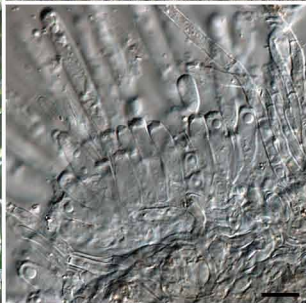
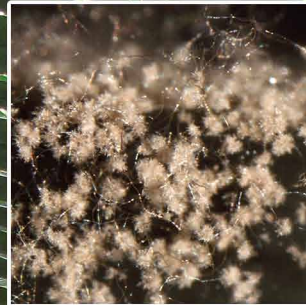
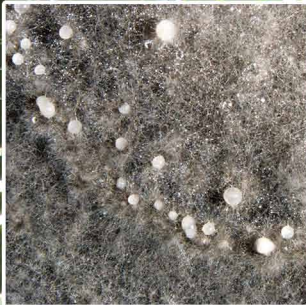


*Acrocalymma cycadis*  
& *Ramopenidiella cycadicola*



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## *Acrocalymma cycadis* Crous & R.G. Shivas, *sp. nov.*

*Etymology.* Named after the host genus from which it was collected, *Cycas*.

*Conidiomata* brown, erumpent, globose, up to 300 µm diam, with central ostiole; wall of 3–6 layers of brown *textura angularis*. *Conidiophores* reduced to conidiogenous cells or with a single supporting cell. *Conidiogenous cells* lining the inner cavity, subcylindrical, hyaline, smooth, 10–20 × 4–5 µm, proliferating percurrently at apex, or with prominent periclinal thickening at apex, 3–4 µm diam. *Conidia* hyaline, smooth, guttulate, solitary, subcylindrical, straight, apex obtusely rounded, hilum truncate, 1.5–2 µm diam, 0(–1)-septate, guttulate, (25–)28–32(–35) × (4–)5 µm, conidia at times becoming 1-septate and pale brown with age.

Culture characteristics — Colonies reaching up to 20 mm diam after 2 wk at 22 °C, spreading with sparse aerial mycelium and feathery margin. On PDA surface and reverse dirty white,

olivaceous grey in centre. On OA surface olivaceous-grey, white in outer region. On MEA surface white, reverse ochreous.

*Typus.* AUSTRALIA, Queensland, Cairns, S16°02'19.8" E145°27'39.1", on *Cycas calcicola* (*Cycadaceae*) leaf litter, 8 Aug. 2009, P.W. Crous & R.G. Shivas (holotype CBS H-21683, culture ex-type CPC 17345 = CBS 137972; ITS sequence GenBank KJ869124, LSU sequence GenBank KJ869181, MycoBank MB808898).

Notes — Alcorn & Irvin (1987) established the genus *Acrocalymma* for *A. medicaginis*, a species associated with a root and crown rot disease of *Medicago sativa*. A second species was recently described by Zhang et al. (2012a) from submerged wood in Thailand. *Acrocalymma cycadis* closely matches the generic description, forming pycnidial conidiomata that give rise to 0(–1)-septate, hyaline conidia with mucoid caps. All three species can be distinguished based on their conidial dimensions, those of *A. medicaginis* (11–21 × 3–5 µm) and *A. aquatic* (12–17 × 3–4 µm) being smaller than that of *A. cycadis*.

## *Ramopenidiella* Crous & R.G. Shivas, *gen. nov.*

*Etymology.* Named after its conspicuous ramoconidia and morphological similarity to *Penidiella*.

*Mycelium* consisting of branched, septate, smooth, pale brown hyphae. *Conidiophores* dimorphic. *Microconidiophores* erect, brown, smooth, subcylindrical, reduced to conidiogenous cells. *Macroconidiophores* erect, brown, smooth, thick-walled, flexuous, unbranched, subcylindrical, septate; base arising from hyphae, lacking rhizoids. *Conidiogenous cells* integrated, terminal, brown, smooth, subcylindrical, containing several

truncate, apical loci that are subdenticulate, and give rise to several ramoconidia. *Primary ramoconidia* brown, smooth, fusoid-ellipsoid, aseptate, constricted at base. *Secondary ramoconidia* pale brown, smooth, fusoid-ellipsoid, aseptate. *Intercalary* and *terminal conidia* pale brown, smooth, fusoid, ellipsoid, aseptate; hila somewhat thickened and darkened.

*Type species.* *Ramopenidiella cycadicola*.  
MycoBank MB808899.

## *Ramopenidiella cycadicola* Crous & R.G. Shivas, *sp. nov.*

*Etymology.* Named after the host genus from which it was isolated, *Cycas*.

*Mycelium* consisting of branched, septate, smooth, pale brown, 1.5–2 µm diam hyphae. *Conidiophores* dimorphic. *Microconidiophores* erect, brown, smooth, subcylindrical, reduced to conidiogenous cells, up to 15 µm long, 3–4 µm diam. *Macroconidiophores* erect, brown, smooth, thick-walled, flexuous, unbranched, subcylindrical, 3–8-septate, 40–130 × 3–4 µm; base arising from hyphae, lacking rhizoids. *Conidiogenous cells* integrated, terminal, brown, smooth, subcylindrical, 8–17 × 3–5 µm, containing several truncate, apical loci that are subdenticulate, 1 µm diam, and give rise to several ramoconidia. *Primary ramoconidia* brown, smooth, fusoid-ellipsoid, aseptate, 8–10 × 3–4 µm. *Secondary ramoconidia* pale brown, smooth, fusoid-ellipsoid, aseptate, 8–14 × 2.5–3 µm. *Intercalary* and *terminal conidia* pale brown, smooth, fusoid, ellipsoid, aseptate, (5–)8–9(–10) × 2(–2.5) µm; hila somewhat thickened and darkened, 0.5 µm diam.

*Colour illustrations.* *Cycas calcicola* in Queensland, Australia; conidiomata, conidiogenous cells and conidia (with mucoid appendages) of *Acrocalymma cycadis* in culture (left column); conidiophores and conidia of *Ramopenidiella cycadicola* in culture (right column). Scale bars = 10 µm.

Culture characteristics — Colonies reaching up to 8 mm diam after 2 wk at 22 °C, spreading, with sparse aerial mycelium and feathery, uneven margins. On PDA surface and reverse olivaceous-grey. On OA surface olivaceous-grey. On MEA surface olivaceous-grey, reverse iron-grey.

*Typus.* AUSTRALIA, Queensland, Cairns, S16°02'19.8" E145°27'39.1", on *Cycas calcicola* (*Cycadaceae*) leaf litter, 8 Aug. 2009, P.W. Crous & R.G. Shivas (holotype CBS H-21684, culture ex-type CPC 17291 = CBS 137973; ITS sequence GenBank KJ869125, LSU sequence GenBank KJ869182, TEF sequence GenBank KJ869237, MycoBank MB808900).

Notes — The genus *Penidiella* was established by Crous et al. (2007a) to accommodate dematiaceous hyphomycetes with solitary, brown conidiophores, an apical set of branches and conidiogenous cells, and branched chains of 0(–1)-septate brown conidia with slightly thickened and darkened hila. The genus was too broadly defined however, and recently Quaedvlieg et al. (2014) showed that it was paraphyletic. The genus *Ramopenidiella* is distinguished from *Penidiella* in that the first whorl of primary ramoconidia appear as conidiophore branches qua pigmentation (darker than that of other conidia), but they are ramoconidia though not primary ramoconidia (sensu Bensch et al. 2012), as they are constricted at the base and very distinct in morphology from the secondary ramoconidia.

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