
***Sporidesmiella oraniopsis*, a new species of dematiaceous hyphomycete from North Queensland, Australia and synopsis of the genus**

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Sporidesmiella oraniopsis, a new species recorded from a forest on Mt Lewis in North Queensland, Australia, is described and illustrated. The species is characterized by obclavate, pale brown, 3(-5)-distoseptate conidia, rounded at the apex and truncate at the base. It is similar to *S. claviformis* in morphology, but has longer conidia and more distosepta. A key to the genus and composite drawings of conidia of all species in the genus are provided.

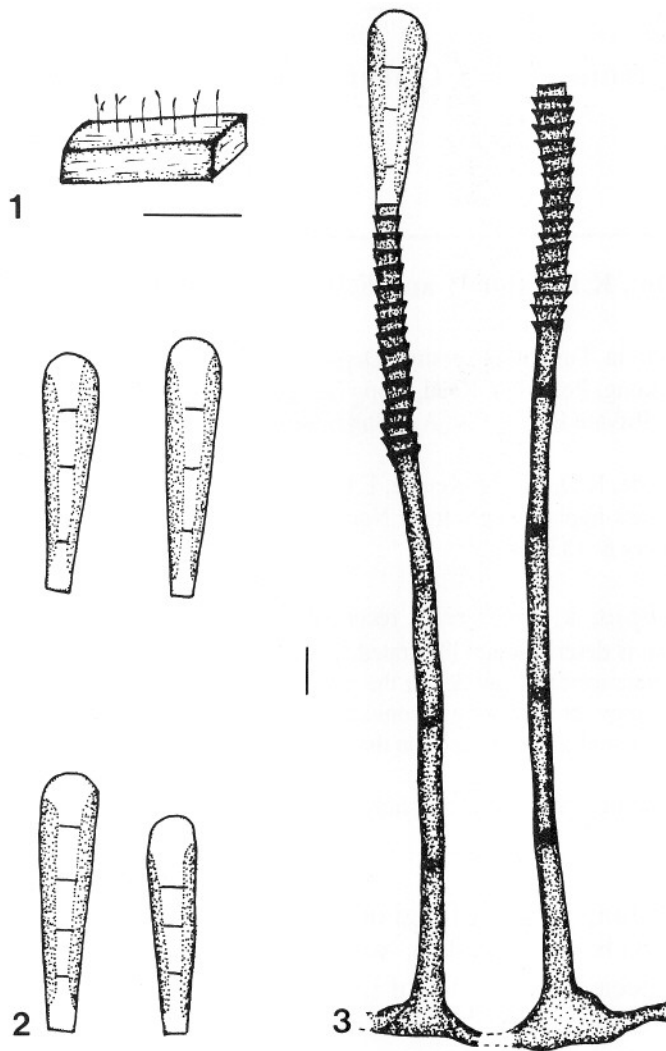
Key words: Australian mycota, mitosporic fungi, palm fungi, systematics; taxonomy.

Introduction

In our continuing study of fungi occurring on palms in the tropics (Yanna *et al.*, 1997, 1998a,b, 1999, 2000), we found an undescribed dematiaceous hyphomycete on decaying rachides of *Oraniopsis appendiculata* (F.M. Bailey) J. Dransf, A.K. Irvine and N.W. Uhl. This fungus is characterized by monoblastic, terminal conidiogenous cells that proliferate percurrently and produce clavate, 3(-5)-distoseptate conidia that are truncate at their base and rounded at the apex. Critical examination of the morphological characters indicate placement in the genus *Sporidesmiella* P.M. Kirk. A key and composite diagrams (Figs. 12-32) are provided.

Taxonomy

Kirk (1982) erected *Sporidesmiella* and described *S. claviformis* P.M. Kirk as the type species. He also described a second species, *S. longissima* P.M. Kirk, and transferred five other species, previously regarded as *Endophragma* or *Sporidesmium* to *Sporidesmiella*. Since then, a further 13 taxa have been described or transferred into the genus *Sporidesmiella* (Zhang

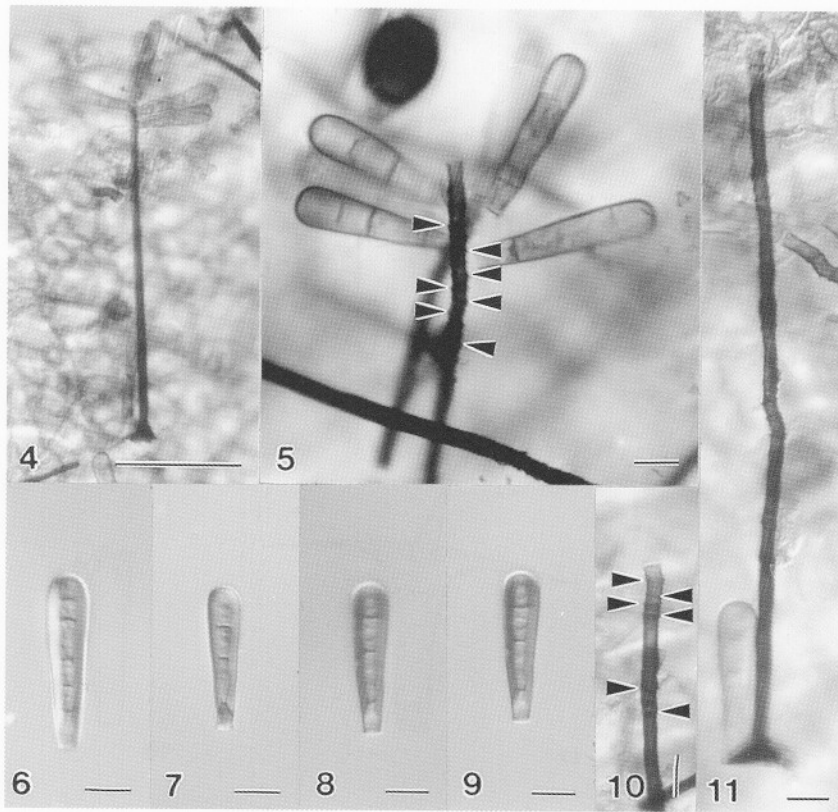


Figs. 1-3. Diagrammatic representation of *Sporidesmiella oraniopsis* (from holotype). **1.** Colony on natural substratum. **2.** Conidia. **3.** Conidiophores with a developing conidium. Bars: 1 = 500 µm; 2-3 = 10 µm.

et al., 1983; Matsushima, 1985; Holubová-Jechová, 1987; Castañeda Ruíz, 1988; Castañeda Ruíz and Kendrick, 1990, 1991; Subramanian, 1992; Kuthubutheen and Nawawi, 1993; McKemy and Wang, 1996; Castañeda *et al.*, 1998).

Sporidesmiella oraniopsis Yanna, W.H. Ho, McKenzie and K.D. Hyde, **sp. nov.** (Figs. 1-11)

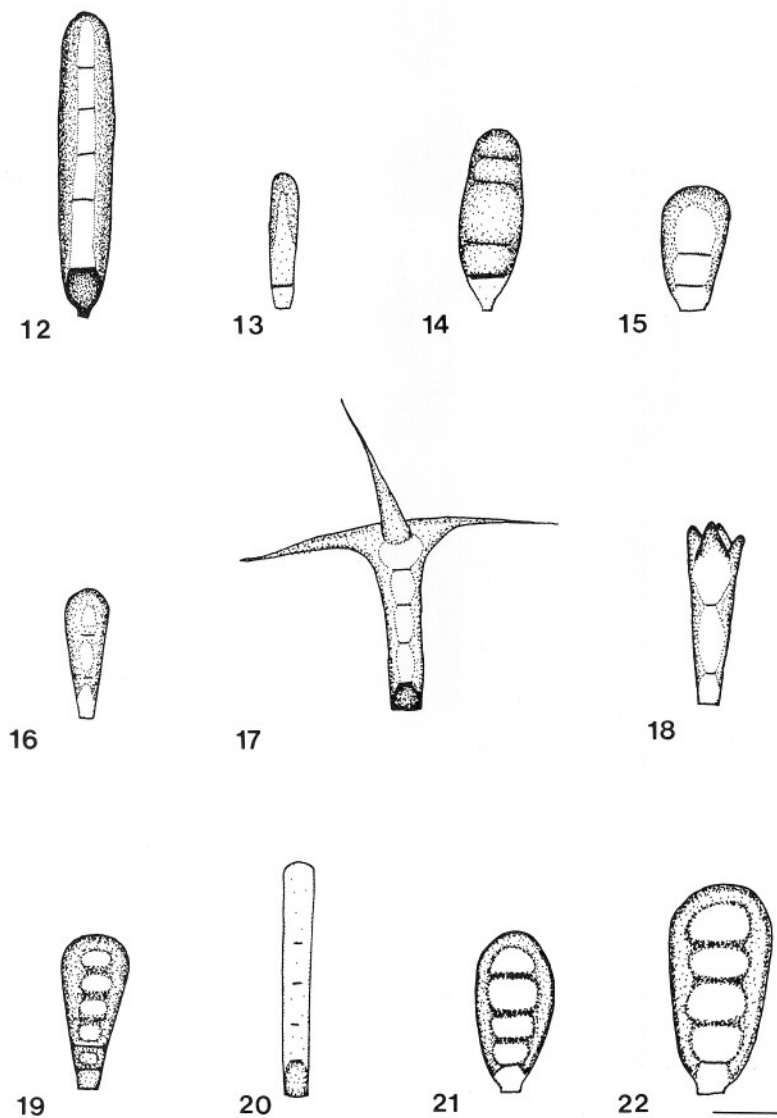
Coloniae effusae, sparsae, brunneae. *Mycelium* partim superficiale, partim in substrato



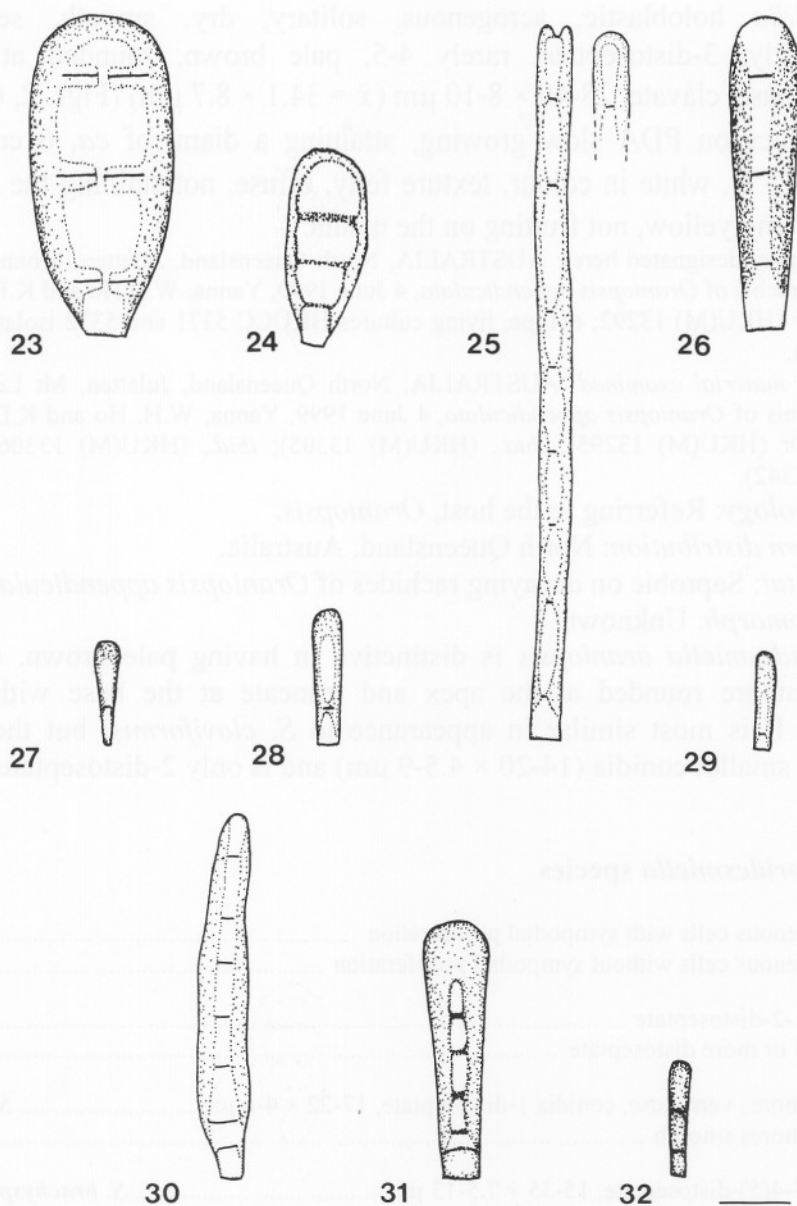
Figs. 4-11. Light micrographs of *Sporidesmiella oraniopsis* (from holotype). **4.** Conidiophore and conidia. **5, 10.** Close-up of the tip of a conidiophore. Note the percurrent proliferations (arrowed). **6-9.** Conidia, rounded at apex and truncate at base, with 3(-5) distosepta. **11.** Conidiophore. Note the swollen base. Bars: 4 = 50 μm ; 5-11 = 10 μm .

immersum, ex hyphis ramosis, septatis, laevibus, pallide brunneis, 2-3 μm latis compositum. *Conidiophora* macronematosa, mononematosa, solitaria, simplicia, recta, laevia, cylindrica, septata, brunnea vel atrobrunneae, 96-200 \times 3-5 μm . *Cellulae conidiogenae* in conidiophoris incorporate, terminales, cylindrica, proliferationis respectu percurrentes, cum 4-18 proliferationes. *Conidia* holoblastica, acrogenosa, solitaria, sicca, laevia, schizolytice secedentia, 3-distoseptata, raro 4-5, pallide brunnea, ad apicem rotundata, ad basim truncata, clavata, 28-40 \times 8-10 μm .

Colonies effuse, sparse, brown (Fig. 1). *Mycelium* partly superficial, partly immersed in the substratum, composed of branched, septate, smooth, pale brown, 2-3 μm wide hyphae. *Conidiophores* macronematous, mononematous, solitary, simple, straight, smooth, cylindrical, septate, brown to dark-brown, 96-200 \times 3-5 μm (\bar{x} = 149.7 \times 3.5 μm , n = 25) (Figs. 3, 4, 11). *Conidiogenous cells* integrated, terminal, cylindrical, proliferating percurrently, with 4-18 percurrent proliferations (\bar{x} = 12, n = 25) (Figs. 5, 10,



Figs. 12-22. Conidia of *Sporidesmiella* species. **12.** *S. angustobasilaris* (redrawn from Holubová, 1987). **13.** *S. aspera* (redrawn from Kuthubutheen and Nawawi, 1993). **14.** *S. brachysporioides* (redrawn from Zhang *et al.*, 1983). **15.** *S. caribensis* (redrawn from Castañeda Ruiz, 1988). **16.** *S. claviformis* (redrawn from Kirk, 1982). **17.** *S. cornuta* (redrawn from Kuthubutheen and Nawawi, 1993). **18.** *S. coronata* (redrawn from Kirk, 1982). **19.** *S. cuneiformis* (redrawn from Kirk, 1982). **20.** *S. garciniae* (redrawn from Matsushima, 1985). **21.** *S. hyalosperma* var. *hyalosperma* (redrawn from Kirk, 1982; Kuthubutheen and Nawawi, 1993; Zhang *et al.*, 1983). **22.** *S. hyalosperma* var. *nova-zelandiae* (redrawn from Kirk, 1982). Bars: 12-22 = 10 μ m.



Figs. 23-32. Composite diagrams of Conidia of *Sporidesmiella* species. **23.** *S. incrassata* (redrawn from Kuthubutheen and Nawawi, 1993). **24.** *S. intermedia* (redrawn from Castañeda Ruíz *et al.*, 1998). **25.** *S. logissima* (redrawn from Kirk, 1982). **26.** *S. oraniopsis* (redrawn from this paper). **27.** *S. pachyanthicola* (redrawn from Castañeda Ruíz and Kendrick, 1991). **28.** *S. parva* var. *parva* (redrawn from Kirk, 1982). **29.** *S. parva* var. *palauensis* (redrawn from Kuthubutheen and Nawawi, 1993). **30.** *S. pseudoseptata* (redrawn from Ellis, 1976). **31.** *S. setosa* (redrawn from McKemy and Wang, 1996). **32.** *S. vignalensis* (redrawn from Castañeda Ruíz and Kendrick, 1990). Bars: 23-32 = 10 μ m.

11). *Conidia* holoblastic, acrogenous, solitary, dry, smooth, seceding schizolytically, 3-distoseptate, rarely 4-5, pale brown, rounded at apex, truncate at base, clavate, 28-40 × 8-10 μm (\bar{x} = 34.1 × 8.7 μm) (Figs. 2, 6-9).

Colonies on PDA slow growing, attaining a diam. of ca. 6 cm in 3 months at 25 C, white in colour, texture felty, effuse, not staining the media; reverse creamy yellow, not fruiting on the media.

Holotype (designated here): AUSTRALIA, North Queensland, Julatten, Mount Lewis, on decaying rachis of *Oraniopsis appendiculata*, 4 June 1999, Yanna, W.H.Ho and K.D. Hyde, YAN 622 Or (HKU(M) 13292; **extype**, living cultures HKUCC 5371 and 5372 isolated from the holotype).

Other material examined: AUSTRALIA, North Queensland, Julatten, Mt Lewis, on decaying rachis of *Oraniopsis appendiculata*, 4 June 1999, Yanna, W.H. Ho and K.D. Hyde, YAN 622 Or (HKU(M) 13295); *ibid.*, (HKU(M) 13305); *ibid.*, (HKU(M) 13306); *ibid.*, (HKU(M) 13342).

Etymology: Referring to the host, *Oraniopsis*.

Known distribution: North Queensland, Australia.

Habitat: Saprobic on decaying rachides of *Oraniopsis appendiculata*.

Teleomorph: Unknown.

Sporidesmiella oraniopsis is distinctive in having pale brown, clavate conidia that are rounded at the apex and truncate at the base with 3(-5) distosepta. It is most similar in appearance to *S. claviformis*, but the latter fungus has smaller conidia (14-20 × 4.5-9 μm) and is only 2-distoseptate (Kirk, 1982).

Key to *Sporidesmiella* species

- | | |
|---|--|
| 1. Conidiogenous cells with sympodial proliferation | 2 |
| 1. Conidiogenous cells without sympodial proliferation | 6 |
| 2. Conidia 1-2-distoseptate | 3 |
| 2. Conidia 3 or more distoseptate | 4 |
| 3. Conidiophores verrucose, conidia 1-distoseptate, 17-22 × 4-6 μm | <i>S. aspera</i> |
| 3. Conidiophores smooth | 5 |
| 4. Conidia 3-4(5)-distoseptate, 15-35 × 7.5-13 μm | <i>S. brachysporioides</i> |
| 4. Conidia 3-4-distoseptate, (20-)22-27 × 10-14.5 μm | <i>S. hyalosperma</i> var. <i>nova-zelandiae</i> |
| 5. Conidia 1-distoseptate, clavate, 10-14.5 × 3-4.5 μm | <i>S. pachyanthicola</i> |
| 5. Conidia 1(-2)-distoseptate, cylindrical, 12-20 × 2.5-3.5 μm | <i>S. parva</i> var. <i>palauensis</i> |
| 6. Conidia with eusepta | 7 |
| 6. Conidia without eusepta | 8 |
| 7. Conidia 2-euseptate, 18-19 × 2.5-3 μm | <i>S. vignalensis</i> |
| 7. Conidia 2-euseptate below and (4-)5-distoseptate above, (17.5-)18.5-21(-28) × (6-)7-8.5(-9.5) μm | <i>S. cuneiformis</i> |

8. Conidia with apical projections	9
8. Conidia without apical projections	10
9. Conidia 2-3-distoseptate, 24-29 μm long, 4-5 μm wide at the base, 8-13 μm wide at the apex, with 2-4 (mostly 3) projections 10-24 μm long	<i>S. cornuta</i>
9. Conidia 2-3-distoseptate, 24-36 μm long, 6-7.5 μm wide at the apex and 2.5-3.5 wide at the base, with 4 projections up to 4 μm long,	<i>S. coronata</i>
10. Conidia more than 5-distoseptate	11
10. Conidia 5 or less than 5-distoseptate	13
11. Hilum distinctly protuberant	12
11. Hilum absent, conidia 2-12-distoseptate, 46-100 \times 4-4.5 μm	<i>S. longissima</i>
12. Conidia 3-10-distoseptate, 24-44 \times 6.5-10 μm , conidial basal cell and septum darkened	<i>S. angustobasilaris</i>
12. Conidia 6-8-distoseptate, 35-56 \times 7-8 μm , conidial basal cell and septum not darkened	<i>S. pseudoseptata</i>
13. Conidia versicoloured	14
13. Conidia concolourous	16
14. Conidia (2-)4-distoseptate, 21-40 \times 4-8 μm	<i>S. garciniae</i>
14. Conidia more than 8 μm wide	15
15. Conidia 2-distoseptate, 16-21 \times 8-13 μm	<i>S. caribensis</i>
15. Conidia 3-4-distoseptate, 14-25 \times 9-12 μm	<i>S. hyalosperma</i> var. <i>hyalosperma</i>
17. Conidia (2-)3-distoseptate, (30-)34-38(-45) \times (13-)16-18(-20) μm	<i>S. incrassata</i>
17. Conidia less than 10 μm wide	18
18. Conidia 1(-2)-distoseptate, (12-)13-18.5(-20) \times 2.5-4 μm	<i>S. parva</i> var. <i>parva</i>
18. Conidia more than 6 μm wide	19
19. Conidia more than 20 μm long	20
19. Conidia less than 20 μm long	21
20. Conidia 2-distoseptate, (14-)16-20 \times (4.5-)6.5-8.5(-9) μm	<i>S. claviformis</i>
20. Conidia 4-5-distoseptate, (30-)32-35(-38) \times 7.5-9 μm	<i>S. setosa</i>
21. Conidia (2-)3(-5)-distoseptate, obovoid, 21-25 \times 8-10 μm	<i>S. intermedia</i>
21. Conidia 3-distoseptate, clavate, 28-40 \times 8-10 μm	<i>S. oraniopsis</i>

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