

14' Colonies of white spores	18
14' Conidia ovoid to ellipsoidal	12
13' Colonies 30-42 × 3 mm; conidia 10-12 × 3.5-5.2 µm	13
13' Colonies 62-112 × 2-9.2 mm; conidia (13-14-15-34) × 2.2-4.2 µm; on C	13
	Fungal Diversity

***Goidanichiella fusiforma* sp. nov. from palm fronds in Brunei and Thailand**

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Hyde, K.D., Yanna, Pinnoi, A. and Jones, E.B.G. (2002). *Goidanichiella fusiforma* sp. nov. from palm fronds in Brunei and Thailand. *Fungal Diversity* 11: 119-122.

Goidanichiella fusiforma sp. nov. was identified from collections of decaying palm fronds in tropical rainforests in Brunei and Thailand. The new taxon is described and illustrated, and compared with similar taxa.

Key words: anamorphic fungi, palm fungi, systematics, taxonomy.

Introduction

We are studying the fungi occurring on tropical palm species and have described several species new to science (Yanna *et al.*, 1998a,b, 1999; Goh *et al.*, 1999). Collections of fungi on fronds of palms in tropical rainforests yielded a new species of *Goidanichiella* and this taxon is described and illustrated in this paper.

Taxonomy

***Goidanichiella fusiforma* K.D. Hyde, Yanna, Pinnoi & E.B.G. Jones, sp. nov.**
(Figs. 1-7)

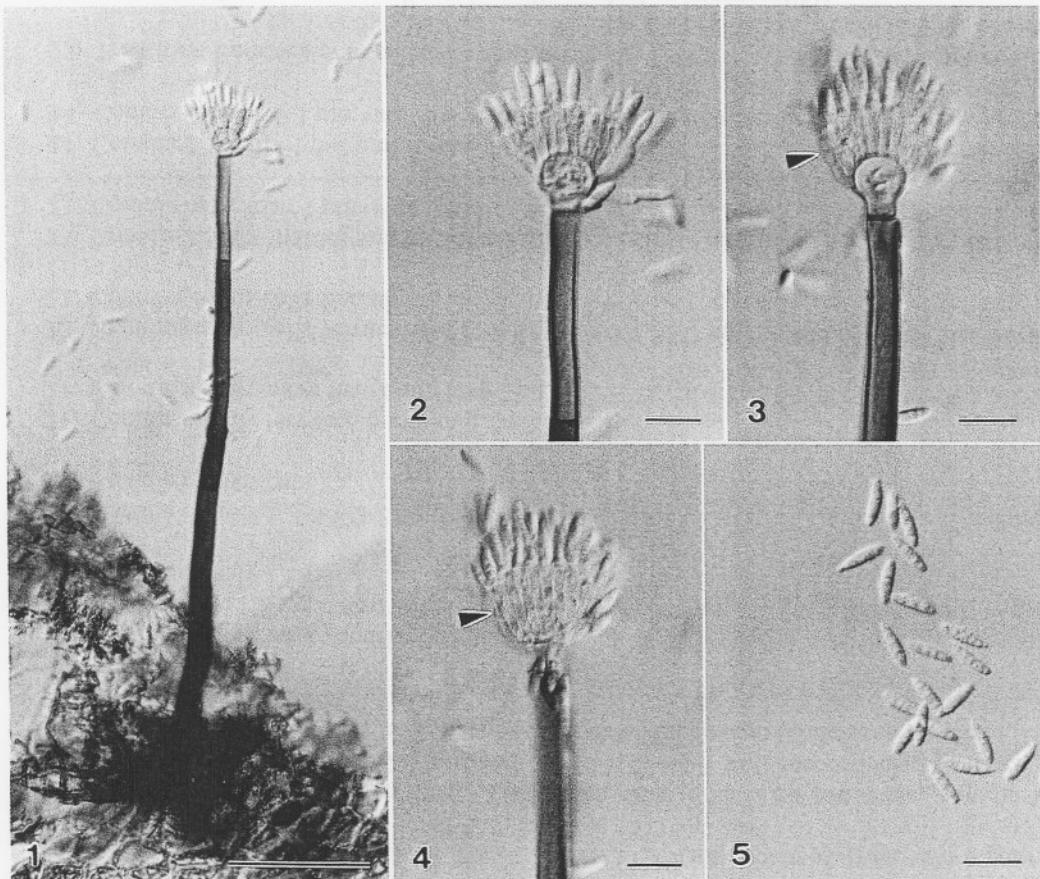
Etymology: referring to the fusiform conidia.

Mycelium immersa et superficialia. *Conidiophora* macronemata, mononemata, solitaria, erecta, recta vel paulo flexuosa, simplicia, laevia, brunnea, 240-300 × 6-9 µm, apicem subhyalina, apicem inflata 8-12 µm. *Cellulae conidiogenae* monoblasticae, determinatae, discretae, cylindricae, hyalinae vel pallid brunnae, 11-23 × 2-3 µm. *Conidia* acrogena, aggregata, hyalina, fusiformes, aseptata, laevia, 9-11 × 2.5-3 µm.

Colonies scattered, sparse, brown. *Mycelium* immersed or superficial, composed of brown, septate, smooth, thin-walled, branched hyphae. *Stoma* absent. *Setae* and *hyphopodia* absent. *Conidiophores* macronematous,

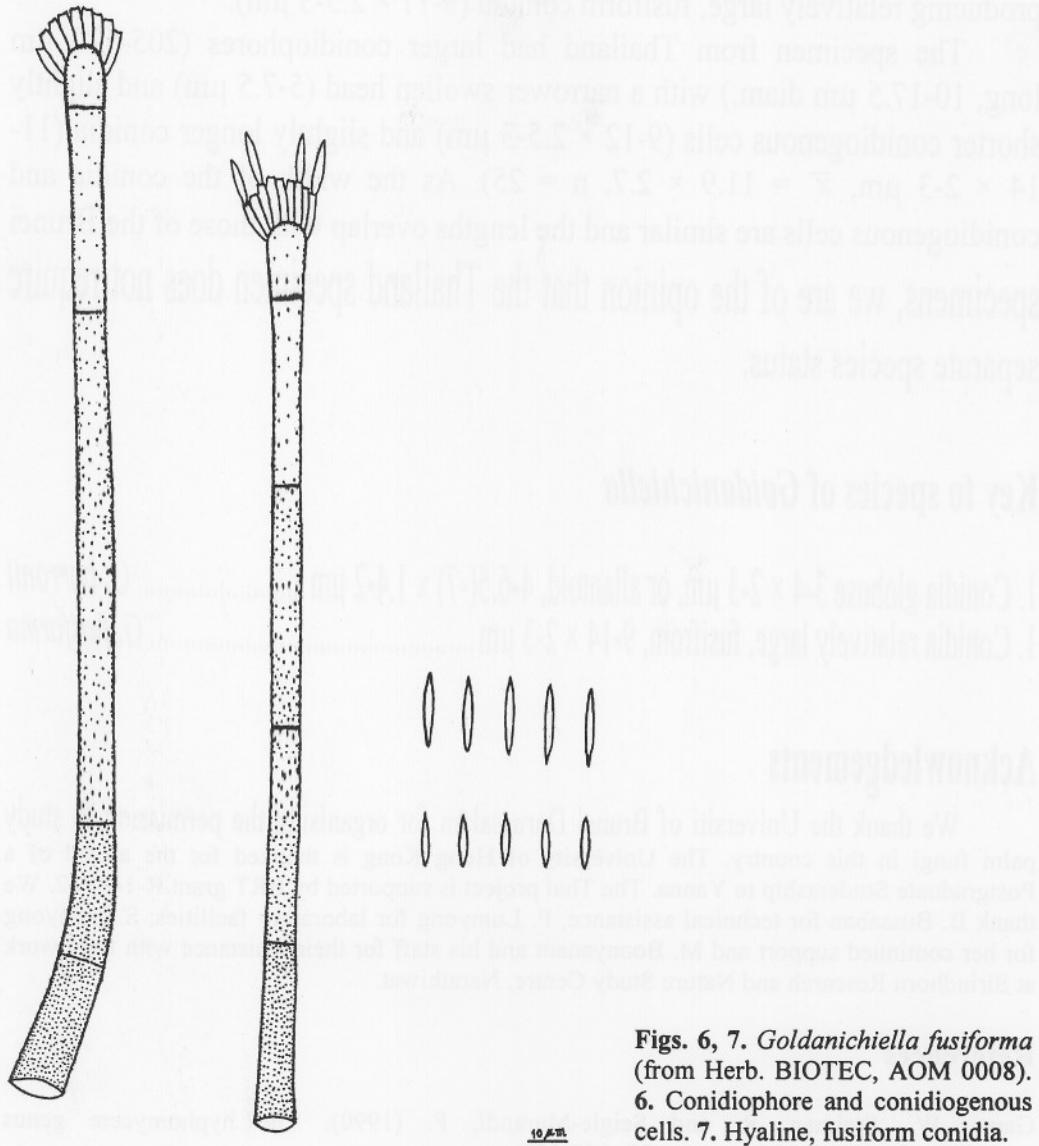
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31. Conidia 4.6-5.2 \times 2.3-2.8 μm (3.2-4.4 \times 2.3-2.8 μm ; $\bar{x} = 3.9 \times 2.5 \mu\text{m}$) hyaline, smooth, fusiform, aggregated in slimy heads, 9-11 \times 2.5-3 μm (9-11 \times 2.5-3 μm ; $\bar{x} = 10.1 \times 2.8 \mu\text{m}$) (Figs. 2-5).
32. Conidia (9-11)26-18.2 \times (3.3-4.3-3.7) μm (hyaline or pale brown to yellowish brown, smooth, fusiform, aggregated in slimy heads, 9-11 \times 2.5-3 μm ; $\bar{x} = 10.1 \times 2.8 \mu\text{m}$) (Fig. 7).
33. Conidia (9-11)26-18.2 \times (3.3-4.3-3.7) μm (hyaline or pale brown to yellowish brown, smooth, fusiform, aggregated in slimy heads, 9-11 \times 2.5-3 μm ; $\bar{x} = 10.1 \times 2.8 \mu\text{m}$) (Fig. 7).
34. Conidia (9-11)26-18.2 \times (3.3-4.3-3.7) μm (hyaline or pale brown to yellowish brown, smooth, fusiform, aggregated in slimy heads, 9-11 \times 2.5-3 μm ; $\bar{x} = 10.1 \times 2.8 \mu\text{m}$) (Fig. 7).
35. Conidia (9-11)26-18.2 \times (3.3-4.3-3.7) μm (hyaline or pale brown to yellowish brown, smooth, fusiform, aggregated in slimy heads, 9-11 \times 2.5-3 μm ; $\bar{x} = 10.1 \times 2.8 \mu\text{m}$) (Fig. 7).
36. Conidia (9-11)26-18.2 \times (3.3-4.3-3.7) μm (hyaline or pale brown to yellowish brown, smooth, fusiform, aggregated in slimy heads, 9-11 \times 2.5-3 μm ; $\bar{x} = 10.1 \times 2.8 \mu\text{m}$) (Fig. 7).
37. Conidia (9-11)26-18.2 \times (3.3-4.3-3.7) μm (hyaline or pale brown to yellowish brown, smooth, fusiform, aggregated in slimy heads, 9-11 \times 2.5-3 μm ; $\bar{x} = 10.1 \times 2.8 \mu\text{m}$) (Fig. 7).
38. Conidia (9-11)26-18.2 \times (3.3-4.3-3.7) μm (hyaline or pale brown to yellowish brown, smooth, fusiform, aggregated in slimy heads, 9-11 \times 2.5-3 μm ; $\bar{x} = 10.1 \times 2.8 \mu\text{m}$) (Fig. 7).
39. Conidia (9-11)26-18.2 \times (3.3-4.3-3.7) μm (hyaline or pale brown to yellowish brown, smooth, fusiform, aggregated in slimy heads, 9-11 \times 2.5-3 μm ; $\bar{x} = 10.1 \times 2.8 \mu\text{m}$) (Fig. 7).



Figs. 1-5. *Goldanichiella fusiforma* (from holotype). 1. A conidiophore bearing conidia on natural substratum. 2-4. Close-up of apical region of conidiophores. Note penicillate branches which bear conidiogenous cells (arrowheads) with developing conidia. 5. Hyaline, fusiform conidia. Bars: 1 = 50 μm ; 2-5 = 10 μm .

mononematous, solitary, erect, branched at the apex forming stipe and head; stipe straight or flexuous, swollen at the apex, smooth, cylindrical, brown to dark brown, paler towards the apex, 240-300 \times 6-9 μm ($\bar{x} = 255 \times 8 \mu\text{m}$, $n = 25$); apex forming a swollen head, 8-12 μm ($\bar{x} = 10 \mu\text{m}$, $n = 25$), bears primary branches which themselves bear secondary branches arranged penicillately (Figs. 1, 6). *Conidiogenous cells* monoblastic, determinate, terminal, discrete, cylindrical, hyaline to pale brown, borne at the ends of secondary branches, 11-23 \times 2-3 μm ($\bar{x} = 12.5 \times 2.5 \mu\text{m}$, $n = 25$) (Figs. 2-4, 6). *Conidia* enteroblastic, acrogenous, solitary, aggregated in slimy heads, hyaline, fusiform, aseptate, smooth, 9-11 \times 2.5-3 μm ($\bar{x} = 9.5 \times 2.8 \mu\text{m}$, $n = 25$) (Figs. 2-5, 7). *Conidial secession* schizolytic.



Figs. 6, 7. *Goldanichiella fusiforma* (from Herb. BIOTEC, AOM 0008).
6. Conidiophore and conidiogenous cells. 7. Hyaline, fusiform conidia.

Colonies on PDA very slow growing, attaining a diameter of 4-5 cm in 5 months at 25°C, pale brown, texture silky, flat, colouring agar pale brown; reverse colour unchanged.

Material examined: BRUNEI, Temburong, Batu Apoi Forest Reserve, The University of Brunei Darussalam Kuala Belalong Field Studies Centre (KBFSC), Baki Tributary, on decaying rachis of *Oncosperma horridum*, Feb. 1999, YAN 60 Ar [HKU(M) 13225, holotype designated here] - living culture in HKUCC 4666, 4667; on decaying rachis of *Salacca affinis*, Feb. 1999, YAN 60 Ar [HKU(M) 13256]; THAILAND, Narathiwat, Sirindhorn Peat Swamp Forest, on submerged dead petiole of *Eleiodoxa conferta*, 25 Sep. 2001, A. Pinnoi (Herb. BIOTEC, AOM 0008).

Habit: Saprobic on fronds of *Eleiodoxa conferta* (petiole), *Oncosperma horridum* (rachis) and *Salacca affinis* (rachis).

Known distribution: South East Asia (Brunei and Thailand).

Notes: *Goldanichiella* was reviewed by Gams *et al.* (1990) and a single species *G. barronii* W. Gams, Steiman & Seigle-Murandi was accepted. *Goldanichiella sphaerospora* Matsush. had been invalidly published and the

type material lost. *Goidanichiella fusiforma* is distinct from *G. barronii* in producing relatively large, fusiform conidia ($9-11 \times 2.5-3 \mu\text{m}$). The specimen from Thailand had larger conidiophores (205-520 μm long, 10-17.5 μm diam.) with a narrower swollen head (5-7.5 μm) and slightly shorter conidiogenous cells ($9-12 \times 2.5-3 \mu\text{m}$) and slightly longer conidia ($11-14 \times 2-3 \mu\text{m}$, $\bar{x} = 11.9 \times 2.7$, $n = 25$). As the width of the conidia and conidiogenous cells are similar and the lengths overlap with those of the Brunei specimens, we are of the opinion that the Thailand specimen does not require separate species status.

Key to species of *Goidanichiella*

1. Conidia globose $3-4 \times 2-3 \mu\text{m}$, or allantoid, $4-6.5(-7) \times 1.4-2 \mu\text{m}$ *G. barronii*
1. Conidia relatively large, fusiform, $9-14 \times 2-3 \mu\text{m}$ *G. fusiforma*

Acknowledgements

We thank the Universiti of Brunei Darussalam for organising the permission to study palm fungi in this country. The University of Hong Kong is thanked for the award of a Postgraduate Studentship to Yanna. The Thai project is supported by BRT grant R-144012. We thank B. Bussaban for technical assistance, P. Lumyong for laboratory facilities, S. Lumyong for her continued support and M. Boonyanant and his staff for their assistance with field work at Sirindhorn Research and Nature Study Centre, Narathiwat.

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(Received 18 February 2002; accepted 6 July 2002)