

***Staurophoma calami*, a new coelomycete from Hong Kong**

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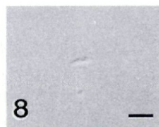
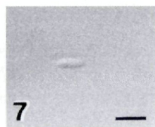
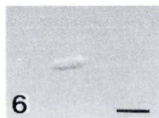
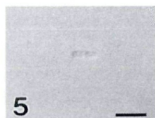
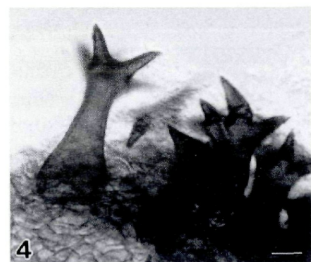
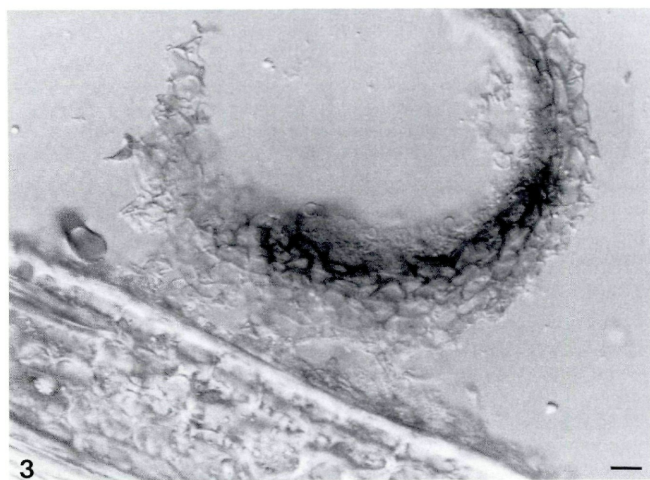
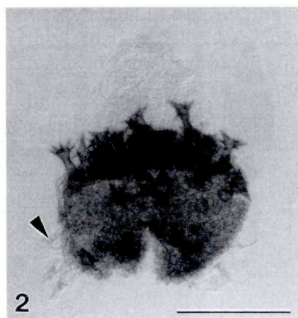
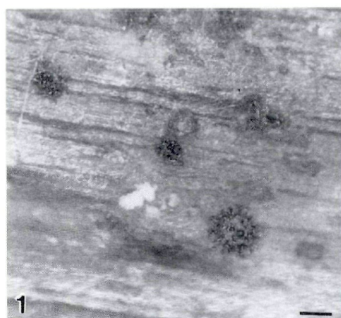
A new species of *Staurophoma*, *S. calami*, occurring as a saprobe on a senescent petiole of *Calamus walkeri* in Hong Kong is described and illustrated. It is compared to *S. panici* from which it differs in having larger conidiomata, stellate setae with 4–5(–8) protuberances and ellipsoidal, 0–1-septate conidia.

Keywords: Deuteromycotina, mitosporic fungi, palm fungi, coelomycetes, systematics.

The monotypic genus *Staurophoma* Höhnelt (1907), represented by *S. panici* Höhn., was redescribed by Sutton (1980) and illustrated by Morgan-Jones & al. (1972). No further species have since been added to this genus.

Staurophoma was placed in the suborder Phialopycnidiineae by Sutton (1980). This suborder is characterized by 'phialidic' (*sensu* Sutton, 1980) conidiogenous cells and pycnidial conidiomata. Most genera in the Phialopycnidiineae have simple, thin-walled, immersed, papillate, globose pycnidial conidiomata, ampulliform phialides or separate conidiophores, and aseptate, ellipsoidal, cylindrical or fusiform, hyaline, smooth, thin-walled conidia (Sutton, 1980). Only ten genera in this suborder have conidiomatal setae, including *Angiopomopsis* Höhn., *Chaetasbolisia* Speg., *Chaetodiplodia* P. Karst., *Chaetosphaeronema* Moesz, *Chaetosticta* Petr. & Syd., *Cylindroxypodium* Bat. & Cif., *Dasysticta* Speg., *Pyrenochaeta* De Not., *Staurophoma* Höhn., and *Wojnowicia* Sacc. (Sutton, 1980). With exception of *Staurophoma*, none of these genera bears stellately branched setae.

In a study of fungi occurring on *Calamus walkeri* Hance in Hong Kong, a further species of *Staurophoma* was identified occurring on a senescent petiole. *Staurophoma calami* is described and illustrated based on this specimen.



Systematics

Staurophoma calami Yanna, K. D. Hyde & Goh sp. nov. – Figs. 1–11.

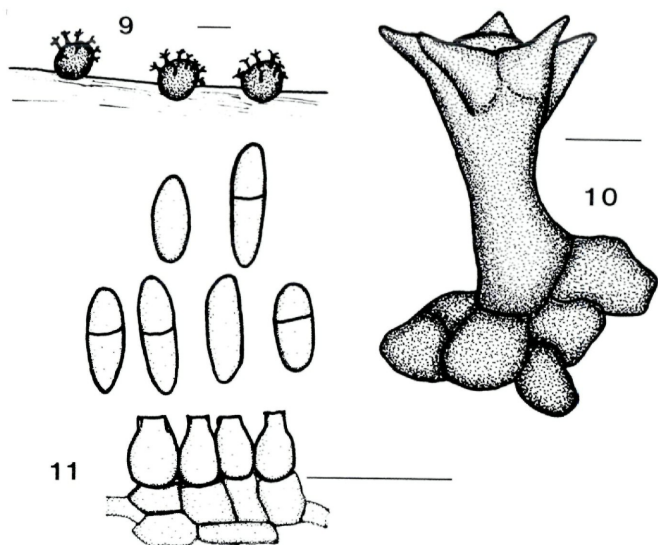
Conidiomata pycnidialia, 60–210 μm diam., 80–200 μm alta, in subiculo posita, superficialia, brunnea, solitaria vel gregaria. Parietes brunnei, ex cellulis angularis crassitunicatis compositi. Subiculum ex hyphis externalibus, ramosis, hyalinis vel pallide brunneis, septatis, 2–3 μm latis, compositum. Setae stellatae, 4–5(–8) tuberculis praeditae, laeves, brunneae, non septatae. Cellulae conidiogenae doliiformes, hyalinae, laeves. Conidia 6–12 \times 2–3 μm , ovoidea vel ellipsoidea, laevia, hyalina, 0–1-septata, ad septa non constricta.

Etymology. – Referring to the host *Calamus*, on which this species was found.

Holotypus. – HONG KONG: New Territories, Tai Po Kau Nature Reserve, on dead petiole of *Calamus walkeri* (Arecaceae), 17 July 1997, Yanna, B4TPK40 (HKU(M) 7156).

Conidiomata pycnidial, 60–210 μm diam, 80–200 μm high, superficial, brown, solitary or clustered, developing on a subiculum, (Figs. 1, 2, 9). – Wall comprising 4–5 layers of brown, thick-walled cells, angular at the outside, from surface view, 8–18 \times 7–14 μm (mean = 12.5 \times 10.1 μm , n = 25), in section, 14–22 \times 4–7 μm (mean = 18.3 \times 5.6 μm , n = 25), compressed and flattened at the inside, in section, 10–19 \times 5–10 μm (mean = 14.1 \times 7.8 μm , n = 25) (Fig. 3). – Subiculum comprising branched, hyaline to pale brown, septate, 2–3 μm wide (mean = 2.48 μm , n = 25), superficial hyphae. – Ostiole absent; dehiscence by rupture at the top of conidiomata, producing conidial mass embedded in hyaline mucilaginous matrix. – Setae present, more concentrated on the upper surface, thick-walled, straight, branched, smooth, brown, aseptate, stellate at the apex, with 4–5(–8) pointed protuberances, 24–58 μm high (mean = 40.8 μm , n = 25), wider towards the base, 31–43 μm wide at the apex (mean = 35.8 μm , n = 25), 8–12 μm wide at the subapical region (mean = 8.7 μm , n = 25), 11–20 μm wide at the base (mean = 14.6 μm , n = 25) (Figs. 4, 10). – Conidiophores absent. – Conidiogenous cells 4.5–5 \times 2.5–3.5 μm , phialidic, doliiform, hyaline, smooth, directly arising from the inner wall of the conidiomata (Figs. 3, 11). – Conidia 6–12 \times 2–3 μm (mean = 8.8 \times 2.4 μm , n = 25), ovoid to

Figs 1–8. – *Staurophoma calami* (from holotype). – 1. Conidiomata on host surface. – 2. Squash-mount of a conidioma showing conidial mass. Note subiculum at the base of the conidioma (arrowed). – 3. Section through a conidioma showing wall and conidiogenous cells. – 4. Stellate setae with wide bases and pointed protuberances. – 5–8. Conidia. – Bars: 1, 2 = 100 μm ; 3–8 = 10 μm .



Figs 9–11. – *Staurophoma calami*, diagrammatic representation from holotype. – 9. Conidiomata on host surface. – 10. Stellate seta on the surface of conidioma. – 11. Conidiogenous cells and conidia. – Bars: 9 = 100 μm ; 10–11 = 10 μm .

ellipsoidal, smooth, thin-walled, hyaline, 0–1-septate and not constricted at the septum (Figs. 5, 11).

This new species is similar to *S. panici* in having superficial, brown, globose, pycnidial conidiomata formed on a pale brown subiculum and having stellately branched setae. It is distinguished from *S. panici* in having larger conidiomata, setae and conidia. The setae of both species also differ. In *S. calami*, the setae have more protuberances, wider bases and are constricted below the apex. *Staurophoma panici* was recorded on a grass (*Panicum sulcatum* Aubl., Poaceae), whereas *S. calami* is found on a palm (*Calamus walkeri*, Arecaceae). A synopsis of the characters of these species is shown in Tab. 1.

Tab. 1. – Synopsis of characters of *Staurophoma panici* and *S. calami*.

	<i>S. panici</i> (Data compiled from Sutton, 1980; Morgan- Jones & al., 1972)	<i>S. calami</i>
Host	<i>Panicum sulcatum</i>	<i>Calamus walkeri</i>
Diameter of conidiomata	Up to 75 µm	60–210 µm
Setae		
Number of protuberances	2–3	4–5(–8)
Length	17 µm	24–58 µm
Shape of the stalk	Cylindrical	Subconical
Width of the stalk	18 µm	8–12 µm above, 11–20 µm below
Conidia		
Colour	Hyaline	Hyaline
Septation	0	0–1
Shape	Ovoid to ellipsoidal	Ovoid to ellipsoidal
Size	4 × 2 µm	6–12 × 2–3 µm

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