

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

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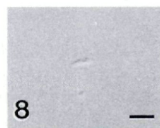
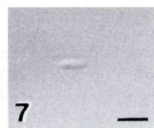
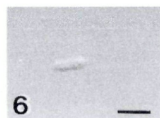
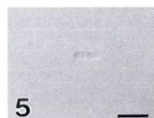
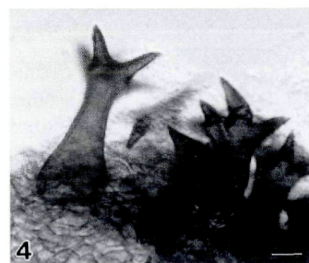
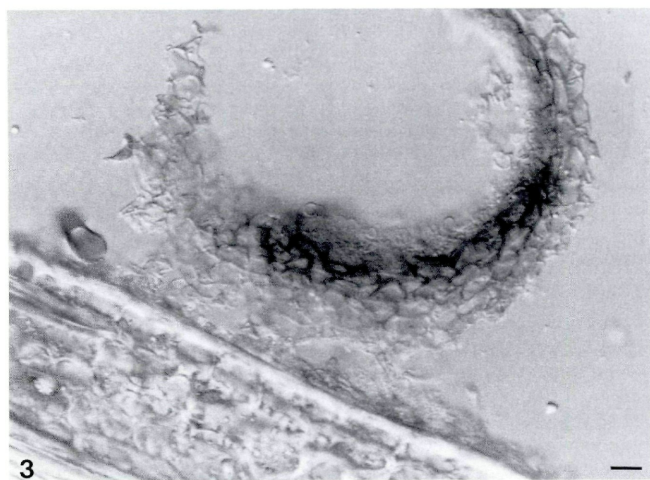
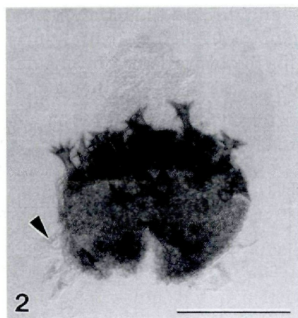
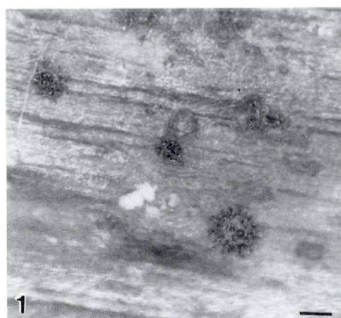
A new species of *Staurophoma*, *S. calami*, occurring as a saprobe on a senescent petiole of *Calamus walkeri* in Hong Kong is described and illustrated. It is compared to *S. panici* from which it differs in having larger conidiomata, stellate setae with 4–5(–8) protuberances and ellipsoidal, 0–1-septate 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  $\mu\text{m}$  diam., 80–200  $\mu\text{m}$  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  $\mu\text{m}$  latis, compositum. Setae stellatae, 4–5(–8) tuberculis praeditae, laeves, brunneae, non septatae. Cellulae conidiogenae doliiformes, hyalinae, laeves. Conidia 6–12  $\times$  2–3  $\mu\text{m}$ , ovoidea vel ellipsoidea, laevia, hyalina, 0–1-septata, ad septa non constricta.

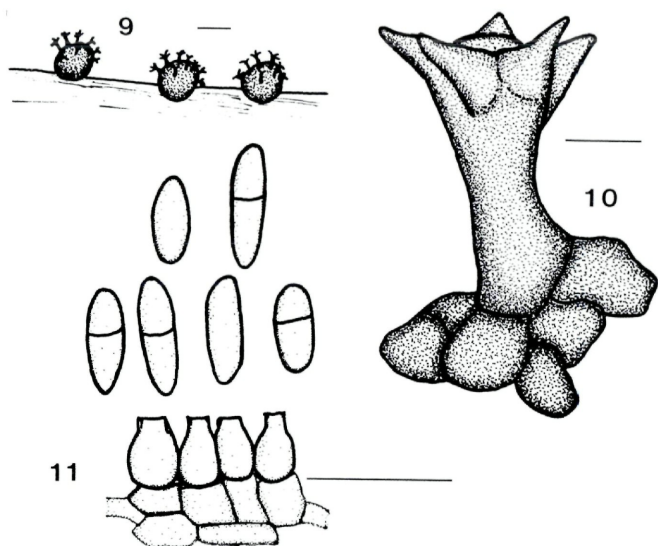
**Etymology.** – Referring to the host *Calamus*, on which this species was found.

**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  $\mu\text{m}$  diam, 80–200  $\mu\text{m}$  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  $\mu\text{m}$  (mean = 12.5  $\times$  10.1  $\mu\text{m}$ , n = 25), in section, 14–22  $\times$  4–7  $\mu\text{m}$  (mean = 18.3  $\times$  5.6  $\mu\text{m}$ , n = 25), compressed and flattened at the inside, in section, 10–19  $\times$  5–10  $\mu\text{m}$  (mean = 14.1  $\times$  7.8  $\mu\text{m}$ , n = 25) (Fig. 3). – Subiculum comprising branched, hyaline to pale brown, septate, 2–3  $\mu\text{m}$  wide (mean = 2.48  $\mu\text{m}$ , 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  $\mu\text{m}$  high (mean = 40.8  $\mu\text{m}$ , n = 25), wider towards the base, 31–43  $\mu\text{m}$  wide at the apex (mean = 35.8  $\mu\text{m}$ , n = 25), 8–12  $\mu\text{m}$  wide at the subapical region (mean = 8.7  $\mu\text{m}$ , n = 25), 11–20  $\mu\text{m}$  wide at the base (mean = 14.6  $\mu\text{m}$ , n = 25) (Figs. 4, 10). – Conidiophores absent. – Conidiogenous cells 4.5–5  $\times$  2.5–3.5  $\mu\text{m}$ , phialidic, doliiform, hyaline, smooth, directly arising from the inner wall of the conidiomata (Figs. 3, 11). – Conidia 6–12  $\times$  2–3  $\mu\text{m}$  (mean = 8.8  $\times$  2.4  $\mu\text{m}$ , n = 25), ovoid to

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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  $\mu\text{m}$ ; 3–8 = 10  $\mu\text{m}$ .



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  $\mu\text{m}$ ; 10–11 = 10  $\mu\text{m}$ .

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*.

	<b><i>S. panici</i></b> (Data compiled from Sutton, 1980; Morgan- Jones & al., 1972)	<b><i>S. calami</i></b>
<b>Host</b>	<i>Panicum sulcatum</i>	<i>Calamus walkeri</i>
<b>Diameter of conidiomata</b>	Up to 75 µm	60–210 µm
<b>Setae</b>		
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
<b>Conidia</b>		
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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