

## *Cryptophiale sphaerospora* sp. nov. occurring on *Janetia synnematos*

Teresita E. Umali, Dequn Zhou, Teik-K. Goh and Kevin D. Hyde

Fungal Diversity Research Project, Department of Ecology and Biodiversity, The University of Hong Kong, Pokfulam Road, Hong Kong

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*Cryptophiale sphaerospora* sp. nov. is described and illustrated based on a single collection attached to a synnematous fungus, *Janetia synnematos*, from a dead bamboo culm. It differs from other species of *Cryptophiale* in having spherical to subspherical conidia and a cerebroid layer of phialides. The overall morphology of this species is smaller than that of previously described species.

Key Words—bamboo fungus; hyperparasitism; hyphomycetes; mycoparasites; taxonomy.

*Cryptophiale* Piroz. was established by Pirozynski (1968) and a key to 16 accepted species is provided by Goh and Hyde (1996). The genus is characterized by dematiaceous, setiform conidiophores, bearing a subapical to apical fertile region of phialidic conidiogenous cells, producing hyaline, unicellular to multiseptate conidia. The conidia are of various shapes, e.g., clavate (Goh and Hyde, 1996), uncinata (Matsushima, 1975), cylindrical-obclavate (McKenzie and Kuthubutheen, 1993), filiform (McKenzie, 1993b), falcate (McKenzie, 1993a), fusiform (Sutton et al., 1989). *Cryptophiale* species have been recorded on various substrata. Most species were described from leaf litter, but *C. enormis* B. Sutton, Nawawi & Kuthub. (Sutton et al., 1989) was found on roots, whereas *C. iriomoteana* Matsush. (Matsushima, 1975) and *C. multiseptata* Goh & K. D. Hyde (Goh and Hyde, 1996) were described from bark and submerged wood, respectively.

In our study of fungi occurring on dead bamboo, an undescribed species of *Cryptophiale* associated with the synnemata of *Janetia synnematos* Sivan. & Hsieh (Sivanesan and Hsieh, 1990) was identified. This *Cryptophiale* species is distinguished from other species by its small dimensions, the presence of spherical to subspherical, unicellular conidia and a cerebroid layer of cells clasping the conidiophore. It is therefore described as a new species in this paper.

### Taxonomy

*Cryptophiale sphaerospora* Umali & D. Q. Zhou, sp. nov. Figs. 1–9

Coloniae in synnematibus *Janetiae synnematosae* surgentes. Conidiophora solitaria, disseminata, erecta, recta vel leniter curvata vel flexuosa, non ramosa, atrobrunnea, ad basim pallide brunnea vel hyalina, laevia, crassitunicata, ad basim distante septata, apicem versus

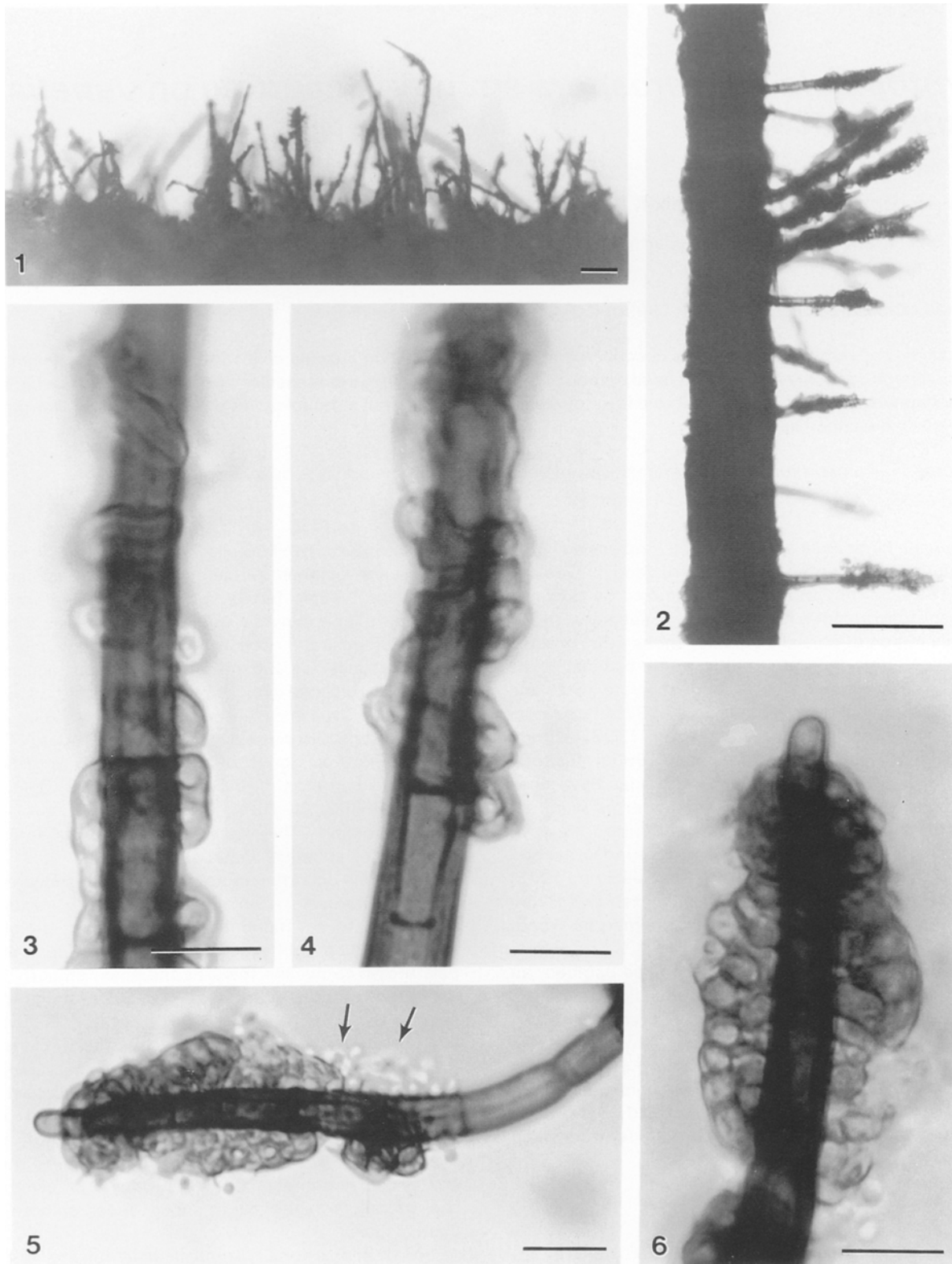
dense septata, 69–100  $\mu\text{m}$  longa, ad basim 7.5–10  $\mu\text{m}$  lata, super regionem fertilem 3–4  $\mu\text{m}$  et ad apicem 2.5–3  $\mu\text{m}$  lata. Regio fertilis subapicalis, 20–44  $\mu\text{m}$  longa, 10–15  $\mu\text{m}$  lata, convoluta, ex cellulis brunneis 2.5–4  $\mu\text{m}$  latis composita. Cellulae conidiogenae phialidicae, monoblasticae, ca 2.5  $\mu\text{m}$  latae. Conidia hyalina, unicellularia, globosa vel subglobosa, laevia, 1.5–2  $\mu\text{m}$  diam.

Holotype: Hong Kong, New Territories, Tai Po Kau, Tai Po Kau Country Park, on dead culm of *Schizostachyum dumetorum*, 8 September, 1998, D. Q. Zhou (HKU(M) 9103).

Etymology: The specific epithet, *sphaerospora*, refers to the spherical shape of the conidia.

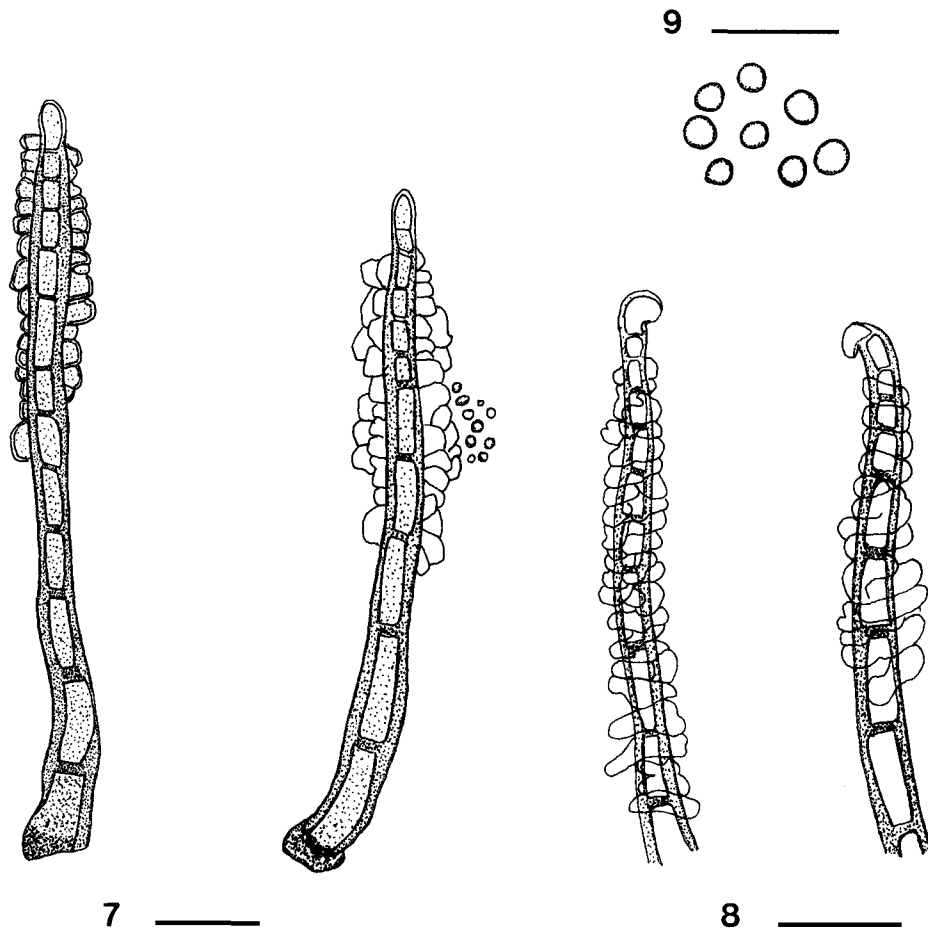
Colonies occurring in association with synnemata of *J. synnematos*. Conidiophores solitary, scattered, macronematous, mononematous, erect, straight to slightly curved or flexuous, unbranched, dark brown, pale brown to hyaline towards the apex, smooth, thick-walled, distantly septate at the base, becoming closely septate towards the apex, 69–100  $\mu\text{m}$  long, 7.5–10  $\mu\text{m}$  wide at the base, 3–4  $\mu\text{m}$  wide above the fertile region, 2.5–3  $\mu\text{m}$  at the tip. Fertile region subapical, 20–44  $\mu\text{m}$  long, 10–15  $\mu\text{m}$  wide, cerebroid, comprising brown cells, 2.5–4  $\mu\text{m}$  wide, coiling and clasping the shaft of the conidiophore. Conidiogenous cells phialidic, monoblastic, ca 2.5  $\mu\text{m}$  wide, arising perpendicular to the axis of the conidiophores. Conidia produced in slime, hyaline, unicellular, spherical to subspherical, smooth, 1.5–2  $\mu\text{m}$  in diam.

Most species of *Cryptophiale* have falcate, fusiform, clavate to obclavate conidia, while those of *C. sphaerospora* are spherical to subspherical. *Cryptophiale sphaerospora* also has shorter conidiophores and narrower fertile region when compared to the morphology of other accepted species (conidiophore = 69–100  $\mu\text{m}$  vs 175–450  $\mu\text{m}$ ; fertile region = 20–24  $\times$  10–15  $\mu\text{m}$  vs



Figs. 1–6. *Cryptophiale sphaerospora*.

Light micrographs from holotype. 1. A portion of the colony of *Janetia synnematosum* with *C. sphaerospora* on dead culm of bamboo. 2. Conidiophore of *C. sphaerospora* on synnema of *J. synnematosum*. 3, 4. Rows of brown cells clasp and coil on the shaft of conidiophores. 5, 6. Fertile region showing layers of brown cells. Note the mass of conidia (arrowed). Scale bars: 1, 2 = 100  $\mu\text{m}$ ; 3–6 = 10  $\mu\text{m}$ .



Figs. 7–9. *Cryptophiale sphaerospora*, diagrammatic representation from holotype.

7. Conidiophores and conidia. 8. Convoluted cells around the shaft of conidiophores. 9. Conidia at higher magnification. Scale bars: 7, 8 = 10  $\mu\text{m}$ ; 9 = 5  $\mu\text{m}$ .

13–110  $\times$  9.5–30  $\mu\text{m}$ ) (Goh and Hyde, 1996). The fertile region of *C. sphaerospora* comprises cerebroid brown cells, a character that is distinct. This is the first report of a species of *Cryptophiale* associated with a fungus.

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