

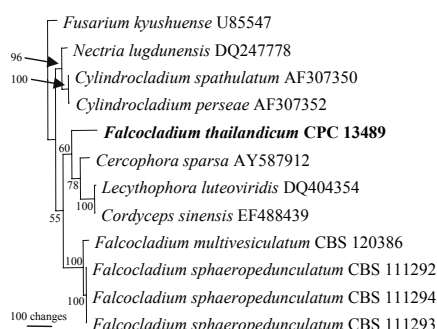
Falcocladium thailandicum* Crous & Himaman, sp. nov.*Mycobank:** MB504460.**Etymology:** Named after its country of origin, Thailand.**Latin diagnosis:** *Falcocladii sphaeropedunculati* similis, sed conidiis majoribus, (19–)20–23(–24) × 1.5(–2) µm.

Description: *Conidiophores* penicillate, synnematal or sporodochial (especially in older cultures), arising from superficial mycelium or microsclerotia; stipe extensions hyaline, numerous per conidiophore, aseptate, thick-walled, 30–40(–70) × 1.5–2 µm, arising from various positions in the conidiophore, terminating in sphaeropedunculate vesicles, 6–7 µm diam. *Conidiophore branches*: primary branches hyaline, smooth, subcylindrical, 0–1-septate, 5–10 × 2–3 µm; secondary and tertiary branches hyaline, aseptate, 7–10 × 2–3 µm. *Conidiogenous cells* phialidic, in whorls of 2–6, ampulliform with elongated necks and periclinal thickening and minute collarettes, 8–12 × 2–3 µm. *Conidia* hyaline, smooth, aseptate, falcate with a short, acute, thick-walled apical beak, and a basal appendage, (19–)20–23(–24) × 1.5(–2) µm; basal appendages on inner, shorter curve, 2–3 µm long, terminating in a rounded end; apical beak continuous with conidium body, 1.5–2 µm long.

Cultural characteristics: Colonies reaching 30 mm diam after 1 month on 2 % malt extract agar (MEA)¹ at 25 °C in the dark, sporulating profusely on MEA, but poorly on potato-dextrose agar; forming microsclerotia consisting of clusters of thick-walled, red-brown chlamydospores, 10–13 µm diam. Colonies spreading with sparse aerial mycelium, sectoring, with feathery margins; surface chestnut in centre, umber in outer region; reverse chestnut.

Typus: Thailand, Chachoengsao Province, Thatakiab District, Klongtakao Subdistrict, on leaves of four-year-old *Eucalyptus camaldulensis* trees, 12 October 2006, collected by W. Himaman, CBS H-19920, **holotypus**, culture ex-type CPC 13489 = CBS 121717, CPC 13490, GenBank EU040216.

Notes: The genus *Falcocladium* S.F. Silveira, Alfenas, Crous & M.J. Wingf. includes three species, all of which occur on leaves, namely *F. multivesiculatum* S.F. Silveira, Alfenas, Crous & M.J. Wingf. (CBS 120386, EU040217), *F. sphaeropedunculatum* Crous & Alfenas (CBS 111292–111294, EU040218–EU040220), and *F. turbinatum* Somrithipol, Sudhom, Tippawan & E.B.G. Jones^{2,3}. Morphologically *F. thailandicum* is most similar to *F. sphaeropedunculatum*, with both species having sphaeropedunculate vesicles, but they differ in conidial dimensions. All species can readily be distinguished based on their vesicle shape and conidial dimensions. Phylogenetically they also appear distinct from each other, and are allied with the *Hypocreales*, though the genus itself appears to be polyphyletic. BLASTn results of the ITS sequence of *F. thailandicum* strain CPC 13489 show some relation to sequences of *Neonectria ramulariae* Wollenw. (AJ279446, 78 % identical), *Nectria lugdunensis* J. Webster (DQ247776, 79 % identical) and *Cordyceps crassispota* M. Zang, D.R. Yang & C.D. Li (AB067714, 79 % identical). A BLASTn search using the 28S rDNA sequence had 86 % identity with sequences of *Cladobotryum odorum* G.R.W. Arnold (AJ583474, *Hypocreales: Hypocreaceae*), *Niesslia exilis* (Alb. & Schwein.) G. Winter (AY489720, *Hypocreales: Niessliaceae*) and *Nectria radicola* Gerlach & L. Nilsson (U17415, *Hypocreales: Nectriaceae*).



Single most parsimonious tree (TL = 667; CI = 0.799; RI = 0.817; RC = 0.653) obtained from a heuristic search with 100 random taxon additions of an ITS sequence alignment using PAUP v. 4.0b10. The scale bar shows 100 changes, and bootstrap support values from 1000 replicates are shown at the nodes. The species described here is printed in bold face. The tree was rooted to *Fusarium kyushuense* O'Donnell & T. Aoki (GenBank U85547). The alignment and tree is available in MycoBank (Accession MB504460).

Colour illustrations: *Eucalyptus camaldulensis* plantation in Thailand (W. Himaman); sporodochium with conidiophores; conidiogenous cells giving rise to falcate conidia; sphaeropedunculate vesicles (P.W. Crous). Scale bars = 10 µm.

References: ¹Gams W, Verkley GJM, Crous PW (2007). *CBS course of mycology*. 5th ed. Centraalbureau voor Schimmelcultures, Utrecht, Netherlands. ²Crous PW, Kendrick WB, Alfenas AC (1997). New species of hyphomycetes associated with *Eucalyptus*. *South African Journal of Botany* **63**: 286–290. ³Somrithipol S, Sudhom N, Tippawan S, Gareth Jones EB (2007). A new species of *Falcocladium* (hyphomycetes) with turbinate vesicles from Thailand. *Sydowia* **59**: 148–153.

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