**Diplocladiella aquatica**, a new hyphomycete from Brunei

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*Diplocladiella aquatica* sp. nov. is described and illustrated from submerged bark collected in a stream from Brunei. It differs from the other 6 species in the genus in having 10-celled conidia which are larger and have short appendages. The new species is described and illustrated, and compared with similar species.

**Introduction**

*Diplocladiella* is an aquatic hyphomycete genus with species occurring on submerged wood, or conidia are found aggregated in foam in freshwater streams (Nawawi, 1985a; Nawawi, 1987; Santos-Flores and Betancourt-López, 1997). The genus has a wide distribution and has been reported in Japan (Matsushima, 1975), Malaysia (Nawawi, 1987), Argentina (Cazau, Arambarri and Cabello, 1993), Puerto Rico, Cuba, and Mexico (Santos-Flores and Betancourt-López, 1997); Brunei is a new record. There are 6 accepted species: *Diplocladiella appendiculata* Nawawi (Nawawi, 1987), *D. heterospora* R. F. Castañeda (Castañeda Ruiz, 1988), *D. longibrachiata* Nawawi and Kuthub. (Santos-Flores and Betancourt-López, 1997), *D. scalaroides* Arnaud (Ellis, 1976), *D. taurina* Cazau, Arambarri and Cabello (Cazau et al., 1993), and *D. tricladioides* Arnaud ex Mats. (Nawawi, 1985b). The morphology of these species has been compared by Cazau et al. (1993), while Santos-Flores and Betancourt-López (1997) have provided a key to the genus.

During a survey of aquatic fungi on submerged wood collected in Brunei, a further species of *Diplocladiella* was identified. *Diplocladiella aquatica* sp. nov. is distinct from other species in the genus as it has relatively large 10-celled conidia.

**Taxonomy**

*Diplocladiella aquatica* H.K. Lee, Goh and K.D. Hyde, sp. nov. (Figs. 1-6)

*Etymology:* "aquatica", in reference to the aquatic habitat of this fungus.
Mycelium partim superficial, partim in substrato immersum, ex hyphis laevibus, pallide brunneis, septatis, 1.5-2 μm latis compositum. Conidiophora macronematosa, mononematosa, pallide brunnea, ad apicem pallidiora, 24-28 × 2-3 μm. Cellulae conidiogenae integratae, terminales, monoblasticae, sympodiales, cicatricibus conidiorum in geniculationis conspicue praeditae. Conidia holoblastica, solitaria, brunnea, Y-formata, decacellularia, 9-distoseptata, ramis 2-divergentibus, symmetrical et bilateralia, axis principalis 24-34 μm longa, rami 50-70 μm longi, appendice apicalibus hyalino, 14-38 × 2-4 μm.


Mycelium partly superficial, partly immersed in the substratum, pale brown, consisting of smooth, septate, 1.5-2 μm wide hyphae. Conidiophores macronematous, mononematous, pale brown, paler at the apex, 24-28 × 2-3 μm. Conidiogenous cells integrated, terminal, monoblastic, sympodially proliferating, bearing conspicuous conidial scars. Conidia holoblastic, solitary, Y-shaped, 10-celled, distoseptate, brown, bilaterally symmetrical, with two middle oblique septa separating the arms. Main axis comprising 2-cells, 24-34 μm long (x̄ = 28.2 μm, n = 25) × 14-23 μm wide (x̄ = 18.7 μm, n = 25) (measured from the truncate base to the curvature of the arms). Basal cell lighter in colour, 4-9 × 2.5-5 μm (x̄ = 7.2 × 3.3 μm, n = 25). Arms (excluding the appendages) 50-70 μm long (x̄ = 60.5 μm, n = 25). Appendages arising singly from the apical cell of each arm, hyaline to pale brown, 14-38 μm long (x̄ = 25.4 μm, n = 25) × 2-4 μm wide (x̄ = 2.7 μm, n = 25).

Discussion
The conidial morphology of Diplocladiella aquatica, which has 10 cells, is comparable to that of D. taurina, which has 8 cells. The main axis of D. aquatica is longer (24-34 μm) than that of D. taurina (10-13 μm). Diplocladiella aquatica is most closely related to an unnamed Diplocladiella species discussed by Santos-Flores and Betancourt-López (1997) from Puerto Rico, which also has 10-celled conidia. However, conidia of the Puerto Rican species are slender (5-9 μm), with shorter arms (50-55 μm) and apical, filiform appendages. The main axis of the conidium is also shorter than that of D. aquatica.

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References


