Annulohypoxylon spougei
Annulohypoxylon spougei Suwannasai, M.P. Martín, Phosri & Whalley, sp. nov.

Etymology. Named after the American bioinformatician John L. Spouge who contributed to the discovery of this species, and for his efforts to implement tools for DNA barcoding analyses within the genus Annulohypoxylon.

Classification — Hypoxylaceae, Xylariales, Sordariomycetes. Stromata glomerate to hemispherical, effused-pulvinate, with peripherial moundings 1/4 to 2/3 exposed and not covered by the outermost stromatal layer, 0.3–6 cm long × 0.3–3 cm broad and 1–1.6 mm thick; surface dark brown vinaceous, becoming black with reddish brown hues, finally black and shiny; black outermost stromatal layer, 0.3–6 cm long (PK134526, KP134509, KP134522, KP134499); PK09026 (KP134527, Dipterocarpaceae forest, Sept. 2009, C. Phosri & N. Suwannasai PK121044 (KP134523, KP134503, KP134516, KP134496), KP121063 (KP134524, KP134504, KP134517, KP134498); KP121086 (KP134525, KP134505, KP134518, KP134497).

Notes — During extensive studies of the Hypoxylaceae in Thailand over a period of almost 20 yr, problems were encountered in the identification of several taxa, especially A. nitens. A previous study on species of Hypoxylon and Annulohypoxylon using morphology and ITS nrDNA sequences (Suwannasai et al. 2013) indicated that this taxon was not monophyletic but could be separated into A. nitens and another species. Twenty-eight fungal specimens of A. nitens and a cryptic species collected from Thailand, previously named ‘A. nitens’ in our study (Suwannasai et al. 2013), were carefully re-analysed based on morphological and asexual morph characters. The comparison of morphological characters between A. nitens and a cryptic species showed unclear distinction of these species. The cryptic species, here named as A. spougei possesses spherical perithecia (0.5–0.7 mm diam), which are slightly narrower than those of A. nitens described by Ju & Rogers (1996) (0.4–0.5–1–1.2 mm). The ostiolar discs of both species groups are bovei-type and have the same dimensions of 0.2–0.5 mm. Ascospore sizes of A. nitens and the cryptic species are 7.5–9 × 2.8–4.2 µm and 6–10.5 × 3.4–4.5(–5.5) µm, respectively. These are similar to the species description for A. nitens (as H. nitens) (6.5–10(–11) × 3–4.5 µm) from Ju & Rogers (1996). The cultural and asexual morph characters were observed from both PDA and oatmeal agar. Colonies of A. spougei are white at first becoming hazel and dull green with scattered black patches; reverse dull green to dark brown. Conidigenous structure nodulisporium-like, brown. Conidia hyaline, smooth, ellipsoid, 3.5–4.5 × 2–3 µm.


Additional materials examined. Herbarium number is indicated, as well as the ITS, α-actin, β-tubulin and EF-1α GenBank sequences between brackets, absent sequences are indicated with ‘–’. Annulohypoxylon spougei: THAILAND, Phitsanulok Province, Dipterocarpaceae forest, Sept. 2006, C. Phosri & N. Suwannasai SWUF-H099 (holotype SWUF-H099, ITS, α-actin and β-tubulin sequences GenBank FN252419, FR875158 and KP134519, MycoBank MB811164).

Colour illustrations. Thailand, Chaiyaphum Province, Phu Khiao Wildlife Sanctuary, where the specimens were collected. From top to bottom: stromata with ostiolar discs (SWUF-H099); ascospores under SEM (SWUF-H099); fungal culture on PDA (SWUF-H099); nodulisporium-like anamorph (SWUF-H099); ascospores with apical apparatus (SWUF-H099). Scale bars = 0.5 mm (stromata), 5 µm (ascospores SEM), 1 cm (fungal culture), 15 µm (asexual morph), 5 µm (ascospores).