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Sporidesmium horizontale sp. nov. from China

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Abstract—A new species, *Sporidesmium horizontale*, is described and illustrated from specimens collected on dead branches in China. This fungus is characterized by horizontal, obclavate, 4–5-septate, versicolored conidia with short rostra.

Key words—anamorphic fungi, hyphomycete, *Pleosporomycetidae,* taxonomy

Introduction

Sporidesmium was erected by Link (1809) and typified with *S. atrum* Link. Ellis (1971) defined the genus as having integrated, terminal, monoblastic conidiogenous cells with acrogenous, solitary, transversely septate or distoseptate conidia. Subramanian (1992) redefined the generic concept of *Sporidesmium* in a stricter sense as simple conidiophores, determinate or with irregular extending proliferations, and solitary, gangliar, acrogenous and euseptate conidia. Wu & Zhuang (2005) expanded the generic concepts to include fungi with typically lageniform, doliiform, or nodose, percurrently extending conidiophores. Since then 31 new species have been described in the genus, most of which were found on rotten wood, dead branches, or decaying leaves of various plants (e.g., Ma & Zhang 2007; Ma & al. 2012; Xia & al. 2017; Yang & al. 2018; Zhang & al. 2008, 2017).

A new hyphomycete representing the genus of *Sporidesmium* was found during research on saprobic fungi in China. Specimens are deposited in the Herbarium of Department of Plant Pathology, Shandong Agricultural University, Taian, Shandong, China (HSAUP) and the Mycological Herbarium, Institute of Microbiology, Chinese Academy of Sciences, Beijing, China (HMAS).

Taxonomy

Sporidesmium horizontale L.G. Ma, C.C. Ai & X.G. Zhang, **sp. nov.** FIG. 1

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Differs from other *Sporidesmium* species by its horizontal, obclavate, 4–5-septate, versicolored, and smooth conidia with a short, subhyaline rostrum.

TYPE: China, Yunnan Province, Xishuangbanna Tropical Botanical Garden, on dead stems of an unidentified broadleaf tree, 2 Nov. 2011, L.G. Ma (**Holotype**, HSAUP H2133; **isotype**, HMAS 146148).

ETYMOLOGY: *horizontale*, referring to the conidia with horizontal growth.

COLONIES on natural substrate effuse, brown to dark brown, hairy. Mycelium partly superficial, partly immersed in the substrate, composed of septate, pale brown, smooth, 3.0–4.5 µm diam. hyphae. CONIDIOPHORES macronematous, mononematous, unbranched, erect, straight to flexuous, cylindrical, smooth, thick-walled, brown to dark brown, 5–10-septate, 90–175 µm long, 6–13.5 µm diam. at the base and 3–4.5 µm diam. at the tapered apex. CONIDIOGENOUS CELLS holoblastic, monoblastic, brown, cylindrical, smooth, thick-walled, 5–6.5 × 17–21.5 µm. Conidial secession schizolytic. CONIDIA solitary, horizontal on the conidiophores, obclavate, thick-walled, brown, pale brown on the basal and upper cells, smooth, 4–5-euseptate, 41–59 × 16–18 µm, with a short, subhyaline rostrum at the apex, sometimes embedded in a drop of mucilage.

COMMENTS—*Sporidesmium horizontale* is unique in the genus by developing conidia in a horizontal orientation, an unusual phenomenon that cannot be explained at present. The species can also be separated from other *Sporidesmium* species by its horizontal, obclavate, 4–5-septate, and versicolored conidia with short, subhyaline rostra.

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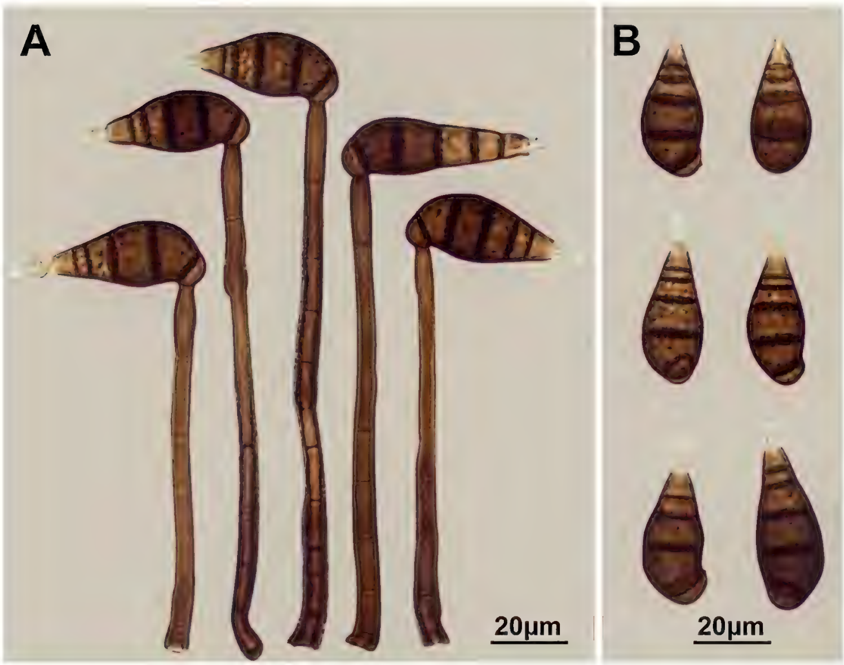

FIG. 1. *Sporidesmium horizontale* (holotype, HSAUP H2133).
A. Conidiophores, conidiogenous cells, conidia; B. Conidia.

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Literature cited

Ellis MB. 1971. Dematiaceous hyphomycetes. Commonwealth Mycological Institute, Kew, Surrey, England.

Link HF. 1809. Observationes in ordines plantarum naturales. Dissertatio I. Magazin der Gesellschaft Naturforschenden Freunde Berlin 3: 3–42.

Ma J, Zhang XG. 2007. Two new species of *Sporidesmium* from Yunnan, China. Mycotaxon 101: 73–76.

Ma J, Ma LG, Zhang YD, Xia JW, Zhang XG. 2012. New species and record of *Sporidesmium* from southern China. Mycotaxon 119: 17–25. https://doi.org/10.5248/119.17

Subramanian CV. 1992. A reassessment of *Sporidesmium* (hyphomycetes) and some related taxa. Proceedings of the Indian National Science Academy, Part B Biological Sciences 58: 179–189.

Wu WP, Zhuang WY. 2005. *Sporidesmium*, *Endophragmiella* and related genera from China. Fungal Diversity Research Series 15. 351 p.

Xia JW, Li HH, Zhang XG. 2017. Two new species of hyphomycetes from southern China. Mycosystema 36: 1483–1486. https://doi.org/10.13346/j.mycosystema.170140

Yang J, Maharachchikumbura SSN, Liu JK, Hyde KD, Jones EBG, Al-Sadi AM, Liu ZY. 2018. *Pseudostanjehughesia aquitropica* gen. et sp. nov. and *Sporidesmium* sensu lato species from freshwater habitats. Mycological Progress 17: 591–616. https://doi.org/10.1007/s11557-017-1339-4

Zhang K, Ma J, Zhang XG. 2008. Taxonomic studies of *Sporidesmium* from Hainan, China. Mycotaxon 104: 165–169.

Zhang H, Dong W, Hyde KD, Maharachchikumbura SSN, Hongsanan S, Bhat DJ, Al-Sadi AM, Zhang D. 2017. Towards a natural classification of *Annulatascaceae*-like taxa: introducing *Atractosporales* ord. nov. and six new families. Fungal Diversity 85: 75–110. https://doi.org/10.1007/s13225-017-0387-z