



Annulatascus saprophyticus sp. nov. and *Pseudoannulatascus* gen. nov. to accommodate *Annulatascus biatriisporus* (Annulatascales, Sordariomycetes) from Thailand

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Abstract

A new *Annulatascus* species, *A. saprophyticus*, found on decaying wood in freshwater in northern Thailand is introduced in this paper. The new taxon is illustrated, described and compared with other species in the genus, as well as a key to genus is provided. It differs from other species in the genus in having straight up right necks at one end, paraphyses embedded in a gelatinous matrix, and 0–3-septate, fusoid to lunate ascospores, which are larger than other species in the genus. Phylogenetic analyses based on LSU gene data showed that *A. saprophyticus* belongs in *Annulatascus sensu stricto* (Annulatascales, Sordariomycetidae). Based on the molecular data and a reevaluation of morphology, a new genus *Pseudoannulatascus* in Annulatascales is introduced to accommodate *Annulatascus biatriisporus*.

Key words: Annulatascales, Aquatic fungi, LSU, Phylogeny, Taxonomy

Introduction

The genus *Annulatascus* was introduced by Hyde (1992) to accommodate two ascomycete species, with *A. velatisporus* K.D. Hyde as the type species, and *A. bipolaris* K.D. Hyde, which were collected from submerged decaying wood in Australia. *Annulatascus* is characterized by having immersed or superficial, black ascomata with long necks, unitunicate, cylindrical asci with relatively massive, refractive, apical rings and fusiform ascospores with appendages or sheaths (Hyde 1992, Boonyuen *et al.* 2012, Hu *et al.* 2012). Presently, 18 species are included in the genus (Barbosa *et al.* 2008, Mohamed *et al.* 2011, Boonyuen *et al.* 2012, Hu *et al.* 2012) and most were reported from freshwater habitats in tropical areas (Barbosa *et al.* 2008, Shearer *et al.* 2010, Boonyuen *et al.* 2012, Hu *et al.* 2012) and only two species (*A. citrisporus* J. Fröhl. & K.D. Hyde, *A. licualae* J. Fröhl. & K.D. Hyde) are known from terrestrial habitats on palm rachides (Fröhlich & Hyde 2000). Species in the genus *Annulatascus* could be recognized on the basis of morphology of ascospores and the presence or absence of a mucilaginous sheath (Tsui *et al.* 2002).

Abdel-Wahab *et al.* (2011) showed that *A. hongkongensis*, *A. nilensis*, and *A. velatisporus* clusters in the Annulatascales clade, but *A. biatriisporus* K.D. Hyde did not group with them based on the 28S rDNA sequence data, suggesting *Annulatascus* might be polyphyletic.

In this paper, we establish a new genus *Pseudoannulatascus* for the lineage of *Annulatascus biatriisporus* under a reevaluation of morphology and phylogenetic analyses, and also describe and illustrate a new *Annulatascus* species based on morphological characters and phylogenetic analyses of LSU sequence data.