



A new species of *Postia* (Polyporales, Basidiomycota) from China based on morphological and molecular evidence

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Abstract

A new polypore, *Postia duplicata*, collected in Yunnan and Zhejiang provinces, is described and illustrated on the basis of morphological and molecular characters. *Postia duplicata* is characterized by pileate basidiomata with pale brownish to brown pore surface when bruised, duplex context, a monomitic hyphal system with clamped generative hyphae, presence of gloeocystidia in the hymenium, and cylindrical basidiospores ($3.8\text{--}5.8 \times 1.8\text{--}2.5 \mu\text{m}$). Both morphological and molecular evidence confirmed the placement of the new species in *Postia* and showed its phylogenetic relationships.

Key words: Brown-rot fungi, Fomitopsidaceae, phylogeny, polypore, taxonomy

Introduction

Postia Fr. (Polyporales, Basidiomycota) is a large, cosmopolitan genus belonging to the Fomitopsidaceae. It is characterized by an annual growth habit, a monomitic or dimittic hyphal system with generative hyphae bearing clamp connections, thin-walled, allantoid to cylindrical or ellipsoid basidiospores, and the ability to cause a brown rot decay (Hattori *et al.* 2010, Cui & Li 2012). Until now about 60 species have been described or transferred to the genus (Jülich 1982, Larsen & Lombard 1986, Renvall 1992, Buchanan & Ryvarden 2000, Hattori *et al.* 2010, Dai 2012). Twenty nine species of *Postia* were recorded in China (Cui & Li 2012, Dai 2012), including several species recently described (Wei & Dai 2006, Dai *et al.* 2009, Wei & Qin 2010, Yuan *et al.* 2010, Cui & Li 2012).

Taxonomy and phylogeny of brown-rot fungi in China have been reviewed recently, and some new species have been described (Cui *et al.* 2011, Cui 2013, Li & Cui 2013a, Li *et al.* 2013). As a continuation of these surveys, an undescribed species of *Postia* was identified based on morphological characters and phylogenetic analysis of ITS rDNA sequences. It is described as *Postia duplicata* in this paper.

Materials and methods

Morphological studies.—The investigation on wood inhabiting fungi were carried out in Southern China. During the field trips in Luo Gu Qing Scenic Area, Yunnan Province in September, 2011 and Baishanzu Nature Reserve, Zhejiang Province in August 2013, an unknown species collected was brought to our attention. Yunnan Province is between 21° and 29° N and 97° and 106° E, 84% of its area is plateau mountain region. Luo Gu Qing Scenic Area located in the northwest of Yunnan which is a hotspot of biodiversity rich in vascular plants and wood-inhabiting fungal species; Zhejiang Province is between 27° and 31° N and 118° and 123° E, consists mostly of hills, which account for about 70% of its total area. Baishanzu Nature Reserve is located in the southwest of Zhejiang, 1856 meters above sea level, the second highest peak in the province, and has a typical subtropical monsoon climate with four distinct seasons. The studied specimens were deposited at the herbarium of the Institute of Microbiology, Beijing Forestry University (BJFC). The microscopic routine followed Zhao *et al.* (2013). Sections were studied at magnification up to $\times 1000$ using a Nikon E80i microscope and phase contrast illumination. Drawings were made

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