Towards a natural classification of Dothideomycetes 7: The genera Allosoma, Austropleospora, Dangeardiella, Griggsia and Karschia (Dothideomycetes incertae sedis)

KASUN M. THAMBUGALA1, 2, 3, CHONTICA SINGTRIPOP 2, 3, YU CHUNFANG 4, ERIC H. C. MCKENZIE 5, ZUO-YI LIU1*, EKACHAI CHUKEATIROTE2, 3 & KEVIN D. HYDE2, 3

1 Guizhou Key Laboratory of Agricultural Biotechnology, Guizhou Academy of Agricultural Sciences, Xiaohe District, Guiyang City, Guizhou Province 550006, People’s Republic of China
2 Institute of Excellence in Fungal Research, Mae Fah Luang University, Chiang Rai 57100, Thailand
3 School of Science, Mae Fah Luang University, Chiang Rai, 57100, Thailand
4 Institute of Basic Medical Sciences, Hubei University of Medicine, shiyun, Hubei Province, 442000, People’s Republic of China
5 Manaaki Whenua Landcare Research, Private Bag 92170, Auckland, New Zealand

*Corresponding author: email: gzliuzuoyi@163.com

Abstract

This is the seventh of a series of papers in which we report on re-examination of herbarium types of Dothideomycetes genera, incertae sedis. By examining and re-describing the generic types which are not previously illustrated or are poorly described, we attempt to propose their familial and higher placement according to the morphology based on modern taxonomic concepts. In this paper the type specimens of Allosoma, Austropleospora, Dangeardiella, Griggsia and Karschia were re-examined and are illustrated. An overview of the history and descriptions and illustrations of these genera are provided. Based on morphological similarities, Allosoma is placed in Englerulaceae, while Austropleospora and Karschia are transferred to Pleosporaceae, and Lichenotheliaceae respectively. Dangeardiella is classified in Pleosporales, genera incertae sedis, while Griggsia is placed in Sordariomycetes, genera incertae sedis as it is not typical of any existing family of Dothideomycetes as it has unitunicate asci. Recollection, epitypification and multi-gene molecular analyses are needed for all type species of these genera in order to resolve their familial status. By illustrating and redescribing the type species, we expect to stimulate interest for these fungi to be recollected, sequenced and placed in a natural taxonomic framework in the Ascomycota.

Key words: Ascomycota, Dothideomycetes, Englerulaceae, Lichenotheliaceae, Pleosporaceae, morphology

Introduction

Dothideomycetes, the most diverse class in the Phylum Ascomycota include saprobes, phytopathogens, endophytes, epiphytes, fungicolous, lichenized, or lichenicolous fungi that occur in terrestrial, freshwater and marine habitats (Kirk et al. 2008, Hyde et al. 2013). Lumbsch & Huhndorf (2010) included two subclasses as well as numerous families under eleven orders within the Dothideomycetes and 34 unclassified families with over 175 genera in Dothideomycetes incertae sedis. Hyde et al. (2013) accepted 22 orders and 105 families within the Dothideomycetes and included 26 families under Dothideomycetes incertae sedis.

We are studying the genera placed in Dothideomycetes, genera incertae sedis (Ariyawansa et al. 2013, Ariyawansa et al. 2014, Dai et al. 2014b, Li et al. 2014, Tian et al. 2014, Thambugala et al. 2014). These genera have generally been poorly described, often not previously illustrated and are poorly known. In order to stimulate interest in recollection and sequencing of these genera we have re-examined, illustrated and re-described the types. In this study we treat the poorly known genera Allosoma, Austropleospora, Dangeardiella, Griggsia and Karschia and place them in a natural taxonomic framework in the Ascomycota. Allosoma is placed in Englerulaceae, while Austropleospora and Karschia are transferred to Pleosporaceae and Lichenotheliaceae respectively. Dangeardiella is classified in Pleosporales, genera incertae sedis, while Griggsia is included in Sordariomycetes incertae sedis as it is not typical of any existing family of Dothideomycetes due to its unitunicate asci.

Notes:—Griggsia was introduced by Stevens & Dalbey (1919) as a monotypic genus and is typified by Griggsia cyatheae. It is characterized by superficial ascomata, filamentous, unbranched, septate, pseudoparaphyses, unitunicate, broadly obovoid asci and broadly oval, hyaline, 1-celled ascospores. Lumbsch & Huhndorf (2010) included this genus under Dothideomycetes, genera incertae sedis. Griggsia should be excluded from Dothideomycetes because asci are unitunicate (Schoch et al. 2006, Hyde et al. 2013). Therefore we place Griggsia in Sordariomycetes incertae sedis pending molecular investigation. The species needs recollecting, sequencing and epitypifying in order to clarify the familial status.

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