



Muriphaeosphaeria galatellae gen. et sp. nov. in *Phaeosphaeriaceae* (*Pleosporales*)

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Abstract

Muriphaeosphaeria galatellae was collected from *Galatella villosa* in Russia and is introduced as a novel monotypic genus and species in the family *Phaeosphaeriaceae* (*Pleosporales*). *Muriphaeosphaeria* is distinct from other genera of the family *Phaeosphaeriaceae* by its unique suite of characters such as, superficial ascomata with an ascomatal wall comprising thin-walled brown cells, cellular pseudoparaphyses, muriform ascospores; and conidiomata with a thick hyaline inner wall layer producing cylindrical to subclavate, 1–3-transversely septate, brown conidia. The asexual morph of *M. galatellae* developed in cultures when grown on sterilized pine needles and bamboo pieces. A phylogenetic analysis based on combined LSU, SSU and ITS sequence data showed that *M. galatellae* forms a distinct lineage in *Phaeosphaeriaceae*. The new genus and species are introduced and compared with other taxa in the family.

Keywords: Dothideomycetes, *Galatella villosa*, Holomorph, New genus, Russia

Introduction

Dothideomycetes is the largest class of Ascomycota, characterized by bitunicate and mostly fissitunicate asci (Berbee 1996, Kirk *et al.* 2008, Hyde *et al.* 2013). *Pleosporales* is considered as the largest order in the class, comprising a quarter of all dothideomycetous species (Kirk *et al.* 2008, Zhang *et al.* 2012). Species of *Pleosporales* can be epiphytes, endophytes, parasites on plants, hyperparasites on fungi, and saprobes on dead plant litter (Barr 1979, Taylor *et al.* 2000, Schoch *et al.* 2009, Wijayawardene *et al.* 2014, Ariyawansa *et al.* 2014a, 2015). The family *Phaeosphaeriaceae*, introduced by Barr (1979), is one of the largest families in the order *Pleosporales*. The family was initially characterized by immersed to superficial, globose to subglobose ascomata with short papilla, bitunicate asci, and hyaline, yellowish or brown, uni or multi-septate, muriform ascospores (Shoemaker 1984, Shoemaker & Babcock 1989, 1992, Zhang *et al.* 2012). Phookamsak *et al.* (2014) revised the family *Phaeosphaeriaceae* and accepted 30 genera based on both morphology and phylogeny. Although species of *Phaeosphaeriaceae* are mostly found on monocotyledonous hosts as pathogens or saprobes (Câmara *et al.* 2002, Hyde *et al.* 2013, Quaedvlieg *et al.* 2013, Thambugala *et al.* 2014) some also occur on dicotyledons (Wanasinghe *et al.* 2014, Liu *et al.* 2015). Currently 17 asexual genera have been reported in the family *Phaeosphaeriaceae* by Phookamsak *et al.* (2014).

We have been studying the families of *Pleosporales* in order to provide a natural classification of this large taxon (Zhang *et al.* 2012, Phookamsak *et al.* 2013, 2014a, Wijayawardene *et al.* 2014, Ariyawansa *et al.* 2014a, b, c, 2015). In this study, we introduce a new genus *Muriphaeosphaeria*, with *M. galatellae* as the type species, the specimen of