



A new species of *Scleroramularia* associated with sooty blotch and flyspeck in Southern China

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Abstract

Scleroramularia is a genus that includes species of the sooty blotch and flyspeck (SBFS) fungal complex that blemishes the surface of apple, pawpaw, and other fruit. In a survey of SBFS on banana (*Musa basjoo*), an isolate associated with the flyspeck mycelial type of SBFS was obtained from Zhanjiang, Guangdong, China. Based on analysis of morphology and phylogeny (the nuclear ribosomal internal transcribed space region and translation elongation factor 1- α), it was delimited as a new species of *Scleroramularia*, described here as *S. musae*. Conidia of *S. musae* have more septa than other species presently known in the genus.

Key words: epiphytic fungi, apple, banana, Botryosphaerales, *Musa*

Introduction

Sooty blotch and flyspeck (SBFS) is a disease complex caused by numerous species of epiphytic fungi that blemish the cuticle of many fruits throughout moist temperate regions worldwide (Batzer *et al.* 2005, Gleason *et al.* 2011). Despite the superficial nature of fruit colonization (Colby 1920, Baker *et al.* 1977, Johnson *et al.* 1997), the SBFS fungi cause blemishes that are unacceptable to consumers, and therefore cause economic losses for growers.

The number of fungal species causing SBFS was previously underestimated (Johnson *et al.* 1997). Now, it has become clear that the component of SBFS fungi complex is highly diverse, including dozens of species in more than 10 genera, mostly within the Capnodiales (Dothideomycetes) (Williamson & Sutton 2000, Batzer *et al.* 2005, 2008, Díaz Arias *et al.* 2010, Frank *et al.* 2010, Yang *et al.* 2010, Gleason *et al.* 2011, Li *et al.* 2011, Mayfield *et al.* 2013, Gao *et al.* 2014).

Species in the genus *Scleroramularia* are part of the assemblage that causes SBFS on apple and pawpaw (Li *et al.* 2011). The genus was established in 2011 with 5 species; its members were characterized as forming black sclerotial bodies in culture and producing chains of hyaline conidia that do not quickly disarticulate (Li *et al.* 2011). During an investigation of SBFS on Japanese banana (*Musa basjoo*) in China, a new species of *Scleroramularia* was discovered. Phylogenetic and morphological analyses were carried out to confirm its identity.

Materials and methods

Isolates and morphology

Fruit of Japanese banana (*Musa basjoo*) displaying SBFS signs were collected in Zhanjiang City, Guangdong Province, China, in October 2011. Sclerotium-like bodies of colonies were transferred from host plants to potato dextrose agar (PDA) slants in a sterile environment, and incubated at 25 °C for 2 weeks in darkness (Sun *et al.* 2003). Representative isolates were deposited in the China General Microbiological Culture Collection Center (CGMCC) (Beijing, China) and dried cultures were deposited at the Herbarium Mycologicum Academiae Sinicae (HMAS) (Beijing, China). Host