



Pestalotiopsis anacardiacearum sp. nov. (*Amphisphaeriaceae*) has an intricate relationship with *Penicillaria jocosatrix*, the mango tip borer

SAJEEWA S. N. MAHARACHCHIKUMBURA^{1,2,3}, YANMIN ZHANG², YONG WANG¹
& KEVIN D. HYDE^{1,2,3}

¹Department of Plant Pathology, Agriculture College, Guizhou University, Guiyang, 550025, China
email: yongwangbis@yahoo.cn (corresponding author)

²International Fungal Research and Development Centre, Key Laboratory of Resource Insect Cultivation & Utilization State Forestry Administration, The Research Institute of Resource Insects, Chinese Academy of Forestry, Kunming 650224, PR China

³Institute of Excellence in Fungal Research and School of Science, Mae Fah Luang University, Tasud, Muang, Chiang Rai 57100, Thailand

Abstract

Pestalotiopsis anacardiacearum sp. nov. is described from leaves of *Mangifera indica* from Yunnan Province, China. The taxon can clearly be distinguished from all known species of *Pestalotiopsis* by its morphology. Phylogenetic analysis based on combined multi-locus alignment of the internal transcribed spacer (ITS), partial β -tubulin and partial translation elongation factor 1-alpha (*tef1*) also distinguishes this taxon. It can be distinguished from previously recorded *Pestalotiopsis* pathogens on mango by having larger conidia. The species occurs on leaves of mango following death associated with the mango tip borer (*Penicillaria jocosatrix*).

Key words: leaf blight, new species, phylogeny

Introduction

Mangifera indica (mango) is a major cash crop in the subtropics and tropics (Yogisha & Raveesha 2010) and China was the second largest producer of mango worldwide in 2005 (Evans 2008). Several fungal diseases infect different parts of the trees and fruits, and cause serious damage and yield reduction (Okigbo & Osuinde 2003). Diseases of mango include fruit anthracnose, wilt, leaf blight and fruit rots, which are listed as caused by *Alternaria alternata*, *A. tenuissima*, *Botryodiplodia theobromae*, *Colletotrichum gloeosporioides*, *Dothiorella* sp. and *Phoma mangiferae* (Okigbo & Osuinde 2003, Karunanayake *et al.* 2011, Rizwana *et al.* 2012). Many of these names are likely, however, to be erroneous as molecular data is showing that these names need revision (Cai *et al.* 2011, Ko Ko *et al.* 2011a, b, Maharachchikumbura *et al.* 2011). For instance, in a survey of *Colletotrichum* species infecting tropical fruits it was shown that *Colletotrichum gloeosporioides* was not a causal agent (Phouvilong *et al.* 2010).

Pestalotiopsis is an appendage-bearing conidial asexual coelomycetous fungus in the family *Amphisphaeriaceae* (Barr 1975, 1990, Kang *et al.* 1998, 1999) that is common in tropical and temperate ecosystems (Maharachchikumbura *et al.* 2011, 2012). The genus is well known for its ability to produce novel medicinal compounds (Aly *et al.* 2010, Xu *et al.* 2010, Debbab *et al.* 2011). Species of *Pestalotiopsis* cause a variety of disease in plants (Tagne & Mathur 2001, Sousa *et al.* 2004, Espinoza *et al.* 2008) and are often isolated as endophytes (Botella & Diez 2011, Rocha *et al.* 2011, Debbab *et al.* 2012). The accurate identification of *Pestalotiopsis* species is, however, difficult as shown by recent studies (Maharachchikumbura *et al.* 2011, 2012) and therefore the *Pestalotiopsis* species infecting mango need to be re-established.