



Four new taxa of *Ilyonectria* and *Thelonectria* (Nectriaceae) revealed by morphology and combined ITS and β -tubulin sequence data

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Abstract

Thelonectria beijingensis sp. nov. is characterized by a distinct perithecial wall of textura epidermoidea mixed with textura intricata, purple to brown colonies, curved cylindrical macroconidia with rounded ends, ellipsoid to rod-shaped microconidia, and lacking chlamydospores. *Thelonectria yunnanica* sp. nov. is distinguished by a three layered perithecial wall with a palisade of short hyphae that are perpendicular to the outer surface, white colonies, elliptical-fusoid to rod-shaped microconidia with rounded ends and lacking chlamydospores. *Neonectria hubeiensis* and *N. sinensis* are transferred to *Ilyonectria* and *Thelonectria*, respectively. Distinctions between the new taxa and their close relatives are discussed based on morphology and the combined sequence data of nuclear ribosomal DNA ITS1-5.8S-ITS2 and partial β -tubulin gene.

Key words: DNA sequence, morphology, taxonomy

Introduction

The genus *Thelonectria* P. Chaverri & Salgado was established to accommodate species of *Nectria*-like fungi with a distinctive perithecial wall structure and a *Cylindrocarpon*-like asexual state (Chaverri et al. 2011). These species had previously been referred to as the *Nectria mammoidea*-group (Booth 1959, Samuels and Brayford 1990, 1993, 1994, Brayford and Samuels 1993, Rossman et al. 1999). *Thelonectria* is characterized by inconspicuous stromata, superficial, globose, subglobose, or pyriform to elongated and smooth or warty perithecia, a 2- or 3-layered perithecial wall, with prominent papilla and smooth, hyaline, 1-septate ascospores. Members of this genus are mostly found in tropical and subtropical regions on bark of recently killed, dying or diseased trees and rotting roots, and often cause small cankers (Chaverri et al. 2011).

Nine species are currently known in the genus *Thelonectria* (Chaverri et al. 2011), of which five were previously reported from China. *Thelonectria discophora* (as *Nectria discophora* Mont.) was the earliest record of the genus from China (Yunnan Province) (Teng 1936). *Thelonectria coronata* (Penz. & Sacc.) P. Chaverri & Salgado (as *Nectria coronata*) was recently added from Hong Kong (Lu et al. 2000), *T. jungneri* (Henn.) P. Chaverri & Salgado (as *Neonectria jungneri*) and *T. lucida* (as *Neonectria lucida*) were later reported from Taiwan Province (Guo et al. 2007), and *T. veuillotiana* (as *Neonectria veuillotiana*) was found from Hubei Province (Zhuang et al. 2007). In this study, two new species closely related to *T. discophora* from Beijing and Yunnan are described and illustrated based on their distinct morphology and sequence data of the combined nuclear ribosomal DNA ITS1-5.8S-ITS2 (ITS) and partial β -tubulin gene. Morphological distinctions between the new species and their closely related fungi are discussed. In addition, one species of *Neonectria* is transferred to *Thelonectria*, and one species is treated as a member of *Ilyonectria*.