



## *Greeneria saprophytica* sp. nov. on dead leaves of *Syzygium cumini* from Chiang Rai, Thailand

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### Abstract

*Greeneria saprophytica* sp. nov. is described from fallen *Syzygium cumini* leaves collected in northern Thailand. The genus *Greeneria* is monotypic and represented by the type species *G. uvicola*. The novelty and placement of *G. saprophytica* is confirmed based on phylogenetic analyses of the 28S nuclear large subunit DNA (nuLSU). The new species differs from *G. uvicola* in the dimensions of acervular conidiomata, conidiogenous cells and conidia. The phialide collarette with a serrate margin, a rare feature in conidial fungi, is characteristic of the genus.

**Key words:** acervular, asexual state, coelomycete, *Diaporthales*

### Introduction

*Greeneria* is a monotypic genus described with *G. fuliginea* Scribner & Viala as the type species (Scribner & Viala 1887). The species was subsequently recombined as *Melanconium fuligineum* (Scribner & Viala) Cavara (Cavara 1888). Punithalingam (1974) determined that *Phoma uvicola* is an earlier synonym for this species and further stated that it was unlike species of *Melanconium*. Accordingly, he transferred the earlier name to *Greeneria* as *G. uvicola* (Berk. & M.A. Curtis) Punith.

Based on 28S nuclear large subunit (nuLSU) sequence data Farr *et al.* (2001) determined that *G. uvicola* is a member of the *Diaporthales*. Subsequently, Crous *et al.* (2012) placed *G. uvicola* in *Diaporthales* genera *incertae sedis* based on nuLSU sequence data. Samuelian *et al.* (2013) also determined the phylogenetic relationships of *Greeneria* based on internal transcribed spacer (ITS), nuLSU and  $\beta$ -tubulin (TUB) genes.

*G. uvicola*, which causes bitter-rot of grapes, is a common disease on muscadine and bunch grapes worldwide. It is an asexually reproducing coelomycetous taxon with no known sexual state (Farr *et al.* 2001). Farr *et al.* (2001) re-described and illustrated *G. uvicola* based on fresh collections from diseased stem lesions of *Vitis labrusca*. They supplemented the description provided by Sutton & Gibson (1977) with additional morphological details and observed that the conidiomata of *G. uvicola* contained a well-defined, basal pseudoparenchymatous layer on both specimens collected from the fruit and *in vitro* on alfalfa stems. They also described the conidiogenous cells as percurrently proliferating phialides. Sutton & Gibson (1977) stated that the conidia of *G. uvicola* measured 8–10  $\times$  3–4  $\mu$ m while Farr *et al.* (2001) recorded conidia on the fruits measuring 6–13  $\times$  3–5  $\mu$ m and in culture as 7–9  $\times$  3–4  $\mu$ m in size. Samuelian *et al.* (2013) made a comparative study of the morphology of conidia, cultural characters, pathogenicity and fungicidal sensitivity of 100 isolates of *G. uvicola* collected from Australia, Costa Rica, India and USA.

Recently, an isolate of *Greeneria* was found growing on fallen, dead leaves of *Syzygium cumini* (L.) Skeels (Myrtaceae) collected in northern Thailand. It was cultured and studied in detail by morpho-molecular analyses. The fungus is quite different from the type species in its habit, shape of conidiogenous cells and shape and size of conidia. It is described here as a new species, *G. saprophytica*.

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