

ABSTRACT

Dothideomycetes is the largest class of Ascomycetes which comprise a highly diverse group of fungi mainly characterized by bitunicate asci and often with fissitunicate dehiscence. Many species are saprobes, and important plant pathogens. They are also endophytes, epiphytes, fungicolous, lichenized, or lichenicolous fungi. Dothideomycetes are also found in terrestrial, freshwater and marine habitats. Presently 105 families are accepted in Dothideomycetes. In this study we systematically collect Dothideomycetes from Thailand, isolate each collection via single spore isolation and obtain pure cultures of species. In the first year of project we isolated 50 Dothideomycetes specimens. We discovered a new species *Byssosphaeria siamensis*, based on morphology and molecular evidence, the other species in Dothideomycetes were described and illustrated. Phylogenetic trees were contributed for *Byssosphaeria* species and *Stagonospora* species by using analysis of LSU, SSU, RPB2 and TEF1 sequence data. Two manuscripts are in preparation including the re-examination of all genera in *Melanommataceae*, and providing a backbone tree of *Melanommataceae*. The project is expected to provide document of Dothideomycetes in Thailand which can be modified as new data comes to light. We are now carrying out morphological and molecular study based on these taxa to resolve their taxonomy and phylogenetic relationships in order to build a natural classification system. Interesting specimens will be further observed for bioactive compounds.

Keywords: Taxonomy, Multi-gene phylogeny, Pleosporales