Thesis Title	Fungi Associated with Coffee Berries in Chiang Mai, Thailand	
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ABSTRACT

In this project, fungi associated with coffee berries were studied. Coffee berries samples were collected from Chiang Mai, Thailand and used to analyze the epiphytic and endophytic fungal communities. A total of 352 fungal strains were isolated and grouped into 12 genera. The most common taxon was *Fusarium* with 24 % frequency of occurrence. In this study, *Moniliopthora* is the first record in coffee plantation. The results showed that variation of the fungal diversity between epiphytic and endophytic communities was insignificant ($0.05<P<0.10$). It was also found that fungal diversity in Pha Daeng village was significantly higher than that in Mae Lod village ($P < 0.001$).

This study was further carried out emphasizing on the genus of *Colletotrichum*. The combination of morphological and cultural characters, biochemical, pathogenicity testing and DNA barcoding clustered three morphogroups of *Colletotrichum* associated with coffee berries from Chiang Mai, Thailand and introduced them as new species. *Colletotrichum asianum*, *C. coffeae* and *C. coffeigenum* are introduced as new species in the present study. Furthermore, the combined datasets of actin, partial β-tubulin-2 (tub2), calmoudulin, glutamine synthetase, glyceraldehyde-3-phosphate dehydrogenase and the complete rDNA-ITS region revealed *Colletotrichum* relationships congruent with their morphological characters. The biochemical and

DNA barcoding data from multi-genes used here also showed clear differences between *C. kahawae*, *C. gloeosporioides* and the new *Colletotrichum* species.

Keywords: Coffee berries/ *Colletotrichum*/ endophytes/ epiphytes.