Thesis Title	Diversity of *Lepiota* (Basidiomycota) in Northern Thailand
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ABSTRACT

The mushroom genus *Lepiota* known as 'lepiotaceous fungi' belongs to the family *Agaricaceae*. Mushrooms in this group are diverse and have a worldwide distribution but most reports are from the USA and Europe while records for Asia are limited. Most *Lepiota* species are poisonous containing amatoxins (clyclopeptides) which are also found in *Amanita*, *Conocybe* and *Galerina*. Some species might be noted as edible in a region but they are known to be fatal or poisonous in other places such as *L. americana, L. friesii, L naucinoides* and *L. clypeolaria*. In terms of the *Lepiota*'s taxonomy, key morphological characters are used including basidiospore, basidiocarp, pluteus, pileus covering a cutis to trichroderm, white and free gills. Recently, a development of molecular phylogenetics based on the DNA and protein sequences have also been widely used in *Lepiota*'s identification and relationship.

A study of diversity of *Lepiota* species in northern Thailand was carried out in Chiang Mai and Chiang Rai Provinces during the period 2007-2010. In total, 72 specimens of *Lepiota* were collected; these represented 33 different species consisting 5 sections (11 species in section *Stenosporae*, 8 species in section *Ovoisporae*, 6 species in section *Lepiota*, 5 species in section *Lilaceae*, and 3 species in section *Echinatae*).

In this study, eleven species of section *Stenosporae* and five of section *Lepiota* are provided with full descriptions. This published document is known as the first record to Thailand. Major results obtained from our work are to reveal 5 new species namely *L. aureofulvella* and *L. papilata* (section *Stenosporae*), *L. eurysperma*, *Lepiota micrpcarpa* and *L. pongduadensis* (section *Lepiota*). Their species identification is confirmed by the ITS sequencing data.

Keywords: Basidiomycotina/Agaricales/*Lepiota*/Diversity/Distribution/Taxonomy/ Thailand