

Ecology, Natural Distribution, and Ectomycorrhizal Character testing of Earthstar (*Astraeus* spp.)

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Thirty samples and nineteen isolates of *Astraeus* spp. were collected from dipterocarp forest and some pine forest in 3 provinces; Chiangmai, Lamphun and Lampang. The studies of mushroom product, period of emerging, localities, quantities and market price were investigated by interview from local people during rainy season. People believe that forest fire and suitable weather are the factors of *Astraeus* product. Young *Astraeus* basidiome was found in rainy season, May-August. It is considered to be high price in early season and decrease gradually at maturity. Morphological study indicated white basidiome, globose or subglobose, sessile 1.5- 3.5 cm in diam, external peridium thick, maturity outer peridium splitting as star-shape, basidiospore globose, 6.32-9.39 µm diam, ornamented with spine, brown hyphae, peridium isolation was fast growing on PDA medium. Ectomycorrhizal associations was carried out in 6 months after inoculation by spore solution with *Eucalyptus camaldulensis* seedling and performed mycorrhizal characteristic on eucalyptus root. There was sporulation and 48-67 % of mycorrhizal root into inoculation plots. *Astraeus* species identification by molecular techniques were examined from 8 samples and resulted in 2 species: *A. hygrometricus* and *A. odoratus*.

Key word: *Astraeus* spp., Ectomycorrhiza, Eucalyptus, dipterocarp forest

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