

Wonvisa Kumsorn 2013: Diversity of *Emericella* species from Soil and *In Vitro* Efficacy Against Plant Pathogenic Fungi. Master of Science (Plant Pathology), Major Field: Plant Pathology, Department of Plant Pathology. Thesis Advisor: Mrs. Onuma Piasai, Ph.D. 135 pages.

Soil, cotton fibre and animal dung samples were collected from various locations. The soil plate, soil dilution plate and alcohol treatment methods as well as Gochenaour's glucose ammonium nitrate agar (GAN) were used for isolation of *Emericella* spp. Macroscopic morphological study of *Emericella* spp. was recorded as growth rate, growth pattern and colour on standard culture media. Microscopic characteristics was examined as size of conidial head, conidia, ascospore and hülle cells under light and scanning electron microscopes (SEM). Nineteen isolates of *Emericella* belong to 6 species were found including *E. corrugata*, *E. nidulans*, *E. purpurea*, *E. quadrilineata*, *E. rugulosa* and *E. varicolor*. Nothworthy *Emericella* representing new records for Thailand are *E. corrugata*, *E. purpurea* and *E. quadrilineata*.

*In vitro* antagonistic test was carried out using 11 isolates of *Emericella* spp. as dual cultures on PDA against 11 species of plant pathogenic fungi including *Alternaria brassicicola*, *Curvularia lunata*, *Colletotrichum capsici*, *C. gloeosporioides*, *Fusarium oxysporum* f.sp. *cubense*, *Helminthosporium* sp., *Pestalotiopsis* sp., *Phytophthora palmivora*, *Pythium aphanidermatum*, *Rhizoctonia oryzae* and *Sclerotium rolfsii*. The result revealed that *E. corrugata*, *E. nidulans*, *E. quadrilineata*, *E. rugulosa* and *E. varicolor* could inhibit 45-63% mycelium growth of *A. brassicicola*, *C. lunata*, *C. capsici*, *C. gloeosporioides*, *F. oxysporum* f.sp. *cubense*, *Helminthosporium* sp., *Pestalotiopsis* sp. and *P. palmivora*, whereas all of isolates failed to inhibit mycelial growth of *P. aphanidermatum* and two Basidiomycetes anamorphs, *R. oryzae* and *S. rolfsii*.

---

Student's signature

---

Thesis Advisor's signature