

# **Ectomycorrhizal (ECM) community of mixed forest between endemic pines *Pinus dalatensis*, *Pinus krempfii* and broad leaves**

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## **ABSTRACT:**

In nature, both endemic pines *Pinus dalatensis* and *Pinus krempfii* always appeared together and mixed with broad leaves forest. The ectomycorrhizal fungal (EMF) communities of this mixed forest were examined to understand the ecological niches of those unique pines as well as support to the conservation activities. For field work, the two 4 ha-plots were set up in the dominant of pines *P. dalatensis* forest and in Fagaceae dominant forest. Both underground EMF from root tips and terrestrial ectomycorrhizal mushrooms (EMM) were investigated.

In pine dominant plot, 76 fungal taxa were recorded from 4966 ECM root-tips and 897 sporocarps belonged to 49 genera were collected. In Fagaceae dominant plot, 83 fungal species were recorded from 4354 ECM root-tips and 1120 sporocarps belonged to 64 genera were collected. In both plots, the community structure of underground EMF is evenly high diversity described by diversity index and species evenness. *Russula* group was dominant in both forest by structure of EMF root tips and EMM. The comparison between the underground ECM underground fungal community and terrestrial showed that the similarity of total species and content of species. This is the first study investigates the ECM fungal community of endemic *P. dalatensis*, the most southern population of 5 needles pine in the world and the very narrow distribution pine *P. krempfii* in both underground and terrestrial.

## **KEYWORDS:**

Ectomycorrhizal fungi, *Pinus dalatensis*, *Pinus krempfii*, community; endemic pine.