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Novel colony establishment process of the *ectomycorrhizal basidiomycete* *Tricholoma matsutake* in a *Pinus densiflora* forest

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Tricholoma matsutake is one of the most economically valuable ectomycorrhizal fungus. Its basidiocarps (fruiting body) occur in colonies established in natural pine forests. We observed *T. matsutake* basidiocarps occurrence in 2001 and 2010 and gene-flow analysis were conducted by microsatellite markers. Comparing colonies found in 2001 and 2010, five novel colonies were observed in 2010, where the organic layer was removed or pine trees were regenerated less than 50 years ago. Genotype of the novel colonies were different from colonies found in 2001. These results indicate that these novel colonies were established by dispersed basidiospores. Novel genet and candidate parent genets were located in the same ridge and related genet pairs of the two genets within a pair were found within 50m, indicating that basidiospores may colonize more easily near parental basidiocarps. In conclusion, sufficient basidiospore supply and organic layer removal or pine tree regeneration were essential factors for colony establishment of *T. matsutake*.

Biography

Maki Narimatsu is currently studying at Iwate University and working at Iwate Prefectural Forestry Technology Center for cultivation and ecology of edible mushroom. He has published papers in journals of forestry and mycology. He has been serving as a Councilor of Japanese Society of Mushroom Science and Biotechnology.

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