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HCG035-P03

Room:Convention Hall

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Symbiosis among two plants and their related fungus (Rhizoctonia).

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Spiranthes sinensis var. *amoena* is an orchid with a typical orchid mycorrhizal association. A tripartite symbiotic association is reported among *Abies firma*, *Chamaegastrodia sikokiana* and mycorrhizal fungus which forms mycorrhiza in both plants. Recently, we reported that isolates which were isolated from the roots of *Zoysia tenuifolia*, were able to promote the germination of seeds of *Spiranthes sinensis* var. *amoena*. In this study, we demonstrated a tripartite symbiotic association among *Spiranthes sinensis* var. *amoena*, *Zoysia tenuifolia* and a symbiotic fungus which forms mycorrhiza in *Spiranthes sinensis* and promotes the germination and growth of *Zoysia tenuifolia*. We have already found some property in the isolated fungus and functions. We have also investigated the functional substances extracted from the isolated fungus which affect the plant seed germination or growth. The results from our study, symbiosis among several species of creatures, will lead the important information at the selection of creatures into the artificial bio-ecosystems.

Keywords: Symbiosis, *Spiranthes sinensis* var. *amoena*, *Rhizoctonia*