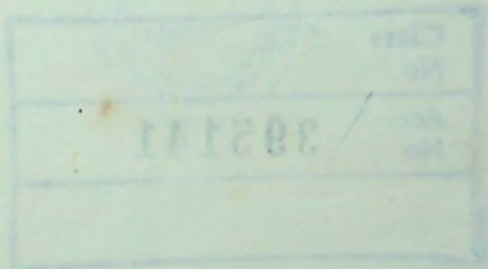


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MYCORRHIZAL ASSOCIATIONS IN
SOME TROPICAL RAIN FOREST AND
EXOTIC PINE TREES OF SRI LANKA

BY

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ABSTRACT

A survey was carried out on the mycorrhizal associations in some indigenous wet zone trees of Sri Lanka. The study area was a lowland tropical rain forest located in the wet zone of Sri Lanka.

Root material of the majority of the indigenous forest tree species examined indicated the presence of mycorrhizal associations. 8% of the wet zone forest tree species had ectomycorrhizal associations and 86% of the forest community had endomycorrhizal associations.

Ectomycorrhizae were restricted to the family Dipterocarpaceae and several symbionts were isolated from these mycorrhizal roots. Fifteen fungal species belonging to the family Boletaceae were found in the vicinity of ectomycorrhizal trees. Two of the root isolates gave successful results when used in ectomycorrhiza synthesis experiments with aseptic Dipterocarpus zeylanicus seedlings.

A soil survey was done to determine the associating endomycorrhizal fungi present in the study area. Fifteen endomycorrhizal fungal species belonging to four genera of the family Endogonaceae were recovered. Eleven species identified are reported for the first time in Sri Lanka.

A comparative study was conducted to investigate the effect of ectomycorrhizal associations of varieties of Pinus caribaea in the wet and dry zones of the country. The results suggest that a contributory reason for the initial failure of the introduction of Pinus caribaea into the dry zone may be associated with the deficiency of mycorrhizal fungal inoculum or the absence of proper symbiotic fungi in dry zone soils.