

## 5. SUMMARY

- The diversity and ecology of litter fungi of a dry deciduous forest in the Mudumalai Wildlife Sanctuary, southern India was studied by sweeping the leaf litter of *Anogeonum latifolium*, *Cassia fistula*, *Cordia alliodora*, *Lagerstroemia microcarpa*, *Lagerstroemia parviflora*, *Ocotelea acuminata*, *Premna tomentosa*, *Shorea rostrata*, *Syzgium cumini*, *Tectona grandis*, *Torreya bellerica* and *Xylocarpus*.
  - Direct observations of the litter after incubation in moist chambers was used for identifying fungi.
  - The species diversity of the litter fungi was high for the litter of *P. alliodora*, *T. grandis*, *P. tomentosa* and low for that of *T. bellerica*.
  - *Pestalotiopsis* sp. 1 was dominant in the litter of five of the twelve tree species and co-dominant in the litter of two of the twelve tree species.
  - Hyphomycetes contributed to nearly 60% of the total colonization.
  - Some fungal species were common for the litter of different tree species. *Pestalotiopsis* sp. 1, *Collembola* sp. 1 and *Stereum* spp. colonized the litter of *Cordia*, *Lagerstroemia*, *Premna*, *Shorea*, *Syzgium*, *Tectona* and *Xylocarpus*.
- 
- # Summary
-

## 5. SUMMARY

- The diversity and ecology of litter fungi of a dry deciduous forest in the Mudumalai Wildlife Sanctuary, southern India was studied by sampling the leaf litter of *Anogeissus latifolia*, *Cassia fistula*, *Cordia wallichii*, *Lagerstroemia microcarpa*, *Lagerstroemia parviflora*, *Ougeinia oojeinensis*, *Premna tomentosa*, *Shorea roxburghii*, *Syzygium cumini*, *Tectona grandis*, *Terminalia bellerica* and *Vitex altissima*.
- Direct observation of the litter after incubation in moist chambers was used for detecting fungi.
- The species diversity of the litter fungi was high for the litter of *V. altissima*, *T. grandis*, *P. tomentosa* and low for that of *T. bellerica*.
- *Pestalotiopsis* sp. 1 was dominant in the litter of five of the twelve tree species and co-dominant in the litter of two of the twelve tree species.
- Hyphomycetes contributed to nearly 60 % of the total colonization.
- Some fungal species were common for the litter of different tree species. *Pestalotiopsis* sp. 1, *Colletotrichum* sp. 1 and *Scolecobasidium* spp. colonized the litter during its early stage and *Cercospora* sp. 1, *Lophiostoma* sp. 1 and *Corynespora cassiicola* were seen to colonize the litter at a later stage.
- Relatively more number of fungal species were present on the 20<sup>th</sup> day of observation than on the 10<sup>th</sup> or 30<sup>th</sup> day of observation.

- With reference to *Syzygium cumini* litter, the following results were obtained:
  - *Pestalotiopsis* sp. 1 was the dominant species during nine of the twelve month study period.
  - When the Relative Percentage of Occurrence (RPO) of coelomycetes was high in the litter, the RPO of hyphomycetes was low and *vice versa*.
  - The litter fungal assemblage was influenced by the environment (the type of forest in which *S. cumini* grew).
  - A greater number of fungal species and isolates were present in the litter that was neither fresh nor fully decayed.
  - The number of species and isolates recovered from the litter decreased with increasing period of storage of litter before processing.
- Many of the litter fungi produced cellulase, pectinase, protease and lipase enzymes.
- Some of the litter fungi produced L-asparaginase, an anticancer drug.
- The litter fungi showed various types of interaction with phytopathogenic fungi *in vitro*.

References