

SUMMARY

The present investigation, deals with the study of fungal biodiversity and their preservation from the different localities of Western Ghats. The fungi were collected from September 2006 to January 2008 on leaves i.e. foliicolous. Large number of fungi were collected, studied, identified, classified and the germplasm is preserved. The already recorded fungal forms were also studied and preserved. More attention has been given on the class-Ascomycotina and fungi imperfecta. These forms were found on green leaves, semi-dry leaves, dry leaves, throughout year.

The class-Ascomycotina is studied with the 9 species, recorded for the first time in India, 6 new varieties have been proposed, 15 new host records new to the fungi of Maharashtra.

Ascomycotina is represented by mainly bitunicate (Loculoascomycetes) Ascomycetes order-Dothideales including two suborders viz. Pseudosphaeriinae and Dothideinae.

The suborder-Pseudosphaeriinae is represented by 2 families. The family-Micropeltidaceae is represented by four genera and Mycospherallaceae with two genera. The forms, from the family-Micropeltidaceae are dimidate-scutate, shield like superficial, ostiolate, orbicular, obtaining their nutrition by sending peg like structures in cuticle or epidermis. While those of Mycospherallaceae are stromatic one.

The suborder-Dothideinae is also represented here by two families viz. Schizothyriaceae and Leptopeltidaceae. These forms are flat, appressed, non-ostiolate, dimidate-scutate and obtaining their nourishment by sending peg like structures in cuticle or epidermis and have bitunicate asci. The family-Schizothyriaceae is represented by again 4 genera, while family-Leptopeltidaceae with a single genus-*Leptopetopsis* Petrak.

The largest genus from the suborder-Pseudosphaeriinae is *Micropeltis* Mont., With 3 species and all are recorded for the first time from India. While that from suborder-Dothideinae, the largest genus studied is *Schizothyrium* Desm., and it is represented by 2 species, new to India, 2 varieties have been proposed and 3 hosts have been new records to the fungi of Maharashtra. The genus-*Leptopetopsis* Petrak was occurred on wide range of hosts.

All these fungi of the order-Dothideales were observed at high altitude localities of Western Ghats in Satara District mostly in winter and summer season.

The other class-Deuteromycotina was also studied with two order viz. Moniliales and Melanconiales. The order-Moniliales is represented by a family-Dematiaceae with 3 genera. It is represented by a new species to India, 3 species new to fungi of Maharashtra and 6 hosts have been recorded for the first time from Maharashtra.

The larger genus is represented here, by *Alternaria* Nees ex Fr. on 5 different angiospermic hosts. Out of which, one form was collected on endangered angiospermic host i.e. *Abitulon ranadei* woodr. and Stapf. (Fam.- Malvaceae). While the genus-*Zygosporium* Mont. is represented by a species, new to India and 3 host records are addition to the fungi of Maharashtra.

The order-Melanconiales is represented by single family-Melanconiaceae. The genus-*Pestalotia* de Notaris, is collected on 4 different hosts including a Gymnospermic host *Zamia* sp. with a newly proposed variety. While 3 hosts are additional to the fungi of Maharashtra.

The class-Deuteromycotina is represented here with the study of a new variety, a species new to India, 3 new species are recorded from Maharashtra and 9 hosts are additional to the fungi of Maharashtra. All these forms of Deuteromycotina are collected throughout the year.

In present investigation, 31 species have been identified occurred on 47 different hosts. Out of these 10 species are new records from India. 7 new varieties have been proposed, 3 species are recorded for the first time from Maharashtra, 24 species are recorded on hosts which are addition to the fungi of Maharashtra.

All these fungi were identified with recent literature, classified properly, preserved, labeled and deposited in Mycological Herbarium Botany Department Y.C.I. Science, Satara with the Nos. 1 to 31 along with other fungal forms studied.