

Diversity Studies of Macrofungi and Lichens from Pangloli, Ratnagiri, Maharashtra, India

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Abstract

Pangloli is a small village in Mhasala Taluka of Raigad District, Maharashtra. The nearby cities are Mahad, Mahabaleshwar and Pen. The village maintains its traditional beauty of small individual houses with sloping red roofs amidst the orchards of coconuts, areca nuts and mangoes. It is surrounded by the hills that are green covered throughout the year. The forests in these hills are mixed deciduous. The people are mainly involved in rice cultivation but also grow some other crops. This beautiful village is changing its scenario very fast as the trekkers point and a picnic spot. A new hotel has already been established. Since the trekkers and visitors develop directly or indirectly the increase the wages of the villagers, they are also attracted by such visitors. This is resulting in the disturbances in the ecosystem of the village and the hills around. The forests in the hills possess a lot of leaf litter. Being near to the Arabian Sea, there is ample rainfall that results in maintaining abundant moisture. Both these result in luxurious growth of diverse types of fungi. This diversity is decreasing in the last few years. The present work indicates some of the species that are occurring in lesser and lesser numbers in the last few years. To carry out this work, frequent visits were made to the location especially during rainy season. The specimens were studied for their morphology and anatomy. The identification was done using standard literature.

Key words: Pangloli, Fungi, diversity, Conservation, Importance of fungi.

INTRODUCTION

The villages of Maharashtra are changing very fast due to urbanization and the development of facilities of transport. Even the small villages are catching attraction of picnic goers and trekkers.

This is leading to the economic development of the villagers. Hence these people prefer this type of growth. But there are some side effects of this. One of the most important problems is the debris of plastic waste, paper plates and broken – unbroken liquor bottles. This ruins the natural ecosystem of these spots.

Pangloli is one such small village that depicts typical structure of villages in Konkan. It is surrounded by small hills of Sahyadri ranges that are the spots of mixed deciduous forests. These forests are the sights of rare and endangered plants. Because of these plants there is a lot of leaf litter and fallen branches or dead wood in such forests. These are the materials on which typically fungi grow. Fungi being small organisms are often neglected by the conservationists. The habitats of these fungi are lost due to such human interference. The fungi play very important role in the forest ecosystem in recycling the organic and inorganic matter through the biogeochemical cycles. Many of these have medicinal properties and can be useful for the dreadful diseases such as cancer if properly studied. Many of the forest fungi are edible. They are removed from the place by the villagers without taking proper measures to conserve them. This also is responsible for the loss of species from the location. The present work is an attempt to show some of the fungal members that are declining in number from this locality.

MATERIALS AND METHODS

1. Frequent visits were made to the location to observe and collect the specimen.
2. The standard techniques for collection and preservation were followed. (Atri and Saini, 2000).
3. Fresh specimen were used for the study of morphological characters.
4. The anatomical characters of gills, stipe, etc were studied from the specimen preserved in formalin.

5. Identification was done by using standard literature such as Christensen, (1960); Evans and Kibby, (2004) and Smith, (1960).

RESULTS

Many fungal specimen belonging to asco and basidiomycetes were collected from time to time. This helped in noting the changes in the fungal flora. Some of the most common fungi that occurred in the study area were Some species of *Agaricus*, *Pleurotus*, *Polyporus*, *Psythyrella*, *Coriolus*, *Marasmius*, *Lepiota*, *Xylaria*, *Hypoxylon*, *Dedalia*, puff balls, *Coprinus*, *Ganoderma*, etc. The leaves and other parts of the plants were also infected by the parasitic fungi. E. g. *Erysiphe* on teak leaves. But gradually the numbers of specimen of certain types were found to be declining. It is observed that a particular species is now restricted to a limited part of the forest. If this part is exposed by deforestation, that species may be lost in future. Some of the species following in this category are as follows:

***Dacryopinax spathularia*:** Synonym: *Cantharellus spathularius*. It is a member of Basidiomycetes belonging to Family Dacryomycetaceae. It is spatula shaped orange yellow coloured jelly fungus. It is 1-1.5 cm tall and 2-3 cm wide. The colour changes to dark red after drying. The spores are hyaline, white, oval in shape, 8-9 μ long and 2-3 μ wide. Basidia are 4 spored.

***Dictyophora indusiatus* :** Synonym: *Phallus indusiatus*. It is commonly known as Bamboo fungus or bamboo pith or long net stinkhorn or veiled lady. It is a member of Basidiomycetes belonging to Family Phallaceae. The fruiting body is a conical cap of one inch width and about 1-2 cm tall on a stalk of about 5-7 cm length. The fruiting body bears an indusium in a lacy skirt like manner. The spores are associated with the cap along with a slimy substance which is known as ink. The fungus is edible- rich in proteins, carbohydrates and fibres. It occurs on dead logs

and is becoming rare and rare gradually due to habitat loss.

Tremella mesenterica : It is a member of Agaricales belonging to family Tremellaceae. The fruiting body is soft and gelatinous. It is an edible fungus. It develops irregularly lobed fruiting bodies. The colour varies from green, yellow or orange. It becomes dark and hard after rainy season due to drying but can retain its form after return of monsoon. Basidia are 15-18 μ long. But the main form of asexual reproduction is by

conidia borne on much branched conidiophores. Conidia are oval, yellow 10 X 6-7 μ in size.

Lepiota cristata : It is a member of basidiomycetes belonging to Family Agaricaceae. It is also known as stinking dapperling or stinking parasol and may be poisonous. The fruiting body is white or cream coloured, with a cap of 1-5 cm in diameter. Cap center is dark. Stipe is 2-5 cm long and 0.5-1 cm thick. Flesh is thin and white. Spores are white, triangular to wedge shaped, 7-8 X 3-4 μ in size.



Dictyophora indusiatus



Lepiota cristata



Tremella mesenterica



Dacryopinax spathularia

Apart from this, some crustose, foliose and fruticose lichens were also observed at the location. Because of increased vehicular transport, the emission of sulphur compounds might have been increased hence all these specimens have disappeared but crustose lichens are still observed at the location.

Hedawoo, (2010), has reported 39 members of Basidiomycetes and four members of ascomycetes from the forests of Amravati region. Sathe and Deshpande (1980) have developed a monograph of Agaricales in Maharashtra. Upadhyay *et al* (2005) have studied dark spored Agaricales from Western Himalayas. Thite *et al* (1976) have reported 17 species of fleshy fungi from Maharashtra. Bhatt *et al* (2014) have studied the macrofungal biodiversity of Adwani forests in Garwal, Himalayas. Dar *et al* (2010) have studied the macrofungal biodiversity of Kashmir. All these studies indicate wide diversity of macrofungi that include the members of ascomycetes and basidiomycetes. This diversity is decreasing at an alarming rate due to human interference and has to be saved. The conserving measures have to be taken immediately to protect them.

CONCLUSION

There is a vast biodiversity of fungi at the selected location. The temperature, moisture content is the favourable factors but human interference is disturbing this biodiversity. It has to be conserved or else some of these species may become extinct.

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