



Phylloplane mycoflora of *Adansonia digitata* L.

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Abstract

The present paper deals with phylloplane mycoflora of *Adansonia digitata* L., carried out during autumn season from November 2018 to January 2019. A total number of 42 species belonging to 17 genera were recorded in span of 4 months. The major contributors are as per decreasing abundance value were species of *Absidia*, *Curvularia*, *Nigrospora*, *Mucor*, *Penicillium*, *Rhizopus* and *Verticillium*. The majority of fungi were isolated from hypomycetes.

Keywords: Phylloplane, *Adansonia digitata* L., Mycoflora

Introduction

Diversity in fungi vast in different ecosystems and fungal diversity determine health of biological system. Hence diversity of fungi is a fundamental resource in order to assess the pathogenesis of higher plants. Therefore, phylloplane is a complex community of microbes, comprises primary pathogen and apparent causal organism. The fungi which are growing on the surface of the leaves, multiply on the leaves, without causing any damage to host, are called phylloplane fungi. Hence, *Adansonia digitata* L., a medicinal plant were selected, to study its phylloplane mycoflora.

Adansonia digitata L. a medium sized deciduous tree, native of Africa, occasionally cultivated in some parts of Maharashtra, Uttar Pradesh, Tamil Nadu and Bihar, commonly called Monkey bread tree or Baobab tree. The plant pulp shows the presence of phlobaphenes, gum, mucilage, tartrate, glucose, and acetate of potash. Hence it is known as "cream of tartar" and again source of vitamin C. The stem bark shows pectin, B-sitosterol, insoluble tannin, glucoside adansonin. Where as seeds contain an oil, stigmasterol, cholesterol, B-sitosterol.etc. Therefore it is used as anti inflammatory, diaphoretic and as a prophylactic against fever also used as fomentation and paultice for rheumatic affections of limbs and inflammatory ulcers. Decoction of bark is used for malaria, and fruit pulp possess aperient, demulcent and astringent properties. Because of presence of such above said phytochemicals plant is used in Tribal medicine, ayurvedic, and pharmaceutical industries. In this aspect, an attempt was made to study its mycoflora during autumn season 2019.

Material and Methods

The diseased leaves of *Adansonia digitata* L. were harvested in morning hours from Shivaji University, Lead botanical

garden in the month of November 2018. About 10 leaves were collected from different branches of the same tree, and brought to the laboratory, where it is rinsed in distilled water, followed by surface sterilization by 0.1 % sodium hypochlorite solution each leaf was further washed with sterilized distilled water about 2-3 times, and collected the inoculum. The prepared inoculum were inoculated on PDA in petridish, about 0.2 to 0.8 ml were inoculated in each petridish. Potato Dextrose Agar (PDA) were prepared as instructed by manufacturer. All petriplates were inoculated at 25°C until the growth of fungi were observed and semi permanent slides were prepared and photomicrographed. For isolation of phylloplane mycoflora Dayal and Srivastava (1975) [2] method was employed. The identification of mycoflora were carried out by standard books and manugraphs (Barnett and Hunter, 1972 and Subramanian. C.V 1971) [1,7]

Result and Discussion

List of micoflora recorded has been depicted in Table-1 The present study reveals that there are 42 fungal species belonging to 17 genera has been recorded. Among the fungal species, species of *Bispora*, *Cladosporium*, *Curvularia*, *Humicola*, *Nigrospora*, *Mucor*, *Penicillium* and *Rhizopus* are in greater frequency and are dominant. Higher peaks of population were seen in the month of December and January. The fluctuation in the mycoflora of various plants during various season have been reported by some worker (Di Menna, 1971, Fokkema 1971, Nagaraja 1990, 1991) [3,5,6] a similar phylloplane mycoflora has been recorded by Nagaraja (1991) [6] in *Strychnos nux-vomica* L. The potential pathogen such as *Alternaria alternata*, *Cladosporium oxysporum*, *Curvularia lunata*, *Rhizopus stolonifer*, they become active pathogen under favourable condition may cause considerable loss.

Table 1: Phylloplane mycoflora of *Adansonia digitata*. L

Sr. No	Fungi in Autumn season	Sr. No	Fungi in Autumn season
1	<i>Absidia cylindrospora</i>	22	<i>Nigrospora</i> sp.
2	<i>Absidia corymbifera</i>	23	<i>Mucor racemosus</i> Free
3	<i>Absidia adansoniae</i>	24	<i>Mucor niemalis</i>
4	<i>Alternaria alternate</i> (Fr).keissler	25	<i>Mucor circinelloides</i>
5	<i>Bispora punctuate</i>	26	<i>Penicillium digitatum</i>

6	<i>Biospora antennata (Pers. Ex-Fries)Mason</i>	27	<i>Penicillium glabrum</i>
7	<i>Biospora adansoniae</i>	28	<i>Penicillium glaucoalbidum</i>
8	<i>Cephalosporium acremonium Cod</i>	29	<i>Penicillium chrysogenum Thom</i>
9	<i>Cladosporium fulvum</i>	30	<i>Penicillium sp.</i>
10	<i>Cladosporium oxysporum Berk and curt</i>	31	<i>Penicillium nigricans Bain</i>
11	<i>Chloridium chlamydozporis</i>	32	<i>Penicillium notatum</i>
12	<i>Curvularia lunata</i>	33	<i>Rhizoctinia sp.</i>
13	<i>Curvularia adansoniae</i>	34	<i>Rhizopus stolonifer (Ehranb.ex.Fr)Lind</i>
14	<i>Carvularia sp.</i>	35	<i>Rhizopus nigricans Ebranb</i>
15	<i>Drechslera avenaceum</i>	36	<i>Rhizopus cohnii Berl and de Ton</i>
16	<i>Drechslera sp.</i>	37	<i>Rhizopus oligosporus</i>
17	<i>Gliocladium deliquescens</i>	38	<i>Rhizopus adansoniae</i>
18	<i>Humicola fuscoatra</i>	39	<i>Trichothecium roseum</i>
19	<i>Humicola sp.</i>	40	<i>Verticillium albo-atrum</i>
20	<i>Monilia sitophila</i>	41	<i>White mycelium</i>
21	<i>Nigrospora sphaerica</i>		

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