

FUNGI FROM CRUDE DRUGS

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ABSTRACT: Nineteen fungal species were isolated from the ingredients of the ayurvedic drugs, *Jusanda*. The significance of the findings is discussed.

INTRODUCTION

Jusanda is a crude medicine and is considered to be of great value in the treatment of cold and cough. It has eleven ingredients mainly leaves, stems and fruits. During collection and drying, the plant parts get infected with various fungi which may reduce the medicinal value and produce their own toxins which may be harmful to the consumers. An attempt was therefore, made to record the occurrence of different fungi on *Jusanda*. Mishra et al. (1976) and Rajeev et al. (1979) have isolated different fungi from crude medicines **Terminalia chebula** and **Trifla** respectively.

MATERIALS AND METHODS

All ingredients viz. seeds of **Khaksi** (*Sisymorium irio*), **Bidana** (*Berberis* sp.) fruits of **Unnabi** (*Zizyphus* sp.), **Banafsa** (*Vicia odorata*) seeds of **Khatmi** (*Althoea officinalis*) **Munaka** (*Vitis* sp.), **Sauf** *Foeniculum vulgare*, leaves of **Geuzban** (*Anisomeles malabarica*), **Mulhatti** (*Glycyrrhiza glabra*), fruits of **Khubaji** (*Malva*, sp.), and seeds of **Sanai** (*Crotalaria* sp.) were purchased separately from the local dealer of crude medicines. These ingredients were kept separately in pre-sterilized polythene bags. In the laboratory,

isolation of fungi associated with the ingredients was made using Martin streptomycin rose Bengal agar. The Petri plates were incubated at $27 \pm 1^{\circ}\text{C}$. Examination of Petri plates was made at regular intervals. Fungi appeared at different intervals and were separately maintained for identification.

RESULTS AND DISCUSSION

The fungi isolated from different ingredients of **Jusanda** are presented in Table 1. In all nineteen fungal species were isolated. It is clear from the Table that seeds of **Bidana**, leaves of **Sanai**, stem of **Mulhatti**, fruits of **Unnabi** and **Banafsa** were highly infected with 10,8,7 and 6 number of fungi respectively followed by **Khaksi**, **Khatmi**, **Khubaji** and **Munakka** which were infected by three to five fungi. **Sauf** and **Geuzban** were least infected and only two fungal species were isolated from each.

Among the fungi **Mammoniella** sp., **Penicillium pupureogenum**, **Aspergillus flavus**, *A. fumigatus*, **Cladosporium cladosporioides**, *Alternaria tenuis* and **Periconia** sp., were isolated from most ingredients while **P. lanosum**, **A. niger**, **A.**

repens, *Cunninghamella* sp., *Chrysosporium* sp., *Fusarium* sp., *Gliomatrix* sp., *Rhizopus oryzae* were not common and were isolated from one or two ingredients only as shown in the Table.

The isolation of nineteen fungi from ingredients of **Jusanda** may pose a serious

problem. The frequency and intensity of these fungi may vary under different weather and storage condition. Researchers are therefore, suggested to study the effect of the presence of the microflora in crude medicines. Also, these ingredients should be stored in conditions not congenial to these organisms.

TABLE 1

Fungi, isolated from different ingredients of Jusanda

S. No.	Fungi	INGREDIENTS OF JUSANDA*											Total
		1	2	3	4	5	6	7	8	9	10	11	
1	<i>Alternaria tenuis</i>					+		+			+	+	4
2	<i>Aspergillus candidus</i>	+								+	+		3
3	<i>A. flavus</i>		+	+		+				+		+	5
4	<i>A. fumigatus</i>	+	+	+	+							+	5
5	<i>A. funiculosus</i>	+	+				+				+		4
6	<i>A. niger</i>									+		+	2
7	<i>A. repens</i>		+										1
8	<i>Chrysosporium sp.</i>		+										1
9	<i>Cladosporium cladosporioides</i>		+		+		+				+	+	5
10	<i>Cunninghamella sp.</i>	+					+						2
11	<i>Fusarium sp.</i>				+					+			2
12	<i>Gliomatrix sp.</i>		+										1
13	<i>Mammoniella sp.</i>		+		+	+	+	+	+	+			7
14	<i>Penicillium lanosum</i>			+									1
15	<i>Penicillium purpurogenum</i>			+	+		+			+		+	5
16	<i>Perioconia sp.</i>			+	+				+			+	4
17	<i>Rhizopus oryzae</i>					+							1
18	<i>R. nigricans</i>		+	+								+	3
19	<i>Sterilmycelium sp.</i>							+					1
Total		3	10	6	6	4	5	2	2	7	4	8	

+ Present

* 1. *Khaksi*, 2. *Bidana*, 3. *Unnab*, 4. *Banafsa*, 5. *Khatmi*, 6. *Munakka*, 7. *Sauf*, 8. *Geuzban*, 9. *Mulhatti*, 10. *Khubaji*, 11. *Sanai*.

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