

ADDITIONS TO THE FUNGI OF INDIA - V. *RHIZOPUS* *MICROSPORUS* AND *TRICHODERMA PSEUDOKONINGII*

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Rhizopus microsporus van Tiegham and *Trichoderma pseudokoningii* Rifai, isolated from decomposing paddy straw and from the field soil, are described. Both the species are new records for India.

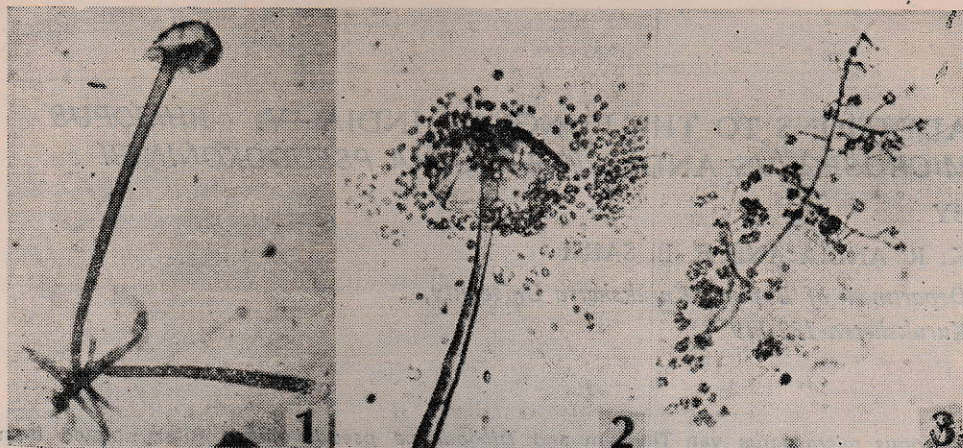
Uptil now several reports on Indian fungi have been published by different scientists (Mitter and Tandon, 1930 ; Chowdhury, 1946 ; Roy, 1948 ; Subramanian and Ramakrishnan, 1958 ; Ghosh and Dutta, 1960 ; Bilgrami and Verma, 1972). Recently Bilgrami *et al.* (1979) have compiled excellently on the fungi of India. But no such comprehensive report is available on the fungi of Kurukshetra area and as such the present work has been undertaken. This is the fifth report in the series.

During the course of succession on decomposing paddy straw in the fields of Kurukshetra University Campus, the authors isolated and identified a Zygomycete, *Rhizopus microsporus* van Tiegham and a Hyphomycete, *Trichoderma pseudokoningii* Rifai. Both of them are new additions to the fungi of India.

Rhizopus microsporus van Tiegham, Ann.Sci.Nat.bot., 6 Ser.1 : 83 (1875).

Colonies on Potato Dextrose Agar medium are fast growing, white, covering 9.5 cm within 3 days. Mycelium is of two types, submerged in the substratum and aerial constituting the arching filaments or stolons with nodes at intervals, each node gives rise to sporangiophores opposite a group of rhizoids (Fig. 1). The sporangiophores are oftenly produced singly occasionally in groups of 1-3, 468-858x7.2-11.5 μ m. The sporangia are columellate, globose, smooth walled 62.5-85 μ m in diameter with globular columella, 40-51 μ m in diameter (Fig. 2). Spores are round to oval, 5.5-6.3x3.6-4.6 μ m.

R. microsporus closely resembles with that of *R. nigricans* but differs from the latter in the following respects : The sporangiophores and spores in *R. microsporus* are much smaller as compared to *R. nigricans* i.e., sporangiophores are 0.5-4 mm in length and spores 9-12x7.5-8.0 μ m in the latter. Moreover, the sporangiophores



Figs. 1-3. *Rhizopus microsporus* (1-2). 1. Hypha bearing sporangiophore, rhizids and stolon (X210). 2. Ruptured sporangium showing columella and spores (X670). *Trichoderma pseudokoningii* (-). Branched sporangiophore showing branches, conidiogenous cells and conidia in balls (X670).

in *R. microsporus* are often produced singly while in *R. nigricans* they are in groups of 3-5 or more.

Living culture of the fungus has been deposited with Commonwealth Mycological Institute, Kew, Surrey, England (IMI 285271).

Trichoderma pseudokoningii Rifai, Mycological Papers No.116 : 1-59 (1979)

Colonies are fast growing, covering the surface of the medium producing sparse mycelium. The colour of the colony changes with the conidial production from white through yellowish to bright green. The conidiophores are loosely tufted producing numerous main branches, the latter giving rise to side branches which in turn may produce smaller side branches on which conidiogenous cells (phialides) are borne. Conidiogenous cells arise singly along the branches of conidiophores either alternately or irregularly, but are mostly confined to the apical portions of the main branches (Fig. 3). The conidiogenous cells are obovate or spindle shaped, measuring $5.2-8.6 \times 2.7-3.6 \mu\text{m}$. Conidia are produced in globose balls at the tip of conidiogenous cells, subcylindrical to oblong, green in mass, but paler in colour when viewed singly and measure $3.5-4.7 \times 2-2.5 \mu\text{m}$. Living culture of the fungus has been deposited with C.M.I., Kew, Surrey, England (IMI 285274).

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