Pak. J. Bot., 4 (2): 211—213, 1972

INHIBITION OF CERTAIN HUMAN PATHOGENIC FUNGI BY *STACHYBOTRYS ATRA*

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With the increasing recognition of fungi as disease causing organisms of man and animal, surveys of soil fungi as sources of new antimycotic agents have been made (Brian, 1951; Broadbent, 1966; Blunt & Baker, 1968). The efficacy of griseofulvin, a metabolic product of *Penicillium nigricans*, *P. urticae* and *P. raistrickii*, as a therapeutic agent in the treatment of dermatomycosis is well known (Brian, 1960). Considering the inhibitory effects of *Stachybotrys atra*, a dematiaceous fungus and a common soil inhabitant, towards a number of soil micro-organisms, an experiment was carried out to see its effects on certain human pathogenic fungi. This is reported below:

The isolate of *S. atra* used was the same as reported earlier (Butt & Ghaffar, 1972). The cultures of fungi viz., *Allescheria boydii*, *Aspergillus fumigatus*, *Hormodendrum pedrosoi*, *Microsporum canis*, *M. cookei*, *M. gypsium*, *Tricophyton ajeloi*, *T. monta grophytes* and *T. tonsurans*, as causal agents of human mycoses previously isolated from human/soil, were obtained from the Microbiology Department, University of Karachi.

Czapek Dox Agar in which sucrose was replaced with glucose was used in this study. Five mm diameter discs from actively growing edge of the test fungi were inoculated opposite 2 day old colony of *S. atra* on Czapek Dox Agar, pH 5.3. The dishes were incubated at 30 C. After 5 to 11 days, *S. atra* was found to inhibit all the fungal isolates tested, a zone of inhibition of 7 to 16 mm was produced (Table 1).

Whereas *S. atra* is capable of antibiosis, its broad spectrum behaviour would suggest a potential therapeutic value against pathogenic fungi but its use may be limited keeping in view the report of Forgacs (1965) where *S. atra* has been found to produce a mycotoxin, stachybotryotoxicosis in substrate like straw and feed by which animals like horses, cattles and human have been affected with haemorrhagic nacrosis of mucus membrane. The chemical nature of the mycotoxin produced by *S. atra* is yet not known (Hesseltine, 1969). The active principle involved in the stachybotryotoxicosis/ antimycotic activity needs investigation.

Acknowledgements

We wish to thank Dr. Khurshid Ali Khan of the Department of Microbiology, University of Karachi for the cultures of pathogenic fungi.

Table 1. Inhibition of 10 human pathogenic fungi by *Stachybotrys atra* on Czapek Dox Agar at 30°C.

Test organisms	Radial growth		Days of incubation at which test fungus stopped growing	Zone of inhibition (mm)	Remarks Aeitiologic agents of
	S. atra (mm)	Test fungus (mm)			
Allescheria boydii Sacc. & Syd.	9	22	7	9	Mycetoma
Aspergillus fumigatus Fresenius (Isolate-1)	9	23	5	9	Aspergillosis
-do- (Isolate-2)	8	22	7	10	,,
Hormodenrum pedrosoi Brumpt.	16	12	16	14	Chromoblastomycosis.
Microsporum canis Bodin	9	14	10	27	,,
Microsporum cookei Ajello	10	12	9	20	Dermatomycosis
Microsporum gypsium (Bodin) Guirt and Grigorakis	9	15	11	18	,,
Tricophyton ajelloi	10	6	9	24	,,
Tricophyton mentagrophytes (Robin) Blankard	8	13	7	20	,,
Tricophyton tonsurans Malmsten	16	10	9	16	,,
Stachybotys atra Corda ex Fr., Control	21	19	—	—	Stachybotryotoxicosis

Figures indicate average of 3 replicates.

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