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Bioactive Secondary Metabolites from a Fungus *Aspergillus* sp. Associated with *Musa sp.*

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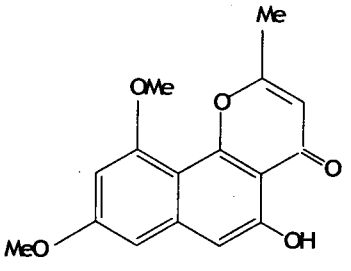
Fungi produce structurally diverse biologically active secondary metabolites. Several important bioactive compounds such as penicillin (antibiotic), cryptocandin (fungicide), and helvic acid (herbicide) have been isolated from fungi *Penicillium notatum*, *Cryptosporiopsis* cf. *querina*, *Aspergillus fumigatus* respectively. Hence there is an increasing trend to search the fungal world for for new bioactive metabolites.

Black colored densely sporulated epiphytic fungus with septate hyaline was isolated from diseased *Musa sp.* Based on the morphological characters, it was identified as *Aspergillus sp.* Pure culture of the fungus was inoculated on three different media; Potato Dextrose Agar (PDA), Potato Dextrose Broth (PDB) and rice medium. After 6-8 weeks, fungal media were extracted with n-hexane, ethyl acetate and methanol using an ultrasonicator. All these extracts were subjected to bioassays for antifungal activity against *Cladosporium cladosporioides* by TLC bioautography method; antioxidant activity against DPPH radical using TLC bioautography method; cytotoxicity was determined using brine shrimp (*Artemia salina*) lethality assay and phytotoxicity against *Lactuca sativa* using Petri-dish bioassay.



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Only the EtOAc extract obtained from the rice medium showed antifungal activity against *C. cladosporioides* displaying a zone of inhibition on TLC plate. All the extracts obtained from rice, PDA and PDB media showed antioxidant activity indicating white spots in purple background on TLC plate when sprayed with 0.004% DPPH. All extracts from PDB and PDA media displayed significant inhibition in cytotoxic activity. The hexane and EtOAc extracts from rice and PDB media displayed significant inhibition in growth of shoots of lettuce seedlings. The hexane and EtOAc extracts from all three media displayed significant inhibition in growth of roots of lettuce seedlings.

Chromatographic separation of ethyl acetate extract of PDA medium which showed significant cytotoxicity and phytotoxicity resulted in isolation of eight compounds. One of the compound was identified as flavasperone (**1**). Structure elucidation and determination of bioactivities of individual compounds are in progress.