ISOLATION, STRUCTURES AND BIOLOGICAL SCREENING OF METABOLITES FROM *ASPERGILLUS NIGER* ASSOCIATED WITH *MUSA* SP.

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Fungi are among the most important organisms in the world, not only because of their very important roles in ecosystem functions but also their power on humans and human related activities. Fungi are essential to such vital activities as decomposition, nutrient cycling and nutrient transport. Some fungal species are important animal and plant pathogens; others form obligate mutualistic symbioses with plants, algae, cyanobacteria and animals. Fungi are also of enormous economic importance having both positive and negative effects on human activities such as brewing, baking, industrial fermentation, pharmaceutical and use as food. At the same time fungi cause many millions of dollars in damage each year through food spoilage destruction of materials used by humans and diseases of plant and animals.

Black coloured filamentous fungus *Aspergillus niger* was isolated from the inner part of the peel of *Musa* sp by sub culturing on potato dextrose agar (PDA) medium. Pure culture of the fungus was inoculated on potato dextrose broth (PDB) medium in twenty 1L Erlenmeyer flasks and potato dextrose agar (PDA) medium in forty 15cm diameter petridishes and allowed to grow.

After four weeks PDB medium was filtered through a Buchner funnel and partitioned with *n*-hexane and ethyl acetate to give *n*-hexane extract and ethyl acetate extract. Residual mycelium was sequentially extracted in to ethyl acetate and methanol using sonicator. PDA medium was extracted into ethyl acetate and methanol. All these extracts were subjected to bioassays, antifungal activity against *Cladosporium cladosporioides* by TLC bioautography method, antioxidant activity against DPPH radical using TLC bioautography method, brine shrimp toxicity against *Artemia salina* and phytotoxicity against *Lactuca sativa*.

Significant phytotoxicity and brine shrimp toxicity was observed in three ethyl acetate extracts obtained from both PDA and PDB medium. TLC analysis indicated the presence of same compounds in three ethyl acetate extracts obtained from the PDB media, mycelium and also PDA medium. Hence three extracts were combined and chromatographed over combination of chromatography over silica gel (*n*-hexane-EtOAC-MeOH), sephadex LH-20 (methanol), reverse phase silica gel (RP) and RP- HPLC (H_2O-MeOH).

Separation of the combined ethyl acetate extract furnished three γ-naphthopyranes which are Flavasperone (**97**), Foncesinone A (**98**) and Aurasperone A (**99**); two alkaloids Aspernigrin A (**100**) and Pestalamide C (**101**); a Cephem derivative (**102**) which is the first report of natural cephem derivative with a vinyl moiety and fatty acid (**103**).

Out of the compounds **97-103** only two compounds **98** and **99** were found to be highly toxic against brine shrimp lethality assay while compound **101** mildly toxic. Compounds **97-103** were not exhibit significant activity against phytotoxic, antifungal and antioxidant bioassays.