Investigation of Antifungal Properties of *Lantana camara* Stem Bark Extract and its Bioassay Guided Fractionation

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ABSTRACT

Medicinal plants represent a rich source of antimicrobial agents.In this study *L.camara* was selected due to lack of information in our region about the antifungal activity of its stem bark and the selected fungi were plant pathogens. Objective of the study was to carry out fractionation of crude extract and to investigate their antifungal activity. The air dried stem bark (100g) of *L.camara* was powdered and extracted with ethyl acetate (2× 200mL) at room temperature and the resulting extract was concentrated under reduced pressure to give 4.2g of crude extract. By usingVacuumLiquid Chromatography (VLC), the ethyl acetate crude was divided into two fractions (A and B) by the Thin Layer Chromatography (TLC)analysis. The antifungal bioassay was done to the above two fractions against *Aspergillus* sp.,*Alternaria* sp.,*Fusarium* sp.,*Trichoderma* sp. and *Penicillium* sp. The diameter of the inhibition zone was measured after 24, 48, 72 and 96 hour incubation periods. Zone of inhibition of extracts were compared with synthetic antifungal agent Mancozeb(positive control) and the solvent ethyl acetate (negativecontrol).Fraction B showed higher antifungal activity than fraction A. Therefore fraction B was subjected to further chromatographic fractionation. By using column chromatography, the fraction B was divided into two fractions X and Y and gave single spot based on TLC analysis. The antifungal bioassay was also done to fractions X and Y against same fungi. Both fractions X and Y showed highest inhibition on *Fusarium* sp. were 25mm and 32mm and on *Penicillium* sp. were 26mm and 34mm respectively after 48 hours of incubation. Further studies should be carried out to find out pure antifungal compounds,since this work contributed as a primary platform.

Key words: Antifungal compounds, Vacuum Liquid Chromatography, Column Chromatography