

Morphological and Molecular Identification of Endophytic Colletotrichum Species from Medicinal Plants and Their Antimicrobial Potential

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Abstract : Endophytic fungi from medicinal plants are important source of numerous pharmacologically important compounds. In the present investigation, the endophytic fungi were isolated from three medicinal plants; *Andrographis paniculata*, *Rauwolfia serpentina* and *Tridax procumbens*. Endophytic *Colletotrichum* sp. were identified on the basis of cultural and morphological characteristics as well as internal transcribed spacer (ITS) sequence analysis. Antibacterial and antifungal activity of the ethyl acetate and methanol extract of endophytic *Colletotrichum* sp. was evaluated against seven different human pathogenic bacteria and six *Candida* sp. The extracts were effective and showed significant activity against all the test pathogens. In case of yeast *Candida*, the combined effect of extracts and standard antibiotic was enhanced greatly showing synergistic activity. Further, the extracts were assayed for Minimum Inhibitory Concentration (MIC) and Minimum Bactericidal/Fungicidal Concentration (MBC/MFC) where, MIC values were in the range of 100-250 µg/ml. These results suggest that the endophytic *Colletotrichum* sp. isolated from the medicinal plants are capable of producing promising antimicrobial metabolites.

Keywords : antimicrobial, colletotrichum, endophytic fungi, medicinal plants

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