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BIOACTIVITY STUDIES OF CRUDE EXTRACTS OF FUNGI ISOLATED FROM PLANT AND SOIL FROM SRI LANKAN MANGROVE ENVIRONMENT

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ABSTRACT

Mangrove environment is a tremendous source of natural products. It has become an important source of pharmacologically and agriculturally active metabolites. Secondary metabolites are chemical compounds which produced by organism for their protection from the environment. In the present study four endophytic fungi were isolated using serial dilution method for soil sample and triple sterilization of plant leaves collected in Hikkaduwa, Sri Lanka. Bioactivity of MeOH extracts of the culture media of four fungi were carried out using DPPH radical scavenging assay for antioxidant activity, brine shrimps lethality assay for cytotoxicity and phytotoxic activity against lettuce seeds germination and tomato plant inhibition assays. Meanwhile, the chemical analysis of the crude extracts was carried out using preliminary assays as well as Co-TLC using authentic compounds. The biological studies indicated that the crude extracts from plant and soil fungi shows good antioxidant activity and cytotoxic activity. From the preliminary studies shows that extracts are rich of sterols and phenolic compounds. Further, ergosterol, emodin and terrine were identified from the bioactive hexane and MeOH extracts of plant fungus with the use of NMR and mass spectrometric data analysis.