



Isolation of Biological Active
Compounds of Some Selected
Terrestrial Fungi of
Sri Lanka

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Abstract

Terrestrial fungi are known to produce a remarkably diverse range of secondary metabolites and are an important source of pharmacologically active compounds. A large proportion of fungal species worldwide remain chemically unexplored making this group one of the most promising microbiotic sources for new lead compounds for drug discovery. In this study, directed towards the isolation of new biologically active compounds from Sri Lankan fungi, the antimicrobial activities of nine randomly selected fungal species of Sri Lanka have been investigated. The crude organic extracts of the nine species were screened for activity against four bacterial species (*Bacillus subtilis*, *Escherichia coli*, *Staphylococcus aureus*, *Klebsiella aerogenes*) and four fungal species (*Rhizoctonia zolani*, *Curvularia sp*, *Colletotrichum gloeosporioides*, *Corynespora cussicola*).

Four species *Xylaria polymorpha*, *Daldinia cocentrica*, *Pycnoporus cinnbarinus* and *Ganoderma lucidum*, showed antibacterial activity against all four bacterial species tested. *Ganoderma sp* was active against *Bacillus subtilis* and *Staphylococcus aureus*. *Auricularia auricula judae* was shown activity against *Bacillus subtilis* and *Escherichia coli*. *Schizophyllum commune* and *Agaric impudicus* were active against only one species; *Bacillus subtilis* and *Staphylococcus aureus* respectively. *Trametes suaveolens* was inactive. None of the crude extracts showed antifungal activity.

Based on the above bioassay results and TLC studies of the crude extracts, *Ganoderma lucidum* which showed promising antimicrobial activity was chosen for further studies. Bioassay-guided fractionation of the crude extract of *G. lucidum* led to the isolation of the new antimicrobial triterpenoid 1.