

AN ANTIFUNGAL CONSTITUENT OF COSTUS SPECIOSUS

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Costus speciosus (Sinh- Thebu) Zingiberaceae, collected at Kalutara, is a herbaceous plant found in Sri Lanka, India, Malaya, China and the Philippines. The rhizome of the plant is used for the treatment of catarrhal fevers, dyspepsia, worms, and skin diseases. It may also be used as a source of diosgenin, a widely-used starting material for the semisynthetic production of steroid drugs.

Dried and powdered rhizome of C. speciosus was extracted with hot methanol. The extract was tested for antifungal activity against Cladosporium cladosporioides using the TLC bio-assay technique and was found to be active. Bio-assay monitored fractionation of the extract using chromatographic techniques yielded the antifungal compound as a white crystalline solid m.p. 133-134°C which was identified as methyl-3-(4-hydroxyphenyl)-2-propenoate from spectroscopic analysis (UV, IR, ¹H NMR and Mass).

This compound also displayed activity against the following fungi: Aspergillus niger, Collectotrichum gloeosporioides, Curvularia sp. and Penicillium sp. The significance of this compound in the biosynthesis of C₆C₃ phytoalexins and other metabolites will be discussed.

This work was supported by a grant from NARESA

References

- Jayaweera, D.M.A. (1961) "Medicinal plants used in Ceylon".
National Science Council of Sri Lanka. part 5, pg. 199.
Indian Drugs 1979, 17(1), 3-5 (Eng.)

09th Dec. 1987 (Wednesday) 02.00 p.m. - 02.15 p.m.