

A199 Isolation of antimicrobial fractions from a root extract of *Terminalia sambesiaca*

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The East and South African *Terminalia sambesiaca* grows into a tall forest tree, up to 39 m high, and is found in rain and riverine forests. It is used in traditional medicine in East Africa, where the powdered rootbark is mixed with porridge and eaten for bloody diarrhoea (1). The stembark has been found to show antibacterial activity against *Staphylococcus aureus*, *Salmonella typhi* and *Shigella boydii* (2), and this result is in agreement with those we have obtained. We found that methanolic crude extracts of the roots of *T. sambesiaca* were considerably active against both gram-positive and -negative bacteria as well as against *Candida albicans* (3).

On the basis of an antimicrobial screening (3) of six species of *Combretum* and four of *Terminalia*, collected from Tanzania, we have chosen *Terminalia sambesiaca* for the isolation of antimicrobial active fractions and compounds. Six fractions have been isolated from a methanolic root extract of *T. sambesiaca* with the aid of RP-MPLC. Gradient elution was performed, with an eluent containing an increasing concentration of MeOH. The fractions were combined into six fractions according to results obtained from RP-TLC. Fractions have been tested for antimicrobial activity, and it was found that especially the fractions containing the most polar compounds were good inhibitors against *Enterobacter aerogenes*, *Micrococcus luteus* and *Staphylococcus aureus*, but also the other fractions showed activity. We aim at bioactivity-guided isolation of the antimicrobial active molecules with HPLC coupled to microplate fractionation.

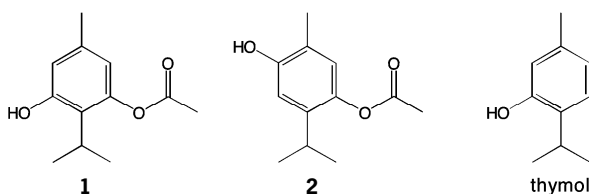
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A200 New antifungal and antibacterial thymol derivatives from *Blumea gariepina*

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The dichloromethane extract of the aerial parts of *Blumea gariepina* was demonstrated active against the phytopathogenic fungus *Cladosporium cucumerinum*. In order to rapidly identify the active principles, the crude extract was analysed using LC/UV/MS and LC/UV/NMR and all peaks were collected and submitted to antifungal bioautography assays (1). This approach led to the isolation of a new thymol derivative (1), together a known thymol derivative (2). The structures were elucidated by spectrometric methods including ESI-HR, EI, D/CI mass spectrometry, ¹H, ¹³C and 2D NMR experiments. The thymol derivatives demonstrated antifungal activities against *Cladosporium cucumerinum* and *Candida albicans* and antibacterial activity against *Bacillus subtilis*.



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Reference: 1. Queiroz, E.F. et al. (2002) J. Chromatogr., in press.