

---

**A205 Assessing the role of bark in traditional medicine in KwaZulu-Natal, South Africa: fact and fiction in the literature**O.M. Grace <sup>a</sup>, J. van Staden <sup>a</sup>, H.D.V. Prendergast <sup>b</sup> and A.K. Jäger <sup>c</sup><sup>a</sup> Research Centre for Plant Growth and Development, University of Natal Pietermaritzburg, Private Bag X01 Scottsville 3209, South Africa. <sup>b</sup> Centre for Economic Botany, Royal Botanic Gardens, Kew, Surrey TW9 3AB, United Kingdom. <sup>c</sup> Department of Medicinal Chemistry, Royal Danish School of Pharmacy, 2 Universitetsparken, 2100 Copenhagen O, Denmark.

The extensive use of bark products is characteristic of South African traditional health care. This study considered the medicinal role of bark in KwaZulu-Natal, according to knowledge recorded in the literature. One hundred and eighty plant species, representing 50 families and 108 genera, were identified in thorough literature surveys. An electronic database was designed to accommodate searchable information pertaining to each taxon. Data from the literature were entered into several categories: vernacular plant names used in the region; usage in the province and southern Africa; field descriptions, anatomical and biochemical properties of the bark; conservation status of each species; and miscellaneous notes. Parameters were set to ensure that data applied explicitly to the medicinal purpose or properties of bark used in KwaZulu-Natal. Interesting trends in the ethnobotany, pharmacology and conservation status of these species were noted. Limitations in the specificity of information in the literature were found to impress strongly on the volume and quality of knowledge captured in the database. The authors highlight some problems encountered with the literature in this study.

---

**A206 Medicinal plants with antifungal activity against *Candida albicans***

M.L. Motsei, K.L. Lindsey, A.K. Jäger and J. van Staden

Research Centre for Plant Growth and Development, School of Botany and Zoology, University of Natal Pietermaritzburg, Private Bag X01, Scottsville, 3209, South Africa.

*Candida* was discovered more than a century ago as a causative organism of oral thrush. In HIV patients, the presence of oral candidiasis is the earliest opportunistic infection. The distribution of candidiasis lesions associated with HIV infections are primarily a reflection of the specific change of the host's immune responses caused by the virus (1). Over twenty South African medicinal plants were screened using a modification of the NCCSL broth microdilution antifungal test (2). The plants were screened against *Candida albicans*' standard strain ATCC 10231 and two clinical isolates from a 5 month old baby and an adult. Water, ethanol, ethyl acetate and hexane extracts, resuspended to 50 mg/ml were tested. *Allium sativum* L. and *Tulbaghia violacea* L. bulbs had MIC values of 0.56 mg/ml and 3.25 mg/ml respectively, whilst *Polygala myrtifolia* L. leaves and *Glycyrrhiza glabra* L. root sticks had MIC values of 1.56 mg/ml when test against the 5 month isolate. The activity of the extracts differed with the different strains, where the 5 month strain was more susceptible to the extracts and the standard strain being the least susceptible. Fresh water extracts stored at 4°C, 23°C and 33°C over a period of a week, were used to determine the stability of these extracts. *A. sativum* L. and *T. violacea* L. maintained activity at 4°C, but not at higher temperatures, whereas *P. myrtifolia* L. and *G. glabra* L. lost activity within a day even at 4°C. The stability tests were performed using the standard strain. The active compounds were located on TLC plates using the bioautographic assay. The unpleasant taste of the two garlic species, could however not be masked, and as the smell following the eating of the garlic would lead to HIV- patients being recognised, these two plants were not considered for further investigation. Therefore *P. myrtifolia* L. and *G. glabra* L. are being further investigated for use as an oral mouthwash in clinics and homes.

**Reference:** 1. Fan-Harvard, P. et al. (1991) Antimicrob. Agents and Chemother. 35: 2302-2305. 2. Espinell-Ingroff, A., Pfaller, M. A. (1995). Antifungal Agents and Susceptibility Testing. In Manual of Clinical Microbiology, 6<sup>th</sup> edition, editors Murray, P.R. et al. ASM Press. Washington D.C.