A207 Storage of frequently used South African medicinal plants

G.I. Stafford, J. van Staden and A.K. Jäger
Research Centre for Plant Growth and Development, School of Botany and Zoology, University of Natal Pietermaritzburg, Private Bag X01, Scottsville 3209, South Africa.

Approximately 19 500 tonnes of plant material are traded per annum in South Africa, with an estimated value of more than US$ 60 million (R420 million) (1). The development of traditional medicinal plants as crops for small-scale farming and the general development of traditional medicine calls for investigation into the post-harvest physiology of these plants. Plant materials from nine popular South African medicinal plants (*Alepidea amatymbica* Eckl. & Zeyh, *Leonotis leonurus* (L.) R. Br., *Drimia robusta* Bak., *Vernonia colorata* (Willd.) Drake, *Scilla natalensis* Planch., *Eucomis autumnalis* (Mill.) Chitt. subsp. *autumnalis*, *Bowiea volubilis* Harv. ex Hook. f., *Helichrysum cymosum* (L.) D. Don and *Siphonochilus aethiopicus* (Schweinf.) B. L. Burtt.) were stored for three and twelve months respectively and changes in chemical composition and biological activity then determined using TLC-fingerprinting and *in vitro* bioassays. The COX-1 anti-inflammatory bioassay (2), minimum inhibitory concentration micro-titre-plate antibacterial bioassay (3) and the bio-autographic bioassay were used to determine changes in biological activity. Changes in chemical composition and biological activity were mainly observed after one year of storage. Of the plant extracts tested for anti-inflammatory activity the ethanol extracts generally yielded higher activity. *S. natalensis* and *B. volubilis* both showed an increase in anti-inflammatory activity after storage whereas *S. aethiopicus*, *H. cymosum*, *D. robusta* and *V. colorata* showed a loss in activity after storage. In general there was a marked decrease in anti-inflammatory activity and in most cases no change or even an increase in antibacterial activity. This was accompanied by visual changes in chemical composition on TLC-fingerprints and antibacterial bio-autographic plates. Accelerated ageing studies (storage at high temperature and high humidity) were subsequently conducted on four plant extracts. This method proved successful in speeding up the ageing process and provided further insight into the changes that occurred during storage. The various active components from these four extracts in both the fresh and aged material are being isolated in order to determine their structure.

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A208 Antifungal activity of *Oudemansiella* sp. (Basidiomycetes)

H. Vahidi and M. Ahmadi
School of Pharmacy, Shaheed Beheshti University of Medical Sciences, P.O.Box: 14155 – 6153, Tehran, Iran.

It is evident that the increasing in serious fungal infection, the toxicity and adverse effects seen with the most active and broad – spectrum compound amphotericin B, and the possibility of resistance developing to azole, new antifungal agents are needed (1). The basidiomycetes (mushrooms) are valuable as a gene pool sources, which has not yet been the subjected for any possible antifungal activity.

During the course of our screening for antifungal agents produced by basidiomycetes 20 mushroom were examined. All fungi were collected from the north of Iran and tissue culture for each fungus was carried out to produce vegetative form. Each culture was grown in liquid culture medium (malt extract). Cultures were extracted with ethyl acetate and subjected for antifungal activity. For the preliminary assay 100 µg/ml of extract was used. Different fungi including, *C. albicans*, *C. lipolytica*, *A. niger*, *Cladosporium* sp. and *Fusarium* sp. were also used as test organisms.

Of 20 isolate, one fungus showed strong activity against test organisms especially *A. niger* and *Cladosporium* sp. at the concentration of 25 µg/ml culture extract. Activity against other organisms was observed at the concentration of 50 µg/ml culture extract and higher (*C. albicans* 100 µg/ml, *C. lipolytica* 75µg/ml and *Fusarium* sp. 100 µg/ml). The results obtained from our experiments showed the fungus is rich sources of antifungal agents especially against spore producing fungi. The fungus was also identified to the level of genus as *Oudemansiella* sp.

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