

content was between 0.39 and 1.79 g/100 g. *Solanum nigrum*, *Tulbaghia violacea*, *Chenopodium album* and *Chenopodium murale* had the highest concentrations of fibre, protein, lipid, phytate and ash respectively. Calcium, magnesium, potassium, sodium, phosphorus, copper, iron, zinc, manganese and vitamin C ranged between 6.70-34.84; 1.54-22.79; 50.6-125.97; 0.25-18.73; 2.10-4.76; 0.01-0.02; 0.21-2.60; 0.12-0.60; 0.04-0.60 and 41.67-225.00 g/100 g respectively. *Chenopodium murale* had the highest concentration of Mg, K and P while *Physalis peruviana* had the highest concentration of Fe and vitamin C. Copper was remarkably low in all the wild vegetables. This study revealed the potential of wild vegetables to meet the daily requirements of nutrients needed for human health. The nutritional content suggests that inclusion of these vegetables in the diet may help alleviate hunger and nutritional deficiency in the Eastern Cape by enhancing the function and nutritional properties of food and food products. **Key words:** Mineral, proximate, wild vegetables, nutrition, antinutrients



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Paper

The Potential of Selected South African Plants with Anti-Klebsiella Activity for the Treatment and Prevention of Ankylosing Spondylitis

Introduction: Ankylosing spondylitis (AS) is a form of chronic inflammatory arthritis which mainly affects the spinal joints and large synovial joints such as the sacroiliac joint in the pelvis. AS afflicts up to 0.9 % of the world's population, with a greater proportion of males up to 30 years afflicted than any other demographic.

Methods: Thirty four extracts from 13 South African plant species with a history of ethnobotanical usage in the treatment of inflammation were investigated for their ability to control the microbial trigger for AS (*K. pneumoniae*).

Results: Twenty six of the extracts (76.5 %) inhibited the growth of *K. pneumoniae*. Methanol and water extracts of *Ballota africana*, *Carpobrotus edulis* leaves, *Kigellia africana*, *Lippia javanica*, *Pelargonium viridiflorum*, *Syzygium cordatum* leaf and bark, *Terminalia pruinoides*, *Terminalia sericea*, *Tulbaghia violaceae* roots and leaves and *Warburgia salutaris* bark were effective *K. pneumoniae* inhibitors, with MIC values < 1000 µg/ml. The most potent extracts were examined by RP-HPLC and UV-Vis spectroscopy for the presence of resveratrol. Methanolic extracts of *B. africana*, *C. edulis* leaves, *L. javanica*, *T. pruinoides* and *T. sericea*, as well as aqueous *B. africana*, *T. pruinoides* and *T. sericea* extracts, displayed peaks with retention times and UV-Vis spectra consistent with authentic resveratrol. When present, resveratrol was generally a minor component, indicating that resveratrol was not solely responsible for the *K. pneumoniae* growth inhibitory properties reported here. All extracts with *K. pneumoniae* inhibitory activity were either non-toxic, or of low toxicity in the Artemia nauplii bioassay.

Conclusions: The low toxicity of these extracts and their inhibitory bioactivity against *K. pneumoniae* indicate their potential for preventing the onset of ankylosing spondylitis and for minimising its symptoms and the associated tissue damage once the disease is established.

