

Antiprotozoal Screening of 60 South African Plants, and the Identification of the Antitrypanosomal Germacranolides Schkuhrin I and II

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ABSTRACT

Two hundred and seven extracts were prepared from sixty plants from South Africa and screened for *in vitro* activity against *Trypanosoma brucei rhodesiense*, *Trypanosoma cruzi*, *Leishmania donovani*, and *Plasmodium falciparum*. For the 21 extracts which inhibited the growth of one or more parasites with more than 95 % at 10 µg/mL, the IC₅₀ values against all four protozoal parasites and cytotoxic IC₅₀ values against L6 myoblasts were determined. Amongst the most notable results are the activities of *Psoralea pinnata* (IC₅₀ of 0.15 µg/mL), *Schkuhria pinnata* (2.04 µg/mL), and *Vernonia mespilifolia* (1.01 µg/mL) against *Trypanosoma brucei rhodesiense*. HPLC-based activity profiling was used to identify the active constituents in the extracts, and the germacranolide sesquiterpene lactones schkuhrin I and II from *S. pinnata*, and cynaropicrin from *V. mespilifolia* were identified, with IC₅₀ values of 0.9, 1.5, and 0.23 µM, respectively.