A209 Fungitoxic activity (*in vitro*) of six plants used in Kenyan traditional medicine for treatment of skin diseases

Rhoda Kariba and P.J. Houghton
Department of Pharmacy, King's College London, Franklin-Wilkins Building, 150 Stamford Street, London SE1 9NN.

Methanolic extracts of the traditionally used medicinal plants, *Grewia similis* roots (Tiliaceae) **GS**, *Margaritaria discoidea* fruits **MD** (Euphorbiaceae), *Myrianthus holstii* leaves **MH** (Moraceae), *Pergularia daemia* aerial parts **PD** (Asclepiadaceae), *Premna recinosa* leaves **PR** (Verbenaceae) and *Solanum arundo* fruits **SA** (Solanaceae) were investigated for antifungal activity against four dermatophytic fungi, *Trichophyton mentagrophytes* (TM), *Microsporum gypseum* (MG), *Trichophyton interdigitale* (TI), *Epidermophyton flocossum* (EF) and the yeast *Candida albicans* (CA). The antifungal activity was investigated by the disc diffusion assay (Results in Table 1) and by serial dilution to determine the Minimum Inhibitory Concentration MIC (Table 2). Extracts from **MD** exhibited the highest inhibitory effects against all the test pathogens. Extracts from **PD** did not inhibit the growth of any of the test pathogens.

Table 1. Zone of inhibition (mm) for extracts using the disc diffusion assay

Extract	TM	MG	TI	EF	CA
GS	20	8	0	0	10
MD	22	20	20	16	10
MH	0	0	0	0	12
PD	0	0	0	0	0
PR	12.5	11	8	12	8
SA	20	14	18	14	10
Chlortromazole	20	18	20	17	18

Table 2. MIC (mg/mL) for extracts using the serial dilution assay

Extract	TM	MG	TI	EF	CA
GS	40	40	>40	>40	20
MD	1.25	1.25	0.62	2.5	10
MH	>40	>40	>40	>40	20
PD	>40	>40	>40	>40	>40
PR	40	40	40	40	40
SA	20	40	20	40	40

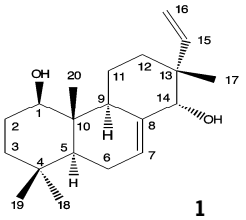
Acknowledgements: Royal Society for Financial Support.

A210 New antifungal diterpenes from *Hypoestes serpens* (Acanthaceae)

L. Rasoamiaranjanahary [a,b], *D. Guilet* [a], *A. Marston* [a], *F. Randimbivololona* [b] *and K. Hostettmann* [a]
[a] Institut de Pharmacognosie et Phytochimie, Université de Lausanne, BEP, CH-1015 Lausanne, Switzerland. [b] Laboratoire de Pharmacologie Générale et de Pharmacocinétique, Université d'Antananarivo, BP 8351, 101 Antananarivo, Madagascar.

Hypoestes serpens (Vahl) R. Br. (Acanthaceae) is a Malagasy medicinal plant used for the treatement of high blood pressure. Previous work reported the isolation of an original fusicoccane diterpenoid from the aerial parts of this plant (1).

As part of our work on the isolation and identification of new antifungal compounds, the leaves of *Hypoestes serpens* were investigated. In preliminary assays, the dichloromethane crude extract of the leaves exhibited antifungal activity against both *Cladosporium cucumerinum* and *Candida albicans*. In order to determine the active compounds, bioautographic TLC assay-guided fractionation of this extract was performed, leading to the isolation of four new isopimarane diterpenoids: 1,14-dihydroxyisopimara-7,15-diene (**1**), 14-hydroxyisopimara-7,15-dien-1-one, 7-hydroxyisopimara-8(14),15-dien-1-one, 7-hydroxyisopimara-8(9),15-dien-14-one. A clerodane diterpene which was previously identified in the Indian aquatic herb *Sagittaria sagittifolia* (Alismataceae) (2), was also isolated.



1

The structures of all compounds were determined by means of spectrometric methods including 1D and 2D NMR experiments and MS analysis. Finally, their relative configurations were established from NOESY spectra.

Acknowledgement: We wish to thank the Swiss Confederation for a scolarship to the first author.

References: 1. Andriamihaja, B. et al. (2001) J. Nat. Prod. 64: 217-218. **2.** Sharma, S.C. et al. (1984) Phytochemistry 23: 1194-1196.