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Terpenes from *Mikania hookeriana*

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1. Subject and source

Aerial parts of *Mikania hookeriana* DC, Asteraceae, were collected on October 2000, at Chapada Diamantina, Bahia, Brazil and was identified by Maria Lenise da S. Guedes from the Instituto de Biologia, UFBA . A voucher specimen, number HALC -045688, has been deposited at the Herbarium Alexandre Leal Costa (ALBC) at the Instituto de Biologia, Universidade Federal da Bahia.

2. Previous work

There is no previous report on the chemical composition of *Mikania hookeriana* in the literature.

3. Present study

In continuation of our research on the chemistry of Brazilian *Mikania* species (Cruz and Roque, 1992; Nunez et al., 1977) we undertook the chemical study of the methanol-chloroform extract from the leaves and of the resin from the stems of *Mikania hookeriana*. The clear and fragrant resin was mechanically removed from

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the stems. The material was placed in $CHCl_3$ and then filtered. The soluble material (500 mg) was methylated with diazomethane and submitted to CC on silica gel, eluted with mixtures of hexane and ethyl acetate of increasing polarity. A mixture of terpene hydrocarbons, including α-pinene and germacrene D, methyl kaurenoate (70mg), 15-oxycinnamoyl-methylkaurenoate (50 mg), spathulenol (15 mg) and kaur-16-en-19ol (20mg) were isolated.

The partially dried leaves (2 Kg) of *M. hookeriana* were extract with MEOH/$CHCl_3$ (1:1) and then fractionated between dicloromethane and water, to give 80 g of the DCM fraction. The fraction (300 mg) was methylated with diazomethane and submitted to a CC on silica gel eluted with hexane, DCM and EtOAc to afford lupeyl hexadecanoate (5 mg), methyl kaurenoate (60 mg), lupeyl acetate (20 mg), 15-oxycinnamoyl-methylkaurenoate (20 mg). As the ^{1}H and ^{13}C NMR spectra of the crude extract suggested the presence of an aldehyde, an alkaline hydrolysis of the crude extract was made to separate the acids leaving the aldehyde in the organic fraction. 0.8 g of the organic fraction was submitted to CC on silica gel eluting with hexane and ethyl-acetate to give linear alkanes (40 mg), kaurenal (5 mg), lupeyl acetate (10 mg), τ-muurolol (10 mg), lupeol (25 mg) and phytol (20 mg). The identification of the compounds was made by comparison of the NMR spectral data with those reported in the literature. For 15-oxycinnamoyl-methylkaurenoate, see Vichnewscky et al., 1997.

4. Chemotaxonomic significance

This study reinforces that diterpenes are predominant in the chemical composition of Brazilian *Mikania*. When these are kaurane diterpenes no other kind of diterpene metabolites are found in the plant (Nunez et al., 1977).

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