Phytochemical Study of Condalia microphylla Cav.

M.A. Frontera, M.A. Tomás, A. Diez, C. Watson and C. Mulet

Instituto de Investigaciones en Química Orgánica (INIQO), Departamento de Química e Ing. Qca.,Universidad Nacional del Sur, Avda. Alem 1253, 8000 Bahía Blanca, Argentina
E-mail: mtomas@criba.edu.ar

Abstract: From the petroleum ether extract of the aereal part of Condalia microphylla Cav, hydrocarbons, sterols, alcohols, and fatty acids were isolated. From fruits of the same plant anthocyanins were also isolated and characterized by chromatographic and spectroscopic methods.

Introduction

Condalia microphylla Cav. Species belongs to the Ramnaceae family, and its common name is "Piquillín". It generally grows in the runningboard of the saw being a shrub with a mass of branches up to 2m height. The leaves are dote, dark green with yellow flowers and the fruit is a red berry [1]

This plant has not been chemically studied in our country, but the presence of hydrocarbons and fatty acids have been informed [2] in leaves and seeds. We report now a study on the petroleum ether extract from the aerial part of the plant including the less-polar components (hydrocarbons, alcohols, sterols and fatty acids) and characterization of antocyanins which have been isolated from the fruit extract with MeOH/HCl 1%.

Experimental

General

GLC analysis were performed with a Varian 3700 using a FID, and a KONIK 500 Liquid Chromatograph using a UV detector. UV Spectra were run with a GBC Spectral equipment.

Plant material

The plant was collected in Medanos, Province of Buenos Aires during the month of February.

Leaves and branches

Aerial parts of the plant were dried, grinded and extracted with petroleum ether; then each fraction

obtained by chromatography on Silica gel 60 was processed on TLC with Silica gel 60 G and GLC.

Saponification

A sample of the petroleum ether extract was saponificated with MeOH/KOH 10%, after the common treatment the acid fraction was methylated (H_2SO_4 1.5%/MeOH) and was compared by GLC with authentic samples.

Fruits

The berries were extracted with MeOH/HCl 1% during 24 h at room temperature.

The anthocyanins were isolated and purified by paper chromatography Whatmann 3MM. Identification was achieved by analytical paper chromatography using four different solvents systems; HPLC, acid hydrolysis, degradative oxidation and UV-Vis spectroscopy [3]

Results and Discussion

From the petroleum extract hydrocarbons, sterols and alcohols were identified as well as fatty acids in the saponificated fraction. As for the sterols, it could be observed that the main component in the aerial part was sitosterol. The major alcohol was C22. The fatty acids found in higher proportion were: behenic (22:0), lignoceric (24:0), palmitic (16:0) and linoleic (18:2). The major hydrocarbons found were C31, C33 and C35, this showing that the hydrocarbons with odd number carbon atoms prevail.

On the other hand, four anthocyanins were isolated from the fruit methanolic extract. Two of them identified as malvidin-3genciobioside and malvidin-3-glucoside. The other two are under study.

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References and Notes

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