



Chemical characterization of the compounds present in essential oil of the *Dalea cliffortiana* (Santander, Colombia)

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Dalea cliffortiana is a plant belonging to the Dalea family, is an herb ranging from 0.1 m to 0.7 m, with angled, erect, simple, branched stems; leaves 1.5 cm to 4.7 cm long; conical cylindrical pins: White or pinkish petals, commonly from 3 to 5 mm long (1,2). Native from Mexico, however, it can be found in Nicaragua, Panama, Ecuador and Colombia. The main goal of this work is to study the chemical composition of *D. cliffortiana* essential oil using gas chromatography coupled with mass spectrometry; the specimen was collected in the municipality of Jordan (Santander, Colombia). Botanic sample was identified at Universidad Nacional de Colombia Herbarium, voucher number 579 427. Essential oil was obtained from fresh vegetal material by microwave-assisted hydrodistillation (MWHD), with 45 min extraction time with three lots. Volatile compounds identification was performed using a GC 6890 (Agilent Technologies, Palo Alto, CA, USA) gas chromatography, coupled to a 5975C mass spectrometer (EI, 70 eV). Compounds separation was done with two capillary columns, one with non-polar stationary phase [5% phenyl-poly(methylsiloxane) DB-5MS (J&W, Scientific, Folsom, CA, USA) 60 m x 0.25 mm x 0.25 μ m] and one with polar stationary phase [DB-WAX (J&W, Scientific, Folsom, CA, USA) de 60 m x 0.25 mm x 0.25 μ m]. Injection volume was 2 μ L, with Split injection 30:1 (250°). Oven temperature went from 4°C to 150°C at 4°C/min, and then to 250°C at 5°C/min, and finally to 275°C at 10°C/min. Tentative identification of volatile compounds was made by comparing their mass spectra and linear retention indices for each column, with data-bases (ADAMS, Wiley, NIST). Major identified components were: methyl-eugenol (69%; it presents insecticidal, acaricidal, antimicrobial and repellent against *Aedes aegypti* L.), *trans*- β -caryophyllene (15%; it presents antileishmanial effect, antioxidant and antibacterial activity), germacrene D (5%), caryophyllene oxide (3%) and α -humulene (1%).

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