



## Chemical composition and antioxidant activity of *Calycolpus moritzianus* essential oil

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*Calycolpus* O. Berg is a genus of about 15 species found from Central America to Brazil, with the major diversity in northeastern South America in the highlands of Guyana. *C. moritzianus*, *Psidium Psidiopsis moritziana caudatum* are commonly known in Colombia as "myrtle" or "cinaron". It is a tree about 15 meters high, with green and elliptical leaves (1). Two specimens of *Calycolpus moritzianus* were collected in the municipalities of Los Santos and Zapatoca, Santander, Colombia. These were identified in the National Herbarium of Colombia, with Voucher number 560251 (C1, Los Santos) and 578360 (C2, Zapatoca). The extraction of essential oil (EO) was performed by microwave-assisted hydrodistillation. Characterization of essential oils was performed with an Agilent Technologies 6890 (Palo Alto, CA, USA) gas chromatograph (GC) coupled to a mass selective detector MSD 5973 Plus Network. Polar [DB-WAX, 60 m × 0.25 mm × 0.25 μm, with stationary phase of poly(ethylene glycol)] and nonpolar [DB-5MS, 60 m × 0.25 mm × 0.25 μm, with stationary phase of 5% phenyl-poly(methylsiloxane)] capillary chromatographic columns were used. Oven temperature was programmed from 45°C to 150°C at 4°C/min, maintained for 7 min, and then from 150°C to 230°C at 4°C/min and held for 40 min. The oxygen radical absorption capacity (ORAC) assay was performed in a multiplate reader (Turner Biosystems). Essential oil extraction yields of 0.25% (C1) and 0.49% (C2) were obtained. The chemical characterization was based on mass spectra (EI, 70 eV) and retention indices. These two species showed a very similar chromatographic profile. The major components for the Los Santos collected species were: limonene (36%), 1,8-cineole (10.9%) and α-terpinene (7.0%), while for the Zapatoca collected species were: limonene (33%), 1,8-cineole (15.9%) and α-terpinene (7.9%). Díaz *et al.* (2) found that for these species the major components were *trans*-β-caryophyllene (22%), α-pinene (11%) and viridiflorol (10%). The ORAC antioxidant activity values of studied EO were 970 ± 77 μmol Trolox®/g sample (C1) and 570 ± 62 μmol Trolox®/g sample (C2), which were superior to those of the reference substances, α-tocopherol (550 ± 13 μmol Trolox®/g sample) and BHT (457 ± 9 μmol Trolox®/g sample).

1. Landrum, L. Brittonia. 2008, **60**, 252-256.
2. Díaz, T. et al. J. Nat Prod Commun. 2008, **3**, 937-940.

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