Chemical characterization of *Achyrocline satureioides* (Asteraceae) essential oils from Colombia by GC-MS

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Achyrocline satureioides (Asteraceae family), is a plant native to South Africa and distributed in tropical regions. Their inflorescences are used in the treatment of a variety of medical pathologies in alternative medicine. This species has been shown to have anti-inflammatory, antispasmodic, analgesic and sedative properties (1,2). The plant material was collected in Zapatoca (Santander, Colombia). Extraction was performed by microwave-assisted hydrodistillation (MWHD) with a Clevenger-type apparatus placed inside a domestic microwave oven (Whirlpool, 1000 W, 2.45 GHz) with a side orifice, through which an external glass condenser joined the 2-L round flask that contained the plant material (*ca*. 300 g) and water (*ca*. 0.5 L). The oven was operated for 45 min (3 x 15 min) at full power, which caused water to boil vigorously and reflux. Essential oil was decanted from the condensate and dried with anhydrous sodium sulfate. The analysis was performed on a GC 7890 gas chromatograph (Agilent Technologies, Palo Alto, CA, USA) equipped with a mass selective detector AT 5975C (with electron impact ionization at 70 eV), split/splitless injector (split 30: 1) and a ChemStation data system, G1701-DA, which included the ADAMS, NIST and WILEY spectral libraries. Fused-silica capillary columns DB-5MS [(J&W Scientific) of 60 m × 0.25 mm id, coated with 5% phenyl poly(dimethylsiloxane) (0.25 µm film thickness)] and DB-WAX [(J&W Scientific) of 60 m × 0.25 mm id, coated with poly(ethyleneglycol) (0.25 µm film thickness)] were used. The GC oven temperature was programed from 45°C to 150°C (5 min) at 4°C/min, then to 250°C (5 min) at 10°C/min and to 275°C (15 min) at 10°C/min. The compounds identified by GC-MS include *trans*-β-caryophyllene (25%), followed by caryophyllene oxide (13%), γ-muurolene (8%), γ-cadinene (7%), and α-pinene (7%). These compounds displayed marked inhibitory effects in different inflammatory experimental models in mice and rats (3).

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