



Analysis of the chemical composition of the essential oils of *Piper marginatum* and *Peperomia andrei* (Piperaceae)

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The Piperaceae family grows in tropical and subtropical climates. It is composed of 2000 species distributed among four genera, namely: *Piper*, *Peperomia*, *Sarchorhachis* and *Ottania* (1,2). The volatile chemical composition of this family has been widely studied due to the presence of monoterpenes, sesquiterpenes, and arylpropanes (apiol, dillapiol, safrole and sarisan) (1,2). In this work, the chemical composition of essential oils from *Peperomia andrei* and *Piper marginatum* were studied. Samples were collected in the municipality of Dagua, in the department of Valle del Cauca, Colombia. The taxonomic identifications (*Piper marginatum*, COL582360 and *Peperomia andrei*, COL582365) were made at the Colombian National Herbarium (COL). The *P. marginatum* essential oil (0.04 % yield) was extracted by microwave-assisted hydrodistillation (MWHd) (15 min x 3). The *P. andrei* essential oil (0.01 %) was obtained by steam distillation. Essential oil analysis was performed using an Agilent Technologies 6890 (Palo Alto, CA, USA) gas chromatograph coupled to an Agilent Technologies 5973 mass selective detector. Fused-silica capillary columns DB-5MS (J&W Scientific) (60 m X 0.25 mm ID X 0.25 μ m d_i), and DB-WAX (J&W Scientific) (60 m X 0.25 mm ID X 0.25 μ m d_i) were used. Helium was used as carrier gas. Compounds identification was performed by comparison of their mass spectra with database (Adams, NIST, WILEY) and of their linear retention indices with those reported in the scientific literature. The major components of the essential oil from *P. andrei* were: *trans*- β -caryophyllene (12.4 %), germacrene D (11.6 %), intermedeol (11.6 %), β -elemene (10.5 %), γ -muurolene (5.6 %) and δ -selinene (4.3 %). No chemical description on *P. andrei* was found in literature. The main component (47.9 %) of *P. marginatum* essential oil was a sesquiterpene with mass spectrum: *m/z* (%): 204 (M⁺, 13), 136 (9), 135 (100), 105 (5), 78 (4), 77 (21), 55 (11). *P. marginatum* oil showed piperonyl methyl ketone (32.3 %), apiol (3.8 %), hexylbenzene (2.8 %). 3,4-Methylenedioxypropiofenone and safrol (phenylpropanoids) have been found as the major components in most of 22 samples of *P. marginatum*, reported by Andrade *et al* (3). However, these compounds were not found in this work.

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