



Essential oil composition of five *Piper* species from the Brazilian Atlantic Forest

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Species of Piperaceae are well known for their essential oil composition based on monoterpenes, sesquiterpenes and arylpropanoids that non rare are the main fraction of the oil (1). Piperaceae species are distributed from North to South of Brazil, including the Brazilian Atlantic Forest that is highly threatened by the human action. Atlantic Forest is one of hotspot of biodiversity and by this mean it is very important to study plants from this biome (2). Five *Piper* species were collected in a private area in March of 2015, in the city of Teresópolis/RJ, and were identified as *P. aduncum* L., *P. gaudichaudianum* Kunth, *P. arboreum* Aubl. var. *arboreum*, *P. bennetianum* C. DC. and *P. lucaeanum* var. *grandifolium* Yunck. Voucher of the botanical materials were deposited at the herbarium of the Research Institute of Botanical Garden of Rio de Janeiro. Fresh leaves (150g) were subjected to hydrodistillation in a Clevenger-type apparatus for 2h. The essential oils were diluted in dichloromethane and then analyzed by GC-MS and GC-FID (GC Agilent 6890N coupled to an Agilent 5973N MS, equipped with DB-5MS fused silica capillary columns (30 m X 0.25 mm i.d. X 0.25 µm film thickness); helium was used as carrier gas for GC-MS and CG-FID, respectively, with a flow rate of 1.0 mL. min⁻¹. Oven temperature was raised from 60 to 240°C at 3°C. min⁻¹. Mass detector was operated in electronic ionization mode at 70 eV. The essential oil compounds were identified by comparison of both mass spectra (NIST and WILEY) and linear retention indices with literature records (3). The main compounds identified were: *P. aduncum* (10-*epi*-γ-eudesmol, 3.0 %; *trans*-dihydrooccidentalol, 6.7 %; (*E*)-nerolidol, 58.7 %); *P. gaudichaudianum* (*trans*-dihydrooccidentalol, 6.7 %; elemol, 8.9 %; (*E*)-nerolidol, 41.6 %); *P. arboreum* var. *arboreum* (elemol, 9.0 %; cubenol, 11.2 %; (*E*)-nerolidol, 21.3 %); *P. bennetianum* (curcumene, 10.5 %; β-elemene, 12.6 %; (*E*)-nerolidol, 30.9 %); *P. lucaeanum* var. *grandifolium* (cubenol, 7.0 %; linalool, 8.4 %; (*E*)-nerolidol, 66.4 %). It is interesting to note that all essential oils are composed mainly by sesquiterpenes. The presence of the (*E*)-nerolidol identified as the major sesquiterpene can be considered a chemical marker for these five species in the Atlantic biome.

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