



Chemical characterization of essential oils from *Varronia curassavica* Jacq. germplasm

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Varronia curassavica Jacq., ex *Cordia verbenacea* DC., is a native medicinal species from Brazil. This species has a wide distribution in the Brazilian territory and is popularly used in the treatment of inflammation, rheumatism and ulcers. The anti-inflammatory property was assigned to α -humulene and *trans*-caryophyllene compounds present in the essential oil. Due to its anti-inflammatory property, it was developed a phytotherapeutic medicament in Brazil for topical use, obtained from the essential oil, indicated for the treatment of inflammation. The aim of this work was to characterize the chemical diversity of the essential oil from leaves of five native populations of *V. curassavica* Jacq. collected in Northeast Brazil. Leaf samples were collected of 59 *V. curassavica* plants, from five localities in the Sergipe State, Northeast of Brazil. The localities were Graccho Cardoso municipality, São Cristovão municipality, Japaratuba municipality, Graccho Cardoso municipality and Laranjeiras municipality. The essential oils were obtained by hydrodistillation and analyzed by GC/MS-FID. Sixty-three compounds were detected in the essential oil of *V. curassavica*, of which 53 were identified. High chemical diversity was observed among the plants, which are distributed within the chemical groups, regardless of the collection site. By cluster analysis, there was formation of five groups. The cluster 1, consisting of 14 plants, was characterized by presenting turmerone and *trans*-caryophyllene as the major compounds. Cluster 2, consisting of 4 plants, presented as major compounds tricyclene and camphene. Cluster 3, consisting of 5 plants, presented α -zingiberene and β -sesquiphellandrene as the major compounds. Cluster 4, consisting of 13 plants, was characterized by presenting *trans*-caryophyllene and/or 7-cyclodecen-1-one,7-methyl-3-methylene-10-(1-propyl) as the major compounds. Cluster 5, consisting of 23 plants, presented 7-cyclodecen-1-one,7-methyl-3-methylene-10-(1-propyl) as the major compound. High correlation was observed between the compounds α -humulene and *trans*-caryophyllene. In this study, besides the majority compounds characteristic of chemical groups, other compounds as sabinene (38.9 %), β -phellandrene (21.4 %), δ -elemene (12.5 %), α -gurjunene (11.7 %), bicyclogermacrene (12.1 %), shyobunone II (14.7 %), shyobunone IV (13.9 %), viridiflorol (15.2 %), ar-turmerone (15.7 %), 1-*epi*-cubenol (13.3 %), and shyobunol (14.3 %) were among the major constituents identified in at least one plant of *V. curassavica*.

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