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Rapanea leuconeura (Mart.) Mez: An essential oil from the family Primulaceae

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Rapanea leuconeura a tree species that occurs in Brazil and is adapted to the states of Goiás, Bahia, Minas Gerais, São Paulo, Paraná, Santa Catarina and Rio Grande do Sul, blooms from July through August and fruits from September through January (1). Leaves of plants grown in the region of Sacramento - MG and Brodowski - SP were collected for the chemical identification of compounds present in the R. leuconeura essential oil. Plant exsiccates were deposited (HPMU 3077and 3079) in the Herbarium of the Biotechnology Division at UNAERP - University of Ribeirão Preto. Dry leaves from species collected in both locations were subjected to hydrodistillation separately for 3 hours each using a Clevenger-type apparatus. The extracted oils were then analyzed using a Shimadzu (QP-2010) Gas Chromatography/Mass Spectrometry system, with DB-5MS (30 m \times 0.25 mm \times 0.25 µm) column. Helium was used as carrier gas with a flow rate of 1.0 mL/min, oven temperature from 60 to 240°C at 3°C/min. The mass spectrometer was operated in the electronic ionization mode (70 eV). Oil components were identified by comparison of both mass spectra and linear retention indices with spectral library and literature (2). The yields of essential oils obtained from leaves collected in Sacramento and Brodowski were 0.042% (w/w) and 0.024% (w/w) respectively. The substances identified in the leaf oil of plants collected in either Minas Gerais or São Paulo were the same varying only in concentrations. Fifty-three components were identified in the oil extracted from Sacramento plants, representing 96.84% of the total volatiles. The leaf oil was rich in sesquiterpenes (96.03%) and the major components were bicyclogermacrene (20.11%), spathulenol (10.36%), α -guaiene (8.4%), δ -cadinene (15.6%), maaliol (4.75%), epi-a-muurolol (4.63%) and dauca-5,8-diene (3.69%). The essential oil extracted from plants grown in Minas Gerais and São Paulo was identical, however, concentration levels varied. The chemical composition of the essential oil from R. leuconeura has never been reported before.

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