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Essential oil composition of *Moschosma Polystachya* (L). Benth

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Moschosma polystachya (Lamiaceae), an oil rich (0.6%) taxa, was found to contain methyl eugenol (39.3%), methyl isoeugenol (8.4%), limonene (7.4%), 1,8-cineole (5.3%), β -elemene (5.1%), β -caryophyllene (4.8%), β -selinene (3.8%), citronellal (3.5%), geranyl acetate (2.9%), α -humulene (2.4%), isobornyl acetate (1.8%) and δ -cadinene (1.6%) as major components.

MOSCHOSMA polystachya(L) Benth. [syn. *Basilicum polystachyon*(L) Moench], an ethnomedicinal herb of Lamiaceae is used as a sedative¹ and as an antiseptic². The crushed leaves are externally applied as an anodyne for sprains³. A decoction of leaves is prescribed for epilepsy, palpitation of heart, neuralgia and convulsions⁴. This plant flourishes well in the sandy dunes of Vandanam in Alapuzha district of Kerala, India. It is identified

and herbarized in our institute (CU 14229). So far no chemical report is available on this plant.

The aromatic leaves and flowers were hydro-distilled on a Clevanger apparatus to obtain a pale yellow coloured viscous essential oil (0.6% dry wt.) having a penetrating odour with a fruity topnote and a pungent flavour with a spicy after taste. The

physical properties of the essential oil were found to be specific: $d^{20} = 0.967$, $\eta^{20} D = 1.39$, $\alpha^{20} D = + 5.4^\circ$.

The essential oil was analysed on a Varian 3700 gas liquid chromatograph, equipped with FID and a Hewlett Packard 3390 integrator. GC conditions - column : 5% Carbowax 20 M on Chromosorb W 80/100 mesh, 3 m x 3 mm (i.d.) glass; carrier gas : N₂ at 10 psi inlet pressure, at a rate of 30 ml/min; temperature programme: 70° (2 min) to 230° (4 min) at 3°/min, injector temp. 170°, detector temp. 300°; sample volume: 0.1 µl. Samples were also analyzed on a Chemito 8510 GC, equipped with FID and a Shimadzu Chromatopac C-R3A integrator as mentioned earlier⁵. Components were detected by comparing their RRT with authentic standards in the above mentioned columns of different polarity, peak enrichment and assessment with literature⁶.

The essential oil spectrum of *M. polystachya* consist of monoterpenes (7.4%), oxygenated monoterpenes (13.5%), sesquiterpenes (17.7%), phenols (47.7%) and some unidentified trace compounds, thereby belonging to a mixed chemotype. The aromatic principles isolated from the four major classes of compounds are : Monoterpenes - limonene (7.4%); oxygenated monoterpenes - 1,8-cineole (5.3%), citronellal (3.5%), isobornyl acetate (1.8%), geranyl acetate (2.9%); Sesquiterpenes -

β -elemene (5.1%), β - caryophyllene (4.8%), α -humulene (2.4%), β -selinene (3.8%), δ -cadinene (1.6%); Phenols - methyl eugenol (39.3%) and methyl isoeugenol (8.4%). Thus the essential oil of *M. polystachya* investigated shows an interesting composition containing several fragrant phenols, mono and sesquiterpenoids, which may serve as a valuable source of these compounds.

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