

PP100. The essential-oil composition of *Telekia speciosa* (Schreb.) Baumg. from Trabzon-Turkey

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Previously, the essential oil from the aerial parts of *Telekia speciosa* (Schreb.) Baumg. (Asteraceae) from Serbia was reported to have a complex composition with (*E,Z*)-farnesol, (*E*)-nerolidol, β -caryophyllene, caryophyllene oxide, intermedeol, and alantolactone as the main components [1]. The plant material analyzed in the current study was collected in July 2017 from Maçka-Trabzon with an aim to identify the chemical constituents of *T. speciosa* essential oil from Turkey (for the first time) and compare it with the reported oil from Serbia. The essential oil was obtained from air-dried aerial parts of the plant by hydrodistillation (3 h) using a Clevenger apparatus in a yield of 0.06% (*v/w*). The essential oil was diluted 1:10 (*v/v*) with *n*-hexane and used as such for the GC-MS analysis. The essential oil was analyzed with an Agilent 5977 MSD GC-MS system operating in EI mode; injector and MS transfer line temperatures were set at 250 °C. Splitless injection was used in the analysis. Innowax FSC column (60 m x 0.25 mm, 0.25 μ m film thickness) and helium as the carrier gas (1 mL/min) were used in GC-MS analyses. The oven temperature program was: 60 °C for 10 min and then raised to 220 °C at a rate of 4 °C/min, afterwards the temperature was kept constant at 220 °C for 10 min and then raised to 240 °C at a rate of 1 °C/min. Mass spectra were recorded at 70 eV with the mass range *m/z* 35-425. Relative amounts of the separated compounds were calculated from the integration of the peaks in MS chromatograms. Identification of essential-oil components was carried out by comparison of their retention indices (RI), relative to a series of *n*-alkanes (C₅ to C₃₀), with the literature values, as well as by mass spectral comparison. One hundred thirty-four compounds were identified representing 80.5% of the detected oil constituents. The main components of the oil were caryophyllene oxide (8.2%), β -caryophyllene (6.0%), precocene II (3.9%), isoalantolactone (3.5%), *trans*-phytol (2.9%), nerol (2.9%), hexadecenoic acid (2.6%), neryl propionate (2.5%), and thymohydroquinone dimethyl ether (2.3%). The oil composition of *T. speciosa* was very complex as reported previously [1], but the yield in the present study was higher. Caryophyllene oxide and β -caryophyllene were both detected in *T. speciosa* from Turkey and Serbia. However, the Turkish oil did not contain (*E,Z*)-farnesol and (*E*)-nerolidol. The AChE-inhibitory activity of the essential oil was 8 \pm 1% at 10 mg/mL.

Reference:

[1] Radulović, N. et al., 2010. J. Essent. Oil Res. 22, 250–254.

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