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PP110. The chemical composition of *Salvia euphratica* Montbret & Aucher ex Benth. essential oil from Sivas-Turkey

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Previously, only the fatty-oil composition of *Salvia euphratica* Montbret & Aucher ex Benth. (syn. *Salvia euphratica* var. *euphratica*) was reported, however, there are no other studies on the chemistry of this species [1]. Up to now, there are no reports on the essential-oil composition of this taxon. In this study, we aimed to investigate the composition of three different samples of the essential oil of *S. euphratica* collected in June 2017 from two different sites in Sivas-Turkey. The essential oil was obtained by hydrodistillation from air-dried aerial parts of the plant using a Clevenger-type apparatus for the duration of 3 h. The essential-oil yields for the three samples were determined to be: 0.25, 0.15, and 0.13% (*v/v*), for a sample with glandular hairs (1) and a sample without glandular hairs (2) from location 1 and for a sample with glandular hairs (3) from location 2, respectively. The oils were diluted with *n*-hexane 1:10 (*v/v*) and analyzed as such on an Agilent 5977 MSD GC-MS system operating in the 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 µm 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. The main components of sample 1 essential oil were 1,8-cineole (20.7%), camphor (10.0%), nopinone (4.7%), *trans*-pinocarveol (4.3%), myrtenal (4.3%), β-pinene (3.3%), and camphene (2.2%). Sample 2 oil contained high amounts of 1,8-cineole (13.5%), camphor (7.6%), *trans*-pinocarveol (7.1%), myrtenal (5.7%), nopinone (4.6%), myrtenol (3.9%), borneol (3.4%), and pinocarvone (3.2%). Finally, the main components of sample 3 oil were: 1,8-cineole (16.8%), *trans*-pinocarveol (4.7%), camphor (4.0%), myrtenyl acetate (3.7%), myrtenal (3.6%), linalool (2.8%), *trans*-linalool oxide (furanoid) (2.6%), and myrtenol (2.6%). The highest noted AChE-inhibitory activity of the oils were 63±5%, 57±2%, and 63±1%, respectively.

Reference:
[1] Kılıç, T. et al., 2007. Rec. Nat. Prod. 1, 17–23.

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