

PP98. Comparison of the essential-oil composition of *Salvia sclarea* L. aromatherapy oils from Turkish markets

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Salvia officinalis does not find a natural habitat in Turkey, however, it is cultivated mostly for export. On the other hand, *Salvia fruticosa* and *S. clarea* are gathered from wild-growing populations, cultivated, used and sold instead of *S. officinalis* for various purposes in Turkey. Previously, the essential-oil composition of *S. sclarea* from various countries was investigated and samples containing linalyl acetate, linalool, germacrene D, α -terpineol, neryl acetate, geraniol, geranyl acetate, nerol, and sclareol were reported [1,2]. In contrast, the essential oil of *S. fruticosa* was reported to contain α -pinene, β -pinene, 1,8-cineole, β -myrcene, and camphor as the main components [3]. In the current study, one aromatherapy-grade essential-oil sample was acquired from a pharmacy and another from a herb shop. Additionally, *clary sage* (adaçayı – local name) was bought from a herb shop and the plant material was used to obtain an essential-oil sample by hydrodistillation using a Clevenger apparatus in the duration of 3 h. The essential oils were analyzed on the Agilent 5977 MSD GC-MS system. The main components of the oil obtained by hydrodistillation were 1,8-cineole (26.8%), camphor (8.9%), α -pinene (6.4%), β -pinene (6.3%), and β -caryophyllene (5.2%). The aromatherapy oil bought from the herb shop contained 1,8-cineole (32.6%), β -caryophyllene (8.7%), camphor (7.3%), α -pinene (6.5%), and β -pinene (5.8%). The aromatherapy oil and the oil obtained from the plant sample sold as *clary sage* had a composition that is similar to that of *S. fruticosa* essential oil. The aromatherapy oil acquired from a pharmacy shop, which is sold as an imported product, contained linalyl acetate (52.1%) and linalool (20.0%) the presence of which is indicative of *S. sclarea* (clary sage) oil. The essential oils were also investigated for their AChE-inhibitory properties. The best noted inhibitory properties of the aromatherapy oil and the hydrodistilled oil were $99\pm 1\%$ and $99.8\pm 0.4\%$, respectively; whereas the oil sample from pharmacy shop at the same concentration reached the inhibition of $13\pm 2\%$ ($n = 3$). The results clearly indicate that the products sold as *S. sclarea* on the Turkish market show a great variation due to the misuse of (adulteration with) *S. fruticosa*. This study clearly reveals that further legislation and control is required on the Turkish herbal market in order to protect and inform consumers.

References:

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