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Determination on essential oil rate and composition of Sarıcapisik (*Nepeta conferta* Hedge & Lamond)

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Abstract: The genus *Nepeta* L. (Lamiaceae) comprises nearly 300 species that are distributed all over the world. The genus *Nepeta* L. is represented in Turkey by 39 species including 18 endemic plants. In this study; it was aimed to determine the essential oil percentage and assign composition of *Nepeta conferta* that is in the family of Lamiaceae which are endemic species of Turkey. It is assessed as critically endangered (CR) in the Red Data Book of Turkish plant. The material of the study consisted of *Nepeta conferta* that grow naturally in Muğla-Ula area. It, which is the material of the study, was collected from Muğla Yayla Söğüt village (1215 m). At least 1 kg leaved shoots of plant were collected to be used in essential oil analyses. The data like the collection time, place, and elevation were written on the label on each bag. These plants were then dried in a semi-shadowy and airy place at room temperature to be used in essential oil analyses. The plant materials that were collected were dried at room temperature (25ºC) and 200 g plant samples were distilled for 3 hours in hydro-distillation device with Clevenger apparatus. After the essential oil yields of the samples were determined, they were kept at +4oC to determine the components of the essential oil. The components of the essential oils were determined with the Perkin Elmer Autosystem XL Gas Chromatography (with MS Detector) in Suleyman Demirel University, Central Laboratories. A colon that was at the size of CP WAX 52 CB, 50 m. x 0,32 mm (1,2 µm film thickness) and Helium (10 psi flow rate) was used as the carrier gas. The temperature program reached 220ºC from 60ºC with an increase at a rate of 2ºC/minutes, and waited for 20 minutes at 220ºC. The injection block temperature was 240ºC and detector temperature was 250ºC. 7.5 mg was taken from the essential oil samples and diluted in 1.5 ml dichloromethane, and 1 µL was taken from this sample and was injected to the device. At the end of the study, the essential oil rates, colors and components of *Nepeta conferta* species was determined in 200-gram samples. The essential oil rates of *Nepeta conferta* was determined as 2,4 % and the color of the oil was determined as light yellow. It was found that the essential oil yield and the most abundant components of *Nepeta conferta* were Cineole 25.22%, Caryophyllene oxide 21.78%, trans-caryophyllene 12.91%, β-pinene 4.26% ve Germacrane D 3.67%, which were determined according to GC-MS analysis results.
Keywords: *Nepeta conferta*, Endemic, Essential oil, Muğla, Turkey