

## Volatile aroma compounds in fresh flowering stems and fresh rosette leaves of mountain tea (*Sideritis raeseri* boiss. & heldr.) From r. Macedonia

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The chemical composition of volatile aroma compounds was determined in four samples of mountain tea (*Sideritis raeseri*), collected from four different localities in National Park Galichica in R. Macedonia on 2012 and 2013. Two types of plant material of each sample were analyzed: fresh flowering stems (homogenized samples from flower, leaf and stem) (F-S) and the fresh rosette leaves (F-RL). The analyses were made by gas chromatography – mass spectrometry (GC/FID/MS) on HP5-ms column and equipped with automated headspace system with heated syringe (HS) sampler. 0.3 g of fresh plant material was put in sealed vials, heated (5 minutes, 80 °C) and the gas phase was investigated. Total of thirtytwo individual components (15 monoterpenes representing 78.66-93.65% and 17 sesquiterpenes representing 3.97-20.10% of the entire volatiles) were identified as aroma components in F-S samples. The predominant components in all samples were  $\beta$ -pinene,  $\alpha$ -pinene,  $\delta$ -3-carene, limonene,  $\alpha$ -copaene and *trans*-caryophyllene. In the F-RL samples of *S. raeseri*, 27 individual components were identified, 12 monoterpenes (51.90-87.08%) and 15 sesquiterpenes (7.22-46.59%). Prevailing components in all tested F-RL samples were  $\beta$ -pinene,  $\alpha$ -pinene, limonene,  $\alpha$ -copaene, *trans*-caryophyllene, germacrene D and  $\delta$ -cadinene. There was almost no difference in the chemical profiles of the aroma compounds between F-S and F-RL. Fresh rosette leaves exhibit very similar aroma compounds profile with the flowering stems of *Sideritis raeseri*.

Keywords: *Sideritis raeseri*, stems, rosette leaves, aroma compounds, Headspace, GC/MS.