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***Veronica spicata* L. - HPLC Profile of Phenolic Compounds in Hydrolates**Nada Bezić<sup>1</sup>, Marija Nazlić<sup>1</sup>, Ivica Ljubenkov<sup>1</sup>, Ivana Mitar<sup>1</sup>, Dario Kremer<sup>2</sup>, Ivana Anđelić<sup>1</sup>, Nenad Vuletić<sup>1</sup> and Valerija Dunkić<sup>1</sup><sup>1</sup>University of Split, Croatia<sup>2</sup>University of Zagreb, Croatia

Genus *Veronica* L. (Plantaginaceae) is divided into 13 subgenera and 270 species, of whom 40 are widespread in Croatia [1]. Samples of the investigated *Veronica spicata* L. were collected in two localities, mountains Dinara and Velebit. They are cosmopolitan and ecologically diverse species spread on a variety of habitats from aquatic, marshy and forest to rock, rock cracks, fields and ruderal habitats [2]. Some of the species from the genus *Veronica* have been used in traditional medicine. Literature reviews showed that the most investigated secondary metabolites for *Veronica* genus include iridoid glucosides, phenylethanoids and flavonoid glycosides [3], so this is the first study of the chemical composition of the essential waters - hydrolates from this species. Hydrolates are aqueous products of hydrodistillation from aerial parts of plant. Aerial parts of the two samples of *V. spicata* were air dried and subjected to hydrodistillation in Clevenger type apparatus. 2mL of pentane and 40 mL of water was added to the inner part of the graduated tube at each distillation. At the end of the process of distillation the organic and water layer were separated and refrigerated until the analyses [4]. The phenolic compounds from hydrolates have been analyzed by Perkin Elmer HPLC system (Waltham, Massachusetts, USA) using the C18 column (Ultra-Aqueous C-18, 250 x 4.6 mm, 5 Å) (Restek, USA). Components 3,4-dihydroxybenzoic acid and vanillin were identified, with the following values. Component in the Sample 1 contained 3.47 mg/L of 3,4-dihydroxybenzoic acid and the Sample 2 contained 6.12 mg/L. Component vanillin in the Sample 1 is represented with 0.12 mg/L and in the Sample 2 with 0.76 mg/L. Our previous studies have included research of volatile components in the composition of the essential oil of *V. spicata* analyzed by GC/MS [4]. Du and Jin found vanillic acid in the species *Veronica peregrina* [5]. The present study gives additional knowledge about volatile compounds in the hydrolates of the genus *Veronica*.

**Recent Publications**

1. <http://hirc.botanic.hr/fcd>
2. Barreira JCM., Dias MI, Živković J, Stojković DS, Soković M, Santos-Buelga C, Ferreira ICFR (2014) Phenolic profiling of *Veronica* spp. Grown in mountains, urban and sand soil environment, Food Chemistry, 163:275-283
3. Stojković DS, Živković J, Soković M, Glamočlija J, Ferreira ICFR, Janković T, Maksimović Z (2013) Antibacterial activity of *Veronica montana* L. extract and of protocatechuic acid incorporated in a food system, Food and Chemical Toxicology, 55:209-213
4. Dunkić V, Kosalec I, Košir IJ, Potočnik T, Čerenak A, Zovko Končić M, Vitali D, Dragojević Muller I, Kopričanec M, Bezić N, Srećec S, Kremer D (2015) Antioxidant and Antimicrobial Properties of *Veronica spicata* L. (Plantaginaceae), Current Drug Targets, 14:1660-1670
5. Du S and Jin J (1996) Blood coagulant effect of the main chemical constituent of purslane speedwell (*Veronica peregrina*). Zhongcaoyao, 27:416-417.

**Biography**

Nada Bezić has more than 45 papers published in international scientific journals in the field of virology, anatomy and physiology of xerophytes and their implementation in phytotherapy. Plant species that are the subject of research are spread along Mediterranean part of Croatia. Laboratory researches, apart from exploring plant structures, are focused on the isolation of plant compounds and their chemical characterization, as well as the determination of their biological activity. In the recent years our research was focusing on investigation of the antiviral activity of essential oils. As a professor at the University of Split, prof.dr.sc. Nada Bezić holds lectures and is lead mentor to students at the undergraduate, graduate and postgraduate level.

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