

**CHEMICAL VARIABILITY AND ANTIMICROBIAL  
ACTIVITY OF *AJUGA LAXMANNII* (L.) BENTH.  
(LAMIACEAE) ESSENTIAL OIL**

*Jelena S. Lazarević<sup>1</sup>, Aleksandra S. Đorđević<sup>2</sup>, Bojan K. Zlatković<sup>3</sup>,  
Gordana S. Stojanović<sup>2</sup>*

University of Niš, Faculty of Medical Sciences, Department of Chemistry, Niš, Serbia<sup>1</sup>  
University of Niš, Faculty of Science and Mathematics,  
Department of Chemistry, Niš, Serbia<sup>2</sup>  
University of Niš, Faculty of Science and Mathematics,  
Department of Biology and Ecology, Niš, Serbia<sup>3</sup>

Contact: Jelena S. Lazarević  
Faculty of Medical Sciences  
Bul. dr Zorana Đinđića 81, 18000 Niš, Serbia  
E-mail: jelena217@yahoo.com)

Ajuga plants have had a long history of ethnopharmacological use worldwide. Based on the papers published so far, it seems that there has been a great interest in isolation, structural elucidation and testing of non-volatile Ajuga phytochemicals.

The composition of hydrodistilled aerial part volatiles obtained from six populations of wild-growing *A. laxmannii* was investigated by means of GC and GC-MS analysis. The oils were screened for in vitro antibacterial and antifungal activity against a panel of laboratory control strains using the broth microdilution assay. The analyses resulted in the identification of one hundred fourteen constituents, accounting for 79.6-97.3% of the total composition of the oils. The main components of the analyzed samples were (E)-phytol (5.3-26.1%), nonacosane (2.3-25.6%), coumarin (tr-22.7%), 1-octen-3-ol (0-21.2%), (Z)-3-hexen-1-ol (0-20.5%), linalool (0-13.7%) and heptacosane (0.6-10.5%), which all together contributing more than two thirds to the compounds detected. Among the microorganisms tested the most susceptible strain was *Pseudomonas aeruginosa* (minimal inhibitory/bactericidal concentration = 1.25/2.5 mg mL<sup>-1</sup>). *Acta Medica Medianae* 2017;56(2):92-101.

**Key words:** *Ajuga laxmannii*, essential oil composition, coumarin, antimicrobial activity