Department of Biology and Ecology,
Faculty of Sciences and Mathematics, University of Niš
Institute for Nature Conservation of Serbia

13th Symposium on the Flora of Southeastern Serbia and Neighboring Regions

Stara planina Mt. 20 to 23 June 2019

13. Simpozijum o flori jugoistočne Srbije i susednih regiona

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ABSTRACTS
APSTRAKTI

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Abstracts

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In vitro antioxidant activity of *Filipendula ulmaria* (L.) Maxim. and *Filipendula vulgaris* Moench

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Filipendula ulmaria (L.) Maxim. and *F. vulgaris* Moench are traditionally employed in the treatment of peptic ulcer and pain. The aim of present study was to estimate their antioxidant properties in order to better understand reported ethnomedicinal use. Antioxidant activity of lyophilized flower infusions (LFIs), spiraeoside (quantitatively dominant flavonoid) and referent compound Trolox® was investigated in human serum *in vitro* by following their ability to decrease oxidative stress produced by the addition of *tert*-butyl hydroperoxide. Parameters indicating protective capacity (total antioxidative status, TAS; total oxidative status, TOS; and pro-oxidant–antioxidant balance, PAB) were determined spectrophotometrically and results were expressed as percentage of the value of the same parameter in control group. All tested samples (10–160 μg/mL) concentration-dependently and significantly increased TAS (for maximum concentration, values were 190-400%) and decreased PAB (for maximum concentration, values were 13-78%). LFIs in the applied concentration range did not significantly influence TOS, in contrast to spiraeoside which increased its values, and Trolox® which reduced TOS. Protective activity of Trolox® was more pronounced than the effect of herbal preparations and spiraeoside. The obtained results support folkloric use of *F. ulmaria* and *F. vulgaris* and indicate considerable antioxidant capacity which should be further investigated.

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