



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

ABSTRACTS APSTRAKTI

**14th Symposium
on the Flora of Southeastern Serbia
and Neighboring Regions**

Kladovo 26 to 29 June 2022

**14. Simpozijum
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i susednih regiona**

Kladovo 26. do 29. jun 2022.

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***Heracleum ternatum* from Mt. Durmitor: furanocoumarins, polyphenols and antioxidant activity of leaf and flower extracts**

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In this work, composition and antioxidant activity of dry dichloromethane and methanol extracts of *Heracleum ternatum* Velen. (Apiaceae) leaves and flowers from Mt Durmitor (Montenegro) were investigated. Using LC-MS, five furanocoumarins were identified in leaf dichloromethane extract (accounting for 23.00 mg/g of dry extract) and eight in flower dichloromethane extract (60.47 mg/g). Dominant in leaf extract was heraclenin (11.64 mg/g), followed by imperatorin (5.90 mg/g), and in flower extract heraclenol (17.55 mg/g), followed by heraclenin (15.04 mg/g). LC-MS analysis revealed eight flavonol glycosides in leaf methanol extract (accounting for 16.18 mg/g of dry extract) and 11 in flower methanol extract (65.82 mg/g), as well as chlorogenic acid in both extracts (4.72 mg/g and trace, respectively). Among detected flavonoids, dominant was quercetin 7-*O*-rhamnosyl 3-*O*-glucoside (vincetoxicoside A; 7.95 and 16.77 mg/g), followed by biosides and triosides of kaempferol and methylquercetin. Content of total polyphenols, determined spectrophotometrically using Folin-Ciocalteu reagent, was 87.29 and 98.12 mg of gallic acid equivalents/g of dry methanol extracts. Among methanol extracts, polyphenol richer flower extract showed higher, spectrophotometrically determined, total antioxidant and anti-DPPH activities compared to leaf extract (FRAP=0.80 and 0.65 mmol Fe²⁺/g; DPPH SC₅₀=83.12 and 90.95 µg/mL). Dichloromethane extracts showed lower anti-DPPH activity (SC₅₀=860.58 and 515.76 µg/mL).

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