



# **10<sup>th</sup> CMAPSEEC: BOOK OF ABSTRACTS**

**10<sup>th</sup> Conference on Medicinal and Aromatic Plants of  
Southeast European Countries**

**May 20-24, 2018, Split, Croatia**

*Editors*

Klaudija Carović-Stanko <kcarovic@agr.hr>

University of Zagreb, Faculty of Agriculture, Zagreb, Croatia

Centre of Excellence for Biodiversity and Molecular Plant Breeding  
(CroP-BioDiv), Zagreb, Croatia

Martina Grdiša <mgrdisa@agr.hr>

University of Zagreb, Faculty of Agriculture, Zagreb, Croatia

Centre of Excellence for Biodiversity and Molecular Plant Breeding  
(CroP-BioDiv), Zagreb, Croatia

*Technical Editor*

Filip Varga <fvarga@agr.hr>

University of Zagreb, Faculty of Agriculture, Zagreb, Croatia

Centre of Excellence for Biodiversity and Molecular Plant Breeding  
(CroP-BioDiv), Zagreb, Croatia

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Further information:

Assistant Professor Klaudija Carović-Stanko

University of Zagreb, Faculty of Agriculture, Department of Seed Science and Technology  
Svetošimunska cesta 25, HR-10000 Zagreb, CROATIA

Phone: +385 1 239 3622

E-mail: [kcarovic@agr.hr](mailto:kcarovic@agr.hr)

Web: [www.agr.unizg.hr/hr/address-book/104/](http://www.agr.unizg.hr/hr/address-book/104/)

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Marija Jug-Dujaković <Marija.Jug-Dujakovic@krs.hr>

Institute for Adriatic Crops and Karst Reclamation, Split, Croatia

*President of the Scientific Committee*

Zlatko Šatović <zsatovic@agr.hr>

University of Zagreb, Faculty of Agriculture, Zagreb, Croatia

Centre of Excellence for Biodiversity and Molecular Plant Breeding  
(CroP-BioDiv), Zagreb, Croatia

*Honorary president of the Scientific Committee*

Zora Dajić Stevanović <dajic@agrif.bg.ac.rs>

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# PHYTOCHEMICAL ANALYSIS AND ANTIRADICAL POTENTIAL OF METHANOL EXTRACTS OF *HIERACIUM NAEGELIANUM* Pančić AND *H. SCHEPPIGIANUM* Freyn UNDERGROUND PARTS

Violeta Milutinović<sup>1</sup>, Silvana Petrović<sup>1</sup>, Marjan Niketić<sup>2</sup>, Aleksej Krunic<sup>3</sup>, Dejan Nikolić<sup>3</sup>

<sup>1</sup>University of Belgrade-Faculty of Pharmacy, Department of Pharmacognosy, Vojvode Stepe 450, 11221 Belgrade, Serbia

<sup>2</sup>Natural History Museum, Njegoševa 51, 11000 Belgrade, Serbia

<sup>3</sup>University of Illinois, College of Pharmacy, Department of Medicinal Chemistry and Pharmacognosy, Chicago, IL 60612, USA

The genus *Hieracium* L. is autochthonous in Eurasia, North Africa and North America and the vast majority of the taxa are distributed in Europe. *Hieracium naegelianum* Pančić, belonging to monotypic subendemic section H. sect. Naegeliana Zahn ex Szelağ, is a small, caespitose plant, with long rhizome. It inhabits subalpine and alpine orosubmediterranean screes and mainly is endemic for the mountains in W Balkan, with a single population in S Apennines. *Hieracium scheppigianum* Freyn is a hybridogenous apomictic species probably originated from *H. gymnocephalum* Griseb. ex Pant. (H. sect. Pannosa /Zahn (Zahn) and *H. bupleuroides* C.C. Gmelin, s. l. (H. sect. Drepanoidea Monnier). The species can be found only on screes, rocky places or rocky pastures in subalpine and alpine zone in Dinarides. The underground parts of *H. naegelianum* and *H. scheppigianum* were collected on Mt Durmitor, Republic of Montenegro. Dried and powdered plant material was macerated with dichloromethane and methanol, successively. Both solvents were evaporated under reduced pressure and dried methanol extracts were used for further investigation. Using LC-MS method, sesquiterpene lactone glycoside of guaianolide type, crepiside E, and six phenolic acids, i.e. chlorogenic acid and five dicaffeoylquinic acids (cynarin, 3,5-, 1,5-, 3,4- and 4,5-dicaffeoylquinic acids) were identified and quantified in both dried methanol extracts. Crepiside E was the most abundant compound (116.58 and 126.88 mg/g), while among phenolic acids, 3,5-dicaffeoylquinic acid (72.86 and 62.01 mg/g) was dominant in both investigated extracts. Radical scavenging activity was estimated using colorimetric DPPH and OH radical assays, and both extracts showed prominent and concentration dependent activity with SC50DPPH of 25.25 and 29.38 µg/mL and SC50OH of 16.09 and 17.50 µg/mL, respectively. This is the first report on secondary metabolites and antiradical potential of underground parts of *H. naegelianum* and *H. scheppigianum*.

**Key words:** *Hieracium*, underground parts, phenolic acids, sesquiterpene lactone, antiradical