BOOK OF ABSTRACTS

3rd International Conference on Plant Biology

(22nd SPPS Meeting)

9-12 JUNE 2018
BELGRADE

Serbian Plant Physiology Society

Institute for Biological Research "Siniša Stanković", University of Belgrade

Faculty of Biology, University of Belgrade

3rd International Conference on Plant Biology

(22nd SPPS Meeting)

9-12 June 2018, Belgrade

CIP - Каталогизација у публикацији - Народна библиотека Србије, Београд
581(048)(0.034.2)

INTERNATIONAL Conference on Plant Biology (3 ; 2018 ; Belgrade)
[Book of Abstracts] [Електронски извор] / 3rd International Conference on Plant Biology [and] 22nd SPPS Meeting, 9-12 June 2018, Belgrade ; [organized by] Serbian Plant Physiology Society [and] Institute for Biological Research "Siniša Stanković", University of Belgrade [and] Faculty of Biology, University of Belgrade ; [editor Branka Uzelac]. - Belgrade : Serbian Plant Physiology Society : University, Institute for Biological Research "Siniša Stanković" : University, Faculty of Biology, 2018 (Beograd : Društvo za fiziologiju biljaka Srbije). - 1 USB fleš memorija ; 1 x 3 x 8 cm

Tiraž 230. - Registar.
ISBN 978-86-912591-4-3 (SPPS)

1. Društvo za fiziologiju biljaka Srbije. Sastanak (22 ; 2018 ; Beograd)
2. Institut za biološka istraživanja "Siniša Stanković" (Beograd)
а) Ботаника - Апстракти

COBISS.SR-ID 264421900

3rd International Conference on Plant Biology
(22nd SPPS Meeting)
9-12 June, Belgrade

Publishers Serbian Plant Physiology Society
Institute for Biological Research "Siniša Stanković", University of Belgrade
Faculty of Biology, University of Belgrade
Editor Branka Uzelac
Graphic design Dejan Matekalo
Prepress Marija G. Gray
Electronic edition 230 pcs

Suported by the Ministry of Education, Science, and Technological Development of the Republic of Serbia

UHPLC-Orbitrap MS characterization of total phenolics in French marigold (*Tagetes patula* L.) extracts

PP4-23

Uroš Gašić[2], Sofija Stupar[1], Jelena Savić[1], Nina Devrnja[1], Tatjana Ćosić[1], Slavica Ninković[1], Živoslav Tešić[2]
(sofija.ninkovic@gmail.com)

[1] Department of Plant Physiology, Institute for Biological Research "Siniša Stanković", University of Belgrade, Bulevar despota Stefana 142, 11060 Belgrade, Serbia

[2] University of Belgrade, Faculty of Chemistry, P. O. Box 51, 11158 Belgrade, Serbia

Aqueous, ethanol and methanol extracts of aerial parts of ornamental French marigold (*Tagetes patula* L.), which consist mostly of flavonoids, have been reported to exhibit different biological activities, including cytotoxic effect on various human cancer cell lines. However, some of the most potent flavonoids characteristic for the genus *Tagetes*, such as quercetagetin and patuletin, are rare in nature. Thus, optimization of extraction process together with employment of sensitive techniques and detection equipment should be of interest in gaining information about marigold biologically active compounds. In the present study, separate extracts of leaves and flowers were obtained from dry plant material by overnight incubation in methanol, dichloromethane or hot (60 °C) water, followed by ultrasonic bath maceration. UHPLC–LTQ/orbitrap/MS, employed for separation and identification, revealed the presence of 68 different compounds in total, belonging to phenolic acids (20 compounds), flavonoid glycosides (37 compounds), and flavonoid aglycones (11 compounds). The highest number of compounds was detected in methanol extracts, i.e. 55 in flowers and 60 in leaves, while after the extraction in dichloromethane only 23 compounds were detected in leaves and 24 in flowers. In both leaves and flowers, the most diversified were flavonoid glycosides with quercetin and patuletin in 3, 7 or 3,7 di-*O*- derivativeforms. Aglycon patuletin was detected in all analyzed extracts, while quercetagetin was detected only in methanol and dichloromethane extracts of flowers. Obtained data confirmed *T. patula* extracts as a rich source of compounds with biological and potential pharmacological values.

Keywords: *Tagetes patula* L., UHPLC-Orbitrap MS, flavonoids, extracts

This research was funded by the Ministry of Education, Science and Technological Development of the Republic of Serbia (Grant Nos. OI173015 and OI172017).

Phenolic compound contents and antioxidant activity of various *Hypericum* spp. collected from the Republic of Macedonia

PP4-24

Elizabeta Markoska[1], Vlado Matevski[1,2], Oliver Tusevski[1], Sonja Gadzovska Simić[1]
(sonjag@pmf.ukim.mk)

[1] Department of Plant Physiology, Institute of Biology, Faculty of Natural Sciences and Mathematics, University "Ss. Cyril and Methodius", Archimedova str. 3, 1000 Skopje, Macedonia

[2] Macedonian Academy of Sciences and Arts, Krste Misirkov 2, 1000 Skopje, Macedonia

The aim of this study was to evaluate the contents of total phenolics (TP) and flavonoids (TF), as well as the antioxidant activity (DPPH) in methanolic extracts of leaf, stem, flower and aerial parts from fourteen *Hypericum* taxa: *H. perforatum* var. *perforatum* L., *H. perforatum* var. *angustifolium* DC.,