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## FROM PLANTS TO PHARMACY SHELF

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## BOOK OF ABSTRACTS



## STRUCTURAL ELUCIDATION OF FLAVONOIDS ISOLATED FROM AERIAL PARTS OF *STACHYS ANNUA* (L.) L. (LAMIACEAE)

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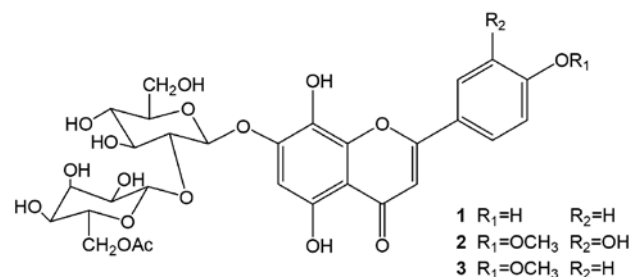
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*Stachys annua* (L.) L. (annual yellow-woundwort) is an arrable weed and meliferous archaeophyte, with the native range in Europe to Siberia and Iran [1]. The aim of this work is to implement simple chromatographic technique for isolation of flavonoids from crude methanol extract of *S. annua* aerial flowering parts (herb).

Plant material collected in NW Serbia (Mt Sokolske planine) was air-dried, powdered, and then extracted by bimaceration with chloroform and methanol. Dry methanol extract of *S. annua* herb was applied on preparative TLC plates of silica gel. After developing of chromatogram in methylene chloride : methanol : water (40:10:1, V/V/V), and spraying with NP/PEG reagent, in ultraviolet light at 365 nm three clearly separated fluorescence-quenching zones were observed. Zones were eluted with mixture of methylene chloride and methanol (1:1, V/V), and using LC-MS analysis one dominant compound was detected in each of these fractions. According to their UV, MS and <sup>1</sup>H-NMR spectral data, as well as using flavonoids previously isolated from *S. alpina* subsp. *dinarica* [2], these compounds (**1-3**) were identified as 8-hydroxyflavone glycosides, namely: isoscutellarein-7-O-[6'''-acetyl-β-D-allopyranosyl-(1→2)]-β-D-glucopyranoside (compound **1**), 3'-hydroxy-4'-O-methyliso-scutellareine-7-O-[6'''-acetyl-β-D-allopyranosyl-(1→2)]-β-D-glucopyranoside (compound **2**) and 4'-O-methylisoscutellareine-7-O-[6'''-acetyl-β-D-allopyranosyl-(1→2)]-β-D-glucopyranoside (**3**).

It could be concluded that the developed preparative TLC method is suitable for rapid isolation of the mentioned flavonoid biosides from the crude methanol extract of *S. annua* without prior fractionation by other chromatographic techniques.



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### References:

- [1] Pinke G, et al. (2021) Genetic Resources and Crop Evolution 68(7): 3039-3053.  
 [2] Karioti A, et al. (2022) Biochemical Systematics and Ecology 104: 104482.