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BOOK OF ABSTRACTS

(ed. Judit Hohmann)

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Isolation and structure determination of compounds from *Juncus* species

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In addition to flavonoids, coumarins, and triterpenes, plants belong to the family Juncaceae contain also phenanthrenes, which are a promising group of natural small molecules, possessing noteworthy pharmacological (e.g., antiproliferative, antibacterial, anti-inflammatory, and sedative) activities [1,2]. The aim of our work was to continue the isolation of phenanthrenes from Juncaceae species, namely *Juncus tenuis* and *J. kraussii* occurring in the Carpathian Basin.

The isolation was started by the extraction of the dried and ground plant materials with methanol. After evaporation, the extracts were dissolved in 50% aqueous methanol, and solvent-solvent partitions were performed with *n*-hexane, chloroform, and ethyl acetate. Phenanthrenes are enriched in the chloroform phases; therefore, these phases were fractionated by column chromatography and the eluates obtained were further purified by gel filtration, and high-performance liquid chromatography. The structure elucidation of the compounds was carried out by NMR and HRMS experiments as well as by comparison of spectroscopic data with literature values.

To date, twelve phenanthrenes, among them two new dimers, and flavonoids were identified from the two investigated plants. Our plans include the isolation and structure elucidation of additional compounds and their pharmacological investigation on different human tumour cell lines.

References

[1] Tóth B, et al. *J. Nat. Prod.* **2018**, 81(3): 661–678. doi: 10.1021/acs.jnatprod.7b00619

[2] Bús C, et al. *Phytochem. Rev.* **2018**, 17: 833–851. doi: 10.1007/s11101-018-9561-5

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