

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

**13th Symposium
on the Flora of Southeastern Serbia
and Neighboring Regions**

Stara planina Mt. 20 to 23 June 2019



**13. Simpozijum
o flori jugoistočne Srbije
i susednih regiona**

Stara planina 20. do 23. jun 2019.

**ABSTRACTS
APSTRAKTI**

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Abstracts

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Study of anatomy and essential oil of *Pimpinella alpina* Host (Apiaceae) from Serbia

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This study explores the shoot anatomical structure, content and composition of the essential oils of the vegetative organs and fruit of the *Pimpinella alpina*. The plant material was collected at Mt. Besna Kobila in South-Eastern Serbia, and Šar planina in Metohija. The anatomical studies were conducted on permanent slides obtained by standard method of preparation. The essential oils obtained by hydrodistillation from flowering aerial parts, fruits and roots (from flowering and fruiting period), were analysed by GC-FID and GC-MS. Anatomical analysis showed that the rhizome has a secondary structure in the bark zone, while in the zone of vascular tissues it has a primary structure. The stem has a primary structure, with vascular bundles. The leaf is dorsiventral, amphistomatic. Secretory channels are numerous in all organs. Sesquiterpene hydrocarbons with (E)- β -farnesene (23.1-52.1%) were dominant in the essential oils from aerial parts, fruit and roots, except in the root sample from Šar planina, which was characterised by high amount of phenylpropanoids (44.2%) with epoxy-pseudoisoeugenyl 2-methylbutyrate (25.9%). Phenylpropanoids with pseudoisoeugenol skeleton, which are unique to *Pimpinella* species essential oils, were also present in prominent amounts (7.9-26.8%) in other samples. This is the first report on content and composition of *P. alpina* essential oil.

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