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BOOK OF ABSTRACTS

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The 80th anniversary of Turrill's *PLANT LIFE OF THE BALKAN PENINSULA*



secretions in peltate trichomes were predominantly composed of lipophilic secretion, while in capitate trichomes were mostly hydrophilic. Previous investigation on *Satureja montana* with Sudan IV showed positive reaction only in peltate trichomes, while reaction with PAS was stronger in the basal cell of peltate trichomes and there was no reaction in the stalk of capitate trichomes. The analyses of stains showed differences among trichomes of various species. Histochemical studies together with investigation of trichomes distribution could be useful in taxonomical research of Lamiaceae species, but the exact differences could be found using detailed chemical analyses.

07 Sept. 14:30-18:00, POSTER HALL Poster 6_PSF_P_13.

**MORPHO-ANATOMICAL
CHARACTERISTICS OF LEAF SECRETORY
STRUCTURES IN *HYPERICUM BARBATUM*
JACQ AND *H. ACUTUM* WALL.**

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In *Hypericum barbatum* and *H. acutum* the two types of leaf secretory structures, the translucent glands in which essential oil is accumulated, and multicellular black glands-nodules containing hypericin, were investigated. Morpho-anatomical studies were conducted to describe the leaf secretory structures, and comprised determining a number of both glands per square unit, size and location.

The leaves of both species are characterized by a presence of numerous translucent glands which are larger in *H. barbatum* (diameter average 118.83 μm), comparing to *H. acutum* (61.57 μm). These glands are uniformly scattered throughout the lamina and fifty times greater number per square unit was recorded in *H. acutum* (27.98 /mm²).

Black nodules exhibited a spheroidal shape. Average diameter of nodules in *H. barbatum* was 213.41 μm and they were uniformly spaced both on the lamina and along the leaf margine. In *H. acutum* nodule diameter was 83.87 μm and they were localized only on the leaf margine. Regarding to nodule distribution average number of black nodules per square unit was significantly higher in *H. barbatum* (0.53/mm²).

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**ANATOMY OF *FREYERA CYNAPIOIDES*
GRISEB. AND *MEUM ATHAMANTICUM*
JACQ. (APIACEAE)**

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The aim of this work was to study anatomy of vegetative and reproductive organs of *Freyera cynapioides* and *Meum athamanticum* (Apiaceae), to determine secretory structures as well as to investigate chemical composition of essential oils from aerial parts of those plants.

Plant material was collected at mountain Bjelasica, Montenegro, in July 2008. Anatomical analyses of root, stem, leaf, and fruit were done on permanent slides, prepared by the standard method for light microscopy. The essential oils were obtained by hydrodistillation and analyzed by GC and GC-MS.

Freyera cynapioides is a perennial herbaceous plant with a globose tuber. There are secretory canals in tuber under the peridermis. Stem has primary structure with vascular bundles. Secretory canals are in the parenchyma of cortex and in the central cylinder parenchyma, above and below vascular bundles. Petiole is ribbed, every rib containing a vascular bundle and a secretory canal. Fruit is a schizocarp that splits up into two nuts. Each nut has five ribs with one secretory canal, and in mesocarp there are six more. The aerial parts of *F. cynapioides* yielded 0.1% v/v of light yellow oil. The main compounds of the oil were caryophyllene oxide (24.4%), humulene epoxide II (23.0%) and α -humulene (7.0%).

Meum athamanticum is a perennial herbaceous plant with spindle rhizome. In cortex parenchyma of rhizome there are many scattered secretory canals. Stem is ribbed, there is a central cavity, and there are one to two secretory canals in cortex parenchyma above each vascular bundle. There is also central cavity within the petiole, ribs are less obvious, and above every vascular bundle phloem there is a secretory canal. The essential oil content in aerial parts of *M. athamanticum* was 0.6% v/v. The most dominant constituents of the essential oil were β -pinene (29.1%), *p*-cymene (12.1%) and myrcene (8.0%).

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