

## PP67: Study chemical compounds *Satureja montana* for prospective species in ukrainian flora

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One of the representatives of the family Lamiaceae L. is the genus - *Satureja* L., originating from the Eastern Mediterranean, and successfully cultivated in Ukraine. The genus *Satureja* L. contains up to 50 species, both annual and perennial plants. Winter savory (*Satureja montana* L.) is a branchy, evergreen perennial plant, half-shrub up to 40-50 cm tall.

Summer (or garden) and winter savory in Ukraine are not official plants, but are included in the Pharmacopoeias of France and other countries. Garden savory is a part of phytopreparation "Maraslavin" Sopharma AD, Bulgaria, which is used in dentistry at the pharmaceutical market of Ukraine as anti-inflammatory, antiseptic, binding and regenerating drug.

In the Ukrainian folk medicine, drugs of the garden savory are used in phlogistic diseases of the upper respiratory airway, urogenital system and the gastrointestinal tract. Therefore, the study of the composition of the essential oil from herbal raw materials of this plant, which is cultivated in the south of Ukraine, was the aim of our work. The grass (flowered tips of inflorescences up to 15 cm long) was stockpiled in the Zaporizhzhia region during the blooming period (July – September, 2018). The essential oil of winter savory (fugitive, highly mobile, light-yellow liquid) was obtained using the hydrodistillation method.

A sample of the obtained essential oil was analyzed by gas-liquid chromatography on a Percin Elmer XL appliance, which is equipped with a flamingly-ionization detector and an Autosystem capillary column with a mass-detector Q-Mass 910 with a length of 30 m and an internal diameter of 0.25 mm [1, 3]. 24 components were identified, where the main components were: viridiflorol 35,027; karyophyloxide 34.813;  $\alpha$ -humulene 29,502;  $\beta$ -caryophyllene 28.021; thymol / carvacrol 23.18;  $\alpha$ -terpineol 17,862; terpinen-4-ol 17,621; borneol 16,502; linalool 13,455;  $\gamma$ -terpinolene 12,927; cissabinine hydrate 12,119 [2].

The antimicrobial and antifungal activity of the essential oil of winter savory was investigated on the basis of the microbiological laboratory using the paper disk method (in vitro), using clinical and museum strains of microorganisms. The essential oil of winter savory showed the pronounced essential antimicrobial activity relatively: *Staphylococcus aureus*  $27 \pm 0,5$ ; *Escherichia coli*  $14 \pm 0,5$ ; *Streptococcus pyogenes*  $13 \pm 0,5$ .

Anti-fungal activity was marked with the help of inhibition zones: *Candida albicans*  $19 \pm 0,5$ ; *Candida utilis*  $19 \pm 0,5$ ; *Candida kefir*  $16 \pm 0,5$ .

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