

PL15. TERPENOIDS AND PHENOLIC COMPOUNDS OF PLANTS OF THE GENUS *PEROVSKIA* FLORA OF UZBEKISTAN

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The genus *Perovskia* Kar. belongs to the *Lamiaceae* family and has only 9 species of shrubs, most of which grow wild in mountainous areas in Southwest and Central Asia. *Perovskia angustifolia* Kudr. grows in Tashkent, Samarkand, Surkhandarya regions and in the Ferghana Valley of the Republic of Uzbekistan, is a honey plant. A decoction of the leaves is used as an anthelmintic, infusion and tincture has an antibacterial, wound-healing effect, is used for skin diseases, indigestion, and as a diuretic. In order to search for new biologically active compounds, we studied the chemical composition of the phenolic compounds of *P. angustifolia* collected in the Namangan region of the Republic of Uzbekistan during the flowering period.

From the ethanol extract of the aerial part of the plant, caffeic and rosmarinic acids flavones luteolin, diosmetin, cirsimaritin (5,4'-dihydroxy-6,7-dimethoxyflavone), flavanones hesperetin, hesperidin, (2S)-neoponcirin (isosacuranetin 7-O-rutinoside), and flavanonol taxifolin (dihydroquercetin) were isolated. In order to establish the spatial structure and absolute configuration of hesperetin, X-ray diffraction analysis of its crystals was performed. Hesperetin, has a single C-2 chiral center and turned out to be (S)-hesperetin.

As a result of pharmacological studies, a high anti-inflammatory property of rosmarinic acid has been established.

We have also studied the composition of the essential oil of the aerial part of *P. botschantzevi* Kovalevsk. & Koczka collected during the flowering period. By GC-MS, 43 compounds were identified in the composition of the essential oil from the air-dried plant, while 47 substances were found in the composition of the essential oil from the fresh plant, which is 98.5 and 97.4% of the total amount of the essential oil, respectively.

The main components of the essential oil of both the air-dry and fresh aerial parts are 1,8-cineole, its content is 34.8 and 40.7%, respectively. The composition of the essential oil from the air-dry plant also contains bornyl acetate (12.3%), alloaromadendren (5.5%), endoborneol (5.4%), Δ -3-karene (5.3%), β -caryophyllene (5.2%), o-cymene (4.9%) and camphor (4.1%) and other compounds. The dominant components in the composition of the essential oil from a fresh plant, in addition to 1,8-cineole, are Δ -3-karene (8.6%), endoborneol (7.7%), bornylacetate (7.0%), α -terpineol (4.1%), alloaromadendren (3.6%), β -caryophyllene (3.2%).

The results of *in vitro* antimicrobial tests showed that all studied microorganisms are sensitive to the action of *P. botschantzevi* essential oil.

Keywords: *Perovskia*; terpenoid; flavonoid