

STUDY OF BIOLOGICALLY ACTIVE COMPONENTS OF *PEROVSKIA* *BOTSCHANTZEVII*

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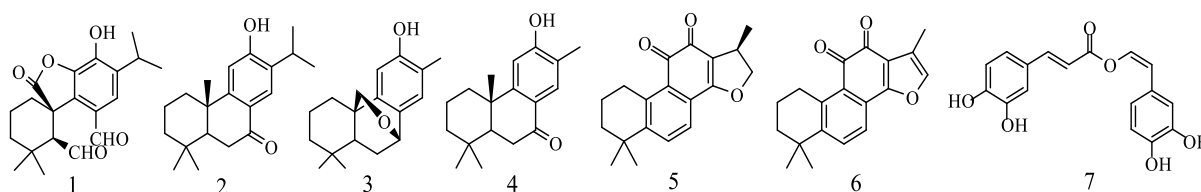
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Relevance: The growing need for medicinal products prepared on the basis of plant raw materials is explained by their high content of biologically active compounds, good efficiency, safety, and a wide range of therapeutic action. *Perovskia botschantzevii* Kovalevsk. & Koczka (family Lamiaceae) is a medicinal, essential oil, dye and honey plant growing on rocky slopes, pebbles, in the river valleys of Kyrgyzstan, Uzbekistan, Tajikistan, and Afghanistan.

Purpose of the study. Isolation and study of biologically active components of the roots of *Perovskia botschantzevii* collected in the Forish district of the Jizzakh region.

Materials and methods. The crushed air-dried plant material was extracted five times at room temperature with methanol. The combined extract was evaporated in a vacuum, the residue was mixed with silica gel, dried and chromatographed on a silica gel column, washing successively with gasoline, chloroform, ethyl acetate and a mixture of ethyl acetate-methanol (8:2).

Results. Chromatography of the fractions obtained revealed seven individual natural compounds. Based on the study of UV, ^1H and ^{13}C NMR spectra, the isolated substances were identified with the diterpenoids rosmadial (1) and sujiol (2), bis-nor-diterpenoids przhevalskin (3) and nimbiol (4), nor-diterpenoids cryptotanshinone (5) and tanshinone IIA (6), and also the ester of caffeic acid - nepetoidin B (7). The spatial structure of rosmadial and nimbiol was confirmed by X-ray structural analysis (XRD).



The anti-inflammatory activity of cryptotanshinone has been studied in the Institute's Pharmacology and Toxicology Department. It has been shown that cryptotanshinone exhibits a pronounced anti-inflammatory effect in the experiment, suppressing both the exudative and proliferative phases of inflammation. The anti-exudative effect of cryptotanshinone has also been revealed in the development of experimental serositis. Under the influence of cryptotanshinone, exudation into the pleural and abdominal cavity decreases in response to intraperitoneal administration of silver nitrate. Multiple administration of the test agent to rats with cotton balls implanted under the skin of the back inhibited the formation of granulation-fibrous tissue around them. In terms of the severity of its effect, cryptotanshinone in the experiments conducted showed certain advantages over diclofenac.

Conclusions. It has been shown that the roots of *Perovskia botschantzevii* are a rich source of biologically active compounds and can be used to create effective medicines and dietary supplements.