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Composition of essential oil and mineral complex artemisia scoparia l. grown in the highlands of the flora of the South Fergana

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The method of gas chromatography-mass spectrometry investigated the chemical composition of the essential oil obtained of air-dry raw medicinal plant *Artemisia scoparia* L. growing in the mountain regions of the flora of the South Fergana. The main components of the essential oil are camphor (39%), eucolyptol (52%), benzene (4%), camphene (7%), which comprise of 99.98% of the mass of the mixture, and the remaining 22 peak minor components, the content is very small (in the amount of 0.02%).

However, using the method of neutron activation analysis in the above-ground part of *Artemisia scoparia* L. was established quantitative content of 42 macro - and microelements. It is revealed that *Artemisia scoparia* L. accumulates in the course of their life considerable number of macro - and trace elements such as potassium - 42600 mcg/g, calcium - 38700 mcg/g, magnesium - 7640 mcg/g, chlorine - 7600 mcg/g, iron - 2970 mcg/g, sodium - 920 mcg/g, manganese - 89 mcg/g and zinc - 35 mcg/g . The fluctuation of the other macro-and microelements are insignificant. The content of heavy metals in the organs of *Artemisia scoparia* L. does not exceed maximum-permissible norms and may be recommended for medical use.

The information above about the study of ethereal-oil-bearing plants of flora of the South Fergana testify to the perspectiveness of *Artemisia scoparia* L. as sources of new and effective medicines and biologically active additives.

Biography

P. K. Igamberdieva is the head of the chair Biochemistry and Biophysics of the Ferghana branch of the Tashkent medical Academy, scientific direction. She has published more than 45 scientific articles in journals and collections of materials of the international conference.

Phytochemical, toxicological and antibacterial screening of the ethanolic extract from the air-dried bark of *Pterospermum diversifolium* Blume (Sterculiaceae)

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The medicinal value of plants lies in bioactive phytochemical constituents that produce definite physiological action on the human body. Natural phytochemicals are known to contain substances that can be used as precursors for the synthesis of useful novel drugs. The present study examined the potential antibacterial activity of the extract from air-dried bark of *Pterospermum diversifolium* (Sterculiaceae) through an *in vitro* study.

Phytochemicals from the air-dried bark of *P. diversifolium* (Sterculiaceae), commonly known as Bayog, were extracted by percolation using 80% ethanol. High performance liquid chromatography (HPLC) was used to determine the amount of quercetin present in the bark of *P. diversifolium*. The acute oral toxicity of the plant extract was investigated using six (6) female sprague-dawley rats following the acute toxic class method. The dose given was 2000 mg/kg body weight. The antibacterial activity was carried out against *Bacillus subtilis, Staphylococcus aureus, Escherichia coli* and *Pseudomonas aeruginosa*. The Minimum Inhibitory Concentration (MIC) of the crude extract was determined in micrograms per milliliter (mcg/mL) using serial dilution method. The zones of inhibition of the extract were measured in millimeters using disc diffusion method which were compared against the positive control: Tetracycline. Normal saline solution (NSS) was used as the negative control.

Phytochemical analysis revealed the presence of flavonoids, saponins and tannins. The Median Lethal Dose of the extract was >2000 mg/kg. The amount of quercetin in the extract was 54.2 parts per million. Preliminary microassay of the extract showed antibacterial activity against *S. aureus* and *B. subtilis*. The crude extract exhibited inhibitory activity against *S. aureus* with MIC of 5000 mcg/mL and *B. subtilis* with MIC of 1250 mcg/mL. One Way ANOVA and Tukey HSD for post-hoc analysis showed that there is a significant difference (p-value <0.001) among the mean zone of inhibition of the three treatment groups (crude extract, Tetracycline and NSS) against *S. aureus* and *B. subtilis*.