PHYTOCHEMICAL RESEARCH OF VERONICA TEUCRIUM L.

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Approximately 70 species of genus *Veronica* L. of family *Plantaginaceae* grow on territory of Ukraine, which are grouped into 8 sections. The most common species is perennial plant *V. teucrium* L., that has a large area of distribution.

The herbal drug is herb (stems, leaves and flowers), that are harvested in the flowering stage. The recent herb has the bitter taste and a faint smell, which are disappeared during drying. Occasionally, are used roots, that are harvested after dying off the aerial part. The herbal drug are dried in the shade and in well-ventilated premises or in the dryer.

A herb used in folk medicine (as infusion) long ago and have shown an anti-inflammatory, expectorant, analgesic, anticonvulsant, anti-bacterial (against Gram+), fungicidal, and haemostatic activity. The recent herb had used topically for chronic purulent skin diseases and as wound healing remedy.

According to the experimental data, the aqueous extracts from herb of *V. teucrium* L. have shown iron-binding, antioxidant, reducing and prebiotic activity.

V. teucrium L. herb contains carbohydrates, steroids, iridoids, steroid saponins, cardenolides, phenolcarboxylic acids, tannins (up to 4%), coumarins, flavonoids, choline, vitamine C.

The aim of our study was the identified and quantified study of flavonoids.

Materials and methods.

The objects of the study were herb, leaves and flowers of *V. teucrium* L., that have been harvested in the flowering stage in Kharkiv region, Ukraine, in 2013.

Extract from *V. teucrium* L. obtained by ethanol 70% have used for paper chromatography (PC) on «Filtrak» (FN-12), the solvent system: ethylacetate – formic acid – water (10:2:3) (I direction) and 15% acetic acid (II direction). The process of chromatography was performed using single division at the temperature 20-22ºC. Detection was performed in filtrated UV-light (354 nm). The detection was conducted by ammonia vapor, 10% spirituous solution of sodium hydroxide, 5% solution of iron (III) chloride after drying chromatogram. The compounds were identified by features fluorescence in UV-light and coloration with chromogenic reagents, and by the value of R_f.

For quantified study of flavonoids 20 ml of 70º ethanol was added to the exact sample of crushed herbal drug (m=1.050 g, d=2 mm) in 50 ml flask. The flask was attached to a reflux condenser and heated in a water bath for 30 min. After cooling the extract was filtered through cotton in a volumetric flask, then a cotton was added into a flask for extraction. The extraction was repeated twice, 10 ml of 70º ethanol was added in third time, and then an extraction was filtered into a volumetric flask. After cooling the volume of solution was adjusted to 50 ml mark using 70º ethanol. In volumetric 10 ml flask was added 1.0 ml of the obtained solution, the volume adjusted up to the mark using solution 70º ethanol and had registered UV-spectrum of an obtained solution, and the reference solution was 70 º ethanol.

For the differential absorption spectrophotometry 2.5 ml of obtained solution was transferred into 25 ml volumetric flask, was added 1 ml of 2% solution $AlCl_3$ in ethanol 96º, and the solution volume was adjusted up to the mark with 5% solution of acetic acid in ethanol. After 40 min had registered a differential UV-spectrum of an obtained solution on the spectrophotometer SPh-46 (λ=412 nm, *l*=10 mm). As the reference solution was used solution prepared in aforementioned conditions, without the addition of $AlCl_3$.

Specific absorption coefficient of the complex hyperoside with $AlCl_3$ at λ = 415±5 nm is equal to 291.09, was used for calculations.

The obtained results.

In the result of the chromatographic study of *V. teucrium* L. herb had been found 8 phenolic compounds in leaves and 12 – in flowers. According to the results a value of R_f and features coloration of spots before and after reaction with chromogenic reagents in daylight, and fluorescence in UV-light in leaves had been found 4 compounds belonging to flavonoids, and 6 – in flowers.

By spectrophotometry method flavonoids of *V. teucrium* L. herb had been quantified. The total content of flavonoids in herb was 0.59±0.03 % (m=5, P=0.95), in recalculation on hyperoside.

Conclusions.

In *V. teucrium* L. leaves had been found 8 phenolic compounds, 12 – in flowers, including flavonoids: 4 in leaves and 6 in flowers

The quantitative content of flavonoids in *V. teucrium* L. herb was 0.59±0.03 % (m=5, P=0.95), in recalculation on hyperoside.