Subsection: Chemical Composition of Plants.

Reference Object Identifier – ROI: jbc-02/17-49-4-153

Publication is available for discussion in the framework of the on-line Internet conference "Butlerov readings".

http://butlerov.com/readings/
Submitted on March 28, 2017.

## Teloxys aristata (L.) Moq. – plant of Tibetan medicine

© Tatiana V. Kornopoltseva, 1\*+ Evgeny V. Petrov, 1 and Elena A. Botoeva2

<sup>1</sup> Laboratory of Biomedical Research. Institute of General and Experimental Biology. Sakhyanovoy St., 6. Ulan-Ude, Russia. Phone: +7 (9021) 64-55-81. E-mail: tv-kornopol@mail.ru <sup>2</sup> Department of Obstetrics and Gynecology with the Course of Pediatrics. Buryat State University. Smolin St., 24a. Ulan-Ude. Russia.

\*Supervising author; \*Corresponding author

**Keywords:** biologically active substances, standardization, cinaroside.

## Abstract

The study is devoted to the search and development of new effective drugs intended for the treatment and prevention of kidney diseases. The source study of the Tibetan medical treatise Chzhud-shi allowed to reveal several compositions of charges, most often mentioned in the treatment of the organs of the genitourinary system, in particular with kidney diseases. One of the compositions is a three-component collection, codenamed "3 reds", consisting roots of Rubia tinctorum L., leaves Bergenia crassifolia (L.) Fritsch and ariel part Teloxys aristata (L.) Moq. From roots of Rubia and leaves of Bergenia in scientific and folk medicine are used as spasmolytic and diuretics, which indicates the expediency of using them in this composition as a means for the prevention and treatment of kidney diseases.

The chemical composition of the extracts of marinated spinach has not been adequately studied. In the extracts of Teloxys aristata (L.) Moq. Carbohydrates (D-glucose), amino acids, polysaccharides (water soluble in cold and hot water (1.79 and 0.72%, respectively)), pectins 5%, hemicellulose 1%), tannins 4%, triterpene group saponins, coumarins, alkaloids (stachidrine) 0.1%, phenol carboxylic acids (chlorogenic) 1%. Chromatographic methods have been used to establish the presence of 6 substances in qualitative reactions classified as flavonoids. After acid hydrolysis using authentic samples, the presence of quercetin and kaempferol as aglycones was proved. The UV spectra of alcohol extract of marigold are similar to UV absorption spectra of GSO cinaroside (luteolin-7-O-glucoside), taken under similar conditions. A methodology for the quantitative determination of flavonoids in terms of cinaroside-standard has been developed, which can be used to determine the authenticity of raw materials. The content of the sum of flavonoids in terms of cinaroside standard in the aerial part of marinous in terms of cinaroside standard was 0.83%. The relative error of the "introduced-found" method does not exceed the relative error of the technique and the experimental results can be considered satisfactory.

## References

- [1] V. Yu. Anuriev, V.I. Kalinkina. Development of a methodology for the quantitative determination of flavonoids in a cuff ordinary. *Chemistry of Plant raw Materials.* **2000**. No.1. P.85. (russian)
- [2] V.V. Belikov, T.V. Tochkova. Complexation reaction in the analysis of flavonoids. Mather. 2 nd All-Union. Simp. By the hair dryer. Cpd. *Alma-Ata: Science*. **1973**. P.168-172.
- [3] A.F. Gammerman and B.V. Semichev. Dictionary of Tibetan-Latin-Russian names of medicinal plant raw materials used in Tibetan medicine. *Ulan-Ude.* **1963**. 180p.
- [4] State Pharmacopoeia of the USSR: Issue 1. General methods of analysis, 11th ed. *Moscow: Medicine*. **1987**. (russian)
- [5] Wild plants of Russia. Ans. Ed. A.L. Budantsev, E.E. Lesiovskaya. SP: Publishing House of St. *Petersburg.* **2001**. 663p. (russian)
- [6] Mashkovsky M.D. Medicines. T.1. 11 ed. Moscow: Medicine. 1988. 624p. (russian)
- [7] Plant resources of the USSR. Families of Magnoliaceae Limoniaceae. *Leningrad: Science.* **1984**. 460p. (russian)
- [8] L.M. Fedoseeva. Farmakotehnologicheskie studies of the leaves of thick-leaved balan. Author's abstract. *Dis. ... cand. Farm. Sciences. Pyatigorsk.* **1988**. 20p. (russian)
- [9] Chemical analysis of medicinal plants. Study Guide for Pharm. Universities. Under. Red.prof. Grinkevich. *Moscow.* **1983**. 176p. (russian)
- [10] "Chzhud-shi" a monument of medieval Tibetan culture: Trans. With tib. Foreword. D.B. Dashieva, S.M. Nikolaeva. *Novosibirsk: Science. Sib. Separation.* **1989**. 349p. (russian)
- [11] R., Harmatha J., Marion-Poll F., Dinan L., Wilson I. Compilation of the literature for the screening of vascular plants, algae, fungi and non-arthropod invertebrates for the presence of ecdysteroids. *The Ecdysone Handbook, 3rd edition, Paris.* **2007**. http://ecdybase.org