

## 3rd International Symposium on Edible Plant Resources and the Bioactive Ingredients



Urumqi China July 28–August 1, 2012

State Key Laboratory Basis of Xinjiang Indigenous Medicinal Plants Resource Utilization Key Laboratory of Chemistry of Plant Resources in Arid Regions, CAS

## Composition of the Hexane Extract of Genus Climacoptera C.Subcrassa and C.Korshinskyi

B. K. Yeskaliyeva.<sup>a</sup>, A.K. Kipchakbaeva.<sup>a</sup>, K.Uteshova.<sup>a</sup>, G.Sh. Burasheva.<sup>a</sup>, H.A.Aisa.<sup>b</sup>

<sup>a</sup>Al-Farabi Kazakh National University, Faculty of Chemistry and Chemical Technology, Almaty, 050040, Kazakhstan., tel (+7-727) 3773608, balakyz@mail.ru <sup>b</sup>Xinjiang Technical Institute of Physics and Chemistry of CAS, Urumqi, China, 830011

In recent years, expanding the study of wild plants are widely growing in saline and arid soils of the Republic of Kazakhstan and adapted to extreme conditions. The object of our study is the aerial parts of some plants of genus *Climacoptera* collected in the flowering stage in the Almaty region. Comparative phytochemical analysis of the two component species of the genus *Climacoptera* revealed the presence of biologically active substances indicates that plant species *C. subcrassa* is promising.

To isolate the bioactive compounds from two species of the genus *Climacoptera (C. korshinskyi and C. subcrassa).* The selection of solvents, ratio is established: raw material-solvent extraction specified multiplicity, time and temperature of extraction.

*Climacoptera subcrassa*: Moisture content -5.35%, ash -38.5%, extractives- 64.50%, tannins -1.20%, carbohydrates -1.84% saponin -2.3% of flavonoids -1.25%.

*Climacoptera korshinskyi:* Moisture content -4,65%, ash -30.5%, extractives -53.70%, tannins -0.96%, carbohydrates -1.54% saponin -1.5% of flavonoids -1.05%.

In addition, by varying the process parameters, dried raw material was extracted by supercritical fluid extraction with CO<sub>2</sub>.

For the first time, supercritical fluid  $CO_2$  extraction is carried out to work on recruitment conditions, which is use to extract biologically active substances from plants of *Climacoptera korzhinskyi* and *Climacoptera subcrassa*.

A phytochemical analysis of the genus of *Climacoptera korzhinskyi* is inferior to the quantitative composition of flavonoids, but greater than lipophilic composition of plant species *C.subcrassa*.

The 3rd International Symposium on Edible Plant Resources and the Bioactive Ingredients

By varying the percentage and rate of the solvent (15% ethyl alcohol, the rate of the solvent 15 g/min) at high pressure, the temperature was 40 C to obtain an extract, which contains polyphenols and terpenes.

54 Substances were found from the genus *Climacoptera korzhinskyi* in the purified extract of GC/MS - spectroscopy, 34 substances from *Climacoptera subcrassa*.

The extract of the plant species of the genus *Climacoptera korzhinskyi* and *C. subcrassa* was put on the biological activity.

A study in this work is continues.