

# Natural flora of Uzbekistan as sources for new medicinal products-botanical nutraceuticals

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**Abstract:** Wild plants of Uzbekistan during many years was studies on their application in pharmaceuticals, in medicine, food processing industry, dye plant, tannins, feeding plants e.t.c. However, the potential of natural flora of Uzbekistan is used not full and insufficiently rationally. Only combined efforts scientific of Uzbekistan, USA, Germany, Japan, France and others can be reached development of deeper studying of botanical resources of natural flora of Uzbekistan.

Key words: natural flora, biologically active substances, botanical nutraceuticals.

## 1.Introduction

In territory of Uzbekistan it grows more than 4500 vascular (high) plant, 1012 genus concerning 167 families. From them about 500 species are cultural. In Republic more that 1300 Algae, more than 2000 Fungi meet. The bases of flora of the Republic make such large families as *Asteraceae*-about 600 species, *Fabaceae*-more than 450 species, *Poaceae*-more than 250 species, *Brassicaceae*-more than 200 species, *Lamiaceae*, *Chenopodiaceae*, *Caryophyllaceae*, *Liliaceae*, *Boraginaceae*, *Rosaceae*.

Botanist of Uzbekistan during many years, made numerous expeditions on exploration plants of natural flora both arboreous, and herbaceous, having by food, medicinal, fodder, tannic, aromatic and etc. were carried out. For many species areas of their distribution, the condition of their growth and stocks of vegetative raw material in nature are exploration.

## 2.Results and Discussion.

Groups of wild-growing plants of natural flora of Uzbekistan on their application in medicine, the food-processing industry and national economy now are established. So there are more than:

-**food plants:** 350 species of *Rosaceae*, *Alliaceae*, *Juglandaceae*;

-**feeding plants:** 1700 species of *Poaceae*, *Fabaceae*, *Chenopodiaceae*, *Asteraceae* families;

-**medicinal plants** from *Ranunculaceae*, *Papaveraceae*, *Asteraceae*, *Apiaceae*-more than 700 species.

**Dye plants:** *Malvaceae*, *Papaveraceae*, *Asteraceae* families; 200 species of spicy-flavouring, 100 species containing of saponins and more than 400 species of tannin.

In Republics spicy aromatic plants are very much appreciated, the so-called spices used by local population in the life and various branches of national economy are widely used. *Berberis*, *Ziziphora*, *Origanum*, *Mediasia*, *Mentha*, *Nepeta*, *Bunium*, *Cuminum*.

**Medicinal Plants:** Herbal medical tradition is very strong in Uzbekistan. Over 500 species such as *Ungernia*, *Thermopsis*, *Peganum*, *Delphinium*, *Aconitum*, *Thalictrum*, *Vinca*, *Codonopsis*, *Inula*, *Tanacetum*, are used for the official (industrial) herbal medicine production. In addition, over 200 species including *Artemisia*, *Ziziphora*, *Achillea*, *Cichorium*, *Helichrisum*, *Hippophae*, *Polygonum*, *Hypericum*, *Rosa*, *Berberis*, *Silibum marianum* are used in traditional folk medicine.(1)

Medicinal Plants from Central Asia., is very great and important source for the opening new pharmacologically components at modern medicine. It is necessary to reveal of new useful properties at plants of natural flora of Uzbekistan, as well as for development and creation of highly effective vegetable medical products, and for creation new dietetic valuable food vegetable additives enriching food stuffs with useful pharmaceutical properties. The last will provide in the sufficient measure and requirement of medical establishments and the population of Republic of Uzbekistan, new pharmaceutical high quality products-botanical nutraceuticals. Long-term researches of botanists have allowed to reveal Uzbekistan, that the greatest in number of species of plants of natural flora Uzbekistan having medicinal and agronomic properties meets in 119 species of *Apiaceae* family from 57 genus, 88 species of *Lamiaceae* family from 29 genus, 65 species of *Asteraceae* family from 26 genus , 46 species of *Brassicaceae* from 33 genus, 35 species of *Rosaceae* family from 25 genus, 29 species of *Liliaceae* family 7 genus, 24 species of *Fabaceae* from 10 genus. Under the quantitative contents of flavanoides occurs in the families: *Polygonaceae*, *Fabaceae*, *Euforbiaceae*, *Apiaceae*, *Rosaceae* are rather perspective: leaves, buds, flowers rather perspective.

Especially the important attentions deserve studying species of family *Asteraceae* as the perspective plants containing ecdysteroids substances: *Serratula sogdiana* Bge, *Rhaponticum integrifolium*. Similar substances are found in enough at plants Turkestan Houseleek: *Ajuga turkestanica*. This plant rather prospective for received many kinds of ecdysteroids substans as turkesteron, ajugosten and others. From the total herbs about 100 species are long since applied in national medicine: *Artemisia* L., *Ziziphora* L., *Achillea* L., *Rosa* L., *Berberis* L., *Crataegus*, *Cichorium* L., *Helichrisum* Gaerth., *Hippophae* L., *Polygonum* L., *Hypericum* L., *Salvia* L., *Verbascum* L.: more than 500 species are confirmed by pharmaceutical commission and also are transferred to manufacture.

Yet few, a very few, of the Uzbekistan natural flora well known 4500 plant species have been fully pharmacological screened fine chemical analysis and toxicological testing new discovered components for their medicinal effects. But little by little the hidden power plants of Central Asia give us to promiss well for human health deliver prevent from many dangerous disease.

Much remains to be discovered by Uzbekistan Associate Program in Biodiversity inventory collection, training and pharmacological screening and it is therefore of paramount important to maintains the diversity of the Uzbekistan's flora as well as protecting and recording the wealth of knowledge of different culture regarding the use of medicinal plants in Uzbekistan.(2,3,5,6)

However, the potential of natural flora of Uzbekistan is used not full and insufficiently rationally, many wild-growing species till now are not accepted to manufacture of pharmokopie Uzbekistan.

The plants of *Lamiaceae* family: *AjugaTurkestanica*; *Asteraceae* family: *Serratula*, *S.Sogdiana*, species of *Rhaponticum* genus: *Rh. Integrifolium*, *Rh. Carthamoides* and others.

With increase of growth of the population of Uzbekistan the increasing of manufacture of the foodstuffs having not only by caloric content, but also the useful dietary, pharmaceutical properties enriched natural nutraceuticals, protecting the organism of the person from adverse conditions of the environment is required also.

Nowadays the world markets of the pharmaceutical goods in total amount 300 billion US dollars on 25 % consists of the substances received from plants and thus the market botanical nutraceuticals makes 5 billion US dollars. Only not the most part of species of the high plants from 250 thousand species is well enough investigated in the pharmaceutical relation.(4) Thus, the natural flora of Uzbekistan represents the big interest for many well developed countries, including USA, Germany, Japan, France and others as a source for reception of new, qualitative components for manufacture of new pharmaceutical products.

The further development of the given problem in Uzbekistan restrains the insufficient (eve) of financing and the out-of-date material resources of researches.

**Conclusion:** Only combined efforts scientific of Uzbekistan, USA, Germany, Japan, China, France and others can be reached development of deeper studying of botanical resources of natural flora of Uzbekistan for revealing new perspective species of plants with the purpose of their application in quality botanical nutraceuticals. The potential for discovery of additional medicines from wild plants of Uzbekistan's flora is tremendous.

Our opinion we began deeply study so many of plants of natural flora of Uzbekistan by new methods fine chemical analysis for screening plants, containing biologically active substances for future manufacture of new pharmaceutical products - botanical nutraceuticals or functional foods in Uzbekistan. Of course, we receive undoubted success and our cooperation only strengthen. The major strengths of our project included cooperation of an excellent team of scientists from Germany, Japan, Koreja, China, USA and Uzbekistan. Uzbekistan is actively promoting cooperation with foreign states and international non-governmental organization in sphere of ecology and nature conservation. The potential for discovery of additional medicines from wild plants of Uzbekistan's flora is tremendous.

The hidden power of plants of natural flora of Uzbekistan must be discovered and used up for humanity all over the World.

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