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## **MORPHOBIOLOGICAL CHARACTERISTICS OF VEGETABLE PLANTS OF FERGANA VALLEY**

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### **ABSTRACT**

The article presents information on the morphobiological characteristics of the raw material plants distributed in the Fergana Valley and their protective phase.

### **KEYWORDS**

Plant resources, Ontogeny, flora, systematic, geobotanical, ecological, family, series, species, life form, oily, resinous, tannic, saponinuous, rubbery.

### **INTRODUCTION**

Plant resources or raw material plants are a valuable economic fund of every country. The more advanced the industry and economy are, the more those countries need plant resources.

The emergence of new industrial enterprises, plants, factories, and a number of enterprises and firms established and operating on the basis of foreign investments, local sources of plants are becoming necessary for each of them. Oil, tar, tannin, saponin, medicine, food, sugar, honey, etc. obtained from plants have an increasing role in this field. Due to these and other issues, the comprehensive study of plant resources and their protection is considered one of the urgent tasks of this day.

Before moving on to the main issue - says the famous scientist M.M. Ilin - it is probably not too much work to clarify the essence of some concepts and terms in this regard. (M.M. Ilin 1948) [7]. All species are known as useful plants, which are useful to humans to some extent. They directly provide raw materials for humans, and the products obtained from others are processed for some industrial enterprises and are part of the things developed in those enterprises. In this area, it is necessary to pay attention to the fact that in order to obtain certain raw materials, these plants are completely harvested from nature. For example, the coca gum plant is used for rubber, and the root of the licorice plant is used to obtain glycerine acid. So, in order to get a useful resource from these plants, they are killed. In the second case, some parts of the plants (fruits, flowers, leaves) are picked if they are not harmed. For example, the fruits of chakanda, jumrut, blackberry, barberry are picked. Plants, in turn, can be in a natural state (in nature) and cultivated.

M.M. Ilin [8] divides plant raw materials into two types.  
1) Technical raw materials, 2) Natural raw materials.

The first includes plants with rubber, and the second includes plants with saponin and astringent substances (leather, leather). Natural raw food plants include all fruits (apples, apricots, quinces, peaches, grape dates) and fruit crops, because their fruits can be eaten in their natural state. Therefore, the first group of plants cannot be directly consumed (or used), while the second group of plants can be consumed. The above author refers to the materials obtained from plants and used in some sectors of the national economy as plant raw materials (siri). The study of plant resources, including medicinal, essential oil and saponin plants, can be divided into several stages.

"Plant resources are not exhausted," says academician V.L. Komarov, and they have not yet been determined to the end." This applies to Uzbekistan and Central Asia in general. (Flora USSR. T. 1. L., 1934 ) [20]. Based on this, great attention was paid to this group of plants until the Great Patriotic War

N.V. Pavlov (1947) [9-10] in his book "Plant resources of South Kazakhstan" describes in detail medicinal plants, oil, food, tannin, honey, vitamin, color, rubber, etc. in this region. In particular, South Kazakhstan (now it includes the mountainous Bostanliq region of Tashkent region) identifies more than 20 species of plants with essential oils. The author pointed out that 20 species of plants have essential oils. Among other things, it is determined that all types of spruce contain 0.73-0.87% of oils. It also touches on plants such as dalachoi, mavrak, deer grass, lemon grass, titraykhan, mint, bojmadaran, sherolin.

M.S. Shalt (1951)[11] devotes his research to the essential oil plants of Turkmenistan. It was found out that among the plants distributed in the republic, the most common plants with essential oil (29.9%) in the family of labgulodash (29.9%), followed by complex

gulfodosyl (19.7%), rosebuds ( 5.5%) and others. The author also notes that the essential oils in plants are directly related to the environment in which they grow and environmental factors.

Famous botanist, tireless researcher of the flora of the Caucasus region, academician A.A. In Grossheim's [5] famous book "Plant riches of the Caucasus (1952)" among other raw plants, species with essential oil occupy a special place. The scientist lists 138 species of plants with essential oil that are widespread in countries rich in species of these plants. This analysis shows that the Caucasus region is rich in all plant resources, including essential oil plants. He has done a lot of research in this regard. Nevertheless, the author says, there may still be a number of unidentified species. According to him, in this regard, hiliceac,

A.A. Pristupa (1973) [16] also comprehensively characterizes the main raw material plants. This book provides a general description of more than 1,000 species (which belong to 118 families). Anatomical, morphological, biochemical properties of existing species are described, all their ranges are given. The important part of this book is that it gives a number of chemical substances contained in plants. It is also worth noting that useful plants are classified according to the use of their raw materials. Theoretical and practical issues of environment A. Ergashev (2003), [4] A. Tokhtayev (1998) [13], P. Baratov (1990) [1], Yu. Shodimetov (1981), [12], G'. Hamidov (1990) [6], V. I. Karobkin, L. V. Peredelsky (2001) [14] and others are described in detail in a number of works. In these and other scientific sources, the balance between nature and society, the integrity of the biosphere component, and their interdependence are expressed. From the above, it is known that although a lot of information has been published about plant resources, including essential oil plants, the essential oil plants of Fergana

Valley No special studies have been conducted and there is very little published information about it.

## MATERIALS AND METHODS

In the course of the research, available scientific sources and materials collected in direct field research were thoroughly studied and analyzed. In the study of the topic, raw materials science (resursovedenie), systematic, geobotanical, ecological and other research methods were used.

There are special methods of determining their distribution and reserves in nature. The most perfect of such methods and those that are widely used in practice are published in special sources. "Metodika opredeleniya zapasov lekarstvennykh rasteniy" / Gos. com. USSR po lesn. hoz-vu, M-vo med. and microbiol. prom-sti; [Razrab. A. I. Schroeter and dr.]. - M. : TsBNTI leshoza, 1986. - 50, [22]. Borisova, Shreter, Opredelenie zapasov lekarstvennogo syrya. 1966, [2]. These methods are characterized by simplicity and accuracy. There are two ways to determine natural reserves of medicinal plants. The first is to determine the resources of species distributed in scarce areas. Let's say that the species we are interested in can occupy an area of 1-2 hectares (maybe less or more) in some streams, basins. A small area can be stepped on from all sides, or else they can be measured by making 2-3 meter special wooden rulers. Plant resources of 1 sq.m., 10 sq.m. or 100 sq.m. are cut from different parts of this site and weighed. By repeating this several times, the arithmetic mean is obtained and multiplied by the total area.

The second method is used to determine plant material in large areas. In this case, special areas (key plots) are separated from general, large areas. Reserves in these fields are determined. Perovskija serophyllarifolia

(Perovskija serophyllarifolia), Vinca erva (Vinca erva) scattered around the villages of Shakhimardon and Yordon, as well as in Aksuv, Dugobasoy, and Mashalangsoy, sorghum (Adonis chrysocyathus), origanum tyttanthum (Origanum tyttanthum) scattered in Khurjuntog. and thyme (Thymus seravschanica) and similar plants we have identified resources by these methods. We used ethnobotanical data to study one or another medicinal plants.

Life forms of medicinal plants were determined based on the classifications of K. Raunkier (1934), [17], I.G. Serebryakov (1962) [18]. The works of "Flora Uzbekistana" (I-VI vol. 1941-1962), [21] "Opredelitel rastenii Sredney Azii" (I-IX vol. 1968-1993) [15] were used to determine the scientific and local names of plants. Plant taxa were compared to S.K. Cherepanov (1981), [3].

In order to have a complete picture of medicinal plants, in addition to determining their species composition, areas, and natural reserves, it is also important to study the bioecological characteristics of their widespread representatives.

It is known that every plant is formed in a complex and constantly changing environment. All stages (periods) of ontogeny are inextricably linked to a number of environmental factors and certain climatic conditions. Then we think that the information about the plants that we want to describe below, there will be no repetition. They only fill our information about the famous plants, which are considered our natural resources.

Below, we will briefly touch on the raw edible plants that are distributed in some regions of the Fergana Valley.

## RESULTS AND DISCUSSION

Scientific name	Family	Distribution	Life form	Medicinal properties
Taraxacum officinalis	Asteraceae	Asia, Europa	perennial	Improves digestion, stimulant
Artemisia absinthium L	Asteraceae	Europe, South Africa, Asia, Russia, South America, North Africa	perennial	Improves digestion, stimulant
Achillea L	Asteraceae	Europe, North America	perennial	Stomach-intestinal ulcer, appetite suppressant, hemostatic
Bidens tripartite L	Asteraceae	Europe, Asia	one yearly	Digestive, Diuretic, Sweating, Eczema
Helichrysum arenarium	Asteraceae	Cetral Russia, Caucasus, Crimea	One yearly	In pathology of the liver and biliary tract, in rheumatism, in kidney diseases, in the digestive system
Inula	Asteraceae	Europe, Asia, Africa	perennial	Appetizer, stomach ulcer diseases

Cichorium intybus L	Asteraceae	Central Asia, Kazakhstan	perennial	In gastrointestinal activity
Contaurea depressa	Asteraceae	Europe, Asia	perennial	Urinary tract, Kidney diseases
Tussilago farfara	Asteraceae	Europe, Asia, Africa	perennial	Against cough, bronchitis, laryngitis, asthma
Silybum	Asteraceae	South America, Asia	One yearly, perennial	In wound diseases
Arctium lappa	Asteraceae	Europe, Asia, America	Two yearly	Diuretic
Calendula officinalis	Asteraceae	Europe, Asia, Australia	Two yearly	In gastrointestinal diseases
Matricaria	Asteraceae	Euroasia, Africa	perennial	Calming the nerves, wind, gastrointestinal diseases
Urtica L	Urticaceae	In temperate regions	Two yearly, perennial	As a blood clot
Persicaria hydropiper	Polygonaceae	Europe, Scandinavia, Asia	perennial	Anti-inflammatory, pain reliever
Rumex	Polygonaceae	Central Asia	perennial	Diarrhea, regeneration of the skin
Rheum	Polygonaceae	Asia, Israil, Sibir	perennial	In constipation, as a laxative
Erythroxylum coca	Erythroxylaceae	South America	Bush	In the nervous system, calming
Camelina sativa	Brassicaceae	Russia, Japan	One yearly	As a blood clot
Rosa	Rosaceae	America, Central Asia	Bush	Restores the skin, whitens spots, strengthens blood vessels, lowers blood pressure, normalizes the digestive system.
Geum urbanum	Rosaceae	Europe, Central Asia	perennial	Appetizer
Ephedra	Ephedraceae	Central Asia	Bush	In acute viral diseases, in the upper respiratory tract, when the mucous membranes of the eyes and nose are inflamed.



Adonis L	Ranunculaceae	Europe, Central Asia	perennial	In improving the functioning of blood vessels
Thalictrum	Ranunculaceae	Africa, North America	perennial	In kidney diseases
Acanitum tallasicum	Ranunculaceae	Central Asia	perennial	In kidney diseases
Physochlaina alaica K	Solanaceae	Tadjikistan	perennial	It contains frisoalaina and other alkaloids
Solanum	Solanaceae	South America	One yearly	In diseases of the throat and respiratory tract
Hypericum L	Hypericaceae	South Europe	perennial	Lowering the temperature, improving appetite
Ungernia B	Amaryllidaceae	Central Asia	perennial	It is used in medicine, it contains alkaloids.
Allium	Amaryllidaceae	China, Russia, Central Asia	perennial	Anti-inflammatory
Allium sativum	Amaryllidaceae	Central Asia	One yearly, perennial	Rich in vitamins, rich in phytoncides, anti-inflammatory
Glyeyrhiza echinata L	Fobaceae	Euroasia, Africa	perennial	In gastrointestinal diseases, respiratory tract diseases, urine driver
Saphora alopecuroides	Fobaceae	Russia, Central Asia	perennial	It is used in wounds and diseases of the nervous system
Saphora pachycarpa	Fobaceae	Central Asia	perennial	In the treatment of blood and skin diseases
Ferula	Apiaceae	North Africa, Asia	perennial	Pain reliever and wound diseases
Ferula avganica	Apiaceae	Africa, Asia	perennial	In wound diseases
Mediasia macrophyllu m	Apiaceae	Asia, Africa	perennial	In kidney pain
Rhamnus	Rhamnaceae	Europe, Russia, South Siberia, Caucasus, Middle Asia	Bush, tree	aperient

Spinaceae	Amaranthaceae	USA, Canada, Eurasia	One, two yearly	Stomach under diaper in the activity
Plantago	Plantaginaceae	Europe, Asia, Africa, America	One yearly, perennial	aperient stomach intestine in his work, wounds in treatment
Gentiana L	Gentianaceae	Europe, Caucasus, South Siberia, Asia	perennial	stomach , malaria in diseases, teeth in pain, in wounds
Althaea	Malvaceae	Europe, Asia	perennial	Cough against
Malwa	Malvaceae	Europe, Asia, North Africa, America	perennial	Drink emollient
Allium alaicum	Alliaceae	Pamir-Aloy	perennial	Gastrointestinal in activity, inflammation against
Allium ferganicum	Onion buddies Alliaceae	Pamir Aloy	perennial	To inflammation against, appetite opener
Bacchusianum Regel	Onion buddies Alliaceae	Pamir Aloy	perennial	In inflammation , cold
Capparis spinosa	Friends Capparaceae	Crimea, Caucasus, Middle Asia, North Africa, Middle land Sea, South Europe	Herbs, half a bush	Appetite opening, purulent in wounds, angina, triotaxicosis, hemorrhoids, diabetes diabetes in diseases is used
Hippophae	Cousins Elaeagnaceae	Eastern western Siberia, Caucasus, Middle Asia	Bush, tree	Dysentery, skin diseases, rheumatism
Peganum mix	Friends peganaceae	America, Eurasia	perennial	To inflammation against
Aloe vera	Asphodelaceae	South Africa, Sudan, Canary islands, Egypt	perennial	To viruses against, skin in diseases
Berberis vulgaris	Cheerleaders Berberidaceae	Asia, Europe, Caucasus, Russia	Bush	Liver in diseases, fever reducer the heart is gone strengthening
Logochilus inebriants	Mint friends Lamiaceae	Turkmenistan, Tajikistan, Uzbekistan	perennial	Blood coagulation accelerates, see sharpness improves
Salvia margaritae	Mint friends Lamiaceae	Tianshan, Pamir, Turkestan	perennial	In skin diseases, food digestion to do system, kidney diseases
Salvia tianschanica	Mint friends Lamiaceae	Medium Asia, Caucasus, mountainous in the regions	perennial	Insomnia, gastritis, colitis

Salvia aethiopis	Mint friends Lamiaceae	Ukraine, Caucasus, Middle Asia, Mountainous in the regions	perennial	Weakness, weakness, stomach intestine in diseases
Lonicera paradox	Shilvidoshka Caprifoliaceae	Asia, Russia	Bush	In inflammation, ventilation
Melissa officinalis	Mint friends Lamiaceae	Asia, North Africa, Europe, Africa, Ukraine, Caucasus, Middle Asia	perennial	Kidney heart in diseases, soothing to the effect have
Ziziphora	Mint friends Lamiaceae	Europe, Middle Asia	perennial	Blood pressure when increased, throat pain, stomach activity in violation
Solvia	Mint friends Lamiaceae	Tianshan, Pamir Aloy	perennial	In skin diseases
Mentha	Mint friends Lamiaceae	Europe, USA, Ukraine, North Caucasus, China, India, Brazil	perennial	Heart at the same time, grass driver
Thymus	Mint friends Lamiaceae	Asia	perennial	Appetite opener, digestive to do in the system
I'm sorry	Mint friends Lamiaceae	South Africa, India, Krasnador country the south	One yearly	Appetite opening, soothing
Solvia officinalis	Mint friends Lamiaceae	Tropical in regions, medium land the sea	perennial	Energizer, Food digestion doer, heart kidney in the activity
Autostegia	Mint friends Lamiaceae	Medium Asia, Africa	perennial	Sugar eye disease in diseases
Logochilus	Mint friends Lamiaceae	Medium Asia, Turkmenistan, Tajikistan	perennial	Nerve system in soothing the skin diseases in treatment, blood pressure control in doing, inside and external blood leaving
Scurellaria	Mint friends Lamiaceae	from Antarctica another everyone in the place occurs	One yearly	Blood interrupter tool
Phlomis thapsoides Bunge	Mint friends Lamiaceae	Asia, China	perennial	Digestion in the system
Satureja hortensis	Mint friends Lamiaceae	South Europe, Crimea, Turkey, Middle Asia	One yearly	Stomach intestine in the activity, urine driver, taxi driver, migraine in treatment



Solvia rosmarinus	Mint friends Lamiaceae	North Africa, Turkey, Cyprus, Europe, Italy, Portugal, Spain , France	semi-shrub, bush	Heart blood vein in the activity, nerve system in diseases
Tanacetum	Colleagues Acteraceae	Asia	perennial	Worm driver, hepatitis, intestines diseases
Artemisia absinthium	Colleagues Acteraceae	Europe, Africa, South Asia, Russia, South Europe	perennial	Stomach intestine tract
Achillea millefolium	Colleagues Acteraceae	Eurasia, South America	perennial	Stomach intestine wound in diseases, appetite in opening and blood in stopping
Helichrysum	Colleagues Acteraceae	Kaspi region, Madagascar, Australia, Asia, Europe	perennial	Stomach intestine in the activity, digestion in processes
Ferula	Armadillos Apiaceae	Asia	perennial	A wound in patients
Bunium peach	Armadillos Apiaceae	Pakistan, Bangladesh, Afghanistan, Tajikistan, Iran, Asia	perennial	Insomnia against
Pimpinella anisum	Armadillos Apiaceae	South Europe, Asia, Mexico, Egypt, Russia	One yearly	Phlegm mover
Coriander	Armadillos Apiaceae	Europe, North Africa, Asia, North America	One yearly	Appetite opener
Anethum	Armadillos Apiaceae	Eurasia, America, Africa, Central Asia	One yearly	Appetite opener, digestive processes normalizes
Dorema	Armadillos Apiaceae	Medium Asia, Caucasus, Iran, Afghanistan	perennial	Bronchial asthma
Ferula caratavica	Armadillos Apiaceae	Africa, Asia	perennial	A wound in diseases
Ferula lypiski	Armadillos Apiaceae	Africa, Asia	perennial	A wound in diseases
Rosa	Rosaceae	Asia, Europe, America	Perennial , bush	To tumors against
Geranium	Friends Geranaceae	Medium land Sea, Middle asia _	perennial, semi-shrub	People in medicine drug as is used
Psoralea	Cornermates Fobaceae	Medium Asia, China, India, Sri Lanka	perennial	Vitiligo the disease in treatment is used
Crocus sativus	Saffron friends Iridaceae	Medium Asia, South Europe	perennial	Appetite opener, kidney ogrig;ida, memory and mental activity improves

Pinus	Pine trees Pinaceae	Ecuador, subtropical, tropical in the regions, north America	A tree	Rheumatism in treatment
Juniperus	Cypress friends Cupressaceae	Medium Asia, Uzbekistan mountainous regions	A tree	Urine driver, phlegm moving, digestion in processes
Jungle regia	Nut friends Junglelandaceae	Small Asia, Balkans half island, Caucasus, Iran, China, Kareya, Afghanistan	A tree	Your memory strengthens
Tilia	Friends of linden Tiliaceae	Asia, China, Europe, North America, Siberia	A tree	Throat in pain, cough against, in the wind
Hypericum	Fieldmates Clusiaceae	Medium the sea regions, Asia	semi- shrub	Stomach intestine in diseases, blood mixed drink when you leave
Nigella	Aiktavon friends Ranunculaceae	South Europe, Africa, South Asia	One yearly	Immune system strengthens the memory enhances vision restores
Laurus nobilis L	Laurel fellows Lauraceae	Russia, Asia, subtropical regions	a tree	Neuralgia, spasm, appetite opener
Polygonum coriarium	Friends of Toron Polygonaaceae	Tianshan Pamir Aloy	Perennial –	
Geranium	Friends Geranaceae	USA, Germany, England	One yearly	
Eruca sativa	Karamdoshka Brassicaceae	Medium Asia is close east	One yearly	
Delphinium semibarbatum	Aiktavon friends Ranunculaceae	Tropical Africa, Asia, China	perennial	
Inula helenium	Colleagues Ateraceae	Europe, Asia, Africa	perennial	
<b>Saponin Plants</b>				
Acanthophylli um paniculatum	Carnation friends Caryophyllaceae	Asia, South Europe	perennial	
Gypsophila paniculata	Carnation friends Caryophyllaceae	South Europe, Asia, Australia	One annual, perennial	
Gypsop perfolatahila	Carnation friends Caryophyllaceae	Eurasia, Africa, Australia	One yearly	
Liotice eversmanii	Cheerleaders Berberidaceae	Asia	perennial	

Equisetum arvense	Arthropods Equisecae	Eurasia, Iceland, Great Britain, Portugal, America, Canada	perennial
Glycyrrhiza	Cornermates Fobaceae	Eurasia, America, North Africa, Australia	perennial
Leonurus	Mint friends Lamiaceae	Eurasia, North America	perennial
Inula	Colleagues Asteraceae	Europe, Asia, Africa	perennial
Helianthus annuus	Colleagues Asteraceae	North America, Mexico, Peru, Asia	One yearly
Verbascum	Cowtails Scrophulariaceae	Europe, Asia, North America, Russia, Caucasus	Two yearly
Crataegus L	Friends of Rano Rosaceae	Eurasia, North America	Tree, bush

## CONCLUSIONS

In the valley regions, sugar grass, hyal, borigul, bojmadaran, tea grass, immortelle grass, sweet sedum, frankincense, lion's tail, parpi, zupturum, spinach, water pepper, mountain medicinal plants such as basil, fennel, fennel; essential oil such as marmarak, peppermint, khapri, mountain ginseng; with tannins such as taron, gran, sorrel, rowan; saponin like Turkestan tea, kochim; and many nectar-bearing plants are scattered. Due to anthropogenic effects on medicinal plants that were previously widespread in our mountainous regions, their species composition has decreased, their areas and natural resources (tea grass, immortelle grass, lion's tail, bojmadaran, water due to the sharp decrease of ur grass, hyal) it is necessary to carry out phytomeliorative works in their populations. We think that it is appropriate to plant and breed the following species in limited areas in our mountain and sub-mountain regions: lion's tail, immortal grass, tea grass (three types), bojmadaran, red cumin, cumin.

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