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Distribution of useful species of family Rosaceae Juss in the flora of Zhetysu Alatau

In the article the results of an analysis of the species composition of wild plants of the *Rosaceae* Juss family were presented. As a result of floristic analysis, it was established that in the northwestern part of the Zhetysu Alatau there are 91 species belonging to the *Rosaceae* family, belonging to 24 genera. The leading genera in this area are: *Potentilla* — 24, *Cotoneaster* — 9, *Rosa* -9, *Alchimilla* -7, *Crataegus* — 5, etc. According to ecological and morphological classifications, all useful species were ranked into 4 groups (trees, shrubs, subshrubs, herbaceous perennials). Spectra of useful properties were shown (use in scientific medicine and in folk medicine, such as vitamins, decorative, food, etc.). 12 groups of medicinal types were ranked according to pharmacotherapeutic activity.

Keywords: Zhetysu Alatau, useful plants, medicinal, vitamin, ornamental, economic importance, pharmacological activity.

Introduction

Family *Rosaceae* Juss. is considered one of the most widespread families in the flora of Zhetysu Alatau in terms of relative and species composition. Climate change, urbanization and globalization can lead to serious problems. Rare fruit plants (*Malus*, *Armeniaca*, *Rubus*, *Crataegus*, etc.) have a number of valuable consumer qualities and resistance to abiotic and biotic environmental factors, high decorative qualities, diverse and wide potential for use in fruit growing, selection and landscaping. The purpose of our research is to study the ecological and biological characteristics of useful plants of the *Rosaceae* family. During 2020–2021, we studied the flora of the northwestern part of Zhetysu Alatau, as a result, 91 species of useful plants belonging to the *Rosaceae* family were identified. Many scientists in their research have studied plants belonging to the Juss family, their diversity, distribution, ecological and biological characteristics of rare fruit plants and the introduction of useful plants [1–3]. V.P. Mikhailova studied tanning plants, 50 species of which belong to the *Rosaceae* family. In the monograph by M.K. Kukukenov “Resources of medicinal plants of the Tien Shan region of Kazakhstan” also identified the resources of medicinal plants belonging to this family [3]. Flowers of the rose family (*Rosaceae* Juss.) are regular, bisexual or unisexual. The inflorescences are varied. The leaves are simple and compound, with or without leaflets, pinnate and pinnately veined. Most plants of the *Rosaceae* family are useful (medicinal, vitamin, food, essential oil, etc.) plants. More than 100 genera and more than 3,000 species are known, widely distributed throughout the globe. In Kazakhstan there are 36 genera, more than 200 species, 12 of which are very rare plants, therefore they are protected and included in the “Red Book” of Kazakhstan. In addition, in the flora of Kazakhstan there are 76 medicinal and 53 edible species of the *Rosaceae* Juss. family [4]. Most representatives of the *Rosaceae* Juss. family, found in the Zhetysu Alatau, have important practical significance: food (*Fragaria*, *Malus*, *Rubus*, etc.), fodder (*Filipendula*, *Potentilla*), medicinal (*Coluria*, *Comarum*, *Crataegus*, etc.), melliferous (*Dasiphora*, *Sorbus*,

etc.), decorative (*Rosa*, *Spiraea*, etc.), technical (*Agrimonia*, *Geum*, etc.), soil strengthening (*Cotoneaster*, *Padus*, etc.) etc. [Plant resources..., 1987]. *Rosaceae*, being an almost cosmopolitan family, are distributed in almost all areas of the globe where flowering plants can grow, but their main part is concentrated in the temperate and subtropical zones of the Northern Hemisphere. They inhabit a wide variety of landscapes and natural zones: from polar tundras and highlands to tropical forests and from swamps to semi-deserts. Representatives of the *Rosaceae* family are found in a wide variety of plant communities, although they usually do not play a dominant role in them, but in many places, they are their characteristic element or even determine the appearance of natural landscapes. *Rosaceae*, family of dicotyledonous plants. Trees, shrubs and herbs. The leaves are mostly with stipules, usually alternate. Flowers are regular, bisexual or unisexual, cyclic, collected in inflorescences, less often solitary; There are usually 5 sepals, often equipped at the base with a subcup consisting of 5 leaflets alternating with sepals; rarely 4 sepals, 5 petals, sometimes 4 or absent; there are many stamens or according to the number of petals, with loose threads; there are many pistils, less often a small number or 1–2 with one style emerging from the apex or side of the ovary, sometimes not far from the base; receptacle (hypanthium) is flat, saucer-shaped, cup-shaped, goblet-shaped or convex, sometimes when the fruit ripens it grows and becomes fleshy, forming a false fruit; carpels in the same number as sepals or 2–3 times more of them, free or fused with each other, and sometimes with the receptacle, unilocular, usually with 2 pendulous or erect reverse seed-buds, mostly separated from the stamens more or less wide glandular disc; fruits of various shapes and sizes: leaflets, achenes, drupes, which sometimes grow together to form a composite fruit, and in the case of fusion with the receptacle or growth of the latter, a false fruit [5].

Materials and Methods

The objects of the study were wild useful plants of the *Rosaceae* Juss. family of the Zhetysu Alatau ridge's natural flora.

Materials for the study were collected during expeditions in 2020-2021. The study of the species composition and distribution of plants was carried out using the route-reconnaissance method.

Field research routes were outlined using reporting and cartographic forest management materials of land use (taxation descriptions, forest plans for dominant forest-forming species, overview plans for non-timber raw materials), geobotanical zoning and administrative maps of the Almaty region. The work also used topographic, geobotanical and agricultural maps at a scale of 1:1000000; 1:200000; 1:100000, survey data from forestry workers. The location of the thickets was determined based on the biological characteristics and ecological location of the species being studied, as well as using herbarium material.

The identification of species was carried out according to the data of "Flora Kazakhstan" [5], the nomenclature of species is given according to the summary of S.K. Cherepanov [6] and others [7–19]. Identification of medicinal species was carried out on the basis of our own research and according to literature data [10–22], divided into types used in official and folk medicine, and groups identified according to pharmacotherapeutic action. Identified medicinal species are ranked into 4 categories according to the degree of prevalence, area of thickets and possible reserves of plant raw materials: 1) with a wide range, forming significant natural thickets and available for commercial collection of raw materials; 2) with a wide range, forming small natural thickets and suitable for supplying the needs of the local pharmacy network with raw materials; 3) species that have a wide range, but grow sporadically and do not form natural thickets suitable for collecting raw materials; and 4) species with a conservation status. The ranking of species by ecological groups was based on the attitude of plants to moisture regime, life form, in accordance with the ecological and morphological classification of the life form of seed plants, growth form and life expectancy of vegetative organs [8–9].

Results and Discussion

According to V.P. Goloskokov and according to the materials of the herbarium of the Institute of Botany and Phytointroduction, the flora of the Zhetysu Alatau includes the *Rosaceae* family of 26 genera, 107 species (Fig. 1), of which 3 are endemic, found only on this ridge [12].

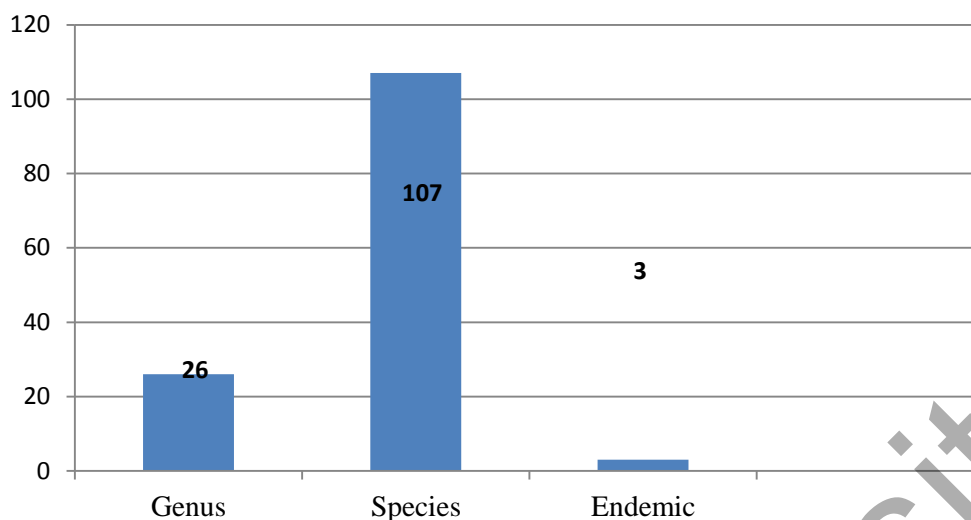


Figure 1. Distribution of plant species of the family Rosaceae Juss.

We examined the vegetation cover of the Zhetysu Alatau. In August 2020-2021, expeditionary work was carried out; as a result of field research, we identified 91 plant species of the *Rosaceae* Juss family. Of these, 49 species have medicinal properties, which is 53.8 % of the species diversity of Zhetysu Alatau. The most common among genera: *Potentilla* — 24, *Cotoneaster* — 9, *Rosa* — 9, *Alchimilla* — 7, *Crataegus* — 5, *Rubus* — 4, *Chamaerhodos* — 3, *Geum* — 3, *Spiraea* — 3, *Agrimonia* — 2, *Dasiphora* — 2, *Fragaria* — 2, *Filipendula* — 2, *Padus* — 2, *Sanguisorba* — 2, *Armeniaca* — 1, *Aflatunia* — 1, *Cerasus* — 1, *Comarum* — 1, *Poterium* — 1, *Sibbaldianthe* — 1, *Sorbus* — 1, *Sibbaldia* — 1, *Malus* — 1 (Table 1).

Table 1

Taxonomic analysis of the largest species of the family Rosaceae Juss. flora of the Zhetysu Alatau

Family	Genus	Species diversity	Percentage total number of species, %
Rosaceae Juss.	<i>Agrimonia</i>	2	2,2 %
	<i>Alchimilla</i>	7	7,6 %
	<i>Armeniaca</i>	1	1,2 %
	<i>Aflatunia</i>	1	1,2 %
	<i>Cerasus</i>	1	1,2 %
	<i>Crataegus</i>	5	6 %
	<i>Cotoneaster</i>	9	10,5 %
	<i>Comarum</i>	1	1,2 %
	<i>Chamaerhodos</i>	3	3,3 %
	<i>Dasiphora</i>	2	2,2 %
	<i>Fragaria</i>	2	2,2 %
	<i>Filipendula</i>	2	2,2 %
	<i>Geum</i>	3	3,3 %
	<i>Padus</i>	2	2,2 %
	<i>Potentilla</i>	24	26,5 %
	<i>Poterium</i>	1	1,2 %
	<i>Rosa</i>	9	10,5 %
	<i>Rubus</i>	4	5 %
	<i>Sanguisorba</i>	2	2,2 %
	<i>Sibbaldianthe</i>	1	1,2 %
	<i>Sorbus</i>	1	1,2 %
	<i>Spiraea</i>	3	3,3 %
	<i>Sibbaldia</i>	1	1,2 %
	<i>Malus</i>	1	1,2 %
	24	91	100 %

According to ecological and morphological classifications, all useful species were ranked into the following groups: tree — 12 species (3 %); shrubs — 25 species (11 %); subshrubs — 4 (7 %); herbaceous perennials — 50 species (64 %); (Fig. 2)

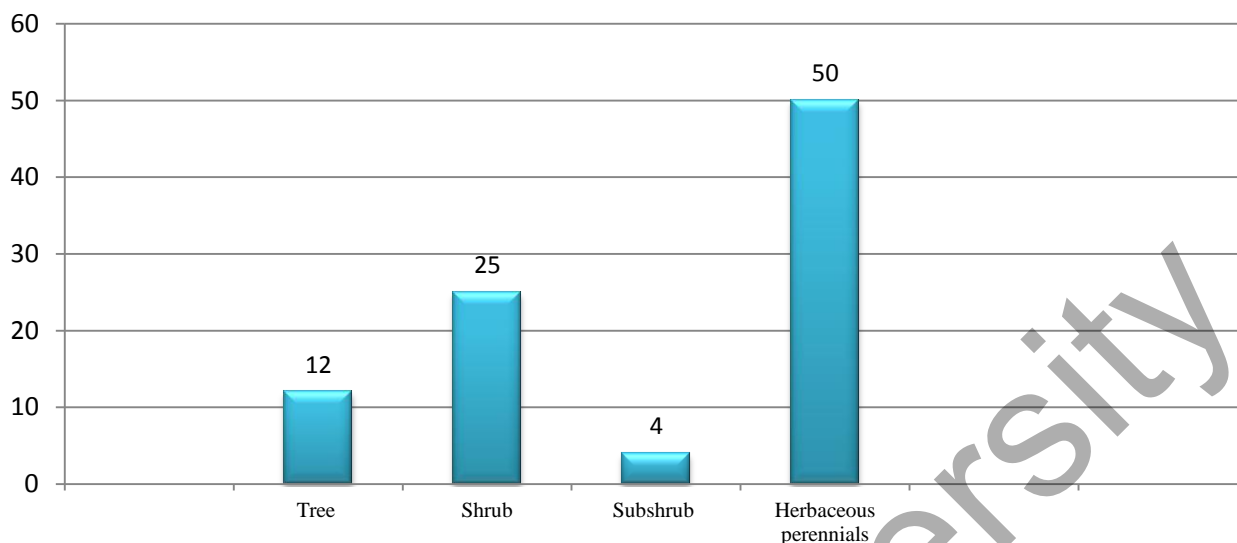


Figure 2. The ratio of life forms of medicinal plants of the flora of the Zhetysu Alatau (according to I.G. Serebryakov) [8].

Ranking of plants by ecological groups in relation to moisture conditions revealed the predominance of mesophytes — 54 species (59.8 %), the second position is occupied by xerophytes — 17 species (18.6 %), the third position is occupied by mesoxerophytes — 10 species (10.9 %), the fourth position is occupied by xeromesophytes — 7 (7.6 %), the fifth is eutrophytes — 2 (2.1 %), the last place is occupied by mesohygrophytes — 1 (1 %).

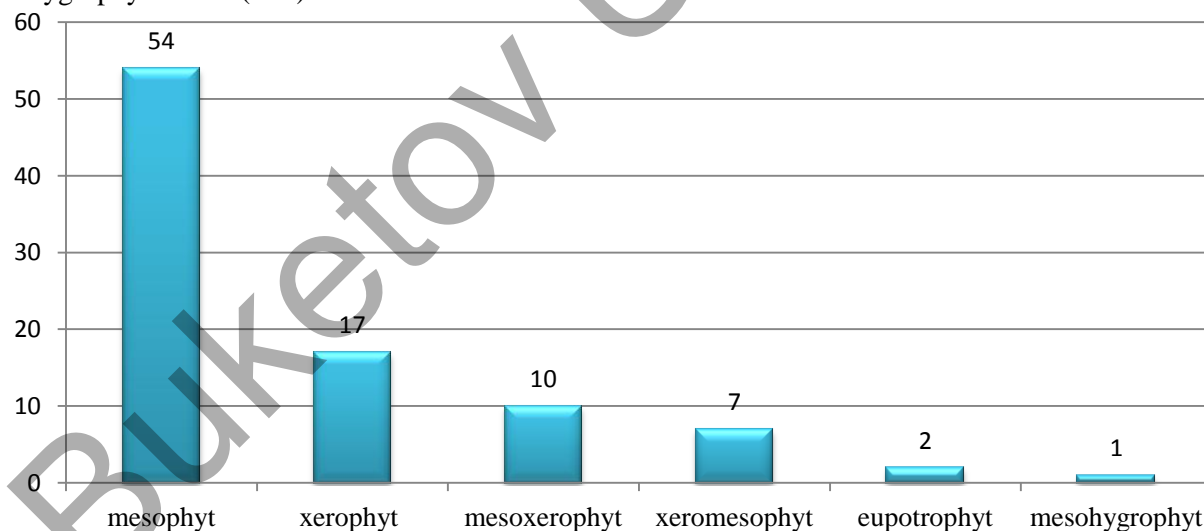


Figure 3. Ranking of plants by environmental groups

The current ratio of life forms and ecological groups shows a predominance of herbaceous mesophytic plants, which indicates a moderately humid habitat. However, other environmental groups point to the presence of a small number of ecotopes from nearby surface or groundwater. Ethnobotanical studies have shown that among the 91 species of identified useful plants, most belong to species used in folk medicine — 49 species. Among them: 15 species are used in official medicine, 27 species are used as vitamins, 4 species are used as decorative, 8 species are used as food (Table 2; Fig. 4).

Table 2

Spectra of beneficial properties of the Rosaceae family in the flora of Zhetysu Alatau

Family	Genus	Species	Use in scientific medicine	Use in folk medicine	Vitamin	Decorative	Food	
1	2	3	4	5	6	7	8	
Rosaceae Juss.	<i>Agrimonia</i>	<i>Agrimonia asiatica</i>		+				
		<i>Agrimonia pilosa</i>		+				
	<i>Armeniaca</i>	<i>Armeniaca vulgaris</i>	+	+	+		+	
	<i>Alchimilla</i>	<i>Alchimilla rubens</i>						
		<i>Alchimilla hebescens</i>						
		<i>Alchimilla sibirica</i>						
		<i>Alchimilla retropilosa</i>						
		<i>Alchimilla cyrtopleura</i>						
		<i>Alchimilla tianschanica</i>						
		<i>Alchimilla pinguis</i>						
	<i>Aflatunia</i>	<i>Aflatunia ulmifolia</i>					+	
	<i>Cerasus</i>	<i>Cerasus tianschanica</i>				+		+
	<i>Crataegus</i>	<i>Crataegus songarica</i>			+	+		+
		<i>Crataegus korolkowii</i>	+	+	+	+		+
		<i>Crataegus altaica</i>			+	+		+
		<i>Crataegus sanguinea</i>	+	+	+	+		+
		<i>Crataegus almaatensis</i>			+	+		+
	<i>Cotoneaster</i>	<i>Cotoneaster melanocarpus</i>			+			
		<i>Cotoneaster antoninae</i>						
		<i>Cotoneaster megalocarpa</i>						
		<i>Cotoneaster uniflora</i>						
		<i>Cotoneaster Pojarkovae</i>						
		<i>Cotoneaster oligantha</i>						
		<i>Cotoneaster multiflora</i>			+			+
		<i>Cotoneaster racemiflora</i>						
	<i>Cotoneaster suavis</i>							
	<i>Comarum</i>	<i>Comarum salesovianum</i>					+	
	<i>Chamaerhodos</i>	<i>Chamaerhodos altaica</i>					+	
		<i>Chamaerhodos sabulosa</i>						
		<i>Chamaerhodos erecta</i>			+			+
		<i>Chamaerhodos songorica</i>						
	<i>Dasiphora</i>	<i>Dasiphora parvifolia</i>						
		<i>Dasiphora phyllocalyx</i>						
<i>Fragaria</i>	<i>Fragaria vesca</i>		+	+	+	+	+	
	<i>Fragaria viridis</i>			+				
<i>Filipendula</i>	<i>Filipendula ulmaria</i>		+	+				
	<i>Filipendula vulgaris</i>		+	+				
<i>Geum</i>	<i>Geum urbanum</i>		+	+				
	<i>Geum rivale</i>			+				
	<i>Geum aleppicum</i>			+				
<i>Padus</i>	<i>Padus avium</i>		+	+	+		+	
	<i>Padus racemosa</i>				+		+	

Continuation of Table 1.

1	2	3	4	5	6	7	8
	<i>Potentilla</i>	<i>Potentilla orientalis</i>		+			
		<i>Potentilla impolita</i>		+			
		<i>Potentilla sericea</i>		+			
		<i>Potentilla imbricata</i>					
		<i>Potentilla biflora</i>					
		<i>Potentilla multifida</i>		+			
		<i>Potentilla soongorica</i>					
		<i>Potentilla pamiroalaica</i>					
		<i>Potentilla approximata</i>					
		<i>Potentilla strigosa</i>					
		<i>Potentilla conferta</i>			+		
		<i>Potentilla nervosa</i>			+		
		<i>Potentilla nivea</i>			+		
		<i>Potentilla viscosa</i>					
		<i>Potentilla recta</i>			+		
		<i>Potentilla regeliana</i>					
		<i>Potentilla desertorum</i>					
		<i>Potentilla chrysantha</i>			+		
		<i>Potentilla asiatica</i>					
		<i>Potentilla longipes</i>					
		<i>Potentilla longifolia</i>			+		
		<i>Potentilla Schrenkiana</i>					
		<i>Potentilla gelida</i>			+		
<i>Potentilla anserina</i>			+				
	<i>Poterium</i>	<i>Poterium polygamum</i>		+			
	<i>Rosa</i>	<i>Rosa acicularis</i>	+	+	+		+
		<i>Rosa alberti</i>	+	+	+		+
		<i>Rosa beggerana</i>	+	+	+		+
		<i>Rosa canina</i>	+	+	+		+
		<i>Rosa platyacantha</i>		+	+		+
		<i>Rosa spinosissima</i>		+	+		+
		<i>Rosa laxa</i>	+	+	+		+
		<i>Rosa chinensis</i>			+		+
		<i>Rosa schrenkiana</i>			+		+
	<i>Rubus</i>	<i>Rubus caesiús</i>		+	+		+
		<i>Rubus idaeus</i>	+	+	+		+
		<i>Rubus saxatili</i>		+	+		+
		<i>Rubus sachalinensis</i>		+	+		+
	<i>Sanguisorba</i>	<i>Sanguisorba officinalis</i>	+	+			
		<i>Sanguisorba alpina</i>		+			
	<i>Sibbaldianthe</i>	<i>Sibbaldianthe adpressa</i>					
	<i>Sorbus</i>	<i>Sorbus tianschanica</i>		+	+		+
	<i>Spiraea</i>	<i>Spiraea hypericifolia</i>		+			
		<i>Spiraea chamaedryfolia</i>		+	+		
		<i>Spiraea lasiocarpa</i>			+		
	<i>Sibbaldia</i>	<i>Sibbaldia procumbens</i>					
	<i>Malus</i>	<i>Malus sieversii</i>		+	+		+

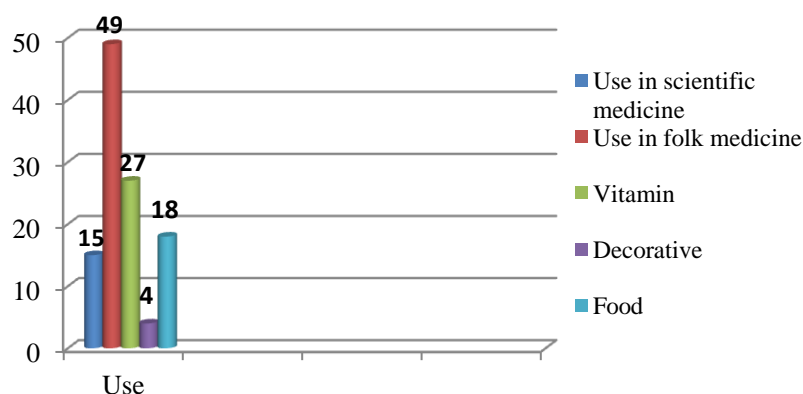


Figure 4. Distribution of useful plants of the *Rosaceae* family in the Zhetysu Alatau.

The *Rosaceae* family has a wide range of pharmacological activity, so we analyzed the possibility of using medicinal plants from the Zhetysu Alatau for the treatment of various diseases, dividing them into 12 groups according to pharmacotherapeutic activity.

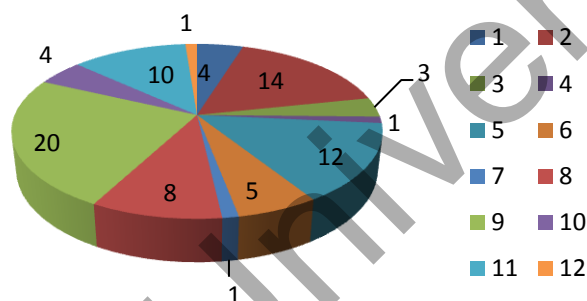


Figure 5. Ranking of pharmacotherapeutic activity of medicinal plants of the Zhetysu Alatau by pharmacotherapeutic groups: 1 — Laxatives, 2 — gastrointestinal tract, 3 — tonic, 4 — respiratory tract, 5 — antipyretic and anti-inflammatory, 6 — cardiovascular system, 7 — homeopathy, 8 — analgesic and wound healing, 9 — antibacterial, 10 — antitumor, 11 — Vitamin, 12 — Hemostatic.

The following plants are recommended for the treatment of the gastrointestinal tract recommended: *Agrimonia asiatica*, *Armeniaca vulgaris*, *Cotoneaster melanocarpus*, *Fragaria vesca*, *Fragaria viridis*, *Filipendula ulmaria*, *Geum aleppicum*, *Potentilla longifolia*, *Rosa acicularis*, *Rosa beggerana*, *Rosa canina*, *Rosa laxa*, *Rubus saxatilis*, *Spiraea hypericifolia*, laxatives: *Armeniaca vulgaris*, *Geum aleppicum*, *Rubus caesius*, *Sorbus tianschanica*, tonic: *Geum rivale*, *Geum aleppicum*, *Padus avium*, respiratory tract: *Rubus idaeus*, antipyretic and anti-inflammatory *Fragaria vesca*, *Fragaria viridis*, *Filipendula ulmaria*, *Filipendula vulgaris*, *Geum urbanum*, *Geum aleppicum*, *Rosa acicularis*, *Rosa canina*, *Rubus caesius*, *Rubus idaeus*, *Rubus saxatilis*, *Rubus sachalinensis*, the cardiovascular system: *Crataegus songarica*, *Crataegus korolkowii*, *Crataegus altaica*, *Crataegus sanguinea*, *Crataegus almaatensis*, homeopathy: *Potentilla recta*, analgesic and wound healing: *Fragaria vesca*, *Filipendula ulmaria*, *Geum urbanum*, *Potentilla anserina*, *Poterium polygamum*, *Rubus idaeus*, *Rubus sachalinensis*, *Sanguisorba officinalis*, antibacterial: *Agrimonia asiatica*, *Agrimonia pilosa*, *Cotoneaster melanocarpus*, *Filipendula vulgaris*, *Geum urbanum*, *Padus avium*, *Potentilla multifida*, *Potentilla conferta*, *Potentilla nervosa*, *Potentilla nivea*, *Potentilla chrysantha*, *Potentilla gelida*, *Potentilla anserina*, *Rosa acicularis*, *Rubus idaeus*, *Rubus sachalinensis*, *Sorbus tianschanica*, *Spiraea hypericifolia*, *Spiraea chamaedryfolia*, *Malus sieversii*, antitumor: *Agrimonia pilosa*, *Cotoneaster multiflora*, *Filipendula vulgaris*, *Sanguisorba officinalis*, vitamine: *Armeniaca vulgaris*, *Rosa alberti*, *Rosa beggerana*, *Rosa platyacantha*, *Rosa laxa*, *Rubus idaeus*, *Rubus saxatilis*, *Sorbus tianschanica*, *Spiraea lasiocarpa*, *Malus sieversii*, hemostatic: *Sanguisorba alpina* (Fig. 5).

During the field research, we marked and examined 6 points of several species of the *Rosaceae* family. *Rosa platyacantha* of the Zhetysu Alatau, pebble terrace on the right bank of the Gorbushka River. N 45°28'14, 4» E 80°33'37, 1» Height 1120m. It grows on the steppe slopes of mountains and at the bottom of gorges. Economic importance: In the city of Almaty, it is grown as a decorative plant. Associated species *Veronica spuria*, *Achillea Biebersteinii*.

Potentilla impolita Wahlenb. Northern macroslope of the Zhetysu Alatau, Southern slope of the Small Baskan. Left bank of the Maly Baskan river. Petrophytic series on the Southern Rocky Slope. N 45°20'05, 7» E 80°08'12, 2» Height 1214m. Grows in steppes, steppe meadows and grassy slopes. Associated species: *Ajania fastigiata*, *Sedum alberti*, *Allium petraeum*, *Artemisia sublessingiana*.

Padus avium Mill. Northern part of the Zhetysu Alatau. The valley of the Black River in the area of the forester's cardona. Aspen forest. Grass-forb. N 45°31'16, 760» E 80°42'54, 965» Height 1216 m. Grows on the banks of rivers and streams, in riverine forests and bush thickets, as well as in sparse forests along the edges. Associated species: *Angelica decurrens*, *Papulus Laurifolia*, *Milium effusum*, *Cardamine impatiens*, *Alfredia Cernua*, *Geum urbanum*.

Filipendula ulmaria (L.) Maxim. Northern part of the Zhetysu Alatau. The valley of the Black River in the area of the forester's cardona. Aspen forest. Grass-forb. N 45°31'16, 760» E 80°42'54, 965» Height 1216 m. Grows in floodplains of rivers, near lakes, streams in damp forests and shrubs in meadows. Economic importance: it has medicinal value as an astringent for bleeding and diarrhea. Associated species: *Impatiens parviflora*, *Stachys sylvatica*, *Angelica decurrens*, *Festuca gigantea*, *Papulus Laurifolia*, *Milium effusum*, *Cardamine impatiens*.

Rubus caesius L. Northern part of the Zhetysu Alatau. The valley of the Black River in the area of the forester's cardona. High grass with bird cherry and apple trees. N 45°31'16, 760» E 80°42'54, 965» Height 1216 m. Grows in forests, bushes, on the banks of rivers and streams, in meadows in gardens, along roads and along hedges. It is found in all regions of Kazakhstan and quite high in the mountains. Economic value: The fruits are edible, but have almost no industrial value. Associated species: *Bunios orientalis*, *Pulmonaria molissima*, *Inula helenium*, *Trifolium pratense*, *Lonicera tatarica*.

Rubus saxatilis L. Northern part of the Zhetysu Alatau. The valley of the Black River in the area of the forester's cardona. The watershed between the Chernaya River and Lepsy in the area of the apple genetic reserve. Hawthorn-apple forest. N 45°31'04, 121» E 80°43'14, 605» Height 1298 m. Grows in birch forests, spruce forests, pine forests, shrubs, on rocky mountain slopes and swamps. Economic importance: the berries are edible, but have no industrial importance. Associated species: *Rhamnus cathartica*, *Brachypodium sylvaticum*, *Serratula coronata*, *Allium obliquum*.

Crataegus korolkowii L. Northern part of the Zhetysu Alatau. The valley of the Black River in the area of the forester's cardona. The watershed between the Chernaya River and Lepsy in the area of the apple genetic reserve. Petrophytic steppe community. N 45°31'03, 907» E 80°43'16, 321» Height 1300 m. Related species *Polemonium caucasicum*, *Serratula coronata*, *Allium obliquum*.

Conclusion

As a result of floristic analysis, it was established that in the northwestern part of the Zhetysu Alatau there are 91 species of plants belonging to the Rosaceae Juss family, belonging to 24 genera. The leading genera in this area are *Potentilla* — 24, *Cotoneaster* — 9, *Rosa* — 9, *Alchimilla* — 7, *Crataegus* — 5, etc.

According to ecological and morphological classifications, all useful species were ranked into the following groups: tree — 12 species (3 %); shrubs — 25 species (11 %); subshrubs — 4 species (7 %); herbaceous perennials — 50 species (64 %). In relation to moisture, vascular plants are distributed into ecological groups. Among them, the leading position is occupied by mesophytes (54 species), and the lagging position is occupied by mesohygrophytes (1 species).

The spectrum of beneficial properties (use in scientific medicine, in folk medicine, as medicinal, vitamin, decorative, food) of the Rosaceae family in the flora of Zhetysu Alatau has been shown. Medicinal plants were ranked according to their properties and pharmacotherapeutic activity into 12 groups: laxatives, tonic, antipyretic and anti-inflammatory, cardiovascular system, homeopathy, analgesic and wound healing, antibacterial, antitumor, vitamin, hemostatic. Ethnobotanical studies have shown that 49 species are used in folk medicine. Thus, in the Rosaceae Juss family, all species are useful plants (medicinal, vitamin, food, etc.).

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Жетісу Алатауының флорасында *Rosaceae* Juss. тұқымдасының пайдалы түрлерінің таралуы

Мақалада *Rosaceae* Juss. тұқымдасының жабайы өсімдіктерінің түрлік құрамын талдау нәтижелері берілген. Флористикалық талдау нәтижесінде Жетісу Алатауының солтүстік-батыс бөлігінде 24 туысқа жататын раушангүлділер тұқымдасының 91 түрі бар екені анықталды. Бұл аймақта жетекші тұқымдастары: *Potentilla* — 24, *Cotoneaster* — 9, *Rosa* — 9, *Alchimilla* — 7, *Crataegus* — 5 және т.б. Экологиялық және морфологиялық жіктелуі бойынша барлық пайдалы түрлер 4 топқа (ағаштар, бұталар, шала бұталар, көпжылдық шөптесін өсімдіктер) бөлінді. Пайдалы қасиеттерінің спектрлері көрсетілген (ғылыми медицинада және халықтық медицинада қолданылуы, дәрумендік, сәндік, тағамдық ретінде және т.б.). Фармакотерапиялық белсенділігі бойынша дәрілік өсімдіктер түрлері 12 топқа жіктелді.

Кілт сөздер: Жетісу Алатауы, пайдалы өсімдіктер, дәрілік, дәрумендік, сәндік, шаруашылық маңызы, фармакологиялық қызметі.

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Распространение полезных видов семейства *Rosaceae* Juss. во флоре Жетысуского Алатау

В статье представлены результаты анализа видового состава дикорастущих растений семейства *Rosaceae* Juss. В результате флористического анализа установлено, что в северо-западной части Жетысуского Алатау встречается 91 вид растений, относящихся к семейству *Rosaceae*, принадлежащих к 24 родам. Ведущими родами в этой области являются: *Potentilla* — 24, *Cotoneaster* — 9, *Rosa* — 9, *Alchimilla* — 7, *Crataegus* — 5 и др. По экологическим и морфологическим классификациям все полезные виды были ранжированы на 4-е группы (деревья, кустарники, полукустарники, травянистые многолетники). Показаны спектры полезных свойств (использование в научной медицине и народной медицине: витаминные, декоративные, пищевые и др.). По фармакотерапевтической активности ранжированы 12 групп лекарственных видов.

Ключевые слова: Жетысуский Алатау, полезные растения, лекарственные, витаминные, декоративные, хозяйственное значение, фармакологическая активность.

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