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DISTRIBUTION OF WILD RELATIVES OF CULTIVATED PLANTS FROM THE FAMILY FABACEAE L. BY LIFE FORMS

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РАСПРЕДЕЛЕНИЕ ДИКОРАСТУЩИХ СОРОДИЧЕЙ КУЛЬТУРНЫХ РАСТЕНИЙ СЕМЕЙСТВА FABACEAE L. ПО ЖИЗНЕННЫМ ФОРМАМ

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FABACEAE L. OILASI MADANIY O‘SIMLIKLARNING YOVVOYI AJDODLARINING HAYOT ShAKLLARI BO‘YIChA TARQATILIShI

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Tayanch so‘zlar: madaniy o‘simliklarning yovvoyi ajdodlari, flora, o‘simliklarning hayot shakllari.

Rezyume. Maqolada Qoraqalpog‘iston Respublikasi o‘simlik dunyosining Fabaceae L. oilasiga mansub madaniy o‘simliklarning yovvoyi ajdodlarining hayot shakllari tahlil qilingan. Tadqiqot natijasida Respublikada madaniy o‘simliklarning yovvoyi ajdodlari 10 turkum va 15 turdan iboratligi aniqlanib, kamida besh xil hayot shakllari mavjudligi aniqlandi. Qoraqalpog‘iston hududi 4 qismga – Ustyrt platosi va Qizilqum, quyi Amudaryo va Orolqumga bo‘lingan.

Ключевые слова: дикорастущие сородичи культурных растений, флора, жизненные формы растений.

Резюме. В статье проведен анализ диких сородичей культурных растений из семейства Fabaceae Lindl., флоры Республики Каракалпакстана по их жизненным формам. Анализ конспекта показал, что ДСКР встречающие в Республике состоит из 10-родов и 15-видов, и выявлен наличие как 5 минимум различных жизненных форм. Территория Каракалпакстана разделена на 4 части – плато Устюрт и Кызылкум, нижнее течение Амударьи и Аралкум.

Key words: wild relatives of cultivated plants, flora, life forms of plants, Usturt Plateau, Aralkum.

Summary. The article analyzes wild relatives of cultivated plants from the Fabaceae Lindl. family, the flora of Karakalpakstan according to their life forms. In Karakalpakstan have been identified 171 species of the Fabacea Lindl family 10 genera and 15 species. The territory of Karakalpakstan is divided into 4 sections - the Usturt Plateau and Kyzylkum, the lower Amudarya and Aralkum.

Introduction. The Republic possesses countless plant resources, many of which have yet to be touched by plant breeders. When creating new varieties, breeders are increasingly turning to wild forms of a particular species (Rafikov, Tetyukhin, 1981).

Much of the Republic of Karakalpakstan is characterized by the Kyzylkum Desert, the Ustyurt Plateau, and the Amu Darya delta, which are interspersed with relatively large oases, while the plains in the background consist of the vast plains of Kazakhstan. The Republic of Karakalpakstan has a distinct climate and soil conditions, as well as certain species of plants that are associated with them.

Objects and research methods. Wild relatives of cultivated plants (WRCP) possess biological traits such as resistance to extreme environmental factors (high and low temperatures, droughts, salinity, flooding, etc.), as well as resistance to diseases and pests. Therefore, further progress in breeding is inconceivable without the comprehensive and full utilization of wild relatives of cultivated plants.

In Karakalpakstan, out of 171 species of desert-steppe plants, the family Fabaceae Lindl consists of 10 genera and 15 species. Based on their location, the desert-steppe plants are divided into 4 parts: the Karakalpak part of the Ustyurt Plateau and Kyzylkum, the Amu Darya Delta, and the Aralkum. These plants belong to various life forms. (Azhiyev et al., 2016; 2017)

Results and discussions. The analysis of the distribution of higher plants belonging to the Fabaceae Lindl family, based on their life forms, revealed that the data collected in the Aralqum region of Karakalpakstan includes 10 genera and 15 species, which belong to 5 different life forms. These include 5 shrubs, 2 semi-shrubs, 4 perennials, 2 biennials, and 1 annual (Table 1).

Table 1. The life forms of wild relatives of cultivated plants from the family Fabaceae L. of flora of the Aralqum region

Genera	Species	Sh	Ssh	P	B	A
1 Alhagi Hill	*1,1 A.persarum* Boiss. et Bushe		+			
	2,2 A. pseudo-alhagi (Bieb.) Fisch.		+			
2 Am-modendron Fisch.	*1,3 A.conollyi* Bunge	+				
	2,4 A. longi-racemosum Raik	+				
3 Astragalus L.	*1,5 A. trans-caspicus* Freyn	+				
	2,6 A. unifo-lialatus Bunge	+				
4 Caragana Fabr.	*1,7 C. grandi-flora* (Beib) DC	+				
5 Glicirrhi-za L.	*1,8 G. aspera* L.			+		
	2,9 G. glabra L.			+		

6 Medicago L.	*1,10 M.lupulina* L. -					+
7 Melilotus Mill	*1,11 M. albus* Medik				+	
	2,12 M. officinalis (L.) Pall.				+	
8 Onobrychis Hill	*1,13 O. micranta* Schrenk			+		
9 Trigonella L.	*1,14 T. grandiflora* Bunge					+
10 Trifolium L.	*1,15 T.repens* L.			+		
Total		5	2	4	2	2

Sh – shrubs, *Ssh* – semi-shrubs, *P* – perennials, *B* – biennials, *A* – annual*; 1,1 – the first species from the same family; the numbers from 1 to 15 mean 15 species in this region.*

Based on their life forms, it was found that the majority of them are herbaceous plants. Woody plants, such as trees, shrubs, and semi-shrubs, are very rare.

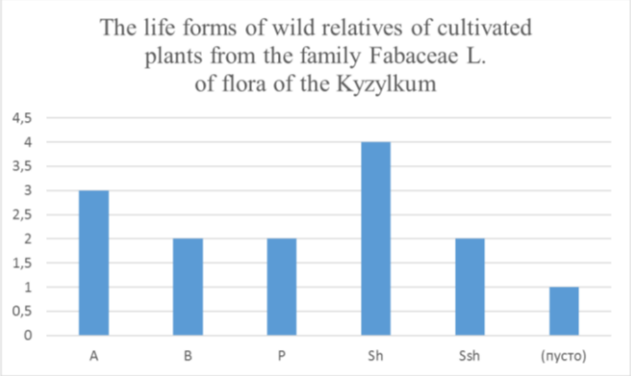
Table 2. The life forms of wild relatives of cultivated plants from the family Fabaceae L. of flora of the Ustyurt Plateau

№	Genera	Species	The life forms
1	*Alhagi* Hill	*1,1 A.persarum* Boiss. et Bushe	Ssh
		2,2 A. pseudoalhagi (Bieb.) Fisch.	Ssh
2	*Caragana* Fabr.	*1,3 C. grandiflora* (Beib.) DC.	Sh
3	*Glicirrhiza* L.	*1,4 G.aspera* L.	Sh
		2,5 G. glabra L.	P
4	*Medicago* L.	*1,6 M. lupulina* L.	A
5	*Melilotus* Mill	*1,7 M. albus* Medik.	B
		2,8 M. officinalis (L.) Pall	B
6	*Trigonella* L.	*1,9 T. grandiflora* Bunge	A
Total	6	9	

Sh – shrubs, *Ssh* – semi-shrubs, *P* – perennials, *B* – biennials, *A* – annual*; 1,1 – the first species from the same family; the numbers from 1 to 9 mean 9 species in this region.*

An analysis of the distribution of higher plants belonging to the Fabaceae Lindl family, based on their life forms, revealed that the data collected in the Ustyurt Plateau region of Karakalpakstan includes 6 genera and 9 species, with 5 different life forms. It was determined that these include 2 shrubs, 2 semi-shrubs, 1 perennial, 2 biennials, and 2 annuals.

In recent years, the intensification of urbanization processes in the Kyzylkum region, which is distinguished by its unique flora, as well as the expansion of road construction and geological exploration works, have led to changes in the flora of this region and the emergence of ecological problems. Therefore, it is necessary to determine the current state of plant species in the indicated areas and to protect the species that are disappearing among them.



1-picture. The life forms of wild relatives of cultivated plants from the family Fabaceae L. of flora of the Kyzylkum

Sh – shrubs, *Ssh* – semi-shrubs, *P* – perennials, *B* – biennials, *A* – annual.

Identifying the ecological conditions of plant species in natural ecosystems, ensuring their adaptation to soil and climatic conditions, introducing promising species into production against the backdrop of transformed species, and studying the problem of preserving biological diversity are considered important areas of research.

An analysis of the distribution of higher plants belonging to the Fabaceae Lindl family, based on their life forms, revealed that in the Kyzylkum region of Karakalpakstan, there are 9 genera and 13 species, with 5 different life forms. Of these, 4 are shrubs, 2 are semi-shrubs, 2 are perennials, 2 are biennials, and 3 are annuals (1-picture).

Such studies have not been conducted for the Karakalpakstan region. At the same time, the Karakalpakstan Republic has the highest level of problems caused by anthropogenic impact on natural complexes, leading to degradation. This is primarily due to the drying up of the Aral Sea, as well as the intensive exploitation of land for industrial development and agricultural production.

An analysis of the distribution of higher plants belonging to the Fabaceae Lindl family, based on their life forms, revealed that the data collected in the Amu Darya delta region of Karakalpakstan includes 8 genera and 11 species, with 5 different life forms. It was found that these include 2 shrubs, 2 semi-shrubs, 3 perennials, 1 biennial, and 3 annuals.

Table 3. The life forms of wild relatives of cultivated plants from the family Fabaceae L. of flora of the Amu Darya Delta

№	Genera	Species	The life forms
1	*Alhagi* Hill	*1,1 A.persarum* Boiss. et Bushe	Ssh
		2,2 A. pseudoalhagi (Bieb.) Fisch.	Ssh
2	*Astragalus* L.	*1,3 A. transcaspicus* Freyn	Sh
		2,4 A. unifolialatus Bunge	Sh
3	*Glicirrhiza* L.	*1,5 G.aspera* L.	P
		2,6 G. glabra L.	P
4	*Medicago* L.	*1,7 M. lupulina* L.	A

5	*Melilotus* Mill	*1,8 M. albus* Medik.	B
6	*Onobrychis* Hill	*1,9 O.micranta* Schrenk.	A
7	*Trigonella* L.	*1,10 T. grandiflora* Bunge	A
8	*Trifolium* L.	*1,11 T. repens* L.	P
To-tal	*8*	*11*	

Sh – shrubs, *Ssh* – semi-shrubs, *P* – perennials, *B* – biennials, *A* – annual*; 1,1 – the first species from the same family; the numbers from 1 to 11 mean 11 species in this region.*

Conclusion. In this context, conducting an inventory of wild relatives of cultivated plants in the Republic of Karakalpakstan, as part of Central Asia, provides an opportunity to improve the valuable gene pool in a timely manner and to use it in the development of new varieties of cultivated plants, as well as to expand the range of protective measures for these plants.

It should be noted that the figures provided regarding the composition of wild relatives of cultivated plants from the Fabaceae Lindl. family in the flora of Karakalpakstan are not yet final. Further detailed study of the flora of individual regions of the republic will undoubtedly lead to a refinement of the number of genera and species in the republic's flora that have economic value.

References

1. Ажиев А.Б., Назарбаева Г., Баходирова Д. Распределение дикорастущих сородичей культурных растений Республики Каракалпакстан по хозяйственно-ценным группам. // Научный медицинский вестник, 2016. N4(6). – С. 51-58.

2. Ажиев А.Б., Баходирова Д.Б., Назарбаева Г.А. Анализ распределения хозяйственно-ценных видов дикорастущих сородичей культурных растений республики Каракалпакстан. // Проблемы современной науки и образования. 2017. № 6(88). – С. 14-16.

3. Рафиков А.А., Тетюхин Г.Ф. Снижение уровня Аральского моря и изменение природных условий низовьев Амударьи. – Ташкент: «Фан», 1981.

4. Смекалова Т.Н., Чухина И.Г. Стратегия сохранения диких сородичей культурных растений на территории России. // Ботанические исследования в азиатской России: Материалы XI съезда Русского ботанического общества. – Барнаул: 2003. – С. 118-119.

5. Умаров Е., Даулетова К. Природы и хозяйство Каракалпакской АССР. – Нукус: «Каракалпакстан», 1989.

6. Шербаев Б.Ш. Флора и растительность Каракалпакии. – Нукус: «Каракалпакстан», 1988.