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SPECIAL PROTECTION OF NAKHCHIVAN AUTONOMOUS REPUBLIC NATURAL AREAS

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ОСОБАЯ ОХРАНА ПРИРОДНЫХ ТЕРРИТОРИЙ НАХИЧЕВАНСКОЙ АВТОНОМНОЙ РЕСПУБЛИКИ

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Abstract. The presented article provides information on specially protected natural areas of Nakhchivan Autonomous Republic. The environmental strategy implemented under the leadership of Heydar Aliyev since the 70s of the last centuries is successfully continuing in Nakhchivan Autonomous Republic today. The article also pays special attention to the beauty of the nature of Nakhchivan and the potential of ecotourism. As a result of the research, it was found that in the past period, in order to improve the environmental situation and protect biodiversity, the negative impact on the environment was minimized, and modern technologies were used in economic development. Specially protected natural territories have been created to protect the flora and fauna species of the territories that fascinate with aesthetic beauty, ecological balance, protection and restoration of biodiversity, the uniqueness of the natural environment, rare and endangered species. The article also contains detailed information about the territories of the Ordubad State Nature Reserve, Ordubad National Park, Shahbuz State Nature Reserve, Arpachay State Nature Reserve and Arazboyu State Nature Reserve, their geographical position, flora and fauna species listed in the Red Book. also reflected. Created and protected reserves, reserves and parks are also of particular importance in terms of visibility when conducting production experiments for high school students.

Аннотация. Представлена информация об особо охраняемых природных территориях Нахичеванской Автономной Республики. Экологическая стратегия, реализуемая под руководством Гейдара Алиева с 1970-х годов, успешно продолжается и сегодня. В результате проведенных исследований выяснилось, что в прошедший период в целях улучшения экологической среды и защиты биоразнообразия негативное воздействие на окружающую среду было сведено к минимуму, а в экономическом развитии применялись современные технологии. Особо охраняемые природные территории созданы для сохранения видов флоры и фауны территорий, обладающих эстетической красотой, экологическим равновесием, защитой и восстановлением биоразнообразия, уникальной природной средой, редкими и исчезающими видами. Представлена подробная информация о территориях Ордубадского государственного природного заповедника, Ордубадского национального парка, Шахбузского государственного природного заповедника, Арпачайского государственного природного заповедника и государственного природного заповедника Аразбою, их географическом положении, видах флоры и фауны, занесенных в Красную книгу. Создаваемые и охраняемые заповедники, заказники и парки также имеют особое значение с точки зрения наглядности проведения производственных экспериментов для студентов вузов.

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Keywords: protected areas, nature reserves, national parks.

Ключевые слова: охраняемые территории, природоохранные территории, национальные парки.

The rich xerophytic flora of the Nakhchivan Autonomous Republic has historically developed and was formed in close genetic connection with the flora of the Mediterranean Sea, Western Asia and Iran. The main goal of studying the flora of our republic was to study the current state and natural resources of plants distributed in regions and natural areas, mapping their distribution zones, their effective and at the same time effective use. determine ways to protect rare species.

Nature protection and efficient use of natural resources is one of the most important problems of humanity and our country. One of the important issues is the study of various ecosystems, vegetation and species, the number of which in the region is constantly declining as a result of the natural geomorphological structure of the Nakhchivan MR. In accordance with the environmental policy of national leader Heydar Aliyev, important measures have been taken to prevent the threat of destruction of plants, animals and microorganisms in the country, and a number of nature reserves and national parks have been created.

To preserve and effectively use the vegetation of a particular region, the attention of scientists is drawn to the need for a comprehensive study of its flora and vegetation and the identification of economically important plants.

Material and research methods

Based on the available literature data and conducted research, specially protected natural areas of the Nakhchivan Autonomous Republic were identified, which gave impetus to the study of the ecology and nature of Nakhchivan [3].

Discussion and conclusions of the study

The Nakhchivan Autonomous Republic has always aroused interest due to the richness of its flora, differing sharply from other botanical and geographical regions of Azerbaijan, as well as the Caucasus. The formation of the biodiversity of the flora of the region is associated with elements of the Mediterranean, Asia and especially the Iranian-Turanian flora. One of the important issues is the study of various ecosystems, vegetation and species, the number of which in the region is constantly declining as a result of the natural geomorphological structure of the Nakhchivan Autonomous Republic.

In modern times, a special place is occupied by the development of applied ecology and botany, the organization of long-term global and regional forecasting and control over the components of the natural environment. Recently, environmental protection, protection of ecosystems and natural resources have increased at a high level. Deforestation due to a lack of energy resources and especially fuel, unplanned grazing of farm animals in the territories, as a result of the merciless anthropogenic impact on nature, has led to the destruction and destruction of soil and vegetation cover, in other words, degradation. . In particular, due to the use of trees for furniture and fuel, the process of erosion has intensified as a result of the plunder of forests and the destruction of the water-retaining role of landscapes. For this reason, in order to protect the flora and fauna of the republic, study and predict anthropogenic changes in the environment and biosphere, it is necessary to carry out environmental monitoring, create state reserves and national parks for the purpose of conservation. Of particular importance is the preservation of existing natural complexes and their transfer to future generations, as well as strict compliance with the

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special operating regime characteristic of these territories.

Due to the fact that the autonomous republic is a typical mountainous country, the vegetation is clearly divided into noticeable zones. One of these zones is the territory of the Shahbuz State Nature Reserve, which differs sharply from other places in soil and vegetation. When studying the flora and vegetation of the area, you can come across many interesting things. So, there are rare plants not only for Azerbaijan, but also for the Caucasus, whose habitats are found only here. The irreplaceable elements of the region create the basis for maintaining its rarity in natural populations.

In order to preserve, protect and restore natural complexes located on the territory, protect rare and endangered species of flora and fauna characteristic of the slopes of the Zangezur and Darelayaz ridges, prevent erosion processes occurring on the slopes of the mountains, and scientifically study biological objects of value for this region. The current state of the flora and vegetation of the Shahbuz State Nature Reserve, the administrative area of which is 3139 hectares, has been studied and ecologically assessed.

The Shahbuz State Nature Reserve was created on July 16, 2003 by order of national leader Heydar Aliyev. The main territories of the reserve are located in mountainous areas at an altitude of 2200-2400 m above sea level, near Lake Batabat and the Bichenak Pass. The arid climate of Nakhchivan region has very rich natural resources. It covers the southern slopes of the Darelaez ridge and the western slopes of the Zangezur ridge. Alpine, subalpine meadows are formed in the highlands.

The diversity of relief, vegetation and soil cover on the territory of the Shahbuz State Nature Reserve allows us to distinguish a number of natural landscape zones here. 85% of the area is occupied by oak, 5% by juniper, sharp juniper, Araz oak, 7% by hawthorn, and the remaining 3% by apple, cherry, oriental oak, van, stone pear, bitter almond and various shrubs. There are also many ornamental plants on the territory of the reserve. Among them you can find beautiful, colorful and fragrant endemic species of irises growing in the lowlands, oriental tulips, fragrant wild carnations, mountain tulips, orchids, paradoxical irises and others. The area is also rich in medicinal plants.

As a result of the study of literary materials and collected herbariums, it was established that the flora of the Shahbuz State Nature Reserve consists of 1575 plant species belonging to 504 genera of 116 families (Table 1). This is 21.00% of the flora of the Caucasus, 35.00% of the flora of Azerbaijan and 55.56% of the flora of the Nakhchivan Autonomous Republic.

Table 1

SYSTEMATIC STRUCTURE OF THE RESERVE FLORA

№	*Departments and classes of plants*	*Seasons*		*Gender*		*Species*	
		Number	*%-with*	*Number*	*%-with*	*Number*	*%-with*
1	*Bryophyta*	19	16,38	34	6,76	39	2,48
2	*Equisetophyta*	1	0,86	1	0,20	2	0,13
3	*Polypodiophyta*	3	2,59	6	1,19	8	0,51
4	*Pinophyta*	2	1,72	2	0,40	5	0,32
5	*Gnetophyta*	1	0,86	1	0,20	1	0,06
6	*Magnoliophyta*	90	77,58	460	91,25	1520	96,51
A	*Liliopsida*	20	17,24	68	13,49	204	12,95
B	*Magnoliopsida*	70	60,34	392	77,76	1316	83,56
	Total:	116	100	504	100	1575	100

The territory of the reserve is completely mountainous, and therefore has complex terrain. In this area, the slopes of the Susendag ridge, facing Nakhchivanch, are steep slopes with intensely

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broken rocks and cliffs. Due to the poor development of vegetation in these areas, the soil cover in many places has been largely or completely washed away. Towards the source of Nakhchivanchay, the slope of the mountains gradually decreases. The Batabat depression is located in the south of Mount Eirigar. The area between the Batabat plateau and Nakhchivanchay is hilly and slightly sloping [1, 5-7].

When studying the local flora, the families represented by the largest number of genera and species were studied. From table No. 2 it can be seen that the first place in the flora of the region is occupied by the (Asteraceae Martinov) family with 64 genera and 223 species. The next places in terms of the number of genera are occupied by (*Brassicaceae Burnett*) 42 genera, 107 species, (*Poaceae Barnhart*) 37 genera, 94 species, celery (*Apiaceae* Lindl.) 34 genera, 67 species, beans (*Fabaceae* Lindl.) 21 genera, 129 species. *Roses* (*Rosaceae* Juss.) dominate, with 22 genera and 110 species. As can be seen from the table, 16 families number 1158 species, which is 73.59% of the flora of the reserve, the remaining families number only 417 species, which is 26.41% [2, 4, 8, 10-12].

Table 2

THE FAMILIES WITH THE MOST GENERA AND SPECIES IN THE FLORA OF THE RESERVE

№	*Seasons*	*Number of sexes*	*In % of the total number*	*Number of species*	*In % of the total number*
1	*Asteraceae* Martinov	64	12,72	223	14,16
2	*Brassicaceae* Burnett	42	8,35	107	6,79
3	*Poaceae* Barnhart	37	7,36	94	5,97
4	*Apiaceae* Lindl.	34	6,76	67	4,32
5	*Lamiaceae* Martinov	24	4,77	90	5,71
6	*Rosaceae* Juss.	22	4,37	110	6,98
7	*Boraginaceae* Juss.	21	4,17	43	2,73
8	*Fabaceae* Lindl.	21	4,17	129	8,19
9	*Caryophyllaceae* Juss.	20	3,98	72	4,57
10	*Scrophulariaceae* Juss.	15	2,98	62	3,94
11	*Ranunculaceae* Juss.	12	2,39	45	2,86
12	*Polygonaceae* Juss.	7	1,39	28	1,78
13	*Rubiaceae* Juss.	6	1,19	26	1,65
14	*Cyperaceae* Juss.	4	0,80	19	1,21
15	*Campanulaceae* Juss.	3	0,60	22	1,40
16	*Alliaceae* J. Agardh	1	0,20	21	1,33
	Total:	333	66,20	1158	73,59

The western slopes of Mount Salvarti are highly fragmented rocky terrain with trench-shaped valleys and glacial trails. Rock samples of severe physical erosion were collected in narrow and deep valleys and flat areas. Rock samples from the Paleogene and Neogene periods are widespread in the area. Pilocene deposits are found closer to the source of Nakhchivanchay. Initially, the relief formation occurred during the Lower and Middle Oligocene periods. There has always been an urgent need to systematize and clarify the spectrum of the flora of the Shahbuz State Nature Reserve, protect the gene pool by determining the status of rare and endangered species, and also publish scientific literature on the areological, floristic-systematic, botanical-geographical ecological characteristics of the species.

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As a result of the research, it was established that the presence in the formation of the territory of the reserve of elements belonging to the Quaternary period was important in the formation of the flora of the region and determined the appearance of plants bred on their basis to this day [9].

Ordubad State Nature Reserve — created in July 1969 in the Ordubad region of the Nakhchivan Autonomous Republic. By decree of the President of the Republic of Azerbaijan dated June 16, 2003, 12,131 hectares of the administrative territory of the Ordubad region were declared a National Park. The national park was named after academician Hasan Aliyev. Currently, the prohibited area is 27,869 hectares. The purpose of creating the reserve is to protect and increase the rare and valuable animals of the territory. Common juniper, grandiflora tulpa, prominent cypress, etc. grow on the site. There are plant species.

The area is home to the bezoar goat (*Capra aegagrus*), Caucasian sable (*Rupicapra rupicapra*), rock squirrel (*Martes foina*), gray wolf (*Canis lupus*), common jackal (*Canis aureus*), common fox (*Vulpes vulpes*) and other mammal species include common turaj (*Francolinus francolinus*), common pheasant (*Phasianus colchicus*), common freckled partridge (*Perdix perdix*), common quail (*Coturnix coturnix*), flounder (*Columba palumbus*) and other species of birds [9, 13-15].

The territory of the Ordubad National Park is distinguished by rare plants. Thus, out of 202 species of rare plants growing on the territory of the autonomous republic, 77 species are found in the territory of the national park. Among them are naked dorema, Vanatur cypress, Araz oak, tender iris, Grossheim iris, beautiful ribbon, Mishchenko emerald flower, alpine aster, etc. The names of most of the 77 species of rare plants are listed in the Red Book. The territory of the Ordubad National Park is rich in fauna and flora, and is also a land of natural and historical monuments.

In order to protect the environment, its effective use, conservation of rare and endangered species of plants and animals, development of a network of specially protected natural territories of the Azerbaijan Republic and Article 8 of the Law of the Azerbaijan Republic “On Specially Protected Natural Territories”. Protected natural areas and objects" According to Articles 2 and 21, on November 25, 2009, by order of the President of the Republic of Azerbaijan Ilham Aliyev, the territory of the Ordubad National Park of the Azerbaijan Republic, the territory of the Ordubad National Park of the Azerbaijan Republic, the Shahbuz State Nature Reserve (3139.0 ha), as well as the Nakhchivan Autonomous Republic A total of 30,666 shown on the map were added administratively to the state forest fund register (396.4 hectares) shown on the map. The territories of the Julfa, Ordubad districts and summer pasture lands (27,131.0 hectares) located in the administrative territories of the Shahbuz, Julfa, Ordubad districts were expanded , by 4 hectares and the area increased to 42797.4 hectares. By the same decree, the name of the national park was changed to Zangezur National Park named after academician Hasan Aliyev. The territory of Zangezur National Park is distinguished by rare plants. Thus, out of 202 species of rare plants growing on the territory of the autonomous republic, 115 species are found in the territory of the national park [1].

Arpachay State Nature Reserve was created on June 22, 2009 by the Decree of the Chairman of the Supreme Assembly of the Nakhchivan Autonomous Republic. The main purpose of creating the reserve was to protect existing natural complexes or their components, as well as maintain ecological balance. This reserve is located in the territories along the Darelai ridge — in the administrative districts of Sharur, Kengerli, Babek and Shahbuz districts. Its area is 68911 hectares.

The vegetation of the reserve includes beautiful St. John's wort (*Hypericum formosissimum*), bellflower (*Campanula ciliata*), iris (*Iris lycotis*), Ixiolirion tataricum, heavy juniper (*Juniperus foetidissima*), akaka onion (*Allium akaka*), single onion-grain wheat (*Triticum monococcum*), ribbon-flowered wheat (*Himantoglossum formosum*), naked dorema (*Dorema glabrum*), emerald-

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flowered Pushkinia (*Puschikinia scilloides*), South Caucasian wolfberry (*Daphne transcaucasica*), etc. are found.

Animals include leopard (*Panthera pardus*), common safari (*Vormela peregusna*), bezoar ibex (*Capra aegagrus*), Asian mouflon (*Ovis orientalis*), rock squirrel (*Martes foina*), Mediterranean tortoise (*Testudo graeca*), bearded vulture (*Gypaetus barbatus*), Caspian bear (*Tetraogallus caspius*), brown bear (*Ursus arctos*), lynx (*Lynx lynx*), red lentil (*Rhodopechys sanguineus*) and others. Registered.

The Arazboyu State Nature Reserve was created on September 23, 2005 by the Decree of the Speaker of the Supreme Assembly of the Nakhchivan Autonomous Republic. The main purpose of its creation was the protection of natural complexes or their components, maintaining the ecological balance, as well as the preservation of historical, cultural, archaeological and architectural monuments (Gulistan Tomb, Julfa Bridge, etc.). This reserve is located in the administrative territories of Sadarak, Sharur, Kengerli, Babek, Julfa and Ordubad districts, which are Arazboyu districts. Its area is 9118 hectares.

The reserve has a number of rare and endangered species of flora — Caucasian mountain sedum (*Celtis caucasica*), Grossheim spurge (*Euphorbia Grossheimii*), elegant iris (*Iris elegantissima*), vinegar hemlock (*Zygophyllum atriplicoides*), common fig (*Ficus carica*), common pomegranate (*Punica granata*) and fauna species — Mercury and Linden dragonflies, Bolivaria brachyptera, curly-haired pelican (*Pelecanus Crispus*), pink pelican (*Pelecanus onocratalus*), common pelican (*Platalea leucorodia*), common blue pelican. (*Oxyura leucocephala*), little swan heron (*Cygnus bewickii*), marbled duck (*Marmaronetta angustirostris*), white-tailed eagle (*Haliaeetus albicilla*), bearded vulture (*Gypaetus barbatus*), imperial eagle (*Aquila heliaca*), jungle cat (*Felis chaus*), Pallas's cat (*Otocolobus manul*), Lesser Asian lizard (*Parvilacerta parva*), Syrian garlic lizard (*Pelobates syriacus*) are under protection.

Conclusions

1. As a result of the study of literary materials and collected herbariums, it was established that the flora of the Shahbuz State Nature Reserve consists of 1575 plant species belonging to 504 genera of 116 families. This is 21.00% of the flora of the Caucasus, 35.00% of the flora of Azerbaijan and 55.56% of the flora of the Nakhchivan Autonomous Republic.

2. The territory of the Ordubad National Park is also distinguished by rare plants. Thus, out of 202 species of rare plants growing on the territory of the Autonomous Republic, 77 species are found in the National Park, and most of these rare plants are listed in the Red Book.

3. A number of rare and endangered species of flora are found in the Arpachay and Arazboyu state nature reserves. The main purpose of creating reserves was to protect existing natural complexes or their components, as well as maintain ecological balance.

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