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LAST CHANGES IN ORCHIDACEAE JUSS. FAMILY SPREAD IN THE TERRITORY OF THE NAKHCIVAN AUTONOMOUS REPUBLIC

©*Salmanova R.*, ORCID: 0000-0002-3809-6269, Nakhchivan State University, Baku, Azerbaijan, raifasalmanova@mail.ru

ПОСЛЕДНИЕ ДАННЫЕ ПО РАСПРОСТРАНЕНИЮ ORCHIDACEAE JUSS. НА ТЕРРИТОРИИ НАХИЧЕВАНСКОЙ АВТОНОМНОЙ РЕСПУБЛИКИ

©*Салманова Р. К.*, ORCID: 0000-0002-3809-6269, Нахичеванский государственный университет, г. Баку, Азербайджан, raifasalmanova@mail.ru

Abstract. Species content and distribution patterns of the Orchidaceae Juss. Family in the Nakhchivan Autonomous Republic have been studied. Considering last changes in literature data, materials included in the herbarium fund and the performed researches, 21 species of the Orchidaceae Juss. Family belonging to 8 Genera have been established in the territory of the Autonomous Republic.

Аннотация. Изучен видовой состав и закономерности распространения представителей семейства Orchidaceae Juss. в Нахичеванской автономной республике. С учетом последних изменений в литературных данных, материалов, включенных в гербарный фонд и проведенных исследований, к семейству Orchidaceae Juss. относятся 8 родов и 21 вид.

Keywords: orchid, genus, species, species content, spread patterns.

Ключевые слова: орхидея, род, вид, видовой состав, закономерности распространения.

Introduction

One of the important current issues is studying and maintaining biological diversity. Some species of Nakhchivan were found to extinct due to the negative effects caused by human activity, some become rare and areals of their distribution decrease. An increase of residential areas, construction of roads, expansion of sown areas, etc. lead to the depletion of plant resources, plant species content becomes sparse, and valuable plant species are excluded from the flora.

Among the rare, endangered plants of the Nakhchivan flora, representatives of the orchid family are particularly important. They are highly sensitive to anthropogenic effects and are able to live in different ecological conditions. The representatives of the family are plants of great originality and rich variety. These plants are attractive mostly by their flowers having unusual forms and pleasant fragrance. As decorative plants, they constitute one of the leading trends in the floriculture of many countries.

Representatives of the orchid family have not been studied in detail in Azerbaijan, including the Nakhchivan Autonomous Republic. Many species of this family are distributed in the territories of nature reserves that provide the protection of rare plants. Nevertheless, the study of the orchid family species, preventing their extinction and at the same time establishing the research directions are urgent issues.

Materials and methods

The representatives of the orchid family distributed in the territory of the Nakhchivan Autonomous Republic have been studied since 2014. Regular spring and summer expeditions to the regions of the Nakhchivan AR have been carried out, and species belonging to the orchid family have been studied. Phenological observations were conducted, the natural conditions of the habitats of the species, their phytocytosis, formations, associations were studied experimentally, and the descriptor data were recorded. In general, areas of the distribution of orchid family species, the conditions of their extinction have been clarified, herbarium materials have been collected and photographed, and information on their biotopes and ecomorphs has been recorded. The collection and documentation of herbaria were carried out by descriptors, and a conspectus of the species belonging to genera was prepared.

Determinants such as “Flora of USSR”, “Flora of Caucasus” by A. A. Grossgeim, “Flora of Azerbaijan” and methodological instructions by L. I. Prilipko [1–2] and data on the Iran and Turkey floras were used in the research [3–7].

The recent taxonomic changes were made according to Herbarium funds of the Institute of Botany, Institute of Bioresources and materials included in the Herbarium fund of the Nakhchivan State University, as well as based on the International Code of Botanical Nomenclature and articles by S. K. Cherepanov [8], T. G. Talibov, A. Sh. Ibragimov [3], and A. M. Asgarov [9]. Corresponding corrections of inconsistencies and repetitions in taxon names were made in the I–VIII volumes of the “Flora of Azerbaijan”. Field surveys, scientific trips, local expeditions, stationary and semi-stationary phenological observations were organized.

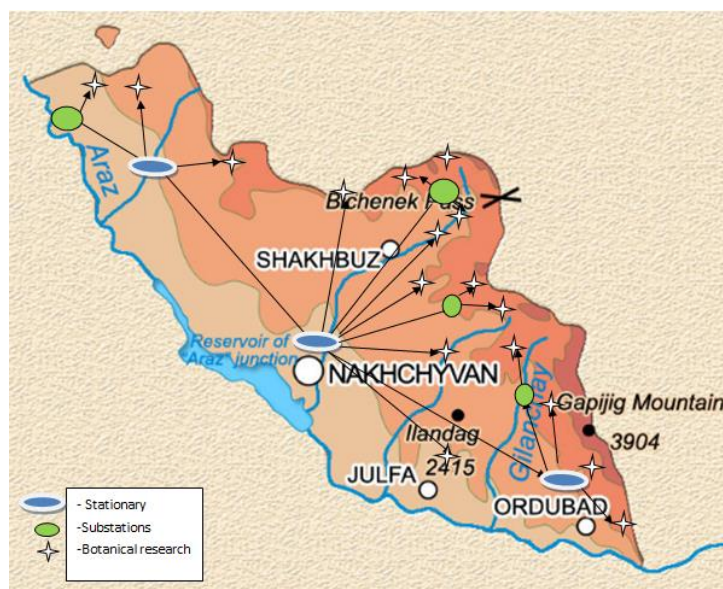


Figure. Expedition routes on Nakhchivan AR.

Experimental part

The orchid family has a special place among rare and endangered plants of the Nakhchivan flora. The representatives of this family are highly sensitive to anthropogenic effects and able to survive under various ecological conditions.

According to the literature data, this family includes 800 genera and about 35,000 species worldwide. The existence of 19 genera and 47 species is indicated in “Flora of USSR” and “Flora of Azerbaijan”. According to the results of the recent studies, the *Orchidaceae* Juss. family includes 57 species belonging to 20 genera of the Azerbaijan flora [9].

Thus, the taxonomic spectrum and distribution patterns of the orchid family representatives are not described comprehensively in the available literature [3]. During the recent studies, 21 species belonging to 8 genera were found to spread in the territory of Nakhchivan. Five species *Dactylorhiza umbrosa* (Kar. & Kir.) Nevski, *Listera ovata* (L.) R. Br., *Orchis simia* Lam., *Gymnadenia conopsea* (L.) R. Br., *Anacamptis pyramidalis* (L.) Rich. were found in the region flora for the first time and their distribution across longitude was determined [2, 10–11]. Considering these, species spectrum of the orchid family can be as follows:

Super Ordo: Lillanae

Ordo: Asparagales

Family: *Orchidaceae* Juss.

Subfam.: *Epidendroidae* Lindl.

1. Genus: *Epipactis* Zinn

1(1) *Epipactis microphylla* (Ehrh.) Sw.

2(2) *E. palustris* (L.) Grantz

3(3) *E. veratrifolia* Boiss. et Hohen.

2. Genus: *Neottia* Guett. (*Listera* R. Br)

4(1) *Neottia ovata* (L.) Bluff & Fingerh. [*Listera ovata* (L.) R. Br]

Subfam.: *Orchidoideae*

3. Genus: *Platanthera* Rich.

5(1) *Platanthera chlorantha* (Custer) Reichenb.

4. Genus: *Dactylorhiza* Neck. ex Nevski

6(1) *Dactylorhiza euxina* (Nevski) Czer.

7(2) *D. salina* (Turcr. ex Lindl.) Soó

8(3) *D. iberica* (Bieb. ex Willd.) Soó

9(4) *D. romana* (Sebast.) Soó

=*D. romana* subsp. *georgica* (Klinge) Soó ex Renz & Taubenheim - [*D.*

flavescens (C. Koch) Holub]

10(5) *D. umbrosa* (Kar. & Kir.) Nevski (1937) [*D. sanasunitensis* (Fleischm.) Soó -

Sanasunit orchid; *D. chuhensis* *D. merovens* (Grossh.) Aver.]

11(6) *D. urvilleana* (Stend.) H. Baumann et Künkele [*D. affinis* (C. Koch) Aver.; *D. amblyoloba* (Nevski) Aver.; *D. triphylla* (C. Koch) Czer.]

12(7) *D. osmanica* (Kinge) P.F. Hunt & Summerh.

=*Dactylorhiza osmanica* (Kinge) P. F. Hunt & Summerh. var. *osmanica* [*D. cataonica* (H. Fleischm.) Holub]

5. Genus: *Orchis* L.

13(1) *Orchis mascula* L.

14(2) *O. punctulata* Stev. ex Lindl.

15(3) *O. simia* Lam.

6. Genus: *Anacamptis* Rich.

16(1) *Anacamptis coriophora* (L.) R. M. Bateman, Pridgeon & M. W. Chase (*O. coriophora* L.)

17(2) *A. laxiflora* (Lam.) R. M. Bateman, Pridgeon & M. W. Chase (*O. laxiflora* Lam.)

18(3) *A. palustris* (Jacq.) R. M. Bateman, Pridgeon & M. W. Chase, 1997 (*Orchis palustris* Jacq.)

19(4) *A. pyramidalis* (L.) Rich.

7. Genus: *Ophrys* L.
20(1) *Ophrys apifera* Huds. [*O. oestriifera* Bieb.]
8. Genus: *Gymnadenia* R. Br.
21(1) *Gymnadenia conopsea* (L.) R. Br.

A comparative analysis of genera was performed to determine taxonomic features of orchids distributed in Nakhchivan (Table).

Table.

COMPARATIVE ANALYSIS OF ORCHIDS GENERA DISTRIBUTED IN NAKHCHIVAN

No.	Genera	The number of species	Rate of the total number of species, %
1.	<i>Epipactis</i>	3	14.28
2.	<i>Neottia</i>	1	4.76
3.	<i>Platanthera</i>	1	4.76
4.	<i>Dactylorhiza</i>	7	33.33
5.	<i>Orchis</i>	3	14.28
6.	<i>Anacamptis</i>	4	19.04
7.	<i>Ophrys</i>	1	4.76
8.	<i>Gymnadenia</i>	1	4.76

As seen in the table, the genera *Dactylorhiza*, *Anacamptis*, *Epipactis* and *Orchis* are represented by 7 (33.33%), 4 (19.04%) and 3 (14.28%) species, respectively. This is 80.95% of the total flora. The rest of the genera are monotype and comprise 19.05%. Orchids distributed in Nakhchivan are comprehensively characterized as a result of the complex study of the above-mentioned species during their whole life under various ecological conditions.

Conclusion

As a result of the studies, 21 species belonging to 8 genera were found to spread in the territory of Nakhchivan for the first time.

Analysis of the collected herbaria and descriptor information revealed 5 species *Dactylorhiza umbrosa*, *Neottia ovata*, *Orchis simia*, *Gymnadenia conopsea*, *Anacamptis pyramidalis* in the region flora for the first time and their distribution across longitude was determined.

References:

1. Grossgeim, A. A. (1952). Flora Kavkaza. II. Moscow, Leningrad. (in Russian).
2. Prilipko, L. I. (1970). Rastitel'nyi pokrov Azerbaidzhana. Baku. (in Russian).
3. Talybov, T. G., & Ibragimov, A. Sh. (2008). Taxonomic spectrum of the flora of the Nakhichevan Autonomous Republic (Higher spore, gymnosperms and angiosperms), 350. (in Azerbaijani).
4. Flora Azerbaidzhana. (1954). 2. Baku. (in Russian).
5. Flora SSSR. (1935). Moscow. (in Russian).
6. Dalar, A., Guo, Y., Esim, N., Bengu, A. S., & Konczak, I. (2015). Health attributes of an endemic orchid from Eastern Anatolia, *Dactylorhiza chuhensis* Renz&Taub. - in vitro investigations. *Journal of Herbal Medicine*, 5(2), 77-85. <https://doi.org/10.1016/j.hermed.2015.02.001>
7. Attar, F., & Qahramān, A. (1999). Biodiversity of Plant Species in Iran: The Vegetation of Iran, Plant Species, Red Data of Iran, Endemic Species, Rare Species, Species Threatened by Extinction. Central Herbarium of Tehran University, Faculty of Science.

8. Cherepanov, S. K. (1995). *Sosudistye rasteniya Rossii i sopredel'nykh gosudarstv* (v predelakh byvshego SSSR). St. Petersburg, Mir i sem'ya, 990. (in Russian).
9. Asgarov, A. M. (2016). Flora of Azerbaijan. Baku, 96-103. (in Azerbaijani).
10. Talybov, T. G., & Salmanova, R. K. (2017). *Dactylorhiza umbrosa* var. *Chuhensis* - novyi vid dlya flory Nakhchyvanskoj Avtonomnoj Respubliki. *Sovremennaya nauka: aktual'nye problemy teorii i praktiki. Estestvennye i tekhnicheskie nauki*, (10), 10-12. (in Russian).
11. Talybov, T. G., & Salmanova, R. K. (2018). Biologicheskie i fitosenologicheskie kharakteristiki novogo vida semeistva Orchidaceae Juss. dlya flory Nakhchyvanskoj avtonomnoj respubliky. *Spirit time*, (7), 7-10. (in Russian).

Список литературы:

1. Гроссгейм А. А. Флора Кавказа. V. II. М.-Л., 1952. 447 с.
2. Прилипко Л. И. Растительный покров Азербайджана. Баку: Эльм, 1970. 170 с.
3. Талыбов Т. Г., Ибрагимов А. Ш. Таксономический спектр флоры Нахичеванской автономной республики (Высшие споровые, голосеменные и покрытосеменные растения). Нахичевань, 2008, 350 с.
4. Флора Азербайджана. Т. II. Баку, 1954. 579 с.
5. Флора СССР. М.: Изд-во АН СССР, 1935. 760 с.
6. Dalar A., Guo Y., Esim N., Bengu A. S., Konczak I. Health attributes of an endemic orchid from Eastern Anatolia, *Dactylorhiza chuhensis* Renz&Taub. - in vitro investigations // *Journal of Herbal Medicine*. 2015. V. 5. №2. P. 77-85. <https://doi.org/10.1016/j.hermed.2015.02.001>
7. Attar F., Qahramān A. Biodiversity of Plant Species in Iran: The Vegetation of Iran, Plant Species, Red Data of Iran, Endemic Species, Rare Species, Species Threatened by Extinction. Central Herbarium of Tehran University, Faculty of Science, 1999.
8. Черепанов С. К. Сосудистые растения России и сопредельных государств (в пределах бывшего СССР). СПб: Мир и семья, 1995. 990 с.
9. Аскеров А. М. Флора Азербайджана. Баку, 2016. С. 96-103.
10. Талыбов Т. Г., Салманова Р. К. *Dactylorhiza umbrosa* var. *Chuhensis* - новый вид для флоры Нахичеванской автономной республики // *Современная наука: актуальные проблемы теории и практики. Естественные и технические науки*. 2017. №10. С. 10-12.
11. Талыбов Т. Г., Салманова Р. К. Биологические и фитосенологические характеристики нового вида семейства *Orchidaceae* Juss. для флоры Нахичеванской автономной республики // *Spirit time*. 2018. №7. С. 7-10.

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