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BOTANICAL-GEOGRAPHICAL CHARACTERISTIC OF LICHENS AND MOSSES OF KORCHAY STATE NATURE RESERVE

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БОТАНИКО-ГЕОГРАФИЧЕСКАЯ ХАРАКТЕРИСТИКА ЛИШАЙНИКОВ И МХОВ КОРЧАЙСКОГО ГОСУДАРСТВЕННОГО ПРИРОДНОГО ЗАПОВЕДНИКА

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Abstract. The geographical analysis shows that the mosses flora of the Korchay State Nature Reserve was not genetically homogeneous but was composed of various geographical elements included in different botanical-geographic regions. The mosses flora as a whole is boreal — 39.5%, arid — 23.7%. Euryholarctic — 15.8% and mountain species — 10.5% play a certain role in the flora. The flora of lichens has a nemoral-continental character as a whole. Boreal — 14.0%, euryholarctic — 10.7% and hypoarctomontane — 10.7% species also play a significant role in the flora.

Аннотация. Географический анализ показал, что бриофлора Корчайского государственного природного заповедника не была генетически однородной, а состояла из различных географических элементов, входящих в разные ботанико-географические районы. Бриофлора в целом бореальная — 39,5%, аридная — 23,7%. Определенную роль играют эвриголарктические — 15,8% и горные виды 10,5%. Лихенофлора в целом имеет неморально-континентальный характер. Значительную роль играют также бореальные — 14,0%, эвриголарктические — 10,7% и гипоарктомонтанные — 10,7% виды.

Keywords: Bryophyta, lichens, flora, nature reserves, Azerbaijan.

Ключевые слова: мхи, лишайники, флора, природоохранные территории, Азербайджан.

Geographical Analysis of Lichens

There are 47 species belonging to 17 families and 33 genera of lichen in Korchay State Nature Reserve. The species were analyzed according to geographical elements. In addition to the taxonomic composition, the study of the flora of any area is also one of the main conditions for determining the origin of the species. This problem can be solved as a result of geographical analysis and modern area. Geographical analysis of Korchay State Nature Reserve were conducted on the basis of zonal and regional principles according to A. N. Oksner (1941-1942), M. F. Makarevich (1964), Sh. O. Barkhalov (1964), H. H. Trass (1968), V. S. Novruzov (1990), S. Alverdiyeva (2014), N. N. Portenier (2000).

The systematic structure of lichens and mosses of the Korchay reserve mainly reflects the zonal characteristics of the flora, on the other hand, it is noticeable in the regional characteristics. This is due to the non-uniformity of the area [1-5].

Nemoral Element

Distribution centers: includes species related to broad-leaved forests of the Holarctic. In the study area, the element includes 9 species.

Anaptychia ciliaris (L.) Körb.
Arthonia punctiformis Ach.
Candelariella reflexa (Nyl.) Lettau
Cladonia foliacea (Huds.) Willd.
Evernia prunastri (L.) Ach.
Lecanora allophana Nyl.
Lepraria incana (L.) Ach.
Ochrolechia pallescens (L.) A. Massal.
Physcia adscendens H. Oliver

Mountain Element

The montane element includes species that are widespread in the mountain forests of the Holarctic, sometimes in the plains, as well as in forestless zones. It includes only 3 species in the study area.

Lecanora configurata Nyl.
Parmelia discordans Nyl.
Pertusaria subdactylina Nyl.

Euryholarctic Element

The euryholarctic element includes species found in different vegetation and climate conditions of the holarctic, but not adapted to any vegetation zone. This element includes 5 types.

Bacidia rosella (Pers.) De Not.
Caloplaca decipiens (Arnold) Blomb. & Forssell
Cladonia cornuta (L.) Hoffm.
Glypholecia scabra (Pers.) Müll. Arg.
Toninia candida (Weber) Th.Fr.

Boreal Element

The boreal element includes species whose centers of distribution are related to the coniferous forests of the holarctic. In the study area, this element includes 7 species.

Flavoparmelia caperata (L.) Hale
F. soledians (Nyl.) Hale
Flavoplaca citrina (Hoffm.) Arup, Frödén & Søchting
Pertusaria constricta Erichsen
Pleurosticta acetabulum (Neck.) Elix & Lumbsch
Polycauliona polycarpa (Hoffm.) Frödén, Arup & Søchting
Ramalina farinacea (L.) Ach.

Xerocontinental (Arid) Element

The xerocontinental element includes species distributed in warm-arid and other floristic regions. 9 species from Korchay State Nature Reserve are included in this element.

Caloplaca decipiens (Arnold) Blomb. & Forssell
Candelariella reflexa (Nyl.) Lettau
Cladina stellaris (Opiz) Brodo
Cladonia foliacea (Huds.) Willd.
Gyalolechia flavovirescens (Wulfen) Søchting, Frödén & Arup
Lecanora dispersa (Pers.) Sommerf.
Rhizocarpon expallescens Th. Fr.

Rh. petraeum (Wulfen) A. Massal.
Rhizoplaca melanophthalma (DC.) Leuckert
Multiregional Element

The multiregional element includes species found in more than 3 natural-climatic regions of the unrelated to each other continent, except for Holarctica. 9 species are included in this element from the study area.

Aspicilia calcarea (L.) Mudd
Candelariella aurella (Hoffm.) Zahlbr.
Cladina rangiferina (L.) Nyl.
Cladonia coniocraea (Flörke) Spreng.
C. fimbriata (L.) Fr.
Melanelixia glabra (Schaer.) O. Blanco, A. Crespo, Divakar, Essl., D. Hawksw. & Lumbsch
Peltigera canina (L.) Willd.
Pleurosticta acetabulum (Neck.) Elix & Lumbsch
Xanthoria parietina (L.) Th. Fr.

Table 1

SPECTRUM OF GEOGRAPHIC ELEMENTS

<i>Spectrum of geographic elements</i>	<i>Amount of species</i>	<i>% quantity by total species</i>
Nemoral	9	19,0
Montana	3	6,8
Euryholarctic	5	10,7
Hypoarctomontane	5	10,7
Boreal	7	14,0
Xerocontinental	9	19,0
Multiregional	9	19,0

The flora of lichen has a nemoral-continental character as a whole. Boreal (14.0%), Euryholarctic (10.7%) and hypoarctomontane (10.7%) species also play a significant role in the flora.

Geographical Analysis of Mosses

Including mosses in geoelements is a difficult problem. Therefore, geographical elements were analyzed based on geographical principles. 38 types of mosses belonging to 14 families and 26 genera are distributed in Korchay State Nature Reserve. As a result of geographical analysis of moss flora, 8 geoelements were discovered. The moss flora is dominated by boreal (15) and arid (9) species. Other elements are represented by few species (Euryholarctic-6, Montane, Multiregional-4). Based on the above, moss flora is mainly characterized by arid-boreal, Mediterranean and multiregional type.

Boreal Element

Coniferous forests of the Holarctic mainly include species distributed in the boreal zone. The reserve includes 15 species.

Barbula alpicola C. Müller, 1900
B. convoluta Hedwig, 1801
Brachythecium albicans W. P. Schimper, 1853
B. populeum (Hedw.) Br. Eur.
Brachythecium mildeanum W. P. Schimper, 1862
Calliergonella cordifolium
Climacium dendroides Weber & D. Mohr, 1804
Dicranum scoparium Hedwig, 1801
Hylocomium splendens W. P. Schimper, 1852

Polytrichastrum alpinum G. L. Smith, 1971
Polytrichum commune Hedwig, 1801
Pohlia annotina Lindberg, 1879
P. crudoides Brotherus, 1903

Arid Element

It includes species common in hot arid regions and other floristic regions of the Earth. In the Korchay reserve, this element is represented by 9 species. Stone rocks are found in saline soils.

Cirriphyllum piliferum Grout, 1898
Dicranum polysetum Swartz, 1801
Funaria hygrometrica (Hampe) Grout, 1935
Homalothecium philippeanum W. P. Schimper, 1851
Platygyrium repens W. P. Schimper, 1851
Pleurozium schreberi Mitten, 1869
Polytrichum strictum Menzies ex Bridel, 1801
Tortula subulata Hedwig, 1801
Trichostomum crispulum Bruch, 1829

Euryholarctic Element

The species belonging to this element are species that spread from south to north in different plant-climatic zones of the Holarctic, regardless of the vegetation zone. In the Korchay reserve, this element includes 6 species.

Amblystegiella confervoides (Brid.) Loeske
Cynodontium strumiferum Lindberg, 1864
Entodon orthocarpus (Brid.) Lindb.
Grimmia anodon Bruch & W. P. Schimper, 1845
G. pulvinata Smith, 1807
Hypnum imponens Hedwig, 1801

Mountain Species

Mountain species are included in the montane element. It mainly grows in lithophilic, limestone and silicate rocks, on soil, and also in tree bark. They are rare species. They are species distributed in the Bozdag range.

Amblystegium subtile (Hedw.) Schimp.
Amblystegium serpens W. P. Schimper, 1853
Andreaea rupestris Hedwig, 1801
Dicranum acutifolium C. E. O. Jensen, 1937

Multiregional Element

It includes species distributed in different climatic zones of the Holarctic and floristic regions of more than three continents. The species included in this element are mainly cosmopolites. In the moss flora of Korchay, this element includes only 4 species.

Camptothecium lutescens (Philibert) Bertsch, 1949
Dicranella cerviculata W. P. Schimper, 1856
Eurhynchium speciosum Juratzka, 1863
Funaria hygrometrica (Hampe) Grout, 1935. Cosmopolitan species.

The moss flora has a character as a whole boreal (39.5%) - arid (23.7%). Euryholarctic (15.8%) and montane species (10.5%) also play a certain role in the flora.

In both floras, multiregional lichens (19.0%) and mosses (10.5%) do not occupy such a high place. Because the complex geomorphological structure of Korchay State Nature Reserve is characterized only by specific elements.

Table 2

SPECTRUM OF GEOGRAPHIC ELEMENTS

<i>Spectrum of geographic elements</i>	<i>Amount of species</i>	<i>% quantity by total species</i>
Montana	4	10,5
Euryholarctic	6	15,8
Boreal	15	39,5
Arid	9	23,7
Multiregional	4	10,5

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