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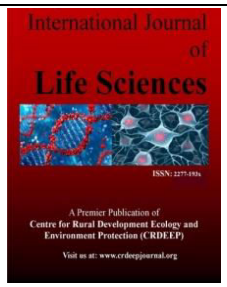

Full Length Research Paper

Species bioecology and growth development of genus *Cyclamen adzharicum*in the South Colchis

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ABSTRACT

Cyclamen adzharicum pobed **is** endemic plant, which is distributed in the Ajara region (South colchis.) Its population are studied in Chaisubani area In Mtirala National Park, in Khala From 100m to 728 m sea level. We have studied *C.adzharicum pobed* vegetation with climate change. According the climatography, *C. adzharicum pobed* has the different vegetation period during 2016-2018. In fact , in 2016 population starts its vegetation in January 12, while in 2018, the same population had started vegetation period earlier in December 26.The climate and the precipitation plays a major role of the vegetation of *the species. Cyclamen adzharicum pobed* does not create a clear population, but in some areas the plant is dominate species and according Braun – blanquet scale it has "4 " scale. The medicinal raw is the tubers containing steroid sapon cyclamine, alkaloids. Tuber juice is used to improve the breathing difficulty from the nose during the flu and cooling, as well as the long headache caused by the hormorrhea and the frontend.

Introduction: The floristic region of Adjara is situated in the north-western part of the western Caucasian corridor of the world-known Caucasian "Hotpoint", which is distinguished with the uniqueness of its relict Colchis flora. In the period of Ice Age it represented a shelter of warmth-loving species, the most powerful refugium in Western Europe. In Eastern Europe it represents (together with Tertiary refugium) a completely distinguished, unique plot with its biodiversity. It should be mentioned that in the initiative – "About 100 Hot Points of European Forests" of the World Wildlife Fund (WWF), the same as 100 plots of the unprotected forests, which should be protected by all means, one of the priorities was given to the unique forests of Adjara Colchis forests. Adjara flora is the museum of the rich genetic resources, with its endemic, relict and rare species, many from which were lost as a result of gaining forest resource, trading and collecting successive amount of plants. The successive amount of resources causes the reduction of biodiversity. The successive amount of resources causes the reduction of biodiversity. According to the list of species verified using the recent systematic 1837 wild plant species united in 159 families and 742 genus are found in the floristic district of Ajara. Consequently, the relict, endemic populations faced extinction. For instance, *Cyclamen adzharicum* is made of the species of Adjara and Adjara- Lazeti endemic flora with industrial scales, which is dangerous for endemic plants that grow in very small local areas. Nature requires to be helped *Cyclamen adzharicum* pobed is regarded as narrow local endemic (Memiadze, 2010) the same species are met in Turkish flora (Devis) with another taxonimic status. It's identification by means of molecular method also specified their taxonomic status. It is quite possible that Cyclamen adzharicum and C. coum represent the diversities of one species.

In addition , need to confirmed the taxonomic status of the species Cyclamen adzharicum pobed, which is local endemic plant of Adjara. Species does not have the exact taxonomic status

, it is referred to a variety of ways by different authors:Дмитриева (1990); *Cyclamen adzharicum pobed* considered as a synonym. *C.coumKusn,C.coum var.iericum Kusn*,but by Czerepanov(1995) -*Cyclamen adzharicum pobed* synonymous *C.coum Mill susp C.caucasicum*

*Cyclamen adzharicum pobed*is decorative and medicinal plant species. It is involved in the domestic and foreign trade network. The species is in the CITES list of Georgia, so it is one of the most problematic subject to study its reserves and culture. Cyclamen species are perennial plants with a tuberous rootstock, nodding flowers and corolla lobes that have a contorted bud whose petals reflex upon anthesis (Grey-Wilson, 1988; Takamura, 2006). Cyclamens form flowers and roots from a tuber and, as a general rule, leaves appear in autumn followed by flowers which then die in late spring, remaining dormant in summer. The tuber produces roots from the center of the bottom only.[4] It remains small, only reaching about 6.5 cm (2.6 in) across.

Leaves are round or kidney-shaped to long heart-shaped 10-20 cm long . The color is all-silver, all-green, or silver variegated with a variably sized green hastate.Flowers are squat, with almost round petals, unlike any other group of cyclamen species. They bloom from winter to spring. The petals are magenta, pink, or white, with a darker blotch at the base. Below the blotch is a small white or pink "eye". *C. adzharicum pobed*. self-seeds and grows. Grows on slopes, forest valleys, shrubs, hiding places and it is a toxic plant. The medicinal raw is the tubers containing steroid sapon cyclamine, alkaloids. Tuber juice is used to improve the breathing difficulty from the nose during the flu and cooling, as well as the long headache caused by the hormorrhea and the frontend. In order to get juice, the tubers are cut and diluted in tuba, the received juice is one dose in each nostril of the nose in the morning and evening.

We have studied distribution areas and dynamics of *C. adzharicum pobed*. populations.

Research methods :

The study area was the village of Khala,Ajara region.We collected plant samples from Natural habitat for afterward analysis. A major method of investigation is a traditional route expedition-excursion method, collecting plant specimen for herbarium and cameral processing. We identified plants according plant indexes of Adjara (Georgia). In order to determine rarity status , distribution and extinction of subpopulations were estimated on the basis of the following correlation between the number of 10x10 km UTM grid cells reflecting occupied habitat and extinction risk categories. For determining the frequency of the species participation we used Braun-blanquet method (Braun-Blanquet, 1965). The phenomenal observation was done with helping of the Serpriacov method. The plant systematic and nomenclature of species are indicated by Cherpanov (Czerepanov ,1995)

Fig.1 *Cyclamen adzharicum pobed- distributed in Khala Village.*

*Cyclamen adzharicum pobed*grows on the slopes of bushfires, shrubs, cliffs, wooden gardens, bamboo plantations in the lower part of the valley, on the roadside slopes from 10-700 sea level.We analyzed the environmental, exposure and location impacts on the growth and development dynamics of the population in Chaisubani area GPSN $41^0$42’26.38 E$41^0$46’53.6 H 44, in the village Alme GPSN $41^0$37.695’ E$042^0$17.838 H 728, In Mtirala National Park GPS N $41^0$40’40.75 E $41^0$52’8.57 H 308 , in Khala GPS N $41^0$42’24.13 E $41^0$47’44.69 H 100.

Cyclamen adzharicum pobed is distributed in Ajara region from seaside to mountains. As a result of observation of plant phonological phases, the height of the sea level is determined by the development of the genus. In particular, with the increase of the height, the duration of the phenomena of the species is delayed by 10 days. *Cyclamen adzharicum pobed* does not create a clear population, in Khala , there are the following species in *C.adzharicum pobed.* population : *Primula megaseifolia , Duchesnea indica (Andr.) Focke ,Vinca minor,Poa bulbosa L. ssp.vivipara (Koel.)Arcang. ,Artemisia vulgaris ,Symphatum ibericum Stev, S.grandiflorum auct,Microstegium vimineum ,Urtica dioica ,Carpinus caucasica Grossh. Ornitogalum woronowii Krasch. Marshantia polymopha L. Convolvulus arvensis L ,Lysimachia japonica Thunb. Mnium stellar ,Senessio loterii ,Phyllitis scolopendrium ,Ficcaria popovii A. khokhr. Cicerbita pontica ,Microstegium imberbe (Nees.) Tzvel. ,Pollinia imberbis nees. Comellina comunis L ,Stelaria media (L) Vill.* According to Braun-blanquet scale, the dominate species are *Poa bulbosa L. ssp.vivipara (Koel.)Arcang – 4, Microstegium vimineum -2, Ficcaria popovii A. khokhr. -2.* The following species are found in small quantities: *Urtica dioica _+, Mnium stellar +, Urtica dioica _+.*

Result and discussion

Cyclamen adzharicum pobed is endemic plant, which is distributed in the Ajara region (South colchis.) Its population are studied in Chaisubani area GPSN $41^0$42’26.38 E$41^0$46’53.6 H

44, in the village Alme GPSN 41^{0}37.695' E042^{0}17.838 H 728, In Mtirala National Park GPS N 41^{0}40'40.75 E 41^{0}52'8.57 H 308 , in Khala GPS N 41^{0}42'24.13 E 41^{0}47'44.69 H 100.From 100m to 728 m sea level. We have studied *C.adzharicum pobed* vegetation with climate change. According the climatography, *C. adzharicum pobed* has the different vegetation period during 2016-2018. In fact , in 2016 population starts its vegetation in January 12, while in 2018, the same population had started vegetation period earlier in December 26.(Fig. 1)

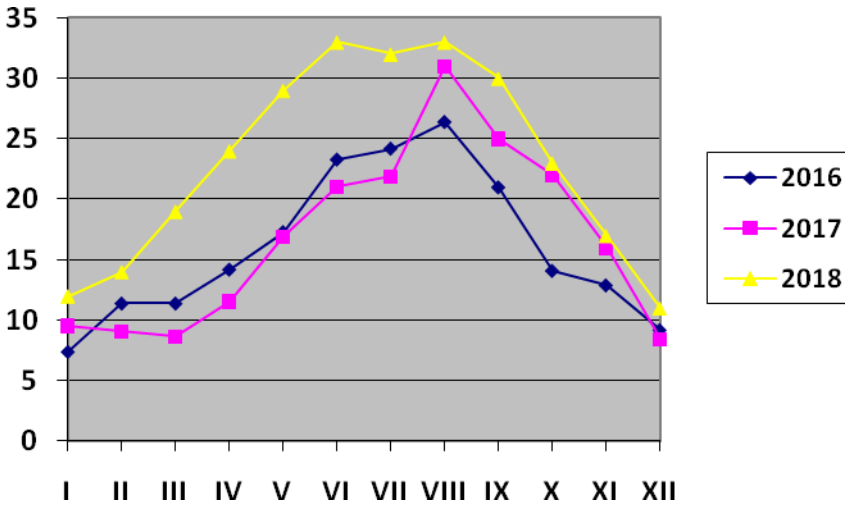

Fig. 2: Climate diagram of Ajara region by years

The climate and the precipitation plays a major role of the vegetation of *the species.Cyclamen adzharicum pobed* does not create a clear population, but in some areas the plant is dominate species and according Braun – blanquet scale it has "4 " scale. The medicinal raw is the tubers containing steroid sapon cyclamine, alkaloids. Tuber juice is used to improve the breathing difficulty from the nose during the flu and cooling, as well as the long headache caused by the hormorrhea and the frontend.

Conclusion

Cyclamen adzharicum pobed ,which is distributed in Ajara region,is endemic plant species.Its distribution area spreads from seaside to Mountains .The climate plays the major role to the vegation period.Up to mauntains the vegetation starts later than seaside.The medicinal raw is the tubers containing steroid sapon cyclamine, alkaloids. The species distribution is reduce by human infact.

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