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REAR *ASTRAGALUS* SPECIES THAT SPREAD IN THE NAKHCHIVAN AUTONOMOUS REPUBLIC TERRITORY

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Abstract:-The main object of the article is to determine and save the rear *Astragalus* species in the Nakhchivan Autonomous Republic (NAR) territory. According to the carried out investigations there are 69 *Astragalus* species in the territory. We have studied all these species and determined that 11 species out of them are threatened by extinction. We recommend to include them into the new edition of the NAR "Red Book" and the "Red Book" of the Azerbaijan Republic. They are the followings: *Astragalus achundovii, A. alpinus, A. aznabjirtius, A. cicer, A.chalilovii, A. choicus, A. ordubadensis, A. goktchaisus, A. schachbuzensis, A. karakucshensis, A. polygala.*

Keywords: astragalus, genus, species, ecological, biological, factor.

INTRODUCTION

Rapid development of the scientific-technical progress demands to strengthen the control upon the nature. Ecology, botany and some other nature sciences demand to take some complex measures and strengthen control upon them. So there must be taken measures on prognosticating and implementing long-term control upon natural components within the regional and global frame. Azerbaijan Republic has already integrated to the world investigations in the field of controlling over the environment. This process will be accelerated in future. All vegetation species have their own, special place within the ecosystem and they form the elements of the biological chain. The Astragalus species also have their own place within the biological chain.

The plants of Fabaceae Lindl. family are distinguished in the nature and human life and widely used as important wealth of fodder crop, food, herbal and technical plants. The plants of this family gain different life process include into different ecological groups and live in very different landscapes. It has great importance on formation of the biosenoz (2). It is clear that ecological anthropogenic factors influence greatly on the living peculiarities of the plants. All species exist only in the ecological environment that is available for them. The species that don't have available ecological environment their life condition is limited.

So, our goal is to determine the rear Astragalus genus species, to protect them and to carry out some complex duties.

MATERIAL AND METHOD

Astragalus species that spread in the NAR territory have been included into the investigation object. During the spring-autumn seasons there have been made several continuous excursions to the NAR regions and *Astragalus* genus species have been investigated. During the investigations there were made phenological observations and studied the natural condition of the region where the species spread. We also studied fitoceneses, their formation and association by the experimental methods.

The protection status of the rear species that spread in the territory has been determined according to the categories of "Red Data Book" of IUCN (3. 1001- 1013; 4; 5; 6).

EXPERIMENTAL BODY

In the recent years there have been carried out very serious investigations in the ways of protecting the rear species existing in the world flora-especially the species that spread in a narrow areal. So, our main goal is to study the useful ways of using the *Astragalus* species, to determine and protect the rear species. At present, development of applied ecology and botany

demands solution of some main problems. From this point of view to prognosticate and changing in biosphere are the great problems of the ecological monitoring. We have decided to carry out our investigation on this direction. According to the carried out investigations 69 species are included into the *Astragalus* genus. The areal of 16 species have been getting narrower and they are threatened by extinction. 6 species out of them have been included into the NAR Red Book. They are the followings: *Astragalus badamlenses, A. naxchitschevaicus, A. parodoxus, A. prilipkonus, A. regelii, A, szovitsii.* (2, 412-435). To organize continuous and global watch on the natural components within the regional scale has great importance. Evaluation and prognosticating of ecological, antropogen, zoogen.

We advise to include the following species into the new edition of the NAR Red Book and Azerbaijan Red Book in future. They are the followings:

1. Astragalus achundovii Grossh. ex Fed.- Achundov beangrain
Status: Near Thretened-NT
Spreading areas: Rarely met in the Pelengly Dere near the village of Buzgov, Babek region; in the lowland and midland zones of Arpachay and Garagush area, Sherur region.
Natural resources: As spread in small groups and in small areas the natural resource is little.
Biological features: The plant has strong roots like a tree but without a stem. The blossom crowns are longer than the leaves. The blossom cups are about 1 sm. long and very, very shorter than the tube. The stamens are white hairy and they are longer than blossom cups. The plant blooms in June and the seeds ripen in July-August.

2. A. alpinus L–Bean grains that grow in the highlands.
Status: Vulnerable- VU C2a (I); D2
Spreading areas: On the highland zones – around Gapijik and Gey-Gel--- 3065 m above sea level, in the alp zones and in the meadows.
Natural resources: As it has been spread in a small area and as the area is grazed by neat cattle and small cattle, the natural resource of the plant is little.
Biological features: Perennial plant with thin shoots, the stem either lies or stands. The leaves are 5-12 sm. long. The blossom crowns are either in the size of the leaves or longer than them. The petals are 1,5 - 2 mm long and are black hairy. The blossom cup is long cogged. The pistils are 10 mm. long. The stamens are 7-11 mm. long and they are two flatted.

3. A. aznabjurticus Grossh—Aznabyurt beangrain
Status: Vulnerable –VU B 2ab
Spreading areas: Around the villages of Chalkhangala and Buzgov, Babek region; around the Mollasherik spring-on the rocky, mortar and grassy hills near the village of Kechili, Shahbuz region.
Natural resource: At the result of the limiting influence of antropogen and ecological factors the number of the species is reducing.
Biological features: It is a perennial plant with thin brunches and without a stem. The leaves are white hairy. Leaves are 5-10 sm. long, placed in 9-12 pairs, elliptical. The blossom crowns either in the size of the leaves or shorter than them. The petals are 7 mm. long and are black hairy. The blossom cups are of the tube shape .The stamen are25 mm. and short white hairy. It blossoms in May – June and the seeds ripen in this period.

4.A. chalilovii Grossh. ex Fed-Chalilov beangrain
Status: Vulnerable- B2ab
Spreading areas: In mountain skirts, on mortar hills near the Garagush, Kengerli region and Buzgov, Babek region.
Natural resource: As spread in small areas and in small groups the natural resource is little.
Biological features: The plant has thick roots but without stem. Leaves are 9-13mm long and placed in 12 pairs, elliptical. The blossom cups are a bit shorter than the tube. The pistils are 22-25 mm. The stamens are oval and hairy.

5.A. cicer L – Pie like beangrain
Status: VU Blac
Spreading areas: Near the villages Gizil Gishlag, Bichenek. Kechili, Shahbuz region, in the lowlands, midlands, meadows, bushy areas, riversides, near the woods.
Natural resource: At the result of limiting influence of anthropogenic and ecological factors the number of the species is reducing.
Biological features: It is a perennial plant and height is 90 sm. The stem is short and hairy. The branches are directed up. Leaves are about 13 sm. The blossom crown is 1,5 – 2 times shorter than the leaves. The petals are line shaped and are either shorter or longer than the tube. The pistils are 16 mm. and oval. The stamens are 13 mm. thin, bowed, tube shaped and two flatted. Bloom in June-July and seeds ripen in August.

6.A.choicus Bunge – Choy beangrain
Status: VU Blac

Spreading areas: Near the village Khok, Kengerli region; around the villages Aylis, Aza, Dasta, Behrud, Ordubad region; in midland zones, on dry, rocky, gravelly hills.
Natural resource: The number of the species is reducing by the influence of zoogen and ecological factors.
Biological features: It is a perennial plant without stem and the roots are thick like a tree. Leaves are 3,5 sm. placed in 1-5 pairs, green or grey. Petals are 3-10mm. lancets shaped, covered with hairs or naked. The blossom cups are 12-14 mm; white or black hairy, shorter than the tube. The pistils are about 2sm. yellow, a bit shorter. The stamens are narrow-line shaped, 4-6 sm. two flatted. Bloom in April-May and seeds ripen in June.

7.A. ordubadensis Grossh – Ordubad beangrain
Status: Vulnerable-VU B2ab
Spreading areas: The south of the Belke mont, Ordubad region. Lowland and midland zones, on the rocky and mortar hills.
Natural resource: As spread in small areas and in small groups the natural resource is little.
Biological features: It is a perennial plant without stem, 20-30sm. The leaves are 10-15 sm. thick, white hairy. The blossom crown is in the same level of the leaves or higher than them. The petals are lancet shape-oval. The blossom cups are 1.5 mm. The seeds are thick hairy.

8.A. goktchaicus Grossh- Geyche beangrain
Status: Vulnerable – VU C 2a (I)
Spreading areas: Near the Gapijik mont, Ordubad region, near the village of Kechili, Aghabba, Jamalgala, Shahbuz region, in the alp zone and meadows.
Natural resource: As spread in small areas and grazed by the neat cattle and small cattle the natural resource of the plant is very little.
Biological features: It is a perennial plant. The stem is 10-45sm. The leaves are 8-10 sm. placed in 10-16 pairs, the lower parts are hairy. The blossom crowns are two times longer than the leaves, hairy. The petals are 2mm. and white hairy. The pistils are about 2 sm. light violet. The stamens are about 10 mm; oval. The plants bloom in June-July and the seeds ripen in July – August.

9.A. schahbuzensis Rzazade – Shahbuz beangrain
Status: Vulnerable – VU C2a (I); D2
Spreading areas: Near the villages of Shahbuz, Kechili, Ayrinj, Nursu, Shahbuz region.
In the lowland and the midland zones, on the dry, gravelly, clayey and rocky hills of the same territory.
Natural resource: As spread in small areas and grazed by the neat cattle and small cattle the natural resource is very little.
Biological features: It is perennial plant without stem. The leaves are lancet shape, 10-30 mm. and placed in 25-30 pairs. The petals are line shape- lancet shaped and equal to the tubes of the blossom cups. Stamens are 22-27 mm. yellow, white hairy, two flatted. Bloom in June and the seeds ripen in July.

10. A. karakuschensis Gontsch – Garagush beangrain.
Status: Vulnerable – VU C 2a (I); D2
Spreading areas: In mountain skirts, on mortar,clayey and rocky hills near the Garagush, Kengerli region and Buzgov, Babek region.
Natural resource: As spread in small areas and in small groups the natural resource is very little.
Biological features: It is perennial plant with short stem, about 5-15 sm. Leaves are placed in 8-10 pairs. Petals are oval, 5-8 mm. Pistils are 22 mm. pinky-red. Bloom in May and the seeds ripen in June.

11.A. polygala Pall. – Sutotuvari beangrain
Status: Vulnerable – VU C 2a (I); D2
Spreading areas: Near the Gapijik mont, Ordubad region, near the village of Kechili, Aghabba, Jamalgala, Shahbuz region, in the alp, sub-alp zones and on the sandy rocky hills.
Natural resource: As spread in small areas and grazed by the neat cattle and small cattle the natural resource is very little.
Biological features: It is a perennial plant with strong tree shape roots, 5–25 sm. The leaves are 5-10mm. hairy and placed in 10-17 pairs. The blossom crowns are equal to the leaves or longer than them. The blossom cups are 1 sm. 3-5 times shorter than the tube. Pistils are 2-2,5 sm. white or light blue. The stamens are 2,5 sm. length and 3,5 sm. width, line shaped.
So, the species which areal is getting narrower, biology is not studied widely, the species that are near threatened have to be studied widely and their protection has to be strengthened.

CONCLUSION

In the NAR territory the area of 16 species of Astragalus is getting narrower and these species are near threatened. 6 species out of them have been incuded into the RED BOOK of the NAR. They are the followings: Astragalus badamlenses, A. naxchitchevaicus, A. paradoxus, A. prilipkoanus, A. regelii, A. szovitsii. 11 species out of them have been determined to be

near threatened. We advise to include these species into the new edition of the RED BOOK of Azerbaijan and the new edition of the NAR RED BOOK in future. They are the followings: Astragalus achundovii, A. alpinus, A. aznabjurticus, A. cicer, A. chalilovii, A. choicus, A. ordubadensis, A. goktschaicus, A. schachbuzensis, A. karakuschensis, A. polygala.

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