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TAXONOMIC COMPOSITION OF THE *Tragopogon* L. GENUS IN NAKHCHIVAN AND PROSPECTS FOR USING SPECIES

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ТАКСОНОМИЧЕСКИЙ СОСТАВ РОДА *Tragopogon* L. В НАХИЧЕВАНИ И ПЕРСПЕКТИВЫ ИСПОЛЬЗОВАНИЯ ВИДОВ

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Abstract. The species included in the *Tragopogon* L. genus, common in the flora of Nakhchivan, have been studied. 12 species of the genus have been described. A systematic analysis has been performed, and an ecological characteristic of the species has been given. For all the described species, a practical analysis of the possibility of using them in medicine, agriculture, etc., has been presented. The applied value is diverse—these are medicinal plants with a large number of biologically active substances (alkaloids, glycosides, organic acids, vitamins, saponins, tannins, phytoncides, mineral elements, etc.), spicy-aromatic, essential oil, food, fodder, and weed, as well as promising species for introduction into culture in the region.

Аннотация. Изучены виды рода *Tragopogon* L. во флоре Нахичевани. Описано 12 видов рода. Выполнен систематический анализ и дана экологическая характеристика видов. Для всех описанных видов представлен анализ практического использования в медицине и сельском хозяйстве. Прикладное значение разнообразно — это лекарственные растения с большим количеством биологически активных веществ (алкалоидов, гликозидов, органических кислот, витаминов, сапонинов, дубильных веществ, фитонцидов, минеральных элементов и т. п.), пряно-ароматические, эфиромасличные, пищевые, кормовые, сорные, а также, перспективные виды для введения в культуру на территории региона.

Keywords: *Tragopogon*, taxonomic composition, food.

Ключевые слова: козлобородник, таксономический состав, корм.

Asters (*Asteraceae* Giseke) are considered one of the leading families of the flora of the Nakhchivan Autonomous Republic. As a result of recent studies, it was found that 357 species belonging to 92 genera of the family are found in the region. The genus *Tragopogon* L. is

considered one of the leading genera of the family, 12 species of the genus are distributed in the study area. In addition to the ornamental plant, the studied species are used in medicine, as feed, a source of food for pollinators and humans. Given the relevance of the topic, it seems appropriate to conduct research in this direction.

Material and methodology of the study

The studies covered all the territories of the Nakhchivan MR, starting from 2024. The object of the study was the territory adjacent to the region, and the material was the species of the genus *Tragopogon* L. A. Aserov "Plants of Azerbaijan" [2], M. Seidov, S. Ibadullaeva, H. Gasimov, Z. Salaeva "Flora and Vegetation of the Shahbuz State Nature Reserve" [19], when determining the species belonging to the genus *Tragopogon*. L. and clarifying their names according to the works of Flora of Azerbaijan [11].

Discussion and conclusions of the study

Tragopogon L. is one of the genera of economic importance in the flora of the Nakhchivan Autonomous Republic. As a result of personal research and available literary materials, 12 species of the genus were found in the region. The systematic composition and bioecological characteristics of the species belonging to this genus are reflected in the table below (Table).

Table
TAXONOMIC COMPOSITION OF SPECIES OF THE GENUS *Tragopogon*

Species name	Environmental groups	Area class	Flowering and fruiting stage
<i>Tragopogon acanthocarpus</i> Boiss	Xerophyte	Northern Iran	VI,VII-VIII,IX
<i>T. Krascheninnikova</i> S. Nikit	Xerophyte	Caucasus-Central Asia	IV,V-V,VI
<i>T. latifolius</i> Boiss	Mesophyte	Asia Minor	V,VI-VI,VII
<i>T. reticulatus</i> Boiss. & Huet.	Mesophyte	Caucasus	V,VI-VI,VII
<i>T. bupthalmoides</i> (DC.) Boiss	Xerophyte	Asia Minor	V-VIII
<i>T. coloratus</i> C.A. Mey.	Xerophyte	Asia Minor	V,VI-VI,VII
<i>T. sosnowskyi</i> Kuth.	Xerophyte	Atropatene	V-VIII
<i>T. marginatus</i> Boiss. & Buhse.	Xerophyte	Caucasus	V,VII-VI,VIII
<i>T. serotinus</i> Sosn.	Xerophyte	Iran	IV-VII
<i>T. graminifolius</i> DC.	Xerophyte	Mediterranean Sea	IV,V,VI-IX
<i>T. pusillus</i> Bieb.	Xerophyte	Atropatene	IV,V-VI
<i>T. nachitschevanicus</i> Kuth.	Xerophyte	Caucasus	VI-VII

Representatives of the genus are biennial or perennial herbs, the basket is large and multi-flowered. All flowers are lanceolate, bisexual, yellow or red. Planting is single-row, the flowerbed is bare. The seeds are uneven and scaly on the outside. Some of its representatives are used as wild vegetables. In Azerbaijan, there are 20 species of this genus, and in Nakhchivan - 12 species.

When analyzing the ecological groups of species included in the genus, it was found that *T. acanthocarpus*, *T. bupthalmoides*, *T. krascheninnikovii*, *T. coloratus*, *T. sosnowskyi*, *T. marginatus*, *T. serotinus*, *T. graminifolius*, *T. pusillus*, *T. Nachitschevanicus* species are xerophytic, *T. latifolius* and *T. reticulatus* species are mesophytic.

Based on available literature and our personal field research, it has been established that the species of the genus belong to different range classes, which allows us to determine the migration routes of the species into the range.

The analysis of the species of the genus *Tragopogon* L. distributed in the study area, was carried out according to 7 range classes according to zonal and regional principles. It is known that the species is widespread in such areas as Northern Iran, Iran, the Mediterranean Sea, the Caucasus-Central Asia, Asia Minor, the Caucasus and Atropatene. Below is information on the used species of the genus *Tragopogon*.

Tragopogon acanthocarpus is a perennial herb found on the subalpine and alpine slopes of the region. In addition to being used as an ornamental plant in gardens, it is also used to combat erosion and as a groundcover plant. It is also used as a medicinal plant, its leaves are used to treat fevers, inflammations and skin diseases.

The species *Tragopogon krascheninnikovii* is common on dry slopes of the middle mountain zone. It is used as an ornamental plant in gardens and parks. The plant is used as a medicine in the treatment of various diseases, such as colds, coughs, stomach aches.

The species *Tragopogon latifolius* is common in the meadows of the middle alpine and subalpine zones. It is used as an ornamental plant and groundcover plant in gardens. It is also used as a medicinal plant in the treatment of skin diseases and wounds.

The species *Tragopogon reticulatus* is widespread in alpine and subalpine meadows. The leaves of the plant are rich in vitamins C, B₂, B₃ and B₆. It also has strong antioxidant properties due to the content of phenols and flavonoids.

The species *Tragopogon bupthalmoides* is common in arid regions of the middle and subalpine zones. It is used as an ornamental plant in parks. It is used as a medicinal plant in the treatment of various diseases such as fever, headache, stomach ache. It is also used as a dye for dyeing fabrics.

The species *Tragopogon coloratus* is a naked biennial plant. It is common in rocky and stony areas of the middle mountain zone. It is used as an ornamental plant in gardens and parks. The plant is used as a medicinal plant in the treatment of various diseases, such as fever, colds, coughs, and abdominal pain.

The species *Tragopogon sosnowskyi* is common in the high mountain zone. Local people use the plant to increase the production of feed and honey.

The species *Tragopogon Marginatus* is common on dry slopes of the middle zone. In addition to being used as an ornamental plant, it is also used as a primary food source for bees and other pollinators. It is also used in traditional medicine to treat digestive problems, skin problems, and respiratory diseases.



Figure 1. *Tragopogon latifolius*



Figure 2. *Tragopogon sosnowskyi*



Figure 3. *Tragopogon marginatus*



Figure 4. *Tragopogon graminifolius*

The species *Tragopogon serotinus* is common on dry rocky slopes. In addition to being an ornamental plant, it is used in folk medicine to treat diseases.

The species *Tragopogon graminifolius* is found in meadows, thickets and mountains up to the mid-mountain zone. The powder obtained from the plant plays an important role in increasing feed intake and improving egg production in hens. At the same time, it is recognized as a species with positive characteristics as a medicinal plant. It plays a great role in stimulating the secretion of digestive enzymes, increasing the amount of dietary fiber and accelerating gastrointestinal transit.

The species *Tragopogon pusillus* is found from dry hills, deserts to alpine zones. It is used as an ornamental plant in parks. It is also used as a medicinal plant in the treatment of various diseases such as fever, cough, cold.

Tragopogon nachtchesvanicus is a biennial herb that is used as an ornamental plant because of its attractive flowers and leaves. In traditional medicine, it is also used in the treatment of many diseases such as fever, headache and skin diseases.

The fact that the Nakhchivan MR, which is the area of research, has a sharply continental climate, due to the sharp change in the amplitude of the temperature difference between seasons, caused the development of weakly monotypic, i.e. xerophytic type plants, which affected the formation of vegetation [1, 8, 12, 17, 20- 25].

In general, in these territories, the species belonging to the genus are characterized by the formation of strongly closed groups with plants of other families. The territory of the region is a natural grouping of natural herbaceous plants with various shrubs and trees, occupying large areas in the region and forming a belt. Regardless of the location, herbaceous plants in all territories are constantly in contact with species of other families and form different groups. Based on this, numerous eco-geographical groups of shrubs and grasses are formed in typical forest-surrounding thickets, making up the forest-shrub complex. Thus, in the formation of phytocenoses, the dominant and cognitive species are plants belonging to the families *Fabaceae*, *Malvaceae*, *Rosaceae* and other families. [3-7, 9, 10, 13-16, 18].

Thus, it does not fully reflect the directions of use of species belonging to the above-mentioned genus *Tragopogon* L. In our further studies, we consider it appropriate to comprehensively study all the features of the studied breed.

Conclusions

1. The conducted research showed that there are 12 species of *Tragopogon* L. in the flora of the Nakhchivan Autonomous Republic. It is known that the species belonging to the genus are not

only ornamental plants, but are also used in medicine, as food and as a source of food for pollinators.

2. When analyzing the ecological groups of species included in the genus, it was found that 2 species of the genus are mesophytic and 10 species are xerophytic. According to the analysis of the classes of the geographic range, the genus is monotypic: 3 species from Asia Minor, 3 species from the Caucasus, 2 species from Atropatene, 1 species from the Mediterranean Sea, 1 species from Northern Iran, 1 species from Iran and 1 species from the Caucasus-Central Asia.

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