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Absheron Khagani Garden Study of Decorative Plants

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ABSTRACT: The article describes the results of research on the study of the taxonomic composition of ornamental trees, shrubs and grasses consisting of 29 chapters, 41 genera, 46 species in the Khagani Garden of Absheron, forms of composition, rules of grouping plants in compositions, use of small architectural forms. It was determined that these plants are well adapted to the conditions of Absheron, are promising and can be widely used in the design of parks, gardens, alleys, in the creation of various compositions.

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INTRODUCTION

A number of comfortable and beautiful parks have been built in Baku, the capital of Azerbaijan, and in the suburbs. These parks play an important role in protecting biodiversity, as well as entertaining and productive leisure activities. Khagani Garden or Molokan Garden is one of the oldest parks in Baku. The area is 0.8 hectares. The date of construction dates back to the 1870s. Khagani Garden, a favorite recreation area of Baku residents since ancient times, is distinguished by many features. The settlement of Molokans in this area and the foundation of Molokan settlement led to the name of Molokan. Although the settlement was later relocated, the name of the area was engraved in the memory for many years. After the declaration of independence, the garden was named in honor of the medieval poet Khagani Shirvani.

Ornamental plants are a source of aesthetic impact for humans. This type of greenery is especially important in the difficult psychological conditions of cities, in the protection from modern environmental pollutants [2].

The study of the taxonomic composition of the vegetation of parks and gardens of Absheron, the design of landscape compositions is of great importance in the development of botanical science. From this point of view, research work was carried out by the "Landscape Architecture" laboratory of the Institute of Dendrology.

MATERIAL AND METHODS

The objects of research are various types and varieties of ornamental trees, shrubs and herbaceous plants.

During the research work, various methods were used. The taxonomic composition of ornamental trees, shrubs and herbaceous plants was studied by the method of Askerov A.M. [1], the morphological features of vegetative organs by the methods of I.T. Vasilchenko [5] and I.Q. Serebryakov [12], the phenological phases of plant development by the method of I.N. Beideman [3], the rules for grouping plants in compositions and using them in landscape architecture according to the method of G.A. Kizima [8], A.V. Yeliseyeva [7], Sh.A. Gulmammadova [6] and T.S. Mammadov [10].

RESULTS AND DISCUSSION

In the first decade of July 2021, herbariums of ornamental trees, shrubs and grasses of 29 seasons, 41 genera and 46 species were collected and taxonomic composition, origin, tree, shrub and grass plants were collected. quantity, evergreen and deciduous species were determined, a grouping of plants according to their decorative features in the compositions, forms of making compositions, rules of using small architectural forms were studied, photos were taken.

Photographs of herbariums of some plants with taxonomic composition are shown below:

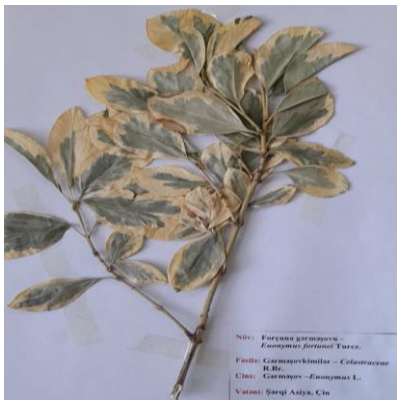

Fig.1. *Euonymus fortunei* L.

Fig.2. *Cupressus leylandii* L.

Fig.3. *Phoenix canariensis* Ch.

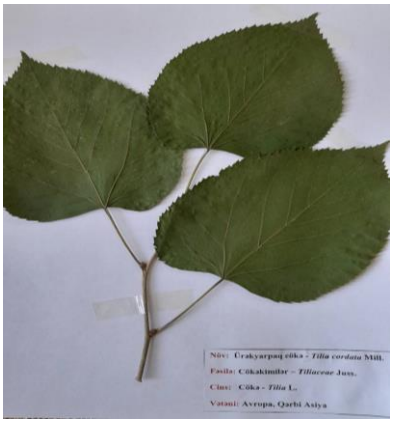

Fig.4. *Tilia cordata* Mill.

Fig.5. *Ligustrum shinense* L.

Fig.6. *Gleditsia triacanthos* L.

Greenery is very important in human life and healthy growth. In nature, greenery plays an exceptional role in the formation and regulation of the climate. The normal balance of heat and humidity is also very important for the health and vitality of the body. Greenery is an invaluable asset in regulating and maintaining this balance [4].

The taxonomic composition and origin of some ornamental plants studied in Khagani Garden are shown in table.

Table. The taxonomic composition and origin of some ornamental plants studied in Khagani Garden

№	Family	Genus	Specie	Homeland
1	*Pinaceae* Lindl.	*Pinus* L.	*P.eldarica* Medw.	Iran, Afghanistan
2	*Cupressaceae* F.W.Neger	*Cupressus* L.	*C.sempervirens* L.	Asia Minor
3	*Platanaceae* Dumort.	*Platanus* L.	*P.orientalis* L.	North America
4	*Tiliaceae* Juss.	*Tilia* L.	*T.cordata* Mill.	Europe, West Asia
5	*Rosaceae* Juss.	*Pyracantha* Roem.	*P.angustifolia* Franch.	South China
6	*Oleaceae* Lindl.	*Ligustrum* L.	*L.shinense* Lour.	China, Japan
7	*Asphodelaceae* Juss.	*Phormium* J.R.Forst.	*P.tenax* J.R.Forst.	New Zealand
8	*Caprifoliaceae* Vent.	*Viburnum* L.	*V.tinus* L.	Mediterranean countries
9	*Hipocastanaceae* DC.	*Aesculus* L.	*Hipocastanum* L.	Balkan Peninsula
10	*Buxaceae* Dumort.	*Buxus* L.	*B.sempervirens* L.	Western Algeria
11	*Celastraceae* R.Br.	*Euonymus* L.	*E.japonica* Thunb.	Japan, Caucasus
12	*Lamiaceae* Juss.	*Rosmarinus* L.	*R.officinalis* L.	Mediterranean countries
13	*Elaeagnaceae* Lindl.	*Elaeagnus* L.	*E.pungens* Thunb.	Japan
14	*Fabaceae* Lindl.	*Acacia* Willd.	*A.dealbata* Link.	Australia
15	*Berberidaceae* Nutt.	*Nandina* Thunb.	*N.domestica* L.	China, Japan

The basis of the architectural and landscape composition of the garden is a group of sculptures "Three beauties". This work of art is located in the center of the pool and is always distinguished by its originality. It is believed that the composition "Three beauties" made of natural stones with pedestals is the embodiment of 3 elements - the sun, air and water. According to sanitary and hygienic norms, the area of greenery in large industrial cities, including Baku, should be 45-50% of the total living space or 26-30 m2 per capita. Currently, there is a need to increase the range of species used in the landscaping of Baku and Absheron.

In the territory of Khagani Garden, a grouping of decorative trees, shrubs and grasses in compositions according to their decorative features, forms of composition were studied.

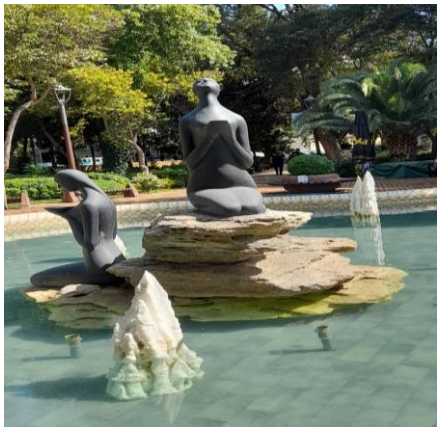

Fig.7."Three beautiful" group of sculptures

The arrangement of different forms in a field in a harmonious unity is called composition (lat. Composition - "connection", "combination"). The garden as a whole composition, in turn, consists of secondary compositions combined with a common idea and purpose [9].

The following are some of the compositions studied in the Khagani Garden.

Geometrically shaped compositions in regular style:

Fig.8. Circle shape

Fig.9. Oval shape

Fig.10. Rhombus shape

Original shaped compositions in landscape or scenic style:

Fig.11. Original form

Fig.12. Decorative form

Fig.13. Scenic form

The garden is planted in such a way that there is enough shade near the benches. Shrubs and flowers were planted around the trees. The garden was last completely reconstructed in 2009, the bushes and trees of the ligustrum, Eldar pine, small cypress trees, palm trees, yucca, azaleas, Washington palms, magnolia, pittosporum, and boxwood were planted and children's attractions were built. Seasonal flowers include tortoiseshell, violet, cyclamen, etc. planted.

The flowers that border the lawn make the transition of groups of trees and shrubs to the lawn or meadow area beautiful. Here, the flowers can be a variety of flowering, monochrome or entirely decorative deciduous plants and small shrubs [11].

As for the grass in the garden, half of it is covered with Dutch and the other half with Canadian lawn. Among the fruit-bearing trees are Japanese mashed potatoes and red immortelle. The oldest plants in the garden are 4 thorny acacia. They are about 60-70 years old. Thanks to the tall, deciduous trees, the garden is cool even in summer. Small architectural forms - light lanterns, flower pots, benches, children's attractions, statues, swimming pool, feed box for pigeons make the garden more comfortable and beautiful for vacationers.

The rules of using small architectural forms in the territory of Khagani Garden were studied. Some of the small architectural forms studied are shown below:

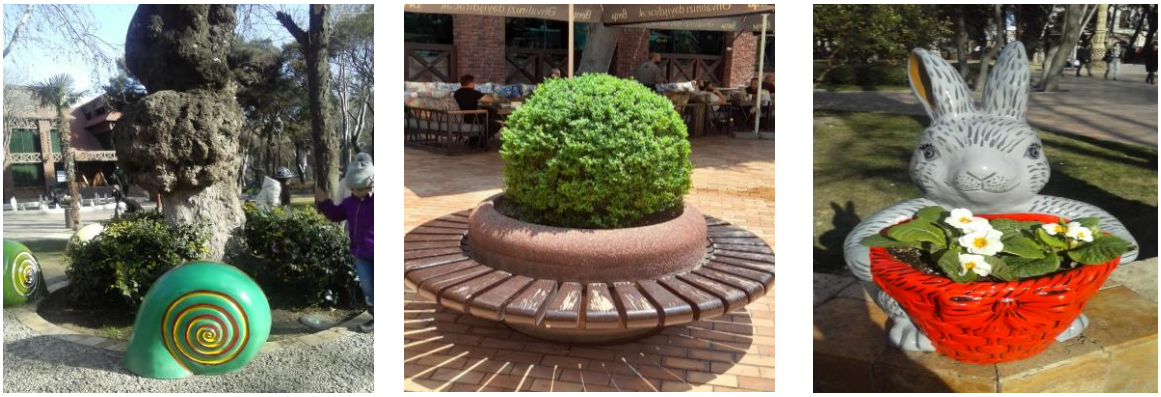

Fig.14. Small architectural forms

CONCLUSION

As a result of the research work in the laboratory "Landscape architecture" of the Institute of Dendrology, Ministry of Science and Education of the Republic of Azerbaijan, it was determined that the taxonomic composition of the Khagani Garden, 29 chapters, 41 genera, 46 species of ornamental trees, shrubs and grasses studied in the compositions are well adapted to the conditions of Absheron, promising and used in landscaping, various compositions it is expedient.

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