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## **Expositions Plants of the Absheron Philharmonic Garden**

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**Abstract:** The article describes the results of research work on the taxonomic structure of ornamental trees, shrubs and herbaceous plants from 34 families, of 45 genera and 55 species. The form for creating expositions, rule they grouping plans in expositions, the use of small architectural forms of the Absheron Philharmonic Garden. It was revealed that these plants adapt well under Absheron conditions are promising and it is recommended at registration of parks, gardens and squares, creation of various expositions. As a result of research work at the Institute of Dendrology of the National Academy of Sciences of Azerbaijan, it was revealed that the local and introduced from local and foreign flora ornamental trees, shrubs and herbaceous plants from 34 families, 45 genera and 55 species studied in the Philharmonic Garden are well adapted to the conditions of Absheron, are promising and are recommended for designing parks, gardens, squares, creating various compositions in Baku.

**Keywords:** Ornamental Plants, Park, Horticulture, Landscaping, Exposition

### **Introduction**

The study of all multilateral branches of garden and park construction in Azerbaijan is of great importance in the modern era. The issues of protecting our cultural heritage are very relevant. The beauty of Baku is given by its beautiful gardens and parks. Over the past 10 years, 45 new culture and recreation parks have been created in Baku, and 84 have been rebuilt. Modern cities of Azerbaijan are hard to imagine without gardens and parks, green streets and yards. According to sanitary and hygienic standards in large industrial cities, including Baku, the area of green spaces should be 45-50% of the total construction living area or 26-30 m<sup>2</sup> per person (Agamirov, 1976).

The most beautiful and oldest park in Baku - Philharmonic Garden (Azerbaijani Filarmoniya bagi; former names Governor's Garden, Mikhailovsky Garden, Revolution Garden, Pioneer Garden, Vahid Garden) is located next to the Baku Fortress (Icheri - Sheher). The Philharmonic Garden with an area of 4.6 hectares was founded in 1830 of the 19th century on the initiative of the commandant of the Baku fortress, Colonel Roman von der Hoven, on the basis of private plantations and on the site of private gardens and orchards between the fortress walls. Soil and plants for the garden had to be imported from other places. In 1859, the outer fortress wall was dismantled and the territory of the garden was expanded to Nikolaevskaya and Sadovaya streets. By 1865, the garden received features that corresponded to the public purpose of the territory as a place of rest for the townspeople, due to the planting of ornamental plants, the arrangement of a dance floor and other park facilities. There were about 12,000 trees in the garden. On May 25, 1936, by the decision of the Council of People's Commissars of the Azerbaijan SSR, the Azerbaijan State Philharmonic Society was organized in the building of the Public Assembly.

The Philharmonic Garden is the first green area that appeared on the map of Baku in the mid-30s of the 20th century. This garden, which occupies a relatively small area, has gone through an interesting evolutionary path. At first, the layout of the garden evolved spontaneously. New trees and shrubs were planted, between which an alley ran. As the garden expanded, the assortment of its plants was replenished. As a result of the expansion of

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the garden at the beginning of the 20th century, its lower and upper parts completely merged, creating a single landscape composition. Objects of landscape architecture organically included in this composition: pavilions, gazebos, pools, fountains, which emphasized certain natural areas (Gasanova, 2006).

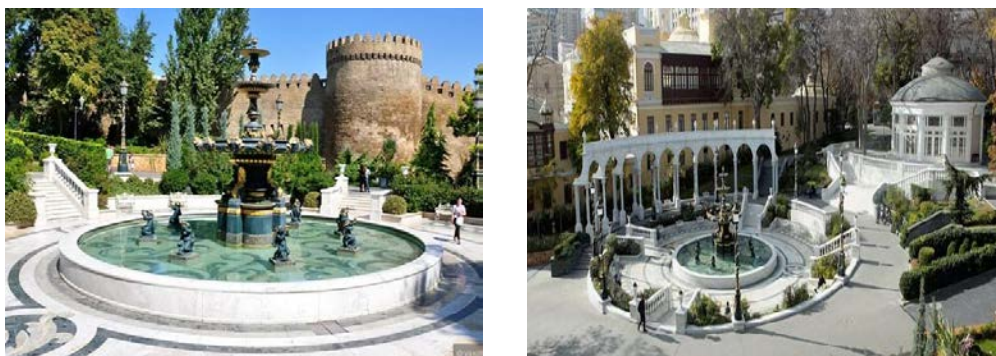


Figure 1. General view of the Philharmonic Garden

At present, in the landscape architecture of Baku, the Philharmonic Garden occupies a special place for recreation and walks of the population. Initially, the garden was called the Governor's, and then the Mikhailovsky Garden (in honor of the brother of the Russian Emperor Nicholas II - Mikhail). Under Soviet rule, the name of the park was first changed to "Garden of the Revolution", then to "Pioneer Garden". The park was renovated in the 1970s. In 1990, a bust of the poet Aliaga Vakhid was erected in the garden and the garden became known as the "Vakhid Garden". In 2009, the bust of Vakhid was moved to Icheri Sheher, and after the last renovation, the garden became known as the "Garden of the Philharmonic". Starting from 2007, by order of President Ilham Aliyev, repair work was carried out in the park; a fountain designed by the French company Inter Art was built. In the early days, mulberry, elm, pine, acacia and many other plants were planted here. Later, along with local trees, trees from other countries were also brought to the Philharmonic Garden. In the 60s and 70s of the 19th century, the garden expanded significantly, and a few decades later, ornamental trees and shrubs were planted here, a dance floor, a swimming pool, and playgrounds were built. During the reconstruction, rare species of trees were planted - oak, cedar and ash, a new irrigation system, a platform with a variety of ornamental plants, beautiful landscape compositions appeared. It is alleged that during the repair and restoration work in the Philharmonic Garden, an old underground tunnel was also found.

Green spaces, along with improving the ecology of the city, serve as necessary aesthetic elements of the urban environment. The rapid pace of urbanization, the rapid increase in the population, industrial facilities, means of transport, various means of communication require the use of the most advanced and advanced landscaping methods, the effectiveness of which depends on the range of tree and shrub species, lawn grasses, flower annuals and perennials (Margaylik, 1979).

In order to study the taxonomic composition of ornamental trees, shrubs and herbaceous plants in the Apsheron Philharmonic Garden, the form of creating expositions, the rules for grouping ornamental plants in expositions, the use of small architectural forms, research work was carried out in the laboratory "Landscape Architecture" of the Institute of Dendrology of the National Academy of Sciences of Azerbaijan.

## **Method**

The objects of study 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, 2011), the morphological features of vegetative organs by the methods of (Vasilchenko, 1979) and (Serebryakov, 1952), the phenological phases of plant development by the method of (Beideman, 1979), the rules for grouping plants in expositions and using them in landscape architecture according to the method of (Kizima, 2015), (Yeliseyeva, 2016), (Mammadov, 2010).

## **Results and Discussion**

During the research work in the second decade of May 2020, observations were made on the territory of the Philharmonic Garden, herbaria were collected and the taxonomic composition of ornamental trees, shrubs and



herbaceous plants from 34 families, 45 genera and 55 species was determined, forms of creating expositions, grouping rules were studied plants in expositions, the use of small architectural forms. The expositions are created in a regular style - geometric shapes (rectangle, square, circle, rhombus, etc.) and in a landscape or landscape style - original shapes (flower garden, labyrinth, buta, etc.). Small architectural forms enhance the artistic and architectural image of the park ensemble. Evergreen trees and shrubs are mainly planted in the center of the exposition, and flowering herbaceous plants are planted along the edges. Around the recreation areas are flower beds and palm trees, the stone terraces of the garden are covered with climbing plants. A decorative fountain in the center of a large pool with beautiful sculptures improves the microclimate of the garden area. In front of the fortress walls are located mainly coniferous trees and shrubs.



Figure 2. Coniferous trees and shrubs

The beginnings of landscape gardening art date back to the 10th-13th centuries BC. At first, the gardens were purely utilitarian in nature: they consisted of a vegetable garden, an orchard and a vineyard. The layout of the gardens was carried out mainly in a regular style. Inside, the gardens were fenced along the perimeter with hedges (Alekseyev, 2019).

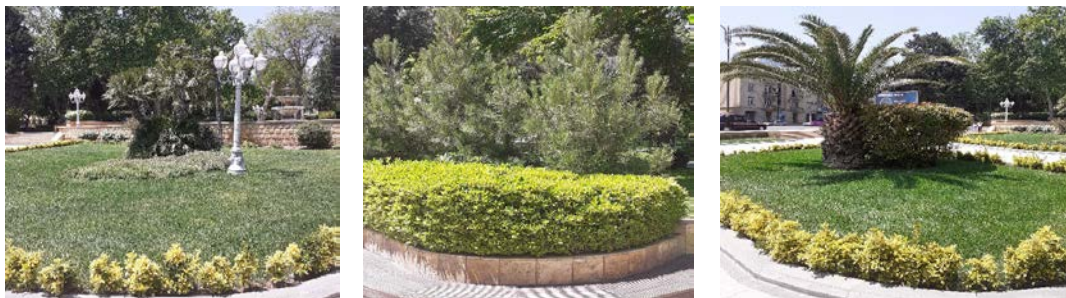


Figure 3. Geometric shapes of expositions in a regular style

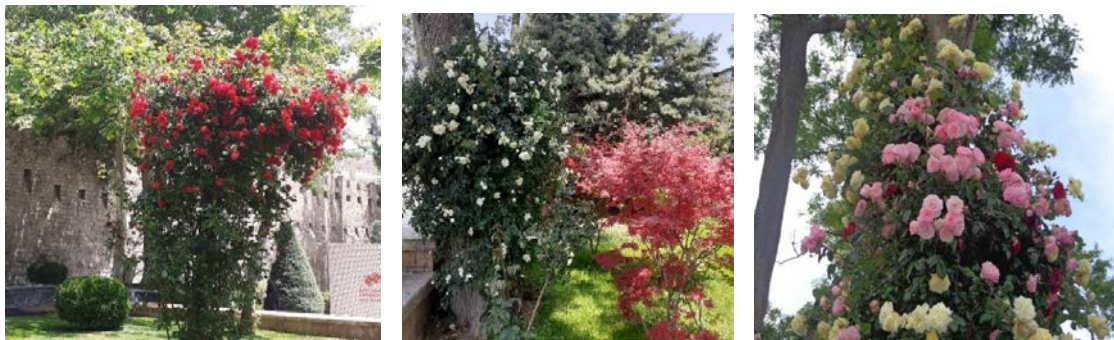


Figure 4. Rose shrubs

Composition (from Latin composition - “connection”) is understood as the arrangement of various forms in space in combinations that create a harmonious unity. The garden, being an integral composition, in turn consists of secondary compositions, united by a common design and purpose (Vasilyeva, 2018). On the territory of the garden there are rose bushes, mainly brought from Turkey and Italy, which were planted near tree trunks and then attached to them. Scourges of roses wrap around trees, rising to a height of 7-8 meters, which is why from afar they resemble a loach. Such roses can only be found in the Philharmonic Garden.

Today, the formation of the crown of trees of the most complex and exotic forms is very popular - in the form of animals, mushrooms, spirals, etc. Such "living" figures are called topiary (Yeliseyeva, 2016). In the Philharmonic Garden, chrysanthemums planted next to trees bloom in October and do not wither for 2-3 months. The lilies, gardenias and palms blooming in the Philharmonic Garden require special care during the winter months - they are covered or wrapped to protect from the cold. The ailanthus and the mulberry tree, which have been growing here since ancient times, are among the most unpretentious plants in the garden. On the outskirts of the garden, near the road, camellias are planted. They bloom in March and April. The most demanding plant of the Philharmonic Garden is bonsai. If properly cared for, it can live for over 100 years. Khan plane tree is one of the oldest trees in the garden. In addition, there are plants such as holly, fir, elm, holm oak, cedar, magnolia, yucca, oleander, cycad, willow and others.

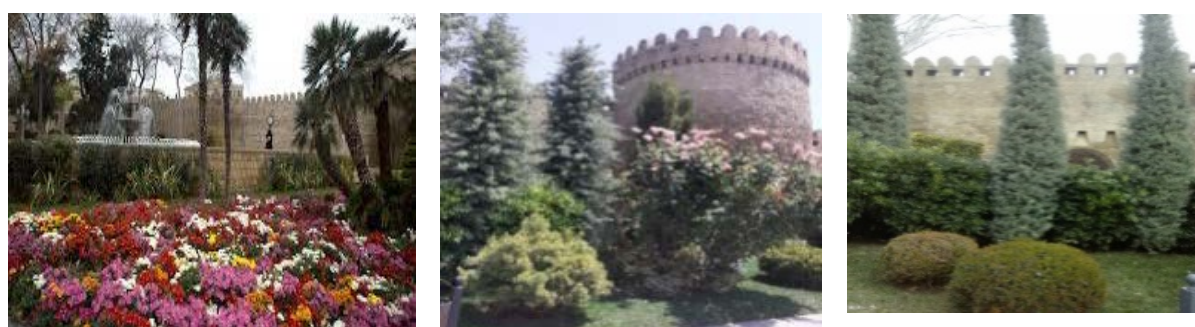


Figure 5. Original forms of expositions in free style

Flower beds bordering lawns help to beautifully arrange the transition of tree and shrub groups to the plane of the lawn or clearing. At the same time, flower beds can include a variety of flowering plants, be monochrome, or generally consist entirely of ornamental foliage plants and small shrubs (Konstantinova, 2018). If you don't have the strength to wait for the results of your work and you want to admire the flower garden right away in the year of planting, you need flyers. These are plants that bloom in the year of sowing. They got their name because they reach the peak of decorativeness in June-September, i.e. summer (Bochkova, 2017).

Table 1. The taxonomic structure and origin some ornamental plants in the Philharmonic Garden

№	Family	Genus	Specie	Homeland
1	Pinaceae Lindl.	Pinus L.	P. eldarica Medw.	Europe, Asia
2	-----	Abies Mill.	A. nordmanniana Spach.	Caucasus, Turkey
3	-----	Cedrus Mill.	C. deodara Laws.	Algiers
4	Pinaceae Lindl.	Picea Dietz.	P. pungens Engelm.	North America
5	Cupressaceae F.W.Neger	Juniperus L.	J. horizontalis Moench.	North America
6	-----	Thuja L.	T.orientalis L.	China, Korea
7	-----	Cupressus L.	C.arizonica Greene	California
8	Rosaceae Juss.	Rosa L.	Golden climber L.	Iran
9	Rosaceae Juss.	Pyracantha Roem.	P.angustifolia Franch.	South China
10	-----	Cydonia Mill.	C.oblonga Mill.	America
11	-----	Prunus L.	P. serrulata Lindl	Japan
12	-----	Photinia Lindl.	P. fraseri Lindl.	New Zealand
13	Oleaceae Lindl.	Olea L.	O.europae L.	Asia, Australia
14	Platanaceae Dumort.	Platanus L.	P. orientalis L.	North America
15	Fagaceae A.Br.	Quercus L.	Q. ilex L.	South Europe
16	Magnoliaceae J.St.Hil.	Magnolia L.	M. grandiflora L.	East Asia
17	Violaceae Batsch.	Viola L.	V. tricolor L.	Europe, Asia
18	Aceraceae Lindl.	Acer L.	A. palmatum Thunb.	North America
19	Punicaceae Horan	Punica L.	P.granatum L.	Asia



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20	Elaeagnaceae Lindl.	Elaeagnus L.	E. pungens Thunb.	Japan
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With regular planning, straight paths are laid, plantings are made in rows, which, of course, greatly facilitates the care of plants. Trees are placed along the boundaries of the site, retreating, as expected, from the neighboring one by three to four meters (Kizima, 2015). The taxonomic composition and origin of some ornamental plants in the Philharmonic Garden are shown in Table 1.

Walking through the Philharmonic Garden with wonderful music, you get great pleasure in a beautiful setting with unusual plants. In the morning, when there are still very few visitors in the garden, parrots frolic in the fountain and drink water from it. Classical music constantly sounds here and it seems that the plants blooming under its sounds become more tender and fragrant. On the territory of the Philharmonic Garden, when creating compositions, small architectural forms are very skillfully used. These forms include fountains, lanterns, benches, flower pots, sculptures, stairs, pergolas, arches, gazebos. Small architectural forms give even greater beauty to the territory of the garden; make the rest of the population coming here convenient and rational. Particularly interesting in the garden is the white colonnade with a fountain in the center. This magnificent, openwork, almost weightless composition is complemented by white ladders, going down which you involuntarily transport yourself to past centuries, and the sound of music seems to invite you to a ball.



Figure 6. Little architecture forms

## Conclusion

As a result of research work at the Institute of Dendrology of the National Academy of Sciences of Azerbaijan, it was revealed that the local and introduced from local and foreign flora ornamental trees, shrubs and herbaceous plants from 34 families, 45 genera and 55 species studied in the Philharmonic Garden are well adapted to the conditions of Absheron, are promising and are recommended for designing parks, gardens, squares, creating various compositions in Baku.

## Scientific Ethics Declaration

The author declares that the scientific ethical and legal responsibility of this article published in EPHELS journal belongs to the author.

## Acknowledgements or Notes

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