

REMARKABLE ANCIENT PLANE TREES IN THE CRIMEA

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The article includes a brief information from history of a plane trees' culture in the Crimea. The results of a study of the most remarkable ancient plane trees on the peninsula had been presented.

Keywords: plane tree, ancient trees, height, trunk circumference, vital condition.

Ancient trees including planes have considerable scientific and general-cognitive interest.

The first work, devoted to the identification and description of the ancient and monumental plane trees in the peninsula, were published in the 50's and 60's of the twentieth century [4, 7]. S.L. Schneider and his colleagues [14] were able to gather the most complete information about the noble plane trees in the Crimea. However, in spite of the available publications and comprehensive study of age-old plane trees in the Crimea, we have to acknowledge that they are not studied enough.

The purpose of the study is to identify and explore the oldest exemplars of the plane trees growing in the Crimean peninsula and to analyze the accuracy of the historical facts that are linked to some of them.

Objects and methods of study. We conducted the studies in 2010-2013. The objects of the study were age-old plane trees growing in Nikitsky Botanical Gardens, Simferopol and Simferopol district, Sevastopol zone, the cities of Yalta and Alushta, as well as a number of southern coast towns and resorts. The age of plane trees is determined either on the basis of the certain information about planting trees under the study, or indirectly – by comparing the data from the history of the foundation of a landscape object with the morphometric characteristics of plants. Plant height was determined by measuring with the caliper, the circumference of the tree trunk – at the height of 1.3 and 0.05 m – with a tape measure. The evaluation of the vital condition

of the plants was carried out on a 5-point scale after G.V. Kulikova [6] that we have slightly modified:

5 points (excellent) – the plant is characterized by typical habitual characteristics of its species with neither dry dead branches nor ones damaged by pests and diseases;

4 points (good) – the plant is characterized by typical habitual characteristics of its species with a number of withering non-skeletal branches, slightly or moderately damaged by pests and diseases;

3 points (satisfactory) – in a limited way the plant is characterized by typical habitual characteristics of its species with a number of withering skeletal branches, moderately or highly damaged by pests and diseases;

2 points (poor) – the plant does not have typical habitual characteristics of its species, severely damaged by pests and diseases, drying of the crown reaches up to 50%, all life processes in the tree are oppressed;

1 point (very poor) – the plant without the typical species habitus, shrinking of the crown is more than 50%, the tree is on the verge of the death.

The results of the research. The genus of the plane tree (*Platanus* L.) consists of 8-10 species naturally growing in Europe, Asia and North America. In the Crimea there are three species in the culture – Oriental plane (*Platanus orientalis* L.) birthplace of which is considered to be South-Eastern Europe and South-West Asia, Occidental plane (*P. occidentalis* L.) of North American origin and London plane (*P. × acerifolia* (Aiton) Willd.) which is a hybrid of two mentioned above species.

There are different opinions about the time of the first plane trees in the peninsula. Possibility of their primary introduction in ancient times cannot be particularly excluded, as the ancient Greeks and Romans, who left an imprint in the history of the Crimea, cultivated plane trees widely in their homeland.

The possibility of plane tree culture in the period of the Crimean Khanate (the middle of XV century – 1783) has the right to exist. We can find the fragments of information to support this in the notes of the famous Turkish traveler Evliya Çelebi who visited the Crimea in 1666-67. Thus, describing the trees which were founded in

the peninsula, he said: «In addition to poplars in Saray there are no high trees. A lot of junipers, cypresses, pines, spruces, beeches, chinaras grow in high mountains» [12, p. 115].

Another mention of the plane trees, confirming the above assumption is found in P.I. Sumarokov's work who described his temporary accommodation in Aqmescit (now the territory of Simferopol) where he stopped in 1801-1802: «In front of the windows of my living room through the open gallery there are chinaras and chestnut trees veiling the light by their density...» [9, p. 112].

However, the most significant period of the first appearance of the plane trees in the Crimea should be regarded as the end of the XVIII century. At that time, at the initiative of G. Potemkin who was actively engaged in the preparation of the famous journey of Catherine II in the Crimea, numerous abroad exotics were imported to the peninsula. In the report of the purchaser Klefrov (1786), among a number of items of plants bought in Turkey on behalf of His Serene Highness Prince, there were mentioned Oriental plane trees [5].

Later new species, varieties and garden forms of plane trees were repeatedly imported from Europe and America to the peninsula.

The largest collection of plane trees in the Crimea was gathered in 1814-1928 in Nikitsky Botanical Gardens [13].

Today, thousands of plane trees serves as a decoration of numerous garden-and-park complexes, urban and rural areas around the Crimea. In this case, some of the trees of this genus have reached a very old age and an impressive size which allows us to consider them as the objects of cultural heritage.

The overview of remarkable Crimean plane trees is reasonable to begin with Nikitsky Botanical Gardens because it was this garden that played a key role in the wide spread of these trees in the peninsula.

Platanus trees in the Gardens appeared in the early years of its foundation during the directorship of Christian Ch. Steven [8]. Five trees of that time have survived to this day [11]. The oldest and largest one is the Oriental plane growing on the plot of number 57. According the results of our measurements in 2010, the

circumference of its trunk at the chest level is 585 cm, height – about 30 m. The described exemplar was planted in a permanent place in 1817.

The 25 m high Oriental plane growing in the Lower Park of Arboretum at the elegantly equipped catchment source may be even more imposing though less old. According to our measurements in 2010, its trunk circumference at the breast height is 685 cm and at the base – 10.2 m. According to the oral information of Vice Director of Nikitsky Botanical Gardens G.S. Zakharenko, only for the recent 40 years the diameter of the plane trunk has increased on about 70 cm, and the circumference, respectively, on more than 2 m. Such an intensive growth of the tree became possible, obviously, due to the proximity of the underground source on which water the plane lives.

It should be mentioned that in its homeland, the Oriental plane tree usually settles just in the immediate vicinity of the water – whether it is an underground spring, stream or a river. It is in these circumstances that it can fully realize its inherent genetic potential.

The seeds of plane trees, which can stay on the water surface for a long time successfully covering many kilometers of travel because of their structure and exceptionally light weight, have contributed to the active dissemination of plane trees along the banks of water objects.

Another great plane tree with unusual morphological characteristics of its trunk grows near the cascade pools connecting the Upper and Lower Parks of Nikitsky Botanical Gardens. The tree height is about 25 meters. At the butt, the trunk of the plane tree dramatically thickens giving it a highly original flask form. The tree which in contrast to the two previous exemplars refers to the species *Platanus* × *acerifolia*, possesses the circumference at the breast height of the tree trunk of 745 cm, and at the base reaches up to 10.5 m. The similar thickening of the trunk can be often seen in old Mediterranean and Central Asian planes.

As we noted above, Nikitsky Botanical Gardens have played a crucial role in the spread of the plane trees in the territory of the Crimea. Only twenty or thirty years later such activity of Gardens, *Platanus* saplings of Nikitsky origin grew in many

Crimean estates. They were planted particularly intensively in the southern coast region. Therefore we can find there the most of the largest and oldest plane trees in the peninsula.

One of such unique trees grows in the park of the resort «Lower Oreanda». It is the most luxurious exemplar of the oriental plane tree in the Crimea. The area of its huge 30 m spreading crown is more than 700 m². The circumference of the tree trunk at the chest level, according to the results of our measurements in 2013, is 710 cm. Because of its size and exceptional habitus characteristics this plane tree serves as a leading landscape dominance in the park ensemble. The 30's-40's of XIX century should be probably considered the approximate time of this plane tree planting.

The exemplar of the Oriental plane growing on the territory of Koreyiz township, at the address: 1 Vodovozovikh st., slightly concedes to the trunk thickness of the previous plane tree exemplar. With the height of 25 meters, the circumference of its trunk at the chest level, according to our measurement in 2013, is 665 cm. The Supreme Council of the Autonomous Republic of the Crimea in its decision from 27.03.2013 concluded this plane to be included to the objects of the natural reserve fund of the peninsula.

Another Crimean resort township of Gurzuf is known for its age-old plane trees. Here, in the resort «Gurzufsky», in particular, there is a triple-trunk London plane, the circumference of which main trunk at the height of 1.0 m is 600 cm. However, much more famous is the other plane growing in the territory of the Museum of A.S. Pushkin (former estate of Duke Richelieu where in 1820 A.S. Pushkin stayed for three weeks with the family of Rayevsky). According to the plaque placed in front of the plane tree, it was planted by the Gurzuf estate owner I.I. Fundukley at the anniversary of the poet's death in 1838 in the honour of A.S. Pushkin. This plane is highly respected among Pushkinists. We should underline that in June, 2012 the museum held the literary marathon «Under the Pushkin plane tree» which brought together poets and guests from all over the Crimea and other regions of Ukraine and Russia.

There is no doubt that the plane was actually planted by I.I. Fundukley and approximately at the specified time. Moreover, there is the documentary evidence of the famous explorer of the Crimea F.M. Dombrovsky noting this fact in 1850: «In front of the balcony of the landlord's house the majestic plane tree will be shown to you which was planted twelve years ago by its owner's hands (at that time it was I.I. Fundukley. - Ed.)» [3, p. 20]. However, we think it is unreasonable to connect the plane with Pushkin. Analyzing the number of facts, we conclude that Fundukley did not only dedicate the plane to Alexander Sergeyevich but, apparently, he did not know about his stay in Gurzuf. For example, on this matter we can find at A.L. Berthier-Delagarde: «In 1874, going to the steamer from Yalta to Sevastopol, I was talking with then-owner of Gurzuf I.I. Fundukley. We talked about Gurzuf more than other things; its old master was in love with it, and so readily explained and presented all of its charms and benefits, past and present, spoke about his first owners – Richelieu and Vorontsov; of course, he did not fail to call Pushkin, personally familiar to him – but nothing was mentioned about him» [1, p. 78]. In addition, for the years of his ownership (1834-1880) Fundukley hosted many famous people and, reminiscing Gurzuf later, none of them said a word about the plane tree planted in honor of the great poet. There is no information about it in any guidebook about the Crimea of Fundukley time though a lot and often was written about the Gurzuf estate at that time.

However, even if you do not consider the exemplar of described oriental plane to be memorial, it is of great value as a plant object. Its age at the present time is about 180 years old. According to the results of our measurements in 2010, the plane tree was 26 m high, and trunk circumference at the breast height – 414 cm.

Among the largest and most well-known tree exemplars under consideration in the peninsula, it should be noted the exemplar of the oriental plane adorning the embankment of Yalta. Its height is about 25 m and trunk circumference at the breast height – 570 cm (measured in 2013).

There is an opinion that under this plane tree a famous American dancer Isadora Duncan appointed meetings to Sergei Yesenin. In the development of the

legend, in 2011 the local authorities founded an original bronze monument – «The Bench of Love» dedicated to all lovers at the plane.

Unfortunately, the beautiful legend is just a fiction. Yesenin together with Isadora never visited Crimea. In 1923 at the end of the summer, after her foreign tour A. Duncan, really went to the south – to the Crimea and to the Caucasus. Being madly in love with the poet, she really wanted him to come to her, and sent him passionate telegrams. However, instead of Sergei Alexandrovich arrival, she received his killing lines: «I love another. I am married and happy. Yesenin». It was the end of their relationship.

There are two outstanding in size trees of London planes growing in close proximity to the embankment of Alushta, in the territory of the cottage which owner was the Russian merchant N.D. Staheyev. The first one, known as the «In the honour of Aluston», was included into the list of reserves in 2011. Its height is 23 meters and the trunk circumference at the height of 1.0 m – 610 cm. The second plane is slightly higher than the first one. While its height is about 25 m, the circumference of its trunk at the chest height is also 610 cm (measured in 2010).

In spite of the impressive size, the two plane trees are still relatively young plants. The Resolution for expanding and ordering the network of territories and objects of the natural reserve fund of the local importance in the Crimea № 643-6/11 states that the plane tree «In the Honour of Aluston» is over 150 years old. We believe that both plane trees are 130-140 years old. They were planted, in all probability, during the construction of cottage and the initial formation of its parkland that is approximately in 80's of the XIX century.

Extremely successful soil and hydrological conditions contribute to an active growth and development of Alushta's plane trees. The Demerdzhy river runs in the immediate vicinity of Staheyev's cottage and flows into the Black Sea. This is the reason of the location of shallow ground water in the park.

Utes, best known before as Küçük Lambat, is located at 10 km from Alushta. One of its main attractions from the first half of the 19th century has been a

magnificent landscaped park, founded in Küçük Lambat estate of Taurida Governor A.M. Borozdin. The French gardener E. Libo was invited for its foundation.

Nowadays, the major part of the old park is located in the resort «Utes». One of its brightest representatives is 23 m exemplar of Oriental plane which was included into the list of reserves in 2013. The circumference of its trunk at the chest level, as measured in 2010, is 540 cm. In spite of the fact that at the latest figure this exemplar slightly concedes to the previous two plane trees we have every reason to believe that it is older than Alushta's planes. If you compare Utes's and Alushta's plane trees, it can be observed significant differences between them according to the annual increment. It is clear that the location of Utes's planes noticeably concedes to the soil and hydrological conditions at Staheyev's cottage. Perhaps, this is the main reason for its more moderate growth characteristics. In our opinion, the age of the plane tree growing in the resort «Utes» can be between 150 and 200 years old.

All of the mentioned southern coast plane trees annually are in blossom and fructify. Their vital condition is estimated by us at 4-5 points.

In contrast to the southern coast, huge age-old plane trees can be found much less among the greenery of more northern regions of the peninsula – in its foothill and steppe zones. In particular, we can find one of these exemplars, in v. Krasnolesye, Simferopol district.

Previously, the land of the village belonged to the privy councilor, general and senator V.S. Popov who served as the personal secretary to G.A. Potemkin and Catherine II. After the death of Empress, Popov retired and engaged in the arrangement of his estates. He elected Tavel (as previously Krasnolesye was named) as his central estate. Here, the manor house and the extensive garden were founded at the direction of Vasiliy Stepanovich. Later Popov descendants continued the work on the development and improvement of the estate.

Nowadays, there is almost nothing left of the estate. The Crimean Higher School of Olympic Reserve functions on its place. Today only the old park with age-old linden trees, horse chestnuts and ash trees keeps the memory of the previous owners. 25 m high London plane can be seen among the plants of the park. The

circumference of its trunk at the chest level, as measured in 2010, is 555 cm, and at the base – 875 cm. In addition to the impressive size, the tree draws the attention by its quite unusual for plane trees striated texture at the butt of the trunk. The vital condition of the tree is evaluated by us at 4 points.

The plane tree in Krasnolesye is not the only age-old plane in the foothills of the Crimea. Two trees of this species growing in the Botanical Garden of Taurida National V.I. Vernadsky University are particularly of great interest. The first of them, that is 21 m high, is located on the side of the former palace of the Governor-General of Novorossiya, M.S. Vorontsov, where the Crimean Scientific Center of the National Academy of Sciences of Ukraine and Ministry of Education and Science of Ukraine are located nowadays. This exemplar attracts visitors mainly for its powerful bloated trunk which circumference at the breast level is 540 cm. A.I. Repetskaya and her colleagues believe that is the Oriental plane [2]. And it is often regarded to be London plane [7]. We do not share such opinions. In all major morphological features this plant should be identified as Occidental plane.

Another 19 m plane tree, in no way conceding to the described tree, is really Oriental plane growing near the rosary. The circumference of its tapered trunk at the height of 1.3 m is 530 cm, while the base is more than 8 m (measurement results, 2010).

These two plane trees are considered to be planted in the 20's-30's of the XIX century, when the most major activities at arboretum foundation took place in the territory of the estate.

Occidental plane tree grows in irrigated area. Immediate access to it is denied. This fact significantly contributes to maintaining the plant which is in a fairly good condition (4 points). In contrast, the oriental plane with a completely free access is under the negative effects of increased anthropogenic load. Besides its upper part is damaged by lightning. The condition of this tree is evaluated by us at 3 points.

Another remarkable plane tree is the exemplar growing in the village of Ternovka, Balaklava district of Sevastopol City Council. This plant is widely known as «Pallas's plane» because this tree is believed to be planted by the famous scientist

and explorer Peter Simon Pallas. Its evidence can be the fact that Ternovka (formerly v. Shuli) became the property of the scientist at the end of the XVIII century. In addition, the size of the plane tree, which trunk circumference at the breast height is 6.5 m, is quite accord with the exemplar of the same species at the age of more than 200 years old. However, studying the latter parameter, we should consider the favorable moisture conditions for the tree near which Aytodorka river flows. Ecological advantages for the plane, caused by the shallow ground water, enforce us to lower the age limit for the mentioned plant up to the level of 150-180 years old which eliminates the possibility of its planting by the scientist.

Moreover the information that the plane tree was planted by Pallas is doubted by the fact that the scientist did not take a great interest in ornamental plants and did not feel the passion for the cultivation of exotic plants in his estates. For example, on this matter we can find at P.I. Sumarokov who visited Ternovka in the early years of the XIX century: «Our first overnight stay was in Shuli, Mr Pallas's village... Two or three rooms were a squalid accommodation of our scientist which did not have either any services or any other buildings, or excellent gardening» [10, p. 182].

We have identified the considered exemplar as an oriental plane. Its height, as measured in 2013, is 22.5 m, and the living condition is estimated at 4 points.

Conclusion

1. In the Crimea, the culture of plane trees, most likely, goes back to the end of the XVIII century. Its earlier data are sketchy and not persuasive.

2. In the Crimea, 3 species of planes grow: *Platanus orientalis*, *P. occidentalis* and *P. × acerifolia*. All of them have their remarkable representatives here. The age of the oldest of them is 150-200 years.

3. Nikitsky Botanical Gardens have played the key role in the spread of the plane trees in the peninsula where the largest number of ancient and monumental trees of this genus (in comparison with other garden-and-park complexes of the Crimea) currently grow.

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Визначні вікові дерева платана в Криму. В.Є. Севаст'янов.

Наведено короткі відомості з історії становлення культури платана в Криму. Представлено результати вивчення найбільш визначних вікових дерев цієї породи на території півострова.

Ключові слова: платан, вікові дерева, висота, окружність стовбура, життєвий стан.

Достопримечательные вековые деревья платана в Крыму. В.Е. Севастьянов.

Приведены краткие сведения из истории становления культуры платана в Крыму. Представлены результаты изучения наиболее достопримечательных вековых деревьев данной породы на территории полуострова.

Ключевые слова: платан, вековые деревья, высота, окружность ствола, жизненное состояние.