

WOOD-BUSH PLANTATIONS IN THE PARK OF “VRANA”

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Abstract

The article illustrates the deteriorated condition of wood-bush formations of the park “Vrana” and the reduction of their high artistic value as a building material for well-scaled in the past parks, which were created with excellent knowledge of the biological characteristics and artistic effect of the vegetation. All archival materials and documents about the composition of the park spaces in different periods of its construction and development are systemised. Mapping is performed and forest taxation of bush-tree arrays is made, as the species structure and their other forest features (established in 2008) are defined. Photo archive is also complied documenting their condition at this time (2009). The significance of the forest stand and the seedlings for the aesthetic qualities of the park spaces is substantiated. The conclusions made on this basis underline the need for urgent measures to improve their health and aesthetic condition. The characteristics and the main criteria, which those forest stands should meet, are defined and there is a proof for the need of timely forestry and landscaping intervention to improve the artistic aspect with a view to the future exposition of the park to the citizens and the guests of the Bulgarian capital. Concrete proposals have been made and possible present solutions to the issue have been formulated as a basis for planning the major events for the recovery and preservation of the authentic spatial composition in the park. The idea is this to serve to specify the biological, ecological and aesthetic aspects of a common strategy for the conservation, development and socialization of park “Vrana” according to the accepted principles of conservation of cultural and historical heritage.

Key words: bush-tree arrays, seedlings, mapping, photo archive, spatial composition, species structure, reconstruction.

Introduction

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Material and Methods

The park of 'Vrana' is declared as a monument of garden & park art with a category of "national importance", published in the SG No 41/1992, for which applies article 6, section 3 of the Bulgarian Law on Protected Areas. The "Vrana residence" was declared as architectural, artistic and historical cultural monument of national importance since 1998. Furthermore, the park of "Vrana" is declared as a category of "Protected Area".

The construction of the park passes through three basic stages.

In the first phase (1904–1909) the establishment of the park is associated with the construction of a hunting villa of Prince

Ferdinand I with keeping the basic entrances from the "Tzarigradsko Shousse" and the alley network in the existing homestead (Fomina 2003, Stoychev and Kolev 1963, Stoychev 1985). During this period the main greenhouses "Victoria Regia", a lake and 6 rock gardens were built. Rockeries were built under the projects of the Austrian Johann Kelerer, specialist, gained over by Prince Ferdinand from the Daalem botanic garden, Germany. He planted them with mountain plants from all over the Balkan Peninsula.

The first afforestation within the homestead was conducted primarily with coniferous trees on the instructions of the Bulgarian Vasil Georgiev, who had graduated from the National School of Horticulture in Versailles, France. Later the director of the Sofia Botanical Garden, professor Jules Losho provided from France rare, previously unknown in Bulgaria, species, mainly conifers.

The second stage of the park construction covers a significantly longer period (1909–1926). The area of the homestead was considerably enlarged. In 1912 it was officially renamed as the "Palace of Vrana". The reconstruction of the park started at that time: new permanent boundaries were established, alley network was built in the new areas, a number of new park elements were built and hundreds of exotic trees, shrubs and flowers were planted. This stage of the park is mainly associated with the name of the Czech Anton Kraus. He performed substantial afforestation works in the newly annexed territories, in the southeast area of the "Grass marshlands", which are the basic skeleton of the volume-spatial development of the park. Around 1915 the forest area in front of the southeast facade of the hunting house was reconstructed. The existing

dense forest to the north of it was formed as a prolonged outdoor area, named "The Long Meadow" (Kuleliev 2007, Stoychev 1985). It should be noted that during this second stage the vegetation in the park was introduced and grown mainly with the purpose to create a rich botanical collection. It was exclusively due to Ferdinand's interest in the botanical science. His botanists had tramped all the mountains, from where they managed to collect and bring to his estates everything that is valuable and original of the Bulgarian flora.

The third phase (1926–1943) covers 17 years and it is remarkable mainly with the spatial-volume completion of the park. This was performed with great panache and was led by the German Wilhelm Shaht. He managed to form the main, extremely beautiful prospects in the park. Decorative groups of trees, individual trees and shrubs, planted by Shaht, have completed the entire volume-spatial composition of the south-eastern and north-eastern park areas. Alley network drawn in the third stage is negligible. It consists of several additional short deviations. An exception makes the roundabout path. It is the longest one (800 m) in "Vrana" park and it establishes the continuity link between the most characteristic and beautiful closed and opened park spaces.

After 1945 various work in terms of type, scope and purpose, was done in the park, primarily aiming at its maintenance. According to Dimitrov (2005) the majority of the exotic tree and shrub species were being reproduced in the existing until 1990 nursery. This nursery center was created for the needs of the park maintenance and for further introduction of the existing plants in diverse regions of the country. During 2002–2003 a botanical characterization and a list of the higher plants in

the park of "Vrana" were made – 821 species from 118 families, which includes 267 species of trees and shrubs, 384 species of perennial herbaceous, 81 species of annuals herbaceous, 57 species of biennials herbaceous, 20 bulb and 12 climbing species. The representative species of the Bulgarian flora are 600 species and those of the exotics species are 221.

Later, in 2008–2009, after the carried out forest taxation activities, the following changes in the bush-tree arrays were identified:

1. Change of the completeness – mainly due to drying up of some species as a result of the climate conditions changes and due to the disordered moist status of the soil.

2. Modification of the species structure – mainly due to the drying up of some basic species and occupation of the free spaces by more aggressive tree and shrub species.

3. Halting the growth in height and in diameter of more of the basic species when reaching their climax.

4. Increased range of dry-topped trees and increased number of more than 70 % dried up species.

5. Thickening of the seedlings along the edge of the bush-tree arrays and in the more illuminated areas.

6. Growing up of new seedlings mainly from the species of the common fir-tree, the red oak, sycamores, ash and fewer of the other species (common spruce and some shrub species).

7. Some deterioration of the general appearance of the arrays – to a great extent in the peripheral ones and less in the others.

8. The listed off species are mainly poplars, red oaks, ashes, birches and plane-trees in the peripheral parts of the arrays.

Results and Discussion

On the basis of the above mentioned the following conclusions may be drawn:

1. The period of creation of the park lasts about 50 years. This predetermines the significant differences in the phases of growing of the individual tree and partly of the shrub species.

2. The large number of the introduced species requires a more specific approach to their cultivation. The lack of phenological data makes the proper application of appropriate care for them difficult. Most often it affects their longevity.

3. The construction of the park as a botanical collection requires intensive care for the plants and for the environment in which they are located.

4. In the past 20–30 years two characteristic processes have been under way in parallel. On the one hand, the basic for the region and the park's structure tree species have reached and passed their growth peak as some of them have died. On the other hand, the more aggressive plants occupy the more favorable growing areas. This leads to a gradual undesirable change of the park spatial structure.

5. Changes in the climate and hydrological conditions are evident mainly in disturbances of the soil moisture (lower groundwater level) and increased temperature amplitudes.

6. The settled vegetation disturbs the arrays' picturesque outlines, takes away their individuality and changes their seasonal color. There are similar processes in the larger groups of tree and shrub species also.

7. Overall, the exotic tree and shrub species in this park have been successfully introduced and they are the main focus of the park composition (*Parrotia*

persica (DC.) C.A. Mey, *Cladrastis lutea* (Michx.) K. Koch, *Acer nikoense* Maxim., *Cercidiphyllum japonicum* Sieb. & Zucc., *Pinus jeffreyi* Grev. & Balf., *Picea orientalis* (L.) Link., *Hammamelis japonica* Sieb. & Zucc., *Cornus florida* L., *Princepia chinensis* (Oliv.) Oliv. ex. Bean, *Securinega suffruticosa* (Pall.) Rehd., *Quercus castaneifolia* C.A.M., *Halesia Carolina* L., *Pterostyrax hispida* Sieb. et Zucc. and others).

The established variations, which are of forestry taxation type, require urgently the provision of the following measures to improve and optimize the arrays state in the park:

1. Total sanitary felling (removal of dry and fallen mass).

2. Felling and uprooting of seedlings with maintaining the promising saplings.

3. Cultivation of a part of the seedlings for their future participation in the arrays structure.

4. Cleaning and selecting felling of the forest stand.

Conclusions

The future of the park requires implementation of activities in the bush-tree arrays and precise restoration work on the decorative plant groups and soliters in order to preserve the character and aesthetic impact of the park area. Moreover, a renewal of the architectural elements and facilities, and water areas has been recommended (Fig. 1–2).

The intervention into the plantations includes in thinnings, aiming removing diseased and damaged trees and trees of undesirable species. This will ensure the improvement of the spatial structure of forest areas and will recover their original

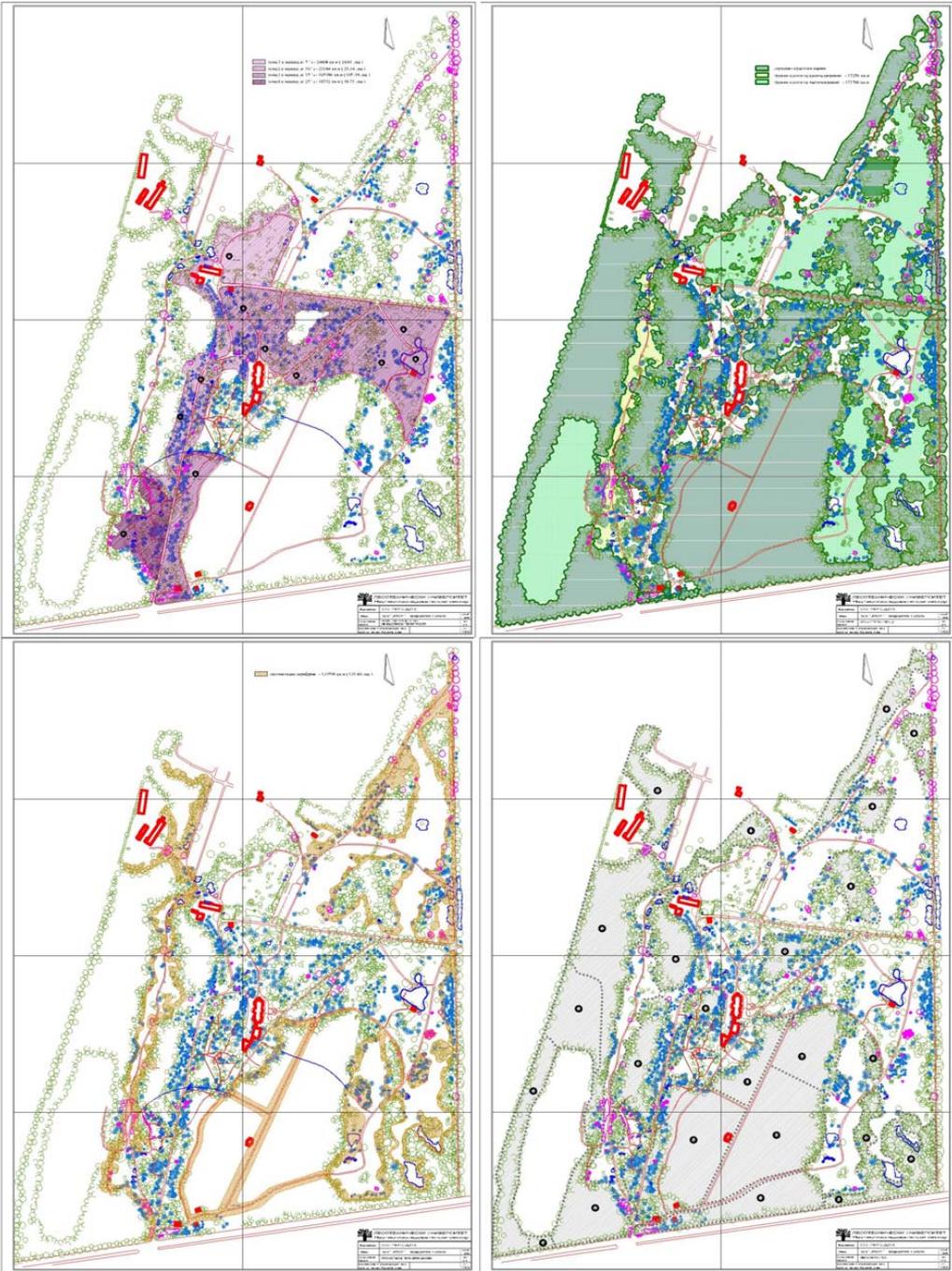


Fig. 1. Explanatory schemes to the study.

shape, which are deleted from emerged coppice trees and other vegetation that has appeared accidentally. Pending the opening of the park for visits by citizens recommendations to update the flooring of walkways are very necessary and relevant. The same can be said for the smaller architectural elements to provide recreational comfort for visitors.

Taking into consideration the proposals listed in this study and ensuring normal maintenance will restore the character of the park of „Vrana“ as a model garden of the Bulgarian park art.

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