



Remarks on the vegetation within a protected area from Bistrița city, Romania

Cristina Rusu

Technical College INFOEL, Bistrița, Romania. Corresponding author: C. Rusu, cristina_rusu19@yahoo.com

Abstract. The city of Bistrița is located on the lower course of the homonymous river, in the Bistrița depression, a subdivision of the Bistrița Hills, which are part of the Transylvanian Depression. The green, public spaces in the municipality of Bistrița extend over an area of 54.450 ha. The green spaces include the Municipal Park, with an area of 7 ha. This Park was designated a protected area by the local authorities in 1995, mainly due to the presence of two rare and exotic species, namely pagoda tree *Ginkgo biloba* and tulip tree, *Liriodendron tulipifera*. The Park also comprises several other both native and exotic species of shrubs and trees, some of the trees being several centuries old.

Key Words: green space, hill, shrub, tree.

Introduction. The capital of Bistrița-Năsăud County, the city of Bistrița is located on the lower course of the homonymous river, in the Bistrița depression, a subdivision of the Bistrița Hills, which are part of the Transylvanian Depression. The city is located at an altitude of 370 m, being crossed by parallels of 47 degrees and 8 minutes north latitude and the meridian of 24 degrees and 29 minutes east longitude. The city is guarded by a series of hilly peaks, including: the Citadel Hills (680 m), the Jelna Hills (607 m) and the Budac Hills (475 m). The climate of the municipality is temperate-continental, with relatively humid and warm summers and less dry and cold winters. The average annual temperature in Bistrița, recorded at the local meteorological station, is 8.3°C, with an absolute maximum of 37.6°C (August 16, 1952) and an absolute minimum of -33.8°C (January 18, 1963). The average annual precipitation is 680 mm, with the rainiest month being June (90 mm) and the driest month being February (20 mm) (Rusu 2007). The hills bordering the city are covered with pastures, hayfields, fruit orchards and deciduous forests. Bistrița city benefits from a significant forest area, which contributes to the sensitive modification of the climate, refreshing the air, moderating thermal amplitudes, increasing humidity, favoring snow deposition and reducing evaporation.

The green, public spaces in the municipality of Bistrița extend over an area of 54.450 ha (www.primariabistrita.ro). A Bistrița resident has an average of 6.7 m² of green space, to which is added 386.29 m² of forest. This area includes the Municipal Park, of which 4 ha are green spaces and 3 ha are alleys. The aim of this paper is to briefly describe the shrub and tree vegetation from the Municipal Park.

Bistrița Municipal Park as a protected area. The Park (Figure 1) was laid out since 1890, in the central-southeastern part of the old medieval town, outside the defensive wall of the former fortress (Mohan et al 1993; Rusu 2007). After 1952, the park underwent some changes by adding new alleys and placing benches. In 1995, by Decision no. 3 of March 14, of the Bistrița-Năsăud County Council, the park was declared a green space area with a strict protection regime. According to the aforementioned Decision, it is prohibited to cut down trees, pollute the air through emissions of polluting noxious gases, pollute the soil through waste disposal, discharge of wastewater, and pollute the water with toxic substances. Currently, the Municipal Park covers an area of over 7 ha and preserves the original shape of the alleys: one part in a classical, geometric style, and the other in a landscape style (Figure 2).

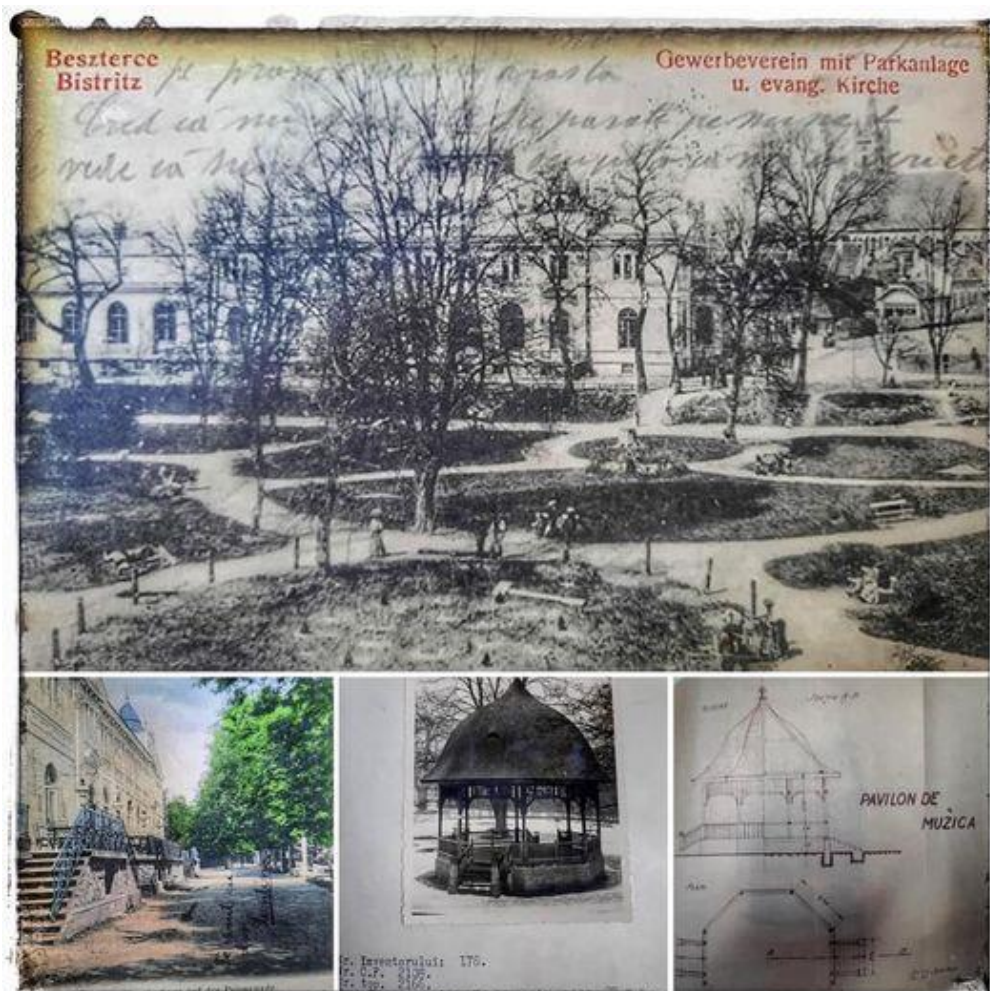


Figure 1. The Bistrița Municipal Park at the beginning of the 20th century (source: Bistrița-Năsăud National Archives).



Figure 2. The diagram of the Bistrița Municipal Park.

Representative of the Bistrița Municipal Park are the centuries-old trees with impressive dimensions (diameters of over one meter): maples, mountain sycamores, carob, but also the numerous species of exotic trees and shrubs from different regions of the Globe, such as: thuja, giant thuja, red oak, Japanese acacia, laurel, black pine, juniper. A special protection regime has been established for two very rare species in the county's flora, namely the pagoda tree (*Ginkgo biloba*) (Figure 3) and the tulip tree (*Liriodendron tulipifera*) (Figure 4).



Figure 3. *Ginkgo biloba* tree within the Bistrița Municipal Park.



Figure 4. *Liriodendron tulipifera* tree (in the center of the image) within the Bistrița Municipal Park.

The pagoda tree is a species that grows spontaneously in China, but is also cultivated in other countries for its oriental appearance or for therapeutic purposes. The tree has a height of no more than 30 meters, a rich crown, petiolate leaves, which fall in autumn, when the crown has an extremely attractive yellow color. The tulip tree is a tree native to North America, where it reaches heights of up to 50 meters. The trunk of this tree is straight, with dark gray bark, lyre-shaped leaves, which turn golden yellow in autumn. The tree has a special ornamental value, due to the lyre-shaped leaves, the shape and color of the flowers (Figure 5) and fruits, in the form of elongated cones.



Figure 5. The flowers of the tulip tree.

The Park hosts a diverse and dense woody vegetation, including the two above mentioned rare and protected species. Its surface cannot be enlarged due to space limitations, but new species could be added to the Park in the years to come.

Conclusions. The Park comprises many woody species within its surface of 7 ha. Even the area is rather small, it is important to preserve its treasures and to add more species of plants in the future. A study focusing on the herbaceous plants within the Park would be also recommended. Green spaces are very important within a city, both from an aesthetic and recreational point of view, and especially from a climatic point of view, which is why maintaining or expanding them is a necessity of our times.

Conflict of interest. The author declares that there is no conflict of interest.

References

- Mohan G., Ardelean A., Georgescu M., 1993 [Nature reserves and monuments in Romania]. Scaiul, Bucharest, 359 pp. [in Romanian]
- Rusu I. D., 2007 [Bistrița, touristic guide]. Eikon, Cluj-Napoca. [in Romanian]
- *** www.primariabistrita.ro [in Romanian]
- *** Hotărârea nr. 3 din 14 martie a Consiliului Județean Bistrița-Năsăud, 1995. [in Romanian]
- *** <https://arhivelenationale.ro/site/directii-judetene/bistrita-nasaud/>. [in Romanian]

Received: 28 October 2025. Accepted: 30 November 2025. Published online: 28 December 2025.

Author:

Cristina Rusu, Technical College INFOEL, Calea Moldovei street, no. 20, Bistrița, Bistrița-Năsăud county, Romania, e-mail: cristina_rusu19@yahoo.com

This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original author and source are credited.

How to cite this article:

Rusu C., 2025 Remarks on the vegetation within a protected area from Bistrița city, Romania. AAB Bioflux 17(1):75-78.