

Branislava MIHAJLOVA

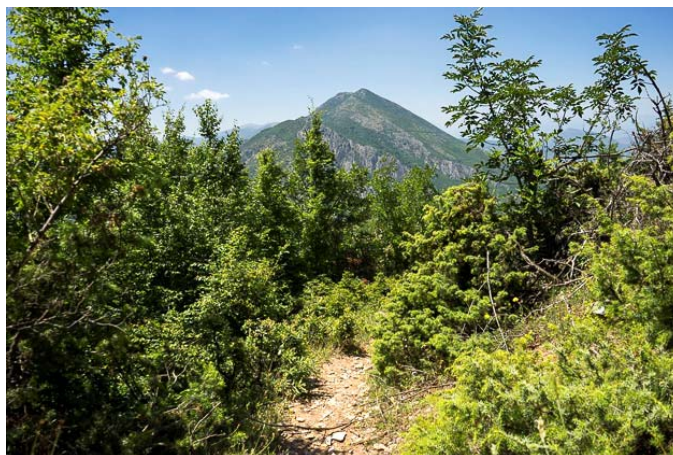
NI Macedonian Museum of Natural History - Skopje

**THE SITUATION OF THE NATURAL HERITAGE IN THE REPUBLIC OF
MACEDONIA AND THE RISKS FOR ITS DEGRADATION**

Abstract: In this work, the author presents the situation of the natural heritage in the Republic of Macedonia with a special accent to the locations in the Skopje Valley as well as the measures that should be undertaken for their protection. The author addresses the legal regulations which are regulated with the country's Constitution but in practice it does not treat these situations on a higher level. The preparation of the National Biodiversity Strategy is especially important because it enables preparation of several programs and projects for protection of the cultural heritage either on national or local levels. The strategy prepared by the local self-government of the City of Skopje for the locations under its competences (Vodno, Gazi Baba, Matka) is one of the most important strategies at local.

Keywords: Natural heritage, Macedonia, biodiversity, Vodno, Gazi baba, Matka.

In the Republic of Macedonia there is natural heritage which is a result of the presence of various geological, pedological and climate factors that brings various relict and recent ecosystems. Thus, until now, over 18,000 types of flora, fauna and fungus are identified out of which 900 are Macedonian endemic species. Therefore the need to protect them as natural rarities.



The first law regarding only the natural rarities was enacted in 1960 and it was amended in 1965. This law was followed by the 1973 Law as well as the 2005 Law on Environment. It separates the protection of natural wealth as natural heritage regulated by the Constitution of the Republic of Macedonia as well as other laws and bylaws. On the other hand, the global laws regarding biodiversity as well as the consequences on the ecosystems inevitably point out the need to undertake an urgent action for their protection. Indeed, it is an obligation of the Republic of Macedonia which derives from the increasingly expressed desire for European integration which on the other hand means harmonization of the legal regulations.

According to the International Convention on Biodiversity which has been ratified by the Republic of Macedonia in 1997, a National Biodiversity Strategy has been prepared to include the information on the current situation, as well as the possible treats on the flora and fauna. The country clearly defines the natural heritage as a good of public interest with special protection according to the Constitution of the Republic of Macedonia. However, despise that, the biodiversity is not an important issue outside the sectors of national or local levels.

Nowadays, the network of protected areas in the Republic of Macedonia covers 86 areas which cover an area of 9% of the territory of Macedonia which have been divided in categories according to the international criteria, such as:

- Strict natural reservation (2 areas);
- National park (3 areas);
- Natural monument (67);
- Natural park (12);
- Protected area (1);
- Multifunctional area (1).

Any of the above areas has a special protection regime regulated with relevant legal regulations. Within the National Strategy there are programs and projects on local level intended for protection of the cultural heritage. Thus, within the framework of this determination, the City of Skopje has prepared its natural heritage protection strategy entitled: *Identification of the Natural Values and Spatial Identification of the Boundaries of Park – Forest Vodno and Characteristic Scenery Gazi Baba*. It covers the localities under its competences: Park – Forrest Vodno, Gazi Baba and Matka. If we analyze the study we will establish that it is especially significant for the city of Skopje because it clearly depicts the rich biodiversity and the measures which necessary for its protection.

Situation of the Locations

Park Forrest Vodno is one of the most frequently visited recreational centers in Skopje area. It was proclaimed as an area with special natural characteristics. Its biodiversity is relatively modest. There are around 900 species of flora which is 1/3 of the total flora in Macedonia while the fauna is represented with 233 species of invertebrate and 180 vertebrate representatives.





Костенови шуми на Водно



Epipactis atrorubens from Vodno

The forest ecosystems are especially important in the park – forest and their functions are numerous and they have certain economic significance. But,

in addition to the natural forest ecosystems we can also find anthropogenic forests which have been planted in order to prevent the erosion that threatened the city. Because of the large scale degradation, the natural ecosystems in Vodno are not good quality ones from the aspect of forestry. They are some of the most endangered areas exposed to fires, drying caused by various parasites on the tree species, construction activities for construction of various tourist and hospitality structures, forest cutting, erosive processes etc.



Having in mind all of the above we can conclude that the most adequate protection of the biodiversity in Vodno would be achieved by protecting the habitats of the most important species of autochthonous flora and fauna as well as by undertaking certain measures for prevention of further degradation processes.

Gazi Baba locality is in the category of characteristic sceneries and it is the second location within the framework of natural heritage protection at local level.



It covers a larger area overgrown with forest plants that includes unchanged ecosystems managed in order to achieve long term protection of the biodiversity. This location is a recreational and park zone which the forest community covers the largest area in addition to 109 plant species, 136 species of fungus and 165 species of various fauna groups. Oak and hornbeam forest used to exist at the Gazi Baba locality as characteristic scenery of the City of Skopje which now is completely devastated. It has been replaced by anthropogenic plantations of some tree plants.



Erysiphe alphitoides - powdery mildew in young oak leaves

This artificially planted forest is characterized with mass drying of many trees in the recent years. It is a result of the poor air and water regime of the soil profile and to the changed climate conditions.



Hence the conclusion that the characteristic scenery of Gazi Baba as a sports and recreational area can have a negative impact on its biodiversity which on the other hand confirms the fact that the greatest threats for its existence are from anthropogenic character.

The Matka Canyon, although it is not covered in the study it should be mentioned as a location under protection of the City of Skopje. It is in the category of natural monuments. It is rich in heterogeneous biodiversity dominated by 17 plant communities with over 700 taxa of embryophytes and a large number of endemic and relict fauna species.



Based on the past research we may conclude that there are 1282 species of invertebrate species in the Matka Canyon out of which 13 are Balkan, 26 are national and 19 are local species, while the fauna is represented by 192 species of vertebrate.



Ramonda (*Ramonda nathaliae*) of the limestone cliffs of Matka

Because of this great variety of life, Matka has been promoted in a significant natural object i.e. natural monument with scientific, spiritual, educational and tourist and recreational significance for the Republic of Macedonia.

But in addition to the natural heritage in the nature, we also have natural heritage kept in the depots of the museums of natural history that are responsible for their storage and protection.



NI Macedonian Museum of Natural History has three depots specially designed for keeping of natural material. They accommodate over 270.000 samples of flora, fauna and soil in Macedonia.



But, no matter where this natural heritage is situated it is exposed to day to day threats, either caused by natural disasters (earthquakes, floods, fires) or by anthropogenic factor (thefts, vandalism, overuse of the biological resources, transformation of natural habitats, pollution of water and soil or inappropriate conditions for storage in the museums – moisture, heat, light, pests) etc. Due to that it is necessary to monitor the situation and undertake relevant activities to prevent them. If we analyze the risk factors for the natural heritage, we will find that they are various and they may be prevented only with timely actions in the area of their protection and rising of the public awareness about their survival which is especially important for the further generations.

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