ANGLISTICUM
International Journal of Literature, Linguistics & Interdisciplinary Studies

The Biodiversity of Flora and Fauna in the Massif Mountain of Sharr

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Received: 30 January 2013; **Revised:** 10 February 2013; **Accepted:** 18 February 2013

Abstract: The massif mountain of Sharr is considered as the greatest asset of the country and region, both in terms of natural abundance, recreation, tourism and in terms of the cultivation of goods. Special attention should be paid to the protection and preservation of the natural biodiversity as a natural asset that requires a serious approach to the preservation and protection of the environment of this massif from the population that lives in these areas, country and the region in general. In terms of recreation and tourism the massif mountain of Sharr was earlier known for the winter recreational sports, tourism and summer recreation. Special attention should be given to the alpine places which are more attractive for hunting, grazing, water resources and in particular it is the most attractive for its flora and fauna. Special attention should be given to the endemic highlights of the flora and fauna and to the conservation aspect of this biotope. One must have an interest and passion to further invest in capital projects for this massif mountain with the only aim to further increase the spotted recreational picturesque places of the Sharr Mountain.

Keywords: mass, Mountain biodiversity, endemic, relict, flora, fauna etc.

Introduction

Researches about biodiversity became the main topic in the last decade of the twentieth century, due to the extinction of some species (Pimm et al., 1995). In the conference of the United States of Kyoto, which was held in December 1997 a great number of the world nations agreed to solve global environmental problems, taking into account the huge impact of man on the environment. In the same year, the signing of the protocol marked the beginning of solving problems and threats to the biosphere. In this conference the main topic was the emerged concentration of gases in the atmosphere that cause the so-called "ser effect." Despite major damages, the biosphere is very rich in types of plants and wild animals. There are scientifically known about 1.7 million animal species and plants out of which about 1.4 million species are described, or in other words 83% of environmental species (Goombridge B., 1992). The lower rate of species that may exist is about 4.4 million, of which only about 31% are described. Maximum rating reaches 80 million, with about 98% not yet recognized by the science. These ratings are based on the fact that many areas of the globe are still not explored. About 31% of the species are thought to live in tropical areas and 40-50% of them live in tropical forests (Huston MA, 1994). Sharri mountain represents the largest mountain massif in Macedonia, which lies in the northern latitudes N $42^0 41' 43''$ and $42^0 16' 34''$ and eastern latitude E $20^0 34' 51''$ and $21^0 16' 0''$ with the area 1607 km^2 (Melovski L., 2010) (Fig.1).

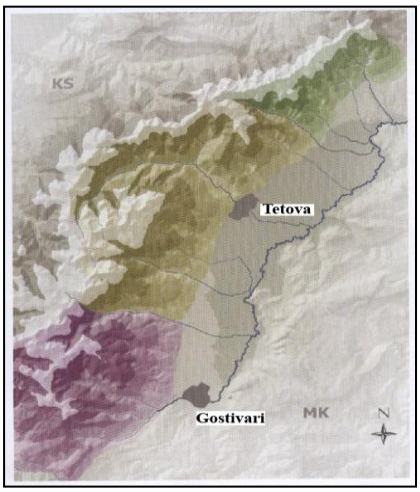

Photo 1. The mountain massif of Sharr

Massif mountain of Sharr is counted to be the greatest treasure of the country and the region, in the aspect of natural resources, recreation, tourism and in the aspect cultivation goods. Special attention should be given to the protection of this biodiversity, as a natural treasure that requires serious approach to the preservation and protection of the environment of this massif, from the population that lives in this area, as well as from the people of the state and the region in general. From the recreational aspect and tourism the mountain massif of Sharr has been known long time ago for winter recreational terrains, tourism and summer recreation. Special attention should be given to alpine places, hunting, grazing, water resources and in particular the flora and fauna of this mountain massif.

The purpose of the study

Sharr mountain massif is characterized with extraordinary richness in plants and animal species, with endemic forms and relicts, with alpine terrains and recreational places, grazing, and with a large number of natural resources, and mountain lakes called "Sharri eyes. Such a whole biological diversity of species, but also other natural resources of this mountain massif sometimes are jeopardized by not taking care of anthropogenic factors but also by other natural factors. Therefore, the aim of this study is based on the findings of the above conclusions to see the real and the current situation through the implementation of research expeditions, and depending of the outcome of investigations must be taken protective measures for the conservation of biodiversity of this mountain massif.

Material and methods

For the realization of this study were conducted research expeditions during all seasons of the year in order to see the diversity of plant and animal species at different periods from 2010 to 2012. Observation of flora and fauna has been done with more sophisticated methods for research in the field. Determination of plant and animal species is done according to the methodology for determination.

Results

Table 1 presents the types of plants and wildlife that are present and characteristic of Sharr mountain massif (Table 1).

Tab.1 Tabular presentation of plants and wild animals in the Mountain massif of Sharr.

Plants	**Animals**	
1. Pinus heldreichii	**Pisces**	*6. Aricola terrestris*
2. Pinus peuce	*1. Salmo trutta*	*7. Mus musculus*
3. Acer heldreichii	*2. Barbus fluviatilis*	*8. Apodemus agrarius*
4. Taxus baccata	*3. Anguilla vulgaris*	*9. Apodemus sylvaticus*
5. Pinus mugo	*4. Cyprinus carpio*	*10. Glis glis*
6. Rhododendron ferrugineum	**Amfibia**	*11. Muscardinus avellanarius Linne*
7. Achillea aleksandri-regis	*1. Salamandra salamandra*	*12. Scirius vulgaris*
8. Diantus scardicus	*2. Salamandra atra*	*13. Spalax monticola*
9. Bornmullera dieckii	*3. Triturus vulgaris*	*14. Lynx lynx*
10. Dryas octopetalla	*4. Bufo bufo*	*15. Ursus arctos*
11. Sedum flexuoosum	*5. Bufo viridis*	*16. Canis lupus*
12. Potentilla dorfleri	*6. Hyla arborea*	*17. Vulpes vulpes*

13. Viola grisebachina	*7. Rana temporaria*	*18. Felis silvestris*
14. Lilium albanicum	*8. Rana dalmatina*	*19. Meles meles*
15. Saxifraga bryoides	*9. Rana graeca*	*20. Martes martes*
16. Gentiana verna	**Reptilia**	*21. Martes Fiona*
17. Gentiana nivalis	*1. Emys orbicularis*	*22. Lutra lutra*
18. Geum reptans	*2. Testudo hermani*	*23. Mustela nivalis*
19. Quercetum confertae-cerris scardicum	*3. Lacerta viridis*	*24. Mustela putorius*
20. Carpinetum orientalis	*4. Podarcis muralis*	*25. Capreolus capreolus*
21. Ostrietum carpinifolie	*5. Lacerta agilis*	*26. Rubicapra rubicapra*
22. Querco-Carpinetum betulis	*6. Natrix natrix*	*27. Sus scrofa*
23. Quercetum pubenscens	*7. Natrix tesselata*	
24. Quercetum montanum	*8. Vipera ammodytes*	
25. Quercetum trojanae dukagjini	*9. Vipera berus*	
26. Fagetum moesiacae	10. Anguis fragilis	
27. Fagetum moesiacae	**Mammals**	
28. Fagetum moesiacae subalpinum	*1. Erinaceus europaeus*	
29. Pinetum heldreichii	*2. Talpa europaea*	
30. Pinetum peuce	*3. Sorex araneus*	
31. Pinetum mughi	*4. Lepus europeus Pallas*	
32. Bruckenthalia spiculifolia	*5. Ondatra zibethica*	

In the table 2 are showed plants and wild animals that we have found along our research ecpeditions.

Tab.2 Plants and wild animals that have been found along the research expedition in the period of time 2010/12

Plants	**Sea level height (m)**	**Animals**
1. Dactylorhiza latifolia	2200	*1. Salmo trutta*
2. Gentiana verna	2150	*2. Rana esculenta*
3. Viola epirotica	2200	*3. Testudo sp.*
4. Erysimum helveticum	2200	*4. Vipera berus*
5. Saxifraga sp.	2150	*5. Anguis sp.*
6. Geum coccineum	1950	*6. Lynx lynx*
7. Fragaria vesca	1650	*7. Vulpes vulpes*
8. Aster alpinus	2150	*8. Ursus arctos*
9. Helianthemum grandiflorum	1775	*10. Felis silvestris*
10. Gentiana ramosa	2450	*11. Capreolus capreolus*
11. Achillea tomentosa	1980	*12. Rubicapra rubicapra*
12. Senecio abrotanifolius .	1980	*13. Sus scrofa*
13. Aubrieta deltoidea .	2450	*14. Acuila chrysaetos*
14. Sambucus racemosa.	1775	*15. Tetrao urogallus*
15. Sempervivum montanum	2450	*16. Canis lupus*

16. Sempervivum alpinum	2150	*18. Erinaceus europaeu*
17. Primula veris	1850	*19. Talpa europaea*
18. Geranium rivulare	1750	*20. Aricola terrestris*
19. Sorbus chamaespilus	-	*21. Lacerta viridis*
20. Silene aqualis	1990	*22. Lacerta agilis*
21. Agrostema coronaria	1620	*23. Mustela putorius*
22. Cirsium eriophorum	1970	*24. Triturus alpestris*
23. Daphne alpina	1990	*25. Lepus europeus Pallas*
24. Epilobium angustifolium	1775	*26. Scirius vulgaris Linne*
25. Astrantia major	1720	*27. Mustela putorius*
26. Chrysanthemum montanum	1700	
27. Hypericum macalahum	1710	
28. Hypericum perforatum	1970	
29. Epilobium angustifolium	1970	
30. Galium verum	1680	
31. Dryopteris remota	1780	
32. Juniperus sp. 1750	1750	
33. Vaccinium myrtillus 1740-2450	1740-2450	

During the implementation of our research expeditions we have observed the phenomenon of burning the shrub community (Pinetum mughi) which extends to an altitude over 2000m. This shrub community is much degraded, and in some places is missing, as a result from its burning by shepherds in order to increase the surface of new pastures. Sharr mountain animals most at risk are: wild goats, lynx, bear, wolf, deer, fox, wild cat, etc. These animals are generally threatened by the tendency of hunters who are repeatedly trying to hunt them. Due to the large grassy areas Sharr Mountains offer the possibility of maintaining livestock (sheep, goats, cows, horses, etc). As a result, we noticed a large number of mountain livestock farms in is kept a large number of sheep in order to obtain milk and other milky products (cheese, yogurt, etc.), as well as followed by meat and wool. From this benefit not only individuals who keep them, but also the state itself. Therefore, starting from this fact, we think that the state should care more by giving to them more subsidies to be able to do better mountain livestock farm reorganization. Sharr Mountain is also known for its alpine places where people are hiking, then for its terrains where artificial lakes can be created. Such countries may be creating recreational sports' fields. This will have an influence to the development of tourism because such areas will be visited by tourists from the country but especially by tourists from other countries. In such countries electric plants can be built through which the energy is created from the waters of these lakes and it will be converted into electricity. From all of this will benefit the state in general, but in particular the population, which after that can be employed a large number of people. It is understood that the implementation of these projects require capital investments by domestic investors but also foreign investors.

Conclusion

The negative impact of the human factor in the Sharr Mountain is big and with a long-term. This has led to consistently be destroyed forests and drastically be lower the upper forest borders, which then are replaced with pastures. Also, there are degraded primary and secondary alpine meadows, especially pastures. By direct action or by the destruction of their natural habitats, flora and fauna of Sharri Mountain is mostly damaged from a man. Therefore, it is certain that many species that live in this massif mountain will soon disappear even though the description and categorization of some of them has not been made yet. According to our research we can conclude that most damaged species are: Pinus mugo (The Mountain Pine), rhododendron (Rose tree) Rhododendron ferrogineum (shkurre me gjelbrim të përhershëm), Acer Heldreichii (panjë e Heldreikut), Picea abies (bredh Norvegjie), Abies Alba (bredhi i argjendtë), including phytocenosis (komuniteti bimor) itself which is constructed from these types. While most endangered animal groups are: wild goats, lynx, silver bear, wolf, deer, fox, wild cat, etc.

Given the fact on the current state of flora, fauna and vegetation adequate measures should be taken in order to protect them from further destruction. Among the immediate measures that should be taken are:

• Wood cutting must be forbidden and any other wood damages;

• Protection of types of plants and certain phytocenosis and endemic relicts for any use;

• Recovery of destroyed forests. Here it is thought for the oak trees that represent the lower belt and coniferous forests that represent the upper belt.

• The protection of animal species that have international significance.

Whereas the strategy for their defence in a large amount must be based on the identification, monitoring and protection of the most important areas in order to maintain their diversity.

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